

Manufacturing Consumption of Energy 1991

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Executive Summary

The *Manufacturing Consumption of Energy 1991* report presents statistics about the energy consumption of the manufacturing sector, based on the 1991 Manufacturing Energy Consumption Survey (MECS). The MECS is the only comprehensive source of national-level data on U.S. manufacturing energy use. The 1991 MECS is the third in an ongoing series of surveys conducted at 3-year intervals beginning in 1985. Pursuant to a provision of the Energy Policy Act of 1992, the MECS will be conducted biennially beginning in 1994.

The MECS surveys a nationally representative sample of manufacturing establishments by means of mailed questionnaires. The 1991 sample represented 98 percent of the U.S. manufacturing sector universe, which consists of all manufacturing establishments in the 50 States and the District of Columbia. Compared with the 1988 MECS, the designed sample size for 1991 was increased from 12,065 manufacturing establishments to 16,054 establishments.

The following are some of the key findings of the survey:

- The Primary Consumption of Energy for All Purposes in the manufacturing sector was 20.3 quadrillion Btu of energy in 1991, compared with 20.1 quadrillion Btu in 1988. About two-thirds of this amount was used to produce heat and power and to generate electricity, with about one-third being consumed as raw material input.
- The most common energy sources—natural gas, net electricity, coal, liquefied petroleum gas (LPG), residual and distillate fuel oil, and coke—made up 64 percent of Primary Consumption.
- The amount of Total Inputs of Energy for Heat, Power, and Electricity Generation was 15.0 quadrillion Btu, compared with 15.5 quadrillion Btu in 1988.
- The byproduct fuels—blast furnace gas, waste gas, petroleum coke, pulping liquor, wood byproducts, and waste oils/materials—made up 28 percent of Total Inputs.
- End-use allocation was collected for about 65 percent of Total Inputs (9.7 quadrillion Btu). This consumption was allocated to three groups of end uses: indirect uses, mainly boiler fuel (3.3 quadrillion Btu); direct process uses, including use in motors, ovens, strip heaters, and kilns (5.0 quadrillion Btu); and direct non-process uses, including facility space-conditioning, facility lighting, other facility support, onsite transportation, electricity generation, and other miscellaneous uses (1.2 quadrillion Btu). Manufacturers consumed an additional 5.3 quadrillion Btu of energy for which end uses were not assigned. (The 1991 MECS collected data on end-use allocation for the first time.)
- Manufacturers had the capability to switch 2.8 quadrillion Btu of all the electricity, natural gas, distillate and residual fuel oils, coal, and LPG they used, representing 28 percent of their actual consumption. (Manufacturers are said to have a fuel-switching capability if they are able to meet their requirements for heat, power, and electricity generation by substituting one energy source for another within 30 days without modifying the equipment that consumes the fuel and if they can resume the same level of production following the switch.)
- Manufacturers required a nonswitchable minimum of 7.0 quadrillion Btu of these energy sources, which was 72 percent of their actual consumption of these fuels. The fuels having the highest nonswitchable minimum requirements were, in order, natural gas, electricity, and coal.
- Manufacturers often used coal and natural gas whenever possible, even though they could have used another energy source instead. Price was apparently the primary reason that manufacturers switched energy sources whenever they were able to do so.

1. Introduction

This report, *Manufacturing Consumption of Energy 1991*, provides estimates on energy consumption in the manufacturing sector of the U.S. economy. These estimates are based on data from the 1991 Manufacturing Energy Consumption Survey (MECS). This survey—administered by the Energy End Use and Integrated Statistics Division, Office of Energy Markets and End Use, Energy Information Administration (EIA)—is the most comprehensive source of national-level data on energy-related information for the manufacturing industries.

Manufacturing Energy Consumption Surveys

To determine how energy is being used in the manufacturing sector, EIA mails Forms 846 A through C to a nationally representative sample of the establishments in the 50 States and the District of Columbia that transform input materials or substances into new products, assemble components, or perform blending operations.¹ In 1991, these establishments numbered approximately 350 thousand, and the MECS sample represented 98 percent of energy use in the U.S. manufacturing sector.

The 1991 MECS is EIA's third survey of the manufacturing sector. Previous manufacturing surveys were conducted in 1986 and 1989 (for reporting years 1985 and 1988, respectively). The next manufacturing survey will be conducted for reporting year 1994, with subsequent MECS's being conducted every 2 years thereafter.

The sample design of the 1991 and 1985 surveys differed somewhat from that of the 1988 survey, which necessitates that care be exercised when comparing estimates from the three surveys. The 1988 sample represented 100 percent of manufacturing energy use, but it included statistical adjustments to account for 2 percent of the population, namely the smallest manufacturing establishments. The 1991 and 1985 samples represented 98 percent of the population, without any statistical adjustment.

EIA conducts the MECS under the authority of the Federal Energy Administration Act of 1974, Public Law 93-275, as amended, and Section 205 of the Department of Energy Organization Act, Public Law 95-91, as amended by Section 3102 of the Omnibus Budget Reconciliation Act of 1986, Public Law 99-509.² Section 171 of the Energy Policy Act of 1992 mandates the MECS as a biennial collection.

The Industry Division of the Bureau of the Census collects the data and compiles it for EIA. All data reported to the Bureau of the Census are confidential under the provisions of Section 9, Title 13, of the U.S. Code. EIA gratefully acknowledges the cooperation of the respondents in supplying the information used to produce the estimates in this report.

Organization of This Report

This introductory chapter is followed by a chapter giving an overall understanding of energy consumption in the manufacturing sector, a chapter on some of the more important results of the 1991 MECS on energy consumption and on manufacturing end uses, and a chapter on fuel-switching in the manufacturing sector. Data on manufacturing energy consumption by end use were collected for the first time in the 1991 MECS. This MECS report is the first to include fuel-switching data, which were published under separate cover for previous survey years.

¹The manufacturing sector is composed of establishments classified in SIC 20 through SIC 39 of the U.S. economy as defined by the Office of Management and Budget (OMB). The manufacturing sector is a part of the industrial division, which also includes mining; construction; and agriculture, forestry, and fishing.

²The EIA also conducts energy consumption surveys in the residential, residential transportation, and commercial buildings sectors. These surveys are the Residential Energy Consumption Survey (RECS), the Residential Transportation Energy Consumption Survey (RTECS), and the Commercial Buildings Energy Consumption Survey (CBECS).

The four chapters are followed by several technical appendices:

- Appendix A presents detailed statistical tables, providing measures of data reliability (Relative Standard Errors) as factors in the rows and columns of the data tables rather than separately as in previous reports. To better serve the user community, these tables were released to the public in May 1994 through EIA's electronic bulletin board system.
- Appendix B explains the sample design of and the estimation and implementation procedures for the MECS.
- Appendix C discusses the quality of the data.
- Appendix D compares MECS estimates with those provided by other sources.
- Appendix E presents one of the MECS consumption measures according to international classification codes.
- Appendix F reproduces Forms EIA 846 A through C, which were used to collect the data on which all estimates in this report are based, unless otherwise noted.
- Appendix G describes the major industrial groups and selected industries.
- Appendix H provides a map of the U.S. Census Regions.
- Appendix I presents metric conversion factors.
- Appendix J lists related energy consumption publications for readers interested in earlier MECS publications or consumption reports for other sectors.

A Guide to the Tables in This Report

Energy Consumption	Tables A1-A6, A9-A13, A30-A36
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These appendices are followed by a glossary of statistical and engineering terms used in this report.

2. Energy Consumption in the Manufacturing Sector: An Overview

The manufacturing sector of the U.S. economy is composed of approximately 350 thousand establishments. However, the number of establishments is of less significance for the MECS than their share of total energy consumption because these establishments differ so dramatically from each other in their processes and products.

The energy-consuming characteristics of the manufacturing sector differ from those of the residential, commercial building, and residential vehicle sectors in the energy sources manufacturers use, the ways in which they acquire that energy, and the ways in which they use that energy. These complexities require complex measurement techniques.

Manufacturing Establishments

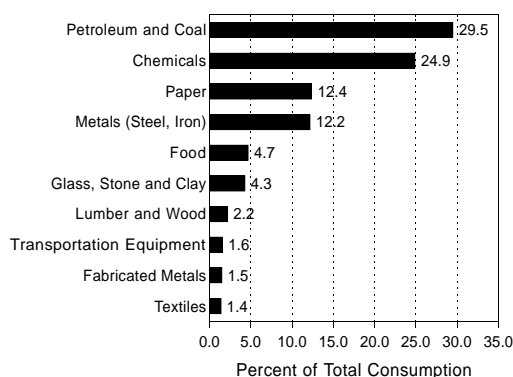
A manufacturing establishment is an economic unit at a single physical location where the mechanical or chemical transformation of materials or substances into new products is performed.³ These operations are generally conducted in facilities described as plants, factories, or mills and characteristically use power-driven machines and material-handling equipment. Manufacturing also includes such activities as the assembly of components of manufactured products and the blending of materials such as lubricating oil, plastics, resins, or liquors.

An establishment is not necessarily identical to a business concern or firm, either of which may consist of more than one establishment. For example, an automobile manufacturer may be a firm having over 200 establishments, such as stamping plants, auto assembly factories, and gear and axle plants. On the other hand, an automobile manufacturer may be a firm having one establishment, with components coming from several other firms.

Manufacturing establishments fall into the industrial categories listed in the 1987 Standard Industrial Classification (SIC) system, developed by the Office of Management and Budget.⁴ That system underlies all establishment-based Federal statistics classified by industry. The SIC system is used to promote the comparability of establishment data describing various facets of the U.S. economy. The levels of classification in the SIC are division, major group, industry group, and industry. The manufacturing sector contains 20 major groups (SIC 20 through SIC 39), 139 industry groups, and 459 industries. Manufacturing establishments are classified into industries based on the value of production of their primary products. See Appendix G for a full description of manufacturing groups and industries used in this report.

Of the 10 largest energy consumers in the manufacturing sector, the two largest were the: (1) petroleum and coal and (2) chemicals and allied products major industry groups (Figure 2.1).

Figure 2.1. Largest Energy Consumers in the Manufacturing Sector, 1991



Source: Table A1 of this report.

³Excluded from this definition of manufacturing establishment are construction, electric utilities, mining operations, agricultural production, and forestry and fishery operations.

⁴Office of Management and Budget, *Standard Industrial Classification Manual*, 1987 (Washington, DC, 1987).

Energy Sources

Manufacturers consume large quantities of combustible and noncombustible energy sources. These energy sources include such commonly known ones as natural gas, electricity, coal, residual and distillate fuel oils, and liquefied petroleum gases (LPG), as well as a wide variety of uncommon energy sources. Moreover, some materials, which might be thought of as energy sources, are not counted as energy sources in the manufacturing sector.

Examples of energy sources consumed in the manufacturing sector but not in other sectors of the economy include:

- Pulping liquor, or "black liquor," produced during the transformation of wood to pulp in the Pulp and Paper Industry
- Petroleum coke and still gas resulting from the production of petroleum products in refineries
- Agricultural waste (like rice hulls and orchard prunings), packing crates, discarded tires, and other byproducts and waste materials
- Energy sources that manufacturers produce themselves, such as electricity generated from hydropower, wind power, solar power, and geothermal sources.

On the other hand, materials that are often thought of as energy sources in other sectors are not counted as such in the manufacturing sector. For example, wood consumed to produce paper, build furniture, or manufacture lumber is excluded as an energy source in the MECS. (However, wood that is consumed to produce heat and power is counted as an energy source.)

A further anomaly occurs in petroleum refining in accounting for crude oil. Petroleum refiners are treated differently from other manufacturing establishments in the MECS because their major economic activity is transforming crude oil and other inputs into a wide variety of products. Most of the major products, such as distillate and residual fuel oils, motor gasoline, kerosene, and LPG, are universally recognized and accounted for by consumers as energy sources. However, some of these products, such as asphalt, road oils, wax, lubricating oils, solvents, and specialized petrochemical feedstocks, are not considered to be energy sources.

Energy Sources Used in the Manufacturing Sector

Combustible

Solids

Anthracite
 Bituminous and subbituminous coal
 Coal coke
 Lignite
 Agricultural waste
 Petroleum coke
 Roundwood (wood cut specifically for fuel use)
 Waste materials (wastepaper, packing materials, etc.)
 Wood chips, bark, and waste
 Other solids

Gases

Natural gas
 Acetylene
 Blast furnace gas
 Coke oven gas
 Hydrogen
 Waste and byproduct gases (refinery gas, offgas, fuel gas, vent gas, plant gas, and still gas)
 Other gases

Liquids

Distillate fuel oil (numbers 1, 2, and 4 fuel oils and diesel)
 Kerosene
 LPG (ethane, ethylene, propane, propylene, butane, and butylene)
 Motor gasoline
 Pulping or black liquor
 Residual fuel oil (numbers 5, 6, navy special, and bunker c)
 Waste oils and tars
 Other liquids

Noncombustible

Steam
 Electricity
 Industrial hot water
 Solar energy
 Hydropower
 Geothermal energy
 Wind power

The MECS does not count crude oil inputs as consumption in refineries because doing so would duplicate the consumption of the refinery energy products (like gasoline and LPG) that other sectors report. However, the MECS does count the crude oil input to nonenergy products (like asphalt and road oil) because they will not be reported by other sectors. For more information, see Appendix B, "Survey Design, Implementation, and Estimates."

Acquisition of Energy

Energy sources may arrive at an establishment from offsite, or they may be produced onsite. Energy sources produced offsite arrive at an establishment in one of several ways. They may be:

- Purchased directly from an energy supplier and paid for by the consuming establishment
- Purchased and paid for by a central purchasing entity separate from the establishment but delivered directly to the establishment
- Purchased by and transferred from another establishment within the consuming establishment's company
- Delivered from another establishment within a consuming establishment's company, with the consuming establishment being charged for the energy consistent with the company's accounting policy
- Paid for in-kind.

For example, manufacturing establishments usually purchase electricity directly from utilities as other consumers do. In some situations, however, several establishments of the same corporation and physically located in the same geographic area may pool their electricity purchases by having one of the establishments serve as the "central purchaser." In this case, the electricity is transferred from the central purchasing

authority to the consuming establishment. Some manufacturers also purchase steam and hot water from a nearby manufacturer or transfer it from an establishment within the same corporation.

Manufacturers produce some of the energy they use onsite, as a byproduct of a manufacturing process, from onsite coal mines or gas or oil wells, and through the generation of electricity. Coke oven gas, which is produced as a byproduct when manufacturing coke from coal, is one example of energy being produced as a byproduct of a manufacturing process. A second example is hydrogen, which is produced as a byproduct when the electrolysis of brine (salt water, a nonenergy material) produces chlorine and caustic soda as the main products. Both coke oven gas and hydrogen are used as energy sources.

Manufacturers generate electricity onsite in three ways:

- Cogeneration (the production of electrical energy and another form of useful energy, such as steam, through the sequential use of energy)
- Conventional generation using combustible fuels
- Generation using solar power, wind power, hydropower, and geothermal sources.

Onsite Generation of Electricity in 1991

Onsite generation of electricity accounted for 15 percent of all the electricity generated (both offsite and onsite) in the manufacturing sector in 1991. Of this amount, electricity from:

- Cogeneration made up 88 percent
- Conventional generation from the fossil fuels made up 9 percent
- Generation from renewable energy made up 3 percent.

Three major groups accounted for 84 percent of the onsite generation of electricity:

- Paper and Allied Products (54 billion kilowatthours)
- Chemicals and Allied Products (41 billion kilowatthours)
- Petroleum and Coal Products (13 billion kilowatthours).

Use of Energy Sources

Manufacturers use energy sources in two major ways. The most widely understood use is to produce heat and power and to generate electricity. Heat, power, and electricity consumption can be subdivided into three major end uses: indirect use (boiler fuel), direct process uses, and direct non-process uses.⁵ Boiler fuel is used to transform one source of energy into another (like steam). Direct process uses include energy for motors, ovens, strip heaters, and kilns. Direct non-process uses include facility lighting and space-conditioning equipment.

The second way in which manufacturers use energy is as a raw material input to the manufacturing process or for some other purpose other than for heat, power, and electricity generation.⁶ (These purposes are referred to as "nonfuel uses" in this report.) For example, coal is consumed to produce coal coke. Also, natural gas is processed to extract ethane, propane, and butane. These gases, in turn, are frequently used as raw material input to produce fertilizers, pharmaceutical preparations, and other products.

Three General Measures of Energy Consumption

The MECS uses three general measures of energy consumption in the manufacturing sector: (1) Primary Consumption of Energy for All Purposes, (2) Total Inputs of Energy for Heat, Power, and Electricity Generation, and (3) Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation. These measures are used for different purposes:

- The Primary Consumption measure is most appropriate in discussions of the amount and impact of total U.S. energy consumption.
- The Total Inputs measure is most useful in discussions of how energy use in the manufacturing sector compares with energy use in the residential and commercial sectors.
- The Consumption of Offsite-Produced Energy measure is used to continue the data series, "Purchased Fuels and Electric Energy," which was previously collected for EIA by the Bureau of the Census as a supplement to its Annual Survey of Manufactures. These data were published for the reporting years 1974 through 1981.

Primary Consumption of Energy for All Purposes is the most comprehensive measure of energy consumption and represents the first use of energy sources, no matter whether they are consumed as a fuel or as a nonfuel (mainly raw material):

- It includes all energy produced offsite.
- It includes all energy produced onsite from nonenergy materials (such as sawdust from furniture production, hydrogen from electrolysis of brine, and peanut shells from peanut processing).
- It includes net electricity, net steam, and net hot water.⁷
- It excludes all energy sources produced onsite as a result of the use of another energy source.

For example, the Primary Consumption measure includes the coal (an energy source purchased offsite) used at steel works as a raw material to produce coal coke. However, the measure excludes the coal coke (an energy source produced onsite as a result of the use of another energy source).

⁵The 1991 MECS was the first collection of national-level end-use data.

⁶Energy consumed as a raw material is frequently called a feedstock, although that terminology most often refers to petroleum-based inputs and natural gas.

⁷Net electricity, net steam, and net hot water are the sum of purchases, transfers in, and onsite production from renewables minus the quantities sold and transferred out.

Total Inputs of Energy for Heat, Power, and Electricity Generation is a less comprehensive measure of energy consumption because it measures only the energy used for its energy content:

- It includes all energy sources used to produce heat and power and to generate electricity, whether produced offsite or onsite.
- It includes net electricity, net steam, and net hot water.
- It excludes all energy sources used as raw material or other nonfuel uses.

For example, the Total Inputs measure includes coal coke consumed onsite as a fuel, but it excludes the coal that was consumed as a raw material input to produce the coke.

Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation is the most restrictive measure of the three:

- It includes all energy sources purchased or transferred from offsite to produce heat and power and to generate electricity.
- It excludes all energy produced onsite.
- It excludes all energy sources used as raw materials or for other nonfuel purposes.

Components and Measures of Combustible Energy Consumption

Each of the three general measures of energy consumption covers different components of combustible energy consumption, which has six components:

1. Energy produced offsite and consumed as a fuel
2. Energy produced offsite and consumed for nonfuel purposes
3. Energy produced onsite from nonenergy inputs and consumed as a fuel
4. Energy produced onsite from nonenergy inputs and consumed for nonfuel purposes
5. Energy produced onsite from energy products and consumed as a fuel
6. Energy produced onsite from energy products and consumed for nonfuel purposes.

Primary Consumption includes Components 1, 2, 3, and 4. Total Inputs includes Components 1, 3, and 5. Total Consumption of Offsite-Produced Energy includes only Component 1. (None of the three measures explicitly includes Component 6 to avoid double counting.)

Specific Measures of Energy Consumption

In addition to the three general measures of energy consumption, this report provides specific measures related to electricity, steam, and hot water consumption.

Embodied energy for electricity is the energy electricity suppliers use to generate the electricity consumed at the site.⁸ During the generation process, large energy losses occur:

- When heat is converted into mechanical energy for turning electric generators
- When the power plant uses electricity for its own purposes, such as pumping water into elevated reservoirs in pumped-storage hydroelectric plants
- When electricity is transmitted and distributed from the power plant to the consumer.⁹

⁸Other products from EIA commonly use the term "primary energy" to denote energy measures that incorporate input energy used to generate electricity. The MECS uses "embodied energy for electricity" for this concept to avoid confusion with the term "Primary Consumption of Energy."

⁹Although energy losses also occur during the production of natural gas, fuel oil, and district heat, they are so small compared with those occurring during the production of electricity that they are not considered in measuring primary energy consumption in this report.

However, measuring the amount of the energy losses is complicated because their amount varies from year to year and from utility plant to utility plant, depending on the conversion process, the particular mix of input energy sources used in generation, and the efficiency of the utility plant. Since collecting data on these factors for each utility plant would be unreasonable within the framework of EIA consumption surveys, the amount of energy consumed to produce the electricity consumed onsite in any given year can only be estimated.

Evaluating the Energy Value of Electricity Consumption

Electricity consumption can be expressed in terms of either

- physical units, most commonly kilowatthours
- thermal units, most commonly British thermal units (Btu).

The physical unit is meant to give a clear understanding of the amount of a particular energy source being used, while the thermal unit is a measure of convenience used to aggregate or compare various energy sources measured in different physical units. Converting kilowatthours of electricity to Btu is not a trivial issue, because the amount of input energy needed to create a kilowatthour of electricity is far greater than the amount of useful energy in the kilowatthours at its point of use. Therefore, meaningful conversions of electricity use from kilowatthours to Btu can be given in terms of:

- Site (point-of-use) electricity, at the universal value of 3,412 Btu per kilowatthour. This value is useful to engineers, energy managers, and others trying to improve energy efficiency.
- Embodied (primary) electricity, at a value that reflects the content of the energy inputs used to produce the electricity. This rate is most useful to policymakers and analysts who are considering global resources and environmental issues.

Estimates of embodied electricity should be treated with caution. They should be considered rough alternative measures to site energy as indicators of the importance of electricity as a manufacturing energy source.

EIA bases this estimate on the approximate annual amount of combustible fuels (coal, natural gas, and petroleum products) used by steam-electric generating plants, which generate most of the Nation's electricity.¹⁰ In 1991, U.S. steam-electric utility plants are estimated to have used approximately 10,352 Btu of conventional-fuel energy to generate 1 kilowatthour of electricity—or approximately 3.03 Btu of conventional-fuel energy to generate 1 Btu of electricity, since 3,412 Btu equals 1 kilowatthour of electricity.¹¹ Accordingly, in this report, estimates of site electricity consumption in kilowatthours can be converted to estimates of embodied energy consumption by using 10,352 as the conversion factor. For example, in Table A1, Part 1, the Food and Kindred Products Industry group consumed 49,536 million kilowatthours of electricity. Multiplying this estimate by 10,352 Btu per kilowatthour would yield 513 trillion Btu, the amount of embodied energy used to generate that amount of electricity.

Estimates of embodied electricity can only be approximations of the amount of energy actually used to generate electricity, especially in the manufacturing sector, because many manufacturers use energy sources other than the combustible fuels. For example, the electricity-intensive industries, such as aluminum, are concentrated in areas where electricity can be generated from energy sources other than conventional fuels, usually hydropower. Thus, the accuracy of the conversion factor varies across industry groups.

Electricity demand is the amount of electricity actually consumed onsite, regardless of where or how it was produced. It is a useful measure of electricity consumption without regard to the consumption of other energy sources. Electricity demand is estimated in this report as the sum of electricity purchases, transfers in, and total onsite generation minus the quantities of electricity sold or transferred offsite.

¹⁰The fossil fuels, especially coal, provide the principal energy sources for the generation of electricity. Nuclear and hydroelectric power are used to a lesser extent, with wood/waste, wind, geothermal, and solar energy supplying only a small amount of energy for electricity generation.

¹¹Table A8. Approximate Heat Rates for Electricity," *Monthly Energy Review*, August 1994, p. 165.

Net electricity is estimated for each manufacturing establishment as the sum of purchased electricity, transfers in, and generation from noncombustible renewable resources minus the quantities of electricity sold and transferred offsite. Thus net electricity excludes the quantities of electricity generated or cogenerated onsite from combustible energy sources. The estimates of net electricity appear in the estimates of Total Primary Consumption for All Purposes (Table A1) and Total Inputs of Energy for Heat, Power, and Electricity Generation (Table A4).

Electricity receipts is the amount of electricity purchased and transferred into the establishment. This measure is used so that the MECS estimates of offsite-produced energy will be consistent with the Census Bureau's definition of "purchased fuels and electricity," on which the Bureau of the Census collected and published data from 1974 through 1981. The estimates for Electricity Receipts appear in the estimates of Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation (Table A5).

Net steam is the sum of purchases, transfers in, and generation from renewable energy sources minus the quantities sold and transferred out.

Net hot water is the sum of purchases and transfers in, minus the quantities of hot water sold and transferred out.

Estimates of net steam and net hot water are not shown separately in the MECS but are included in the "Other" column of tables that show Primary Consumption and Total Inputs. The estimates of Offsite-Produced Energy for Heat, Power, and Electricity Generation include the steam and hot water purchased by and transferred to a manufacturing establishment in order to be consistent with the Census Bureau's definition of "purchased fuels and electricity."

Figure 2.2. Summary of Manufacturing Energy Throughput, 1991

Summary of Manufacturing Energy Throughput, 1991

In 1991, 25.3 quadrillion Btu of energy can be attributed to the manufacturing sector **(1 in Figure 2.2)**. This amount included 7.4 quadrillion Btu of embodied energy for electricity **(2)** and 20.3 quadrillion Btu of Primary Consumption of Energy for All Purposes **(3)**.^{*} Of the 7.4 quadrillion Btu of embodied energy for electricity, 5.0 quadrillion Btu was lost during the generation of the electricity offsite **(2a)**, and 2.5 quadrillion Btu of electricity was delivered to the manufacturing site **(2b)**.

The 20.3 quadrillion Btu of Primary Consumption of Energy for All Purposes **(3)** included:

- The 2.5 quadrillion Btu of electricity delivered to the manufacturing site **(2b)**
- 10.5 quadrillion Btu of natural gas, coal, fuel oil, and other major energy sources **(4)**, with 7.5 quadrillion Btu of this amount being used inside the fence to produce heat and power **(4a)** and 3.0 quadrillion Btu being used for nonfuel uses **(4b)**
- 1.4 quadrillion Btu of offsite waste, byproducts, and other materials **(5a and 5b)**; with 0.8 quadrillion Btu of this amount being used for heat and power **(5a)** and 0.5 quadrillion Btu being used for nonfuel uses **(5b)**
- 2.9 quadrillion Btu of crude oil input to nonenergy products (such as asphalt and road oil) at refineries **(6)**
- 3.1 quadrillion Btu of onsite-produced energy for heat, power, and electricity (waste and byproducts from onsite processing; energy from mines and wells onsite; and electricity and steam generated onsite from wind, solar, hydropower, and geothermal sources) **(7)**.

The feedstock components of the Primary Consumption of Energy for All Purposes measure **(8)** included 3.0 quadrillion Btu of natural gas, coal, fuel oil, and other major energy sources **(4b)**; 0.5 quadrillion Btu of offsite waste, byproducts, and other materials **(5b)**; and 2.9 quadrillion Btu of crude oil input to nonenergy products **(6)**. Of the 6.4 quadrillion Btu of site energy used for feedstock/raw material **(8)**, 5.2 quadrillion Btu was used in finished products such as fertilizer, ammonia, and wax **(9)**, and 1.1 quadrillion Btu was reclaimed for use in producing heat and power and generating electricity onsite **(10)**.

The 20.3 quadrillion Btu of Primary Consumption of Energy for All Purposes excluded 0.1 quadrillion Btu of electricity and steam that was transferred to offsite locations **(11)**.

Manufacturers consumed 15.0 quadrillion Btu of Total Inputs of Energy for Heat, Power, and Electricity Generation. This amount included:

- 0.8 quadrillion Btu from offsite waste, byproducts, and other materials **(5a)**
- 2.5 quadrillion Btu of electricity delivered to the manufacturing site **(2b)**
- 7.5 quadrillion Btu of oil, natural gas, coal, and other major energy sources produced offsite and used to produce heat and power **(4a)**
- 3.1 quadrillion Btu of onsite-produced energy for heat, power, and electricity (waste and byproducts from onsite processing energy from mines and wells onsite; and electricity and steam generated onsite from wind, solar, hydropower, and geothermal sources) **(7)**
- 1.1 quadrillion Btu of energy reclaimed from the byproducts and waste of raw materials produced onsite and used for heat and power and electricity generation **(10)**.

The 20.3 quadrillion Btu of Total Inputs of Energy for Heat, Power, and Electricity Generation also excluded the 0.1 quadrillion Btu of electricity and steam that was transferred to offsite locations **(11)**.

The 10.8 quadrillion Btu of Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation **(13)** included:

- 2.5 quadrillion Btu of electricity **(2b)**
- 0.8 quadrillion Btu of offsite waste, byproducts, and other materials **(5a)**
- 7.5 quadrillion Btu of oil, natural gas, coal, and other major energy sources from offsite **(4a)**.

^{*}Components may not sum to totals due to independent rounding.

3. Energy Consumption in the Manufacturing Sector, 1991

In 1991, the amount of energy consumed in the manufacturing sector was as follows:

- Primary Consumption of Energy for All Purposes was 20.3 quadrillion Btu of energy, or about one-third of the total end-use energy consumed by the U.S. economy.
- Total Inputs of Energy for Heat, Power, and Electricity Generation were 15.0 quadrillion Btu.

The end uses for which manufacturing establishments consumed most of this energy were boiler fuel, direct processing, and direct non-processing (facility support).

Primary Consumption of Energy for All Purposes

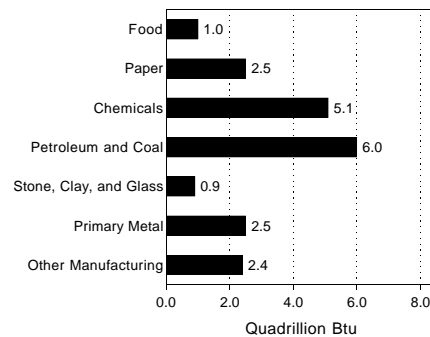
The amount of Primary Consumption of Energy for All Purposes in 1991 was 20.3 quadrillion Btu, compared with 20.1 quadrillion Btu in 1988 and 17.5 quadrillion Btu in 1985. The shares of consumption for each of the commonly known energy sources remained stable during the 6-year period:

- The share for natural gas was 30 percent in 1991, 29 percent in 1988, and 30 percent in 1985.
- The share for net electricity was 12 percent in all 3 years.¹²
- The share for coal was 10 percent in 1991, 12 percent in 1988, and 14 percent in 1985.
- The share for liquefied petroleum gas (LPG) was 8 percent in 1991 and 5 percent in 1985 and 1988.
- The share for other energy sources was 41 percent in 1991, 42 percent in 1988, and 40 percent in 1985.¹³

Six industry groups accounted for 88 percent (17.8 quadrillion Btu) of Primary Consumption of Energy for All Purposes: food and kindred products; paper and allied products; chemicals and allied products; petroleum and coal products; stone, clay, and glass products; and primary metals (Figure 3.1).

About two-thirds of Primary Consumption of Energy for All Purposes (13.9 quadrillion Btu) was used to produce heat and power and to generate electricity, with about one-third (6.4 quadrillion Btu) being consumed as raw material input (Table A3).

Figure 3.1. Primary Consumption of Energy for All Purposes by Major Industry Group, 1991



Source: Table A1 of this report.

¹²"Net electricity" is the sum of purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out.

¹³Changes in shares for coal and LPG from 1988 to 1991 were statistically significant at the 0.05 level. Changes in shares for natural gas, net electricity, and other energy sources were nonsignificant.

The most common energy sources—natural gas, net electricity, coal, liquefied petroleum gas (LPG), residual and distillate fuel oil, and coke—made up 64 percent of Primary Consumption. Making up the remaining 36 percent of Primary Consumption were still gas, waste gas, petroleum coke, pulping liquor, and other energy that respondents indicated they had used as Primary Energy, as well as crude oil inputs to such materials as asphalt and road oil (Figure 3.2).

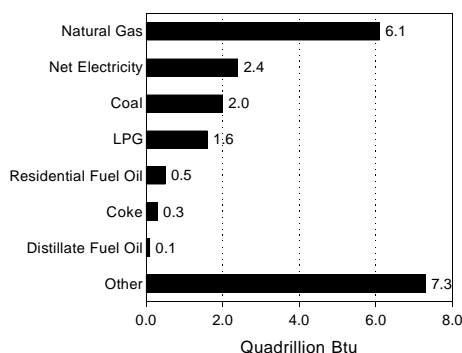
Natural Gas. Natural gas was the energy source most heavily consumed at the manufacturing site in 1991, accounting for 30 percent of Primary Consumption. Natural gas consumption is heavily concentrated in the chemicals and allied products major industry group, where it is consumed as a fuel and as a feedstock. This major industry group accounted for about 36 percent (2.2 quadrillion Btu) of the Primary Consumption of natural gas (Table A1). About one-fourth of the natural gas consumed by the chemicals and allied products major industry group (0.6 quadrillion Btu) was used as an energy raw material (Table A3). Natural gas is used as a raw material in the preparation of numerous products, but one of the heaviest uses is for manufacturing nitrogenous fertilizers.

Electricity. Net electricity was the second most heavily consumed single energy source by manufacturers in 1991, accounting for 12 percent of site Primary Consumption (2.4 quadrillion Btu).¹⁴ However, taking into account the amount of energy used to generate the site net electricity (the embodied energy consumption for net electricity), net electricity accounted for 29 percent of site energy consumption (Figure 3.3).

Four major industry groups consumed 54 percent (1.3 quadrillion Btu) of Primary Consumption of net electricity: food and kindred products, paper and allied products, chemicals and allied products, and primary metal industries. Of these, the primary metal major industry group, which includes primary aluminum, was the heaviest consumer. The primary aluminum industry uses large quantities of electricity to produce aluminum ingots from alumina. In 1991, net electricity provided 77 percent of the aluminum industry’s site energy consumption. (Taking into account the energy used to generate that site electricity, it accounted for 91 percent of the industry’s embodied energy consumption.)

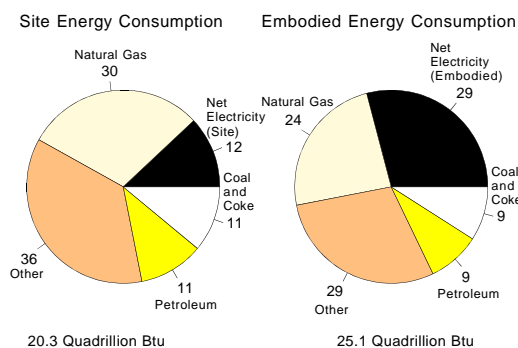
Coal. The 1991 Primary Consumption of coal was 2.0 quadrillion Btu. Coal is heavily consumed by the blast furnaces and steel mills industry to produce coke. Coking operations accounted for 0.8 quadrillion Btu, or 40 percent of Primary Consumption of coal.

Figure 3.2. Primary Consumption of Energy for All Purposes by Energy Source, 1991



Source: Table A1 of this report.

Figure 3.3. Percent of Primary Consumption in Terms of Site and Embodied Electricity, 1991



Source: Table A1 of this report.

¹⁴Unless otherwise specified, all estimates of electricity consumption shown in this report are given in terms of site energy.

LPG. Liquefied petroleum gases (LPG) are consumed mostly as a raw material by manufacturers. The largest users are chemical industries that use LPG as petrochemical feedstock. An example is the production of ethylene from ethane. Of the total 1991 Primary Consumption of 1.6 quadrillion Btu, 1.5 quadrillion Btu (94 percent) was used as a raw material.

Distillate and Residual Fuel Oils. The Primary Consumption of distillate and residual fuel oils continued at a relatively low level in 1991. Residual fuel oil accounted for only 0.5 quadrillion Btu and distillate fuel oil, 0.1 quadrillion Btu. Total fuel oil consumption accounted for only about 3 percent of Primary Consumption, which also was the case in both the 1985 and 1988 MECS.

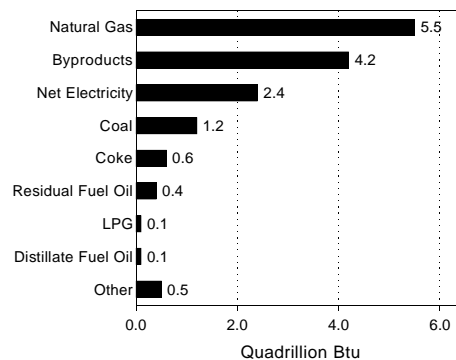
Other Energy Sources. Other energy sources accounted for 36 percent (7.3 quadrillion Btu) of Primary Consumption. Those energy sources included net steam and other energy that respondents indicated was used as a fuel and raw material input (4.4 quadrillion Btu). In addition, the estimate has been supplemented by the quantity of energy consumed by the petroleum refining industry to produce final products that are not normally considered to be energy sources (asphalt, road oil, solvents, lubricants, and waxes). Those products accounted for 40 percent (2.9 quadrillion Btu) of the other energy sources. (See Appendix B for a discussion of the rationale of this procedure.)

Total Inputs of Energy

The amount of Total Inputs of Energy for Heat, Power, and Electricity Generation in 1991 was 15.0 quadrillion Btu, compared with 15.5 quadrillion Btu in 1988 and 13.6 quadrillion Btu in 1985. Between 1988 and 1991, the shares of consumption for each of the commonly known energy sources remained stable:

- The share for natural gas was 34 percent in 1988 compared with 37 percent in 1991.
- The share for net electricity was 15 percent in 1988 compared with 16 percent in 1991.
- The share for coal and coke was 13 percent in 1988 compared with 12 percent in 1991.
- The share for petroleum products was 6 percent in 1988 compared with 4 percent in 1991.
- The share for byproducts was 28 percent in 1988 and 1991.
- The share for other energy sources was 3 percent in 1988 compared with 4 percent in 1991.¹⁵

Figure 3.4. Total Input Energy for Heat, Power, and Electricity Generation, 1991



Source: Tables A4 and A6 of this report.

The shares for the various energy sources in 1985 cannot be compared with shares for 1988 and 1991 because data on the amount of byproduct fuels consumed in 1985 were published only in aggregate form.

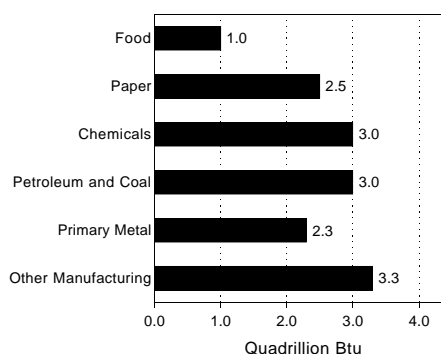
Of the eight specific types of energy measured by Total Inputs, natural gas was the dominant energy source, followed by byproduct fuels (Figure 3.4). Energy sources produced offsite made up 72 percent of Total Inputs of Energy for Heat, Power, and Electricity Generation. Fuels produced onsite made up the remaining 28 percent.

¹⁵Changes in shares for natural gas, coal and coke, petroleum products, and other energy sources from 1988 to 1991 were statistically significant at the 0.05 level. Changes in shares for net electricity and byproducts were nonsignificant.

Consumption by Major Industry Group

The major industry groups consuming the most energy for heat, power, and electricity generation were food and kindred products, paper and allied products, chemicals and allied products, petroleum and coal products, and primary metal industries (Figure 3.5). Industries vary in the proportion of energy they use for heat, power, and electricity generation and the proportion they use for raw materials. Some industries, like the food and kindred products and the paper and allied products industries, consume large amounts of energy for heat, power, and electricity generation and small amounts of energy for raw material. Other industries, such as the chemicals and petroleum industries, consume large amounts of energy as raw material.

Figure 3.5. Total Input Energy for Heat, Power, and Electricity Generation by Major Industry Group, 1991



Source: Table A4 of this report.

Food and Kindred Products. In the food and kindred products major industry group, the 1991 estimates of Primary Consumption and Total Inputs are nearly identical at 1.0 quadrillion Btu. This close correspondence is because the food industry consumes virtually all its energy as a fuel to process food for distribution and consumes negligible amounts of energy as a raw material.

Paper and Allied Products. Estimates of Primary Consumption and Total Inputs are also similar for the paper and allied products major industry group (about 2.5 quadrillion Btu for each) because this group, too, consumes only small amounts of energy sources as energy raw material. It should be noted that the primary raw material input for the production of pulp and paper is wood. However, pulping wood is not counted as an energy source in the MECS because it is considered by manufacturers to be a nonenergy raw material input. Therefore, both Primary Consumption and Total Inputs include wood byproducts.

Chemicals and Petroleum Industries. The chemicals and allied products and the petroleum and coal products major industry groups clearly illustrate these industries' heavy use of energy as a raw material. The 1991 Primary Consumption for chemicals and allied products was 5.1 quadrillion Btu, of which 2.4 quadrillion Btu was consumed as an energy raw material. Total Inputs for chemicals and allied products (3.0 quadrillion Btu) excludes the energy consumed as a raw material. The petroleum and coal products major industry group was quite similar, with a Primary Consumption of 6.0 quadrillion Btu, of which 3.0 quadrillion Btu was consumed for nonfuel use, as raw material input to nonenergy products.

Byproduct Fuels

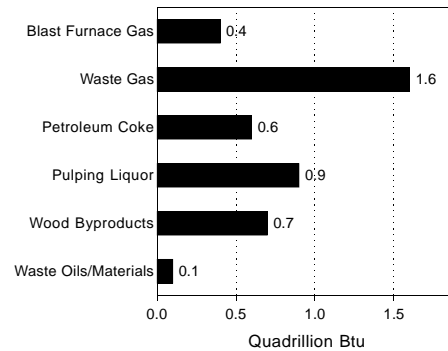
Byproduct fuels—blast furnace gas, waste gas, petroleum coke, pulping liquor, wood byproducts, and waste oils/materials—made up 28 percent of Total Inputs of Energy for Heat, Power, and Electricity Generation (Figure 3.6). Industries differ in the amount of byproduct energy they use, with the blast furnace, petroleum refining, and paper and pulp industries being the largest consumers of byproduct fuels.

Blast Furnace Industry. The blast furnace industry consumed 1.6 quadrillion Btu of input energy in 1991. This industry commonly produces two byproduct fuels—blast furnace and coke oven gas. Blast furnace gas is a combustible waste gas generated in a blast furnace when iron ore is being reduced with coke to metallic iron. In addition, most steel works produce much of their own coke. Coke oven gas is a combustible mixture of gases produced by the carbonization of coal in a coke oven. These gases are "recycled" and consumed onsite as a fuel.

Of the total input energy consumption of this industry, 27 percent (0.4 quadrillion Btu) was provided by these byproduct energy sources (Table A6).

Petroleum Refineries. The 1991 input energy requirement for the petroleum refining industry was 2.9 quadrillion Btu. That energy was consumed as a fuel to refine crude oil into useful products. Waste gas (still gas) and petroleum coke are byproducts of the petroleum refining process. Waste gas is any form or mixture of gas produced in refineries by distillation, cracking, reforming, and other refining processes. The principal constituents of waste gas are methane, hydrogen, ethane, ethylene, propane, propylene, butane, and butylene. Petroleum coke is a solid residue that is high in carbon content and low in hydrogen. It is the final product of thermal decomposition in the condensation process in cracking crude oil. Some of these byproducts are sold, but most are recycled into the refining process and consumed as a fuel. In 1991, these byproducts accounted for 1.8 quadrillion Btu, or 62 percent of the total input energy requirement of the petroleum refining industry.

Figure 3.6. Byproduct Fuels Consumed by Manufacturers by Energy Source, 1991



Source: Table A6 of this report.

Paper and Allied Products Industries. The paper and allied products industries use enormous amounts of wood to produce paper. Byproducts of the wood used to produce paper consist of pulping liquor and wood chips, bark, and wood waste. Pulping liquor is the alkaline spent liquor removed from the digester in the process of chemically pulping wood. After evaporation, the liquor is burned in a recovery furnace that provides heat and permits the recovery of certain basic chemicals from the liquor. Nearly all pulping liquor is consumed onsite, as are most of the wood byproducts. Total 1991 input energy for this major industry group was 2.5 quadrillion Btu. Of that amount, pulping liquor accounted for 0.9 quadrillion Btu and wood chips, bark and wood waste, for 0.3 quadrillion Btu. Thus, 48 percent of the total input energy requirement of the paper and allied products major industry group was met by these byproduct energy sources.

End Uses for Heat, Power, and Electricity

In 1991, 65 percent of the Total Inputs of Energy for Heat, Power, and Electricity Generation in the manufacturing sector was allocated to three groups of end uses: indirect uses (mainly boiler fuel), direct process uses, and direct non-process uses. The remaining 35 percent of energy inputs was unallocated. The 1991 MECS was the first collection of national-level end-use data.

End-Use Consumption of Energy

The manufacturing sector used 9.7 quadrillion Btu of natural gas, electricity, coal, residual and distillate fuel oils, and LPG to produce the heat, power, and electricity needed for:

- Boiler fuel, which is used to transform one source of energy into another (like steam)
- Direct process uses, including use in motors, ovens, strip heaters, and kilns
- Direct non-process uses, including facility heating, ventilation, and air-conditioning (HVAC); facility lighting, other facility support; onsite transportation; electricity generation; and other miscellaneous uses.

The manufacturing sector as a whole used the most energy for direct process uses (Figure 3.7).

Boiler Fuel

Approximately one-third (3.3 quadrillion Btu) of reported 1991 end-use consumption was consumed as boiler fuel, energy that was then transformed into steam or some other energy source. This transformation of energy describes the largest specific end use of reported energy consumed by manufacturing establishments.

Transformation of energy is not usually considered an energy use because steam has subsequent end uses. Steam, the predominant output from industrial boilers, has multiple uses in most manufacturing establishments and is, therefore, difficult for manufacturers to measure and quantify since the energy content depends upon both temperature and pressure. In the surgical and medical instruments industry, for example, steam can be used to sterilize medical products such as sutures and syringes. Meanwhile, high-pressure steam can also be used to produce electricity or can be used by other industrial processes or non-processes that require thermal energy.

Direct Process End Uses

In 1991, over half (5.0 quadrillion Btu) of reported end-use consumption was used to transform raw material inputs into production outputs. The MECS identified four distinct direct processes—process heating, process cooling/refrigeration, machine drive (motors),¹⁶ electro-chemical processes—and a group of other unspecified processes. The three most energy-intensive direct process end uses were process heating, machine drive, and electro-chemical processes (Figure 3.8).

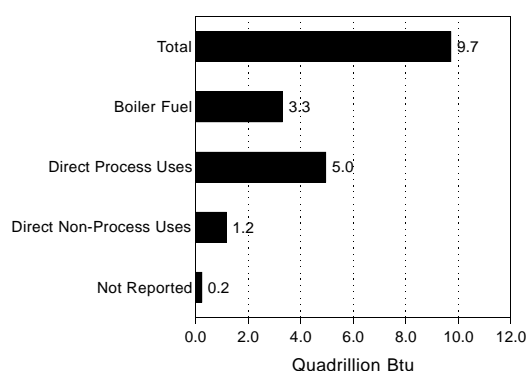
Process heating, which accounted for 62 percent (3.1 quadrillion Btu) of all reported direct process consumption, encompasses numerous uses. For example:

- The aluminum industry uses process heating to hold molten aluminum in crucibles after the electro-chemical process (the reduction process) of splitting alumina into molten aluminum metal and oxygen.
- The steel industry uses process heating to melt scrap metal in electric-arc furnaces.
- The food industry uses process heating to dry food residual (such as yeast extract) for resale as livestock feed.

Machine drive, used for equipment such as industrial air compressors and pumps, consumed 1.3 quadrillion Btu (27 percent) of reported direct process consumption and represented the second largest reported direct process use of energy. Of that 1.3 quadrillion Btu, electricity accounted for 1.2 quadrillion Btu (88 percent) of consumption. Electro-chemical use of energy ranked third in the reported consumption of energy for direct process uses. Over 0.3 quadrillion Btu of electricity, concentrated in the primary metal and chemicals and allied products industries, were consumed in that process. Of that amount of purchased and generated electricity, the primary metal industries

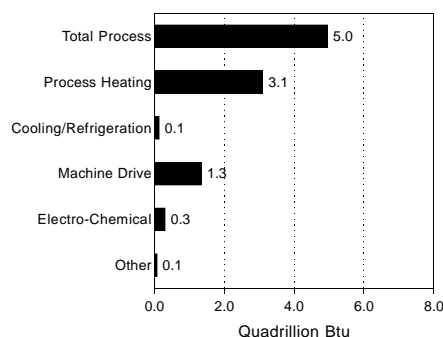
¹⁶Machine drive transforms thermal or electrical energy into mechanical energy.

Figure 3.7. Consumption of Energy for Heat, Power, and Electricity Generation by Manufacturing End Use, 1991



Source: Table A36 of this report.

Figure 3.8. Consumption of Energy for Heat, Power, and Electricity Generation by Manufacturing Direct Process End Use, 1991



Source: Table A36 of this report.

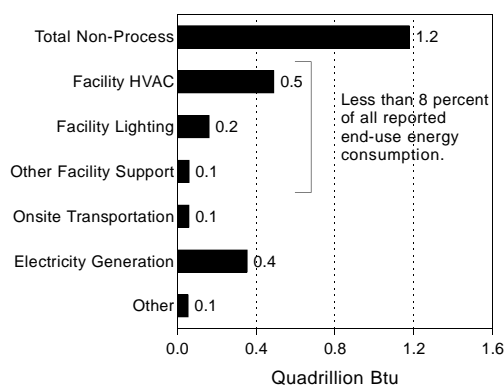
accounted for 229 trillion Btu (63 percent) and the chemicals and allied products industries consumed 114 trillion Btu (32 percent). Within the primary metal industries, the primary aluminum industry consumed 216 trillion Btu (60 percent) of electro-chemical use. This industry uses the electro-chemical process to reduce alumina to molten aluminum metal and oxygen (Table A38).

To improve the energy efficiency of their direct process operations, manufacturing establishments participated in various demand-side management (DSM) and other energy management programs (Table A40). From 1989 through 1991, their activities and percent of participation, expressed in terms of the total input energy use represented by participating establishments, were as follows: installing or retrofitting motors to achieve better energy efficiency (36 percent), improving the efficiency of process heating (34 percent), and improving the efficiency of process cooling (15 percent).

Direct Non-Process End Uses

Of the 9.7 quadrillion Btu of consumption for which end uses were reported, only 1.2 quadrillion Btu was designated for direct non-process uses. Less than 8 percent (0.7 quadrillion Btu) of energy consumption in manufacturing establishments was directly related to facility use (Figure 3.9). Process uses of energy affect some facility-related use of energy. Heat that radiates from manufacturing processes may negate, or restrict, facility HVAC use of energy. For example, glass melters found in the glass industries create a large amount of heat energy that is then transferred to the surrounding working environment. Since cooling that environment is not usually considered economically viable, the proximity of the manufacturing process may reduce the likelihood that the enclosed manufacturing floorspace is conditioned. In addition, those indirect transfers of radiant heat from processing uses to the surrounding environment are not measured.

Figure 3.9. Consumption of Energy for Heat, Power, and Electricity Generation by Manufacturing Direct Non-Process End Use, 1991



Source: Table A36 of this report.

To improve the energy efficiency of their direct non-process operations, manufacturing establishments participated in various DSM and other energy management programs (Table A40). From 1989 through 1991, their activities and percent of participation, expressed in terms of the total input energy use represented by participating establishments, were as follows: improving the efficiency of facility lighting (36 percent) and installing equipment to improve facility HVAC systems (23 percent).

Industry Patterns of Energy Consumption for Different End Uses

Since the production process is commonly considered the driving force behind the manufacturing sector, most industries consume most of their energy for direct process uses and consume relatively little for non-process uses. In 1991, direct non-process uses accounted for roughly 1.2 quadrillion Btu, or 12 percent of reported energy consumption. One of the heaviest users of energy for direct processes was the stone, clay, and glass major industry group, which consumed 0.7 quadrillion Btu (90 percent of all the energy it consumed) for direct process uses. This industry group is a heavy user of process heating, which is an energy-intensive end use.

Other industries, however, used most of the energy they consumed for heat, power, and electricity for boiler fuel, such as the paper and allied products industries and the pulping and paper-making processes industries. The paper and allied products industries, which reported 1.2 quadrillion Btu for end-use consumption, reported consuming 66 percent of its reported inputs as boiler fuel, and only 26 percent in direct process uses and 7 percent in direct non-process uses, with the remaining 1 percent undiscerned. That configuration of consumption was also characteristic

of the pulping and paper-making processes, where large quantities of steam are required to remove water from paper sheets (Figure 3.10).

Most industries use only a small percentage of the energy they consume for non-process end uses. However, in those industries where assembly-type manufacturing takes place in large, environmentally controlled buildings, it can be quite a large percentage. Examples are the furniture and fixtures industries (32 percent), transportation equipment industries, such as automobile plants (25 percent), or computer and office equipment industries (43 percent).

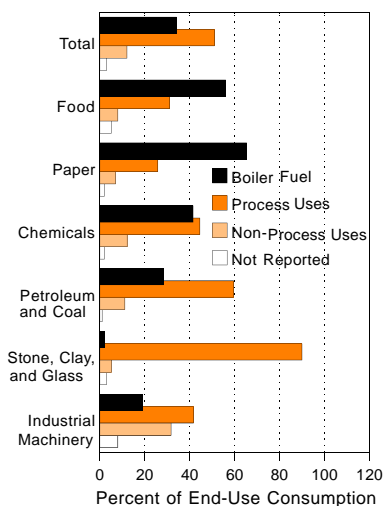
Unallocated End-Use Consumption of Energy

In addition to the 9.7 quadrillion Btu of the most common energy sources that manufacturers consumed for boiler fuel, direct process uses, and direct non-process uses, manufacturers consumed 5.3 quadrillion Btu of energy for which end uses were not assigned. Eight byproduct energy sources formed the major components of the 5.3 quadrillion Btu of unallocated end-use consumption: waste gas, pulping liquor (black liquor), blast furnace/coke oven gases, petroleum coke, coal coke, wood byproducts, waste oils/materials, and net steam (Figure 3.11).

While consumption of byproducts was not allocated to a specific end use, those energy sources generally have a finite number of uses at a manufacturing establishment. For example:

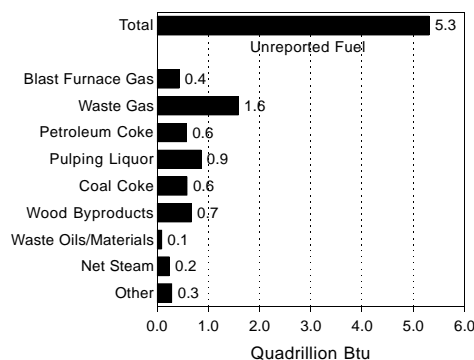
- Coal coke is generally consumed as a fuel for its heat content and as a reducing agent for smelting iron ore in the blast furnaces and steel mills industry, accounting for 0.5 quadrillion Btu (92 percent) of the unallocated coal coke.
- Pulping liquor, generated onsite at paper industry establishments, is generally consumed in recovery boilers to generate heat and recover catalysts for use in the pulping process.
- Waste gas is generally consumed for process heating in petroleum refineries, according to a 1984 American Petroleum Institute study.¹⁷

Figure 3.10. Consumption of Energy for Heat, Power, and Electricity Generation by Major Industry Groups and Major End Uses, 1991



Source: Table A36 of this report.

Figure 3.11. Unreported End-Use Fuels Consumed for Heat, Power, and Electricity Generation, 1991



Source: Tables A4, A6, A36, and D2 of this report.

¹⁷Chemical and Engineering News, *Energy Use by Petroleum Industry*, June 9, 1986.

Summary

In 1991, the Primary Consumption of Energy for All Purposes in the manufacturing sector was 20.3 quadrillion Btu of energy, compared with 20.1 quadrillion Btu in 1988. About two-thirds of this amount was used to produce heat and power and to generate electricity, with about one-third being consumed as raw material input to produce nonenergy products. The most common energy sources—natural gas, net electricity, coal, LPG, residual and distillate fuel oil, and coke—made up 64 percent of Primary Consumption.

The amount of Total Inputs of Energy for Heat, Power, and Electricity Generation was 15.0 quadrillion Btu in 1991, compared with 15.5 quadrillion Btu in 1988. The byproduct fuels—blast furnace gas, waste gas, petroleum coke, pulping liquor, wood byproducts, and waste oils/materials—made up 28 percent of Total Inputs.

End-use allocation was collected for about 65 percent of Total Inputs (9.7 quadrillion Btu). This consumption was allocated to three groups of end uses: indirect uses, mainly boiler fuel (3.3 quadrillion Btu); direct process uses, including use in motors, ovens, strip heaters, and kilns (5.0 quadrillion Btu); and direct non-process uses, including facility HVAC, facility lighting, other facility support, onsite transportation, electricity generation, and other miscellaneous uses (1.2 quadrillion Btu). Manufacturers consumed an additional 5.3 quadrillion Btu of energy for which end uses were not assigned.

4. Manufacturer Capability To Switch Fuels

Manufacturers can often best adapt to changes in economic conditions, energy supply interruptions, and other constraints on energy use by switching fuels. For the MECS, manufacturers are said to have a fuel-switching capability if they are able to meet their requirements for heat, power, and electricity generation by substituting one energy source for another within 30 days without modifying the equipment that consumes the fuel and resuming the same level of production following the switch.

Although all manufacturers have certain minimum requirements for energy sources that cannot be replaced by another energy source, many manufacturers have some fuel-switching capability. The degree of a manufacturer's capability depends only on the characteristics of the equipment and practical limitations to switching, such as binding take-or-pay agreements with energy suppliers and environmental regulations that limit the amounts of potential replacements that could have been consumed. Much of the fuel-burning equipment that manufacturers use is capable of burning more than one energy source.

The 1991 MECS determined fuel-switching capability for six commonly known energy sources and looked at the extent to which manufacturers exercised their ability to choose the mix of energy sources at their discretion.

Nonswitchable Minimum Requirements

Generally, a manufacturing establishment uses a certain quantity of an energy source that cannot be replaced by any other energy source, at least not within a 30-day period. The reasons for nonswitchable quantities are as varied as the types of production environments themselves. Among the practical limitations to switching are the characteristics of the establishment and the equipment itself, which would require, at the very least, significant modifications disruptive to production. Other switching deterrents are existing energy-supply contracts and environmental restrictions. In addition, the physical properties of certain energy sources could produce a desirable or harmful effect on the product.

For example, consider a manufacturing plant that consumed 2.0 million cubic feet of natural gas to produce automobile bodies. Of that amount, 500 thousand (0.5 million) cubic feet of natural gas was nonswitchable because it was consumed in paint-drying ovens that required natural gas. Using any other energy source would have changed the tint of the pigments in the paint, rendering the products unsalable. The remaining 1.5 million cubic feet of natural gas was switchable because it was consumed in a boiler that could burn either natural gas or residual fuel oil, and the switch between those two energy sources could have taken place within a few hours.

In 1991, manufacturers required an nonswitchable minimum of 7.0 quadrillion Btu of electricity receipts,¹⁸ natural gas, distillate and residual fuel oils, coal, and liquefied petroleum gas (LPG), 72 percent of actual consumption of these fuels (Figure 4.1). This amount represents actual consumption decreased by the quantity of the energy sources that would no longer have been required if all ascertained switching from that energy source had occurred. This amount also includes the quantity of 1991 consumption for which switching capability was not ascertained.

The following are manufacturers' nonswitchable requirements for the most common energy sources, stated as a percentage of the actual consumption of each energy source:

- Electricity: 98 percent of actual consumption
- Natural gas: 65 percent of actual consumption

¹⁸The estimate of electricity receipts represents those quantities of electricity that were produced offsite and available onsite for consumption, but it does not include electricity generated onsite, nor has it been adjusted to account for any quantities that might have been resold or transferred to another establishment.

- Distillate fuel oil: 80 percent of actual consumption
- Residual fuel oil: 55 percent of actual consumption
- Coal: 55 percent of actual consumption
- LPG: 53 percent of actual consumption.

Fuel-Switching Capability

In 1991, manufacturers had the capability to switch 2.8 quadrillion Btu of the most common energy sources, representing 28 percent of actual consumption. The energy sources for which fuel-switching capability is most desirable are the petroleum-based fuels. Since the mid-1970's, concern about U.S. dependency on crude oil imports and adherence to environmental restrictions have prompted manufacturers to concentrate on reducing their consumption of petroleum-based fuels.

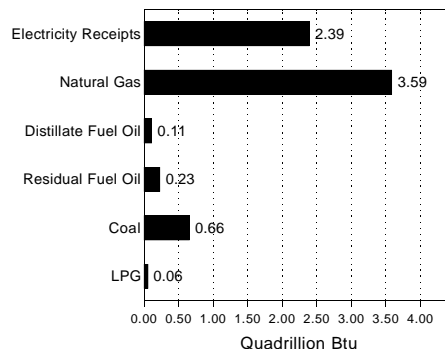
According to the Bureau of the Census, manufacturers' 1978 consumption of residual and distillate fuel oils accounted for 17 percent of total offsite-produced energy for heat, power, and electricity generation.¹⁹ By 1991, those same petroleum-based energy sources accounted for only 4 percent of the total. This substantial decrease was likely due to manufacturers' replacement of petroleum-based fuels with other energy sources. By 1991, manufacturers had little capability remaining to replace petroleum-based fuels with other energy sources.

Natural gas has long been viewed as a prime alternative to petroleum-based fuels because of its widespread availability, supply reliability, clean-burning quality, and reduced storage capacity. However, a fuel-switching capability for natural gas is also necessary because of occasional supply disruptions. For example, natural gas production at the wellhead may be disrupted or the supplier may not be able to deliver the required amount of natural gas. Moreover, the natural gas supply may be interrupted during periods of extreme cold weather, when residential and commercial customers receive priority service at the sacrifice of manufacturers. Finally, the demand for natural gas sometimes exceeds supply in certain parts of the country, especially in the Northeast and Midwest, forcing manufacturers to use some other energy source for awhile.

The energy sources that had the greatest potential for switching were natural gas, with coal a distant second (Figure 4.2). The following were manufacturers' fuel-switching capabilities for the most common energy sources:

- About 17.0 billion kilowatthours of electricity receipts could have been replaced by other energy sources, 2 percent of actual consumption (Table A53). The switching potential for electricity is quite limited because most manufacturing equipment is not designed to permit switching between electricity and a combustible energy source. Most of the capability to replace electricity by combustible energy sources is in the form of redundant combustors that can be used in place of electric-powered equivalents.
- About 1.9 trillion cubic feet of natural gas was switchable, 35 percent of actual consumption. The primary replacement energy sources for natural gas were distillate fuel oil, coal coke, and residual fuel oil (Table A54). No single energy source could have decreased the consumption of natural gas even halfway to its minimum required level of 3.5 trillion cubic feet, but the dominant single replacement source, distillate fuel oil, could have replaced 0.7 trillion cubic feet (40 percent) of the natural gas that was switchable.

Figure 4.1. Nonswitchable Minimum Requirements for Selected Fuels, 1991

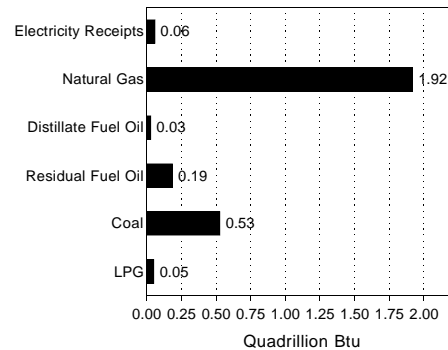


Source: Table A52 of this report.

¹⁹Before 1985, Total Inputs for Heat, Power, and Electricity Generation were not collected. However, for those earlier years, the Bureau of the Census did tabulate total consumption of offsite-produced energy for heat, power, and electricity generation, which is a key part of Total Inputs because most petroleum-based fuels are produced offsite.

- About 4.8 million barrels of distillate fuel oil was switchable, 20 percent of actual consumption. Natural gas was the dominant replacement source for distillate fuel, capable of replacing 3.2 million barrels (Table A55).
- About 29.3 million barrels of residual fuel oil was switchable, 45 percent of actual consumption, with natural gas capable of replacing 19.5 million barrels (Table A56).
- About 23.6 million short tons of coal (45 percent of actual consumption) could have been replaced by other energy sources (Table A57).
- About 13.3 million barrels of LPG (47 percent of actual consumption) was switchable, with natural gas capable of replacing 11.4 million barrels (Table A58).

Figure 4.2. Switchable Quantities for Selected Fuels, 1991



Source: Table A52 of this report.

Discretionary Fuel Use

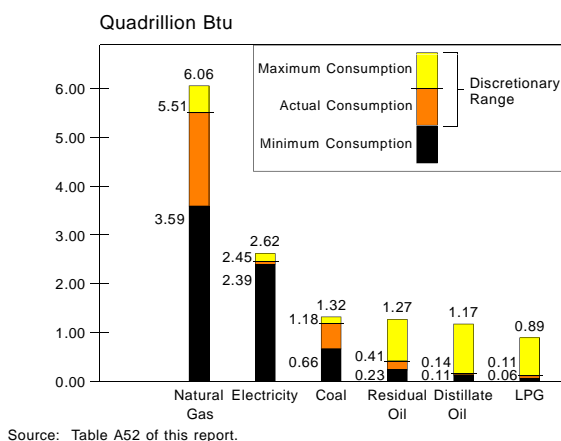
Fuel-switching capability allows manufacturers substantial flexibility in choosing their mix of energy sources. The consumption of a given energy source can be maximized if all possible switching into that energy source were to take place. At the other extreme, consumption can be minimized if all possible switching from that energy source were to take place. (This value is the nonswitchable minimum requirement discussed earlier.) The interval defined by these maximum and minimum limits represents the discretionary range of consumption for an energy source, resulting from fuel-switching capability. Actual consumption lies within that discretionary range. A preference for a given energy source is indicated when its actual consumption approaches its maximum consumption potential, as in the case of both natural gas and coal (Figure 4.3). Conversely, a preference for other energy sources is indicated when actual consumption approaches its minimum required level.

For example, one manufacturer in the 1991 MECS used 3.0 million Btu of a given energy source, 1.0 million Btu of which could have been replaced by some other energy source and 2.0 million Btu of which could not have been replaced. In addition, the manufacturer could have used the given energy source to replace 2.0 million Btu of other energy sources. If the manufacturer had chosen to use the given energy source whenever possible, consumption of the energy source would have been at the maximum consumption level of 5.0 million Btu. If the manufacturer had chosen to use a substitute energy source whenever possible, the manufacturer's consumption of the given energy source would have been at the minimum consumption level of 2.0 million Btu. Thus, the maximum potential is 3.0 million Btu above the minimum level, and this amount (3.0 million Btu) represents the discretionary range of consumption. Since the actual consumption is 1.0 million Btu above the minimum level, the depth into the discretionary range is 1.0/3.0 or 33 percent, which is the discretionary use rate of the given energy source.

One of the more interesting summary statistics that can be developed from the estimates of actual consumption, minimum consumption, and maximum consumption is the *discretionary use rate*. The discretionary use rate is a measure of the extent to which manufacturers elected to consume a given energy source when they could have consumed some other energy source, given their fuel-switching capabilities and production levels of 1991. (See Appendix B for an explanation and formula of the discretionary use rate.)

If manufacturers always choose to use an energy source whenever possible, the discretionary use rate for that energy source would be 100 percent. On the other hand, if manufacturers choose to minimize their consumption of a given energy source by always using other energy sources whenever possible, the discretionary use rate would be 0 percent.

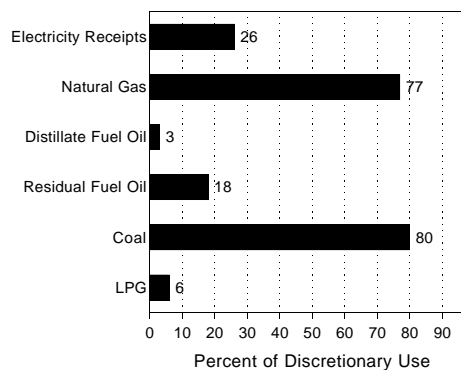
Figure 4.3. Manufacturers' Discretionary Ranges of Consumption Resulting from Fuel-Switching Capability, 1991



A look at the discretionary use rates for the commonly known fuels shows that manufacturers often used natural gas and coal whenever possible in 1991. In contrast, they seldom used distillate fuel oil and LPG, even when they could have done so (Figure 4.4). The discretionary use rates for the commonly known energy sources are as follows:

- Coal ranked highest in discretionary use with a robust rate of 80 percent. The consumption of coal was close to its short-term maximum level, given the levels of production in 1991 (Table A52).
- Natural gas ranked second in discretionary use with a rate of 77 percent.
- Electricity had a relatively low use rate of 26 percent, indicating that manufacturers preferred other energy sources when available. Electricity receipts rated a distant second to natural gas in terms of fuel demand by manufacturers, as they totaled 2.5 quadrillion Btu (0.7 trillion kilowatt-hours).
- The extremely low discretionary use rates for distillate fuel oil (3 percent) and LPG (6 percent) indicate that manufacturers generally avoided consuming these energy sources whenever possible.
- The discretionary use rate for residual fuel oil was 18 percent. Although that use rate was considerably higher than those for distillate fuel oil and LPG, it was still low enough to indicate a preference for other energy sources over residual fuel oil.

Figure 4.4. Discretionary Use Rates by Selected Fuels, 1991

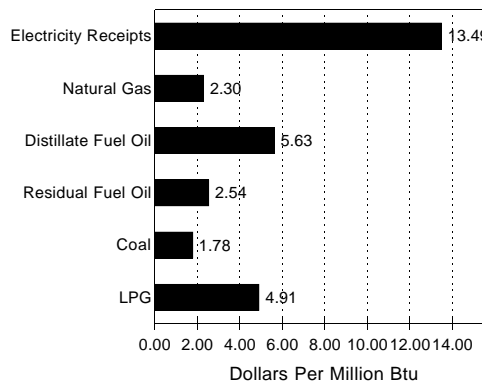


Price would appear to be the primary reason that manufacturers exercised their option to switch fuels (Figure 4.5). For example, the discretionary use of coal was due in part to the fact that manufacturers had no price incentive to switch to any other energy sources. At \$1.78 per million Btu, the national price of coal was substantially below that of any competing energy source.

Furthermore, manufacturers had no price incentive to replace natural gas with distillate fuel, even though that switching capability existed in 1991. Nationally, the price of natural gas stood at \$2.30 per million Btu, while the price of distillate fuel oil was \$5.63 per million Btu (Table A25). The price of distillate fuel was uniformly higher than the price of natural gas in the four Census Regions, with the difference never being less than \$2.00 per million Btu.

In certain geographic regions of the United States, however, price incentives existed to replace natural gas with residual fuel oil. Residual fuel oil could have replaced 0.6 trillion cubic feet (34 percent) of the 1.9 trillion cubic feet of natural gas that was switchable. At \$2.54 per million Btu, the national price of residual fuel oil was only marginally higher than that of natural gas. However, in the Northeast Census Region, the reported average price of natural gas hit \$3.39, compared with \$2.90 for residual fuel oil, thereby yielding a gas-oil price ratio of 1.17. The gas-oil price ratios were 1.10, 0.87, and 0.90 for the Midwest, South, and West Census Regions, respectively. Although price incentives existed in the Northeast and Midwest to switch from natural gas to residual fuel oil, these two regions consumed 0.7 trillion cubic feet of switchable natural gas, of which 0.3 trillion cubic feet (35 percent) could have been replaced by less expensive residual fuel oil in 1991 (Table A54). In these regions, manufacturers chose natural gas over residual fuel oil despite favorable price incentives.

Figure 4.5. Average National Prices of Selected Purchased Fuels, 1991



Source: Table A25 of this report.

Summary

For the MECS, manufacturers are said to have a fuel-switching capability if they are able to meet their requirements for heat, power, and electricity generation by substituting one energy source for another within 30 days without modifying the equipment that consumes the fuel and if they can resume the same level of production following the switch.

In 1991, manufacturers required a nonswitchable minimum of 7.0 quadrillion Btu of electricity, natural gas, distillate and residual fuel oils, coal, and LPG, which was 72 percent of their actual consumption of these fuels. The fuels having the highest nonswitchable minimum requirements were, in order, natural gas, electricity, and coal.

Manufacturers had the capability to switch 2.8 quadrillion Btu of these energy sources, representing 28 percent of their actual consumption. Natural gas was the energy source having the greatest potential for switching. Manufacturers often used coal and natural gas whenever possible, even though they could have used another energy source instead. Price would seem to be the primary reason that manufacturers exercised their option to switch fuels.

Appendix A

Detailed Tables

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Total United States											
RSE Column Factors:		0.6	0.6	1.3	1.3	0.7	1.1	1.2	1.5	1.1	
20	Food and Kindred Products	956	49,536	4,317	2,968	W	1,433	6,913	W	W	7.2
2011	Meat Packing Plants	49	3,410	170	252	31	157	27	0	2	9.9
2033	Canned Fruits and Vegetables	44	1,375	290	131	35	126	Q	0	*	10.4
2037	Frozen Fruits and Vegetables	40	3,071	321	76	25	41	0	0	1	14.9
2046	Wet Corn Milling	140	4,054	29	31	51	1	3,051	W	W	11.8
2051	Bread, Cake, and Related Products	32	2,240	*	131	23	23	0	0	*	12.4
2063	Beet Sugar	67	386	W	30	18	5	1,901	W	*	5.4
2075	Soybean Oil Mills	51	1,616	42	31	25	5	592	0	7	3.5
2082	Malt Beverages	50	2,328	419	58	22	8	706	0	1	10.8
21	Tobacco Products	24	1,002	135	40	4	23	692	0	*	6.6
22	Textile Mill Products	274	29,532	1,966	1,064	105	629	1,362	0	13	7.0
23	Apparel and Other Textile Products	44	5,645	Q	142	18	159	88	0	1	17.9
24	Lumber and Wood Products	451	17,878	333	2,753	39	1,009	92	0	325	14.3
25	Furniture and Fixtures	68	4,915	184	163	18	255	157	0	26	20.1
26	Paper and Allied Products	2,506	58,896	24,883	1,593	W	1,379	13,252	W	W	4.2
2611	Pulp Mills	300	2,537	4,500	162	32	141	331	0	221	14.2
2621	Paper Mills	1,211	32,735	13,455	W	252	616	8,634	W	555	3.0
2631	Paperboard Mills	859	10,396	W	W	W	W	W	0	505	4.5
27	Printing and Publishing	108	15,629	50	318	47	181	0	0	4	12.6
28	Chemicals and Allied Products	5,051	129,093	W	2,410	2,162	W	W	423	526	6.1
2812	Alkalies and Chlorine	160	10,718	W	43	W	2	W	0	21	15.6
2813	Industrial Gases	W	17,854	0	7	W	W	0	0	3	13.8
2819	Industrial Inorganic Chemicals, nec	325	37,077	W	W	W	75	W	362	17	8.5
2821	Plastics Materials and Resins	633	14,780	668	192	210	W	1,074	0	W	6.4
2822	Synthetic Rubber	119	1,794	64	19	W	4,084	W	0	W	14.1
2823	Cellulosic Manmade Fibers	31	W	0	21	W	1	1,202	0	*	25.3
2824	Organic Fibers, Noncellulosic	W	6,976	W	53	W	W	W	0	1	4.0
2865	Cyclic Crudes and Intermediates	236	4,423	1,153	96	102	20,942	W	0	W	12.1
2869	Industrial Organic Chemicals, nec	2,289	15,104	1,747	499	W	W	3,819	0	339	7.0
2873	Nitrogenous Fertilizers	568	2,911	0	26	539	166	0	0	2	23.1
2874	Phosphatic Fertilizers	65	1,886	250	W	W	1	W	0	W	4.9
29	Petroleum and Coal Products	5,967	30,782	10,411	3,683	813	W	W	W	4,864	4.3
2911	Petroleum Refining ¹	5,762	29,152	10,292	1,525	769	15,889	134	0	4,733	3.0
30	Rubber and Misc. Plastics Products	238	33,908	1,253	512	93	852	307	0	6	9.1
3011	Tires and Inner Tubes	W	4,037	506	68	21	79	W	0	W	3.4
308	Miscellaneous Plastics Products, nec	151	25,594	413	279	51	462	130	0	2	13.8
31	Leather and Leather Products	12	795	230	220	5	45	Q	0	1	25.2
32	Stone, Clay and Glass Products	880	30,814	1,377	3,431	370	W	13,132	W	W	7.5
3211	Flat Glass	49	1,503	W	12	40	40	*	0	W	3.4
3221	Glass Containers	85	4,098	276	23	67	82	0	0	*	5.4
3229	Pressed and Blown Glass, nec	W	2,862	81	38	W	W	0	0	*	8.3
3241	Cement, Hydraulic	312	9,455	138	638	38	12	8,736	232	36	10.8
3274	Lime	117	1,324	W	240	8	Q	3,930	W	13	29.1
3296	Mineral Wool	41	2,821	W	W	28	W	*	W	*	1.4
33	Primary Metal Industries	2,467	146,276	W	1,868	688	W	32,243	11,228	72	3.7
3312	Blast Furnaces and Steel Mills	1,673	38,183	W	W	408	74	30,904	9,802	16	3.9
3313	Electrometallurgical Products	41	4,222	0	20	1	W	797	W	W	7.9
3321	Gray and Ductile Iron Foundries	W	6,412	4	144	28	106	W	W	1	11.3
3331	Primary Copper	21	1,246	W	W	15	3	W	W	*	1.0
3334	Primary Aluminum	297	67,317	*	127	20	42	40	W	W	3.1
3339	Primary Nonferrous Metals, nec	52	4,312	1	53	16	W	347	241	W	1.6
3353	Aluminum Sheet, Plate, and Foil	61	4,261	0	68	41	63	W	0	W	1.5
34	Fabricated Metal Products	307	29,772	501	1,017	170	1,145	245	W	W	11.1
35	Industrial Machinery and Equipment	237	29,484	490	742	106	681	482	24	5	11.5
357	Computer and Office Equipment	21	4,389	11	16	5	4	0	0	*	15.7
36	Electronic and Other Electric Equipment	212	29,996	612	416	77	401	W	W	W	10.0
37	Transportation Equipment	323	34,721	1,865	1,286	129	550	W	W	17	5.0
3711	Motor Vehicles and Car Bodies	88	7,705	408	116	44	59	W	W	W	4.0
3714	Motor Vehicle Parts and Accessories	100	10,888	60	W	40	177	W	W	W	6.8
38	Instruments and Related Products	98	12,367	536	W	25	Q	W	0	W	13.2
3841	Surgical and Medical Instruments	6	1,161	9	30	2	8	0	0	*	15.2
39	Misc. Manufacturing Industries	32	3,661	115	W	14	89	32	0	Q	13.0
	Total	20,257	694,702	72,261	25,016	5,917	447,163	83,860	12,410	7,304	2.6

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Northeast Census Region											
RSE Column Factors:		0.7	0.7	1.1	1.2	0.8	1.2	1.3	1.2	1.1	
20	Food and Kindred Products	79	5,385	1,164	889	40	222	99	0	3	13.6
2011	Meat Packing Plants	1	141	W	34	1	Q	0	0	*	24.1
2033	Canned Fruits and Vegetables	6	292	146	22	4	13	Q	0	*	17.0
2037	Frozen Fruits and Vegetables	1	140	128	3	*	Q	0	0	*	32.3
2046	Wet Corn Milling	*	15	W	W	*	*	0	0	*	23.3
2051	Bread, Cake, and Related Products	7	382	*	W	W	8	0	0	*	17.7
2063	Beet Sugar	0	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	8	496	W	9	3	4	W	0	*	16.2
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.1
22	Textile Mill Products	27	1,340	774	556	10	163	17	0	3	19.4
23	Apparel and Other Textile Products	5	497	44	49	2	Q	0	0	*	29.4
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.6
25	Furniture and Fixtures	7	449	Q	49	2	60	0	0	2	29.9
26	Paper and Allied Products	W	8,054	11,439	625	36	W	W	0	111	6.0
2611	Pulp Mills	12	158	290	7	0	13	0	0	9	36.2
2621	Paper Mills	228	4,573	9,702	W	19	284	W	0	96	4.2
2631	Paperboard Mills	W	487	W	Q	6	5	W	0	W	15.0
27	Printing and Publishing	23	3,167	36	240	9	30	0	0	1	25.1
28	Chemicals and Allied Products	W	9,303	3,072	574	58	864	W	0	W	8.5
2812	Alkalies and Chlorine	*	W	0	0	*	0	0	0	0	36.3
2813	Industrial Gases	6	1,399	0	1	*	*	0	0	1	13.2
2819	Industrial Inorganic Chemicals, nec	10	494	255	78	6	14	0	0	*	21.8
2821	Plastics Materials and Resins	W	1,120	478	109	8	W	W	0	W	9.9
2822	Synthetic Rubber	W	W	W	*	W	*	0	0	*	25.7
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	*	95	Q	W	*	*	0	0	0	14.7
2865	Cyclic Crudes and Intermediates	12	406	W	W	7	2	W	0	1	20.4
2869	Industrial Organic Chemicals, nec	W	3,070	1,399	W	W	W	0	0	W	9.0
2873	Nitrogenous Fertilizers	1	29	0	3	1	1	0	0	*	47.6
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	501	2,632	4,275	W	28	853	W	0	421	8.1
2911	Petroleum Refining ¹	484	2,093	4,275	W	24	459	W	0	421	4.2
30	Rubber and Misc. Plastics Products	37	5,480	456	206	W	W	86	0	1	19.6
3011	Tires and Inner Tubes	2	125	63	Q	1	5	0	0	*	12.5
308	Miscellaneous Plastics Products, nec	28	4,807	251	W	7	180	W	0	W	24.1
31	Leather and Leather Products	4	205	142	197	1	29	Q	0	*	28.0
32	Stone, Clay and Glass Products	170	5,599	432	722	58	W	3,451	W	W	17.6
3211	Flat Glass	W	W	0	1	W	W	*	0	*	4.5
3221	Glass Containers	19	834	193	14	14	24	0	0	*	8.6
3229	Pressed and Blown Glass, nec	W	W	80	W	W	8	0	0	*	10.1
3241	Cement, Hydraulic	43	1,334	14	W	*	1	1,482	W	W	18.1
3274	Lime	Q	Q	0	Q	*	Q	Q	0	*	NF
3296	Mineral Wool	4	304	0	W	W	W	*	W	*	1.7
33	Primary Metal Industries	471	18,002	852	326	102	310	10,016	738	12	9.1
3312	Blast Furnaces and Steel Mills	376	7,828	W	156	65	30	W	522	W	7.1
3313	Electrometallurgical Products	W	W	0	1	*	*	W	W	*	13.0
3321	Gray and Ductile Iron Foundries	5	350	0	14	2	18	1	74	*	16.6
3331	Primary Copper	*	W	0	W	*	*	0	*	*	1.1
3334	Primary Aluminum	W	W	*	W	W	W	W	0	W	4.8
3339	Primary Nonferrous Metals, nec	W	640	1	W	1	1	W	W	*	1.9
3353	Aluminum Sheet, Plate, and Foil	W	451	0	W	W	23	0	0	*	2.2
34	Fabricated Metal Products	57	5,074	368	377	32	155	9	37	1	15.7
35	Industrial Machinery and Equipment	41	5,202	408	W	15	W	0	0	2	19.2
357	Computer and Office Equipment	4	819	8	10	1	2	0	0	*	20.5
36	Electronic and Other Electric Equipment	43	6,544	504	291	14	167	4	2	1	16.1
37	Transportation Equipment	W	3,069	1,070	W	10	60	W	0	W	10.9
3711	Motor Vehicles and Car Bodies	W	W	W	W	1	1	0	0	*	7.4
3714	Motor Vehicle Parts and Accessories	8	887	W	6	W	W	W	0	*	11.6
38	Instruments and Related Products	52	4,032	513	W	W	Q	W	0	W	17.2
3841	Surgical and Medical Instruments	2	332	9	16	*	2	0	0	*	18.4
39	Misc. Manufacturing Industries	W	1,187	84	W	W	40	22	0	*	17.6
	Total	2,011	86,041	25,794	7,875	447	4,263	W	W	588	5.0

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Midwest Census Region											
RSE Column Factors:		0.6	0.6	1.5	1.3	0.7	1.2	1.1	1.4	1.0	
20	Food and Kindred Products	420	19,579	893	546	W	349	4,808	W	W	8.6
2011	Meat Packing Plants	33	2,065	150	37	22	13	27	0	1	9.3
2033	Canned Fruits and Vegetables	10	375	0	62	8	39	0	0	*	17.1
2037	Frozen Fruits and Vegetables	4	289	36	3	2	3	0	0	*	27.1
2046	Wet Corn Milling	122	3,192	W	27	45	*	2,729	W	W	13.6
2051	Bread, Cake, and Related Products	9	632	0	W	W	*	0	0	*	16.3
2063	Beet Sugar	34	212	W	10	6	2	1,084	W	*	6.6
2075	Soybean Oil Mills	36	1,081	8	7	16	W	W	0	W	4.2
2082	Malt Beverages	11	480	40	1	W	W	W	0	*	17.2
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.6
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.7
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.6
24	Lumber and Wood Products	60	2,834	Q	362	11	197	66	0	34	28.2
25	Furniture and Fixtures	W	1,569	*	10	W	45	Q	0	Q	25.1
26	Paper and Allied Products	W	14,429	807	145	112	W	4,236	W	W	6.6
2611	Pulp Mills	28	298	0	14	3	Q	161	0	20	33.3
2621	Paper Mills	208	7,767	W	89	58	67	2,835	W	54	5.0
2631	Paperboard Mills	W	2,185	39	17	23	21	1,158	0	W	13.1
27	Printing and Publishing	43	5,224	10	31	22	60	0	0	2	17.8
28	Chemicals and Allied Products	531	33,802	318	Q	220	W	2,838	11	W	9.1
2812	Alkalies and Chlorine	W	W	0	W	*	*	0	0	*	26.9
2813	Industrial Gases	W	W	0	Q	W	Q	0	0	*	12.3
2819	Industrial Inorganic Chemicals, nec	71	W	W	4	W	4	W	1	1	12.9
2821	Plastics Materials and Resins	W	3,234	W	W	24	W	W	0	10	9.3
2822	Synthetic Rubber	W	241	0	W	W	1	W	0	*	19.9
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	30	756	W	W	14	W	W	0	W	13.8
2869	Industrial Organic Chemicals, nec	W	1,774	10	W	W	W	1,140	0	6	7.8
2873	Nitrogenous Fertilizers	74	556	0	5	69	*	0	0	Q	33.8
2874	Phosphatic Fertilizers	*	1	0	*	*	*	0	0	*	4.5
29	Petroleum and Coal Products	968	6,687	2,114	W	86	1,336	W	0	835	5.1
2911	Petroleum Refining ¹	921	6,134	2,058	W	70	1,212	W	0	810	2.5
30	Rubber and Misc. Plastics Products	95	13,236	265	33	41	174	137	0	2	11.4
3011	Tires and Inner Tubes	W	W	186	*	6	W	49	0	1	4.1
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.6
31	Leather and Leather Products	4	262	62	5	2	11	0	0	*	25.8
32	Stone, Clay and Glass Products	249	8,201	70	625	105	124	3,415	84	30	10.0
3211	Flat Glass	13	W	0	W	11	W	0	0	*	4.1
3221	Glass Containers	20	873	0	1	17	13	0	0	*	7.6
3229	Pressed and Blown Glass, nec	14	617	*	9	11	7	0	0	*	6.7
3241	Cement, Hydraulic	85	2,220	W	W	6	5	2,297	0	W	14.8
3274	Lime	35	367	0	65	3	1	929	W	W	18.6
3296	Mineral Wool	17	1,251	W	4	W	14	0	W	*	1.3
33	Primary Metal Industries	1,115	46,756	W	749	W	253	13,213	8,095	W	5.1
3312	Blast Furnaces and Steel Mills	848	17,191	W	W	W	25	12,589	7,410	6	5.1
3313	Electrometallurgical Products	26	2,268	0	13	1	W	W	W	W	10.0
3321	Gray and Ductile Iron Foundries	W	4,349	4	Q	W	38	W	487	1	11.7
3331	Primary Copper	*	W	0	0	*	*	0	0	0	1.3
3334	Primary Aluminum	W	W	0	W	3	W	W	0	W	4.8
3339	Primary Nonferrous Metals, nec	W	716	0	11	3	6	0	W	*	2.0
3353	Aluminum Sheet, Plate, and Foil	24	1,453	0	W	16	14	0	0	W	1.3
34	Fabricated Metal Products	140	12,889	7	W	79	W	236	W	W	14.4
35	Industrial Machinery and Equipment	116	12,535	39	W	56	262	480	Q	W	13.5
357	Computer and Office Equipment	5	820	0	1	2	1	0	0	*	23.9
36	Electronic and Other Electric Equipment	59	7,160	51	W	28	67	W	0	W	13.5
37	Transportation Equipment	W	16,053	394	309	72	216	W	W	5	6.4
3711	Motor Vehicles and Car Bodies	60	4,826	W	W	30	26	W	W	-1	4.7
3714	Motor Vehicle Parts and Accessories	76	7,840	W	W	29	W	W	W	W	8.0
38	Instruments and Related Products	11	1,806	Q	Q	W	5	W	0	*	19.3
3841	Surgical and Medical Instruments	1	276	0	*	*	3	0	0	*	18.5
39	Misc. Manufacturing Industries	10	929	3	9	5	16	10	0	Q	22.7
	Total	4,385	205,102	W	4,410	1,421	W	30,891	8,398	1,089	3.8

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
South Census Region											
RSE Column Factors:		0.6	0.6	1.4	1.2	0.8	1.1	1.1	1.6	1.0	
20	Food and Kindred Products	255	15,937	1,572	859	131	623	766	W	Q	11.0
2011	<i>Meat Packing Plants</i>	10	892	14	167	5	112	0	0	*	16.9
2033	<i>Canned Fruits and Vegetables</i>	7	172	26	9	6	14	0	0	*	19.7
2037	<i>Frozen Fruits and Vegetables</i>	8	551	122	12	5	6	0	0	*	17.6
2046	<i>Wet Corn Milling</i>	W	755	0	2	4	*	322	0	W	23.0
2051	<i>Bread, Cake, and Related Products</i>	11	837	0	19	7	8	0	0	*	14.2
2063	<i>Beet Sugar</i>	W	W	0	1	W	*	0	W	*	17.0
2075	<i>Soybean Oil Mills</i>	15	535	34	24	8	W	W	0	W	4.9
2082	<i>Malt Beverages</i>	14	863	W	W	8	1	W	0	*	14.0
21	Tobacco Products	24	985	135	40	4	23	692	0	*	6.8
22	Textile Mill Products	236	27,431	1,192	506	87	455	1,344	0	11	6.5
23	Apparel and Other Textile Products	31	4,165	Q	71	12	124	83	0	*	22.8
24	Lumber and Wood Products	209	9,218	Q	1,075	15	340	26	0	153	20.2
25	Furniture and Fixtures	W	2,592	63	99	W	122	W	0	W	19.5
26	Paper and Allied Products	1,447	25,288	10,918	716	W	494	6,904	0	W	4.5
2611	<i>Pulp Mills</i>	219	1,249	3,367	116	21	120	171	0	166	17.2
2621	<i>Paper Mills</i>	W	13,863	2,801	W	122	149	3,910	0	W	3.4
2631	<i>Paperboard Mills</i>	W	5,650	4,660	W	W	41	2,786	0	349	5.3
27	Printing and Publishing	28	4,798	Q	35	10	47	0	0	1	21.4
28	Chemicals and Allied Products	4,195	75,072	W	1,132	1,759	391,192	W	124	470	6.8
2812	<i>Alkalies and Chlorine</i>	147	8,378	0	35	W	1	W	0	20	17.4
2813	<i>Industrial Gases</i>	W	8,633	0	1	W	W	0	0	1	12.8
2819	<i>Industrial Inorganic Chemicals, nec</i>	W	W	325	W	W	49	W	73	13	11.1
2821	<i>Plastics Materials and Resins</i>	W	10,213	W	W	177	57,834	W	0	W	5.6
2822	<i>Synthetic Rubber</i>	111	W	W	W	W	4,083	0	0	W	13.2
2823	<i>Cellulosic Manmade Fibers</i>	31	W	0	21	W	1	1,202	0	*	25.3
2824	<i>Organic Fibers, Noncellulosic</i>	W	6,881	W	W	W	W	W	0	1	4.1
2865	<i>Cyclic Crudes and Intermediates</i>	193	3,250	907	18	81	W	W	0	W	12.0
2869	<i>Industrial Organic Chemicals, nec</i>	2,144	10,242	338	W	W	W	2,679	0	322	8.4
2873	<i>Nitrogenous Fertilizers</i>	414	1,865	0	14	395	123	0	0	1	28.9
2874	<i>Phosphatic Fertilizers</i>	W	1,441	250	W	W	1	W	0	21	3.3
29	Petroleum and Coal Products	3,479	13,878	2,084	W	573	W	W	W	2,814	4.2
2911	<i>Petroleum Refining¹</i>	3,394	13,395	2,021	W	561	2,450	W	0	2,746	2.7
30	Rubber and Misc. Plastics Products	88	12,327	532	241	35	253	61	0	3	10.4
3011	<i>Tires and Inner Tubes</i>	W	2,855	W	W	13	53	W	0	W	4.1
308	<i>Miscellaneous Plastics Products, nec</i>	46	7,801	156	W	16	123	W	0	*	21.0
31	Leather and Leather Products	2	258	26	9	*	3	0	0	Q	24.5
32	Stone, Clay and Glass Products	324	11,866	201	1,441	156	W	3,899	W	W	11.4
3211	<i>Flat Glass</i>	23	771	0	7	19	9	0	0	*	4.0
3221	<i>Glass Containers</i>	29	1,262	W	W	W	23	0	0	*	8.3
3229	<i>Pressed and Blown Glass, nec</i>	W	1,598	1	W	W	W	0	0	*	8.6
3241	<i>Cement, Hydraulic</i>	108	3,518	65	189	21	4	2,589	150	11	15.5
3274	<i>Lime</i>	37	405	0	70	W	*	1,155	W	W	21.8
3296	<i>Mineral Wool</i>	16	936	W	1	11	16	0	W	*	1.4
33	Primary Metal Industries	630	47,291	1,442	W	W	W	W	2,277	16	4.4
3312	<i>Blast Furnaces and Steel Mills</i>	381	10,744	1,437	207	W	15	7,262	1,851	W	6.1
3313	<i>Electrometallurgical Products</i>	W	W	0	7	*	0	W	W	1	11.1
3321	<i>Gray and Ductile Iron Foundries</i>	21	1,622	*	56	W	46	Q	W	*	11.5
3331	<i>Primary Copper</i>	W	200	W	5	W	1	0	0	*	1.1
3334	<i>Primary Aluminum</i>	105	24,240	0	W	W	9	W	W	W	4.2
3339	<i>Primary Nonferrous Metals, nec</i>	W	1,694	0	9	W	W	W	0	W	3.7
3353	<i>Aluminum Sheet, Plate, and Foil</i>	25	W	0	26	17	22	W	0	*	1.8
34	Fabricated Metal Products	82	8,886	Q	W	42	W	0	23	3	21.0
35	Industrial Machinery and Equipment	58	8,129	42	125	26	W	Q	Q	W	15.7
357	<i>Computer and Office Equipment</i>	4	800	3	Q	1	*	0	0	*	22.3
36	Electronic and Other Electric Equipment	81	10,742	58	44	26	153	W	W	W	14.4
37	Transportation Equipment	71	8,503	W	330	27	133	W	1	8	8.9
3711	<i>Motor Vehicles and Car Bodies</i>	24	2,362	73	35	12	28	W	0	W	4.5
3714	<i>Motor Vehicle Parts and Accessories</i>	13	1,919	*	8	W	41	W	1	*	11.6
38	Instruments and Related Products	17	3,285	Q	45	5	6	0	0	*	18.6
3841	<i>Surgical and Medical Instruments</i>	2	331	0	11	*	1	0	0	*	21.5
39	Misc. Manufacturing Industries	W	1,168	28	Q	W	25	0	0	W	23.5
	Total	11,296	291,819	W	8,481	3,368	W	29,974	2,677	4,407	3.6

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.1	0.8	1.1	1.3	1.2	1.0	
20	Food and Kindred Products	202	8,635	688	673	116	240	1,241	W	W	9.5
2011	Meat Packing Plants	5	311	W	14	3	Q	0	0	*	17.5
2033	Canned Fruits and Vegetables	20	537	119	38	16	60	0	0	*	12.4
2037	Frozen Fruits and Vegetables	26	2,091	Q	57	17	31	0	0	1	17.3
2046	Wet Corn Milling	W	93	0	W	2	*	0	0	W	20.5
2051	Bread, Cake, and Related Products	6	388	0	2	5	7	0	0	*	26.8
2063	Beet Sugar	W	W	W	19	W	3	817	51	*	8.5
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	17	489	W	W	W	W	W	0	*	16.4
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	6	274	0	2	4	Q	0	0	*	30.1
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.9
24	Lumber and Wood Products	166	5,017	131	1,172	10	348	0	0	130	20.0
25	Furniture and Fixtures	3	304	0	Q	1	28	0	0	*	32.8
26	Paper and Allied Products	W	11,126	1,718	108	108	W	W	0	W	6.2
2611	Pulp Mills	41	832	842	25	7	5	0	0	26	19.4
2621	Paper Mills	W	6,532	W	39	53	116	W	0	W	5.6
2631	Paperboard Mills	W	2,074	W	W	39	W	W	0	W	8.1
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.0
28	Chemicals and Allied Products	W	10,916	W	186	125	68	W	288	W	13.4
2812	Alkalies and Chlorine	W	W	W	W	4	*	0	0	1	19.8
2813	Industrial Gases	W	W	0	W	6	W	0	0	*	14.8
2819	Industrial Inorganic Chemicals, nec	W	3,961	W	W	W	Q	W	288	3	11.0
2821	Plastics Materials and Resins	3	212	0	*	2	2	0	0	*	17.2
2822	Synthetic Rubber	*	*	0	*	*	*	0	0	*	24.5
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	11	0	*	*	1	0	0	*	25.4
2869	Industrial Organic Chemicals, nec	5	Q	0	Q	W	Q	0	0	W	13.6
2873	Nitrogenous Fertilizers	79	461	0	3	74	42	0	0	*	40.7
2874	Phosphatic Fertilizers	W	444	0	7	W	0	0	0	W	22.7
29	Petroleum and Coal Products	1,019	7,586	1,938	W	125	11,796	W	0	794	4.1
2911	Petroleum Refining ¹	962	7,530	1,938	780	114	11,768	0	0	756	2.2
30	Rubber and Misc. Plastics Products	19	2,865	1	Q	W	W	Q	0	*	18.3
3011	Tires and Inner Tubes	*	W	W	W	*	W	0	0	*	7.2
308	Miscellaneous Plastics Products, nec	14	2,573	0	Q	5	37	0	0	*	22.0
31	Leather and Leather Products	Q	70	0	Q	Q	Q	0	0	*	42.3
32	Stone, Clay and Glass Products	137	5,147	674	642	51	123	2,367	51	5	14.8
3211	Flat Glass	W	148	W	W	W	W	0	0	*	4.6
3221	Glass Containers	18	1,129	W	W	W	22	0	0	*	9.5
3229	Pressed and Blown Glass, nec	W	W	0	*	W	*	0	0	*	13.3
3241	Cement, Hydraulic	77	2,384	W	140	11	1	2,367	Q	3	20.8
3274	Lime	W	W	W	W	W	*	0	0	*	21.3
3296	Mineral Wool	3	330	0	W	W	W	0	W	*	2.1
33	Primary Metal Industries	251	34,227	87	W	W	W	W	118	W	5.8
3312	Blast Furnaces and Steel Mills	69	2,420	W	W	W	4	W	20	1	7.6
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	3	92	0	3	W	3	0	W	*	37.2
3331	Primary Copper	W	1,027	W	W	W	1	W	W	*	1.0
3334	Primary Aluminum	118	26,391	*	17	6	28	5	0	22	3.5
3339	Primary Nonferrous Metals, nec	W	1,263	0	W	W	W	W	W	*	1.0
3353	Aluminum Sheet, Plate, and Foil	W	W	0	W	W	W	0	0	*	1.1
34	Fabricated Metal Products	28	2,922	*	78	16	103	0	0	*	19.6
35	Industrial Machinery and Equipment	22	3,619	0	14	8	72	0	0	*	27.0
357	Computer and Office Equipment	9	1,950	0	*	2	Q	0	0	*	15.9
36	Electronic and Other Electric Equipment	29	5,550	0	Q	9	13	0	0	W	18.0

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.1	0.8	1.1	1.3	1.2	1.0	
37	Transportation Equipment	W	7,096	W	W	20	141	0	0	W	11.8
3711	Motor Vehicles and Car Bodies	W	W	0	19	1	3	0	0	*	6.9
3714	Motor Vehicle Parts and Accessories	3	243	Q	2	2	7	0	0	*	21.6
38	Instruments and Related Products	17	3,244	4	9	5	6	0	0	*	15.0
3841	Surgical and Medical Instruments	1	222	0	3	*	2	0	0	*	27.5
39	Misc. Manufacturing Industries	2	376	0	1	1	8	0	0	*	26.4
	Total	2,564	111,741	5,344	4,250	681	13,381	W	W	1,220	4.6

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power or as feedstock/raw material inputs. See also Footnote "f".

^f For the petroleum refining industry only, the feedstocks and raw material inputs for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents) and feedstock consumption at adjoining petrochemical plants are included in the "Other" column, regardless of type of energy. The remaining columns for the petroleum refining industry include only energy that was consumed for the production of heat and power. The "Other" column also includes net steam and other energy that respondents indicated was used in the production of heat and power. Those inputs and feedstocks that were converted to other energy products (e.g., crude oil converted to residual and distillate fuel oils) are excluded. See Appendix B for more information.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of energy for heat and power and as feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials such as wastepaper and packing materials. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
Total United States											
	RSE Column Factors:	0.6	0.6	1.3	1.3	0.7	1.1	1.2	1.5	1.1	
20	Food and Kindred Products	956	169	27	17	W	5	154	W	W	7.2
2011	Meat Packing Plants	49	12	1	1	32	1	1	0	2	9.9
2033	Canned Fruits and Vegetables	44	5	2	1	36	*	Q	0	*	10.4
2037	Frozen Fruits and Vegetables	40	10	2	*	26	*	0	0	1	14.9
2046	Wet Corn Milling	140	14	*	*	52	*	68	W	W	11.8
2051	Bread, Cake, and Related Products	32	8	*	1	23	*	0	0	*	12.4
2063	Beet Sugar	67	1	W	*	19	*	43	W	*	5.4
2075	Soybean Oil Mills	51	6	*	*	25	*	13	0	7	3.5
2082	Malt Beverages	50	8	3	*	23	*	16	0	1	10.8
21	Tobacco Products	24	3	1	*	4	*	15	0	*	6.6
22	Textile Mill Products	274	101	12	6	108	2	31	0	13	7.0
23	Apparel and Other Textile Products	44	19	Q	1	19	1	2	0	1	17.9
24	Lumber and Wood Products	451	61	2	16	41	4	2	0	325	14.3
25	Furniture and Fixtures	68	17	1	1	19	1	4	0	26	20.1
26	Paper and Allied Products	2,506	201	156	9	W	5	296	W	W	4.2
2611	Pulp Mills	300	9	28	1	32	1	7	0	221	14.2
2621	Paper Mills	1,211	112	85	W	260	2	193	W	555	3.0
2631	Paperboard Mills	859	35	W	W	W	W	W	0	505	4.5
27	Printing and Publishing	108	53	*	2	48	1	0	0	4	12.6
28	Chemicals and Allied Products	5,051	440	W	14	2,227	W	W	10	526	6.1
2812	Alkalies and Chlorine	160	37	W	*	W	*	W	0	21	15.6
2813	Industrial Gases	W	61	0	*	W	W	0	0	3	13.8
2819	Industrial Inorganic Chemicals, nec	325	127	W	W	W	*	W	9	17	8.5
2821	Plastics Materials and Resins	633	50	4	1	216	W	24	0	W	6.4
2822	Synthetic Rubber	119	6	*	*	W	15	W	0	W	14.1
2823	Cellulosic Manmade Fibers	31	W	0	*	W	*	27	0	*	25.3
2824	Organic Fibers, Noncellulosic	W	24	W	*	W	W	W	0	1	4.0
2865	Cyclic Crudes and Intermediates	236	15	7	1	105	76	W	0	W	12.1
2869	Industrial Organic Chemicals, nec	2,289	52	11	3	W	W	85	0	339	7.0
2873	Nitrogenous Fertilizers	568	10	0	*	555	1	0	0	2	23.1
2874	Phosphatic Fertilizers	65	6	2	W	W	*	W	0	W	4.9
29	Petroleum and Coal Products	5,967	105	65	21	838	W	W	W	4,864	4.3
2911	Petroleum Refining ¹	5,762	99	65	9	792	60	3	0	4,733	3.0
30	Rubber and Misc. Plastics Products	238	116	8	3	96	3	7	0	6	9.1
3011	Tires and Inner Tubes	W	14	3	*	21	*	W	0	W	3.4
308	Miscellaneous Plastics Products, nec	151	87	3	2	53	2	3	0	2	13.8
31	Leather and Leather Products	12	3	1	1	5	*	Q	0	1	25.2
32	Stone, Clay and Glass Products	880	105	9	20	381	W	293	W	W	7.5
3211	Flat Glass	49	5	W	*	42	*	*	0	W	3.4
3221	Glass Containers	85	14	2	*	69	*	0	0	*	5.4
3229	Pressed and Blown Glass, nec.	W	10	1	*	W	W	0	0	*	8.3
3241	Cement, Hydraulic	312	32	1	4	39	*	195	6	36	10.8
3274	Lime	117	5	W	1	8	Q	88	W	13	29.1
3296	Mineral Wool	41	10	W	W	29	W	*	W	*	1.4
33	Primary Metal Industries	2,467	499	W	11	708	W	853	278	72	3.7
3312	Blast Furnaces and Steel Mills	1,673	130	W	W	420	*	823	243	16	3.9
3313	Electrometallurgical Products	41	14	0	*	1	W	18	W	W	7.9
3321	Gray and Ductile Iron Foundries	W	22	*	1	28	*	W	W	1	11.3
3331	Primary Copper	21	4	W	W	15	*	W	W	*	1.0
3334	Primary Aluminum	297	230	*	1	21	*	1	W	W	3.1
3339	Primary Nonferrous Metals, nec	52	15	*	*	17	W	8	6	W	1.6
3353	Aluminum Sheet, Plate, and Foil	61	15	0	*	43	*	W	0	W	1.5
34	Fabricated Metal Products	307	102	3	6	175	4	5	W	W	11.1
35	Industrial Machinery and Equipment	237	101	3	4	109	2	11	1	5	11.5
357	Computer and Office Equipment	21	15	*	*	6	*	0	0	*	15.7
36	Electronic and Other Electric Equipment	212	102	4	2	79	1	W	W	W	10.0
37	Transportation Equipment	323	118	12	7	133	2	W	W	17	5.0
3711	Motor Vehicles and Car Bodies	88	26	3	1	45	*	W	W	W	4.0
3714	Motor Vehicle Parts and Accessories	100	37	*	W	42	1	W	W	W	6.8
38	Instruments and Related Products	98	42	3	W	26	Q	W	0	W	13.2
3841	Surgical and Medical Instruments	6	4	*	*	2	*	0	0	*	15.2
39	Misc. Manufacturing Industries	32	12	1	W	15	*	1	0	Q	13.0
	Total	20,257	2,370	454	146	6,095	1,574	2,006	308	7,304	2.6

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
Northeast Census Region											
RSE Column Factors:		0.7	0.7	1.1	1.2	0.8	1.2	1.3	1.2	1.1	
20	Food and Kindred Products	79	18	7	5	42	1	2	0	3	13.6
2011	Meat Packing Plants	1	*	W	*	1	Q	0	0	*	24.1
2033	Canned Fruits and Vegetables	6	1	1	*	4	*	Q	0	*	17.0
2037	Frozen Fruits and Vegetables	1	*	1	*	*	Q	0	0	*	32.3
2046	Wet Corn Milling	*	*	W	W	*	*	0	0	*	23.3
2051	Bread, Cake, and Related Products	7	1	*	W	W	*	0	0	*	17.7
2063	Beet Sugar	0	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	8	2	W	*	4	*	W	0	*	16.2
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.1
22	Textile Mill Products	27	5	5	3	11	1	*	0	3	19.4
23	Apparel and Other Textile Products	5	2	*	*	2	Q	0	0	*	29.4
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.6
25	Furniture and Fixtures	7	2	Q	*	2	*	0	0	2	29.9
26	Paper and Allied Products	W	27	72	4	37	W	W	0	111	6.0
2611	Pulp Mills	12	1	2	*	0	*	0	0	9	36.2
2621	Paper Mills	228	16	61	W	19	1	W	0	96	4.2
2631	Paperboard Mills	W	2	W	Q	6	*	W	0	W	15.0
27	Printing and Publishing	23	11	*	1	9	*	0	0	1	25.1
28	Chemicals and Allied Products	W	32	19	3	60	3	W	0	W	8.5
2812	Alkalies and Chlorine	*	W	0	0	*	0	0	0	0	36.3
2813	Industrial Gases	6	5	0	*	*	*	0	0	1	13.2
2819	Industrial Inorganic Chemicals, nec	10	2	2	*	6	*	0	0	*	21.8
2821	Plastics Materials and Resins	W	4	3	1	8	W	W	0	W	9.9
2822	Synthetic Rubber	W	W	W	*	W	*	0	0	*	25.7
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	*	*	Q	W	*	*	0	0	0	14.7
2865	Cyclic Crudes and Intermediates	12	1	W	W	7	*	W	0	1	20.4
2869	Industrial Organic Chemicals, nec	W	10	9	W	W	W	0	0	W	9.0
2873	Nitrogenous Fertilizers	1	*	0	*	1	*	0	0	*	47.6
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	501	9	27	W	29	3	W	0	421	8.1
2911	Petroleum Refining ¹	484	7	27	W	25	2	W	0	421	4.2
30	Rubber and Misc. Plastics Products	37	19	3	1	W	W	2	0	1	19.6
3011	Tires and Inner Tubes	2	*	*	Q	1	*	0	0	*	12.5
308	Miscellaneous Plastics Products, nec	28	16	2	W	7	1	W	0	W	24.1
31	Leather and Leather Products	4	1	1	1	1	*	Q	0	*	28.0
32	Stone, Clay and Glass Products	170	19	3	4	60	W	77	W	W	17.6
3211	Flat Glass	W	W	0	*	W	W	*	0	*	4.5
3221	Glass Containers	19	3	1	*	14	*	0	0	*	8.6
3229	Pressed and Blown Glass, nec.	W	W	1	W	W	*	0	0	*	10.1
3241	Cement, Hydraulic	43	5	*	W	*	*	33	W	W	18.1
3274	Lime	Q	Q	0	Q	*	Q	Q	0	*	NF
3296	Mineral Wool	4	1	0	W	W	W	*	W	*	1.7
33	Primary Metal Industries	471	61	5	2	105	1	267	18	12	9.1
3312	Blast Furnaces and Steel Mills	376	27	W	1	67	*	W	13	W	7.1
3313	Electrometallurgical Products	W	W	0	*	*	*	W	W	*	13.0
3321	Gray and Ductile Iron Foundries	5	1	0	*	2	*	*	2	*	16.6
3331	Primary Copper	*	W	0	W	*	*	0	*	*	1.1
3334	Primary Aluminum	W	W	*	W	W	W	0	W	W	4.8
3339	Primary Nonferrous Metals, nec	W	2	*	W	1	*	W	W	*	1.9
3353	Aluminum Sheet, Plate, and Foil	W	2	0	W	W	*	0	0	*	2.2
34	Fabricated Metal Products	57	17	2	2	33	1	*	1	1	15.7
35	Industrial Machinery and Equipment	41	18	3	W	16	W	0	0	2	19.2
357	Computer and Office Equipment	4	3	*	*	1	*	0	0	*	20.5
36	Electronic and Other Electric Equipment	43	22	3	2	14	1	*	*	1	16.1
37	Transportation Equipment	W	10	7	W	11	*	W	0	W	10.9
3711	Motor Vehicles and Car Bodies	W	W	W	W	1	*	0	0	*	7.4
3714	Motor Vehicle Parts and Accessories	8	3	W	*	W	W	W	0	*	11.6
38	Instruments and Related Products	52	14	3	W	W	Q	W	0	W	17.2
3841	Surgical and Medical Instruments	2	1	*	*	*	*	0	0	*	18.4
39	Misc. Manufacturing Industries	W	4	1	W	W	*	1	0	*	17.6
	Total	2,011	294	162	46	461	16	W	W	588	5.0

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
Midwest Census Region											
RSE Column Factors:		0.6	0.6	1.5	1.3	0.7	1.2	1.1	1.4	1.0	
20	Food and Kindred Products	420	67	6	3	W	1	107	W	W	8.6
2011	Meat Packing Plants	33	7	1	*	23	*	1	0	1	9.3
2033	Canned Fruits and Vegetables	10	1	0	*	9	*	0	0	*	17.1
2037	Frozen Fruits and Vegetables	4	1	*	*	2	*	0	0	*	27.1
2046	Wet Corn Milling	122	11	W	*	46	*	61	W	W	13.6
2051	Bread, Cake, and Related Products	9	2	0	W	W	*	0	0	*	16.3
2063	Beet Sugar	34	1	W	*	6	*	24	W	*	6.6
2075	Soybean Oil Mills	36	4	*	*	17	W	W	0	W	4.2
2082	Malt Beverages	11	2	*	*	W	W	W	0	*	17.2
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.6
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.7
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.6
24	Lumber and Wood Products	60	10	Q	2	11	1	1	0	34	28.2
25	Furniture and Fixtures	W	5	*	*	W	*	Q	0	Q	25.1
26	Paper and Allied Products	W	49	5	1	116	W	94	W	W	6.6
2611	Pulp Mills	28	1	0	*	4	Q	4	0	20	33.3
2621	Paper Mills	208	27	W	1	59	*	63	W	54	5.0
2631	Paperboard Mills	W	7	*	*	24	*	26	0	W	13.1
27	Printing and Publishing	43	18	*	*	23	*	0	0	2	17.8
28	Chemicals and Allied Products	531	115	2	Q	227	W	63	*	W	9.1
2812	Alkalies and Chlorine	W	W	0	W	*	*	0	0	*	26.9
2813	Industrial Gases	W	W	0	Q	W	Q	0	0	*	12.3
2819	Industrial Inorganic Chemicals, nec	71	W	W	*	W	*	W	*	1	12.9
2821	Plastics Materials and Resins	W	11	W	W	24	W	W	0	10	9.3
2822	Synthetic Rubber	W	1	0	W	W	*	W	0	*	19.9
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	30	3	W	W	14	W	W	0	W	13.8
2869	Industrial Organic Chemicals, nec	W	6	*	W	W	W	25	0	6	7.8
2873	Nitrogenous Fertilizers	74	2	0	*	71	*	0	0	Q	33.8
2874	Phosphatic Fertilizers	*	*	0	*	*	*	0	0	*	4.5
29	Petroleum and Coal Products	968	23	13	W	89	5	W	0	835	5.1
2911	Petroleum Refining ¹	921	21	13	W	73	5	W	0	810	2.5
30	Rubber and Misc. Plastics Products	95	45	2	*	42	1	3	0	2	11.4
3011	Tires and Inner Tubes	W	W	1	*	7	W	1	0	1	4.1
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.6
31	Leather and Leather Products	4	1	*	*	2	*	0	0	*	25.8
32	Stone, Clay and Glass Products	249	28	*	4	108	*	76	2	30	10.0
3211	Flat Glass	13	W	0	W	11	W	0	0	*	4.1
3221	Glass Containers	20	3	0	*	17	*	0	0	*	7.6
3229	Pressed and Blown Glass, nec.	14	2	*	*	12	*	0	0	*	6.7
3241	Cement, Hydraulic	85	8	W	W	6	*	51	0	W	14.8
3274	Lime	35	1	0	*	3	*	21	W	W	18.6
3296	Mineral Wool	17	4	W	*	W	*	0	W	*	1.3
33	Primary Metal Industries	1,115	160	W	4	W	1	348	201	W	5.1
3312	Blast Furnaces and Steel Mills	848	59	W	W	W	*	334	184	6	5.1
3313	Electrometallurgical Products	26	8	0	*	1	W	W	W	W	10.0
3321	Gray and Ductile Iron Foundries	W	15	*	Q	W	*	W	12	1	11.7
3331	Primary Copper	*	W	0	0	*	*	0	0	0	1.3
3334	Primary Aluminum	W	W	0	W	3	W	W	0	W	4.8
3339	Primary Nonferrous Metals, nec	W	2	0	*	3	*	0	W	*	2.0
3353	Aluminum Sheet, Plate, and Foil	24	5	0	W	17	*	0	0	W	1.3
34	Fabricated Metal Products	140	44	*	W	82	W	5	W	W	14.4
35	Industrial Machinery and Equipment	116	43	*	W	58	1	11	Q	W	13.5
357	Computer and Office Equipment	5	3	0	*	2	*	0	0	*	23.9
36	Electronic and Other Electric Equipment	59	24	*	W	29	*	W	0	W	13.5
37	Transportation Equipment	W	55	2	2	74	1	W	W	5	6.4
3711	Motor Vehicles and Car Bodies	60	16	W	W	31	*	W	W	-1	4.7
3714	Motor Vehicle Parts and Accessories	76	27	W	W	30	W	W	W	W	8.0
38	Instruments and Related Products	11	6	Q	Q	W	*	W	0	*	19.3
3841	Surgical and Medical Instruments	1	1	0	*	*	*	0	0	*	18.5
39	Misc. Manufacturing Industries	10	3	*	*	5	*	*	0	Q	22.7
	Total	4,385	700	W	26	1,464	W	742	208	1,089	3.8

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
South Census Region											
RSE Column Factors:		0.6	0.6	1.4	1.2	0.8	1.1	1.1	1.6	1.0	
20	Food and Kindred Products	255	54	10	5	135	2	17	W	Q	11.0
2011	Meat Packing Plants	10	3	*	1	5	*	0	0	*	16.9
2033	Canned Fruits and Vegetables	7	1	*	*	6	*	0	0	*	19.7
2037	Frozen Fruits and Vegetables	8	2	1	*	6	*	0	0	*	17.6
2046	Wet Corn Milling	W	3	0	*	5	*	7	0	W	23.0
2051	Bread, Cake, and Related Products	11	3	0	*	7	*	0	0	*	14.2
2063	Beet Sugar	W	W	0	*	W	*	0	W	*	17.0
2075	Soybean Oil Mills	15	2	*	*	9	W	W	0	W	4.9
2082	Malt Beverages	14	3	W	W	8	*	W	0	*	14.0
21	Tobacco Products	24	3	1	*	4	*	15	0	*	6.8
22	Textile Mill Products	236	94	7	3	89	2	30	0	11	6.5
23	Apparel and Other Textile Products	31	14	Q	*	12	*	2	0	*	22.8
24	Lumber and Wood Products	209	31	Q	6	15	1	1	0	153	20.2
25	Furniture and Fixtures	W	9	*	1	W	*	W	0	W	19.5
26	Paper and Allied Products	1,447	86	69	4	W	2	154	0	W	4.5
2611	Pulp Mills	219	4	21	1	22	*	4	0	166	17.2
2621	Paper Mills	W	47	18	W	126	1	87	0	W	3.4
2631	Paperboard Mills	W	19	29	W	W	*	62	0	349	5.3
27	Printing and Publishing	28	16	Q	*	10	*	0	0	1	21.4
28	Chemicals and Allied Products	4,195	256	W	7	1,812	1,377	W	3	470	6.8
2812	Alkalies and Chlorine	147	29	0	*	W	*	W	0	20	17.4
2813	Industrial Gases	W	29	0	*	W	W	0	0	1	12.8
2819	Industrial Inorganic Chemicals, nec	W	W	2	W	W	*	W	2	13	11.1
2821	Plastics Materials and Resins	W	35	W	W	182	209	W	0	W	5.6
2822	Synthetic Rubber	111	W	W	W	W	15	0	0	W	13.2
2823	Cellulosic Manmade Fibers	31	W	0	*	W	*	27	0	*	25.3
2824	Organic Fibers, Noncellulosic	W	23	W	W	W	W	W	0	1	4.1
2865	Cyclic Crudes and Intermediates	193	11	6	*	84	W	W	0	W	12.0
2869	Industrial Organic Chemicals, nec	2,144	35	2	W	W	W	60	0	322	8.4
2873	Nitrogenous Fertilizers	414	6	0	*	407	*	0	0	1	28.9
2874	Phosphatic Fertilizers	W	5	2	W	W	*	W	0	21	3.3
29	Petroleum and Coal Products	3,479	47	13	W	591	W	W	W	2,814	4.2
2911	Petroleum Refining ¹	3,394	46	13	W	578	8	W	0	2,746	2.7
30	Rubber and Misc. Plastics Products	88	42	3	1	36	1	1	0	3	10.4
3011	Tires and Inner Tubes	W	10	W	W	13	*	W	0	W	4.1
308	Miscellaneous Plastics Products, nec	46	27	1	W	16	*	W	0	*	21.0
31	Leather and Leather Products	2	1	*	*	*	*	0	0	Q	24.5
32	Stone, Clay and Glass Products	324	40	1	8	161	W	87	W	W	11.4
3211	Flat Glass	23	3	0	*	20	*	0	0	*	4.0
3221	Glass Containers	29	4	W	W	W	*	0	0	*	8.3
3229	Pressed and Blown Glass, nec.	W	5	*	W	W	W	0	0	*	8.6
3241	Cement, Hydraulic	108	12	*	1	22	*	58	4	11	15.5
3274	Lime	37	1	0	*	W	*	26	W	W	21.8
3296	Mineral Wool	16	3	W	*	12	*	0	W	*	1.4
33	Primary Metal Industries	630	161	9	W	W	W	W	56	16	4.4
3312	Blast Furnaces and Steel Mills	381	37	9	1	W	*	193	46	W	6.1
3313	Electrometallurgical Products	W	W	0	*	*	0	W	W	1	11.1
3321	Gray and Ductile Iron Foundries	21	6	*	*	W	*	Q	W	*	11.5
3331	Primary Copper	W	1	W	*	W	*	0	0	*	1.1
3334	Primary Aluminum	105	83	0	W	W	*	W	W	W	4.2
3339	Primary Nonferrous Metals, nec	W	6	0	*	W	W	W	0	W	3.7
3353	Aluminum Sheet, Plate, and Foil	25	W	0	*	18	*	W	0	*	1.8
34	Fabricated Metal Products	82	30	Q	W	44	W	0	1	3	21.0
35	Industrial Machinery and Equipment	58	28	*	1	27	W	Q	Q	W	15.7
357	Computer and Office Equipment	4	3	*	Q	1	*	0	0	*	22.3
36	Electronic and Other Electric Equipment	81	37	*	*	27	1	W	W	W	14.4
37	Transportation Equipment	71	29	W	2	28	*	W	*	8	8.9
3711	Motor Vehicles and Car Bodies	24	8	*	*	12	*	W	0	W	4.5
3714	Motor Vehicle Parts and Accessories	13	7	*	*	W	*	W	*	*	11.6
38	Instruments and Related Products	17	11	Q	*	6	*	0	0	*	18.6
3841	Surgical and Medical Instruments	2	1	0	*	*	*	0	0	*	21.5
39	Misc. Manufacturing Industries	W	4	*	Q	W	*	0	0	W	23.5
	Total	11,296	996	W	49	3,469	W	700	66	4,407	3.6

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.1	0.8	1.1	1.3	1.2	1.0	
20	Food and Kindred Products	202	29	4	4	119	1	28	W	W	9.5
2011	Meat Packing Plants	5	1	W	*	3	Q	0	0	*	17.5
2033	Canned Fruits and Vegetables	20	2	1	*	17	*	0	0	*	12.4
2037	Frozen Fruits and Vegetables	26	7	Q	*	17	*	0	0	1	17.3
2046	Wet Corn Milling	W	*	0	W	2	*	0	0	W	20.5
2051	Bread, Cake, and Related Products	6	1	0	*	5	*	0	0	*	26.8
2063	Beet Sugar	W	W	W	*	W	*	18	1	*	8.5
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	17	2	W	W	W	W	W	0	*	16.4
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	6	1	0	*	5	Q	0	0	*	30.1
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.9
24	Lumber and Wood Products	166	17	1	7	10	1	0	0	130	20.0
25	Furniture and Fixtures	3	1	0	Q	1	*	0	0	*	32.8
26	Paper and Allied Products	W	38	11	1	111	W	W	0	W	6.2
2611	Pulp Mills	41	3	5	*	7	*	0	0	26	19.4
2621	Paper Mills	W	22	W	*	55	*	W	0	W	5.6
2631	Paperboard Mills	W	7	W	W	40	W	W	0	W	8.1
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.0
28	Chemicals and Allied Products	W	37	W	1	129	*	W	7	W	13.4
2812	Alkalies and Chlorine	W	W	W	W	4	*	0	0	1	19.8
2813	Industrial Gases	W	W	0	W	6	W	0	0	*	14.8
2819	Industrial Inorganic Chemicals, nec	W	14	W	W	W	Q	W	7	3	11.0
2821	Plastics Materials and Resins	3	1	0	*	2	*	0	0	*	17.2
2822	Synthetic Rubber	*	*	0	*	*	*	0	0	*	24.5
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	*	0	*	*	*	0	0	*	25.4
2869	Industrial Organic Chemicals, nec	5	Q	0	Q	W	Q	0	0	W	13.6
2873	Nitrogenous Fertilizers	79	2	0	*	77	*	0	0	*	40.7
2874	Phosphatic Fertilizers	W	2	0	*	W	0	0	0	W	22.7
29	Petroleum and Coal Products	1,019	26	12	W	129	46	W	0	794	4.1
2911	Petroleum Refining ¹	962	26	12	5	118	46	0	0	756	2.2
30	Rubber and Misc. Plastics Products	19	10	*	Q	W	W	Q	0	*	18.3
3011	Tires and Inner Tubes	*	W	W	W	*	W	0	0	*	7.2
308	Miscellaneous Plastics Products, nec	14	9	0	Q	5	*	0	0	*	22.0
31	Leather and Leather Products	Q	*	0	Q	Q	Q	0	0	*	42.3
32	Stone, Clay and Glass Products	137	18	4	4	53	*	53	1	5	14.8
3211	Flat Glass	W	1	W	W	W	W	0	0	*	4.6
3221	Glass Containers	18	4	W	W	W	*	0	0	*	9.5
3229	Pressed and Blown Glass, nec.	W	W	0	*	W	*	0	0	*	13.3
3241	Cement, Hydraulic	77	8	W	1	12	*	53	Q	3	20.8
3274	Lime	W	W	W	W	W	*	0	0	*	21.3
3296	Mineral Wool	3	1	0	W	W	W	0	W	*	2.1
33	Primary Metal Industries	251	117	1	W	W	W	W	3	W	5.8
3312	Blast Furnaces and Steel Mills	69	8	W	W	W	*	W	*	1	7.6
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	3	*	0	*	W	*	0	W	*	37.2
3331	Primary Copper	W	4	W	W	W	*	W	W	*	1.0
3334	Primary Aluminum	118	90	*	*	6	*	*	0	22	3.5
3339	Primary Nonferrous Metals, nec.	W	4	0	W	W	W	W	W	*	1.0
3353	Aluminum Sheet, Plate, and Foil	W	W	0	W	W	W	0	0	*	1.1
34	Fabricated Metal Products	28	10	*	*	17	*	0	0	*	19.6
35	Industrial Machinery and Equipment	22	12	0	*	9	*	0	0	*	27.0
357	Computer and Office Equipment	9	7	0	*	2	Q	0	0	*	15.9
36	Electronic and Other Electric Equipment	29	19	0	Q	9	*	0	0	W	18.0

See footnotes at end of table.

Table A1. Total Primary Consumption of Energy for All Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.1	0.8	1.1	1.3	1.2	1.0	
37	Transportation Equipment	W	24	W	W	20	1	0	0	W	11.8
3711	Motor Vehicles and Car Bodies	W	W	0	*	1	*	0	0	*	6.9
3714	Motor Vehicle Parts and Accessories	3	1	Q	*	2	*	0	0	*	21.6
38	Instruments and Related Products	17	11	*	*	6	*	0	0	*	15.0
3841	Surgical and Medical Instruments	1	1	0	*	*	*	0	0	*	27.5
39	Misc. Manufacturing Industries	2	1	0	*	1	*	0	0	*	26.4
	Total	2,564	381	34	25	701	52	W	W	1,220	4.6

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power or as feedstock/raw material inputs. See also Footnote "f".

^f For the petroleum refining industry only, the feedstocks and raw material inputs for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents) and feedstock consumption at adjoining petrochemical plants are included in the "Other" column, regardless of type of energy. The remaining columns for the petroleum refining industry include only energy that was consumed for the production of heat and power. The "Other" column also includes net steam and other energy that respondents indicated was used in the production of heat and power. Those inputs and feedstocks that were converted to other energy products (e.g., crude oil converted to residual and distillate fuel oils) are excluded. See Appendix B for more information.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of energy for heat and power and as feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials such as wastepaper and packing materials. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A2. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Barrels per Day)

SIC Code ^a	Industry Groups and Industry	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
		LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
Total United States											
	RSE Column Factors:	0.7	0.8	0.8	0.7	0.9	0.8	1.2	1.3	2.3	
20	Food and Kindred Products	3,927	8,131	11,828	3,914	8,127	11,828	13	4	0	13.7
2011	Meat Packing Plants	431	690	465	431	690	465	*	0	0	18.4
2033	Canned Fruits and Vegetables	345	359	795	339	359	795	6	*	0	17.7
2037	Frozen Fruits and Vegetables	113	209	879	112	209	879	*	0	0	23.3
2046	Wet Corn Milling	3	85	79	3	82	79	0	3	0	19.9
2051	Bread, Cake, and Related Prod.	63	360	*	63	360	*	*	0	0	23.6
2063	Beet Sugar	15	81	W	15	81	W	0	0	0	7.8
2075	Soybean Oil Mills	15	86	114	14	85	114	*	*	0	6.4
2082	Malt Beverages	23	158	1,149	23	158	1,149	0	0	0	15.4
21	Tobacco Products	64	110	369	64	110	369	0	0	0	6.7
22	Textile Mill Products	1,723	2,915	5,387	1,723	2,915	5,387	*	*	0	15.9
23	Apparel and Other Textile Products	434	389	Q	434	389	Q	*	*	0	28.4
24	Lumber and Wood Products	2,764	7,542	914	2,740	6,500	914	24	Q	0	23.9
25	Furniture and Fixtures	700	445	503	700	445	503	0	0	0	30.7
26	Paper and Allied Products	3,777	4,365	68,171	W	4,290	68,171	W	75	0	11.3
2611	Pulp Mills	386	444	12,329	386	424	12,329	0	20	0	19.3
2621	Paper Mills	1,687	W	36,863	1,680	W	36,863	8	15	0	3.8
2631	Paperboard Mills	W	W	W	254	568	W	W	W	0	6.8
27	Printing and Publishing	495	870	138	490	855	138	Q	Q	0	22.8
28	Chemicals and Allied Products	W	6,602	W	3,460	5,708	20,749	W	Q	W	9.1
2812	Alkalies and Chlorine	4	118	W	4	118	W	0	0	0	22.8
2813	Industrial Gases	W	19	0	Q	19	0	W	0	0	33.7
2819	Industrial Inorganic Chem., nec	206	W	W	205	1,250	1,892	*	W	W	11.2
2821	Plastics Materials and Resins	W	525	1,831	147	633	1,831	W	12	0	9.5
2822	Synthetic Rubber	11,190	51	176	27	50	176	11,172	*	0	16.7
2823	Cellulosic Manmade Fibers	3	58	0	3	58	0	0	0	0	28.4
2824	Organic Fibers, Noncellulosic	W	146	W	105	146	W	W	0	0	5.1
2865	Cyclic Crudes and Intermediates	57,374	262	3,158	217	372	3,560	57,158	2	0	18.9
2869	Industrial Organic Chemicals, nec	W	1,367	4,786	2,260	1,203	4,786	W	163	0	11.2
2873	Nitrogenous Fertilizers	454	71	0	118	71	0	336	0	0	33.6
2874	Phosphatic Fertilizers	2	W	685	2	411	685	0	W	0	3.6
29	Petroleum and Coal Products	W	10,090	28,523	45,283	9,859	37,978	W	231	0	7.8
2911	Petroleum Refining ^c	43,532	4,177	28,197	43,532	4,177	28,197	0	0	0	5.2
30	Rubber and Misc. Plastics Products	2,333	1,404	3,432	2,153	1,392	3,432	Q	12	0	18.3
3011	Tires and Inner Tubes	216	186	1,385	216	186	1,385	0	0	0	5.6
308	Misc. Plastics Products, nec	1,265	764	1,131	1,085	W	1,131	Q	Q	0	23.6
31	Leather and Leather Products	123	604	629	121	603	617	2	*	12	30.9
32	Stone, Clay and Glass Products	W	9,399	3,774	1,582	9,073	3,684	W	326	Q	12.7
3211	Flat Glass	110	32	W	110	32	W	*	0	0	6.4
3221	Glass Containers	223	62	756	223	62	756	0	0	0	8.2
3229	Pressed and Blown Glass, nec.	W	104	223	84	104	223	W	0	0	16.9
3241	Cement, Hydraulic	32	1,747	378	32	1,688	378	0	58	0	15.7
3274	Lime	Q	657	W	Q	657	W	0	0	0	33.9
3296	Mineral Wool	W	W	W	113	34	W	W	W	0	2.0
33	Primary Metal Industries	W	5,117	W	2,433	4,948	14,479	W	168	W	5.2
3312	Blast Furnaces and Steel Mills	203	W	W	203	2,467	13,661	*	W	W	5.6
3313	Electrometallurgical Products	W	56	0	W	56	0	0	0	0	12.1
3321	Gray and Ductile Iron Foundries	289	396	12	286	394	12	3	2	0	25.4
3331	Primary Copper	8	W	W	8	W	W	0	0	0	1.2
3334	Primary Aluminum	116	348	1	116	348	1	0	0	0	5.2
3339	Primary Nonferrous Metals, nec	W	145	1	52	145	1	W	0	0	1.7
3353	Aluminum Sheet, Plate, and Foil	171	186	0	171	183	0	*	2	0	1.1
34	Fabricated Metal Products	3,136	2,787	1,372	3,074	2,724	1,372	62	63	*	23.5
35	Industrial Machinery and Equipment	1,865	2,032	1,342	1,782	1,967	1,342	82	65	0	20.6
357	Computer and Office Equipment	12	45	30	12	45	30	*	0	0	30.0
36	Electronic and Other Electric Equip.	1,098	1,140	1,677	1,084	1,139	1,677	Q	*	0	15.7
37	Transportation Equipment	1,508	3,523	5,109	1,440	3,326	5,109	68	197	0	10.1
3711	Motor Vehicles and Car Bodies	162	317	1,117	162	178	1,117	*	139	0	4.7
3714	Motor Vehicle Parts and Access.	484	W	163	462	285	163	23	Q	0	14.1
38	Instruments and Related Products	Q	W	1,468	Q	W	1,468	1	*	0	19.0
3841	Surgical and Medical Instruments	22	83	25	22	83	25	0	*	0	26.8
39	Misc. Manufacturing Industries	245	W	315	W	W	315	W	Q	0	20.7
	Total	1,225,103	68,538	197,976	76,630	65,439	180,376	1,148,868	3,330	27,456	6.0

See footnotes at end of table.

Table A2. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Barrels per Day)

SIC Code ^a	Industry Groups and Industry	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
		LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
Northeast Census Region											
	RSE Column Factors:	1.0	1.0	0.8	1.0	1.0	0.8	1.1	1.4	NF	
20	Food and Kindred Products	609	2,437	3,190	609	2,437	3,190	0	0	0	18.6
2011	<i>Meat Packing Plants</i>	Q	92	W	Q	92	W	0	0	0	30.8
2033	<i>Canned Fruits and Vegetables</i>	36	60	400	36	60	400	0	0	0	15.9
2037	<i>Frozen Fruits and Vegetables</i>	Q	9	350	Q	9	350	0	0	0	40.0
2046	<i>Wet Corn Milling</i>	*	W	W	*	W	W	0	0	0	22.6
2051	<i>Bread, Cake, and Related Prod.</i>	22	W	*	22	W	*	0	0	0	25.9
2063	<i>Beet Sugar</i>	0	0	0	0	0	0	0	0	0	NF
2075	<i>Soybean Oil Mills</i>	0	0	0	0	0	0	0	0	0	NF
2082	<i>Malt Beverages</i>	11	25	W	11	25	W	0	0	0	18.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.9
22	Textile Mill Products	446	1,523	2,122	446	1,523	2,122	0	0	0	22.1
23	Apparel and Other Textile Products	Q	136	122	Q	136	122	0	0	0	41.7
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.3
25	Furniture and Fixtures	164	135	Q	164	135	Q	0	0	0	38.5
26	Paper and Allied Products	W	1,711	31,340	W	1,709	31,340	0	2	0	10.1
2611	<i>Pulp Mills</i>	37	20	795	37	20	795	0	0	0	38.3
2621	<i>Paper Mills</i>	777	W	26,582	777	W	26,582	0	W	0	4.4
2631	<i>Paperboard Mills</i>	13	Q	W	13	Q	W	0	*	0	20.3
27	Printing and Publishing	83	656	98	82	641	98	*	Q	0	32.0
28	Chemicals and Allied Products	2,368	1,573	8,416	276	W	8,416	2,093	W	0	10.5
2812	<i>Alkalies and Chlorine</i>	0	0	0	0	0	0	0	0	0	NF
2813	<i>Industrial Gases</i>	*	3	0	*	3	0	0	0	0	18.7
2819	<i>Industrial Inorganic Chem., nec</i>	38	214	699	38	214	699	*	0	0	22.2
2821	<i>Plastics Materials and Resins</i>	W	298	1,310	39	418	1,310	W	0	0	13.5
2822	<i>Synthetic Rubber</i>	*	*	W	*	*	W	0	0	0	29.7
2823	<i>Cellulosic Manmade Fibers</i>	0	0	0	0	0	0	0	0	0	NF
2824	<i>Organic Fibers, Noncellulosic</i>	*	W	Q	*	W	Q	0	0	0	6.9
2865	<i>Cyclic Crudes and Intermediates</i>	6	W	W	5	W	W	*	*	0	21.9
2869	<i>Industrial Organic Chemicals, nec</i>	W	W	3,834	115	208	3,834	W	W	0	9.8
2873	<i>Nitrogenous Fertilizers</i>	2	8	0	2	8	0	0	0	0	47.5
2874	<i>Phosphatic Fertilizers</i>	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	2,338	W	11,713	2,333	3,771	21,168	Q	Q	0	23.3
2911	<i>Petroleum Refining^c</i>	1,257	W	11,713	1,257	W	11,713	0	0	0	6.3
30	Rubber and Misc. Plastics Products	W	563	1,248	Q	553	1,248	Q	10	0	27.4
3011	<i>Tires and Inner Tubes</i>	15	Q	172	15	Q	172	0	0	0	27.7
308	<i>Misc. Plastics Products, nec</i>	494	W	688	349	W	688	Q	Q	0	32.8
31	Leather and Leather Products	79	539	389	77	538	389	2	*	0	36.5
32	Stone, Clay and Glass Products	W	1,978	1,185	383	1,955	1,185	Q	23	0	18.5
3211	<i>Flat Glass</i>	W	2	0	W	2	0	0	0	0	4.0
3221	<i>Glass Containers</i>	65	38	529	65	38	529	0	0	0	10.1
3229	<i>Pressed and Blown Glass, nec.</i>	22	W	218	22	W	218	0	0	0	17.2
3241	<i>Cement, Hydraulic</i>	3	W	38	3	W	38	0	0	0	17.5
3274	<i>Lime</i>	Q	Q	0	Q	Q	0	0	0	0	NF
3296	<i>Mineral Wool</i>	W	W	0	W	W	0	0	0	0	2.0
33	Primary Metal Industries	850	892	2,335	841	887	2,335	Q	5	0	18.2
3312	<i>Blast Furnaces and Steel Mills</i>	83	428	W	83	428	W	0	0	0	6.6
3313	<i>Electrometallurgical Products</i>	*	3	0	*	3	0	0	0	0	13.8
3321	<i>Gray and Ductile Iron Foundries</i>	49	37	0	49	37	0	0	*	0	22.9
3331	<i>Primary Copper</i>	1	W	0	1	W	0	0	0	0	1.0
3334	<i>Primary Aluminum</i>	W	W	*	W	W	*	0	0	0	6.0
3339	<i>Primary Nonferrous Metals, nec</i>	4	W	1	4	W	1	0	0	0	1.9
3353	<i>Aluminum Sheet, Plate, and Foil</i>	63	W	0	63	W	0	0	0	0	1.0
34	Fabricated Metal Products	424	1,033	1,009	419	1,002	1,009	Q	30	0	21.4
35	Industrial Machinery and Equipment	W	W	1,118	482	965	1,118	Q	W	0	29.1
357	<i>Computer and Office Equipment</i>	5	28	21	5	28	21	*	0	0	20.2
36	Electronic and Other Electric Equip.	457	798	1,380	445	798	1,380	Q	*	0	19.5
37	Transportation Equipment	164	W	2,933	W	1,389	2,933	W	W	0	15.6
3711	<i>Motor Vehicles and Car Bodies</i>	3	W	W	3	W	W	0	0	0	8.5
3714	<i>Motor Vehicle Parts and Access.</i>	W	16	W	27	16	W	W	0	0	17.7
38	Instruments and Related Products	Q	W	1,405	Q	W	1,405	*	*	0	19.7
3841	<i>Surgical and Medical Instruments</i>	6	44	25	6	44	25	0	*	0	27.1
39	Misc. Manufacturing Industries	110	W	231	W	W	231	W	*	0	21.8
	Total	11,681	21,576	70,668	W	21,384	80,123	W	315	0	9.3

See footnotes at end of table.

Table A2. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Barrels per Day)

SIC Code ^a	Industry Groups and Industry	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
		LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
Midwest Census Region											
	RSE Column Factors:	0.8	0.9	1.0	0.8	0.9	1.0	1.2	1.1	1.5	
20	Food and Kindred Products	956	1,495	2,448	954	1,492	2,448	2	3	0	17.8
2011	Meat Packing Plants	37	102	410	36	102	410	*	0	0	12.5
2033	Canned Fruits and Vegetables	107	171	0	107	171	0	0	0	0	34.7
2037	Frozen Fruits and Vegetables	7	9	99	7	9	99	0	0	0	30.5
2046	Wet Corn Milling	*	74	W	*	71	W	0	3	0	21.4
2051	Bread, Cake, and Related Prod.	*	W	0	*	W	0	0	0	0	32.3
2063	Beet Sugar	6	28	W	6	28	W	0	0	0	9.4
2075	Soybean Oil Mills	W	20	22	W	19	22	*	*	0	6.5
2082	Malt Beverages	W	3	109	W	3	109	0	0	0	21.5
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.1
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.9
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.8
24	Lumber and Wood Products	540	992	Q	536	Q	Q	Q	Q	0	40.6
25	Furniture and Fixtures	124	29	*	124	29	*	0	0	0	35.7
26	Paper and Allied Products	W	396	2,211	623	377	2,211	W	Q	0	11.9
2611	Pulp Mills	Q	38	0	Q	38	0	0	0	0	30.8
2621	Paper Mills	185	244	W	177	243	W	8	*	0	5.8
2631	Paperboard Mills	57	46	108	57	46	108	0	*	0	25.9
27	Printing and Publishing	164	84	27	163	84	27	Q	0	0	29.6
28	Chemicals and Allied Products	W	Q	872	W	W	W	W	Q	0	13.8
2812	Alkalies and Chlorine	1	W	0	1	W	0	0	0	0	30.9
2813	Industrial Gases	Q	Q	0	Q	Q	0	0	0	0	NF
2819	Industrial Inorganic Chem., nec	11	10	W	11	10	W	0	0	0	10.8
2821	Plastics Materials and Resins	W	W	W	9	36	W	W	W	0	13.1
2822	Synthetic Rubber	1	W	0	1	W	0	0	0	0	23.0
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	W	W	W	12	W	W	W	*	0	19.3
2869	Industrial Organic Chemicals, nec	W	W	28	10	70	28	W	W	0	10.6
2873	Nitrogenous Fertilizers	*	15	0	*	15	0	0	0	0	47.1
2874	Phosphatic Fertilizers	*	*	0	*	*	0	0	*	0	4.5
29	Petroleum and Coal Products	3,659	W	5,792	3,659	W	5,792	0	Q	0	11.2
2911	Petroleum Refining ^c	3,321	W	5,637	3,321	W	5,637	0	0	0	3.7
30	Rubber and Misc. Plastics Products	477	90	725	477	90	725	*	0	0	15.5
3011	Tires and Inner Tubes	W	*	510	W	*	510	0	0	0	5.2
308	Misc. Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.4
31	Leather and Leather Products	29	13	170	29	13	158	*	0	12	33.2
32	Stone, Clay and Glass Products	341	1,713	191	335	1,650	175	6	Q	Q	19.0
3211	Flat Glass	W	W	0	W	W	0	*	0	0	5.2
3221	Glass Containers	35	2	0	35	2	0	0	0	0	9.5
3229	Pressed and Blown Glass, nec.	20	24	*	20	24	*	0	0	0	10.0
3241	Cement, Hydraulic	15	W	W	15	W	W	0	0	0	19.8
3274	Lime	2	178	0	2	178	0	0	0	0	20.5
3296	Mineral Wool	39	11	W	38	W	W	*	W	0	1.6
33	Primary Metal Industries	693	2,051	W	690	1,997	7,954	3	54	W	9.7
3312	Blast Furnaces and Steel Mills	67	W	W	67	W	7,942	*	W	W	7.3
3313	Electrometallurgical Products	W	34	0	W	34	0	0	0	0	12.8
3321	Gray and Ductile Iron Foundries	104	Q	11	102	Q	11	2	0	0	23.4
3331	Primary Copper	*	0	0	*	0	0	0	0	0	1.2
3334	Primary Aluminum	W	W	0	W	W	0	0	0	0	5.3
3339	Primary Nonferrous Metals, nec	17	31	0	17	31	0	0	0	0	4.6
3353	Aluminum Sheet, Plate, and Foil	40	W	0	W	W	0	*	2	0	1.1
34	Fabricated Metal Products	W	W	21	1,338	474	21	Q	W	0	30.9
35	Industrial Machinery and Equipment	717	W	108	W	620	108	W	W	0	27.3
357	Computer and Office Equipment	2	3	0	2	3	0	0	0	0	38.7
36	Electronic and Other Electric Equip.	185	W	139	183	W	139	Q	0	0	20.6
37	Transportation Equipment	593	847	1,079	574	744	1,079	18	103	0	12.9
3711	Motor Vehicles and Car Bodies	72	W	W	72	75	W	*	W	0	6.6
3714	Motor Vehicle Parts and Access.	W	W	W	302	259	W	W	Q	0	15.0
38	Instruments and Related Products	12	Q	Q	12	Q	Q	0	0	0	21.0
3841	Surgical and Medical Instruments	7	*	0	7	*	0	0	0	0	29.5
39	Misc. Manufacturing Industries	44	24	7	37	23	7	Q	*	0	33.0
	Total	W	12,083	W	10,622	10,645	22,286	W	Q	W	7.5

See footnotes at end of table.

Table A2. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Barrels per Day)

SIC Code ^a	Industry Groups and Industry	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
		LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
South Census Region											
	RSE Column Factors:	0.8	0.8	1.0	0.8	0.8	0.9	1.0	1.2	2.4	
20	Food and Kindred Products	1,706	2,354	4,307	1,706	2,354	4,307	*	0	0	21.1
2011	Meat Packing Plants	308	458	39	308	458	39	0	0	0	24.3
2033	Canned Fruits and Vegetables	37	24	70	37	24	70	0	0	0	22.1
2037	Frozen Fruits and Vegetables	17	34	334	17	34	334	0	0	0	24.2
2046	Wet Corn Milling	1	4	0	1	4	0	0	0	0	38.1
2051	Bread, Cake, and Related Prod.	21	51	0	20	51	0	*	0	0	20.4
2063	Beet Sugar	1	2	0	1	2	0	0	0	0	19.8
2075	Soybean Oil Mills	W	66	93	W	66	93	0	0	0	7.5
2082	Malt Beverages	3	W	W	3	W	W	0	0	0	17.7
21	Tobacco Products	62	110	369	62	110	369	0	0	0	6.4
22	Textile Mill Products	1,246	1,386	3,265	1,246	1,386	3,265	*	*	0	13.4
23	Apparel and Other Textile Products	340	196	Q	340	196	Q	0	*	0	37.9
24	Lumber and Wood Products	931	2,945	Q	911	W	Q	21	Q	0	31.8
25	Furniture and Fixtures	334	272	173	334	272	173	0	0	0	28.7
26	Paper and Allied Products	1,355	1,961	29,913	1,355	1,944	29,913	*	17	0	8.3
2611	Pulp Mills	330	317	9,225	330	317	9,225	0	0	0	21.8
2621	Paper Mills	407	W	7,675	407	974	7,675	0	W	0	4.8
2631	Paperboard Mills	113	W	12,768	113	417	12,768	*	W	0	8.0
27	Printing and Publishing	129	96	Q	129	96	Q	0	0	0	39.2
28	Chemicals and Allied Products	1,071,758	3,102	W	W	2,878	10,968	1,069,272	225	W	9.7
2812	Alkalies and Chlorine	2	95	0	2	95	0	0	0	0	25.3
2813	Industrial Gases	W	2	0	2	2	0	W	0	0	18.3
2819	Industrial Inorganic Chem., nec	135	W	890	134	594	W	*	W	W	13.4
2821	Plastics Materials and Resins	158,448	W	W	93	178	W	158,355	W	0	6.7
2822	Synthetic Rubber	11,188	W	W	25	W	W	11,172	*	0	14.7
2823	Cellulosic Manmade Fibers	3	58	0	3	58	0	0	0	0	27.8
2824	Organic Fibers, Noncellulosic	W	W	W	105	W	W	W	0	0	5.0
2865	Cyclic Crudes and Intermediates	W	48	2,485	198	49	W	W	1	0	17.1
2869	Industrial Organic Chemicals, nec	W	W	925	2,126	Q	925	W	W	0	14.8
2873	Nitrogenous Fertilizers	336	39	0	*	39	0	336	0	0	39.8
2874	Phosphatic Fertilizers	2	W	685	2	390	685	0	W	0	3.3
29	Petroleum and Coal Products	W	W	5,709	6,972	W	5,709	Q	Q	0	8.3
2911	Petroleum Refining ^c	6,713	W	5,537	6,713	W	5,537	0	0	0	5.1
30	Rubber and Misc. Plastics Products	692	661	1,457	658	659	1,457	Q	2	0	18.8
3011	Tires and Inner Tubes	145	W	W	145	W	W	0	0	0	4.9
308	Misc. Plastics Products, nec	338	W	428	304	W	428	Q	*	0	34.7
31	Leather and Leather Products	8	26	70	8	26	70	*	0	0	35.6
32	Stone, Clay and Glass Products	W	3,948	552	W	3,761	478	W	187	Q	24.4
3211	Flat Glass	24	19	0	24	19	0	*	0	0	7.8
3221	Glass Containers	64	W	W	64	W	W	0	0	0	10.9
3229	Pressed and Blown Glass, nec.	W	W	4	40	W	4	W	0	0	13.2
3241	Cement, Hydraulic	12	517	177	12	459	177	0	58	0	24.2
3274	Lime	*	193	0	*	193	0	0	0	0	22.0
3296	Mineral Wool	43	3	W	43	3	W	0	0	0	1.9
33	Primary Metal Industries	W	W	3,951	644	1,329	3,951	W	W	0	6.2
3312	Blast Furnaces and Steel Mills	41	567	3,937	41	W	3,937	0	W	0	8.0
3313	Electrometallurgical Products	0	19	0	0	19	0	0	0	0	11.1
3321	Gray and Ductile Iron Foundries	127	153	*	127	152	*	*	1	0	22.8
3331	Primary Copper	4	15	W	4	15	W	0	0	0	1.2
3334	Primary Aluminum	25	W	0	25	W	0	0	0	0	5.5
3339	Primary Nonferrous Metals, nec	W	25	0	W	25	0	W	0	0	3.4
3353	Aluminum Sheet, Plate, and Foil	61	70	0	61	70	0	0	0	0	1.2
34	Fabricated Metal Products	W	W	Q	1,041	1,033	Q	Q	Q	*	31.5
35	Industrial Machinery and Equipment	W	344	116	W	343	116	58	Q	0	27.4
357	Computer and Office Equipment	*	Q	9	*	Q	9	0	0	0	42.4
36	Electronic and Other Electric Equip.	420	121	159	419	121	159	*	*	0	21.8
37	Transportation Equipment	365	903	W	362	840	W	Q	64	0	12.5
3711	Motor Vehicles and Car Bodies	78	97	199	78	53	199	0	44	0	5.6
3714	Motor Vehicle Parts and Access.	113	22	*	113	4	*	0	18	0	14.7
38	Instruments and Related Products	17	123	Q	17	123	Q	0	0	0	31.3
3841	Surgical and Medical Instruments	3	31	0	3	31	0	0	0	0	37.7
39	Misc. Manufacturing Industries	68	Q	77	68	Q	77	*	Q	0	38.0
	Total	W	23,236	W	W	21,957	63,327	W	1,280	W	7.5

See footnotes at end of table.

Table A2. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Barrels per Day)

SIC Code ^a	Industry Groups and Industry	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
		LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
West Census Region											
	RSE Column Factors:	0.9	0.9	1.0	0.9	0.9	1.0	1.3	1.5	NF	
20	Food and Kindred Products	656	1,845	1,884	645	1,845	1,884	11	*	0	17.8
2011	Meat Packing Plants	Q	38	W	Q	38	W	0	0	0	22.7
2033	Canned Fruits and Vegetables	164	104	325	158	103	325	6	*	0	18.1
2037	Frozen Fruits and Vegetables	85	156	Q	85	156	Q	*	0	0	25.8
2046	Wet Corn Milling	*	W	0	*	W	0	0	0	0	24.1
2051	Bread, Cake, and Related Prod.	20	5	0	20	5	0	0	0	0	46.4
2063	Beet Sugar	7	51	W	7	51	W	0	0	0	10.6
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	W	W	W	W	W	W	0	0	0	19.0
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	Q	6	0	Q	6	0	0	0	0	33.4
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	NF
24	Lumber and Wood Products	953	3,210	360	953	3,171	360	0	Q	0	24.3
25	Furniture and Fixtures	78	Q	0	78	Q	0	0	0	0	53.5
26	Paper and Allied Products	W	297	4,708	625	259	4,708	W	37	0	10.6
2611	Pulp Mills	15	69	2,308	15	49	2,308	0	20	0	19.6
2621	Paper Mills	318	106	W	318	106	W	0	0	0	5.9
2631	Paperboard Mills	W	W	W	72	96	W	W	W	0	8.1
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.4
28	Chemicals and Allied Products	188	509	W	W	W	W	W	W	0	17.6
2812	Alkalies and Chlorine	*	W	W	*	W	W	0	0	0	25.0
2813	Industrial Gases	W	W	0	*	W	0	W	0	0	19.9
2819	Industrial Inorganic Chem., nec	Q	W	W	Q	431	W	0	W	0	14.5
2821	Plastics Materials and Resins	6	*	0	6	*	0	0	0	0	8.9
2822	Synthetic Rubber	*	*	0	*	*	0	0	0	0	25.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	1	*	0	1	*	0	0	0	0	25.2
2869	Industrial Organic Chemicals, nec	Q	Q	0	Q	Q	0	0	0	0	NF
2873	Nitrogenous Fertilizers	115	9	0	115	9	0	0	0	0	42.8
2874	Phosphatic Fertilizers	0	20	0	0	20	0	0	0	0	32.4
29	Petroleum and Coal Products	32,318	W	5,309	32,318	2,378	5,309	0	0	0	4.6
2911	Petroleum Refining ^c	32,241	2,138	5,309	32,241	2,138	5,309	0	0	0	3.9
30	Rubber and Misc. Plastics Products	W	Q	2	W	Q	2	0	*	0	14.3
3011	Tires and Inner Tubes	W	W	W	W	W	W	0	0	0	7.4
308	Misc. Plastics Products, nec	101	Q	0	101	Q	0	0	0	0	31.9
31	Leather and Leather Products	Q	Q	0	Q	Q	0	0	0	0	NF
32	Stone, Clay and Glass Products	337	1,760	1,846	336	1,707	1,846	1	Q	0	12.7
3211	Flat Glass	W	W	W	W	W	W	0	0	0	5.8
3221	Glass Containers	59	W	W	59	W	W	0	0	0	12.7
3229	Pressed and Blown Glass, nec.	1	*	0	1	*	0	0	0	0	14.9
3241	Cement, Hydraulic	3	384	W	3	384	W	0	0	0	21.7
3274	Lime	*	W	W	*	W	W	0	0	0	24.4
3296	Mineral Wool	W	W	0	W	*	0	1	W	0	2.0
33	Primary Metal Industries	W	W	239	257	736	239	Q	W	0	7.4
3312	Blast Furnaces and Steel Mills	11	W	W	11	92	W	0	W	0	8.3
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	8	8	0	8	8	0	0	0	0	40.5
3331	Primary Copper	3	W	W	3	W	W	0	0	0	1.1
3334	Primary Aluminum	78	47	*	78	47	*	0	0	0	4.2
3339	Primary Nonferrous Metals, nec	W	W	0	W	W	0	W	0	0	1.1
3353	Aluminum Sheet, Plate, and Foil	W	W	0	W	W	0	0	0	0	1.1
34	Fabricated Metal Products	283	214	1	276	214	1	Q	*	0	30.7
35	Industrial Machinery and Equipment	198	39	0	197	39	0	*	*	0	39.0
357	Computer and Office Equipment	Q	*	0	Q	*	0	0	0	0	19.6
36	Electronic and Other Electric Equip.	37	Q	0	37	Q	0	0	0	0	36.4

See footnotes at end of table.

Table A2. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Barrels per Day)

SIC Code ^a	Industry Groups and Industry	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
		LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
West Census Region											
	RSE Column Factors:	0.9	0.9	1.0	0.9	0.9	1.0	1.3	1.5	NF	
37	Transportation Equipment	386	W	W	W	353	W	Q	W	0	15.6
3711	Motor Vehicles and Car Bodies	9	51	0	9	W	0	0	W	0	6.9
3714	Motor Vehicle Parts and Access. . . .	19	5	Q	19	5	Q	0	0	0	28.5
38	Instruments and Related Products . . .	17	23	10	16	23	10	1	0	0	23.4
3841	Surgical and Medical Instruments . . .	6	7	0	6	7	0	0	0	0	46.5
39	Misc. Manufacturing Industries	22	2	0	22	2	0	0	0	0	33.7
	Total	36,660	11,643	14,640	36,561	11,452	14,640	100	191	0	7.3

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Distillate" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c For the petroleum refining industry only, the column of "Primary Consumption for All Purposes" includes only energy consumed for heat, power, and generation of electricity. See Appendix B for more information.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the "Primary Consumption of Energy for All Purposes" which are presented in Table A1 and divided by 365; "Inputs for Heat, Power, and Generation of Electricity" which are presented in Table A4 and divided by 365; and "Primary Consumption for Nonfuel Purposes" which are presented in Table A3 and divided by 365. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Total United States										
	RSE Column Factors:	0.7	2.1	1.0	0.9	0.9	1.2	0.9	0.8	
20	Food and Kindred Products	3	0	1	W	5	0	W	1	19.3
2011	Meat Packing Plants	*	0	0	*	*	0	0	*	30.3
2033	Canned Fruits and Vegetables	*	0	*	*	2	0	0	0	41.3
2037	Frozen Fruits and Vegetables	*	0	0	0	*	0	0	*	49.6
2046	Wet Corn Milling	*	0	1	0	0	0	0	*	28.7
2051	Bread, Cake, and Related Products	*	0	0	*	*	0	0	*	31.5
2063	Beet Sugar	*	0	0	0	0	0	W	*	18.7
2075	Soybean Oil Mills	1	0	*	1	*	0	0	*	8.2
2082	Malt Beverages	*	0	0	0	0	0	0	*	31.7
21	Tobacco Products	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	*	0	*	*	*	0	0	*	32.7
23	Apparel and Other Textile Products	*	0	*	0	*	0	0	*	62.6
24	Lumber and Wood Products	27	0	Q	*	9	0	0	25	44.3
25	Furniture and Fixtures	Q	0	0	*	0	0	0	Q	NF
26	Paper and Allied Products	35	0	28	W	W	*	0	W	15.8
2611	Pulp Mills	*	0	7	0	0	0	0	*	36.2
2621	Paper Mills	8	0	5	*	3	*	0	7	6.5
2631	Paperboard Mills	27	0	W	W	W	0	0	26	14.6
27	Printing and Publishing	*	0	Q	*	Q	0	0	*	59.1
28	Chemicals and Allied Products	2,358	W	Q	542	W	W	291	259	8.5
2812	Alkalies and Chlorine	1	0	0	*	0	0	0	1	31.5
2813	Industrial Gases	W	0	0	W	W	0	0	W	18.0
2819	Industrial Inorganic Chemicals, nec	20	W	W	W	*	W	241	4	15.9
2821	Plastics Materials and Resins	357	0	4	64	W	0	0	W	8.5
2822	Synthetic Rubber	W	0	*	W	4,078	0	0	*	23.4
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	W	0	0	W	W	W	0	*	6.9
2865	Cyclic Crudes and Intermediates	98	0	1	8	20,863	1	0	14	17.4
2869	Industrial Organic Chemicals, nec	1,345	0	60	W	W	0	0	192	6.6
2873	Nitrogenous Fertilizers	290	0	0	281	122	0	0	*	26.4
2874	Phosphatic Fertilizers	31	0	W	W	0	0	0	W	3.5
29	Petroleum and Coal Products	3,004	0	84	*	W	W	0	W	3.5
2911	Petroleum Refining ^e	2,868	0	0	0	0	0	0	2,868	1.4
30	Rubber and Misc. Plastics Products	3	0	4	*	Q	Q	0	2	26.4
3011	Tires and Inner Tubes	W	0	0	*	0	W	0	W	5.4
308	Miscellaneous Plastics Products, nec	1	0	Q	*	Q	0	0	1	44.6
31	Leather and Leather Products	*	4	*	0	1	0	0	*	40.5
32	Stone, Clay and Glass Products	3	Q	119	1	W	Q	W	W	20.1
3211	Flat Glass	*	0	0	0	*	0	0	*	8.0
3221	Glass Containers	*	0	0	0	0	0	0	*	24.0
3229	Pressed and Blown Glass, nec.	W	0	0	W	W	0	0	*	13.8
3241	Cement, Hydraulic	*	0	21	*	0	0	0	*	32.5
3274	Lime	*	0	0	*	0	Q	W	*	31.9
3296	Mineral Wool	*	0	W	*	W	0	0	*	2.0
33	Primary Metal Industries	909	W	61	22	W	30,190	671	54	4.4
3312	Blast Furnaces and Steel Mills	838	W	W	20	*	29,829	250	W	7.6
3313	Electrometallurgical Products	12	0	0	*	0	W	W	W	9.9
3321	Gray and Ductile Iron Foundries	W	0	1	*	1	W	W	*	18.5
3331	Primary Copper	*	0	0	0	0	0	W	*	1.3
3334	Primary Aluminum	44	0	0	0	0	40	W	W	3.6
3339	Primary Nonferrous Metals, nec	10	0	0	0	W	W	W	W	1.6
3353	Aluminum Sheet, Plate, and Foil	*	0	1	0	*	0	0	*	2.7
34	Fabricated Metal Products	3	*	23	1	23	*	W	W	37.8
35	Industrial Machinery and Equipment	1	0	24	1	30	1	0	*	31.7
357	Computer and Office Equipment	*	0	0	0	*	0	0	*	45.4
36	Electronic and Other Electric Equipment	15	0	*	*	Q	W	W	13	30.5
37	Transportation Equipment	9	0	72	W	25	W	W	7	16.0
3711	Motor Vehicles and Car Bodies	2	0	51	*	*	W	0	W	7.3
3714	Motor Vehicle Parts and Accessories	1	0	Q	*	8	*	1	1	14.1
38	Instruments and Related Products	*	0	*	*	*	0	0	*	37.8
3841	Surgical and Medical Instruments	*	0	*	0	0	0	0	*	35.9
39	Misc. Manufacturing Industries	Q	0	Q	*	W	0	0	*	38.6
	Total	6,373	10,022	1,216	573	419,337	30,869	1,028	3,394	5.8

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Northeast Census Region										
RSE Column Factors:		0.8	NF	1.2	1.5	0.9	1.6	0.5	0.9	
20	Food and Kindred Products	*	0	0	0	0	0	0	*	47.0
2011	Meat Packing Plants	0	0	0	0	0	0	0	0	NF
2033	Canned Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	*	0	0	0	0	0	0	*	NF
2046	Wet Corn Milling	0	0	0	0	0	0	0	0	NF
2051	Bread, Cake, and Related Products	0	0	0	0	0	0	0	0	NF
2063	Beet Sugar	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	0	0	0	0	0	0	0	0	NF
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
22	Textile Mill Products	*	0	0	0	0	0	0	*	NF
23	Apparel and Other Textile Products	0	0	0	0	0	0	0	0	NF
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	47.7
25	Furniture and Fixtures	*	0	0	0	0	0	0	*	NF
26	Paper and Allied Products	W	0	1	0	0	0	0	W	11.0
2611	Pulp Mills	0	0	0	0	0	0	0	0	NF
2621	Paper Mills	*	0	W	0	0	0	0	*	7.3
2631	Paperboard Mills	W	0	*	0	0	0	0	W	14.1
27	Printing and Publishing	*	0	Q	*	*	0	0	*	NF
28	Chemicals and Allied Products	W	0	W	1	764	0	0	W	13.7
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	0	NF
2813	Industrial Gases	1	0	0	*	0	0	0	1	18.2
2819	Industrial Inorganic Chemicals, nec	*	0	0	*	*	0	0	*	16.7
2821	Plastics Materials and Resins	W	0	0	0	W	0	0	*	11.8
2822	Synthetic Rubber	0	0	0	0	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	0	*	*	*	0	0	*	21.2
2869	Industrial Organic Chemicals, nec	W	0	W	0	W	0	0	*	13.7
2873	Nitrogenous Fertilizers	1	0	0	*	0	0	0	0	44.4
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	285	0	Q	*	Q	W	0	285	3.2
2911	Petroleum Refining ^e	285	0	0	0	0	0	0	285	1.2
30	Rubber and Misc. Plastics Products	*	0	4	*	Q	0	0	*	23.0
3011	Tires and Inner Tubes	*	0	0	0	0	0	0	*	8.2
308	Miscellaneous Plastics Products, nec	*	0	Q	*	Q	0	0	*	34.1
31	Leather and Leather Products	*	0	*	0	1	0	0	*	38.2
32	Stone, Clay and Glass Products	*	0	8	*	Q	0	0	*	26.9
3211	Flat Glass	*	0	0	0	0	0	0	*	5.9
3221	Glass Containers	*	0	0	0	0	0	0	*	21.1
3229	Pressed and Blown Glass, nec	*	0	0	*	0	0	0	*	11.6
3241	Cement, Hydraulic	*	0	0	0	0	0	0	*	30.5
3274	Lime	0	0	0	0	0	0	0	0	NF
3296	Mineral Wool	*	0	0	0	0	0	0	*	2.3
33	Primary Metal Industries	270	0	2	*	Q	W	W	W	10.7
3312	Blast Furnaces and Steel Mills	263	0	0	0	0	W	W	W	12.9
3313	Electrometallurgical Products	*	0	0	0	0	0	0	*	16.4
3321	Gray and Ductile Iron Foundries	*	0	*	0	0	0	8	*	46.5
3331	Primary Copper	*	0	0	0	0	0	*	0	1.5
3334	Primary Aluminum	W	0	0	0	0	W	0	W	3.8
3339	Primary Nonferrous Metals, nec	W	0	0	0	0	0	W	*	4.5
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	0	*	NF
34	Fabricated Metal Products	1	0	11	Q	Q	0	*	*	36.5
35	Industrial Machinery and Equipment	*	0	W	*	Q	0	0	*	21.8
357	Computer and Office Equipment	*	0	0	0	*	0	0	*	38.7
36	Electronic and Other Electric Equipment	1	0	*	*	Q	0	0	*	28.6
37	Transportation Equipment	*	0	W	*	W	0	0	*	17.4
3711	Motor Vehicles and Car Bodies	*	0	0	0	0	0	0	*	10.6
3714	Motor Vehicle Parts and Accessories	*	0	0	*	W	0	0	*	21.4
38	Instruments and Related Products	*	0	*	*	*	0	0	*	29.3
3841	Surgical and Medical Instruments	*	0	*	0	0	0	0	*	36.6
39	Misc. Manufacturing Industries	*	0	*	*	W	0	0	*	42.6
	Total	567	0	115	2	W	W	W	300	9.4

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Midwest Census Region										
	RSE Column Factors:	0.8	1.5	1.0	1.0	1.1	0.9	1.0	0.8	
20	Food and Kindred Products	2	0	1	W	1	0	W	*	12.5
2011	Meat Packing Plants	*	0	0	*	*	0	0	*	26.9
2033	Canned Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2046	Wet Corn Milling	*	0	1	0	0	0	0	*	26.0
2051	Bread, Cake, and Related Products	*	0	0	*	0	0	0	0	28.3
2063	Beet Sugar	*	0	0	0	0	0	W	0	18.3
2075	Soybean Oil Mills	1	0	*	1	*	0	0	*	7.5
2082	Malt Beverages	0	0	0	0	0	0	0	0	NF
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
24	Lumber and Wood Products	3	0	Q	*	Q	0	0	Q	60.8
25	Furniture and Fixtures	*	0	0	*	0	0	0	*	35.6
26	Paper and Allied Products	W	0	Q	0	W	*	0	W	20.1
2611	Pulp Mills	0	0	0	0	0	0	0	0	NF
2621	Paper Mills	*	0	*	0	3	*	0	*	6.8
2631	Paperboard Mills	W	0	*	0	0	0	0	W	20.8
27	Printing and Publishing	*	0	0	*	Q	0	0	*	NF
28	Chemicals and Allied Products	141	0	Q	39	W	Q	0	W	12.1
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	0	NF
2813	Industrial Gases	*	0	0	*	0	0	0	*	21.9
2819	Industrial Inorganic Chemicals, nec	1	0	0	0	0	0	0	1	40.4
2821	Plastics Materials and Resins	W	0	W	0	W	0	0	*	12.3
2822	Synthetic Rubber	*	0	0	*	0	0	0	*	24.5
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	9	0	*	0	W	0	0	W	20.4
2869	Industrial Organic Chemicals, nec	W	0	W	W	W	0	0	1	11.3
2873	Nitrogenous Fertilizers	29	0	0	28	0	0	0	0	28.3
2874	Phosphatic Fertilizers	*	0	*	0	0	0	0	0	4.4
29	Petroleum and Coal Products	467	0	Q	*	0	0	0	467	4.9
2911	Petroleum Refining ^e	445	0	0	0	0	0	0	445	1.2
30	Rubber and Misc. Plastics Products	2	0	0	*	*	Q	0	1	24.4
3011	Tires and Inner Tubes	W	0	0	0	0	W	0	*	6.7
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	44.7
31	Leather and Leather Products	*	4	0	0	*	0	0	0	40.6
32	Stone, Clay and Glass Products	1	Q	Q	*	2	Q	*	*	27.9
3211	Flat Glass	*	0	0	0	*	0	0	*	5.8
3221	Glass Containers	*	0	0	0	0	0	0	*	22.0
3229	Pressed and Blown Glass, nec	*	0	0	0	0	0	0	*	14.7
3241	Cement, Hydraulic	*	0	0	0	0	0	0	*	NF
3274	Lime	*	0	0	0	0	Q	0	*	57.6
3296	Mineral Wool	*	0	W	*	*	0	0	*	2.1
33	Primary Metal Industries	359	W	20	W	1	12,024	286	10	8.0
3312	Blast Furnaces and Steel Mills	W	W	W	W	*	W	167	1	8.5
3313	Electrometallurgical Products	7	0	0	*	0	W	W	W	12.0
3321	Gray and Ductile Iron Foundries	W	0	0	0	1	W	W	*	23.2
3331	Primary Copper	0	0	0	0	0	0	0	0	NF
3334	Primary Aluminum	W	0	0	0	0	W	0	W	6.4
3339	Primary Nonferrous Metals, nec	0	0	0	0	0	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	*	0	1	0	*	0	0	*	1.1
34	Fabricated Metal Products	1	0	W	*	Q	*	W	Q	37.3
35	Industrial Machinery and Equipment	1	0	W	*	W	1	0	*	34.4
357	Computer and Office Equipment	0	0	0	0	0	0	0	0	NF
36	Electronic and Other Electric Equipment	Q	0	0	*	Q	0	0	Q	32.5
37	Transportation Equipment	W	0	38	*	7	W	W	W	9.9
3711	Motor Vehicles and Car Bodies	1	0	W	*	*	W	0	W	8.4
3714	Motor Vehicle Parts and Accessories	*	0	Q	*	W	0	0	*	10.8
38	Instruments and Related Products	*	0	0	0	0	0	0	*	42.9
3841	Surgical and Medical Instruments	*	0	0	0	0	0	0	*	NF
39	Misc. Manufacturing Industries	Q	0	*	*	Q	0	0	*	39.6
	Total	983	W	Q	58	W	12,064	297	498	6.4

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
South Census Region										
	RSE Column Factors:	0.7	2.3	1.0	0.9	0.8	1.1	1.1	0.8	
20	Food and Kindred Products	1	0	0	1	*	0	0	*	38.1
2011	Meat Packing Plants	*	0	0	0	0	0	0	*	37.4
2033	Canned Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2046	Wet Corn Milling	0	0	0	0	0	0	0	0	NF
2051	Bread, Cake, and Related Products	*	0	0	*	*	0	0	*	32.5
2063	Beet Sugar	*	0	0	0	0	0	0	*	22.1
2075	Soybean Oil Mills	*	0	0	*	0	0	0	*	11.1
2082	Malt Beverages	*	0	0	0	0	0	0	*	31.8
21	Tobacco Products	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	*	0	*	*	*	0	0	*	34.7
23	Apparel and Other Textile Products	*	0	*	0	0	0	0	*	56.1
24	Lumber and Wood Products	Q	0	Q	0	8	0	0	Q	62.5
25	Furniture and Fixtures	Q	0	0	0	0	0	0	Q	NF
26	Paper and Allied Products	5	0	6	W	*	0	0	W	10.9
2611	Pulp Mills	0	0	0	0	0	0	0	0	NF
2621	Paper Mills	W	0	W	0	0	0	0	W	7.4
2631	Paperboard Mills	W	0	W	W	*	0	0	*	18.1
27	Printing and Publishing	*	0	0	0	0	0	0	*	NF
28	Chemicals and Allied Products	2,164	W	82	462	390,284	W	W	244	8.7
2812	Alkalies and Chlorine	1	0	0	*	0	0	0	1	33.4
2813	Industrial Gases	W	0	0	W	W	0	0	W	21.0
2819	Industrial Inorganic Chemicals, nec	W	W	W	W	*	W	W	3	18.7
2821	Plastics Materials and Resins	W	0	W	64	57,800	0	0	W	9.4
2822	Synthetic Rubber	W	0	*	W	4,078	0	0	*	24.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	W	0	0	W	W	W	0	*	7.4
2865	Cyclic Crudes and Intermediates	88	0	*	8	W	1	0	W	20.5
2869	Industrial Organic Chemicals, nec	W	0	W	W	W	0	0	191	7.1
2873	Nitrogenous Fertilizers	224	0	0	217	122	0	0	*	38.3
2874	Phosphatic Fertilizers	W	0	W	W	0	0	0	W	4.1
29	Petroleum and Coal Products	1,853	0	W	0	W	0	0	1,853	2.8
2911	Petroleum Refining ^e	1,786	0	0	0	0	0	0	1,786	1.4
30	Rubber and Misc. Plastics Products	1	0	1	*	Q	0	0	1	22.8
3011	Tires and Inner Tubes	W	0	0	*	0	0	0	W	6.2
308	Miscellaneous Plastics Products, nec	*	0	*	*	Q	0	0	*	29.9
31	Leather and Leather Products	*	0	0	0	*	0	0	*	52.1
32	Stone, Clay and Glass Products	2	Q	68	1	W	*	W	*	21.8
3211	Flat Glass	*	0	0	0	*	0	0	*	10.5
3221	Glass Containers	0	0	0	0	0	0	0	0	NF
3229	Pressed and Blown Glass, nec.	W	0	0	W	W	0	0	*	16.4
3241	Cement, Hydraulic	*	0	21	0	0	0	0	*	30.1
3274	Lime	*	0	0	*	0	0	W	*	26.3
3296	Mineral Wool	*	0	0	0	0	0	0	*	2.8
33	Primary Metal Industries	219	0	W	W	W	7,149	205	12	5.5
3312	Blast Furnaces and Steel Mills	194	0	W	W	0	W	W	W	9.2
3313	Electrometallurgical Products	5	0	0	0	0	W	W	*	12.8
3321	Gray and Ductile Iron Foundries	*	0	*	*	*	0	W	*	21.2
3331	Primary Copper	0	0	0	0	0	0	0	0	NF
3334	Primary Aluminum	12	0	0	0	0	W	W	W	4.9
3339	Primary Nonferrous Metals, nec	W	0	0	0	W	W	0	W	2.1
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	0	*	1.4
34	Fabricated Metal Products	*	*	Q	*	Q	0	0	*	69.4
35	Industrial Machinery and Equipment	1	0	*	*	21	0	0	*	43.3
357	Computer and Office Equipment	*	0	0	0	0	0	0	*	45.7
36	Electronic and Other Electric Equipment	13	0	*	*	*	W	W	12	30.3
37	Transportation Equipment	6	0	23	*	Q	*	1	6	15.2
3711	Motor Vehicles and Car Bodies	1	0	16	0	0	0	0	1	6.5
3714	Motor Vehicle Parts and Accessories	*	0	7	*	0	*	1	*	15.3
38	Instruments and Related Products	*	0	0	*	0	0	0	*	73.9
3841	Surgical and Medical Instruments	0	0	0	0	0	0	0	0	NF
39	Misc. Manufacturing Industries	*	0	Q	0	*	0	0	*	48.0
	Total	4,271	W	467	472	W	7,460	371	2,137	6.9

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
West Census Region										
	RSE Column Factors:	0.9	NF	1.0	1.2	0.9	1.3	0.9	0.8	
20	Food and Kindred Products	*	0	*	*	4	0	0	*	29.2
2011	Meat Packing Plants	0	0	0	0	0	0	0	0	NF
2033	Canned Fruits and Vegetables	*	0	*	*	2	0	0	0	35.8
2037	Frozen Fruits and Vegetables	*	0	0	0	*	0	0	0	40.0
2046	Wet Corn Milling	0	0	0	0	0	0	0	0	NF
2051	Bread, Cake, and Related Products	0	0	0	0	0	0	0	0	NF
2063	Beet Sugar	*	0	0	0	0	0	0	*	15.3
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	0	0	0	0	0	0	0	0	NF
21	Tobacco Products	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	0	0	0	0	0	0	0	0	NF
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
24	Lumber and Wood Products	20	0	Q	*	0	0	0	0	19 43.5
25	Furniture and Fixtures	0	0	0	0	0	0	0	0	NF
26	Paper and Allied Products	W	0	14	*	W	0	0	W	15.3
2611	Pulp Mills	*	0	7	0	0	0	0	*	31.8
2621	Paper Mills	W	0	0	*	0	0	0	W	8.1
2631	Paperboard Mills	W	0	W	*	W	0	0	W	16.4
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NF
28	Chemicals and Allied Products	W	0	W	40	W	0	W	W	21.6
2812	Alkalies and Chlorine	*	0	0	0	0	0	0	*	22.3
2813	Industrial Gases	W	0	0	W	W	0	0	0	15.5
2819	Industrial Inorganic Chemicals, nec	W	0	W	*	0	0	W	*	16.3
2821	Plastics Materials and Resins	0	0	0	0	0	0	0	0	NF
2822	Synthetic Rubber	0	0	0	0	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	0	0	0	0	0	NF
2869	Industrial Organic Chemicals, nec	0	0	0	0	0	0	0	0	NF
2873	Nitrogenous Fertilizers	37	0	0	35	0	0	0	*	43.4
2874	Phosphatic Fertilizers	W	0	0	W	0	0	0	W	4.2
29	Petroleum and Coal Products	398	0	0	*	0	W	0	W	8.9
2911	Petroleum Refining ^e	352	0	0	0	0	0	0	352	1.2
30	Rubber and Misc. Plastics Products	*	0	*	*	0	0	0	*	6.0
3011	Tires and Inner Tubes	*	0	0	*	0	0	0	0	6.8
308	Miscellaneous Plastics Products, nec	*	0	0	0	0	0	0	*	NF
31	Leather and Leather Products	0	0	0	0	0	0	0	0	NF
32	Stone, Clay and Glass Products	*	0	Q	*	*	0	0	*	12.4
3211	Flat Glass	*	0	0	0	0	0	0	*	7.1
3221	Glass Containers	0	0	0	0	0	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	0	0	0	0	0	NF
3241	Cement, Hydraulic	*	0	0	*	0	0	0	*	NF
3274	Lime	0	0	0	0	0	0	0	0	NF
3296	Mineral Wool	*	0	W	0	*	0	0	*	2.2
33	Primary Metal Industries	61	0	W	*	Q	W	W	W	6.5
3312	Blast Furnaces and Steel Mills	W	0	W	0	0	W	W	*	10.5
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	0	0	0	0	0	0	0	0	NF
3331	Primary Copper	*	0	0	0	0	0	W	*	1.1
3334	Primary Aluminum	22	0	0	0	0	5	0	22	3.3
3339	Primary Nonferrous Metals, nec	W	0	0	0	W	W	0	*	1.0
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	0	*	1.2
34	Fabricated Metal Products	*	0	*	0	Q	0	0	*	NF
35	Industrial Machinery and Equipment	*	0	*	0	*	0	0	*	38.2
357	Computer and Office Equipment	*	0	0	0	0	0	0	*	38.8
36	Electronic and Other Electric Equipment	*	0	0	0	0	0	0	*	35.3

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
RSE Column Factors:		0.9	NF	1.0	1.2	0.9	1.3	0.9	0.8	
37	Transportation Equipment	W	0	W	*	Q	0	0	W	21.9
3711	Motor Vehicles and Car Bodies	*	0	W	0	0	0	0	0	10.2
3714	Motor Vehicle Parts and Accessories	*	0	0	*	0	0	0	*	NF
38	Instruments and Related Products	*	0	0	0	*	0	0	*	37.8
3841	Surgical and Medical Instruments	*	0	0	0	0	0	0	*	NF
39	Misc. Manufacturing Industries	*	0	0	0	0	0	0	*	NF
	Total	552	0	70	41	36	W	W	458	12.9

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" includes energy that respondents indicated was used as feedstock/raw material inputs. See also Footnote "e".

^e For the petroleum refining industry only, the feedstocks and raw material inputs for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents) and feedstock consumption at adjoining petrochemical plants are included in the "Other" column, regardless of type of energy. Those inputs and feedstocks that were converted to other energy products (e.g., crude oil converted to residual and distillate fuel oils) are excluded. See Appendix B for more information.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of energy as feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials such as wastepaper and packing materials. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
Total United States										
	RSE Column Factors:	0.7	2.1	1.0	0.9	0.9	1.2	0.9	0.8	
20	Food and Kindred Products	3	0	*	W	*	0	W	1	19.3
2011	Meat Packing Plants	*	0	0	*	*	0	0	*	30.3
2033	Canned Fruits and Vegetables	*	0	*	*	*	0	0	0	41.3
2037	Frozen Fruits and Vegetables	*	0	0	0	*	0	0	*	49.6
2046	Wet Corn Milling	*	0	*	0	0	0	0	*	28.7
2051	Bread, Cake, and Related Products	*	0	0	*	*	0	0	*	31.5
2063	Beet Sugar	*	0	0	0	0	0	W	*	18.7
2075	Soybean Oil Mills	1	0	*	1	*	0	0	*	8.2
2082	Malt Beverages	*	0	0	0	0	0	0	*	31.7
21	Tobacco Products	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	*	0	*	*	*	0	0	*	32.7
23	Apparel and Other Textile Products	*	0	*	0	*	0	0	*	62.6
24	Lumber and Wood Products	27	0	Q	*	*	0	0	25	44.3
25	Furniture and Fixtures	Q	0	0	*	0	0	0	Q	NF
26	Paper and Allied Products	35	0	*	W	W	*	0	W	15.8
2611	Pulp Mills	*	0	*	0	0	0	0	*	36.2
2621	Paper Mills	8	0	*	*	*	0	0	7	6.5
2631	Paperboard Mills	27	0	W	W	W	0	0	26	14.6
27	Printing and Publishing	*	0	Q	*	Q	0	0	*	59.1
28	Chemicals and Allied Products	2,358	W	Q	558	W	W	7	259	8.5
2812	Alkalies and Chlorine	1	0	0	*	0	0	0	1	31.5
2813	Industrial Gases	W	0	0	W	W	0	0	W	18.0
2819	Industrial Inorganic Chemicals, nec	20	W	W	W	*	W	6	4	15.9
2821	Plastics Materials and Resins	357	0	*	66	W	0	0	W	8.5
2822	Synthetic Rubber	W	0	*	W	15	0	0	*	23.4
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	W	0	0	W	W	W	0	*	6.9
2865	Cyclic Crudes and Intermediates	98	0	*	9	75	*	0	14	17.4
2869	Industrial Organic Chemicals, nec	1,345	0	0	W	W	0	0	192	6.6
2873	Nitrogenous Fertilizers	290	0	0	289	*	0	0	*	26.4
2874	Phosphatic Fertilizers	31	0	W	W	0	0	0	W	3.5
29	Petroleum and Coal Products	3,004	0	*	*	W	W	0	W	3.5
2911	Petroleum Refining ^e	2,868	0	0	0	0	0	0	2,868	1.4
30	Rubber and Misc. Plastics Products	3	0	*	*	Q	Q	0	2	26.4
3011	Tires and Inner Tubes	W	0	0	*	0	W	0	W	5.4
308	Miscellaneous Plastics Products, nec	1	0	Q	*	Q	0	0	1	44.6
31	Leather and Leather Products	*	*	*	0	*	0	0	*	40.5
32	Stone, Clay and Glass Products	3	Q	1	1	W	Q	W	W	20.1
3211	Flat Glass	*	0	0	0	*	0	0	*	8.0
3221	Glass Containers	*	0	0	0	0	0	0	*	24.8
3229	Pressed and Blown Glass, nec.	W	0	0	W	W	0	0	*	13.8
3241	Cement, Hydraulic	*	0	*	*	0	0	0	*	32.5
3274	Lime	*	0	0	*	0	Q	W	*	31.9
3296	Mineral Wool	*	0	W	*	W	0	0	*	2.0
33	Primary Metal Industries	909	W	*	22	W	808	17	54	4.4
3312	Blast Furnaces and Steel Mills	838	W	W	21	*	799	6	W	7.6
3313	Electrometallurgical Products	12	0	0	*	0	W	W	W	9.9
3321	Gray and Ductile Iron Foundries	W	0	*	*	*	W	W	*	18.5
3331	Primary Copper	*	0	0	0	0	0	W	*	1.3
3334	Primary Aluminum	44	0	0	0	0	1	W	W	3.6
3339	Primary Nonferrous Metals, nec	10	0	0	0	W	W	W	W	1.6
3353	Aluminum Sheet, Plate, and Foil	*	0	*	0	*	0	0	*	2.7
34	Fabricated Metal Products	3	*	*	1	*	*	W	W	37.8
35	Industrial Machinery and Equipment	1	0	*	1	*	*	0	*	31.7
357	Computer and Office Equipment	*	0	0	0	*	0	0	*	45.4
36	Electronic and Other Electric Equipment	15	0	*	*	Q	W	W	13	30.5
37	Transportation Equipment	9	0	*	W	*	W	W	7	16.0
3711	Motor Vehicles and Car Bodies	2	0	*	*	*	W	0	W	7.3
3714	Motor Vehicle Parts and Accessories	1	0	Q	*	*	*	*	1	14.1
38	Instruments and Related Products	*	0	*	*	*	0	0	*	37.8
3841	Surgical and Medical Instruments	*	0	*	0	0	0	0	*	35.9
39	Misc. Manufacturing Industries	Q	0	Q	*	W	0	0	*	38.6
	Total	6,373	63	7	590	1,470	823	25	3,394	5.8

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
Northeast Census Region										
	RSE Column Factors:	0.8	NF	1.2	1.5	0.9	1.6	0.5	0.9	
20	Food and Kindred Products	*	0	0	0	0	0	0	*	47.0
2011	Meat Packing Plants	0	0	0	0	0	0	0	0	NF
2033	Canned Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	*	0	0	0	0	0	0	*	NF
2046	Wet Corn Milling	0	0	0	0	0	0	0	0	NF
2051	Bread, Cake, and Related Products	0	0	0	0	0	0	0	0	NF
2063	Beet Sugar	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	0	0	0	0	0	0	0	0	NF
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
22	Textile Mill Products	*	0	0	0	0	0	0	*	NF
23	Apparel and Other Textile Products	0	0	0	0	0	0	0	0	NF
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	47.7
25	Furniture and Fixtures	*	0	0	0	0	0	0	*	NF
26	Paper and Allied Products	W	0	*	0	0	0	0	W	11.0
2611	Pulp Mills	0	0	0	0	0	0	0	0	NF
2621	Paper Mills	*	0	W	0	0	0	0	*	7.3
2631	Paperboard Mills	W	0	*	0	0	0	0	W	14.1
27	Printing and Publishing	*	0	Q	*	*	0	0	*	NF
28	Chemicals and Allied Products	W	0	W	1	3	0	0	W	13.7
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	0	NF
2813	Industrial Gases	1	0	0	*	0	0	0	1	18.2
2819	Industrial Inorganic Chemicals, nec	*	0	0	*	*	0	0	*	16.7
2821	Plastics Materials and Resins	W	0	0	0	W	0	0	*	11.8
2822	Synthetic Rubber	0	0	0	0	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	0	*	*	*	0	0	*	21.2
2869	Industrial Organic Chemicals, nec	W	0	W	0	W	0	0	*	13.7
2873	Nitrogenous Fertilizers	1	0	0	*	0	0	0	0	44.4
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	285	0	Q	*	Q	W	0	285	3.2
2911	Petroleum Refining ^e	285	0	0	0	0	0	0	285	1.2
30	Rubber and Misc. Plastics Products	*	0	*	*	Q	0	0	*	23.0
3011	Tires and Inner Tubes	*	0	0	0	0	0	0	*	8.2
308	Miscellaneous Plastics Products, nec	*	0	Q	*	Q	0	0	*	34.1
31	Leather and Leather Products	*	0	*	0	*	0	0	*	38.2
32	Stone, Clay and Glass Products	*	0	*	*	Q	0	0	*	26.9
3211	Flat Glass	*	0	0	0	0	0	0	*	5.9
3221	Glass Containers	*	0	0	0	0	0	0	*	21.1
3229	Pressed and Blown Glass, nec.	*	0	0	*	0	0	0	*	11.6
3241	Cement, Hydraulic	*	0	0	0	0	0	0	*	30.5
3274	Lime	0	0	0	0	0	0	0	0	NF
3296	Mineral Wool	*	0	0	0	0	0	0	*	2.3
33	Primary Metal Industries	270	0	*	*	Q	W	W	W	10.7
3312	Blast Furnaces and Steel Mills	263	0	0	0	0	W	W	W	12.9
3313	Electrometallurgical Products	*	0	0	0	0	0	0	*	16.4
3321	Gray and Ductile Iron Foundries	*	0	*	0	0	0	*	*	46.5
3331	Primary Copper	*	0	0	0	0	0	*	0	1.5
3334	Primary Aluminum	W	0	0	0	0	W	0	W	3.8
3339	Primary Nonferrous Metals, nec	W	0	0	0	0	0	W	*	4.5
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	0	*	NF
34	Fabricated Metal Products	1	0	*	Q	Q	0	*	*	36.5
35	Industrial Machinery and Equipment	*	0	W	*	Q	0	0	*	21.8
357	Computer and Office Equipment	*	0	0	0	*	0	0	*	38.7
36	Electronic and Other Electric Equipment	1	0	*	*	Q	0	0	*	28.6
37	Transportation Equipment	*	0	W	*	W	0	0	*	17.4
3711	Motor Vehicles and Car Bodies	*	0	0	0	0	0	0	*	10.6
3714	Motor Vehicle Parts and Accessories	*	0	0	*	W	0	0	*	21.4
38	Instruments and Related Products	*	0	*	*	*	0	0	*	29.3
3841	Surgical and Medical Instruments	*	0	*	0	0	0	0	*	36.6
39	Misc. Manufacturing Industries	*	0	*	*	W	0	0	*	42.6
	Total	567	0	1	2	W	W	W	300	9.4

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
Midwest Census Region										
	RSE Column Factors:	0.8	1.5	1.0	1.0	1.1	0.9	1.0	0.8	
20	Food and Kindred Products	2	0	*	W	*	0	W	*	12.5
2011	Meat Packing Plants	*	0	0	*	*	0	0	*	26.9
2033	Canned Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2046	Wet Corn Milling	*	0	*	0	0	0	0	*	26.0
2051	Bread, Cake, and Related Products	*	0	0	*	0	0	0	0	28.3
2063	Beet Sugar	*	0	0	0	0	0	W	0	18.3
2075	Soybean Oil Mills	1	0	*	1	*	0	0	*	7.5
2082	Malt Beverages	0	0	0	0	0	0	0	0	NF
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
24	Lumber and Wood Products	3	0	Q	*	Q	0	0	Q	60.8
25	Furniture and Fixtures	*	0	0	*	0	0	0	*	35.6
26	Paper and Allied Products	W	0	Q	0	W	*	0	W	20.1
2611	Pulp Mills	0	0	0	0	0	0	0	0	NF
2621	Paper Mills	*	0	*	0	*	*	0	*	6.8
2631	Paperboard Mills	W	0	*	0	0	0	0	W	20.8
27	Printing and Publishing	*	0	0	*	Q	0	0	*	NF
28	Chemicals and Allied Products	141	0	Q	40	W	Q	0	W	12.1
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	0	NF
2813	Industrial Gases	*	0	0	*	0	0	0	*	21.9
2819	Industrial Inorganic Chemicals, nec	1	0	0	0	0	0	0	1	40.4
2821	Plastics Materials and Resins	W	0	W	0	W	0	0	*	12.3
2822	Synthetic Rubber	*	0	0	*	0	0	0	*	24.5
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	9	0	*	0	W	0	0	W	20.4
2869	Industrial Organic Chemicals, nec	W	0	W	W	W	0	0	1	11.3
2873	Nitrogenous Fertilizers	29	0	0	29	0	0	0	0	28.3
2874	Phosphatic Fertilizers	*	0	*	0	0	0	0	0	4.4
29	Petroleum and Coal Products	467	0	Q	*	0	0	0	467	4.9
2911	Petroleum Refining ^e	445	0	0	0	0	0	0	445	1.2
30	Rubber and Misc. Plastics Products	2	0	0	*	*	Q	0	1	24.4
3011	Tires and Inner Tubes	W	0	0	0	0	W	0	*	6.7
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	44.7
31	Leather and Leather Products	*	*	0	0	*	0	0	0	40.6
32	Stone, Clay and Glass Products	1	Q	Q	*	*	Q	*	*	27.9
3211	Flat Glass	*	0	0	0	*	0	0	*	5.8
3221	Glass Containers	*	0	0	0	0	0	0	*	22.0
3229	Pressed and Blown Glass, nec.	*	0	0	0	0	0	0	*	14.7
3241	Cement, Hydraulic	*	0	0	0	0	0	0	*	NF
3274	Lime	*	0	0	0	0	Q	0	*	57.6
3296	Mineral Wool	*	0	W	*	*	0	0	*	2.1
33	Primary Metal Industries	359	W	*	W	*	322	7	10	8.0
3312	Blast Furnaces and Steel Mills	W	W	W	W	*	W	4	1	8.5
3313	Electrometallurgical Products	7	0	0	*	0	W	W	W	12.0
3321	Gray and Ductile Iron Foundries	W	0	0	0	*	W	W	*	23.2
3331	Primary Copper	0	0	0	0	0	0	0	0	NF
3334	Primary Aluminum	W	0	0	0	0	W	0	W	6.4
3339	Primary Nonferrous Metals, nec	0	0	0	0	0	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	*	0	*	0	*	0	0	*	1.1
34	Fabricated Metal Products	1	0	W	*	Q	*	W	Q	37.3
35	Industrial Machinery and Equipment	1	0	W	*	W	*	0	*	34.4
357	Computer and Office Equipment	0	0	0	0	0	0	0	0	NF
36	Electronic and Other Electric Equipment	Q	0	0	*	Q	0	0	Q	32.5
37	Transportation Equipment	W	0	*	*	*	W	W	W	9.9
3711	Motor Vehicles and Car Bodies	1	0	W	*	*	W	0	W	8.4
3714	Motor Vehicle Parts and Accessories	*	0	Q	*	W	0	0	*	10.8
38	Instruments and Related Products	*	0	0	0	0	0	0	*	42.9
3841	Surgical and Medical Instruments	*	0	0	0	0	0	0	*	NF
39	Misc. Manufacturing Industries	Q	0	*	*	Q	0	0	*	39.6
	Total	983	W	Q	60	W	323	7	498	6.4

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
South Census Region										
	RSE Column Factors:	0.7	2.3	1.0	0.9	0.8	1.1	1.1	0.8	
20	Food and Kindred Products	1	0	0	1	*	0	0	*	38.1
2011	Meat Packing Plants	*	0	0	0	0	0	0	*	37.4
2033	Canned Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	0	0	0	0	0	0	0	0	NF
2046	Wet Corn Milling	0	0	0	0	0	0	0	0	NF
2051	Bread, Cake, and Related Products	*	0	0	*	*	0	0	*	32.5
2063	Beet Sugar	*	0	0	0	0	0	0	*	22.1
2075	Soybean Oil Mills	*	0	0	*	0	0	0	*	11.1
2082	Malt Beverages	*	0	0	0	0	0	0	*	31.8
21	Tobacco Products	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	*	0	*	*	*	0	0	*	34.7
23	Apparel and Other Textile Products	*	0	*	0	0	0	0	*	56.1
24	Lumber and Wood Products	Q	0	Q	0	*	0	0	Q	62.5
25	Furniture and Fixtures	Q	0	0	0	0	0	0	Q	NF
26	Paper and Allied Products	5	0	*	W	*	0	0	W	10.9
2611	Pulp Mills	0	0	0	0	0	0	0	0	NF
2621	Paper Mills	W	0	W	0	0	0	0	W	7.4
2631	Paperboard Mills	W	0	W	W	*	0	0	*	18.1
27	Printing and Publishing	*	0	0	0	0	0	0	*	NF
28	Chemicals and Allied Products	2,164	W	*	476	1,373	W	W	244	8.7
2812	Alkalies and Chlorine	1	0	0	*	0	0	0	1	33.4
2813	Industrial Gases	W	0	0	W	W	0	0	W	21.0
2819	Industrial Inorganic Chemicals, nec	W	W	W	W	*	W	W	3	18.7
2821	Plastics Materials and Resins	W	0	W	66	209	0	0	W	9.4
2822	Synthetic Rubber	W	0	*	W	15	0	0	*	24.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	W	0	0	W	W	W	0	*	7.4
2865	Cyclic Crudes and Intermediates	88	0	*	9	W	*	0	W	20.5
2869	Industrial Organic Chemicals, nec	W	0	W	W	W	0	0	191	7.1
2873	Nitrogenous Fertilizers	224	0	0	224	*	0	0	*	38.3
2874	Phosphatic Fertilizers	W	0	W	W	0	0	0	W	4.1
29	Petroleum and Coal Products	1,853	0	W	0	W	0	0	1,853	2.8
2911	Petroleum Refining ^e	1,786	0	0	0	0	0	0	1,786	1.4
30	Rubber and Misc. Products	1	0	*	*	Q	0	0	1	22.8
3011	Tires and Inner Tubes	W	0	0	*	0	0	0	W	6.2
308	Miscellaneous Plastics Products, nec	*	0	*	*	Q	0	0	*	29.9
31	Leather and Leather Products	*	0	0	0	0	0	0	*	52.1
32	Stone, Clay and Glass Products	2	Q	*	1	W	*	W	*	21.8
3211	Flat Glass	*	0	0	0	*	0	0	*	10.5
3221	Glass Containers	0	0	0	0	0	0	0	0	NF
3229	Pressed and Blown Glass, nec.	W	0	0	W	W	0	0	*	16.4
3241	Cement, Hydraulic	*	0	*	0	0	0	0	*	30.1
3274	Lime	*	0	0	*	0	0	W	*	26.3
3296	Mineral Wool	*	0	0	0	0	0	0	*	2.8
33	Primary Metal Industries	219	0	W	W	W	191	5	12	5.5
3312	Blast Furnaces and Steel Mills	194	0	W	W	0	W	W	W	9.2
3313	Electrometallurgical Products	5	0	0	0	0	W	W	*	12.8
3321	Gray and Ductile Iron Foundries	*	0	*	*	*	0	W	*	21.2
3331	Primary Copper	0	0	0	0	0	0	0	0	NF
3334	Primary Aluminum	12	0	0	0	0	W	W	W	4.9
3339	Primary Nonferrous Metals, nec	W	0	0	0	W	W	0	W	2.1
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	0	*	1.4
34	Fabricated Metal Products	*	*	Q	*	Q	0	0	*	69.4
35	Industrial Machinery and Equipment	1	0	*	*	*	0	0	*	43.3
357	Computer and Office Equipment	*	0	0	0	0	0	0	*	45.7
36	Electronic and Other Electric Equipment	13	0	*	*	*	W	W	12	30.3
37	Transportation Equipment	6	0	*	*	Q	*	*	6	15.2
3711	Motor Vehicles and Car Bodies	1	0	*	0	0	0	0	1	6.5
3714	Motor Vehicle Parts and Accessories	*	0	*	*	0	*	*	*	15.3
38	Instruments and Related Products	*	0	0	0	0	0	0	*	73.9
3841	Surgical and Medical Instruments	0	0	0	0	0	0	0	0	NF
39	Misc. Manufacturing Industries	*	0	Q	0	*	0	0	*	48.0
	Total	4,271	W	3	486	W	198	9	2,137	6.9

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
West Census Region										
	RSE Column Factors:	0.9	NF	1.0	1.2	0.9	1.3	0.9	0.8	
20	Food and Kindred Products	*	0	*	*	*	0	0	*	29.2
2011	Meat Packing Plants	0	0	0	0	0	0	0	0	NF
2033	Canned Fruits and Vegetables	*	0	*	*	*	0	0	0	35.8
2037	Frozen Fruits and Vegetables	*	0	0	0	*	0	0	0	40.0
2046	Wet Corn Milling	0	0	0	0	0	0	0	0	NF
2051	Bread, Cake, and Related Products	0	0	0	0	0	0	0	0	NF
2063	Beet Sugar	*	0	0	0	0	0	0	*	15.3
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	0	0	0	0	0	0	0	0	NF
21	Tobacco Products	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	0	0	0	0	0	0	0	0	NF
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NF
24	Lumber and Wood Products	20	0	Q	*	0	0	0	19	43.5
25	Furniture and Fixtures	0	0	0	0	0	0	0	0	NF
26	Paper and Allied Products	W	0	*	*	W	0	0	W	15.3
2611	Pulp Mills	*	0	*	0	0	0	0	*	31.8
2621	Paper Mills	W	0	0	*	0	0	0	W	8.1
2631	Paperboard Mills	W	0	W	*	W	0	0	W	16.4
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NF
28	Chemicals and Allied Products	W	0	W	41	W	0	W	W	21.6
2812	Alkalies and Chlorine	*	0	0	0	0	0	0	*	22.3
2813	Industrial Gases	W	0	0	W	W	0	0	0	15.5
2819	Industrial Inorganic Chemicals, nec	W	0	W	*	0	0	W	*	16.3
2821	Plastics Materials and Resins	0	0	0	0	0	0	0	0	NF
2822	Synthetic Rubber	0	0	0	0	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	0	0	0	0	0	NF
2869	Industrial Organic Chemicals, nec	0	0	0	0	0	0	0	0	NF
2873	Nitrogenous Fertilizers	37	0	0	36	0	0	0	*	43.4
2874	Phosphatic Fertilizers	W	0	0	W	0	0	0	W	4.2
29	Petroleum and Coal Products	398	0	0	*	0	W	0	W	8.9
2911	Petroleum Refining ^e	352	0	0	0	0	0	0	352	1.2
30	Rubber and Misc. Plastics Products	*	0	*	*	0	0	0	*	6.0
3011	Tires and Inner Tubes	*	0	0	*	0	0	0	0	6.8
308	Miscellaneous Plastics Products, nec	*	0	0	0	0	0	0	*	NF
31	Leather and Leather Products	0	0	0	0	0	0	0	0	NF
32	Stone, Clay and Glass Products	*	0	Q	*	*	0	0	*	12.4
3211	Flat Glass	*	0	0	0	0	0	0	*	7.1
3221	Glass Containers	0	0	0	0	0	0	0	0	NF
3229	Pressed and Blown Glass, nec.	0	0	0	0	0	0	0	0	NF
3241	Cement, Hydraulic	*	0	0	*	0	0	0	*	NF
3274	Lime	0	0	0	0	0	0	0	0	NF
3296	Mineral Wool	*	0	W	0	*	0	0	*	2.2
33	Primary Metal Industries	61	0	W	*	Q	W	W	W	6.5
3312	Blast Furnaces and Steel Mills	W	0	W	0	0	W	W	*	10.5
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	0	0	0	0	0	0	0	0	NF
3331	Primary Copper	*	0	0	0	0	0	W	*	1.1
3334	Primary Aluminum	22	0	0	0	0	*	0	22	3.3
3339	Primary Nonferrous Metals, nec	W	0	0	0	W	W	0	*	1.0
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	0	*	1.2
34	Fabricated Metal Products	*	0	*	0	Q	0	0	*	NF
35	Industrial Machinery and Equipment	*	0	*	0	*	0	0	*	38.2
357	Computer and Office Equipment	*	0	0	0	0	0	0	*	38.8
36	Electronic and Other Electric Equipment	*	0	0	0	0	0	0	*	35.3

See footnotes at end of table.

Table A3. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
RSE Column Factors:		0.9	NF	1.0	1.2	0.9	1.3	0.9	0.8	
37	Transportation Equipment	W	0	W	*	Q	0	0	W	21.9
3711	Motor Vehicles and Car Bodies	*	0	W	0	0	0	0	0	10.2
3714	Motor Vehicle Parts and Accessories	*	0	0	*	0	0	0	*	NF
38	Instruments and Related Products	*	0	0	0	*	0	0	*	37.8
3841	Surgical and Medical Instruments	*	0	0	0	0	0	0	*	NF
39	Misc. Manufacturing Industries	*	0	0	0	0	0	0	*	NF
	Total	552	0	*	42	*	W	W	458	12.9

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" includes energy that respondents indicated was used as feedstock/raw material inputs. See also Footnote "e".

^e For the petroleum refining industry only, the feedstocks and raw material inputs for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents) and feedstock consumption at adjoining petrochemical plants are included in the "Other" column, regardless of type of energy. Those inputs and feedstocks that were converted to other energy products (e.g., crude oil converted to residual and distillate fuel oils) are excluded. See Appendix B for more information.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of energy as feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials such as wastepaper and packing materials. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Total United States											
RSE Column Factors:		0.6	0.6	1.3	1.3	0.7	1.2	1.2	1.6	1.2	
20	Food and Kindred Products	953	49,536	4,317	2,966	497	1,429	6,913	W	W	7.2
2011	Meat Packing Plants	49	3,410	170	252	31	157	27	0	2	9.8
2033	Canned Fruits and Vegetables	44	1,375	290	131	35	124	Q	0	*	10.4
2037	Frozen Fruits and Vegetables	40	3,071	321	76	25	41	0	0	1	14.7
2046	Wet Corn Milling	140	4,054	29	30	51	1	3,051	W	W	11.7
2051	Bread, Cake, and Related Products	32	2,240	*	131	22	23	0	0	*	12.4
2063	Beet Sugar	67	386	W	30	18	5	1,901	W	*	5.5
2075	Soybean Oil Mills	50	1,616	42	31	24	5	592	0	7	3.5
2082	Malt Beverages	50	2,328	419	58	22	8	706	0	1	10.7
21	Tobacco Products	24	1,002	135	40	4	23	692	0	*	6.7
22	Textile Mill Products	273	29,532	1,966	1,064	105	629	1,362	0	13	7.2
23	Apparel and Other Textile Products	44	5,645	Q	142	18	158	88	0	1	17.9
24	Lumber and Wood Products	423	17,878	333	2,373	39	1,000	92	0	300	14.3
25	Furniture and Fixtures	67	4,915	184	162	18	255	157	0	25	20.3
26	Paper and Allied Products	2,472	58,896	24,883	1,566	532	W	13,252	W	1,257	4.3
2611	Pulp Mills	300	2,537	4,500	155	32	141	331	0	221	14.3
2621	Paper Mills	1,204	32,735	13,455	W	252	613	8,634	W	548	3.0
2631	Paperboard Mills	832	10,396	W	207	180	93	W	0	480	4.6
27	Printing and Publishing	108	15,629	50	312	47	179	0	0	4	12.8
28	Chemicals and Allied Products	3,040	129,093	7,573	2,083	1,620	1,263	11,345	132	611	5.2
2812	Alkalies and Chlorine	160	10,718	W	43	W	2	W	0	21	15.7
2813	Industrial Gases	91	17,854	0	7	24	Q	0	0	5	12.2
2819	Industrial Inorganic Chemicals, nec	311	37,077	691	456	136	75	743	122	17	8.4
2821	Plastics Materials and Resins	288	14,780	668	231	146	54	1,074	0	57	5.6
2822	Synthetic Rubber	112	1,794	64	18	43	10	W	0	W	14.0
2823	Cellulosic Manmade Fibers	31	W	0	21	W	1	1,202	0	*	27.3
2824	Organic Fibers, Noncellulosic	98	6,976	W	53	W	38	1,558	0	W	3.9
2865	Cyclic Crudes and Intermediates	159	4,423	1,299	136	94	79	W	0	W	11.8
2869	Industrial Organic Chemicals, nec	1,191	15,104	1,747	439	625	825	3,819	0	394	7.6
2873	Nitrogenous Fertilizers	280	2,911	0	26	258	43	0	0	4	21.7
2874	Phosphatic Fertilizers	34	1,886	250	150	18	1	W	0	W	5.7
29	Petroleum and Coal Products	2,987	30,782	13,862	3,599	813	16,528	W	W	1,869	4.6
2911	Petroleum Refining	2,893	29,152	10,292	1,525	769	15,889	134	0	1,864	3.5
30	Rubber and Misc. Plastics Products	237	33,908	1,253	508	93	786	295	0	5	10.3
3011	Tires and Inner Tubes	42	4,037	506	68	21	79	75	0	1	3.6
308	Miscellaneous Plastics Products, nec	152	25,594	413	W	51	396	130	0	W	14.5
31	Leather and Leather Products	12	795	225	220	5	44	Q	0	1	25.2
32	Stone, Clay and Glass Products	894	30,814	1,345	3,312	369	577	13,127	374	76	7.6
3211	Flat Glass	49	1,503	W	12	40	40	*	0	W	3.4
3221	Glass Containers	85	4,098	276	23	67	82	0	0	*	5.4
3229	Pressed and Blown Glass, nec.	W	2,862	81	38	W	31	0	0	*	8.3
3241	Cement, Hydraulic	329	9,455	138	616	38	12	8,736	232	52	11.2
3274	Lime	117	1,324	W	240	8	Q	3,926	W	13	29.4
3296	Mineral Wool	41	2,821	W	12	28	41	*	W	*	1.5
33	Primary Metal Industries	2,292	146,276	5,285	1,806	666	888	2,054	22,695	451	4.3
3312	Blast Furnaces and Steel Mills	1,569	38,183	4,986	901	387	74	1,075	21,690	440	3.9
3313	Electrometallurgical Products	31	4,222	0	20	1	W	W	W	W	8.7
3321	Gray and Ductile Iron Foundries	74	6,412	4	144	28	105	5	859	1	11.4
3331	Primary Copper	22	1,246	W	W	15	3	W	0	1	1.1
3334	Primary Aluminum	252	67,317	*	127	20	42	0	0	1	3.3
3339	Primary Nonferrous Metals, nec	42	4,312	1	53	16	19	W	W	W	1.7
3353	Aluminum Sheet, Plate, and Foil	60	4,261	0	67	41	62	W	0	W	1.4
34	Fabricated Metal Products	305	29,772	501	994	169	1,122	245	W	W	11.4
35	Industrial Machinery and Equipment	235	29,484	490	718	106	651	480	24	5	11.5
357	Computer and Office Equipment	21	4,389	11	16	5	4	0	0	*	15.9
36	Electronic and Other Electric Equipment	196	29,996	612	416	76	396	W	2	W	10.2
37	Transportation Equipment	333	34,721	1,865	1,214	129	526	1,464	40	27	4.9
3711	Motor Vehicles and Car Bodies	105	7,705	408	65	44	59	W	W	18	3.8
3714	Motor Vehicle Parts and Accessories	99	10,888	60	104	40	168	W	W	W	7.1
38	Instruments and Related Products	98	12,367	536	W	25	Q	W	0	W	13.4
3841	Surgical and Medical Instruments	6	1,161	9	30	2	8	0	0	*	15.4
39	Misc. Manufacturing Industries	31	3,661	115	W	14	W	32	0	W	15.4
	Total	15,027	694,702	65,837	23,885	5,345	27,970	53,035	23,520	4,726	2.8

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Northeast Census Region											
RSE Column Factors:		0.7	0.7	1.0	1.2	0.8	1.2	1.3	1.3	1.1	
20	Food and Kindred Products	79	5,385	1,164	889	40	222	99	0	3	13.8
2011	Meat Packing Plants	1	141	W	34	1	Q	0	0	*	23.8
2033	Canned Fruits and Vegetables	6	292	146	22	4	13	Q	0	*	17.2
2037	Frozen Fruits and Vegetables	1	140	128	3	*	Q	0	0	*	32.8
2046	Wet Corn Milling	*	15	W	W	*	*	0	0	*	23.6
2051	Bread, Cake, and Related Products	7	382	*	W	W	8	0	0	*	17.9
2063	Beet Sugar	0	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	8	496	W	9	3	4	W	0	*	16.4
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.3
22	Textile Mill Products	27	1,340	774	556	10	163	17	0	3	19.5
23	Apparel and Other Textile Products	5	497	44	49	2	Q	0	0	*	29.7
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.8
25	Furniture and Fixtures	7	449	Q	49	2	60	0	0	2	30.2
26	Paper and Allied Products	W	8,054	11,439	624	36	W	W	0	W	6.1
2611	Pulp Mills	12	158	290	7	0	13	0	0	9	36.7
2621	Paper Mills	228	4,573	9,702	W	19	284	W	0	96	4.3
2631	Paperboard Mills	16	487	W	Q	6	5	W	0	1	15.4
27	Printing and Publishing	23	3,167	36	234	9	30	0	0	1	25.5
28	Chemicals and Allied Products	135	9,303	3,072	W	57	101	W	0	15	9.0
2812	Alkalies and Chlorine	*	W	0	0	*	0	0	0	0	36.5
2813	Industrial Gases	5	1,399	0	1	*	*	0	0	0	11.9
2819	Industrial Inorganic Chemicals, nec	10	494	255	78	6	14	0	0	*	22.7
2821	Plastics Materials and Resins	20	1,120	478	153	8	14	W	0	W	9.2
2822	Synthetic Rubber	W	W	W	*	W	*	0	0	*	26.0
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	*	95	Q	W	*	*	0	0	0	14.8
2865	Cyclic Crudes and Intermediates	12	406	W	W	7	2	W	0	1	21.0
2869	Industrial Organic Chemicals, nec	38	3,070	1,399	76	W	42	0	0	W	8.7
2873	Nitrogenous Fertilizers	*	29	0	3	*	1	0	0	*	46.4
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	238	2,632	7,726	1,376	29	852	145	0	136	9.3
2911	Petroleum Refining	199	2,093	4,275	W	24	459	W	0	136	5.3
30	Rubber and Misc. Plastics Products	37	5,480	456	202	W	Q	86	0	1	17.9
3011	Tires and Inner Tubes	2	125	63	Q	1	5	0	0	*	13.3
308	Miscellaneous Plastics Products, nec	28	4,807	251	W	7	127	W	0	W	23.6
31	Leather and Leather Products	4	205	142	196	1	28	Q	0	*	28.5
32	Stone, Clay and Glass Products	181	5,599	432	714	58	W	3,451	W	W	17.3
3211	Flat Glass	W	W	0	1	W	W	*	0	*	4.6
3221	Glass Containers	19	834	193	14	14	24	0	0	*	8.7
3229	Pressed and Blown Glass, nec.	W	W	80	W	W	8	0	0	*	10.3
3241	Cement, Hydraulic	54	1,334	14	W	*	1	1,482	W	14	17.8
3274	Lime	Q	Q	0	Q	*	Q	Q	0	*	NF
3296	Mineral Wool	4	304	0	W	W	W	*	W	*	1.7
33	Primary Metal Industries	358	18,002	852	324	102	307	W	W	W	8.0
3312	Blast Furnaces and Steel Mills	270	7,828	W	156	65	30	52	W	124	6.8
3313	Electrometallurgical Products	W	W	0	1	*	*	W	W	*	12.9
3321	Gray and Ductile Iron Foundries	5	350	0	13	2	18	1	67	*	16.5
3331	Primary Copper	*	W	0	W	*	*	0	0	*	1.1
3334	Primary Aluminum	W	W	*	W	W	W	0	0	*	5.5
3339	Primary Nonferrous Metals, nec	W	640	1	W	1	1	W	0	*	1.8
3353	Aluminum Sheet, Plate, and Foil	W	451	0	W	W	23	0	0	*	1.4
34	Fabricated Metal Products	56	5,074	368	366	31	153	9	37	1	15.5
35	Industrial Machinery and Equipment	41	5,202	408	352	15	176	0	0	2	19.1
357	Computer and Office Equipment	4	819	8	10	1	2	0	0	*	20.7
36	Electronic and Other Electric Equipment	42	6,544	504	291	14	162	4	2	*	16.2
37	Transportation Equipment	W	3,069	1,070	507	10	W	W	0	W	11.1
3711	Motor Vehicles and Car Bodies	W	W	W	W	1	1	0	0	*	7.8
3714	Motor Vehicle Parts and Accessories	8	887	W	6	W	10	W	0	*	11.8
38	Instruments and Related Products	52	4,032	513	W	W	Q	W	0	W	17.4
3841	Surgical and Medical Instruments	2	332	9	16	*	2	0	0	*	19.2
39	Misc. Manufacturing Industries	W	1,187	84	W	W	W	22	0	*	18.0
	Total	1,635	86,041	29,245	7,805	446	W	7,420	W	423	6.1

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Midwest Census Region											
RSE Column Factors:		0.6	0.6	1.5	1.3	0.7	1.2	1.1	1.4	1.0	
20	Food and Kindred Products	419	19,579	893	544	211	348	4,808	W	W	8.6
2011	Meat Packing Plants	33	2,065	150	37	22	13	27	0	1	9.3
2033	Canned Fruits and Vegetables	10	375	0	62	8	39	0	0	*	17.3
2037	Frozen Fruits and Vegetables	4	289	36	3	2	3	0	0	*	27.2
2046	Wet Corn Milling	122	3,192	W	26	45	*	2,729	W	W	13.5
2051	Bread, Cake, and Related Products	9	632	0	W	W	*	0	0	*	16.4
2063	Beet Sugar	34	212	W	10	6	2	1,084	W	*	6.6
2075	Soybean Oil Mills	36	1,081	8	7	15	W	W	0	W	4.4
2082	Malt Beverages	11	480	40	1	W	W	W	0	*	17.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.7
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.9
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.7
24	Lumber and Wood Products	57	2,834	Q	Q	11	196	66	0	32	27.3
25	Furniture and Fixtures	W	1,569	*	10	W	45	Q	0	Q	25.3
26	Paper and Allied Products	W	14,429	807	138	112	227	4,236	W	W	6.5
2611	Pulp Mills	28	298	0	14	3	Q	161	0	20	33.4
2621	Paper Mills	209	7,767	W	89	58	65	2,835	W	54	5.0
2631	Paperboard Mills	70	2,185	39	17	23	21	1,158	0	13	13.3
27	Printing and Publishing	43	5,224	10	31	22	59	0	0	2	17.9
28	Chemicals and Allied Products	398	33,802	W	W	181	W	2,822	11	29	10.1
2812	Alkalies and Chlorine	W	W	0	W	*	*	0	0	*	27.1
2813	Industrial Gases	W	W	0	Q	W	Q	0	0	*	13.6
2819	Industrial Inorganic Chemicals, nec	71	W	W	4	W	4	W	1	*	11.6
2821	Plastics Materials and Resins	58	3,234	W	13	24	3	W	0	W	8.5
2822	Synthetic Rubber	W	241	0	W	W	1	W	0	*	19.7
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	22	756	W	W	14	5	W	0	*	14.6
2869	Industrial Organic Chemicals, nec	71	1,774	10	26	33	4	1,140	0	6	8.2
2873	Nitrogenous Fertilizers	46	556	0	5	41	*	0	0	2	35.7
2874	Phosphatic Fertilizers	*	1	0	*	*	*	0	0	*	4.6
29	Petroleum and Coal Products	501	6,687	2,114	W	86	1,336	W	0	368	5.4
2911	Petroleum Refining	476	6,134	2,058	W	70	1,212	W	0	364	3.0
30	Rubber and Misc. Plastics Products	93	13,236	265	33	41	174	125	0	1	11.9
3011	Tires and Inner Tubes	W	W	186	*	6	W	W	0	*	4.1
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.4
31	Leather and Leather Products	4	262	58	5	2	11	0	0	*	25.9
32	Stone, Clay and Glass Products	252	8,201	64	602	105	122	3,411	84	34	10.1
3211	Flat Glass	13	W	0	W	11	W	0	0	*	4.1
3221	Glass Containers	20	873	0	1	17	13	0	0	*	7.6
3229	Pressed and Blown Glass, nec.	14	617	*	9	11	7	0	0	*	6.7
3241	Cement, Hydraulic	89	2,220	W	W	6	5	2,297	0	23	15.0
3274	Lime	34	367	0	65	3	1	925	W	W	18.6
3296	Mineral Wool	17	1,251	W	W	W	14	0	W	*	1.2
33	Primary Metal Industries	1,168	46,756	2,903	729	333	252	1,190	15,497	231	5.7
3312	Blast Furnaces and Steel Mills	917	17,191	2,899	W	218	25	W	14,932	226	5.2
3313	Electrometallurgical Products	19	2,268	0	13	1	W	W	*	W	11.3
3321	Gray and Ductile Iron Foundries	45	4,349	4	Q	W	37	W	W	1	11.7
3331	Primary Copper	*	W	0	0	*	*	0	0	0	1.3
3334	Primary Aluminum	W	W	0	W	3	W	0	0	*	5.1
3339	Primary Nonferrous Metals, nec	W	716	0	11	3	6	0	W	*	2.0
3353	Aluminum Sheet, Plate, and Foil	24	1,453	0	W	16	W	0	0	W	1.3
34	Fabricated Metal Products	139	12,889	7	173	79	489	236	W	W	15.0
35	Industrial Machinery and Equipment	115	12,535	39	226	56	W	479	Q	W	13.8
357	Computer and Office Equipment	5	820	0	1	2	1	0	0	*	24.0
36	Electronic and Other Electric Equipment	59	7,160	51	W	28	67	W	0	W	13.4
37	Transportation Equipment	171	16,053	394	272	72	210	1,212	40	9	6.1
3711	Motor Vehicles and Car Bodies	64	4,826	W	28	30	26	W	W	W	4.7
3714	Motor Vehicle Parts and Accessories	76	7,840	W	95	29	110	W	W	W	8.1
38	Instruments and Related Products	11	1,806	Q	Q	W	5	W	0	*	19.4
3841	Surgical and Medical Instruments	1	276	0	*	*	3	0	0	*	18.7
39	Misc. Manufacturing Industries	10	929	3	8	5	13	10	0	Q	22.0
	Total	3,833	205,102	8,134	3,885	1,363	3,877	18,828	15,789	829	3.7

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
South Census Region											
RSE Column Factors:		0.6	0.6	1.3	1.1	0.7	1.2	1.1	1.6	1.1	
20	Food and Kindred Products	254	15,937	1,572	859	130	623	766	W	Q	11.1
2011	Meat Packing Plants	10	892	14	167	5	112	0	0	*	16.9
2033	Canned Fruits and Vegetables	7	172	26	9	6	14	0	0	*	19.7
2037	Frozen Fruits and Vegetables	8	551	122	12	5	6	0	0	*	17.6
2046	Wet Corn Milling	W	755	0	2	4	*	322	0	W	22.8
2051	Bread, Cake, and Related Products	11	837	0	19	7	7	0	0	*	14.1
2063	Beet Sugar	W	W	0	1	W	*	0	W	*	16.8
2075	Soybean Oil Mills	15	535	34	24	8	W	W	0	W	4.9
2082	Malt Beverages	14	863	W	W	8	1	W	0	*	14.0
21	Tobacco Products	24	985	135	40	4	23	692	0	*	6.8
22	Textile Mill Products	235	27,431	1,192	506	87	455	1,344	0	10	6.5
23	Apparel and Other Textile Products	31	4,165	Q	71	12	124	83	0	*	22.7
24	Lumber and Wood Products	204	9,218	Q	W	15	332	26	0	150	19.6
25	Furniture and Fixtures	W	2,592	63	99	W	122	W	0	W	19.4
26	Paper and Allied Products	1,442	25,288	10,918	710	275	494	6,904	0	844	4.5
2611	Pulp Mills	219	1,249	3,367	116	21	120	171	0	167	17.2
2621	Paper Mills	606	13,863	2,801	355	122	149	3,910	0	325	3.4
2631	Paperboard Mills	575	5,650	4,660	152	111	41	2,786	0	349	5.4
27	Printing and Publishing	28	4,798	Q	35	10	47	0	0	1	21.1
28	Chemicals and Allied Products	2,368	75,072	4,003	1,051	1,297	W	8,078	W	561	6.2
2812	Alkalies and Chlorine	147	8,378	0	35	W	1	W	0	20	17.3
2813	Industrial Gases	51	8,633	0	1	16	1	0	0	5	11.6
2819	Industrial Inorganic Chemicals, nec	189	W	W	217	103	49	558	W	12	10.0
2821	Plastics Materials and Resins	207	10,213	W	65	113	34	W	0	38	5.5
2822	Synthetic Rubber	104	W	W	W	40	9	0	0	W	13.2
2823	Cellulosic Manmade Fibers	31	W	0	21	W	1	1,202	0	*	27.4
2824	Organic Fibers, Noncellulosic	98	6,881	W	W	W	38	1,558	0	W	3.9
2865	Cyclic Crudes and Intermediates	125	3,250	W	18	73	72	W	0	W	12.8
2869	Industrial Organic Chemicals, nec	1,076	10,242	338	Q	580	776	2,679	0	378	9.3
2873	Nitrogenous Fertilizers	192	1,865	0	14	178	*	0	0	2	25.7
2874	Phosphatic Fertilizers	29	1,441	250	142	15	1	W	0	W	3.2
29	Petroleum and Coal Products	1,626	13,878	2,084	W	573	2,545	W	W	961	4.9
2911	Petroleum Refining	1,608	13,395	2,021	W	561	2,450	W	0	961	3.3
30	Rubber and Misc. Plastics Products	88	12,327	532	241	35	240	61	0	3	12.8
3011	Tires and Inner Tubes	W	2,855	W	W	13	53	W	0	1	4.3
308	Miscellaneous Plastics Products, nec	48	7,801	156	W	16	111	W	0	Q	21.6
31	Leather and Leather Products	2	258	26	9	*	3	0	0	Q	25.1
32	Stone, Clay and Glass Products	323	11,866	174	1,373	155	W	3,899	W	W	11.4
3211	Flat Glass	22	771	0	7	19	9	0	0	*	4.1
3221	Glass Containers	29	1,262	W	W	W	23	0	0	*	8.3
3229	Pressed and Blown Glass, nec.	W	1,598	1	W	W	15	0	0	*	8.9
3241	Cement, Hydraulic	109	3,518	65	167	21	4	2,589	150	12	15.6
3274	Lime	37	405	0	70	W	*	1,155	0	W	23.0
3296	Mineral Wool	16	936	W	1	11	16	0	W	*	1.4
33	Primary Metal Industries	543	47,291	1,442	485	W	235	433	4,418	W	5.7
3312	Blast Furnaces and Steel Mills	317	10,744	1,437	W	W	15	W	4,137	W	6.1
3313	Electrometallurgical Products	W	W	0	7	*	0	W	0	1	12.8
3321	Gray and Ductile Iron Foundries	21	1,622	*	56	W	46	Q	W	*	11.7
3331	Primary Copper	W	200	W	5	W	1	0	0	*	1.1
3334	Primary Aluminum	93	24,240	0	W	W	9	0	0	*	4.1
3339	Primary Nonferrous Metals, nec	15	1,694	0	9	W	W	0	0	W	3.6
3353	Aluminum Sheet, Plate, and Foil	25	W	0	26	17	22	W	0	*	1.8
34	Fabricated Metal Products	81	8,886	Q	377	42	380	0	23	2	21.1
35	Industrial Machinery and Equipment	57	8,129	42	125	26	W	Q	Q	W	15.8
357	Computer and Office Equipment	4	800	3	Q	1	*	0	0	*	22.2
36	Electronic and Other Electric Equipment	67	10,742	58	44	26	153	76	0	*	13.9
37	Transportation Equipment	W	8,503	W	307	27	132	W	*	W	8.9
3711	Motor Vehicles and Car Bodies	35	2,362	73	19	12	28	W	0	W	5.3
3714	Motor Vehicle Parts and Accessories	13	1,919	*	2	W	41	W	0	*	13.8
38	Instruments and Related Products	17	3,285	Q	45	5	6	0	0	*	18.4
3841	Surgical and Medical Instruments	2	331	0	11	*	1	0	0	*	21.3
39	Misc. Manufacturing Industries	W	1,168	28	Q	W	25	0	0	W	23.4
	Total	7,507	291,819	23,114	8,014	2,896	W	22,514	W	2,693	3.3

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.0	0.8	1.1	1.1	1.3	1.2	
20	Food and Kindred Products	202	8,635	688	673	116	236	1,241	W	W	9.6
2011	Meat Packing Plants	5	311	W	14	3	Q	0	0	*	17.2
2033	Canned Fruits and Vegetables	20	537	119	38	16	58	0	0	*	12.2
2037	Frozen Fruits and Vegetables	26	2,091	Q	57	17	31	0	0	1	16.9
2046	Wet Corn Milling	W	93	0	W	2	*	0	0	W	20.1
2051	Bread, Cake, and Related Products	6	388	0	2	5	7	0	0	*	26.3
2063	Beet Sugar	W	W	W	19	W	3	817	51	*	8.5
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	17	489	W	W	W	W	W	0	*	16.5
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	6	274	0	2	4	Q	0	0	*	29.5
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.9
24	Lumber and Wood Products	147	5,017	131	1,158	10	348	0	0	111	20.0
25	Furniture and Fixtures	3	304	0	Q	1	28	0	0	*	32.7
26	Paper and Allied Products	389	11,126	1,718	95	108	228	W	0	W	6.2
2611	Pulp Mills	41	832	842	18	7	5	0	0	26	18.8
2621	Paper Mills	161	6,532	W	39	53	116	W	0	74	5.8
2631	Paperboard Mills	170	2,074	W	35	38	26	W	0	117	8.1
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.8
28	Chemicals and Allied Products	139	10,916	W	W	85	W	W	W	6	13.2
2812	Alkalies and Chlorine	W	W	W	W	4	*	0	0	1	19.6
2813	Industrial Gases	W	W	0	W	W	*	0	0	*	14.2
2819	Industrial Inorganic Chemicals, nec	41	3,961	W	157	W	Q	W	W	5	11.7
2821	Plastics Materials and Resins	3	212	0	*	2	2	0	0	*	17.0
2822	Synthetic Rubber	*	*	0	*	*	*	0	0	*	24.1
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	11	0	*	*	1	0	0	*	24.9
2869	Industrial Organic Chemicals, nec	5	Q	0	Q	W	Q	0	0	W	13.0
2873	Nitrogenous Fertilizers	42	461	0	3	39	42	0	0	*	39.0
2874	Phosphatic Fertilizers	5	444	0	7	Q	0	0	0	*	45.7
29	Petroleum and Coal Products	622	7,586	1,938	868	125	11,796	0	0	404	3.2
2911	Petroleum Refining	610	7,530	1,938	780	114	11,768	0	0	404	2.7
30	Rubber and Misc. Plastics Products	19	2,865	1	Q	W	W	Q	0	*	18.1
3011	Tires and Inner Tubes	*	W	W	W	*	W	0	0	*	7.1
308	Miscellaneous Plastics Products, nec	14	2,573	0	Q	5	37	0	0	*	22.0
31	Leather and Leather Products	Q	70	0	Q	Q	Q	0	0	*	42.7
32	Stone, Clay and Glass Products	137	5,147	674	623	51	123	2,367	51	5	14.8
3211	Flat Glass	W	148	W	W	W	W	0	0	*	4.5
3221	Glass Containers	18	1,129	W	W	W	22	0	0	*	9.3
3229	Pressed and Blown Glass, nec.	W	W	0	*	W	*	0	0	*	13.1
3241	Cement, Hydraulic	77	2,384	W	140	11	1	2,367	Q	3	21.0
3274	Lime	W	W	W	W	W	*	0	0	*	21.0
3296	Mineral Wool	3	330	0	*	W	W	0	W	*	2.1
33	Primary Metal Industries	224	34,227	87	268	W	94	W	W	W	6.1
3312	Blast Furnaces and Steel Mills	65	2,420	W	34	W	4	W	W	W	8.8
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	3	92	0	3	W	3	0	W	*	36.9
3331	Primary Copper	W	1,027	W	W	W	1	W	0	1	1.0
3334	Primary Aluminum	96	26,391	*	17	6	28	0	0	*	3.5
3339	Primary Nonferrous Metals, nec	11	1,263	0	W	W	W	0	W	*	1.0
3353	Aluminum Sheet, Plate, and Foil	W	W	0	W	W	W	0	0	*	1.1
34	Fabricated Metal Products	28	2,922	*	78	16	101	0	0	*	19.5
35	Industrial Machinery and Equipment	22	3,619	0	14	8	72	0	0	*	24.3
357	Computer and Office Equipment	9	1,950	0	*	2	Q	0	0	*	14.8
36	Electronic and Other Electric Equipment	29	5,550	0	Q	9	13	0	0	W	19.1

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.0	0.8	1.1	1.1	1.3	1.2	
37	Transportation Equipment	47	7,096	W	129	19	W	0	0	W	11.9
3711	Motor Vehicles and Car Bodies	W	W	0	W	1	3	0	0	*	6.8
3714	Motor Vehicle Parts and Accessories	3	243	Q	2	2	7	0	0	*	21.6
38	Instruments and Related Products	17	3,244	4	9	5	6	0	0	*	14.9
3841	Surgical and Medical Instruments	1	222	0	3	*	2	0	0	*	27.4
39	Misc. Manufacturing Industries	2	376	0	1	1	8	0	0	*	26.0
	Total	2,052	111,741	5,344	4,180	640	13,345	4,274	1,053	780	4.9

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
Total United States											
	RSE Column Factors:	0.6	0.6	1.3	1.3	0.7	1.2	1.2	1.6	1.2	
20	Food and Kindred Products	953	169	27	17	512	5	154	W	W	7.2
2011	Meat Packing Plants	49	12	1	1	32	1	1	0	2	9.8
2033	Canned Fruits and Vegetables	44	5	2	1	36	*	Q	0	*	10.4
2037	Frozen Fruits and Vegetables	40	10	2	*	26	*	0	0	1	14.7
2046	Wet Corn Milling	140	14	*	*	52	*	68	W	W	11.7
2051	Bread, Cake, and Related Products	32	8	*	1	23	*	0	0	*	12.4
2063	Beet Sugar	67	1	W	*	19	*	43	W	*	5.5
2075	Soybean Oil Mills	50	6	*	*	24	*	13	0	7	3.5
2082	Malt Beverages	50	8	3	*	23	*	16	0	1	10.7
21	Tobacco Products	24	3	1	*	4	*	15	0	*	6.7
22	Textile Mill Products	273	101	12	6	108	2	31	0	13	7.2
23	Apparel and Other Textile Products	44	19	Q	1	19	1	2	0	1	17.9
24	Lumber and Wood Products	423	61	2	14	41	4	2	0	300	14.3
25	Furniture and Fixtures	67	17	1	1	19	1	4	0	25	20.3
26	Paper and Allied Products	2,472	201	156	9	548	W	296	W	1,257	4.3
2611	Pulp Mills	300	9	28	1	32	1	7	0	221	14.3
2621	Paper Mills	1,204	112	85	W	260	2	193	W	548	3.0
2631	Paperboard Mills	832	35	W	1	185	*	W	0	480	4.6
27	Printing and Publishing	108	53	*	2	48	1	0	0	4	12.8
28	Chemicals and Allied Products	3,040	440	48	12	1,669	4	253	3	611	5.2
2812	Alkalies and Chlorine	160	37	W	*	W	*	W	0	21	15.7
2813	Industrial Gases	91	61	0	*	25	Q	0	0	5	12.2
2819	Industrial Inorganic Chemicals, nec	311	127	4	3	140	*	17	3	17	8.4
2821	Plastics Materials and Resins	288	50	4	1	151	*	24	0	57	5.6
2822	Synthetic Rubber	112	6	*	*	44	*	W	0	W	14.0
2823	Cellulosic Manmade Fibers	31	W	0	*	W	*	27	0	*	27.3
2824	Organic Fibers, Noncellulosic	98	24	W	*	W	*	35	0	W	3.9
2865	Cyclic Crudes and Intermediates	159	15	8	1	97	*	W	0	W	11.8
2869	Industrial Organic Chemicals, nec	1,191	52	11	3	644	3	85	0	394	7.6
2873	Nitrogenous Fertilizers	280	10	0	*	266	*	0	0	4	21.7
2874	Phosphatic Fertilizers	34	6	2	1	19	*	W	0	W	5.7
29	Petroleum and Coal Products	2,987	105	87	21	838	63	W	W	1,869	4.6
2911	Petroleum Refining	2,893	99	65	9	792	60	3	0	1,864	3.5
30	Rubber and Misc. Plastics Products	237	116	8	3	96	3	7	0	5	10.3
3011	Tires and Inner Tubes	42	14	3	*	21	*	2	0	1	3.6
308	Miscellaneous Plastics Products, nec	152	87	3	W	53	1	3	0	W	14.5
31	Leather and Leather Products	12	3	1	1	5	*	Q	0	1	25.2
32	Stone, Clay and Glass Products	894	105	8	19	380	2	293	9	76	7.6
3211	Flat Glass	49	5	W	*	42	*	*	0	W	3.4
3221	Glass Containers	85	14	2	*	69	*	0	0	*	5.4
3229	Pressed and Blown Glass, nec.	W	10	1	*	W	*	0	0	*	8.3
3241	Cement, Hydraulic	329	32	1	4	39	*	195	6	52	11.2
3274	Lime	117	5	W	1	8	Q	88	W	13	29.4
3296	Mineral Wool	41	10	W	*	29	*	*	W	*	1.5
33	Primary Metal Industries	2,292	499	33	11	686	3	46	563	451	4.3
3312	Blast Furnaces and Steel Mills	1,569	130	31	5	399	*	24	538	440	3.9
3313	Electrometallurgical Products	31	14	0	*	1	W	W	W	W	8.7
3321	Gray and Ductile Iron Foundries	74	22	*	1	28	*	*	21	1	11.4
3331	Primary Copper	22	4	W	W	15	*	W	0	1	1.1
3334	Primary Aluminum	252	230	*	1	21	*	0	0	1	3.3
3339	Primary Nonferrous Metals, nec.	42	15	*	*	17	*	W	W	W	1.7
3353	Aluminum Sheet, Plate, and Foil	60	15	0	*	43	*	W	0	W	1.4
34	Fabricated Metal Products	305	102	3	6	174	4	5	W	W	11.4
35	Industrial Machinery and Equipment	235	101	3	4	109	2	11	1	5	11.5
357	Computer and Office Equipment	21	15	*	*	6	*	0	0	*	15.9
36	Electronic and Other Electric Equipment	196	102	4	2	79	1	W	*	W	10.2
37	Transportation Equipment	333	118	12	7	132	2	33	1	27	4.9
3711	Motor Vehicles and Car Bodies	105	26	3	*	45	*	W	W	18	3.8
3714	Motor Vehicle Parts and Accessories	99	37	*	1	41	1	W	W	W	7.1
38	Instruments and Related Products	98	42	3	W	25	Q	W	0	W	13.4
3841	Surgical and Medical Instruments	6	4	*	*	2	*	0	0	*	15.4
39	Misc. Manufacturing Industries	31	12	1	W	15	W	1	0	W	15.4
	Total	15,027	2,370	414	139	5,506	105	1,184	583	4,726	2.8

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
Northeast Census Region											
RSE Column Factors:		0.7	0.7	1.0	1.2	0.8	1.2	1.3	1.3	1.1	
20	Food and Kindred Products	79	18	7	5	42	1	2	0	3	13.8
2011	Meat Packing Plants	1	*	W	*	1	Q	0	0	*	23.8
2033	Canned Fruits and Vegetables	6	1	1	*	4	*	Q	0	*	17.2
2037	Frozen Fruits and Vegetables	1	*	1	*	*	Q	0	0	*	32.8
2046	Wet Corn Milling	*	*	W	W	*	*	0	0	*	23.6
2051	Bread, Cake, and Related Products	7	1	*	W	W	*	0	0	*	17.9
2063	Beet Sugar	0	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	8	2	W	*	4	*	W	0	*	16.4
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.3
22	Textile Mill Products	27	5	5	3	11	1	*	0	3	19.5
23	Apparel and Other Textile Products	5	2	*	*	2	Q	0	0	*	29.7
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.8
25	Furniture and Fixtures	7	2	Q	*	2	*	0	0	2	30.2
26	Paper and Allied Products	W	27	72	4	37	W	W	0	W	6.1
2611	Pulp Mills	12	1	2	*	0	*	0	0	9	36.7
2621	Paper Mills	228	16	61	W	19	1	W	0	96	4.3
2631	Paperboard Mills	16	2	W	Q	6	*	W	0	1	15.4
27	Printing and Publishing	23	11	*	1	9	*	0	0	1	25.5
28	Chemicals and Allied Products	135	32	19	W	59	*	W	0	15	9.0
2812	Alkalies and Chlorine	*	W	0	0	*	0	0	0	0	36.5
2813	Industrial Gases	5	5	0	*	*	*	0	0	0	11.9
2819	Industrial Inorganic Chemicals, nec	10	2	2	*	6	*	0	0	*	22.7
2821	Plastics Materials and Resins	20	4	3	1	8	*	W	0	W	9.2
2822	Synthetic Rubber	W	W	W	*	W	*	0	0	*	26.0
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	*	*	Q	W	*	*	0	0	0	14.8
2865	Cyclic Crudes and Intermediates	12	1	W	W	7	*	W	0	1	21.0
2869	Industrial Organic Chemicals, nec	38	10	9	*	W	*	0	0	W	8.7
2873	Nitrogenous Fertilizers	*	*	0	*	*	*	0	0	*	46.4
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	238	9	49	8	30	3	3	0	136	9.3
2911	Petroleum Refining	199	7	27	W	25	2	W	0	136	5.3
30	Rubber and Misc. Plastics Products	37	19	3	1	W	Q	2	0	1	17.9
3011	Tires and Inner Tubes	2	*	*	Q	1	*	0	0	*	13.3
308	Miscellaneous Plastics Products, nec	28	16	2	W	7	*	W	0	W	23.6
31	Leather and Leather Products	4	1	1	1	1	*	Q	0	*	28.5
32	Stone, Clay and Glass Products	181	19	3	4	60	W	77	W	W	17.3
3211	Flat Glass	W	W	0	*	W	W	*	0	*	4.6
3221	Glass Containers	19	3	1	*	14	*	0	0	*	8.7
3229	Pressed and Blown Glass, nec.	W	W	1	W	W	*	0	0	*	10.3
3241	Cement, Hydraulic	54	5	*	W	*	*	33	W	14	17.8
3274	Lime	Q	Q	0	Q	*	Q	Q	0	*	NF
3296	Mineral Wool	4	1	0	W	W	W	*	W	*	1.7
33	Primary Metal Industries	358	61	5	2	105	1	W	W	W	8.0
3312	Blast Furnaces and Steel Mills	270	27	W	1	67	*	1	W	124	6.8
3313	Electrometallurgical Products	W	W	0	*	*	*	W	W	*	12.9
3321	Gray and Ductile Iron Foundries	5	1	0	*	2	*	*	2	*	16.5
3331	Primary Copper	*	W	0	W	*	*	0	0	*	1.1
3334	Primary Aluminum	W	W	*	W	W	W	0	0	*	5.5
3339	Primary Nonferrous Metals, nec	W	2	*	W	1	*	W	0	*	1.8
3353	Aluminum Sheet, Plate, and Foil	W	2	0	W	W	*	0	0	*	1.4
34	Fabricated Metal Products	56	17	2	2	32	1	*	1	1	15.5
35	Industrial Machinery and Equipment	41	18	3	2	16	1	0	0	2	19.1
357	Computer and Office Equipment	4	3	*	*	1	*	0	0	*	20.7
36	Electronic and Other Electric Equipment	42	22	3	2	14	1	*	*	*	16.2
37	Transportation Equipment	W	10	7	3	11	W	W	0	W	11.1
3711	Motor Vehicles and Car Bodies	W	W	W	W	1	*	0	0	*	7.8
3714	Motor Vehicle Parts and Accessories	8	3	W	*	W	*	W	0	*	11.8
38	Instruments and Related Products	52	14	3	W	W	Q	W	0	W	17.4
3841	Surgical and Medical Instruments	2	1	*	*	*	*	0	0	*	19.2
39	Misc. Manufacturing Industries	W	4	1	W	W	W	1	0	*	18.0
	Total	1,635	294	184	45	459	W	167	W	423	6.1

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
Midwest Census Region											
RSE Column Factors:		0.6	0.6	1.5	1.3	0.7	1.2	1.1	1.4	1.0	
20	Food and Kindred Products	419	67	6	3	217	1	107	W	W	8.6
2011	Meat Packing Plants	33	7	1	*	23	*	1	0	1	9.3
2033	Canned Fruits and Vegetables	10	1	0	*	9	*	0	0	*	17.3
2037	Frozen Fruits and Vegetables	4	1	*	*	2	*	0	0	*	27.2
2046	Wet Corn Milling	122	11	W	*	46	*	61	W	W	13.5
2051	Bread, Cake, and Related Products	9	2	0	W	W	*	0	0	*	16.4
2063	Beet Sugar	34	1	W	*	6	*	24	W	*	6.6
2075	Soybean Oil Mills	36	4	*	*	16	W	W	0	W	4.4
2082	Malt Beverages	11	2	*	*	W	W	W	0	*	17.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.7
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.9
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.7
24	Lumber and Wood Products	57	10	Q	Q	11	1	1	0	32	27.3
25	Furniture and Fixtures	W	5	*	*	W	*	Q	0	Q	25.3
26	Paper and Allied Products	W	49	5	1	116	1	94	W	W	6.5
2611	Pulp Mills	28	1	0	*	4	Q	4	0	20	33.4
2621	Paper Mills	209	27	W	1	59	*	63	W	54	5.0
2631	Paperboard Mills	70	7	*	*	24	*	26	0	13	13.3
27	Printing and Publishing	43	18	*	*	23	*	0	0	2	17.9
28	Chemicals and Allied Products	398	115	W	W	186	W	63	*	29	10.1
2812	Alkalies and Chlorine	W	W	0	W	*	*	0	0	*	27.1
2813	Industrial Gases	W	W	0	Q	W	Q	0	0	*	13.6
2819	Industrial Inorganic Chemicals, nec	71	W	W	*	W	*	W	*	*	11.6
2821	Plastics Materials and Resins	58	11	W	*	24	*	W	0	W	8.5
2822	Synthetic Rubber	W	1	0	W	W	*	W	0	*	19.7
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	22	3	W	W	14	*	W	0	*	14.6
2869	Industrial Organic Chemicals, nec	71	6	*	*	34	*	25	0	6	8.2
2873	Nitrogenous Fertilizers	46	2	0	*	42	*	0	0	2	35.7
2874	Phosphatic Fertilizers	*	*	0	*	*	*	0	0	*	4.6
29	Petroleum and Coal Products	501	23	13	W	88	5	W	0	368	5.4
2911	Petroleum Refining	476	21	13	W	73	5	W	0	364	3.0
30	Rubber and Misc. Plastics Products	93	45	2	*	42	1	3	0	1	11.9
3011	Tires and Inner Tubes	W	W	1	*	7	W	W	0	*	4.1
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.4
31	Leather and Leather Products	4	1	*	*	2	*	0	0	*	25.9
32	Stone, Clay and Glass Products	252	28	*	4	108	*	76	2	34	10.1
3211	Flat Glass	13	W	0	W	11	W	0	0	*	4.1
3221	Glass Containers	20	3	0	*	17	*	0	0	*	7.6
3229	Pressed and Blown Glass, nec.	14	2	*	*	12	*	0	0	*	6.7
3241	Cement, Hydraulic	89	8	W	W	6	*	51	0	23	15.0
3274	Lime	34	1	0	*	3	*	21	W	W	18.6
3296	Mineral Wool	17	4	W	W	W	*	0	W	*	1.2
33	Primary Metal Industries	1,168	160	18	4	343	1	27	384	231	5.7
3312	Blast Furnaces and Steel Mills	917	59	18	W	224	*	W	370	226	5.2
3313	Electrometallurgical Products	19	8	0	*	1	W	W	*	W	11.3
3321	Gray and Ductile Iron Foundries	45	15	*	Q	W	*	W	W	1	11.7
3331	Primary Copper	*	W	0	0	*	*	0	0	0	1.3
3334	Primary Aluminum	W	W	0	W	3	W	0	0	*	5.1
3339	Primary Nonferrous Metals, nec	W	2	0	*	3	*	0	W	*	2.0
3353	Aluminum Sheet, Plate, and Foil	24	5	0	W	17	W	0	0	W	1.3
34	Fabricated Metal Products	139	44	*	1	81	2	5	W	W	15.0
35	Industrial Machinery and Equipment	115	43	*	1	58	W	11	Q	W	13.8
357	Computer and Office Equipment	5	3	0	*	2	*	0	0	*	24.0
36	Electronic and Other Electric Equipment	59	24	*	W	29	*	W	0	W	13.4
37	Transportation Equipment	171	55	2	2	74	1	27	1	9	6.1
3711	Motor Vehicles and Car Bodies	64	16	W	*	31	*	W	W	W	4.7
3714	Motor Vehicle Parts and Accessories	76	27	W	1	30	*	W	W	W	8.1
38	Instruments and Related Products	11	6	Q	Q	W	*	W	0	*	19.4
3841	Surgical and Medical Instruments	1	1	0	*	*	*	0	0	*	18.7
39	Misc. Manufacturing Industries	10	3	*	*	5	*	*	0	Q	22.0
	Total	3,833	700	51	23	1,404	14	420	392	829	3.7

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
South Census Region											
	RSE Column Factors:	0.6	0.6	1.3	1.1	0.7	1.2	1.1	1.6	1.1	
20	Food and Kindred Products	254	54	10	5	134	2	17	W	Q	11.1
2011	Meat Packing Plants	10	3	*	1	5	*	0	0	*	16.9
2033	Canned Fruits and Vegetables	7	1	*	*	6	*	0	0	*	19.7
2037	Frozen Fruits and Vegetables	8	2	1	*	6	*	0	0	*	17.6
2046	Wet Corn Milling	W	3	0	*	5	*	7	0	W	22.8
2051	Bread, Cake, and Related Products	11	3	0	*	7	*	0	0	*	14.1
2063	Beet Sugar	W	W	0	*	W	*	0	W	*	16.8
2075	Soybean Oil Mills	15	2	*	*	9	W	W	0	W	4.9
2082	Malt Beverages	14	3	W	W	8	*	W	0	*	14.0
21	Tobacco Products	24	3	1	*	4	*	15	0	*	6.8
22	Textile Mill Products	235	94	7	3	89	2	30	0	10	6.5
23	Apparel and Other Textile Products	31	14	Q	*	12	*	2	0	*	22.7
24	Lumber and Wood Products	204	31	Q	W	15	1	1	0	150	19.6
25	Furniture and Fixtures	W	9	*	1	W	*	W	0	W	19.4
26	Paper and Allied Products	1,442	86	69	4	284	2	154	0	844	4.5
2611	Pulp Mills	219	4	21	1	22	*	4	0	167	17.2
2621	Paper Mills	606	47	18	2	126	1	87	0	325	3.4
2631	Paperboard Mills	575	19	29	1	115	*	62	0	349	5.4
27	Printing and Publishing	28	16	Q	*	10	*	0	0	1	21.1
28	Chemicals and Allied Products	2,368	256	25	6	1,335	W	180	W	561	6.2
2812	Alkalies and Chlorine	147	29	0	*	W	*	W	0	20	17.3
2813	Industrial Gases	51	29	0	*	17	*	0	0	5	11.6
2819	Industrial Inorganic Chemicals, nec	189	W	W	1	106	*	12	W	12	10.0
2821	Plastics Materials and Resins	207	35	W	*	117	*	W	0	38	5.5
2822	Synthetic Rubber	104	W	W	W	41	*	0	0	W	13.2
2823	Cellulosic Manmade Fibers	31	W	0	*	W	*	27	0	*	27.4
2824	Organic Fibers, Noncellulosic	98	23	W	W	W	*	35	0	W	3.9
2865	Cyclic Crudes and Intermediates	125	11	W	*	75	*	W	0	W	12.8
2869	Industrial Organic Chemicals, nec	1,076	35	2	Q	597	3	60	0	378	9.3
2873	Nitrogenous Fertilizers	192	6	0	*	183	*	0	0	2	25.7
2874	Phosphatic Fertilizers	29	5	2	1	16	*	W	0	W	3.2
29	Petroleum and Coal Products	1,626	47	13	W	591	9	W	W	961	4.9
2911	Petroleum Refining	1,608	46	13	W	578	8	W	0	961	3.3
30	Rubber and Misc. Plastics Products	88	42	3	1	36	1	0	0	3	12.8
3011	Tires and Inner Tubes	W	10	W	W	13	*	W	0	1	4.3
308	Miscellaneous Plastics Products, nec	48	27	1	W	16	*	W	0	Q	21.6
31	Leather and Leather Products	2	1	*	*	*	*	0	0	Q	25.1
32	Stone, Clay and Glass Products	323	40	1	8	160	W	87	W	W	11.4
3211	Flat Glass	22	3	0	*	20	*	0	0	*	4.1
3221	Glass Containers	29	4	W	W	W	*	0	0	*	8.3
3229	Pressed and Blown Glass, nec.	W	5	*	W	W	*	0	0	*	8.9
3241	Cement, Hydraulic	109	12	*	1	22	*	58	4	12	15.6
3274	Lime	37	1	0	*	W	*	26	0	W	23.0
3296	Mineral Wool	16	3	W	*	12	*	0	W	*	1.4
33	Primary Metal Industries	543	161	9	3	W	1	10	110	W	5.7
3312	Blast Furnaces and Steel Mills	317	37	9	W	W	*	W	103	W	6.1
3313	Electrometallurgical Products	W	W	0	*	*	0	W	0	1	12.8
3321	Gray and Ductile Iron Foundries	21	6	*	*	W	*	Q	W	*	11.7
3331	Primary Copper	W	1	W	*	W	*	0	0	*	1.1
3334	Primary Aluminum	93	83	0	W	W	*	0	0	*	4.1
3339	Primary Nonferrous Metals, nec	15	6	0	*	W	W	0	0	W	3.6
3353	Aluminum Sheet, Plate, and Foil	25	W	0	*	18	*	W	0	*	1.8
34	Fabricated Metal Products	81	30	Q	2	43	1	0	1	2	21.1
35	Industrial Machinery and Equipment	57	28	*	1	27	W	Q	Q	W	15.8
357	Computer and Office Equipment	4	3	*	Q	1	*	0	0	*	22.2
36	Electronic and Other Electric Equipment	67	37	*	*	27	1	2	0	*	13.9
37	Transportation Equipment	W	29	W	2	28	*	W	*	W	8.9
3711	Motor Vehicles and Car Bodies	35	8	*	*	12	*	W	0	W	5.3
3714	Motor Vehicle Parts and Accessories	13	7	*	*	W	*	W	0	*	13.8
38	Instruments and Related Products	17	11	Q	*	6	*	0	0	*	18.4
3841	Surgical and Medical Instruments	2	1	0	*	*	*	0	0	*	21.3
39	Misc. Manufacturing Industries	W	4	*	Q	W	*	0	0	W	23.4
	Total	7,507	996	145	47	2,983	W	502	W	2,693	3.3

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.0	0.8	1.1	1.1	1.3	1.2	
20	Food and Kindred Products	202	29	4	4	119	1	28	W	W	9.6
2011	Meat Packing Plants	5	1	W	*	3	Q	0	0	*	17.2
2033	Canned Fruits and Vegetables	20	2	1	*	17	*	0	0	*	12.2
2037	Frozen Fruits and Vegetables	26	7	Q	*	17	*	0	0	1	16.9
2046	Wet Corn Milling	W	*	0	W	2	*	0	0	W	20.1
2051	Bread, Cake, and Related Products	6	1	0	*	5	*	0	0	*	26.3
2063	Beet Sugar	W	W	W	*	W	*	18	1	*	8.5
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	17	2	W	W	W	W	W	0	*	16.5
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	6	1	0	*	5	Q	0	0	*	29.5
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.9
24	Lumber and Wood Products	147	17	1	7	10	1	0	0	111	20.0
25	Furniture and Fixtures	3	1	0	Q	1	*	0	0	*	32.7
26	Paper and Allied Products	389	38	11	1	111	1	W	0	W	6.2
2611	Pulp Mills	41	3	5	*	7	*	0	0	26	18.8
2621	Paper Mills	161	22	W	*	55	*	W	0	74	5.8
2631	Paperboard Mills	170	7	W	*	40	*	W	0	117	8.1
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.8
28	Chemicals and Allied Products	139	37	W	W	88	W	W	W	6	13.2
2812	Alkalies and Chlorine	W	W	W	W	4	*	0	0	1	19.6
2813	Industrial Gases	W	W	0	W	W	*	0	0	*	14.2
2819	Industrial Inorganic Chemicals, nec	41	14	W	1	W	Q	W	W	5	11.7
2821	Plastics Materials and Resins	3	1	0	*	2	*	0	0	*	17.0
2822	Synthetic Rubber	*	*	0	*	*	*	0	0	*	24.1
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	*	0	*	*	*	0	0	*	24.9
2869	Industrial Organic Chemicals, nec	5	Q	0	Q	W	Q	0	0	W	13.0
2873	Nitrogenous Fertilizers	42	2	0	*	40	*	0	0	*	39.0
2874	Phosphatic Fertilizers	5	2	0	*	Q	0	0	0	*	45.7
29	Petroleum and Coal Products	622	26	12	5	129	46	0	0	404	3.2
2911	Petroleum Refining	610	26	12	5	118	46	0	0	404	2.7
30	Rubber and Misc. Plastics Products	19	10	*	Q	W	W	Q	0	*	18.1
3011	Tires and Inner Tubes	*	W	W	W	*	W	0	0	*	7.1
308	Miscellaneous Plastics Products, nec	14	9	0	Q	5	*	0	0	*	22.0
31	Leather and Leather Products	Q	*	0	Q	Q	Q	0	0	*	42.7
32	Stone, Clay and Glass Products	137	18	4	4	53	*	53	1	5	14.8
3211	Flat Glass	W	1	W	W	W	W	0	0	*	4.5
3221	Glass Containers	18	4	W	W	W	*	0	0	*	9.3
3229	Pressed and Blown Glass, nec.	W	W	0	*	W	*	0	0	*	13.1
3241	Cement, Hydraulic	77	8	W	1	12	*	53	Q	3	21.0
3274	Lime	W	W	W	W	W	*	0	0	*	21.0
3296	Mineral Wool	3	1	0	*	W	W	0	W	*	2.1
33	Primary Metal Industries	224	117	1	2	W	*	W	W	W	6.1
3312	Blast Furnaces and Steel Mills	65	8	W	*	W	*	W	W	W	8.8
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	3	*	0	*	W	*	0	W	*	36.9
3331	Primary Copper	W	4	W	W	W	*	W	0	1	1.0
3334	Primary Aluminum	96	90	*	*	6	*	0	0	*	3.5
3339	Primary Nonferrous Metals, nec	11	4	0	W	W	W	0	W	*	1.0
3353	Aluminum Sheet, Plate, and Foil	W	W	0	W	W	W	0	0	*	1.1
34	Fabricated Metal Products	28	10	*	*	17	*	0	0	*	19.5
35	Industrial Machinery and Equipment	22	12	0	*	9	*	0	0	*	24.3
357	Computer and Office Equipment	9	7	0	*	2	Q	0	0	*	14.8
36	Electronic and Other Electric Equipment	29	19	0	Q	9	*	0	0	W	19.1

See footnotes at end of table.

Table A4. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.0	0.8	1.1	1.1	1.3	1.2	
37	Transportation Equipment	47	24	W	1	20	W	0	0	W	11.9
3711	Motor Vehicles and Car Bodies	W	W	0	W	1	*	0	0	*	6.8
3714	Motor Vehicle Parts and Accessories	3	1	Q	*	2	*	0	0	*	21.6
38	Instruments and Related Products	17	11	*	*	6	*	0	0	*	14.9
3841	Surgical and Medical Instruments	1	1	0	*	*	*	0	0	*	27.4
39	Misc. Manufacturing Industries	2	1	0	*	1	*	0	0	*	26.0
	Total	2,052	381	34	24	659	51	95	26	780	4.9

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Total United States											
RSE Column Factors:		0.6	0.6	1.3	1.3	0.7	1.2	1.2	1.6	1.2	
20	Food and Kindred Products	922	50,518	4,317	2,966	497	1,429	6,913	W	W	5.9
2011	Meat Packing Plants	48	3,410	170	252	31	157	27	0	1	10.2
2033	Canned Fruits and Vegetables	44	1,415	290	131	35	124	Q	0	*	9.1
2037	Frozen Fruits and Vegetables	40	3,097	321	76	25	41	0	0	1	14.9
2046	Wet Corn Milling	141	4,143	29	30	51	1	3,051	W	W	11.7
2051	Bread, Cake, and Related Products	32	2,240	*	131	22	23	0	0	*	12.7
2063	Beet Sugar	67	407	W	30	18	5	1,901	W	*	5.5
2075	Soybean Oil Mills	50	1,632	42	31	24	5	592	0	6	3.5
2082	Malt Beverages	50	2,371	419	58	22	8	706	0	*	11.1
21	Tobacco Products	26	1,468	135	40	4	23	692	0	*	6.4
22	Textile Mill Products	272	29,522	1,966	1,064	105	629	1,362	0	12	7.2
23	Apparel and Other Textile Products	44	5,645	Q	142	18	158	88	0	1	18.0
24	Lumber and Wood Products	197	19,575	333	2,373	39	1,000	92	0	68	14.9
25	Furniture and Fixtures	46	4,916	184	163	18	255	157	0	4	18.1
26	Paper and Allied Products	1,540	65,052	24,883	1,566	532	W	13,063	W	307	4.2
2611	Pulp Mills	103	2,877	4,500	155	32	141	331	0	24	14.9
2621	Paper Mills	774	36,317	13,455	W	252	613	8,634	W	106	2.9
2631	Paperboard Mills	527	12,611	W	207	180	93	W	0	171	4.7
27	Printing and Publishing	108	15,629	50	311	47	179	0	0	4	13.0
28	Chemicals and Allied Products	2,674	139,059	7,427	1,999	1,616	1,119	11,153	132	221	5.6
2812	Alkalies and Chlorine	159	12,629	W	43	W	2	W	0	W	16.1
2813	Industrial Gases	86	17,894	0	7	24	Q	0	0	*	12.0
2819	Industrial Inorganic Chemicals, nec	303	38,176	691	456	136	75	551	122	10	8.4
2821	Plastics Materials and Resins	262	15,027	668	187	146	54	1,074	0	31	5.9
2822	Synthetic Rubber	68	1,946	64	18	43	7	W	0	W	12.6
2823	Cellulosic Manmade Fibers	31	W	0	21	W	1	1,202	0	*	25.1
2824	Organic Fibers, Noncellulosic	97	6,976	W	53	W	38	1,558	0	*	3.7
2865	Cyclic Crudes and Intermediates	136	4,432	1,153	95	94	79	W	0	W	11.8
2869	Industrial Organic Chemicals, nec	935	20,143	1,747	439	622	684	3,819	0	124	8.0
2873	Nitrogenous Fertilizers	278	2,918	0	26	258	43	0	0	Q	22.5
2874	Phosphatic Fertilizers	36	2,419	250	150	18	1	W	0	W	5.5
29	Petroleum and Coal Products	1,138	33,480	3,814	2,900	806	6,874	W	W	123	5.4
2911	Petroleum Refining	1,065	31,562	3,695	826	762	6,235	134	0	118	3.5
30	Rubber and Misc. Plastics Products	235	33,913	1,253	508	93	786	295	0	3	9.6
3011	Tires and Inner Tubes	42	4,037	506	68	20	79	75	0	1	3.6
308	Miscellaneous Plastics Products, nec	150	25,597	413	W	51	396	130	0	W	13.9
31	Leather and Leather Products	12	795	225	220	5	44	Q	0	1	25.2
32	Stone, Clay and Glass Products	877	30,885	1,345	3,312	369	577	13,127	374	60	7.6
3211	Flat Glass	49	1,512	W	12	40	40	*	0	W	3.4
3221	Glass Containers	85	4,098	276	23	67	82	0	0	*	5.5
3229	Pressed and Blown Glass, nec.	W	2,862	81	38	W	31	0	0	*	8.1
3241	Cement, Hydraulic	312	9,490	138	616	38	12	8,736	232	35	11.0
3274	Lime	117	1,324	W	240	8	Q	3,926	W	13	29.4
3296	Mineral Wool	40	2,821	W	12	28	41	*	W	*	1.5
33	Primary Metal Industries	1,563	147,078	5,285	1,806	666	888	2,054	10,557	20	4.3
3312	Blast Furnaces and Steel Mills	842	39,480	4,986	901	387	74	1,075	9,553	10	4.3
3313	Electrometallurgical Products	30	3,796	0	20	1	W	W	W	W	8.7
3321	Gray and Ductile Iron Foundries	74	6,414	4	144	28	105	5	858	1	11.4
3331	Primary Copper	21	1,246	W	W	15	3	W	0	*	1.1
3334	Primary Aluminum	254	67,707	*	127	20	42	0	0	1	3.3
3339	Primary Nonferrous Metals, nec	40	3,784	1	53	16	19	W	W	*	2.1
3353	Aluminum Sheet, Plate, and Foil	60	4,261	0	67	41	62	W	0	W	1.4
34	Fabricated Metal Products	305	29,830	501	994	169	1,122	245	W	W	11.4
35	Industrial Machinery and Equipment	236	29,658	490	718	105	651	480	24	5	11.5
357	Computer and Office Equipment	21	4,398	11	16	5	4	0	0	*	15.9
36	Electronic and Other Electric Equipment	196	30,046	612	416	76	396	W	2	W	10.2
37	Transportation Equipment	318	35,401	1,865	1,214	127	526	1,464	40	12	5.1
3711	Motor Vehicles and Car Bodies	90	8,285	408	65	42	59	W	W	4	3.4
3714	Motor Vehicle Parts and Accessories	99	10,918	60	104	40	168	W	W	W	7.2
38	Instruments and Related Products	97	12,349	536	W	25	Q	W	0	W	13.7
3841	Surgical and Medical Instruments	6	1,161	9	30	2	8	0	0	*	15.4
39	Misc. Manufacturing Industries	31	3,661	115	W	14	W	32	0	W	14.6
	Total	10,837	718,480	55,643	23,102	5,332	18,171	52,653	11,382	884	3.1

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Northeast Census Region											
RSE Column Factors:		0.7	0.7	1.0	1.2	0.8	1.2	1.3	1.4	1.1	
20	Food and Kindred Products	79	5,443	1,164	889	40	222	99	0	3	13.9
2011	Meat Packing Plants	1	141	W	34	1	Q	0	0	*	24.4
2033	Canned Fruits and Vegetables	6	292	146	22	4	13	Q	0	*	17.1
2037	Frozen Fruits and Vegetables	1	140	128	3	*	Q	0	0	*	32.9
2046	Wet Corn Milling	*	15	W	W	*	*	0	0	*	23.6
2051	Bread, Cake, and Related Products	7	382	*	W	W	8	0	0	*	19.2
2063	Beet Sugar	0	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	8	521	W	9	3	4	W	0	*	16.4
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.3
22	Textile Mill Products	27	1,372	774	556	10	163	17	0	3	19.4
23	Apparel and Other Textile Products	5	497	44	49	2	Q	0	0	*	29.8
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.9
25	Furniture and Fixtures	5	449	Q	49	2	60	0	0	1	28.9
26	Paper and Allied Products	W	9,289	11,439	624	36	W	W	0	W	6.1
2611	Pulp Mills	5	Q	290	7	0	13	0	0	3	33.9
2621	Paper Mills	166	5,878	9,702	W	19	284	W	0	29	4.2
2631	Paperboard Mills	16	510	W	Q	6	5	W	0	1	15.5
27	Printing and Publishing	23	3,167	36	233	9	30	0	0	1	26.0
28	Chemicals and Allied Products	135	9,511	3,072	W	57	101	W	0	14	9.1
2812	Alkalies and Chlorine	*	W	0	0	*	0	0	0	0	36.9
2813	Industrial Gases	5	1,438	0	1	*	*	0	0	0	12.0
2819	Industrial Inorganic Chemicals, nec	10	494	255	78	6	14	0	0	*	22.7
2821	Plastics Materials and Resins	19	1,122	478	109	8	14	W	0	W	9.6
2822	Synthetic Rubber	W	W	W	*	W	*	0	0	*	26.1
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	*	95	Q	W	*	*	0	0	0	15.0
2865	Cyclic Crudes and Intermediates	12	406	W	W	7	2	W	0	1	21.1
2869	Industrial Organic Chemicals, nec	38	3,076	1,399	76	W	42	0	0	W	8.7
2873	Nitrogenous Fertilizers	*	29	0	3	*	1	0	0	*	47.8
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	74	3,054	1,535	1,308	28	603	145	0	11	12.0
2911	Petroleum Refining	57	2,515	1,535	W	24	210	W	0	11	5.7
30	Rubber and Misc. Plastics Products	37	5,484	456	202	W	Q	86	0	1	18.3
3011	Tires and Inner Tubes	2	125	63	Q	1	5	0	0	*	13.4
308	Miscellaneous Plastics Products, nec	28	4,810	251	W	7	127	W	0	W	24.2
31	Leather and Leather Products	4	205	142	196	1	28	Q	0	*	28.3
32	Stone, Clay and Glass Products	170	5,624	432	714	58	W	3,451	W	W	17.6
3211	Flat Glass	W	W	0	1	W	W	*	0	*	4.6
3221	Glass Containers	19	834	193	14	14	24	0	0	*	9.0
3229	Pressed and Blown Glass, nec.	W	W	80	W	W	8	0	0	*	10.3
3241	Cement, Hydraulic	43	1,334	14	W	*	1	1,482	W	W	18.1
3274	Lime	Q	Q	0	Q	*	Q	Q	0	*	NF
3296	Mineral Wool	4	304	0	W	W	W	*	W	*	1.7
33	Primary Metal Industries	200	17,771	852	324	102	307	W	W	W	9.0
3312	Blast Furnaces and Steel Mills	114	8,136	W	156	65	30	52	W	1	6.6
3313	Electrometallurgical Products	W	W	0	1	*	*	W	W	*	12.9
3321	Gray and Ductile Iron Foundries	5	350	0	13	2	18	1	66	*	16.5
3331	Primary Copper	*	W	0	W	*	*	0	0	*	1.1
3334	Primary Aluminum	W	W	*	W	W	W	0	0	*	5.5
3339	Primary Nonferrous Metals, nec	W	100	1	W	1	1	W	0	*	2.1
3353	Aluminum Sheet, Plate, and Foil	W	451	0	W	W	23	0	0	*	1.2
34	Fabricated Metal Products	56	5,074	368	366	31	153	9	37	1	15.6
35	Industrial Machinery and Equipment	41	5,213	408	352	15	176	0	0	2	19.2
357	Computer and Office Equipment	4	819	8	10	1	2	0	0	*	20.8
36	Electronic and Other Electric Equipment	42	6,555	504	291	14	162	4	2	*	16.2
37	Transportation Equipment	W	3,114	1,070	507	10	W	W	0	W	11.2
3711	Motor Vehicles and Car Bodies	W	W	W	W	1	1	0	0	*	7.8
3714	Motor Vehicle Parts and Accessories	8	887	W	6	W	10	W	0	*	11.9
38	Instruments and Related Products	52	4,015	513	W	W	Q	W	0	W	18.1
3841	Surgical and Medical Instruments	2	332	9	16	*	2	0	0	*	19.3
39	Misc. Manufacturing Industries	W	1,187	84	W	W	W	22	0	*	18.4
	Total	1,226	87,851	23,054	7,692	445	3,168	7,420	680	83	6.0

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Midwest Census Region											
RSE Column Factors:		0.6	0.6	1.5	1.2	0.7	1.2	1.1	1.4	1.1	
20	Food and Kindred Products	418	19,640	893	544	211	348	4,808	W	W	8.6
2011	Meat Packing Plants	32	2,065	150	37	22	13	27	0	1	9.5
2033	Canned Fruits and Vegetables	10	375	0	62	8	39	0	0	*	17.2
2037	Frozen Fruits and Vegetables	4	289	36	3	2	3	0	0	*	27.2
2046	Wet Corn Milling	122	3,199	W	26	45	*	2,729	W	W	13.2
2051	Bread, Cake, and Related Products	9	632	0	W	W	*	0	0	*	16.4
2063	Beet Sugar	34	234	W	10	6	2	1,084	W	*	6.6
2075	Soybean Oil Mills	35	1,093	8	7	15	W	W	0	W	4.4
2082	Malt Beverages	11	480	40	1	W	W	W	0	*	17.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.7
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.1
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.0
24	Lumber and Wood Products	29	2,834	Q	Q	11	196	66	0	5	29.7
25	Furniture and Fixtures	W	1,571	*	10	W	45	Q	0	*	21.6
26	Paper and Allied Products	W	14,520	807	138	112	227	4,048	W	W	6.2
2611	Pulp Mills	10	556	0	14	3	Q	161	0	1	33.9
2621	Paper Mills	172	7,730	W	89	58	65	2,835	W	17	5.1
2631	Paperboard Mills	63	2,059	39	17	23	21	969	0	10	13.4
27	Printing and Publishing	43	5,224	10	31	22	59	0	0	2	17.8
28	Chemicals and Allied Products	390	33,957	W	W	181	W	2,822	11	22	10.7
2812	Alkalies and Chlorine	W	W	0	W	*	*	0	0	*	27.1
2813	Industrial Gases	W	W	0	Q	W	Q	0	0	*	13.5
2819	Industrial Inorganic Chemicals, nec	71	W	W	4	W	4	W	1	*	11.5
2821	Plastics Materials and Resins	52	3,248	W	13	23	3	W	0	W	8.4
2822	Synthetic Rubber	W	241	0	W	W	1	W	0	*	18.7
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	21	756	W	W	14	5	W	0	Q	13.3
2869	Industrial Organic Chemicals, nec	71	1,822	10	26	33	4	1,140	0	6	8.2
2873	Nitrogenous Fertilizers	45	556	0	5	41	*	0	0	Q	36.4
2874	Phosphatic Fertilizers	*	1	0	*	*	*	0	0	Q	4.6
29	Petroleum and Coal Products	138	6,762	795	W	86	647	W	0	16	8.1
2911	Petroleum Refining	113	6,168	739	W	70	523	W	0	12	3.4
30	Rubber and Misc. Plastics Products	93	13,236	265	33	41	174	125	0	1	12.3
3011	Tires and Inner Tubes	W	W	186	*	6	W	W	0	*	4.2
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.5
31	Leather and Leather Products	4	262	58	5	2	11	0	0	*	25.9
32	Stone, Clay and Glass Products	248	8,229	64	602	105	122	3,411	84	30	10.0
3211	Flat Glass	13	W	0	W	11	W	0	0	*	4.1
3221	Glass Containers	20	873	0	1	17	13	0	0	*	7.6
3229	Pressed and Blown Glass, nec.	14	617	*	9	11	7	0	0	*	6.7
3241	Cement, Hydraulic	85	2,247	W	W	6	5	2,297	0	W	14.9
3274	Lime	34	367	0	65	3	1	925	W	W	18.6
3296	Mineral Wool	17	1,251	W	W	W	14	0	W	*	1.2
33	Primary Metal Industries	762	47,532	2,903	729	333	252	1,190	7,808	13	5.6
3312	Blast Furnaces and Steel Mills	510	17,777	2,899	W	218	25	W	7,243	7	5.4
3313	Electrometallurgical Products	20	2,378	0	13	1	W	W	*	W	11.5
3321	Gray and Ductile Iron Foundries	45	4,350	4	Q	W	37	W	W	1	11.7
3331	Primary Copper	*	W	0	0	*	*	0	0	0	1.3
3334	Primary Aluminum	W	W	0	W	3	W	0	0	*	5.1
3339	Primary Nonferrous Metals, nec	W	727	0	11	3	6	0	W	*	2.0
3353	Aluminum Sheet, Plate, and Foil	24	1,453	0	W	16	W	0	0	W	1.3
34	Fabricated Metal Products	139	12,948	7	173	79	489	236	W	W	15.0
35	Industrial Machinery and Equipment	116	12,688	39	226	56	W	479	Q	W	13.6
357	Computer and Office Equipment	5	820	0	1	2	1	0	0	*	24.0
36	Electronic and Other Electric Equipment	59	7,166	51	W	28	67	W	0	W	13.4
37	Transportation Equipment	168	16,649	394	272	70	210	1,212	40	6	6.1
3711	Motor Vehicles and Car Bodies	63	5,392	W	28	29	26	W	W	W	4.5
3714	Motor Vehicle Parts and Accessories	75	7,870	W	95	29	110	W	W	W	8.2
38	Instruments and Related Products	11	1,806	Q	Q	W	5	W	0	*	19.5
3841	Surgical and Medical Instruments	1	276	0	*	*	3	0	0	*	18.8
39	Misc. Manufacturing Industries	9	929	3	8	5	13	10	0	*	21.4
	Total	2,948	207,104	6,709	3,806	1,362	3,188	18,639	8,101	147	3.9

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
South Census Region											
RSE Column Factors:		0.6	0.6	1.3	1.1	0.7	1.2	1.1	1.7	1.2	
20	Food and Kindred Products	230	16,182	1,572	859	130	623	766	W	W	9.9
2011	Meat Packing Plants	10	892	14	167	5	112	0	0	*	17.0
2033	Canned Fruits and Vegetables	7	200	26	9	6	14	0	0	*	19.4
2037	Frozen Fruits and Vegetables	8	551	122	12	5	6	0	0	*	17.8
2046	Wet Corn Milling	W	837	0	2	4	*	322	0	W	22.7
2051	Bread, Cake, and Related Products	11	838	0	19	7	7	0	0	*	14.2
2063	Beet Sugar	W	W	0	1	W	*	0	W	*	16.8
2075	Soybean Oil Mills	15	539	34	24	8	W	W	0	W	4.9
2082	Malt Beverages	14	863	W	W	8	1	W	0	*	14.0
21	Tobacco Products	26	1,452	135	40	4	23	692	0	*	6.4
22	Textile Mill Products	234	27,389	1,192	506	87	455	1,344	0	9	6.5
23	Apparel and Other Textile Products	31	4,165	Q	71	12	124	83	0	*	22.8
24	Lumber and Wood Products	73	9,253	Q	W	15	332	26	0	19	20.2
25	Furniture and Fixtures	W	2,592	63	99	W	122	W	0	3	18.9
26	Paper and Allied Products	769	27,355	10,918	710	275	494	6,904	0	163	4.5
2611	Pulp Mills	71	1,421	3,367	116	21	120	171	0	18	17.7
2621	Paper Mills	325	14,513	2,801	355	122	149	3,910	0	42	3.4
2631	Paperboard Mills	331	6,887	4,660	152	111	41	2,786	0	101	5.4
27	Printing and Publishing	28	4,798	Q	35	10	47	0	0	1	21.2
28	Chemicals and Allied Products	2,009	83,551	3,964	1,050	1,293	W	7,885	W	182	6.7
2812	Alkalies and Chlorine	147	10,289	0	35	W	1	W	0	W	17.9
2813	Industrial Gases	46	8,634	0	1	16	1	0	0	*	11.3
2819	Industrial Inorganic Chemicals, nec	182	W	W	217	103	49	366	W	7	10.7
2821	Plastics Materials and Resins	188	10,445	W	65	113	34	W	0	18	5.8
2822	Synthetic Rubber	60	W	W	W	40	6	0	0	W	11.8
2823	Cellulosic Manmade Fibers	31	W	0	21	W	1	1,202	0	*	25.3
2824	Organic Fibers, Noncellulosic	96	6,881	W	W	W	38	1,558	0	*	3.7
2865	Cyclic Crudes and Intermediates	102	3,259	W	17	73	72	W	0	W	12.4
2869	Industrial Organic Chemicals, nec	820	15,110	338	Q	576	636	2,679	0	109	10.0
2873	Nitrogenous Fertilizers	190	1,872	0	14	178	*	0	0	*	26.1
2874	Phosphatic Fertilizers	31	1,908	250	142	15	1	W	0	W	3.2
29	Petroleum and Coal Products	721	15,699	788	W	566	1,415	W	W	70	5.8
2911	Petroleum Refining	703	15,216	726	W	554	1,320	W	0	70	3.4
30	Rubber and Misc. Plastics Products	87	12,328	532	241	35	240	61	0	2	10.7
3011	Tires and Inner Tubes	W	2,855	W	W	13	53	W	0	1	4.3
308	Miscellaneous Plastics Products, nec	46	7,801	156	W	16	111	W	0	*	21.0
31	Leather and Leather Products	2	258	26	9	*	3	0	0	Q	25.3
32	Stone, Clay and Glass Products	322	11,876	174	1,373	155	W	3,899	W	W	11.5
3211	Flat Glass	23	781	0	7	19	9	0	0	*	4.1
3221	Glass Containers	29	1,262	W	W	W	23	0	0	*	8.3
3229	Pressed and Blown Glass, nec.	W	1,598	1	W	W	15	0	0	*	8.9
3241	Cement, Hydraulic	108	3,519	65	167	21	4	2,589	150	11	15.5
3274	Lime	37	405	0	70	W	*	1,155	0	W	23.1
3296	Mineral Wool	16	936	W	1	11	16	0	W	*	1.4
33	Primary Metal Industries	411	47,437	1,442	485	W	235	433	2,072	W	6.1
3312	Blast Furnaces and Steel Mills	187	11,037	1,437	W	W	15	W	1,792	W	6.9
3313	Electrometallurgical Products	W	W	0	7	*	0	W	0	1	12.7
3321	Gray and Ductile Iron Foundries	21	1,622	*	56	W	46	Q	W	*	11.7
3331	Primary Copper	W	200	W	5	W	1	0	0	*	1.1
3334	Primary Aluminum	94	24,630	0	W	W	9	0	0	*	3.9
3339	Primary Nonferrous Metals, nec	14	1,694	0	9	W	W	W	0	*	4.6
3353	Aluminum Sheet, Plate, and Foil	25	W	0	26	17	22	W	0	*	1.8
34	Fabricated Metal Products	81	8,886	Q	377	42	380	0	23	2	21.2
35	Industrial Machinery and Equipment	57	8,138	42	125	26	W	Q	Q	W	16.1
357	Computer and Office Equipment	4	809	3	Q	1	*	0	0	*	22.3
36	Electronic and Other Electric Equipment	67	10,775	58	44	26	153	76	0	*	14.1
37	Transportation Equipment	W	8,542	W	307	27	132	W	*	2	8.8
3711	Motor Vehicles and Car Bodies	23	2,375	73	19	12	28	W	0	W	4.8
3714	Motor Vehicle Parts and Accessories	13	1,919	*	2	W	41	W	0	*	14.1
38	Instruments and Related Products	17	3,285	Q	45	5	6	0	0	*	18.4
3841	Surgical and Medical Instruments	2	331	0	11	*	1	0	0	*	21.4
39	Misc. Manufacturing Industries	W	1,168	28	Q	W	25	0	0	*	21.4
	Total	5,258	305,128	21,779	7,783	2,885	6,057	22,321	2,306	487	3.5

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.1	0.8	1.1	1.1	1.3	1.2	
20	Food and Kindred Products	196	9,253	688	673	116	236	1,241	W	W	10.1
2011	Meat Packing Plants	5	311	W	14	3	Q	0	0	*	17.3
2033	Canned Fruits and Vegetables	20	547	119	38	16	58	0	0	*	10.7
2037	Frozen Fruits and Vegetables	26	2,118	Q	57	17	31	0	0	1	17.1
2046	Wet Corn Milling	W	93	0	W	2	*	0	0	W	20.3
2051	Bread, Cake, and Related Products	6	388	0	2	5	7	0	0	*	26.5
2063	Beet Sugar	W	W	W	19	W	3	817	51	*	8.5
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	17	506	W	W	W	W	W	0	*	16.4
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	6	274	0	2	4	Q	0	0	*	29.7
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.6
24	Lumber and Wood Products	83	6,670	131	1,158	10	348	0	0	41	19.7
25	Furniture and Fixtures	3	304	0	Q	1	28	0	0	*	33.4
26	Paper and Allied Products	262	13,888	1,718	95	108	228	W	0	W	6.7
2611	Pulp Mills	17	849	842	18	7	5	0	0	2	19.9
2621	Paper Mills	112	8,196	W	39	53	116	W	0	18	5.2
2631	Paperboard Mills	116	3,155	W	35	38	26	W	0	59	8.3
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.0
28	Chemicals and Allied Products	140	12,041	W	W	85	W	W	W	4	12.6
2812	Alkalies and Chlorine	W	W	W	W	4	*	0	0	*	20.4
2813	Industrial Gases	W	W	0	W	W	*	0	0	*	15.1
2819	Industrial Inorganic Chemicals, nec	40	4,479	W	157	W	Q	W	W	3	10.9
2821	Plastics Materials and Resins	3	212	0	*	2	2	0	0	*	17.0
2822	Synthetic Rubber	*	*	0	*	*	*	0	0	*	24.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	11	0	*	*	1	0	0	*	25.1
2869	Industrial Organic Chemicals, nec	5	Q	0	Q	W	Q	0	0	W	13.0
2873	Nitrogenous Fertilizers	42	461	0	3	39	42	0	0	*	39.6
2874	Phosphatic Fertilizers	5	510	0	7	Q	0	0	0	*	43.6
29	Petroleum and Coal Products	205	7,965	696	511	125	4,210	0	0	25	3.7
2911	Petroleum Refining	191	7,663	696	423	114	4,181	0	0	24	2.9
30	Rubber and Misc. Plastics Products	19	2,865	1	Q	W	W	Q	0	*	18.3
3011	Tires and Inner Tubes	*	W	W	W	*	W	0	0	*	7.1
308	Miscellaneous Plastics Products, nec	14	2,573	0	Q	5	37	0	0	*	22.4
31	Leather and Leather Products	Q	70	0	Q	Q	Q	0	0	*	45.0
32	Stone, Clay and Glass Products	137	5,156	674	623	51	123	2,367	51	5	14.8
3211	Flat Glass	W	148	W	W	W	W	0	0	*	4.5
3221	Glass Containers	18	1,129	W	W	W	22	0	0	*	9.4
3229	Pressed and Blown Glass, nec.	W	W	0	*	W	*	0	0	*	13.2
3241	Cement, Hydraulic	77	2,390	W	140	11	1	2,367	Q	3	21.1
3274	Lime	W	W	W	W	W	*	0	0	*	21.2
3296	Mineral Wool	3	330	0	*	W	W	0	W	*	2.1
33	Primary Metal Industries	190	34,338	87	268	W	94	W	W	W	5.8
3312	Blast Furnaces and Steel Mills	31	2,531	W	34	W	4	W	W	W	8.3
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	3	92	0	3	W	3	0	W	*	37.1
3331	Primary Copper	W	1,027	W	W	W	1	W	0	*	1.0
3334	Primary Aluminum	96	26,391	*	17	6	28	0	0	*	3.5
3339	Primary Nonferrous Metals, nec	11	1,263	0	W	W	W	0	W	*	1.0
3353	Aluminum Sheet, Plate, and Foil	W	W	0	W	W	W	0	0	*	1.1
34	Fabricated Metal Products	28	2,922	*	78	16	101	0	0	*	19.6
35	Industrial Machinery and Equipment	22	3,619	0	14	8	72	0	0	*	24.7
357	Computer and Office Equipment	9	1,950	0	*	2	Q	0	0	*	14.9
36	Electronic and Other Electric Equipment	29	5,550	0	Q	9	13	0	0	W	19.3

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
RSE Column Factors:		0.7	0.7	1.2	1.1	0.8	1.1	1.1	1.3	1.2	
37	Transportation Equipment	47	7,096	W	129	19	W	0	0	W	12.0
3711	Motor Vehicles and Car Bodies	W	W	0	W	1	3	0	0	*	6.9
3714	Motor Vehicle Parts and Accessories	3	243	Q	2	2	7	0	0	*	21.9
38	Instruments and Related Products	17	3,244	4	9	5	6	0	0	*	14.9
3841	Surgical and Medical Instruments	1	222	0	3	*	2	0	0	*	27.6
39	Misc. Manufacturing Industries	2	376	0	1	1	8	0	0	*	26.1
Total		1,404	118,398	4,101	3,822	640	5,758	4,274	295	168	5.3

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.
^b "Electricity" consists of quantities of electricity that were purchased or transferred in, and is equivalent to "purchased electricity" as defined in the *Annual Survey of Manufactures*.
^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.
^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.
^e "Other" includes all other energy that was purchased or transferred in and not shown elsewhere.
 NF=No applicable RSE row/column factor.
 * Estimate less than 0.5. Data are included in higher level totals.
 W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.
 Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.
 NA=Not available. Data are included in higher level totals.
 Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table represent the consumption of energy originally produced offsite, acquired as a result of a purchase or transfer and consumed onsite for the production of heat and power. This definition is consistent with the definition of "purchased" fuels and electric energy used by the Bureau of the Census in the preparation of "Fuels and Electric Energy Consumed," of the *Annual Survey of Manufactures*, for 1974 through 1981. See Appendix B.
 Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
		Total United States									
	RSE Column Factors:	0.6	0.6	1.3	1.3	0.7	1.2	1.2	1.6	1.2	
20	Food and Kindred Products	922	172	27	17	512	5	154	W	W	5.9
2011	Meat Packing Plants	48	12	1	1	32	1	1	0	1	10.2
2033	Canned Fruits and Vegetables	44	5	2	1	36	*	Q	0	*	9.1
2037	Frozen Fruits and Vegetables	40	11	2	*	26	*	0	0	1	14.9
2046	Wet Corn Milling	141	14	*	*	52	*	68	W	W	11.7
2051	Bread, Cake, and Related Products	32	8	*	1	23	*	0	0	*	12.7
2063	Beet Sugar	67	1	W	*	19	*	43	W	*	5.5
2075	Soybean Oil Mills	50	6	*	*	24	*	13	0	6	3.5
2082	Malt Beverages	50	8	3	*	23	*	16	0	*	11.1
21	Tobacco Products	26	5	1	*	4	*	15	0	*	6.4
22	Textile Mill Products	272	101	12	6	108	2	31	0	12	7.2
23	Apparel and Other Textile Products	44	19	Q	1	19	1	2	0	1	18.0
24	Lumber and Wood Products	197	67	2	14	41	4	2	0	68	14.9
25	Furniture and Fixtures	46	17	1	1	19	1	4	0	4	18.1
26	Paper and Allied Products	1,540	222	156	9	548	W	292	W	307	4.2
2611	Pulp Mills	103	10	28	1	32	1	7	0	24	14.9
2621	Paper Mills	774	124	85	W	260	2	193	W	106	2.9
2631	Paperboard Mills	527	43	W	1	185	*	W	0	171	4.7
27	Printing and Publishing	108	53	*	2	48	1	0	0	4	13.0
28	Chemicals and Allied Products	2,674	474	47	12	1,665	4	249	3	221	5.6
2812	Alkalies and Chlorine	159	43	W	*	W	*	W	0	W	16.1
2813	Industrial Gases	86	61	0	*	25	Q	0	0	*	12.0
2819	Industrial Inorganic Chemicals, nec	303	130	4	3	140	*	12	3	10	8.4
2821	Plastics Materials and Resins	262	51	4	1	151	*	24	0	31	5.9
2822	Synthetic Rubber	68	7	*	*	44	*	W	0	W	12.6
2823	Cellulosic Manmade Fibers	31	W	0	*	W	*	27	0	*	25.1
2824	Organic Fibers, Noncellulosic	97	24	W	*	W	*	35	0	*	3.7
2865	Cyclic Crudes and Intermediates	136	15	7	1	97	*	W	0	W	11.8
2869	Industrial Organic Chemicals, nec	935	69	11	3	641	2	85	0	124	8.0
2873	Nitrogenous Fertilizers	278	10	0	*	266	*	0	0	Q	22.5
2874	Phosphatic Fertilizers	36	8	2	1	19	*	W	0	W	5.5
29	Petroleum and Coal Products	1,138	114	24	17	830	26	W	W	123	5.4
2911	Petroleum Refining	1,065	108	23	5	785	23	3	0	118	3.5
30	Rubber and Misc. Plastics Products	235	116	8	3	96	3	7	0	3	9.6
3011	Tires and Inner Tubes	42	14	3	*	21	*	2	0	1	3.6
308	Miscellaneous Plastics Products, nec	150	87	3	W	53	1	3	0	W	13.9
31	Leather and Leather Products	12	3	1	1	5	*	Q	0	1	25.2
32	Stone, Clay and Glass Products	877	105	8	19	380	2	293	9	60	7.6
3211	Flat Glass	49	5	W	*	42	*	*	0	W	3.4
3221	Glass Containers	85	14	2	*	69	*	0	0	*	5.5
3229	Pressed and Blown Glass, nec	W	10	1	*	W	*	0	0	*	8.1
3241	Cement, Hydraulic	312	32	1	4	39	*	195	6	35	11.0
3274	Lime	117	5	W	1	8	Q	88	W	13	29.4
3296	Mineral Wool	40	10	W	*	29	*	*	W	*	1.5
33	Primary Metal Industries	1,563	502	33	11	686	3	46	262	20	4.3
3312	Blast Furnaces and Steel Mills	842	135	31	5	399	*	24	237	10	4.3
3313	Electrometallurgical Products	30	13	0	*	1	W	W	W	W	8.7
3321	Gray and Ductile Iron Foundries	74	22	*	1	28	*	*	21	1	11.4
3331	Primary Copper	21	4	W	W	15	*	W	0	*	1.1
3334	Primary Aluminum	254	231	*	1	21	*	0	0	1	3.3
3339	Primary Nonferrous Metals, nec	40	13	*	*	17	*	W	W	*	2.1
3353	Aluminum Sheet, Plate, and Foil	60	15	0	*	43	*	W	0	W	1.4
34	Fabricated Metal Products	305	102	3	6	174	4	5	W	W	11.4
35	Industrial Machinery and Equipment	236	101	3	4	109	2	11	1	5	11.5
357	Computer and Office Equipment	21	15	*	*	6	*	0	0	*	15.9
36	Electronic and Other Electric Equipment	196	103	4	2	79	1	W	*	W	10.2
37	Transportation Equipment	318	121	12	7	131	2	33	1	12	5.1
3711	Motor Vehicles and Car Bodies	90	28	3	*	44	*	W	W	4	3.4
3714	Motor Vehicle Parts and Accessories	99	37	*	1	41	1	W	W	W	7.2
38	Instruments and Related Products	97	42	3	W	25	Q	W	0	W	13.7
3841	Surgical and Medical Instruments	6	4	*	*	2	*	0	0	*	15.4
39	Misc. Manufacturing Industries	31	12	1	W	15	W	1	0	W	14.6
	Total	10,837	2,451	350	135	5,492	67	1,175	282	884	3.1

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
Northeast Census Region											
	RSE Column Factors:	0.7	0.7	1.0	1.2	0.8	1.2	1.3	1.4	1.1	
20	Food and Kindred Products	79	19	7	5	42	1	2	0	3	13.9
2011	Meat Packing Plants	1	*	W	*	1	Q	0	0	*	24.4
2033	Canned Fruits and Vegetables	6	1	1	*	4	*	Q	0	*	17.1
2037	Frozen Fruits and Vegetables	1	*	1	*	*	Q	0	0	*	32.9
2046	Wet Corn Milling	*	*	W	W	*	*	0	0	*	23.6
2051	Bread, Cake, and Related Products	7	1	*	W	W	*	0	0	*	19.2
2063	Beet Sugar	0	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	8	2	W	*	4	*	W	0	*	16.4
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.3
22	Textile Mill Products	27	5	5	3	11	1	*	0	3	19.4
23	Apparel and Other Textile Products	5	2	*	*	2	Q	0	0	*	29.8
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.9
25	Furniture and Fixtures	5	2	Q	*	2	*	0	0	1	28.9
26	Paper and Allied Products	W	32	72	4	37	W	W	0	W	6.1
2611	Pulp Mills	5	Q	2	*	0	*	0	0	3	33.9
2621	Paper Mills	166	20	61	W	19	1	W	0	29	4.2
2631	Paperboard Mills	16	2	W	Q	6	*	W	0	1	15.5
27	Printing and Publishing	23	11	*	1	9	*	0	0	1	26.0
28	Chemicals and Allied Products	135	32	19	W	59	*	W	0	14	9.1
2812	Alkalies and Chlorine	*	W	0	0	*	0	0	0	0	36.9
2813	Industrial Gases	5	5	0	*	*	*	0	0	0	12.0
2819	Industrial Inorganic Chemicals, nec	10	2	2	*	6	*	0	0	*	22.7
2821	Plastics Materials and Resins	19	4	3	1	8	*	W	0	W	9.6
2822	Synthetic Rubber	W	W	W	*	W	*	0	0	*	26.1
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	*	*	Q	W	*	*	0	0	0	15.0
2865	Cyclic Crudes and Intermediates	12	1	W	W	7	*	W	0	1	21.1
2869	Industrial Organic Chemicals, nec	38	10	9	*	W	*	0	0	W	8.7
2873	Nitrogenous Fertilizers	*	*	0	*	*	*	0	0	*	47.8
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	74	10	10	8	29	2	3	0	11	12.0
2911	Petroleum Refining	57	9	10	W	24	1	W	0	11	5.7
30	Rubber and Misc. Plastics Products	37	19	3	1	W	Q	2	0	1	18.3
3011	Tires and Inner Tubes	2	*	*	Q	1	*	0	0	*	13.4
308	Miscellaneous Plastics Products, nec	28	16	2	W	7	*	W	0	W	24.2
31	Leather and Leather Products	4	1	1	1	1	*	Q	0	*	28.3
32	Stone, Clay and Glass Products	170	19	3	4	60	W	77	W	W	17.6
3211	Flat Glass	W	W	0	*	W	W	*	0	*	4.6
3221	Glass Containers	19	3	1	*	14	*	0	0	*	9.0
3229	Pressed and Blown Glass, nec	W	W	1	W	W	*	0	0	*	10.3
3241	Cement, Hydraulic	43	5	*	W	*	*	33	W	W	18.1
3274	Lime	Q	Q	0	Q	*	Q	Q	0	*	NF
3296	Mineral Wool	4	1	0	W	W	W	*	W	*	1.7
33	Primary Metal Industries	200	61	5	2	105	1	W	W	W	9.0
3312	Blast Furnaces and Steel Mills	114	28	W	1	67	*	1	W	1	6.6
3313	Electrometallurgical Products	W	W	0	*	*	*	W	W	*	12.9
3321	Gray and Ductile Iron Foundries	5	1	0	*	2	*	*	2	*	16.5
3331	Primary Copper	*	W	0	W	*	*	0	0	*	1.1
3334	Primary Aluminum	W	W	*	W	W	W	0	0	*	5.5
3339	Primary Nonferrous Metals, nec	W	*	*	W	1	*	W	0	*	2.1
3353	Aluminum Sheet, Plate, and Foil	W	2	0	W	W	*	0	0	*	1.2
34	Fabricated Metal Products	56	17	2	2	32	1	*	1	1	15.6
35	Industrial Machinery and Equipment	41	18	3	2	16	1	0	0	2	19.2
357	Computer and Office Equipment	4	3	*	*	1	*	0	0	*	20.8
36	Electronic and Other Electric Equipment	42	22	3	2	14	1	*	*	*	16.2
37	Transportation Equipment	W	11	7	3	11	W	W	0	W	11.2
3711	Motor Vehicles and Car Bodies	W	W	W	W	1	*	0	0	*	7.8
3714	Motor Vehicle Parts and Accessories	8	3	W	*	W	*	W	0	*	11.9
38	Instruments and Related Products	52	14	3	W	W	Q	W	0	W	18.1
3841	Surgical and Medical Instruments	2	1	*	*	*	*	0	0	*	19.3
39	Misc. Manufacturing Industries	W	4	1	W	W	W	1	0	*	18.4
	Total	1,226	300	145	45	458	12	167	17	83	6.0

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
Midwest Census Region											
	RSE Column Factors:	0.6	0.6	1.5	1.2	0.7	1.2	1.1	1.4	1.1	
20	Food and Kindred Products	418	67	6	3	217	1	107	W	W	8.6
2011	Meat Packing Plants	32	7	1	*	23	*	1	0	1	9.5
2033	Canned Fruits and Vegetables	10	1	0	*	9	*	0	0	*	17.2
2037	Frozen Fruits and Vegetables	4	1	*	*	2	*	0	0	*	27.2
2046	Wet Corn Milling	122	11	W	*	46	*	61	W	W	13.2
2051	Bread, Cake, and Related Products	9	2	0	W	W	*	0	0	*	16.4
2063	Beet Sugar	34	1	W	*	6	*	24	W	*	6.6
2075	Soybean Oil Mills	35	4	*	*	16	W	W	0	W	4.4
2082	Malt Beverages	11	2	*	*	W	W	W	0	*	17.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.7
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.1
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.0
24	Lumber and Wood Products	29	10	Q	Q	11	1	1	0	5	29.7
25	Furniture and Fixtures	W	5	*	*	W	*	Q	0	*	21.6
26	Paper and Allied Products	W	50	5	1	115	1	90	W	W	6.2
2611	Pulp Mills	10	2	0	*	4	Q	4	0	1	33.9
2621	Paper Mills	172	26	W	1	59	*	63	W	17	5.1
2631	Paperboard Mills	63	7	*	*	24	*	22	0	10	13.4
27	Printing and Publishing	43	18	*	*	23	*	0	0	2	17.8
28	Chemicals and Allied Products	390	116	W	W	186	W	63	*	22	10.7
2812	Alkalies and Chlorine	W	W	0	W	*	*	0	0	*	27.1
2813	Industrial Gases	W	W	0	Q	W	Q	0	0	*	13.5
2819	Industrial Inorganic Chemicals, nec	71	W	W	*	W	*	W	*	*	11.5
2821	Plastics Materials and Resins	52	11	W	*	24	*	W	0	W	8.4
2822	Synthetic Rubber	W	1	0	W	W	*	W	0	*	18.7
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	21	3	W	W	14	*	W	0	Q	13.3
2869	Industrial Organic Chemicals, nec	71	6	*	*	34	*	25	0	6	8.2
2873	Nitrogenous Fertilizers	45	2	0	*	42	*	0	0	Q	36.4
2874	Phosphatic Fertilizers	*	*	0	*	*	*	0	0	*	4.6
29	Petroleum and Coal Products	138	23	5	W	88	2	W	0	16	8.1
2911	Petroleum Refining	113	21	5	W	73	2	W	0	12	3.4
30	Rubber and Misc. Plastics Products	93	45	2	*	42	1	3	0	1	12.3
3011	Tires and Inner Tubes	W	W	1	*	6	W	W	0	*	4.2
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.5
31	Leather and Leather Products	4	1	*	*	2	*	0	0	*	25.9
32	Stone, Clay and Glass Products	248	28	*	4	108	*	76	2	30	10.0
3211	Flat Glass	13	W	0	W	11	W	0	0	*	4.1
3221	Glass Containers	20	3	0	*	17	*	0	0	*	7.6
3229	Pressed and Blown Glass, nec.	14	2	*	*	12	*	0	0	*	6.7
3241	Cement, Hydraulic	85	8	W	W	6	*	51	0	W	14.9
3274	Lime	34	1	0	*	3	*	21	W	W	18.6
3296	Mineral Wool	17	4	W	W	W	*	0	W	*	1.2
33	Primary Metal Industries	762	162	18	4	343	1	27	194	13	5.6
3312	Blast Furnaces and Steel Mills	510	61	18	W	224	*	W	180	7	5.4
3313	Electrometallurgical Products	20	8	0	*	1	W	W	*	W	11.5
3321	Gray and Ductile Iron Foundries	45	15	*	Q	W	*	W	W	1	11.7
3331	Primary Copper	*	W	0	0	*	*	0	0	0	1.3
3334	Primary Aluminum	W	W	0	W	3	W	0	0	*	5.1
3339	Primary Nonferrous Metals, nec	W	2	0	*	3	*	0	W	*	2.0
3353	Aluminum Sheet, Plate, and Foil	24	5	0	W	17	W	0	0	W	1.3
34	Fabricated Metal Products	139	44	*	1	81	2	5	W	W	15.0
35	Industrial Machinery and Equipment	116	43	*	1	58	W	11	Q	W	13.6
357	Computer and Office Equipment	5	3	0	*	2	*	0	0	*	24.0
36	Electronic and Other Electric Equipment ..	59	24	*	W	29	*	W	0	W	13.4
37	Transportation Equipment	168	57	2	2	72	1	27	1	6	6.1
3711	Motor Vehicles and Car Bodies	63	18	W	*	30	*	W	W	W	4.5
3714	Motor Vehicle Parts and Accessories	75	27	W	1	30	*	W	W	W	8.2
38	Instruments and Related Products	11	6	Q	Q	W	*	W	0	*	19.5
3841	Surgical and Medical Instruments	1	1	0	*	*	*	0	0	*	18.8
39	Misc. Manufacturing Industries	9	3	*	*	5	*	*	0	*	21.4
	Total	2,948	707	42	22	1,402	12	415	201	147	3.9

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
South Census Region											
	RSE Column Factors:	0.6	0.6	1.3	1.1	0.7	1.2	1.1	1.7	1.2	
20	Food and Kindred Products	230	55	10	5	134	2	17	W	W	9.9
2011	Meat Packing Plants	10	3	*	1	5	*	0	0	*	17.0
2033	Canned Fruits and Vegetables	7	1	*	*	6	*	0	0	*	19.4
2037	Frozen Fruits and Vegetables	8	2	1	*	6	*	0	0	*	17.8
2046	Wet Corn Milling	W	3	0	*	5	*	7	0	W	22.7
2051	Bread, Cake, and Related Products	11	3	0	*	7	*	0	0	*	14.2
2063	Beet Sugar	W	W	0	*	W	*	0	W	*	16.8
2075	Soybean Oil Mills	15	2	*	*	9	W	W	0	W	4.9
2082	Malt Beverages	14	3	W	W	8	*	W	0	*	14.0
21	Tobacco Products	26	5	1	*	4	*	15	0	*	6.4
22	Textile Mill Products	234	93	7	3	89	2	30	0	9	6.5
23	Apparel and Other Textile Products	31	14	Q	*	12	*	2	0	*	22.8
24	Lumber and Wood Products	73	32	Q	W	15	1	1	0	19	20.2
25	Furniture and Fixtures	W	9	*	1	W	*	W	0	3	18.9
26	Paper and Allied Products	769	93	69	4	284	2	154	0	163	4.5
2611	Pulp Mills	71	5	21	1	22	*	4	0	18	17.7
2621	Paper Mills	325	50	18	2	126	1	87	0	42	3.4
2631	Paperboard Mills	331	24	29	1	115	*	62	0	101	5.4
27	Printing and Publishing	28	16	Q	*	10	*	0	0	1	21.2
28	Chemicals and Allied Products	2,009	285	25	6	1,332	W	176	W	182	6.7
2812	Alkalies and Chlorine	147	35	0	*	W	*	W	0	W	17.9
2813	Industrial Gases	46	29	0	*	17	*	0	0	*	11.3
2819	Industrial Inorganic Chemicals, nec	182	W	W	1	106	*	8	W	7	10.7
2821	Plastics Materials and Resins	188	36	W	*	117	*	W	0	18	5.8
2822	Synthetic Rubber	60	W	W	W	41	*	0	0	W	11.8
2823	Cellulosic Manmade Fibers	31	W	0	*	W	*	27	0	*	25.3
2824	Organic Fibers, Noncellulosic	96	23	W	W	W	*	35	0	*	3.7
2865	Cyclic Crudes and Intermediates	102	11	W	*	75	*	W	0	W	12.4
2869	Industrial Organic Chemicals, nec	820	52	2	Q	593	2	60	0	109	10.0
2873	Nitrogenous Fertilizers	190	6	0	*	183	*	0	0	*	26.1
2874	Phosphatic Fertilizers	31	7	2	1	16	*	W	0	W	3.2
29	Petroleum and Coal Products	721	54	5	W	583	5	W	W	70	5.8
2911	Petroleum Refining	703	52	5	W	570	4	W	0	70	3.4
30	Rubber and Misc. Plastics Products	87	42	3	1	36	1	1	0	2	10.7
3011	Tires and Inner Tubes	W	10	W	W	13	*	W	0	1	4.3
308	Miscellaneous Plastics Products, nec	46	27	1	W	16	*	W	0	*	21.0
31	Leather and Leather Products	2	1	*	*	*	*	0	0	Q	25.3
32	Stone, Clay and Glass Products	322	41	1	8	160	W	87	W	W	11.5
3211	Flat Glass	23	3	0	*	20	*	0	0	*	4.1
3221	Glass Containers	29	4	W	W	W	*	0	0	*	8.3
3229	Pressed and Blown Glass, nec	W	5	*	W	W	*	0	0	*	8.9
3241	Cement, Hydraulic	108	12	*	1	22	*	58	4	11	15.5
3274	Lime	37	1	0	*	W	*	26	0	W	23.1
3296	Mineral Wool	16	3	W	*	12	*	0	W	*	1.4
33	Primary Metal Industries	411	162	9	3	W	1	10	51	W	6.1
3312	Blast Furnaces and Steel Mills	187	38	9	W	W	*	W	44	W	6.9
3313	Electrometallurgical Products	W	W	0	*	*	0	W	0	1	12.7
3321	Gray and Ductile Iron Foundries	21	6	*	*	W	*	Q	W	*	11.7
3331	Primary Copper	W	1	W	*	W	*	0	0	*	1.1
3334	Primary Aluminum	94	84	0	W	W	*	0	0	*	3.9
3339	Primary Nonferrous Metals, nec	14	6	0	*	W	W	W	0	*	4.6
3353	Aluminum Sheet, Plate, and Foil	25	W	0	*	18	*	W	0	*	1.8
34	Fabricated Metal Products	81	30	Q	2	43	1	0	1	2	21.2
35	Industrial Machinery and Equipment	57	28	*	1	27	W	Q	Q	W	16.1
357	Computer and Office Equipment	4	3	*	Q	1	*	0	0	*	22.3
36	Electronic and Other Electric Equipment	67	37	*	*	27	1	2	0	*	14.1
37	Transportation Equipment	W	29	W	2	28	*	W	*	2	8.8
3711	Motor Vehicles and Car Bodies	23	8	*	*	12	*	W	0	W	4.8
3714	Motor Vehicle Parts and Accessories	13	7	*	*	W	*	W	0	*	14.1
38	Instruments and Related Products	17	11	Q	*	6	*	0	0	*	18.4
3841	Surgical and Medical Instruments	2	1	0	*	*	*	0	0	*	21.4
39	Misc. Manufacturing Industries	W	4	*	Q	W	*	0	0	*	21.4
	Total	5,258	1,041	137	45	2,972	22	498	57	487	3.5

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
West Census Region											
	RSE Column Factors:	0.7	0.7	1.2	1.1	0.8	1.1	1.1	1.3	1.2	
20	Food and Kindred Products	196	32	4	4	119	1	28	W	W	10.1
2011	Meat Packing Plants	5	1	W	*	3	Q	0	0	*	17.3
2033	Canned Fruits and Vegetables	20	2	1	*	17	*	0	0	*	10.7
2037	Frozen Fruits and Vegetables	26	7	Q	*	17	*	0	0	1	17.1
2046	Wet Corn Milling	W	*	0	W	2	*	0	0	W	20.3
2051	Bread, Cake, and Related Products	6	1	0	*	5	*	0	0	*	26.5
2063	Beet Sugar	W	W	W	*	W	*	18	1	*	8.5
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	17	2	W	W	W	W	W	0	*	16.4
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	6	1	0	*	5	Q	0	0	*	29.7
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.6
24	Lumber and Wood Products	83	23	1	7	10	1	0	0	41	19.7
25	Furniture and Fixtures	3	1	0	Q	1	*	0	0	*	33.4
26	Paper and Allied Products	262	47	11	1	111	1	W	0	W	6.7
2611	Pulp Mills	17	3	5	*	7	*	0	0	2	19.9
2621	Paper Mills	112	28	W	*	55	*	W	0	18	5.2
2631	Paperboard Mills	116	11	W	*	40	*	W	0	59	8.3
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.0
28	Chemicals and Allied Products	140	41	W	W	88	W	W	W	4	12.6
2812	Alkalies and Chlorine	W	W	W	W	4	*	0	0	*	20.4
2813	Industrial Gases	W	W	0	W	W	*	0	0	*	15.1
2819	Industrial Inorganic Chemicals, nec	40	15	W	1	W	Q	W	W	3	10.9
2821	Plastics Materials and Resins	3	1	0	*	2	*	0	0	*	17.0
2822	Synthetic Rubber	*	*	0	*	*	*	0	0	*	24.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	*	0	*	*	*	0	0	*	25.1
2869	Industrial Organic Chemicals, nec	5	Q	0	Q	W	Q	0	0	W	13.0
2873	Nitrogenous Fertilizers	42	2	0	*	40	*	0	0	*	39.6
2874	Phosphatic Fertilizers	5	2	0	*	Q	0	0	0	*	43.6
29	Petroleum and Coal Products	205	27	4	3	129	16	0	0	25	3.7
2911	Petroleum Refining	191	26	4	2	118	16	0	0	24	2.9
30	Rubber and Misc. Plastics Products	19	10	*	Q	W	W	Q	0	*	18.3
3011	Tires and Inner Tubes	*	W	W	W	*	W	0	0	*	7.1
308	Miscellaneous Plastics Products, nec	14	9	0	Q	5	*	0	0	*	22.4
31	Leather and Leather Products	Q	*	0	Q	Q	Q	0	0	*	45.0
32	Stone, Clay and Glass Products	137	18	4	4	53	*	53	1	5	14.8
3211	Flat Glass	W	1	W	W	W	W	0	0	*	4.5
3221	Glass Containers	18	4	W	W	W	*	0	0	*	9.4
3229	Pressed and Blown Glass, nec	W	W	0	*	W	*	0	0	*	13.2
3241	Cement, Hydraulic	77	8	W	1	12	*	53	Q	3	21.1
3274	Lime	W	W	W	W	W	*	0	0	*	21.2
3296	Mineral Wool	3	1	0	*	W	W	0	W	*	2.1
33	Primary Metal Industries	190	117	1	2	W	*	W	W	W	5.8
3312	Blast Furnaces and Steel Mills	31	9	W	*	W	*	W	W	W	8.3
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	3	*	0	*	W	*	0	W	*	37.1
3331	Primary Copper	W	4	W	W	W	*	W	0	*	1.0
3334	Primary Aluminum	96	90	*	*	6	*	0	0	*	3.5
3339	Primary Nonferrous Metals, nec	11	4	0	W	W	W	0	W	*	1.0
3353	Aluminum Sheet, Plate, and Foil	W	W	0	W	W	W	0	0	*	1.1
34	Fabricated Metal Products	28	10	*	*	17	*	0	0	*	19.6
35	Industrial Machinery and Equipment	22	12	0	*	9	*	0	0	*	24.7
357	Computer and Office Equipment	9	7	0	*	2	Q	0	0	*	14.9
36	Electronic and Other Electric Equipment ..	29	19	0	Q	9	*	0	0	W	19.3

See footnotes at end of table.

Table A5. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil ^c	Natural Gas ^d	LPG	Coal	Coke and Breeze	Other ^e	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.2	1.1	0.8	1.1	1.1	1.3	1.2	
37	Transportation Equipment	47	24	W	1	20	W	0	0	W	12.0
3711	Motor Vehicles and Car Bodies	W	W	0	W	1	*	0	0	*	6.9
3714	Motor Vehicle Parts and Accessories	3	1	Q	*	2	*	0	0	*	21.9
38	Instruments and Related Products	17	11	*	*	6	*	0	0	*	14.9
3841	Surgical and Medical Instruments	1	1	0	*	*	*	0	0	*	27.6
39	Misc. Manufacturing Industries	2	1	0	*	1	*	0	0	*	26.1
	Total	1,404	404	26	22	659	22	95	7	168	5.3

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Electricity" consists of quantities of electricity that were purchased or transferred in, and is equivalent to "purchased electricity" as defined in the *Annual Survey of Manufactures*.

^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes all other energy that was purchased or transferred in and not shown elsewhere.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table represent the consumption of energy originally produced offsite, acquired as a result of a purchase or transfer and consumed onsite for the production of heat and power. This definition is consistent with the definition of "purchased" fuels and electric energy used by the Bureau of the Census in the preparation of "Fuels and Electric Energy Consumed," of the *Annual Survey of Manufactures*, for 1974 through 1981. See Appendix B.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A6. Total Inputs of Selected Byproduct Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Blast Furnace/ Coke Oven Gases	Waste Gas	Petroleum Coke	Pulping Liquor	Wood Chips, Bark	Waste Oils/Tars And Waste Materials	RSE Row Factors
Total United States									
	RSE Column Factors:	0.8	1.2	0.9	1.2	0.8	1.1	1.1	
20	Food and Kindred Products	W	0	W	0	0	4	*	19.2
2011	Meat Packing Plants	W	0	W	0	0	*	0	26.3
2033	Canned Fruits and Vegetables	*	0	0	0	0	*	*	26.5
2037	Frozen Fruits and Vegetables	*	0	*	0	0	0	*	31.6
2046	Wet Corn Milling	W	0	*	0	0	W	0	23.5
2051	Bread, Cake, and Related Products	*	0	0	0	0	*	*	20.3
2063	Beet Sugar	*	0	0	0	0	0	*	16.9
2075	Soybean Oil Mills	W	0	*	0	0	W	*	8.1
2082	Malt Beverages	*	0	*	0	0	*	*	20.7
21	Tobacco Products	0	0	0	0	0	0	0	NF
22	Textile Mill Products	2	0	0	0	0	2	*	16.3
23	Apparel and Other Textile Products	*	0	0	0	0	0	*	51.6
24	Lumber and Wood Products	273	0	0	0	0	272	1	16.5
25	Furniture and Fixtures	25	0	0	0	0	25	*	34.7
26	Paper and Allied Products	1,213	0	*	5	857	348	3	7.4
2611	Pulp Mills	223	0	*	1	178	45	*	18.7
2621	Paper Mills	520	0	0	W	354	W	*	3.1
2631	Paperboard Mills	467	0	0	1	326	139	1	6.0
27	Printing and Publishing	*	0	*	0	0	0	*	29.6
28	Chemicals and Allied Products	376	*	301	W	*	W	66	9.8
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	NF
2813	Industrial Gases	W	0	W	0	0	0	0	21.7
2819	Industrial Inorganic Chemicals, nec	6	0	W	W	0	0	*	14.5
2821	Plastics Materials and Resins	30	*	20	0	0	W	W	8.2
2822	Synthetic Rubber	W	0	0	0	0	0	W	23.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	1	0	1	0	0	0	*	7.4
2865	Cyclic Crudes and Intermediates	W	*	W	0	0	0	1	18.0
2869	Industrial Organic Chemicals, nec	W	0	249	W	*	0	12	7.9
2873	Nitrogenous Fertilizers	2	0	2	0	0	*	*	35.0
2874	Phosphatic Fertilizers	*	0	0	*	0	0	*	3.9
29	Petroleum and Coal Products	1,802	0	1,278	523	0	0	Q	2.1
2911	Petroleum Refining	1,798	0	1,277	521	0	0	*	2.7
30	Rubber and Misc. Plastics Products	1	0	*	0	0	*	*	22.3
3011	Tires and Inner Tubes	*	0	*	0	0	0	*	5.1
308	Miscellaneous Plastics Products, nec	*	0	*	0	0	0	*	33.3
31	Leather and Leather Products	Q	0	0	0	0	Q	*	NF
32	Stone, Clay and Glass Products	W	0	W	W	0	W	W	16.8
3211	Flat Glass	0	0	0	0	0	0	0	NF
3221	Glass Containers	*	0	0	0	0	0	*	19.0
3229	Pressed and Blown Glass, nec.	0	0	0	0	0	0	0	NF
3241	Cement, Hydraulic	30	0	0	28	0	*	2	12.2
3274	Lime	13	0	0	13	0	0	*	21.3
3296	Mineral Wool	*	0	0	0	0	*	*	2.0
33	Primary Metal Industries	444	427	1	*	0	2	14	5.4
3312	Blast Furnaces and Steel Mills	441	427	0	*	0	0	14	5.6
3313	Electrometallurgical Products	W	0	0	0	0	W	*	10.6
3321	Gray and Ductile Iron Foundries	0	0	0	0	0	0	0	NF
3331	Primary Copper	W	0	W	0	0	0	*	1.1
3334	Primary Aluminum	*	0	0	0	0	*	*	5.7
3339	Primary Nonferrous Metals, nec	W	0	W	0	0	*	0	1.1
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	*	2.1
34	Fabricated Metal Products	Q	0	0	0	0	*	*	15.2
35	Industrial Machinery and Equipment	Q	0	0	0	0	*	*	15.2
357	Computer and Office Equipment	*	0	0	0	0	0	*	34.8
36	Electronic and Other Electric Equipment	*	0	0	0	0	*	*	26.5
37	Transportation Equipment	2	0	0	0	0	*	1	13.1
3711	Motor Vehicles and Car Bodies	1	0	*	0	0	*	*	8.6
3714	Motor Vehicle Parts and Accessories	1	0	*	0	0	0	1	14.3
38	Instruments and Related Products	W	0	0	0	0	*	*	28.1
3841	Surgical and Medical Instruments	0	0	0	0	0	0	0	NF
39	Misc. Manufacturing Industries	Q	0	0	0	0	Q	*	25.1
	Total	4,198	427	1,583	575	857	666	90	3.4

See footnotes at end of table.

Table A6. Total Inputs of Selected Byproduct Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Blast Furnace/ Coke Oven Gases	Waste Gas	Petroleum Coke	Pulping Liquor	Wood Chips, Bark	Waste Oils/Tars And Waste Materials	RSE Row Factors
Northeast Census Region									
RSE Column Factors:		0.9	1.2	0.9	1.3	0.9	0.9	1.0	
20	Food and Kindred Products	*	0	*	0	0	*	*	22.3
2011	Meat Packing Plants	*	0	*	0	0	0	0	29.5
2033	Canned Fruits and Vegetables	*	0	0	0	0	*	*	31.1
2037	Frozen Fruits and Vegetables	0	0	0	0	0	0	0	NF
2046	Wet Corn Milling	*	0	0	0	0	*	0	25.4
2051	Bread, Cake, and Related Products	*	0	0	0	0	*	*	21.6
2063	Beet Sugar	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	NF
2082	Malt Beverages	*	0	0	0	0	*	*	24.7
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NF
22	Textile Mill Products	*	0	0	0	0	*	*	37.6
23	Apparel and Other Textile Products	*	0	0	0	0	0	*	NF
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	53.0
25	Furniture and Fixtures	2	0	0	0	0	2	*	50.8
26	Paper and Allied Products	98	0	0	1	58	39	*	5.9
2611	Pulp Mills	9	0	0	0	7	2	0	39.8
2621	Paper Mills	89	0	0	1	51	37	*	4.3
2631	Paperboard Mills	*	0	0	0	0	0	*	18.0
27	Printing and Publishing	*	0	0	0	0	0	*	NF
28	Chemicals and Allied Products	1	0	*	0	*	*	1	13.3
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	NF
2813	Industrial Gases	0	0	0	0	0	0	0	NF
2819	Industrial Inorganic Chemicals, nec	0	0	0	0	0	0	0	NF
2821	Plastics Materials and Resins	1	0	*	0	0	0	1	10.7
2822	Synthetic Rubber	0	0	0	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	0	0	0	0	NF
2869	Industrial Organic Chemicals, nec	*	0	*	0	*	0	*	19.6
2873	Nitrogenous Fertilizers	*	0	0	0	0	*	*	52.6
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	W	0	86	W	0	0	0	2.9
2911	Petroleum Refining	W	0	86	W	0	0	0	2.9
30	Rubber and Misc. Plastics Products	*	0	*	0	0	*	*	24.0
3011	Tires and Inner Tubes	0	0	0	0	0	0	0	NF
308	Miscellaneous Plastics Products, nec	*	0	*	0	0	0	0	28.4
31	Leather and Leather Products	*	0	0	0	0	0	*	NF
32	Stone, Clay and Glass Products	W	0	0	W	0	*	*	10.8
3211	Flat Glass	0	0	0	0	0	0	0	NF
3221	Glass Containers	*	0	0	0	0	0	*	19.0
3229	Pressed and Blown Glass, nec	0	0	0	0	0	0	0	NF
3241	Cement, Hydraulic	W	0	0	W	0	0	*	21.9
3274	Lime	*	0	0	*	0	0	0	NF
3296	Mineral Wool	*	0	0	0	0	*	*	2.1
33	Primary Metal Industries	W	W	*	0	0	1	W	9.1
3312	Blast Furnaces and Steel Mills	123	W	0	0	0	0	W	8.8
3313	Electrometallurgical Products	*	0	0	0	0	*	*	15.0
3321	Gray and Ductile Iron Foundries	0	0	0	0	0	0	0	NF
3331	Primary Copper	0	0	0	0	0	0	0	NF
3334	Primary Aluminum	*	0	0	0	0	*	0	6.6
3339	Primary Nonferrous Metals, nec	0	0	0	0	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	*	2.1
34	Fabricated Metal Products	*	0	0	0	0	*	*	51.8
35	Industrial Machinery and Equipment	*	0	0	0	0	*	*	31.5
357	Computer and Office Equipment	*	0	0	0	0	0	*	34.9
36	Electronic and Other Electric Equipment	0	0	0	0	0	0	0	NF
37	Transportation Equipment	0	0	0	0	0	0	0	NF
3711	Motor Vehicles and Car Bodies	0	0	0	0	0	0	0	NF
3714	Motor Vehicle Parts and Accessories	0	0	0	0	0	0	0	NF
38	Instruments and Related Products	W	0	0	0	0	*	*	30.1
3841	Surgical and Medical Instruments	0	0	0	0	0	0	0	NF
39	Misc. Manufacturing Industries	*	0	0	0	0	*	*	34.8
	Total	368	W	87	48	58	50	W	5.5

See footnotes at end of table.

Table A6. Total Inputs of Selected Byproduct Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Blast Furnace/ Coke Oven Gases	Waste Gas	Petroleum Coke	Pulping Liquor	Wood Chips, Bark	Waste Oils/Tars And Waste Materials	RSE Row Factors
Midwest Census Region									
RSE Column Factors:		0.9	0.8	0.9	0.9	1.2	1.2	1.1	
20	Food and Kindred Products	W	0	W	0	0	*	*	16.4
2011	Meat Packing Plants	W	0	W	0	0	*	0	21.4
2033	Canned Fruits and Vegetables	*	0	0	0	0	0	*	40.2
2037	Frozen Fruits and Vegetables	*	0	*	0	0	0	0	41.1
2046	Wet Corn Milling	*	0	*	0	0	0	0	25.5
2051	Bread, Cake, and Related Products	0	0	0	0	0	0	0	NF
2063	Beet Sugar	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	*	0	*	0	0	0	*	8.9
2082	Malt Beverages	0	0	0	0	0	0	0	NF
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NF
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NF
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	49.2
24	Lumber and Wood Products	32	0	0	0	0	31	Q	24.2
25	Furniture and Fixtures	Q	0	0	0	0	Q	*	35.8
26	Paper and Allied Products	82	0	0	*	49	31	Q	7.6
2611	Pulp Mills	23	0	0	0	18	5	0	25.2
2621	Paper Mills	51	0	0	*	30	20	*	4.4
2631	Paperboard Mills	W	0	0	0	1	W	*	14.5
27	Printing and Publishing	*	0	*	0	0	0	*	35.2
28	Chemicals and Allied Products	W	0	W	0	0	W	W	13.5
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	NF
2813	Industrial Gases	0	0	0	0	0	0	0	NF
2819	Industrial Inorganic Chemicals, nec	*	0	*	0	0	0	0	20.0
2821	Plastics Materials and Resins	W	0	*	0	0	W	W	12.5
2822	Synthetic Rubber	*	0	0	0	0	0	*	22.1
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	0	0	0	0	NF
2869	Industrial Organic Chemicals, nec	W	0	*	0	0	0	*	8.2
2873	Nitrogenous Fertilizers	1	0	1	0	0	0	*	41.6
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	W	0	214	W	0	0	Q	2.5
2911	Petroleum Refining	W	0	213	W	0	0	*	3.2
30	Rubber and Misc. Plastics Products	*	0	0	0	0	0	*	8.0
3011	Tires and Inner Tubes	*	0	0	0	0	0	*	7.0
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NF
31	Leather and Leather Products	0	0	0	0	0	0	0	NF
32	Stone, Clay and Glass Products	28	0	0	W	0	Q	W	14.8
3211	Flat Glass	0	0	0	0	0	0	0	NF
3221	Glass Containers	0	0	0	0	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	0	0	0	0	NF
3241	Cement, Hydraulic	18	0	0	17	0	0	1	17.1
3274	Lime	W	0	0	W	0	0	0	18.8
3296	Mineral Wool	0	0	0	0	0	0	0	NF
33	Primary Metal Industries	228	222	0	0	0	*	6	7.3
3312	Blast Furnaces and Steel Mills	227	222	0	0	0	0	6	6.3
3313	Electrometallurgical Products	*	0	0	0	0	*	0	13.6
3321	Gray and Ductile Iron Foundries	0	0	0	0	0	0	0	NF
3331	Primary Copper	0	0	0	0	0	0	0	NF
3334	Primary Aluminum	0	0	0	0	0	0	0	NF
3339	Primary Nonferrous Metals, nec	0	0	0	0	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	0	0	0	0	0	0	0	NF
34	Fabricated Metal Products	*	0	0	0	0	*	*	21.1
35	Industrial Machinery and Equipment	*	0	0	0	0	*	*	27.6
357	Computer and Office Equipment	0	0	0	0	0	0	0	NF
36	Electronic and Other Electric Equipment	*	0	0	0	0	*	*	26.2
37	Transportation Equipment	2	0	*	0	0	*	1	8.9
3711	Motor Vehicles and Car Bodies	*	0	*	0	0	*	*	8.4
3714	Motor Vehicle Parts and Accessories	1	0	*	0	0	0	1	14.2
38	Instruments and Related Products	*	0	0	0	0	*	0	NF
3841	Surgical and Medical Instruments	0	0	0	0	0	0	0	NF
39	Misc. Manufacturing Industries	Q	0	0	0	0	Q	0	NF
	Total	755	222	217	177	49	77	13	5.3

See footnotes at end of table.

Table A6. Total Inputs of Selected Byproduct Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Blast Furnace/ Coke Oven Gases	Waste Gas	Petroleum Coke	Pulping Liquor	Wood Chips, Bark	Waste Oils/Tars And Waste Materials	RSE Row Factors
South Census Region									
RSE Column Factors:		0.9	1.2	0.8	1.2	0.7	1.1	1.2	
20	Food and Kindred Products	2	0	*	0	0	2	*	19.2
2011	Meat Packing Plants	*	0	0	0	0	*	0	NF
2033	Canned Fruits and Vegetables	0	0	0	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	*	0	0	0	0	0	*	36.6
2046	Wet Corn Milling	W	0	0	0	0	W	0	24.0
2051	Bread, Cake, and Related Products	*	0	0	0	0	0	*	24.7
2063	Beet Sugar	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	W	0	0	0	0	W	*	8.8
2082	Malt Beverages	*	0	*	0	0	0	*	23.9
21	Tobacco Products	0	0	0	0	0	0	0	NF
22	Textile Mill Products	2	0	0	0	0	2	*	16.0
23	Apparel and Other Textile Products	*	0	0	0	0	0	*	NF
24	Lumber and Wood Products	141	0	0	0	0	141	*	20.7
25	Furniture and Fixtures	W	0	0	0	0	W	*	32.0
26	Paper and Allied Products	831	0	0	4	586	239	1	5.5
2611	Pulp Mills	166	0	0	*	133	33	0	17.3
2621	Paper Mills	319	0	0	W	225	W	*	4.2
2631	Paperboard Mills	345	0	0	1	228	115	1	6.2
27	Printing and Publishing	0	0	0	0	0	0	0	NF
28	Chemicals and Allied Products	365	*	297	*	0	W	W	7.8
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	NF
2813	Industrial Gases	W	0	W	0	0	0	0	22.3
2819	Industrial Inorganic Chemicals, nec	W	0	W	0	0	0	*	15.0
2821	Plastics Materials and Resins	W	*	19	0	0	W	2	9.6
2822	Synthetic Rubber	W	0	0	0	0	0	W	21.8
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	1	0	1	0	0	0	*	7.4
2865	Cyclic Crudes and Intermediates	W	*	W	0	0	0	1	17.7
2869	Industrial Organic Chemicals, nec	260	0	248	0	0	0	11	5.7
2873	Nitrogenous Fertilizers	1	0	1	0	0	0	*	51.7
2874	Phosphatic Fertilizers	*	0	0	*	0	0	*	3.8
29	Petroleum and Coal Products	916	0	660	255	0	0	0	2.1
2911	Petroleum Refining	916	0	660	255	0	0	0	2.1
30	Rubber and Misc. Plastics Products	*	0	*	0	0	0	*	37.7
3011	Tires and Inner Tubes	*	0	*	0	0	0	*	5.5
308	Miscellaneous Plastics Products, nec	*	0	*	0	0	0	*	NF
31	Leather and Leather Products	Q	0	0	0	0	Q	0	NF
32	Stone, Clay and Glass Products	W	0	W	12	0	W	*	24.5
3211	Flat Glass	0	0	0	0	0	0	0	NF
3221	Glass Containers	0	0	0	0	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	0	0	0	0	NF
3241	Cement, Hydraulic	7	0	0	7	0	*	*	18.2
3274	Lime	W	0	0	W	0	0	0	45.3
3296	Mineral Wool	*	0	0	0	0	*	0	2.1
33	Primary Metal Industries	W	71	W	*	0	1	W	5.5
3312	Blast Furnaces and Steel Mills	W	71	0	*	0	0	W	7.0
3313	Electrometallurgical Products	W	0	0	0	0	W	0	14.6
3321	Gray and Ductile Iron Foundries	0	0	0	0	0	0	0	NF
3331	Primary Copper	0	0	0	0	0	0	0	NF
3334	Primary Aluminum	*	0	0	0	0	0	*	5.9
3339	Primary Nonferrous Metals, nec	W	0	W	0	0	*	0	1.1
3353	Aluminum Sheet, Plate, and Foil	*	0	0	0	0	0	*	1.0
34	Fabricated Metal Products	*	0	0	0	0	*	*	20.5
35	Industrial Machinery and Equipment	*	0	0	0	0	*	*	28.6
357	Computer and Office Equipment	0	0	0	0	0	0	0	NF
36	Electronic and Other Electric Equipment	*	0	0	0	0	0	*	33.6
37	Transportation Equipment	*	0	0	0	0	*	*	14.4
3711	Motor Vehicles and Car Bodies	*	0	0	0	0	0	*	7.9
3714	Motor Vehicle Parts and Accessories	*	0	0	0	0	0	*	15.8
38	Instruments and Related Products	*	0	0	0	0	*	*	27.3
3841	Surgical and Medical Instruments	0	0	0	0	0	0	0	NF
39	Misc. Manufacturing Industries	*	0	0	0	0	*	0	40.7
	Total	2,362	71	958	271	586	406	69	3.9

See footnotes at end of table.

Table A6. Total Inputs of Selected Byproduct Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Blast Furnace/ Coke Oven Gases	Waste Gas	Petroleum Coke	Pulping Liquor	Wood Chips, Bark	Waste Oils/Tars And Waste Materials	RSE Row Factors
West Census Region									
RSE Column Factors:		0.9	1.8	0.8	0.9	0.8	0.8	1.3	
20	Food and Kindred Products	Q	0	*	0	0	Q	*	19.2
2011	Meat Packing Plants	0	0	0	0	0	0	0	NF
2033	Canned Fruits and Vegetables	0	0	0	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	*	0	0	0	0	0	*	25.0
2046	Wet Corn Milling	0	0	0	0	0	0	0	NF
2051	Bread, Cake, and Related Products	0	0	0	0	0	0	0	NF
2063	Beet Sugar	*	0	0	0	0	0	*	14.8
2075	Soybean Oil Mills	0	0	0	0	0	0	0	NF
2082	Malt Beverages	*	0	*	0	0	0	0	26.6
21	Tobacco Products	0	0	0	0	0	0	0	NF
22	Textile Mill Products	0	0	0	0	0	0	0	NF
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NF
24	Lumber and Wood Products	94	0	0	0	0	93	*	25.7
25	Furniture and Fixtures	*	0	0	0	0	*	0	NF
26	Paper and Allied Products	202	0	*	*	164	38	*	11.2
2611	Pulp Mills	25	0	*	*	20	5	*	27.7
2621	Paper Mills	62	0	0	*	48	14	*	6.9
2631	Paperboard Mills	W	0	0	*	96	W	*	11.4
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	36.9
28	Chemicals and Allied Products	W	0	W	W	0	0	0	18.0
2812	Alkalies and Chlorine	0	0	0	0	0	0	0	NF
2813	Industrial Gases	0	0	0	0	0	0	0	NF
2819	Industrial Inorganic Chemicals, nec	W	0	W	W	0	0	0	20.3
2821	Plastics Materials and Resins	0	0	0	0	0	0	0	NF
2822	Synthetic Rubber	0	0	0	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	0	0	0	0	NF
2869	Industrial Organic Chemicals, nec	W	0	0	W	0	0	0	15.3
2873	Nitrogenous Fertilizers	0	0	0	0	0	0	0	NF
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	392	0	318	74	0	0	*	2.7
2911	Petroleum Refining	392	0	317	74	0	0	*	2.7
30	Rubber and Misc. Plastics Products	0	0	0	0	0	0	0	NF
3011	Tires and Inner Tubes	0	0	0	0	0	0	0	NF
308	Miscellaneous Plastics Products, nec	0	0	0	0	0	0	0	NF
31	Leather and Leather Products	0	0	0	0	0	0	0	NF
32	Stone, Clay and Glass Products	3	0	0	3	0	0	*	21.4
3211	Flat Glass	0	0	0	0	0	0	0	NF
3221	Glass Containers	0	0	0	0	0	0	0	NF
3229	Pressed and Blown Glass, nec.	0	0	0	0	0	0	0	NF
3241	Cement, Hydraulic	W	0	0	W	0	0	*	29.9
3274	Lime	*	0	0	0	0	0	*	21.3
3296	Mineral Wool	0	0	0	0	0	0	0	NF
33	Primary Metal Industries	W	W	W	0	0	0	W	5.8
3312	Blast Furnaces and Steel Mills	W	W	0	0	0	0	W	10.1
3313	Electrometallurgical Products	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	0	0	0	0	0	0	0	NF
3331	Primary Copper	W	0	W	0	0	0	*	1.0
3334	Primary Aluminum	*	0	0	0	0	0	*	5.5
3339	Primary Nonferrous Metals, nec	0	0	0	0	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	0	0	0	0	0	0	0	NF
34	Fabricated Metal Products	*	0	0	0	0	0	*	NF
35	Industrial Machinery and Equipment	0	0	0	0	0	0	0	NF
357	Computer and Office Equipment	0	0	0	0	0	0	0	NF
36	Electronic and Other Electric Equipment	*	0	0	0	0	0	*	NF

See footnotes at end of table.

Table A6. Total Inputs of Selected Byproduct Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Blast Furnace/ Coke Oven Gases	Waste Gas	Petroleum Coke	Pulping Liquor	Wood Chips, Bark	Waste Oils/Tars And Waste Materials	RSE Row Factors
RSE Column Factors:		0.9	1.8	0.8	0.9	0.8	0.8	1.3	
37	Transportation Equipment	0	0	0	0	0	0	0	NF
3711	Motor Vehicles and Car Bodies	0	0	0	0	0	0	0	NF
3714	Motor Vehicle Parts and Accessories	0	0	0	0	0	0	0	NF
38	Instruments and Related Products	0	0	0	0	0	0	0	NF
3841	Surgical and Medical Instruments	0	0	0	0	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	0	0	0	0	NF
	Total	713	W	321	79	164	132	W	6.2

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A7. Shell Storage Capacity of Selected Petroleum Products by Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
Total United States						
	RSE Column Factors:	1.0	0.9	1.0	1.1	
20	Food and Kindred Products	38	1,448	306	531	12.1
2011	Meat Packing Plants	1	229	40	13	13.2
2033	Canned Fruits and Vegetables	1	43	22	12	18.2
2037	Frozen Fruits and Vegetables	1	64	8	11	25.3
2046	Wet Corn Milling	*	7	1	37	29.0
2051	Bread, Cake, and Related Products	2	1	7	12	16.6
2063	Beet Sugar	1	W	3	6	8.7
2075	Soybean Oil Mills	1	108	W	W	5.6
2082	Malt Beverages	*	318	1	14	12.8
21	Tobacco Products	1	163	3	5	4.7
22	Textile Mill Products	5	725	29	329	11.1
23	Apparel and Other Textile Products	*	78	5	43	35.2
24	Lumber and Wood Products	24	125	438	117	23.3
25	Furniture and Fixtures	3	44	37	63	29.2
26	Paper and Allied Products	8	4,085	83	360	5.5
2611	Pulp Mills	1	865	20	33	16.5
2621	Paper Mills	3	1,833	33	134	3.2
2631	Paperboard Mills	4	1,249	17	32	6.2
27	Printing and Publishing	24	11	24	80	25.5
28	Chemicals and Allied Products	32	4,201	476	1,044	11.7
2812	Alkalies and Chlorine	*	1	5	4	17.5
2813	Industrial Gases	*	0	Q	1	13.9
2819	Industrial Inorganic Chemicals, nec	8	258	177	338	11.2
2821	Plastics Materials and Resins	4	233	23	66	7.4
2822	Synthetic Rubber	1	120	1	W	12.8
2823	Cellulosic Manmade Fibers	*	0	*	12	28.6
2824	Organic Fibers, Noncellulosic	*	488	4	5	3.9
2865	Cyclic Crudes and Intermediates	2	584	28	41	12.2
2869	Industrial Organic Chemicals, nec	7	477	27	224	8.5
2873	Nitrogenous Fertilizers	1	0	3	14	22.6
2874	Phosphatic Fertilizers	1	90	19	11	3.4
29	Petroleum and Coal Products	5	1,703	172	274	23.0
2911	Petroleum Refining	*	885	1	W	9.2
30	Rubber and Misc. Plastics Products	6	701	Q	176	12.8
3011	Tires and Inner Tubes	*	448	3	21	4.2
308	Miscellaneous Plastics Products, nec	Q	156	Q	114	15.7
31	Leather and Leather Products	*	14	Q	43	26.8
32	Stone, Clay and Glass Products	35	474	815	889	10.2
3211	Flat Glass	*	W	W	448	4.4
3221	Glass Containers	*	92	W	82	8.9
3229	Pressed and Blown Glass, nec	*	23	16	W	12.4
3241	Cement, Hydraulic	5	192	168	39	16.6
3274	Lime	2	W	54	Q	21.3
3296	Mineral Wool	1	W	19	9	1.7
33	Primary Metal Industries	25	2,870	318	454	5.6
3312	Blast Furnaces and Steel Mills	7	2,790	149	277	5.1
3313	Electrometallurgical Products	1	0	6	*	8.5
3321	Gray and Ductile Iron Foundries	3	1	12	32	17.5
3331	Primary Copper	1	W	W	3	1.0
3334	Primary Aluminum	3	W	21	13	3.9
3339	Primary Nonferrous Metals, nec	1	W	13	4	7.2
3353	Aluminum Sheet, Plate, and Foil	2	W	31	10	1.0
34	Fabricated Metal Products	29	125	132	207	22.2
35	Industrial Machinery and Equipment	17	286	79	171	16.4
357	Computer and Office Equipment	1	3	3	10	16.7
36	Electronic and Other Electric Equipment	5	239	47	158	16.7
37	Transportation Equipment	75	491	165	266	11.9
3711	Motor Vehicles and Car Bodies	20	109	25	49	4.1
3714	Motor Vehicle Parts and Accessories	13	37	13	56	9.3
38	Instruments and Related Products	6	232	15	96	13.1
3841	Surgical and Medical Instruments	*	2	2	8	22.9
39	Misc. Manufacturing Industries	1	23	6	57	21.5
	Total	339	18,036	3,365	5,364	5.3

See footnotes at end of table.

Table A7. Shell Storage Capacity of Selected Petroleum Products by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
Northeast Census Region						
	RSE Column Factors:	1.1	0.8	1.1	1.0	
20	Food and Kindred Products	3	196	59	142	20.2
2011	Meat Packing Plants	*	1	2	3	22.6
2033	Canned Fruits and Vegetables	*	12	2	3	23.0
2037	Frozen Fruits and Vegetables	*	Q	*	1	39.5
2046	Wet Corn Milling	0	W	0	*	21.0
2051	Bread, Cake, and Related Products	*	1	4	10	21.4
2063	Beet Sugar	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	NF
2082	Malt Beverages	0	W	*	W	16.5
21	Tobacco Products	NA	NA	NA	NA	NF
22	Textile Mill Products	*	139	Q	Q	25.8
23	Apparel and Other Textile Products	0	Q	0	14	35.6
24	Lumber and Wood Products	NA	NA	NA	NA	47.8
25	Furniture and Fixtures	*	Q	Q	W	30.8
26	Paper and Allied Products	2	1,075	14	81	10.9
2611	Pulp Mills	*	1	*	0	36.5
2621	Paper Mills	1	926	6	26	4.0
2631	Paperboard Mills	*	61	*	*	11.1
27	Printing and Publishing	Q	4	Q	42	37.3
28	Chemicals and Allied Products	5	580	12	238	14.3
2812	Alkalies and Chlorine	0	0	0	0	NF
2813	Industrial Gases	0	0	0	*	18.3
2819	Industrial Inorganic Chemicals, nec	*	28	W	W	17.6
2821	Plastics Materials and Resins	*	97	6	47	11.0
2822	Synthetic Rubber	0	W	0	*	23.9
2823	Cellulosic Manmade Fibers	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	*	0	*	6.7
2865	Cyclic Crudes and Intermediates	1	W	W	11	17.8
2869	Industrial Organic Chemicals, nec	1	W	1	16	6.7
2873	Nitrogenous Fertilizers	*	0	*	*	45.7
2874	Phosphatic Fertilizers	0	0	0	0	NF
29	Petroleum and Coal Products	Q	1,361	Q	41	22.5
2911	Petroleum Refining	0	670	0	0	22.1
30	Rubber and Misc. Plastics Products	*	64	3	81	27.1
3011	Tires and Inner Tubes	0	3	1	Q	17.1
308	Miscellaneous Plastics Products, nec	*	43	1	59	30.9
31	Leather and Leather Products	*	8	1	35	31.6
32	Stone, Clay and Glass Products	3	135	176	306	16.9
3211	Flat Glass	*	0	*	W	5.3
3221	Glass Containers	*	W	*	45	12.7
3229	Pressed and Blown Glass, nec	*	Q	W	W	12.6
3241	Cement, Hydraulic	1	12	Q	10	20.9
3274	Lime	*	0	Q	Q	NF
3296	Mineral Wool	*	0	W	*	1.9
33	Primary Metal Industries	6	544	48	129	8.4
3312	Blast Furnaces and Steel Mills	3	W	16	93	8.7
3313	Electrometallurgical Products	*	0	*	0	12.4
3321	Gray and Ductile Iron Foundries	1	0	2	4	29.2
3331	Primary Copper	0	0	*	1	1.0
3334	Primary Aluminum	*	1	*	W	5.2
3339	Primary Nonferrous Metals, nec	*	W	W	*	8.0
3353	Aluminum Sheet, Plate, and Foil	*	W	W	W	1.0
34	Fabricated Metal Products	1	66	10	89	25.5
35	Industrial Machinery and Equipment	3	198	12	113	29.9
357	Computer and Office Equipment	*	2	*	4	23.2
36	Electronic and Other Electric Equipment	1	117	3	97	19.0
37	Transportation Equipment	8	281	16	89	13.3
3711	Motor Vehicles and Car Bodies	2	W	*	W	7.8
3714	Motor Vehicle Parts and Accessories	2	1	2	1	16.6
38	Instruments and Related Products	1	145	4	56	20.4
3841	Surgical and Medical Instruments	*	2	*	4	26.2
39	Misc. Manufacturing Industries	*	19	4	53	26.0
	Total	39	4,959	500	1,751	8.4

See footnotes at end of table.

Table A7. Shell Storage Capacity of Selected Petroleum Products by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
Midwest Census Region						
	RSE Column Factors:	0.9	1.0	1.0	1.0	
20	Food and Kindred Products	Q	558	64	82	14.3
2011	Meat Packing Plants	*	228	7	5	11.8
2033	Canned Fruits and Vegetables	*	0	7	Q	28.4
2037	Frozen Fruits and Vegetables	0	14	1	1	35.9
2046	Wet Corn Milling	*	W	*	4	16.4
2051	Bread, Cake, and Related Products	*	0	*	W	26.4
2063	Beet Sugar	*	W	1	W	10.0
2075	Soybean Oil Mills	*	W	W	W	5.8
2082	Malt Beverages	0	68	*	0	18.3
21	Tobacco Products	NA	NA	NA	NA	7.7
22	Textile Mill Products	NA	NA	NA	NA	28.0
23	Apparel and Other Textile Products	NA	NA	NA	NA	47.3
24	Lumber and Wood Products	1	Q	Q	Q	50.1
25	Furniture and Fixtures	Q	*	4	5	38.4
26	Paper and Allied Products	1	279	15	90	10.8
2611	Pulp Mills	*	0	3	0	27.0
2621	Paper Mills	*	220	8	55	5.9
2631	Paperboard Mills	*	20	1	9	16.9
27	Printing and Publishing	Q	6	5	Q	32.8
28	Chemicals and Allied Products	4	W	Q	165	14.3
2812	Alkalies and Chlorine	*	0	W	0	22.9
2813	Industrial Gases	0	0	Q	0	NF
2819	Industrial Inorganic Chemicals, nec	*	W	W	7	12.3
2821	Plastics Materials and Resins	1	36	3	2	9.4
2822	Synthetic Rubber	*	0	0	W	22.3
2823	Cellulosic Manmade Fibers	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	W	W	21	14.3
2869	Industrial Organic Chemicals, nec	*	W	4	32	9.7
2873	Nitrogenous Fertilizers	*	0	*	*	34.1
2874	Phosphatic Fertilizers	*	0	*	0	4.1
29	Petroleum and Coal Products	*	W	Q	98	43.1
2911	Petroleum Refining	0	53	0	0	4.9
30	Rubber and Misc. Plastics Products	Q	227	6	23	15.2
3011	Tires and Inner Tubes	*	174	*	W	5.1
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	30.2
31	Leather and Leather Products	*	4	1	4	36.3
32	Stone, Clay and Glass Products	7	46	159	109	19.2
3211	Flat Glass	*	0	1	W	5.0
3221	Glass Containers	*	0	W	W	14.0
3229	Pressed and Blown Glass, nec	*	*	W	W	10.7
3241	Cement, Hydraulic	1	W	28	16	18.8
3274	Lime	1	*	W	1	20.9
3296	Mineral Wool	*	W	*	W	1.4
33	Primary Metal Industries	8	991	102	221	7.3
3312	Blast Furnaces and Steel Mills	2	985	74	170	6.8
3313	Electrometallurgical Products	*	0	W	*	11.3
3321	Gray and Ductile Iron Foundries	1	1	5	21	22.3
3331	Primary Copper	0	0	0	0	NF
3334	Primary Aluminum	*	0	W	W	5.0
3339	Primary Nonferrous Metals, nec	*	0	2	*	1.8
3353	Aluminum Sheet, Plate, and Foil	1	*	W	W	1.0
34	Fabricated Metal Products	8	25	19	54	29.2
35	Industrial Machinery and Equipment	8	63	43	40	19.9
357	Computer and Office Equipment	0	0	1	*	29.4
36	Electronic and Other Electric Equipment	2	67	12	34	18.6
37	Transportation Equipment	25	128	36	74	6.9
3711	Motor Vehicles and Car Bodies	12	W	10	8	5.1
3714	Motor Vehicle Parts and Accessories	10	35	7	45	9.4
38	Instruments and Related Products	*	Q	1	1	28.0
3841	Surgical and Medical Instruments	0	0	*	1	27.3
39	Misc. Manufacturing Industries	1	1	1	3	33.3
	Total	87	3,082	773	1,058	9.5

See footnotes at end of table.

Table A7. Shell Storage Capacity of Selected Petroleum Products by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
	RSE Column Factors:	1.1	0.9	1.0	1.0	
20	Food and Kindred Products	10	504	125	271	15.1
2011	Meat Packing Plants	1	1	31	5	19.2
2033	Canned Fruits and Vegetables	*	9	2	1	25.1
2037	Frozen Fruits and Vegetables	*	33	4	8	27.2
2046	Wet Corn Milling	*	0	Q	Q	42.1
2051	Bread, Cake, and Related Products	1	*	2	W	21.4
2063	Beet Sugar	*	0	*	0	15.5
2075	Soybean Oil Mills	*	W	W	W	6.7
2082	Malt Beverages	*	126	*	W	14.0
21	Tobacco Products	1	163	3	5	4.7
22	Textile Mill Products	4	585	26	234	10.1
23	Apparel and Other Textile Products	*	Q	3	23	40.2
24	Lumber and Wood Products	11	Q	198	55	31.7
25	Furniture and Fixtures	1	31	31	23	30.5
26	Paper and Allied Products	5	2,036	39	183	7.1
2611	Pulp Mills	*	650	12	33	20.6
2621	Paper Mills	2	521	13	52	3.5
2631	Paperboard Mills	3	855	12	21	6.9
27	Printing and Publishing	Q	Q	Q	17	36.1
28	Chemicals and Allied Products	15	3,142	106	390	8.2
2812	Alkalies and Chlorine	*	0	W	4	17.8
2813	Industrial Gases	0	0	*	*	15.8
2819	Industrial Inorganic Chemicals, nec	1	94	33	82	11.0
2821	Plastics Materials and Resins	2	99	14	18	7.5
2822	Synthetic Rubber	1	W	1	*	13.7
2823	Cellulosic Manmade Fibers	*	0	*	12	29.1
2824	Organic Fibers, Noncellulosic	*	488	4	5	3.9
2865	Cyclic Crudes and Intermediates	1	515	W	8	11.7
2869	Industrial Organic Chemicals, nec	5	275	21	175	8.3
2873	Nitrogenous Fertilizers	*	0	2	0	22.8
2874	Phosphatic Fertilizers	1	90	W	11	2.7
29	Petroleum and Coal Products	1	77	28	123	23.7
2911	Petroleum Refining	*	W	1	W	7.1
30	Rubber and Misc. Plastics Products	3	409	Q	71	13.4
3011	Tires and Inner Tubes	*	270	2	18	4.1
308	Miscellaneous Plastics Products, nec	Q	102	Q	44	17.4
31	Leather and Leather Products	*	1	*	4	43.9
32	Stone, Clay and Glass Products	17	105	293	385	16.6
3211	Flat Glass	*	0	1	W	3.8
3221	Glass Containers	*	W	W	W	15.8
3229	Pressed and Blown Glass, nec	*	W	W	W	10.3
3241	Cement, Hydraulic	1	W	22	11	22.3
3274	Lime	1	0	22	0	19.4
3296	Mineral Wool	*	*	W	W	2.0
33	Primary Metal Industries	7	W	83	99	12.1
3312	Blast Furnaces and Steel Mills	1	W	51	14	7.3
3313	Electrometallurgical Products	*	0	W	0	9.7
3321	Gray and Ductile Iron Foundries	1	*	5	6	12.9
3331	Primary Copper	0	1	*	1	1.0
3334	Primary Aluminum	2	0	W	W	4.2
3339	Primary Nonferrous Metals, nec	*	0	2	Q	50.4
3353	Aluminum Sheet, Plate, and Foil	1	0	4	W	1.0
34	Fabricated Metal Products	15	Q	91	62	32.2
35	Industrial Machinery and Equipment	2	25	20	18	34.3
357	Computer and Office Equipment	*	1	1	6	23.5
36	Electronic and Other Electric Equipment	1	55	27	25	21.6
37	Transportation Equipment	33	W	Q	68	18.6
3711	Motor Vehicles and Car Bodies	5	33	12	W	5.6
3714	Motor Vehicle Parts and Accessories	*	*	2	10	18.8
38	Instruments and Related Products	1	43	7	37	21.8
3841	Surgical and Medical Instruments	*	0	1	3	30.9
39	Misc. Manufacturing Industries	*	3	Q	1	29.7
	Total	134	8,531	1,360	2,095	8.3

See footnotes at end of table.

Table A7. Shell Storage Capacity of Selected Petroleum Products by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
RSE Column Factors:		1.0	0.9	0.9	1.2	
20	Food and Kindred Products	Q	189	57	36	22.6
2011	Meat Packing Plants	*	*	1	*	19.6
2033	Canned Fruits and Vegetables	1	22	10	*	17.8
2037	Frozen Fruits and Vegetables	1	Q	Q	1	27.8
2046	Wet Corn Milling	0	0	*	0	22.2
2051	Bread, Cake, and Related Products	*	0	1	*	37.0
2063	Beet Sugar	1	W	2	W	11.2
2075	Soybean Oil Mills	0	0	0	0	NF
2082	Malt Beverages	0	W	1	W	20.3
21	Tobacco Products	0	0	0	0	NF
22	Textile Mill Products	0	0	*	W	23.7
23	Apparel and Other Textile Products	NA	NA	NA	NA	NF
24	Lumber and Wood Products	12	108	155	16	27.0
25	Furniture and Fixtures	0	0	*	Q	NF
26	Paper and Allied Products	1	695	16	6	12.3
2611	Pulp Mills	*	214	5	0	20.8
2621	Paper Mills	*	167	6	*	5.6
2631	Paperboard Mills	1	314	4	1	8.5
27	Printing and Publishing	NA	NA	NA	NA	48.6
28	Chemicals and Allied Products	9	W	147	250	15.0
2812	Alkalies and Chlorine	*	1	*	*	23.0
2813	Industrial Gases	*	0	*	0	20.3
2819	Industrial Inorganic Chemicals, nec	7	W	140	W	14.6
2821	Plastics Materials and Resins	0	0	*	0	11.1
2822	Synthetic Rubber	0	0	*	0	24.4
2823	Cellulosic Manmade Fibers	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	*	0	25.5
2869	Industrial Organic Chemicals, nec	Q	0	*	Q	49.9
2873	Nitrogenous Fertilizers	*	0	1	13	35.7
2874	Phosphatic Fertilizers	*	0	W	0	9.1
29	Petroleum and Coal Products	Q	W	Q	Q	5.3
2911	Petroleum Refining	0	W	0	0	5.3
30	Rubber and Misc. Plastics Products	0	*	5	1	23.0
3011	Tires and Inner Tubes	0	*	*	0	7.6
308	Miscellaneous Plastics Products, nec	0	0	Q	0	NF
31	Leather and Leather Products	0	0	Q	*	NF
32	Stone, Clay and Glass Products	9	189	187	89	16.4
3211	Flat Glass	*	W	W	W	5.7
3221	Glass Containers	*	1	*	W	15.0
3229	Pressed and Blown Glass, nec	0	0	*	0	14.4
3241	Cement, Hydraulic	2	W	21	2	24.4
3274	Lime	*	W	W	0	22.3
3296	Mineral Wool	0	0	W	0	2.2
33	Primary Metal Industries	4	W	85	5	8.1
3312	Blast Furnaces and Steel Mills	1	W	7	*	10.2
3313	Electrometallurgical Products	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	*	0	1	0	33.6
3331	Primary Copper	1	W	W	1	1.0
3334	Primary Aluminum	*	W	2	*	4.6
3339	Primary Nonferrous Metals, nec	*	0	W	1	1.0
3353	Aluminum Sheet, Plate, and Foil	*	0	W	0	1.1
34	Fabricated Metal Products	Q	W	13	Q	35.8
35	Industrial Machinery and Equipment	Q	0	5	*	25.5
357	Computer and Office Equipment	*	0	1	0	31.3
36	Electronic and Other Electric Equipment	Q	0	4	2	38.0

See footnotes at end of table.

Table A7. Shell Storage Capacity of Selected Petroleum Products by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
		West Census Region				
RSE Column Factors:		1.0	0.9	0.9	1.2	
37	Transportation Equipment	9	W	34	34	15.3
3711	Motor Vehicles and Car Bodies	1	0	3	0	7.8
3714	Motor Vehicle Parts and Accessories	0	*	Q	*	NF
38	Instruments and Related Products	4	1	4	2	22.6
3841	Surgical and Medical Instruments	0	0	*	*	36.6
39	Misc. Manufacturing Industries	0	0	*	*	34.8
	Total	79	1,464	732	460	8.9

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A8. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991

SIC Code ^a	Industry Groups and Industry	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
Total United States							
RSE Column Factors:		0.8	0.8	0.7	1.2	1.8	
20	Food and Kindred Products	704.0	6.3	2.4	W	8.7	6.1
2011	<i>Meat Packing Plants</i>	418.5	8.1	1.0	W	7.9	4.8
2033	<i>Canned Fruits and Vegetables</i>	702.5	6.7	2.9	0.0	7.1	5.9
2037	<i>Frozen Fruits and Vegetables</i>	795.3	12.8	4.9	0.2	9.6	11.7
2046	<i>Wet Corn Milling</i>	15,301.7	43.0	20.2	W	0.7	7.1
2051	<i>Bread, Cake, and Related Products</i>	230.7	3.2	2.0	0.0	3.3	5.5
2063	<i>Beet Sugar</i>	8,855.0	83.7	28.7	0.0	W	3.1
2075	<i>Soybean Oil Mills</i>	7,865.1	42.6	5.1	W	1.8	2.7
2082	<i>Malt Beverages</i>	1,511.2	5.3	3.0	W	13.0	6.3
21	Tobacco Products	629.2	1.0	0.8	0.0	26.1	5.8
22	Textile Mill Products	459.4	10.6	4.3	0.0	17.2	4.7
23	Apparel and Other Textile Products	49.7	1.4	0.7	0.0	14.6	11.5
24	Lumber and Wood Products	791.0	18.2	6.8	0.0	39.2	10.6
25	Furniture and Fixtures	159.0	3.5	1.8	0.0	11.3	17.2
26	Paper and Allied Products	4,234.5	43.9	20.1	34.7	30.2	3.6
2611	<i>Pulp Mills</i>	20,034.8	127.0	58.0	59.3	89.9	4.6
2621	<i>Paper Mills</i>	9,433.1	78.7	36.7	29.4	W	2.3
2631	<i>Paperboard Mills</i>	17,291.7	116.8	56.6	39.1	W	2.9
27	Printing and Publishing	82.6	1.2	0.8	0.1	4.4	11.6
28	Chemicals and Allied Products	4,205.7	21.0	11.1	9.9	3.6	5.0
2812	<i>Alkalies and Chlorine</i>	26,321.3	129.0	66.0	0.0	W	5.9
2813	<i>Industrial Gases</i>	11,072.8	51.0	33.1	W	0.2	14.8
2819	<i>Industrial Inorganic Chemicals, nec</i>	4,144.4	30.4	18.5	1.2	5.0	7.0
2821	<i>Plastics Materials and Resins</i>	4,797.3	26.0	9.8	6.8	3.7	4.6
2822	<i>Synthetic Rubber</i>	10,047.4	60.5	27.3	0.0	1.2	13.4
2823	<i>Cellulosic Manmade Fibers</i>	2,869.3	44.4	20.8	0.0	W	16.2
2824	<i>Organic Fibers, Noncellulosic</i>	2,143.3	16.2	9.0	1.0	W	3.4
2865	<i>Cyclic Crudes and Intermediates</i>	7,348.4	43.9	15.6	W	9.3	7.4
2869	<i>Industrial Organic Chemicals, nec</i>	11,886.6	52.2	22.3	20.9	2.1	4.1
2873	<i>Nitrogenous Fertilizers</i>	43,985.2	229.2	91.0	0.7	0.1	12.6
2874	<i>Phosphatic Fertilizers</i>	3,396.7	25.4	7.0	0.0	12.9	5.5
29	Petroleum and Coal Products	25,608.9	120.5	18.6	42.8	12.9	3.1
2911	<i>Petroleum Refining</i>	39,377.8	146.0	20.0	44.1	9.3	1.4
30	Rubber and Misc. Plastics Products	294.2	4.8	2.4	0.1	11.3	6.6
3011	<i>Tires and Inner Tubes</i>	658.3	6.4	3.6	W	16.9	3.1
308	<i>Miscellaneous Plastics Products, nec</i>	252.5	4.3	2.1	0.1	W	9.0
31	Leather and Leather Products	125.5	3.0	1.4	0.0	51.7	17.4
32	Stone, Clay and Glass Products	2,051.2	30.5	16.6	W	7.3	9.0
3211	<i>Flat Glass</i>	3,934.5	40.1	24.0	0.0	W	2.5
3221	<i>Glass Containers</i>	2,549.9	32.6	17.8	0.0	2.7	2.8
3229	<i>Pressed and Blown Glass, nec</i>	W	W	W	0.0	W	6.0
3241	<i>Cement, Hydraulic</i>	20,082.6	169.3	87.2	0.0	11.3	5.6
3274	<i>Lime</i>	17,432.6	228.7	119.3	0.0	W	10.0
3296	<i>Mineral Wool</i>	2,619.8	26.3	15.5	0.0	W	1.5
33	Primary Metal Industries	3,526.9	50.5	17.6	18.7	6.4	3.7
3312	<i>Blast Furnaces and Steel Mills</i>	8,953.8	108.1	38.6	27.2	9.2	2.3
3313	<i>Electrometallurgical Products</i>	8,194.4	104.2	37.4	0.0	9.9	6.2
3321	<i>Gray and Ductile Iron Foundries</i>	1,033.2	20.4	10.6	0.0	3.0	5.3
3331	<i>Primary Copper</i>	4,840.7	22.9	5.5	W	W	NF
3334	<i>Primary Aluminum</i>	12,816.0	155.0	41.1	0.0	3.5	1.5
3339	<i>Primary Nonferrous Metals, nec</i>	4,239.7	45.6	12.0	W	1.9	2.6
3353	<i>Aluminum Sheet, Plate, and Foil</i>	2,450.2	23.8	5.7	0.0	0.9	2.2
34	Fabricated Metal Products	236.6	4.1	2.0	0.0	5.1	5.4
35	Industrial Machinery and Equipment	143.4	2.0	1.0	0.0	6.7	5.1
357	<i>Computer and Office Equipment</i>	86.2	0.8	0.4	0.0	2.9	7.8
36	Electronic and Other Electric Equipment	158.9	1.9	1.0	0.0	8.0	6.3
37	Transportation Equipment	222.9	2.3	1.0	W	14.2	3.7
3711	<i>Motor Vehicles and Car Bodies</i>	494.0	2.3	0.8	W	6.5	3.1
3714	<i>Motor Vehicle Parts and Accessories</i>	311.2	4.4	1.8	W	2.4	5.9
38	Instruments and Related Products	116.5	1.2	0.8	0.0	W	8.4
3841	<i>Surgical and Medical Instruments</i>	77.0	0.9	0.6	0.0	12.8	7.3
39	Misc. Manufacturing Industries	108.3	1.8	1.0	0.0	W	7.7
	Total	979.6	12.0	5.5	19.1	10.0	2.2

See footnotes at end of table.

Table A8. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)

SIC Code ^a	Industry Groups and Industry	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
Northeast Census Region							
RSE Column Factors:		0.8	0.9	0.8	1.1	1.5	
20	Food and Kindred Products	473.6	3.9	1.7	*	30.0	10.0
2011	Meat Packing Plants	256.9	5.3	0.9	W	W	13.3
2033	Canned Fruits and Vegetables	599.4	4.2	2.0	0.0	24.2	16.8
2037	Frozen Fruits and Vegetables	621.2	7.3	3.0	0.0	592.9	23.7
2046	Wet Corn Milling	1,175.1	7.5	2.7	0.0	Q	14.9
2051	Bread, Cake, and Related Products	284.7	3.0	2.1	0.0	W	10.5
2063	Beet Sugar	0.0	0.0	0.0	0.0	0.0	NF
2075	Soybean Oil Mills	0.0	0.0	0.0	0.0	0.0	NF
2082	Malt Beverages	1,306.5	5.4	3.0	0.0	W	5.6
21	Tobacco Products	NA	NA	NA	NA	NA	21.4
22	Textile Mill Products	449.9	9.4	4.6	0.0	75.5	12.8
23	Apparel and Other Textile Products	37.4	1.0	0.5	0.0	25.3	17.4
24	Lumber and Wood Products	NA	NA	NA	NA	NA	36.4
25	Furniture and Fixtures	153.6	2.7	1.4	0.0	Q	23.8
26	Paper and Allied Products	W	W	W	W	202.9	6.9
2611	Pulp Mills	13,002.3	182.1	51.4	59.3	0.0	13.8
2621	Paper Mills	6,726.9	68.5	29.9	22.2	W	2.9
2631	Paperboard Mills	6,067.5	61.9	30.6	0.0	W	7.4
27	Printing and Publishing	91.0	1.4	0.9	0.0	16.9	17.4
28	Chemicals and Allied Products	1,041.6	4.7	2.8	W	W	10.1
2812	Alkalies and Chlorine	4,327.2	53.6	17.9	0.0	0.0	4.9
2813	Industrial Gases	7,378.7	35.2	23.9	0.0	W	8.0
2819	Industrial Inorganic Chemicals, nec	1,945.1	12.4	5.2	0.0	35.5	18.1
2821	Plastics Materials and Resins	1,906.1	16.5	6.3	W	49.7	7.7
2822	Synthetic Rubber	W	W	W	0.0	W	4.5
2823	Cellulosic Manmade Fibers	0.0	0.0	0.0	0.0	0.0	NF
2824	Organic Fibers, Noncellulosic	357.1	Q	Q	0.0	W	14.8
2865	Cyclic Crudes and Intermediates	2,153.4	15.7	6.7	0.0	W	12.3
2869	Industrial Organic Chemicals, nec	1,951.7	13.8	6.6	W	W	7.6
2873	Nitrogenous Fertilizers	1,825.6	24.7	9.9	0.0	Q	44.7
2874	Phosphatic Fertilizers	0.0	0.0	0.0	0.0	0.0	NF
29	Petroleum and Coal Products	17,477.3	87.0	15.3	36.3	190.7	7.3
2911	Petroleum Refining	29,648.9	109.1	15.9	43.4	W	3.9
30	Rubber and Misc. Plastics Products	286.6	4.6	2.4	W	W	11.5
3011	Tires and Inner Tubes	602.9	8.2	4.0	0.0	39.7	7.1
308	Miscellaneous Plastics Products, nec	277.7	4.4	2.2	W	W	13.4
31	Leather and Leather Products	133.1	3.1	1.4	0.0	300.8	20.0
32	Stone, Clay and Glass Products	1,894.5	28.6	16.4	0.0	11.5	19.8
3211	Flat Glass	W	W	W	0.0	*	1.5
3221	Glass Containers	2,343.7	30.5	16.9	0.0	9.0	3.7
3229	Pressed and Blown Glass, nec	W	W	W	0.0	W	7.7
3241	Cement, Hydraulic	19,686.4	259.2	112.5	0.0	W	10.5
3274	Lime	W	W	W	0.0	311.2	8.9
3296	Mineral Wool	2,027.9	18.5	12.0	0.0	W	1.1
33	Primary Metal Industries	2,611.4	39.4	13.4	W	6.9	8.0
3312	Blast Furnaces and Steel Mills	6,635.8	88.3	30.8	W	W	5.1
3313	Electrometallurgical Products	W	W	W	0.0	W	12.0
3321	Gray and Ductile Iron Foundries	867.5	17.7	9.3	0.0	3.6	11.0
3331	Primary Copper	2,623.2	63.5	3.8	0.0	W	NF
3334	Primary Aluminum	W	W	W	0.0	W	1.7
3339	Primary Nonferrous Metals, nec	W	W	W	0.0	W	2.7
3353	Aluminum Sheet, Plate, and Foil	W	W	W	0.0	W	1.6
34	Fabricated Metal Products	242.2	3.9	2.2	0.0	13.8	8.2
35	Industrial Machinery and Equipment	118.7	1.6	0.9	0.0	29.1	9.0
357	Computer and Office Equipment	84.3	0.8	0.4	0.0	9.3	9.1
36	Electronic and Other Electric Equipment	149.4	1.7	1.0	0.0	34.8	10.7
37	Transportation Equipment	W	W	W	0.0	90.1	5.2
3711	Motor Vehicles and Car Bodies	W	W	W	0.0	W	4.3
3714	Motor Vehicle Parts and Accessories	272.1	4.2	1.6	0.0	W	9.5
38	Instruments and Related Products	172.6	1.7	1.1	0.0	W	13.0
3841	Surgical and Medical Instruments	62.9	0.7	0.5	0.0	31.7	9.9
39	Misc. Manufacturing Industries	W	W	W	0.0	W	11.8
	Total	589.7	7.0	3.8	W	50.0	4.4

See footnotes at end of table.

Table A8. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)

SIC Code ^a	Industry Groups and Industry	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
Midwest Census Region							
	RSE Column Factors:	0.8	0.8	0.7	1.2	1.7	
20	Food and Kindred Products	958.1	7.4	2.6	W	4.0	9.1
2011	Meat Packing Plants	455.9	8.3	1.0	W	5.1	6.3
2033	Canned Fruits and Vegetables	597.6	5.9	2.7	0.0	4.3	13.5
2037	Frozen Fruits and Vegetables	806.8	9.5	4.6	2.5	10.4	19.1
2046	Wet Corn Milling	15,783.8	46.9	21.5	W	W	7.6
2051	Bread, Cake, and Related Products	222.4	3.3	2.0	0.0	W	8.4
2063	Beet Sugar	10,099.4	93.9	31.5	0.0	W	3.7
2075	Soybean Oil Mills	8,102.3	41.7	5.2	W	0.6	3.3
2082	Malt Beverages	1,414.3	3.9	2.6	0.0	W	6.6
21	Tobacco Products	NA	NA	NA	NA	NA	1.6
22	Textile Mill Products	NA	NA	NA	NA	NA	21.8
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	22.7
24	Lumber and Wood Products	453.3	9.0	3.8	0.0	Q	22.5
25	Furniture and Fixtures	W	W	W	0.0	W	33.2
26	Paper and Allied Products	W	W	W	W	5.1	8.3
2611	Pulp Mills	22,456.3	118.9	57.7	62.9	2.3	10.9
2621	Paper Mills	5,606.2	53.2	23.6	14.5	W	3.2
2631	Paperboard Mills	8,357.9	68.8	38.1	2.1	1.4	8.5
27	Printing and Publishing	102.7	1.4	0.9	0.1	1.1	18.9
28	Chemicals and Allied Products	2,241.1	10.7	6.2	W	W	11.5
2812	Alkalies and Chlorine	W	W	W	0.0	W	16.1
2813	Industrial Gases	W	W	W	0.0	Q	20.4
2819	Industrial Inorganic Chemicals, nec	9,133.6	62.3	30.6	*	W	12.8
2821	Plastics Materials and Resins	3,885.6	20.4	8.6	*	W	7.1
2822	Synthetic Rubber	W	W	W	0.0	W	9.3
2823	Cellulosic Manmade Fibers	0.0	0.0	0.0	0.0	0.0	NF
2824	Organic Fibers, Noncellulosic	0.0	0.0	0.0	0.0	0.0	NF
2865	Cyclic Crudes and Intermediates	4,269.8	31.5	12.5	0.0	W	8.0
2869	Industrial Organic Chemicals, nec	4,803.8	27.8	12.8	0.6	0.6	6.7
2873	Nitrogenous Fertilizers	43,863.5	212.1	92.0	2.4	0.1	23.2
2874	Phosphatic Fertilizers	1,933.3	5.1	2.9	0.0	W	1.3
29	Petroleum and Coal Products	15,882.5	103.8	16.5	42.6	W	8.2
2911	Petroleum Refining	38,701.4	188.8	19.8	44.8	W	1.9
30	Rubber and Misc. Plastics Products	289.8	4.9	2.4	0.0	4.4	6.7
3011	Tires and Inner Tubes	W	W	W	0.0	18.0	2.0
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	10.6
31	Leather and Leather Products	164.4	3.3	1.4	0.0	18.1	19.0
32	Stone, Clay and Glass Products	2,304.3	30.8	16.8	0.0	3.6	7.3
3211	Flat Glass	4,513.1	50.0	28.9	0.0	W	2.5
3221	Glass Containers	2,599.4	34.5	19.6	0.0	*	3.1
3229	Pressed and Blown Glass, nec	1,768.5	20.8	14.9	0.0	0.5	3.0
3241	Cement, Hydraulic	24,247.3	165.1	95.6	0.0	W	6.3
3274	Lime	18,073.3	233.2	127.0	0.0	11.9	6.0
3296	Mineral Wool	2,708.4	28.0	16.6	0.0	W	1.0
33	Primary Metal Industries	4,085.5	59.3	21.8	19.0	6.6	4.5
3312	Blast Furnaces and Steel Mills	10,401.1	119.6	44.0	24.2	W	2.7
3313	Electrometallurgical Products	7,886.8	97.2	35.4	0.0	10.4	8.6
3321	Gray and Ductile Iron Foundries	1,079.1	20.4	11.0	0.0	Q	4.7
3331	Primary Copper	525.0	5.6	1.7	0.0	0.0	NF
3334	Primary Aluminum	W	W	W	0.0	W	1.9
3339	Primary Nonferrous Metals, nec	W	W	W	0.0	2.5	3.4
3353	Aluminum Sheet, Plate, and Foil	2,558.3	34.9	6.0	0.0	W	2.4
34	Fabricated Metal Products	261.3	4.5	2.1	0.0	1.3	7.9
35	Industrial Machinery and Equipment	187.4	2.7	1.4	0.0	2.7	6.7
357	Computer and Office Equipment	122.2	1.8	0.8	0.0	0.3	13.7
36	Electronic and Other Electric Equipment	199.0	2.6	1.4	0.0	W	7.3
37	Transportation Equipment	316.1	2.8	1.1	W	5.5	4.5
3711	Motor Vehicles and Car Bodies	452.7	2.2	0.7	W	W	3.5
3714	Motor Vehicle Parts and Accessories	346.5	4.8	1.9	W	W	6.6
38	Instruments and Related Products	105.8	1.0	0.7	0.0	W	14.2
3841	Surgical and Medical Instruments	79.8	0.8	0.6	0.0	0.1	13.7
39	Misc. Manufacturing Industries	108.5	1.9	1.0	0.0	1.3	14.4
	Total	850.1	9.9	4.4	12.7	5.3	3.3

See footnotes at end of table.

Table A8. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)

SIC Code ^a	Industry Groups and Industry	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
South Census Region							
RSE Column Factors:		0.8	0.8	0.7	1.1	1.8	
20	Food and Kindred Products	546.4	5.8	2.2	0.1	11.1	14.4
2011	Meat Packing Plants	355.4	6.9	1.1	0.0	19.7	6.3
2033	Canned Fruits and Vegetables	791.4	6.3	2.6	0.0	3.3	8.8
2037	Frozen Fruits and Vegetables	901.1	16.2	3.6	0.0	15.0	10.4
2046	Wet Corn Milling	W	W	W	0.0	0.2	5.9
2051	Bread, Cake, and Related Products	207.1	3.1	1.8	0.0	1.5	6.4
2063	Beet Sugar	W	W	W	0.0	W	4.1
2075	Soybean Oil Mills	7,338.5	45.1	4.9	0.0	4.1	2.6
2082	Malt Beverages	1,562.2	4.7	2.5	W	W	6.2
21	Tobacco Products	634.9	1.0	0.8	0.0	27.2	5.9
22	Textile Mill Products	464.0	10.9	4.3	0.0	11.7	4.4
23	Apparel and Other Textile Products	54.3	1.8	0.9	0.0	Q	11.3
24	Lumber and Wood Products	858.2	24.0	9.1	0.0	W	16.1
25	Furniture and Fixtures	W	W	W	0.0	W	15.7
26	Paper and Allied Products	W	W	W	W	25.6	4.4
2611	Pulp Mills	22,340.0	120.6	61.3	60.7	98.7	5.0
2621	Paper Mills	13,706.4	93.0	48.3	37.2	15.6	2.3
2631	Paperboard Mills	19,177.6	115.4	57.0	39.7	26.3	2.6
27	Printing and Publishing	72.9	1.3	0.8	0.0	2.3	12.5
28	Chemicals and Allied Products	6,854.5	34.3	16.5	12.5	2.3	6.0
2812	Alkalies and Chlorine	28,849.2	150.2	75.8	0.0	W	6.2
2813	Industrial Gases	17,894.8	62.9	39.5	W	*	10.4
2819	Industrial Inorganic Chemicals, nec	4,029.3	31.0	19.7	W	W	8.7
2821	Plastics Materials and Resins	6,462.2	30.8	11.2	9.4	W	5.2
2822	Synthetic Rubber	13,916.6	87.8	35.4	0.0	W	12.3
2823	Cellulosic Manmade Fibers	2,869.3	44.4	20.8	0.0	W	16.2
2824	Organic Fibers, Noncellulosic	2,198.7	16.5	9.1	1.0	W	3.5
2865	Cyclic Crudes and Intermediates	11,954.2	58.4	19.0	W	W	8.3
2869	Industrial Organic Chemicals, nec	17,265.2	63.5	26.3	23.1	0.7	4.6
2873	Nitrogenous Fertilizers	53,807.4	273.4	101.8	0.4	*	14.5
2874	Phosphatic Fertilizers	3,346.0	24.5	6.6	0.0	15.3	2.5
29	Petroleum and Coal Products	34,202.5	130.4	19.7	40.6	W	2.9
2911	Petroleum Refining	43,240.3	140.1	20.4	41.1	W	1.5
30	Rubber and Misc. Plastics Products	341.8	5.1	2.5	0.1	13.1	9.1
3011	Tires and Inner Tubes	W	W	W	W	W	2.4
308	Miscellaneous Plastics Products, nec	278.2	4.8	2.2	*	W	12.1
31	Leather and Leather Products	66.2	1.9	0.9	0.0	50.7	25.1
32	Stone, Clay and Glass Products	2,000.4	32.8	17.8	W	5.7	11.2
3211	Flat Glass	3,236.5	32.1	19.6	0.0	0.2	3.2
3221	Glass Containers	2,776.2	34.8	19.4	0.0	W	3.9
3229	Pressed and Blown Glass, nec	W	W	W	0.0	W	6.1
3241	Cement, Hydraulic	18,758.4	183.5	88.5	0.0	6.4	8.9
3274	Lime	20,111.5	229.4	128.7	0.0	W	11.8
3296	Mineral Wool	2,822.9	29.2	16.4	0.0	W	2.2
33	Primary Metal Industries	3,446.9	50.5	15.7	W	W	5.1
3312	Blast Furnaces and Steel Mills	8,192.0	104.2	35.8	22.5	W	3.2
3313	Electrometallurgical Products	W	W	W	0.0	9.6	4.7
3321	Gray and Ductile Iron Foundries	978.7	21.7	10.7	0.0	W	6.4
3331	Primary Copper	W	W	W	0.0	W	NF
3334	Primary Aluminum	13,574.9	183.4	43.2	0.0	W	2.0
3339	Primary Nonferrous Metals, nec	4,457.0	33.2	8.0	W	W	3.2
3353	Aluminum Sheet, Plate, and Foil	2,336.4	18.4	5.9	0.0	0.8	2.5
34	Fabricated Metal Products	226.6	4.0	1.9	0.0	6.9	11.3
35	Industrial Machinery and Equipment	128.4	2.0	0.9	0.0	3.7	9.4
357	Computer and Office Equipment	58.6	0.6	0.2	0.0	5.8	10.6
36	Electronic and Other Electric Equipment	172.5	2.3	1.1	0.0	2.3	9.5
37	Transportation Equipment	W	W	W	0.0	W	4.9
3711	Motor Vehicles and Car Bodies	675.2	2.6	1.0	0.0	4.7	4.6
3714	Motor Vehicle Parts and Accessories	230.9	3.3	1.4	0.0	W	8.6
38	Instruments and Related Products	102.1	1.2	0.8	0.0	6.1	10.0
3841	Surgical and Medical Instruments	120.0	1.5	1.0	0.0	13.3	10.3
39	Misc. Manufacturing Industries	W	W	W	0.0	W	14.0
	Total	1,388.4	18.0	7.9	21.5	6.4	2.9

See footnotes at end of table.

Table A8. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)

SIC Code ^a	Industry Groups and Industry	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
West Census Region							
	RSE Column Factors:	0.8	0.9	0.8	1.1	1.5	
20	Food and Kindred Products	705.5	6.8	2.8	W	6.9	10.6
2011	Meat Packing Plants	410.0	13.4	0.8	0.0	W	6.7
2033	Canned Fruits and Vegetables	785.0	9.3	3.9	0.0	5.7	6.9
2037	Frozen Fruits and Vegetables	776.8	13.2	5.8	0.0	3.2	12.8
2046	Wet Corn Milling	W	W	W	0.0	W	9.5
2051	Bread, Cake, and Related Products	241.3	3.2	2.0	0.0	0.2	12.5
2063	Beet Sugar	W	W	W	0.0	W	3.7
2075	Soybean Oil Mills	0.0	0.0	0.0	0.0	0.0	NF
2082	Malt Beverages	1,666.8	7.7	4.0	W	W	8.3
21	Tobacco Products	0.0	0.0	0.0	0.0	0.0	NF
22	Textile Mill Products	503.8	15.5	4.6	0.0	0.3	26.7
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	21.5
24	Lumber and Wood Products	1,066.2	22.9	7.1	0.0	75.3	15.7
25	Furniture and Fixtures	49.5	1.0	0.5	0.0	Q	21.2
26	Paper and Allied Products	6,034.4	60.8	25.1	42.0	10.2	9.3
2611	Pulp Mills	13,602.9	168.8	46.4	49.1	79.6	11.8
2621	Paper Mills	13,136.5	105.7	43.2	29.6	W	3.3
2631	Paperboard Mills	24,278.3	199.8	76.6	56.4	W	4.5
27	Printing and Publishing	NA	NA	NA	NA	NA	20.5
28	Chemicals and Allied Products	1,987.3	14.2	7.7	W	W	19.4
2812	Alkalies and Chlorine	W	W	W	0.0	W	13.2
2813	Industrial Gases	W	W	W	0.0	W	7.3
2819	Industrial Inorganic Chemicals, nec	2,682.3	18.8	13.6	W	W	11.5
2821	Plastics Materials and Resins	1,080.9	9.0	2.7	0.0	0.1	28.1
2822	Synthetic Rubber	72.6	0.7	0.2	0.0	W	2.5
2823	Cellulosic Manmade Fibers	0.0	0.0	0.0	0.0	0.0	NF
2824	Organic Fibers, Noncellulosic	0.0	0.0	0.0	0.0	0.0	NF
2865	Cyclic Crudes and Intermediates	Q	Q	1.9	0.0	W	21.6
2869	Industrial Organic Chemicals, nec	1,455.7	8.9	4.9	0.0	Q	24.6
2873	Nitrogenous Fertilizers	27,666.8	146.6	64.6	0.0	*	32.1
2874	Phosphatic Fertilizers	3,740.7	33.5	10.5	0.0	1.3	20.8
29	Petroleum and Coal Products	25,985.0	130.7	19.2	51.1	13.3	4.4
2911	Petroleum Refining	35,323.9	153.0	20.8	52.0	14.2	1.4
30	Rubber and Misc. Plastics Products	193.6	3.4	1.6	0.0	Q	15.4
3011	Tires and Inner Tubes	675.1	7.1	3.2	0.0	W	3.2
308	Miscellaneous Plastics Products, nec	171.3	2.9	1.4	0.0	Q	16.5
31	Leather and Leather Products	Q	Q	Q	0.0	2.8	30.1
32	Stone, Clay and Glass Products	1,985.0	27.6	14.4	0.0	15.0	12.5
3211	Flat Glass	W	W	W	0.0	W	1.8
3221	Glass Containers	2,400.9	29.9	14.9	0.0	W	3.8
3229	Pressed and Blown Glass, nec	Q	W	W	0.0	*	11.5
3241	Cement, Hydraulic	18,514.6	128.0	68.2	0.0	W	11.0
3274	Lime	W	W	W	0.0	W	6.0
3296	Mineral Wool	2,250.3	20.5	12.4	0.0	W	1.1
33	Primary Metal Industries	3,215.5	38.0	14.1	W	W	7.5
3312	Blast Furnaces and Steel Mills	8,445.4	86.5	29.3	W	W	6.1
3313	Electrometallurgical Products	0.0	0.0	0.0	0.0	0.0	NF
3321	Gray and Ductile Iron Foundries	1,138.8	16.5	8.7	0.0	W	17.8
3331	Primary Copper	W	W	W	W	W	NF
3334	Primary Aluminum	12,772.9	135.0	44.2	0.0	1.7	1.6
3339	Primary Nonferrous Metals, nec	4,250.7	72.5	21.1	0.0	W	NF
3353	Aluminum Sheet, Plate, and Foil	W	W	W	0.0	W	NF
34	Fabricated Metal Products	170.7	3.1	1.5	0.0	2.7	13.1
35	Industrial Machinery and Equipment	92.5	1.1	0.6	0.0	1.0	14.5
357	Computer and Office Equipment	91.2	0.7	0.4	0.0	0.1	11.2
36	Electronic and Other Electric Equipment	105.7	1.1	0.6	0.0	Q	15.6

See footnotes at end of table.

Table A8. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)

SIC Code ^a	Industry Groups and Industry	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
West Census Region							
	RSE Column Factors:	0.8	0.9	0.8	1.1	1.5	
37	Transportation Equipment	110.6	1.3	0.5	0.0	W	5.9
3711	Motor Vehicles and Car Bodies	W	W	W	0.0	W	3.6
3714	Motor Vehicle Parts and Accessories	181.5	2.5	1.2	0.0	0.7	20.0
38	Instruments and Related Products	65.4	0.7	0.5	0.0	1.3	9.9
3841	Surgical and Medical Instruments	62.3	0.7	0.4	0.0	4.5	17.1
39	Misc. Manufacturing Industries	54.7	1.1	0.5	0.0	0.4	18.0
	Total	773.6	9.4	4.4	W	8.8	4.1

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Major Byproduct" fuels include coke oven and blast furnace gas (produced primarily in the blast furnace industry, SIC 3312); still gas (produced primarily in refineries, SIC 2911); and pulping liquor (produced primarily in pulp and paper mills, SIC 2611 and 2621).

^c "Fuel Oil" includes distillate and residual.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • Operating ratios were calculated using the input energy estimates reported in Table A4.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A9. Total Primary Consumption of Energy for All Purposes by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Total United States										
RSE Column Factors:	0.6	0.5	1.4	1.3	0.8	1.2	1.3	1.5	0.9	
Value of Shipments and Receipts (million dollars)										
Under 20	1,443	110,693	W	9,914	601	W	5,203	354	207	9.8
20-49	1,747	107,191	12,176	4,813	678	3,219	10,879	635	301	7.5
50-99	1,619	91,770	8,633	2,390	W	W	W	467	273	5.6
100-249	3,071	143,657	13,710	2,293	1,132	63,361	W	W	687	4.1
250-499	3,081	113,398	15,370	2,393	W	76,190	W	915	964	3.8
500 and Over	6,429	127,993	W	3,213	1,809	283,197	31,425	W	2,004	3.0
Not Ascertained ^f	2,868	0	0	0	0	0	0	0	2,868	1.4
Total	20,257	694,702	72,261	25,016	5,917	447,163	83,860	12,410	7,304	2.6
Employment Size										
Under 50	632	47,134	Q	5,777	W	2,188	W	38	69	13.8
50-99	1,027	47,959	10,119	3,785	409	12,560	2,784	312	242	10.2
100-249	2,807	123,214	10,051	5,196	1,142	68,412	W	W	W	6.6
250-499	3,213	125,728	11,784	3,136	1,081	99,299	10,486	681	965	3.9
500-999	3,615	152,257	13,040	2,705	1,121	104,843	W	W	W	3.7
1,000 and Over	6,094	198,411	W	4,419	W	159,861	40,808	10,108	1,513	2.9
Not Ascertained ^f	2,868	0	0	0	0	0	0	0	2,868	1.4
Total	20,257	694,702	72,261	25,016	5,917	447,163	83,860	12,410	7,304	2.6
Northeast Census Region										
RSE Column Factors:	0.7	0.6	0.9	1.5	0.6	1.5	1.7	1.6	0.8	
Value of Shipments and Receipts (million dollars)										
Under 20	263	19,258	1,772	3,921	W	W	Q	W	16	14.9
20-49	229	14,952	3,740	1,440	W	637	2,132	W	W	14.3
50-99	164	11,177	3,365	695	71	334	538	55	13	8.3
100-249	338	16,594	4,776	726	86	W	W	W	W	5.0
250-499	220	11,762	6,948	W	49	W	W	W	W	5.5
500 and Over	513	12,298	5,193	W	79	W	W	0	139	5.1
Not Ascertained ^f	285	0	0	0	0	0	0	0	285	1.9
Total	2,011	86,041	25,794	7,875	447	4,263	W	W	588	5.0
Employment Size										
Under 50	W	7,862	339	W	37	W	W	Q	6	21.1
50-99	W	6,971	2,209	W	40	W	152	W	W	16.0
100-249	280	15,282	2,725	1,908	75	W	4,396	100	W	15.5
250-499	209	13,849	3,943	1,005	86	620	W	W	30	6.7
500-999	W	21,944	6,854	W	86	W	W	W	136	4.9
1,000 and Over	W	20,132	9,725	1,057	123	403	W	W	107	5.3
Not Ascertained ^f	285	0	0	0	0	0	0	0	285	1.9
Total	2,011	86,041	25,794	7,875	447	4,263	W	W	588	5.0

See footnotes at end of table.

Table A9. Total Primary Consumption of Energy for All Purposes by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Midwest Census Region										
RSE Column Factors:	0.6	0.6	1.5	1.7	0.6	1.5	0.9	1.4	0.9	
Value of Shipments and Receipts (million dollars)										
Under 20	W	32,084	221	W	222	1,033	W	170	W	13.6
20-49	463	29,692	503	W	237	732	W	W	42	9.8
50-99	W	25,954	330	372	W	359	W	191	45	7.9
100-249	520	29,626	990	340	204	W	W	W	81	5.5
250-499	509	31,253	571	239	W	W	W	W	W	4.7
500 and Over	1,560	56,492	W	998	W	W	15,932	W	357	3.8
Not Ascertained ^f	445	0	0	0	0	0	0	0	445	1.4
Total	4,385	205,102	W	4,410	1,421	W	30,891	8,398	1,089	3.8
Employment Size										
Under 50	216	13,381	128	1,371	120	W	172	W	Q	20.9
50-99	W	14,601	Q	503	118	439	1,162	W	W	16.4
100-249	630	35,608	873	642	284	833	W	151	W	8.4
250-499	683	30,870	1,051	354	W	W	W	247	147	5.2
500-999	W	29,186	962	404	197	W	3,246	W	201	5.2
1,000 and Over	1,531	81,455	W	1,135	W	W	W	W	147	4.0
Not Ascertained ^f	445	0	0	0	0	0	0	0	445	1.4
Total	4,385	205,102	W	4,410	1,421	W	30,891	8,398	1,089	3.8
South Census Region										
RSE Column Factors:	0.6	0.5	1.7	1.3	0.9	1.0	0.9	1.7	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	514	42,345	W	W	W	W	1,167	W	88	12.8
20-49	763	49,656	7,224	W	286	1,447	W	291	W	9.8
50-99	753	41,663	3,783	815	290	W	3,457	188	W	8.5
100-249	1,664	63,521	6,905	866	644	W	W	157	351	5.6
250-499	1,976	49,978	6,499	900	708	W	W	W	690	5.2
500 and Over	3,839	44,656	4,994	1,176	W	271,076	W	W	1,218	4.0
Not Ascertained ^f	1,786	0	0	0	0	0	0	0	1,786	1.3
Total	11,296	291,819	W	8,481	3,368	W	29,974	2,677	4,407	3.6
Employment Size										
Under 50	233	17,812	Q	W	121	W	Q	5	17	16.5
50-99	517	18,313	7,200	W	198	W	477	W	W	14.7
100-249	1,374	54,664	4,245	1,721	567	W	W	W	W	7.6
250-499	1,883	60,997	4,787	1,036	629	W	W	234	573	5.5
500-999	2,004	69,714	4,824	1,092	675	W	W	158	574	4.9
1,000 and Over	3,499	70,319	9,440	1,916	1,178	155,633	13,523	1,914	1,071	4.2
Not Ascertained ^f	1,786	0	0	0	0	0	0	0	1,786	1.3
Total	11,296	291,819	W	8,481	3,368	W	29,974	2,677	4,407	3.6

See footnotes at end of table.

Table A9. Total Primary Consumption of Energy for All Purposes by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
West Census Region										
RSE Column Factors:	0.7	0.6	1.1	1.3	0.9	0.8	1.8	1.4	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	W	17,006	491	1,423	W	554	W	23	W	15.2
20-49	292	12,892	710	W	W	403	W	120	108	12.6
50-99	W	12,976	1,155	507	107	472	807	33	W	8.6
100-249	549	33,915	1,039	361	198	325	W	W	W	8.3
250-499	376	20,404	1,353	W	87	1,238	W	W	164	3.4
500 and Over	518	14,547	596	W	W	10,389	W	0	291	4.3
Not Ascertained ^f	352	0	0	0	0	0	0	0	352	1.2
Total	2,565	111,741	5,344	4,250	681	13,381	W	W	1,220	4.6
Employment Size										
Under 50	W	8,079	Q	W	W	222	W	W	Q	10.9
50-99	166	8,073	471	W	53	W	993	45	50	14.7
100-249	524	17,660	2,209	924	216	W	1,666	W	168	9.2
250-499	437	20,012	2,003	741	W	1,391	W	W	214	6.1
500-999	542	31,412	400	W	162	4,464	W	W	W	5.4
1,000 and Over	W	26,505	242	310	104	W	W	W	188	5.7
Not Ascertained ^f	352	0	0	0	0	0	0	0	352	1.2
Total	2,565	111,741	5,344	4,250	681	13,381	W	W	1,220	4.6

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power or as feedstock/raw material inputs. See also Footnote "f."

^f The entry in the "Not Ascertained" row and the "Other" column consists of the feedstocks and raw material inputs that were consumed by petroleum refineries for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents), as well as feedstock consumption at adjoining petrochemical plants. That entry includes all of those inputs, regardless of type. Those inputs that were converted to other energy products by petroleum refineries (e.g., crude oil converted to residual and distillate fuel oils) are excluded. The quantities of energy consumed by petroleum refineries for the production of heat and power are included in the appropriate "Value of Shipments and Receipts" or "Employment Size" rows. See Appendix B for more information.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of energy for heat and power and as feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials such as wastewater and packing materials. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," the Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991, and the Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A10. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Barrels per Day)

Economic Characteristics ^a	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
Total United States										
RSE Column Factors:	0.8	0.8	0.9	0.6	0.8	0.7	0.9	1.9	3.4	
Value of Shipments and Receipts (million dollars)										
Under 20	W	27,161	15,301	11,206	25,451	W	W	Q	Q	14.8
20-49	8,819	13,186	33,360	7,419	12,429	16,589	1,424	789	16,862	13.6
50-99	W	6,548	23,652	5,188	6,482	28,319	W	188	4,787	9.0
100-249	173,592	6,281	37,561	6,417	6,217	37,817	167,184	143	12	7.0
250-499	208,740	6,557	42,111	5,653	6,348	42,111	203,274	207	0	4.4
500 and Over	775,881	8,804	45,991	40,746	8,513	W	735,308	291	W	4.2
Total	1,225,103	68,538	197,976	76,630	65,439	180,376	1,148,868	3,330	27,456	6.0
Employment Size										
Under 50	5,993	15,827	Q	4,789	14,663	2,631	1,205	Q	Q	21.4
50-99	34,411	10,370	27,722	4,540	9,302	W	29,896	1,069	W	15.6
100-249	187,430	14,234	27,538	19,971	13,867	32,231	167,460	398	4,787	8.1
250-499	272,053	8,592	32,285	11,536	8,595	32,553	260,526	196	0	6.5
500-999	287,241	7,410	35,727	18,794	7,298	35,758	268,447	113	12	6.8
1,000 and Over	437,975	12,106	67,870	17,000	11,714	W	421,334	389	W	4.4
Total	1,225,103	68,538	197,976	76,630	65,439	180,376	1,148,868	3,330	27,456	6.0
Northeast Census Region										
RSE Column Factors:	0.9	1.0	0.5	1.0	1.0	0.5	1.6	2.5	NF	
Value of Shipments and Receipts (million dollars)										
Under 20	W	10,744	4,854	W	10,557	4,854	W	Q	0	20.6
20-49	1,745	3,946	10,246	1,736	3,941	10,246	9	5	0	21.7
50-99	914	1,905	9,220	914	1,986	18,675	*	41	0	12.8
100-249	2,143	1,989	13,084	W	1,956	13,084	W	33	0	10.1
250-499	W	912	19,036	W	W	19,036	W	W	0	8.2
500 and Over	1,398	2,081	14,228	1,397	W	14,228	*	W	0	7.8
Total	11,681	21,576	70,668	W	21,384	80,123	W	315	0	9.3
Employment Size										
Under 50	1,824	6,108	928	W	5,936	928	Q	Q	0	37.1
50-99	W	2,450	6,052	573	W	6,052	W	W	0	20.7
100-249	2,855	5,228	7,465	W	5,212	16,920	W	17	0	15.8
250-499	1,700	2,754	10,802	1,683	2,864	10,802	Q	10	0	11.5
500-999	2,958	2,140	18,779	W	W	18,779	W	W	0	8.0
1,000 and Over	W	2,895	26,643	W	2,812	26,643	33	83	0	9.0
Total	11,681	21,576	70,668	W	21,384	80,123	W	315	0	9.3

See footnotes at end of table.

Table A10. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Barrels per Day)

Economic Characteristics ^a	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
Midwest Census Region										
RSE Column Factors:	0.8	0.9	0.8	0.7	0.8	0.8	1.3	1.4	2.5	
Value of Shipments and Receipts (million dollars)										
Under 20	2,831	4,766	606	2,713	3,847	589	118	Q	Q	27.1
20-49	2,006	1,979	1,377	1,980	1,621	1,402	26	Q	Q	25.6
50-99	983	1,019	903	976	995	903	7	24	0	19.7
100-249	W	930	W	W	973	W	W	Q	12	11.4
250-499	W	655	1,563	586	590	1,563	W	62	0	7.3
500 and Over	3,347	2,733	16,448	W	2,618	W	W	115	W	5.8
Total	W	12,083	W	10,622	10,645	22,286	W	Q	W	7.7
Employment Size										
Under 50	1,262	3,757	349	1,170	2,861	334	92	Q	Q	32.9
50-99	1,204	1,379	Q	1,198	W	Q	Q	Q	*	34.5
100-249	2,281	1,760	W	W	1,744	W	W	47	0	20.4
250-499	W	970	2,879	2,884	W	3,147	W	W	0	9.3
500-999	W	1,107	2,636	1,908	1,078	2,624	W	27	12	9.9
1,000 and Over	1,233	3,111	14,699	W	2,947	W	W	161	W	6.2
Total	W	12,083	W	10,622	10,645	22,286	W	Q	W	7.7
South Census Region										
RSE Column Factors:	0.7	0.9	1.2	0.8	0.9	0.9	0.7	1.4	2.4	
Value of Shipments and Receipts (million dollars)										
Under 20	6,475	7,753	8,496	W	7,152	W	W	Q	Q	18.9
20-49	3,964	5,188	19,792	2,614	4,893	2,996	1,375	Q	16,862	15.0
50-99	W	2,234	W	2,009	2,137	W	W	97	4,787	13.1
100-249	W	2,373	18,919	2,968	2,320	18,919	W	54	0	6.2
250-499	W	2,466	17,804	1,249	2,373	17,804	W	93	0	6.1
500 and Over	W	3,222	13,682	7,564	3,083	13,725	W	139	0	5.6
Total	W	23,236	W	W	21,957	63,327	W	1,280	W	7.5
Employment Size										
Under 50	2,300	3,823	Q	W	3,725	1,320	W	Q	Q	23.9
50-99	W	3,618	19,726	1,552	2,959	W	W	Q	W	20.3
100-249	172,771	4,715	W	6,002	4,471	W	166,769	244	4,787	10.8
250-499	W	2,837	13,116	3,174	2,710	13,116	W	127	0	8.0
500-999	W	2,992	13,217	2,537	2,956	13,260	W	35	0	8.9
1,000 and Over	426,393	5,250	25,863	5,469	5,136	25,863	421,284	114	0	5.2
Total	W	23,236	W	W	21,957	63,327	W	1,280	W	7.5

See footnotes at end of table.

Table A10. Total Consumption of LPG, Distillate Fuel Oil, and Residual Fuel Oil for Selected Purposes by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Barrels per Day)

Economic Characteristics ^a	Primary Consumption for All Purposes			Inputs for Heat, Power, and Generation of Electricity			Primary Consumption for Nonfuel Purposes			RSE Row Factors
	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	LPG	Distillate ^b	Residual	
West Census Region										
RSE Column Factors:	0.6	0.9	0.8	0.6	0.9	0.8	3.2	2.1	NF	
Value of Shipments and Receipts (million dollars)										
Under 20	1,518	3,898	1,345	1,456	3,895	1,345	64	4	0	20.9
20-49	1,104	2,074	1,945	1,090	1,974	1,945	14	99	0	17.5
50-99	1,293	1,390	W	1,290	1,363	W	3	27	0	13.4
100-249	890	988	W	872	968	W	18	20	0	12.3
250-499	W	2,525	3,707	W	W	3,707	0	W	0	4.6
500 and Over	W	768	1,633	W	W	1,633	1	W	0	6.5
Total	36,660	11,643	14,640	36,561	11,452	14,640	100	191	0	7.3
Employment Size										
Under 50	607	2,140	Q	592	2,141	Q	Q	0	0	33.4
50-99	1,243	2,922	1,290	1,217	2,908	1,290	Q	Q	0	16.7
100-249	9,523	2,531	6,051	W	2,440	6,051	W	Q	0	8.6
250-499	3,811	2,030	5,489	3,794	W	5,489	17	W	0	9.2
500-999	W	1,171	1,095	W	W	1,095	0	W	0	7.5
1,000 and Over	W	849	664	W	819	664	W	31	0	8.6
Total	36,660	11,643	14,640	36,561	11,452	14,640	100	191	0	7.3

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Distillate" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of energy for heat and power and as feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced onsite or was produced onsite from input materials not classified as energy. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and the Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A11. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Total United States									
RSE Column Factors:	0.6	2.5	1.4	1.2	0.6	1.0	0.8	0.7	
Value of Shipments and Receipts (million dollars)									
Under 20	102	Q	Q	15	W	494	29	55	25.1
20-49	219	6,155	288	68	520	1,495	104	65	21.5
50-99	295	1,747	69	W	W	W	137	95	12.8
100-249	567	4	52	165	61,022	W	W	61	10.7
250-499	598	0	75	W	74,195	W	109	104	7.4
500 and Over	1,723	W	106	89	268,387	20,061	W	146	6.4
Not Ascertained ^e	2,868	0	0	0	0	0	0	2,868	1.5
Total	6,373	10,022	1,216	573	419,337	30,869	1,028	3,394	5.8
Employment Size									
Under 50	103	Q	Q	W	440	W	*	Q	16.3
50-99	262	6,157	390	60	10,912	330	Q	112	20.7
100-249	508	1,747	145	174	61,123	W	W	W	15.0
250-499	618	0	72	109	95,092	2,779	208	90	8.4
500-999	617	4	41	81	97,983	W	W	W	8.8
1,000 and Over	1,397	W	142	W	153,787	22,119	176	160	6.8
Not Ascertained ^e	2,868	0	0	0	0	0	0	2,868	1.5
Total	6,373	10,022	1,216	573	419,337	30,869	1,028	3,394	5.8
Northeast Census Region									
RSE Column Factors:	0.8	NF	1.9	2.0	1.3	0.9	0.4	0.7	
Value of Shipments and Receipts (million dollars)									
Under 20	5	0	Q	W	W	W	Q	2	21.1
20-49	Q	0	2	W	3	Q	W	W	25.0
50-99	*	0	15	*	*	0	0	*	23.4
100-249	W	0	12	*	W	W	W	W	11.8
250-499	3	0	W	*	W	W	W	W	9.9
500 and Over	W	0	W	*	*	W	0	1	15.2
Not Ascertained ^e	285	0	0	0	0	0	0	285	1.4
Total	567	0	115	2	W	W	W	300	9.4
Employment Size									
Under 50	2	0	Q	1	Q	W	*	*	23.7
50-99	W	0	3	*	W	0	Q	W	16.1
100-249	Q	0	6	*	W	Q	0	W	18.0
250-499	1	0	4	*	Q	W	W	*	19.9
500-999	W	0	W	*	W	W	W	9	10.1
1,000 and Over	W	0	30	*	W	W	0	1	13.7
Not Ascertained ^e	285	0	0	0	0	0	0	285	1.4
Total	567	0	115	2	W	W	W	300	9.4

See footnotes at end of table.

Table A11. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Midwest Census Region									
RSE Column Factors:	0.7	2.1	1.1	1.3	1.1	0.9	0.8	0.7	
Value of Shipments and Receipts (million dollars)									
Under 20	Q	Q	Q	1	43	Q	*	Q	30.1
20-49	32	0	Q	21	10	W	W	8	30.5
50-99	W	0	9	W	3	W	52	10	19.9
100-249	W	4	Q	1	W	W	W	2	15.5
250-499	93	0	23	W	W	W	W	W	10.2
500 and Over	W	W	42	W	W	11,295	W	5	8.2
Not Ascertained ^e	445	0	0	0	0	0	0	445	1.5
Total	983	W	Q	58	W	12,064	297	498	6.5
Employment Size									
Under 50	32	Q	Q	14	34	Q	0	Q	34.4
50-99	W	*	Q	8	Q	Q	*	W	47.1
100-249	22	0	17	9	14	W	9	W	25.8
250-499	81	0	10	W	W	W	49	9	13.5
500-999	W	4	10	1	W	*	W	1	15.8
1,000 and Over	337	W	59	W	W	W	W	9	7.5
Not Ascertained ^e	445	0	0	0	0	0	0	445	1.5
Total	983	W	Q	58	W	12,064	297	498	6.5
South Census Region									
RSE Column Factors:	0.7	2.2	1.2	1.3	0.6	0.9	1.0	0.9	
Value of Shipments and Receipts (million dollars)									
Under 20	42	Q	Q	W	W	0	Q	14	25.6
20-49	128	6,155	Q	43	502	W	94	Q	16.0
50-99	239	1,747	35	47	W	2,157	84	W	14.8
100-249	410	0	20	127	W	W	W	19	9.9
250-499	459	0	34	170	W	W	W	88	8.5
500 and Over	1,208	0	51	W	W	W	0	140	7.7
Not Ascertained ^e	1,786	0	0	0	0	0	0	1,786	1.3
Total	4,271	W	467	472	W	7,460	371	2,137	6.9
Employment Size									
Under 50	50	Q	Q	37	W	0	0	*	29.4
50-99	204	6,156	Q	50	W	*	Q	W	22.0
100-249	403	1,747	89	132	W	W	W	W	13.5
250-499	527	0	46	93	W	W	149	76	9.2
500-999	465	0	13	80	W	W	103	31	9.7
1,000 and Over	836	0	42	81	153,769	2,743	0	142	7.5
Not Ascertained ^e	1,786	0	0	0	0	0	0	1,786	1.3
Total	4,271	W	467	472	W	7,460	371	2,137	6.9

See footnotes at end of table.

Table A11. Total Primary Consumption of Combustible Energy for Nonfuel Purposes by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
West Census Region									
RSE Column Factors:	0.7	NF	1.3	1.5	1.8	0.7	0.9	0.6	
Value of Shipments and Receipts (million dollars)									
Under 20	W	0	2	W	23	W	0	Q	29.2
20-49	33	0	W	W	5	W	*	30	29.5
50-99	W	0	10	*	1	0	1	W	26.8
100-249	74	0	7	36	7	2	W	W	14.8
250-499	43	0	W	0	0	W	W	W	6.8
500 and Over	W	0	W	W	*	0	0	1	20.1
Not Ascertained ^e	352	0	0	0	0	0	0	352	1.5
Total	552	0	70	41	36	W	W	458	12.9
Employment Size									
Under 50	Q	0	0	W	Q	W	0	Q	13.1
50-99	38	0	Q	3	Q	325	0	26	29.1
100-249	57	0	Q	33	14	0	1	23	34.8
250-499	9	0	12	W	6	W	W	5	8.2
500-999	35	0	W	*	0	W	W	W	9.3
1,000 and Over	W	0	11	0	W	W	W	8	14.4
Not Ascertained ^e	352	0	0	0	0	0	0	352	1.5
Total	552	0	70	41	36	W	W	458	12.9

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" includes all other energy that respondents indicated was used for nonfuel purposes, i.e., as petrochemical feedstocks or raw material inputs. See also Footnote "e".

^e The entry in the "Not Ascertained" row and the "Other" column consists of the feedstocks and raw material inputs that were consumed by petroleum refineries for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents) as well as nonfuel consumption at adjoining petrochemical plants. That entry includes all of those inputs, regardless of type. Those inputs that were converted to other energy products by petroleum refineries (e.g., crude oil converted to residual and distillate fuel oils) are excluded. See Appendix B for more information.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as an energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials such as wastepaper and packing materials. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," the Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991, and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A12. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Total United States										
RSE Column Factors:	0.6	0.6	1.2	1.3	0.7	1.1	1.4	1.8	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	1,349	110,693	4,049	9,290	587	4,090	4,709	325	160	9.2
20-49	1,560	107,191	6,055	4,536	610	2,708	9,384	988	257	6.7
50-99	1,386	91,770	10,337	2,366	624	1,894	5,398	685	207	4.7
100-249	2,561	143,657	13,803	2,269	968	2,342	11,587	954	683	4.1
250-499	2,632	113,398	15,370	2,317	837	2,063	10,593	2,025	978	3.3
500 and Over	5,538	127,993	16,223	3,107	1,720	14,872	11,365	18,542	2,441	2.9
Total	15,027	694,702	65,837	23,885	5,345	27,970	53,035	23,520	4,726	2.8
Employment Size										
Under 50	537	47,134	960	5,352	W	1,748	467	38	W	12.6
50-99	776	47,959	3,986	3,395	349	1,657	2,454	289	140	10.0
100-249	2,363	123,214	11,764	5,062	968	7,290	14,468	918	470	5.8
250-499	2,681	125,728	11,882	3,137	972	4,211	7,707	829	950	3.8
500-999	3,145	152,257	13,051	2,664	1,040	6,860	9,250	211	1,220	3.5
1,000 and Over	5,524	198,411	24,193	4,276	W	6,205	18,689	21,235	W	2.7
Total	15,027	694,702	65,837	23,885	5,345	27,970	53,035	23,520	4,726	2.8
Northeast Census Region										
RSE Column Factors:	0.6	0.5	0.8	1.4	0.6	1.5	1.6	2.0	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	258	19,258	1,772	3,853	87	1,225	Q	37	14	15.5
20-49	216	14,952	3,740	1,438	74	W	1,316	Q	20	12.2
50-99	187	11,177	6,816	725	71	334	581	55	13	8.1
100-249	286	16,594	4,776	714	86	559	1,484	2	71	6.0
250-499	226	11,762	6,948	W	49	W	W	W	65	5.5
500 and Over	462	12,298	5,193	W	79	W	W	W	240	6.1
Total	1,635	86,041	29,245	7,805	446	W	7,420	W	423	6.1
Employment Size										
Under 50	87	7,862	339	2,167	36	611	Q	Q	5	23.1
50-99	97	6,971	2,209	W	40	W	152	W	8	18.1
100-249	291	15,282	6,176	1,902	75	819	3,623	Q	23	14.9
250-499	208	13,849	3,943	1,045	85	614	382	60	30	6.7
500-999	378	21,944	6,854	W	86	774	W	18	140	5.6
1,000 and Over	573	20,132	9,725	1,026	123	W	W	W	217	5.8
Total	1,635	86,041	29,245	7,805	446	W	7,420	W	423	6.1

See footnotes at end of table.

Table A12. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Midwest Census Region										
RSE Column Factors:	0.5	0.6	1.6	1.6	0.6	1.3	1.0	1.6	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	424	32,084	215	1,404	221	990	1,211	170	43	13.1
20-49	435	29,692	512	592	216	723	2,730	103	38	9.2
50-99	422	25,954	330	363	203	356	2,710	494	46	8.5
100-249	507	29,626	1,083	355	202	381	3,895	740	82	5.5
250-499	429	31,253	571	215	163	214	3,644	246	61	4.5
500 and Over	1,616	56,492	5,424	956	359	1,213	4,638	14,036	558	4.1
Total	3,833	205,102	8,134	3,885	1,363	3,877	18,828	15,789	829	3.7
Employment Size										
Under 50	185	13,381	122	W	106	W	172	W	W	16.3
50-99	227	14,601	Q	W	110	W	1,157	W	30	16.0
100-249	612	35,608	882	637	275	818	5,342	143	72	8.4
250-499	624	30,870	1,149	374	W	1,053	W	553	150	5.1
500-999	593	29,186	958	393	196	696	3,246	114	205	5.0
1,000 and Over	1,593	81,455	4,786	1,076	W	445	W	14,876	W	4.0
Total	3,833	205,102	8,134	3,885	1,363	3,877	18,828	15,789	829	3.7
South Census Region										
RSE Column Factors:	0.6	0.5	1.4	1.4	0.7	1.2	1.0	1.9	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	480	42,345	1,571	2,611	190	1,344	1,167	95	82	12.4
20-49	651	49,656	1,093	1,786	243	954	3,420	572	120	8.4
50-99	532	41,663	2,036	780	242	733	1,300	104	88	6.9
100-249	1,292	63,521	6,905	847	518	1,083	W	W	370	5.8
250-499	1,609	49,978	6,499	866	538	456	W	W	681	5.2
500 and Over	2,943	44,656	5,009	1,125	1,165	W	W	W	1,352	3.7
Total	7,507	291,819	23,114	8,014	2,896	W	22,514	W	2,693	3.3
Employment Size										
Under 50	190	17,812	482	1,360	84	494	Q	5	24	16.5
50-99	323	18,313	1,068	1,080	148	566	477	144	78	15.9
100-249	994	54,664	2,497	1,632	435	W	3,837	W	229	7.0
250-499	1,418	60,997	4,787	989	537	1,158	2,544	85	559	5.4
500-999	1,666	69,714	4,840	1,079	595	926	4,583	78	671	4.7
1,000 and Over	2,916	70,319	9,440	1,875	1,097	1,996	10,780	3,860	1,133	3.8
Total	7,507	291,819	23,114	8,014	2,896	W	22,514	W	2,693	3.3

See footnotes at end of table.

Table A12. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
West Census Region										
RSE Column Factors:	0.6	0.6	1.0	1.3	0.7	0.8	2.0	1.6	1.1	
Value of Shipments and Receipts (million dollars)										
Under 20	187	17,006	491	1,422	89	531	130	23	20	16.9
20-49	259	12,892	710	720	78	W	1,918	W	79	12.9
50-99	245	12,976	1,155	497	107	471	807	32	60	8.9
100-249	477	33,915	1,039	353	162	318	W	W	161	7.7
250-499	368	20,404	1,353	W	87	W	32	W	170	4.3
500 and Over	516	14,547	596	W	117	10,389	W	0	290	4.4
Total	2,052	111,741	5,344	4,180	640	13,345	4,274	1,053	780	4.9
Employment Size										
Under 50	75	8,079	Q	W	W	W	0	W	Q	11.5
50-99	130	8,073	471	1,062	50	444	668	45	24	16.1
100-249	467	17,660	2,209	891	184	W	1,666	W	145	8.4
250-499	430	20,012	2,003	729	W	1,385	W	130	212	6.2
500-999	508	31,412	400	W	162	4,464	W	0	204	5.2
1,000 and Over	441	26,505	242	299	104	W	W	W	195	6.0
Total	2,052	111,741	5,344	4,180	640	13,345	4,274	1,053	780	4.9

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers), and other energy that respondents indicated was used to produce heat and power.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or from input material not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A13. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Total United States										
RSE Column Factors:	0.6	0.6	1.2	1.3	0.6	1.2	1.4	1.7	1.2	
Value of Shipments and Receipts (million dollars)										
Under 20	1,232	110,811	3,985	9,278	587	4,049	4,521	325	47	9.0
20-49	1,409	109,423	5,246	4,509	610	2,699	9,191	531	119	6.6
50-99	1,238	93,766	6,848	2,300	623	1,759	5,398	330	84	4.5
100-249	2,098	148,565	13,263	2,199	967	2,288	11,586	931	209	3.9
250-499	1,854	118,855	14,549	2,001	837	1,199	10,593	805	223	3.3
500 and Over	3,006	137,060	11,752	2,816	1,708	6,177	11,365	8,459	203	3.2
Total	10,837	718,480	55,643	23,102	5,332	18,171	52,653	11,382	884	3.1
Employment Size										
Under 50	511	47,182	897	5,326	W	1,704	467	38	W	13.0
50-99	681	48,502	3,132	3,135	349	1,516	2,266	289	54	10.6
100-249	2,003	128,926	6,919	5,013	968	5,040	14,276	462	145	6.3
250-499	1,902	129,141	11,013	2,966	964	3,061	7,707	472	186	3.9
500-999	2,120	155,927	11,012	2,573	1,039	3,560	9,249	188	209	3.7
1,000 and Over	3,621	208,803	22,669	4,090	W	3,290	18,689	9,932	W	3.0
Total	10,837	718,480	55,643	23,102	5,332	18,171	52,653	11,382	884	3.1
Northeast Census Region										
RSE Column Factors:	0.6	0.5	0.7	1.4	0.5	1.6	1.6	2.3	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	253	19,305	1,772	3,853	87	1,225	Q	37	10	15.1
20-49	197	15,043	2,964	1,438	74	W	1,316	W	8	11.6
50-99	163	11,275	3,365	676	71	334	581	55	11	8.3
100-249	229	16,470	4,675	696	86	559	1,484	2	15	6.1
250-499	185	12,570	6,948	W	49	W	W	W	21	5.6
500 and Over	199	13,188	3,329	W	79	W	W	0	18	6.4
Total	1,226	87,851	23,054	7,692	445	3,168	7,420	680	83	6.0
Employment Size										
Under 50	85	7,870	339	2,167	36	611	Q	Q	4	22.8
50-99	89	7,026	1,433	W	40	W	152	W	5	16.8
100-249	255	15,299	2,725	1,898	75	819	3,623	100	11	16.1
250-499	187	14,158	3,753	1,001	85	555	382	59	10	7.4
500-999	254	21,575	5,343	W	86	599	W	18	28	5.8
1,000 and Over	355	21,923	9,461	1,025	123	W	W	W	25	6.0
Total	1,226	87,851	23,054	7,692	445	3,168	7,420	680	83	6.0

See footnotes at end of table.

Table A13. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
Midwest Census Region										
RSE Column Factors:	0.5	0.6	1.7	1.6	0.6	1.4	1.0	1.4	1.1	
Value of Shipments and Receipts (million dollars)										
Under 20	390	32,075	177	1,404	221	950	1,022	170	13	13.3
20-49	417	29,764	503	580	215	723	2,730	103	21	9.2
50-99	393	25,974	330	363	203	356	2,710	139	26	8.1
100-249	454	29,843	895	326	202	370	3,894	740	30	5.5
250-499	390	31,687	543	216	163	192	3,644	231	21	4.8
500 and Over	904	57,759	4,261	916	357	597	4,638	6,718	35	4.4
Total	2,948	207,104	6,709	3,806	1,362	3,188	18,639	8,101	147	3.9
Employment Size										
Under 50	172	13,381	Q	W	106	W	172	W	W	17.5
50-99	205	14,593	Q	W	110	W	969	W	13	15.2
100-249	565	35,724	651	625	274	795	5,342	143	27	8.5
250-499	490	31,054	695	341	W	695	W	198	28	5.4
500-999	413	29,562	635	356	196	471	3,246	114	27	5.7
1,000 and Over	1,103	82,790	4,405	1,077	W	403	W	7,542	W	4.1
Total	2,948	207,104	6,709	3,806	1,362	3,188	18,639	8,101	147	3.9
South Census Region										
RSE Column Factors:	0.6	0.5	1.5	1.3	0.7	1.2	1.0	2.1	1.1	
Value of Shipments and Receipts (million dollars)										
Under 20	418	42,380	1,545	2,600	190	1,344	1,167	95	19	12.0
20-49	570	49,899	1,069	1,783	243	945	3,227	197	53	9.6
50-99	474	41,283	2,036	780	242	730	1,300	104	32	6.9
100-249	1,020	67,150	6,750	824	518	1,080	W	W	87	5.4
250-499	1,092	53,198	6,479	866	538	W	W	W	165	5.3
500 and Over	1,684	51,217	3,900	929	1,155	W	W	1,742	130	4.0
Total	5,258	305,128	21,779	7,783	2,885	6,057	22,321	2,306	487	3.5
Employment Size										
Under 50	178	17,851	456	1,348	84	490	Q	5	11	16.9
50-99	277	18,515	1,043	1,079	148	557	477	144	33	16.6
100-249	823	56,645	2,269	1,603	435	W	3,644	W	69	7.9
250-499	972	62,945	4,768	985	529	1,061	2,544	85	113	5.5
500-999	1,120	72,090	4,664	1,078	595	894	4,583	55	119	5.0
1,000 and Over	1,888	77,082	8,580	1,689	1,094	W	10,780	W	142	4.3
Total	5,258	305,128	21,779	7,783	2,885	6,057	22,321	2,306	487	3.5

See footnotes at end of table.

Table A13. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
West Census Region										
RSE Column Factors:	0.6	0.5	1.1	1.3	0.7	0.9	1.9	1.4	1.6	
Value of Shipments and Receipts (million dollars)										
Under 20	171	17,051	491	1,421	89	531	130	23	4	15.4
20-49	224	14,717	710	707	78	W	1,918	W	38	12.7
50-99	207	15,234	1,117	480	107	340	807	32	15	8.0
100-249	395	35,101	943	353	162	279	W	W	76	8.5
250-499	187	21,400	579	W	87	W	32	0	15	4.1
500 and Over	220	14,896	261	W	117	3,701	W	0	20	4.6
Total	1,404	118,398	4,101	3,822	640	5,758	4,274	295	168	5.3
Employment Size										
Under 50	76	8,081	Q	W	W	W	0	W	2	12.5
50-99	109	8,367	418	820	50	312	668	45	4	16.2
100-249	359	21,258	1,275	886	184	W	1,666	W	38	9.5
250-499	253	20,984	1,797	640	W	750	W	130	35	7.4
500-999	332	32,700	372	W	162	1,596	W	0	34	6.0
1,000 and Over	275	27,008	222	298	104	W	W	0	56	6.4
Total	1,404	118,398	4,101	3,822	640	5,758	4,274	295	168	5.3

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Electricity" consists of quantities of electricity that were purchased or transferred in, and is equivalent to "purchased electricity" in the *Annual Survey of Manufactures*.

^c "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes all other energy that was purchased or transferred in and not shown elsewhere.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table represent the consumption of energy originally produced offsite, acquired as a result of a purchase or transfer and consumed onsite for the production of heat and power. This definition is consistent with the definition of "purchased" fuels and electric energy used by the Bureau of the Census in the preparation of "Fuels and Electric Energy Consumed," of the *Annual Survey of Manufactures*, 1974 through 1981. See Appendix B.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A14. Shell Storage Capacity of Petroleum Products by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Thousand Barrels)

Economic Characteristics ^a	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
Total United States					
RSE Column Factors:	1.2	0.8	1.3	0.8	
Value of Shipments and Receipts (million dollars)					
Under 20	101	944	1,416	1,107	14.9
20-49	65	2,106	572	841	13.1
50-99	42	2,901	335	757	9.5
100-249	38	3,327	408	957	9.9
250-499	30	3,525	333	954	5.3
500 and Over	63	5,233	302	748	3.9
Total	339	18,036	3,365	5,364	5.3
Employment Size					
Under 50	45	430	774	476	22.2
50-99	37	1,460	446	510	22.2
100-249	64	2,746	757	991	11.4
250-499	53	2,665	484	833	10.0
500-999	47	3,538	494	1,292	6.3
1,000 and Over	94	7,197	410	1,262	3.5
Total	339	18,036	3,365	5,364	5.3
Northeast Census Region					
RSE Column Factors:	1.3	0.6	1.4	0.9	
Value of Shipments and Receipts (million dollars)					
Under 20	11	266	234	527	19.4
20-49	3	593	152	270	20.7
50-99	5	1,198	23	330	12.4
100-249	5	619	28	289	13.7
250-499	5	994	42	124	5.5
500 and Over	10	1,291	23	209	7.5
Total	39	4,959	500	1,751	8.4
Employment Size					
Under 50	7	56	165	217	29.7
50-99	2	381	33	146	28.3
100-249	4	1,053	163	450	16.8
250-499	4	597	49	207	16.3
500-999	7	1,048	55	363	9.3
1,000 and Over	15	1,825	36	368	6.2
Total	39	4,959	500	1,751	8.4

See footnotes at end of table.

Table A14. Shell Storage Capacity of Petroleum Products by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Thousand Barrels)

Economic Characteristics ^a	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
Midwest Census Region					
RSE Column Factors:	1.3	0.9	1.0	0.9	
Value of Shipments and Receipts (million dollars)					
Under 20	22	90	225	235	24.9
20-49	18	228	101	236	18.9
50-99	9	384	63	107	17.6
100-249	7	392	Q	127	9.2
250-499	6	405	49	129	8.3
500 and Over	25	1,584	137	222	6.1
Total	87	3,082	773	1,058	9.5
Employment Size					
Under 50	8	47	143	W	32.1
50-99	6	111	85	W	31.8
100-249	15	410	98	170	17.0
250-499	17	391	Q	130	16.4
500-999	8	344	62	W	11.7
1,000 and Over	33	1,779	184	332	5.0
Total	87	3,082	773	1,058	9.5
South Census Region					
RSE Column Factors:	1.3	0.9	1.1	0.8	
Value of Shipments and Receipts (million dollars)					
Under 20	50	541	709	300	24.7
20-49	22	1,087	191	315	17.2
50-99	16	1,047	169	221	15.8
100-249	16	1,841	133	512	8.0
250-499	10	1,720	89	453	5.7
500 and Over	19	2,295	70	295	6.0
Total	134	8,531	1,360	2,095	8.3
Employment Size					
Under 50	24	Q	325	77	27.8
50-99	Q	938	260	272	32.0
100-249	20	987	336	345	16.1
250-499	17	1,235	142	384	7.9
500-999	18	1,693	155	507	9.7
1,000 and Over	32	3,356	142	510	5.5
Total	134	8,531	1,360	2,095	8.3

See footnotes at end of table.

Table A14. Shell Storage Capacity of Petroleum Products by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Thousand Barrels)

Economic Characteristics ^a	Motor Gasoline	Residual Fuel Oil	Diesel	Other Distillate Fuel Oil	RSE Row Factors
	West Census Region				
RSE Column Factors:	1.3	0.8	0.8	1.2	
Value of Shipments and Receipts (million dollars)					
Under 20	18	48	249	44	25.7
20-49	21	198	128	20	20.5
50-99	12	273	80	99	15.3
100-249	9	475	49	29	14.6
250-499	9	406	154	247	10.9
500 and Over	10	64	73	21	6.2
Total	79	1,464	732	460	8.9
Employment Size					
Under 50	6	Q	141	Q	32.9
50-99	6	31	68	Q	29.7
100-249	24	296	160	26	20.1
250-499	15	442	92	112	12.8
500-999	14	454	222	W	14.6
1,000 and Over	14	237	49	52	7.9
Total	79	1,464	732	460	8.9

^a Value of Shipments and Receipts and Employment Size data were supplied by the Bureau of the Census. See Appendix B.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey", and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A15. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991

Economic Characteristics ^a	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
Total United States						
RSE Column Factors:	0.9	1.0	0.9	1.0	1.3	
Value of Shipments and Receipts (million dollars)						
Under 20	244.3	5.4	2.8	W	13.2	6.2
20-49	531.0	8.3	3.7	0.6	10.3	6.3
50-99	702.8	9.2	4.2	4.6	12.3	5.0
100-249	1,365.5	13.0	6.1	16.4	10.0	4.4
250-499	2,680.8	20.3	9.4	24.5	12.8	3.9
500 and Over	2,702.9	16.5	7.1	31.0	6.8	2.8
Total	979.6	12.0	5.5	19.1	10.0	2.2
Employment Size						
Under 50	273.2	4.9	2.3	3.2	13.5	7.3
50-99	494.5	7.8	3.4	2.4	12.5	7.8
100-249	782.5	11.0	4.8	5.9	10.4	5.0
250-499	977.6	12.9	5.9	19.7	9.3	3.9
500-999	1,393.2	15.7	7.4	24.0	9.1	3.3
1,000 and Over	1,459.8	13.1	6.2	25.5	9.8	2.6
Total	979.6	12.0	5.5	19.1	10.0	2.2
Northeast Census Region						
RSE Column Factors:	1.0	1.2	1.0	0.9	0.9	
Value of Shipments and Receipts (million dollars)						
Under 20	275.6	5.6	2.9	W	4.2	15.4
20-49	506.3	7.7	3.4	W	3.0	11.0
50-99	756.5	8.9	4.2	3.0	2.0	6.8
100-249	966.0	9.3	4.0	8.9	4.3	7.4
250-499	1,250.7	9.8	4.5	7.7	2.9	6.1
500 and Over	2,356.2	14.9	6.0	24.0	10.7	5.5
Total	850.1	9.9	4.4	12.7	5.3	4.4
Employment Size						
Under 50	336.2	5.3	2.6	W	6.3	11.2
50-99	465.5	7.2	2.9	1.1	3.2	12.8
100-249	656.6	9.2	4.0	2.9	3.3	12.8
250-499	811.9	9.5	4.6	12.3	3.7	7.5
500-999	1,000.7	10.0	5.0	16.0	4.1	5.2
1,000 and Over	1,349.9	12.4	5.2	18.0	8.3	4.8
Total	850.1	9.9	4.4	12.7	5.3	4.4

See footnotes at end of table.

Table A15. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

Economic Characteristics ^a	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
Midwest Census Region						
RSE Column Factors:	0.9	1.0	0.9	0.9	1.4	
Value of Shipments and Receipts (million dollars)						
Under 20	236.8	6.1	3.1	W	12.8	8.1
20-49	599.6	10.7	4.6	0.9	6.9	8.5
50-99	719.1	10.5	4.5	4.3	6.9	10.4
100-249	1,864.3	19.0	8.4	16.9	9.1	6.4
250-499	5,138.4	36.2	15.8	27.4	8.3	5.2
500 and Over	5,376.7	25.9	10.7	31.3	3.2	3.6
Total	1,388.4	18.0	7.9	21.5	6.4	3.3
Employment Size						
Under 50	309.0	6.2	2.7	W	12.6	12.5
50-99	647.1	11.3	4.7	3.6	8.5	12.7
100-249	935.0	14.6	6.2	6.6	5.6	6.7
250-499	1,243.1	19.5	8.1	21.6	6.5	5.6
500-999	1,789.7	21.6	9.5	26.2	6.0	4.6
1,000 and Over	2,518.9	21.0	9.9	27.0	6.2	3.3
Total	1,388.4	18.0	7.9	21.5	6.4	3.3
South Census Region						
RSE Column Factors:	0.9	1.0	0.9	0.9	1.4	
Value of Shipments and Receipts (million dollars)						
Under 20	201.3	4.1	2.0	0.2	12.3	9.0
20-49	575.9	7.8	3.4	*	10.8	8.8
50-99	739.2	9.0	4.4	10.9	9.2	7.2
100-249	1,457.6	13.1	6.7	22.8	5.2	5.5
250-499	2,390.4	19.5	8.9	37.3	15.4	5.0
500 and Over	1,122.1	9.2	4.0	43.8	4.4	3.6
Total	773.6	9.4	4.4	W	8.8	2.9
Employment Size						
Under 50	184.8	3.4	1.6	0.2	11.4	12.5
50-99	445.8	6.8	3.0	2.6	17.6	12.9
100-249	934.8	11.4	4.9	11.8	10.1	6.8
250-499	1,186.1	15.0	6.6	29.8	16.3	5.2
500-999	1,606.4	17.5	8.5	27.7	3.0	5.0
1,000 and Over	569.7	5.7	2.9	38.9	3.1	3.2
Total	773.6	9.4	4.4	W	8.8	2.9

See footnotes at end of table.

Table A15. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

Economic Characteristics ^a	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^b as a Percent of Consumption (percent)	Fuel Oil ^c as a Percent of Natural Gas (percent)	RSE Row Factors
West Census Region						
RSE Column Factors:	1.1	1.2	1.0	0.8	1.1	
Value of Shipments and Receipts (million dollars)						
Under 20	201	4	2	0	12	11.8
20-49	576	8	3	*	11	12.9
50-99	739	9	4	11	9	11.5
100-249	1,458	13	7	23	5	9.7
250-499	2,390	20	9	37	15	4.9
500 and Over	1,122	9	4	44	4	4.0
Total	774	9	4	W	9	4.1
Employment Size						
Under 50	185	3	2	0	11	15.2
50-99	446	7	3	3	18	12.5
100-249	935	11	5	12	10	10.4
250-499	1,186	15	7	30	16	7.9
500-999	1,606	18	9	28	3	7.3
1,000 and Over	570	6	3	39	3	4.5
Total	774	9	4	W	9	4.1

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Major Byproduct" fuels include coke oven and blast furnace gas (produced primarily in the blast furnace industry, SIC 3312); still gas (produced primarily in refineries, SIC 2911); and pulping liquor (produced primarily in pulp and paper mills, SIC 2611 and 2621).

^c "Fuel Oil" includes distillate and residual.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • Operating ratios were calculated using the input energy estimates reported in Table A4.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A16. Components of Total Electricity Demand by Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Purchases	Transfers In ^b	Total Onsite Generation ^c	Sales and/or Transfers Offsite	Net Demand for Electricity ^d	RSE Row Factors
Total United States							
	RSE Column Factors:	0.5	1.9	1.2	1.5	0.5	
20	Food and Kindred Products	W	W	5,743	988	55,273	7.2
2011	Meat Packing Plants	3,410	0	71	0	3,481	9.5
2033	Canned Fruits and Vegetables	1,415	0	W	W	1,724	14.0
2037	Frozen Fruits and Vegetables	3,096	Q	135	27	3,205	17.8
2046	Wet Corn Milling	W	W	W	W	5,820	11.8
2051	Bread, Cake, and Related Products	2,240	0	33	*	2,272	13.2
2063	Beet Sugar	407	0	W	W	848	6.9
2075	Soybean Oil Mills	W	W	W	W	1,910	4.0
2082	Malt Beverages	2,371	0	W	W	2,886	11.2
21	Tobacco Products	1,468	0	W	W	1,810	5.5
22	Textile Mill Products	W	W	W	Q	29,866	7.9
23	Apparel and Other Textile Products	5,643	Q	0	0	5,645	14.8
24	Lumber and Wood Products	19,209	366	2,950	1,976	20,549	17.4
25	Furniture and Fixtures	4,913	Q	33	1	4,948	17.3
26	Paper and Allied Products	63,744	1,308	53,831	9,012	109,871	3.7
2611	Pulp Mills	2,871	6	6,138	462	8,553	15.1
2621	Paper Mills	W	W	30,841	6,104	61,054	2.8
2631	Paperboard Mills	W	W	16,739	2,378	26,971	5.2
27	Printing and Publishing	15,627	Q	Q	0	15,641	11.1
28	Chemicals and Allied Products	131,858	7,201	41,428	9,967	170,520	4.4
2812	Alkalies and Chlorine	12,629	0	W	W	17,653	14.9
2813	Industrial Gases	W	W	W	W	18,252	6.9
2819	Industrial Inorganic Chemicals, nec	38,026	150	W	W	39,777	9.3
2821	Plastics Materials and Resins	W	W	2,627	247	17,408	5.2
2822	Synthetic Rubber	1,946	0	W	W	1,877	14.0
2823	Cellulosic Manmade Fibers	W	0	961	W	1,170	26.3
2824	Organic Fibers, Noncellulosic	6,976	0	626	0	7,601	5.2
2865	Cyclic Crudes and Intermediates	4,382	50	457	9	4,880	11.6
2869	Industrial Organic Chemicals, nec	18,588	1,555	21,661	5,040	36,764	5.4
2873	Nitrogenous Fertilizers	2,886	33	392	7	3,303	26.7
2874	Phosphatic Fertilizers	2,419	0	2,677	533	4,562	4.7
29	Petroleum and Coal Products	33,463	17	13,452	2,698	44,234	4.6
2911	Petroleum Refining	W	W	12,993	2,410	42,145	2.8
30	Rubber and Misc. Plastics Products	33,808	Q	115	6	34,022	12.9
3011	Tires and Inner Tubes	W	W	*	0	4,037	5.1
308	Miscellaneous Plastics Products, nec	25,514	Q	W	Q	25,635	14.6
31	Leather and Leather Products	795	*	39	*	834	22.0
32	Stone, Clay and Glass Products	30,846	39	533	71	31,347	7.4
3211	Flat Glass	1,512	0	W	W	1,506	4.0
3221	Glass Containers	4,098	0	0	0	4,098	5.5
3229	Pressed and Blown Glass, nec	W	W	*	*	2,862	7.8
3241	Cement, Hydraulic	9,490	0	W	W	9,888	13.3
3274	Lime	1,324	0	0	0	1,324	66.6
3296	Mineral Wool	W	W	0	0	2,821	1.5
33	Primary Metal Industries	W	W	8,370	1,949	153,499	3.0
3312	Blast Furnaces and Steel Mills	W	W	6,235	1,297	44,417	4.5
3313	Electrometallurgical Products	3,796	0	W	W	4,386	10.5
3321	Gray and Ductile Iron Foundries	W	W	W	W	6,413	12.1
3331	Primary Copper	W	W	279	0	1,525	1.1
3334	Primary Aluminum	W	W	0	W	67,317	3.3
3339	Primary Nonferrous Metals, nec	3,784	0	W	W	4,433	1.8
3353	Aluminum Sheet, Plate, and Foil	W	W	0	0	4,261	1.2
34	Fabricated Metal Products	29,610	220	W	W	29,899	14.0
35	Industrial Machinery and Equipment	29,349	308	148	176	29,629	11.2
357	Computer and Office Equipment	4,369	29	17	9	4,405	16.7
36	Electronic and Other Electric Equipment	29,816	231	Q	Q	30,013	9.4
37	Transportation Equipment	35,160	241	714	761	35,355	5.6
3711	Motor Vehicles and Car Bodies	W	W	W	W	7,705	4.8
3714	Motor Vehicle Parts and Accessories	W	W	W	W	11,054	7.6
38	Instruments and Related Products	W	W	W	W	13,673	15.2
3841	Surgical and Medical Instruments	1,161	0	0	0	1,161	11.1
39	Misc. Manufacturing Industries	3,661	0	*	0	3,661	14.7
	Total	697,553	20,927	130,028	28,222	820,286	3.0

See footnotes at end of table.

Table A16. Components of Total Electricity Demand by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Purchases	Transfers In ^b	Total Onsite Generation ^c	Sales and/or Transfers Offsite	Net Demand for Electricity ^d	RSE Row Factors
Northeast Census Region							
	RSE Column Factors:	0.7	1.4	1.2	1.3	0.7	
20	Food and Kindred Products	5,443	0	352	58	5,737	12.1
2011	Meat Packing Plants	141	0	0	0	141	25.5
2033	Canned Fruits and Vegetables	292	0	5	0	297	22.8
2037	Frozen Fruits and Vegetables	140	0	1	0	141	35.8
2046	Wet Corn Milling	15	0	0	0	15	30.0
2051	Bread, Cake, and Related Products	382	0	W	0	W	16.6
2063	Beet Sugar	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	NF
2082	Malt Beverages	521	0	W	W	521	17.2
21	Tobacco Products	NA	NA	NA	NA	NA	51.0
22	Textile Mill Products	1,372	0	W	Q	1,404	21.8
23	Apparel and Other Textile Products	495	Q	0	0	497	25.5
24	Lumber and Wood Products	NA	NA	NA	NA	NA	36.8
25	Furniture and Fixtures	446	Q	Q	0	452	25.5
26	Paper and Allied Products	8,826	464	8,991	3,088	15,193	4.4
2611	Pulp Mills	Q	0	384	15	420	34.6
2621	Paper Mills	W	W	8,253	2,990	11,141	3.9
2631	Paperboard Mills	W	W	W	W	753	13.1
27	Printing and Publishing	3,167	0	Q	0	3,178	21.0
28	Chemicals and Allied Products	W	W	780	207	10,084	8.7
2812	Alkalies and Chlorine	W	0	0	0	W	39.0
2813	Industrial Gases	W	W	0	W	W	9.9
2819	Industrial Inorganic Chemicals, nec	W	W	W	0	W	17.7
2821	Plastics Materials and Resins	W	W	W	W	1,195	8.1
2822	Synthetic Rubber	W	0	0	*	W	31.5
2823	Cellulosic Manmade Fibers	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	95	0	0	0	95	30.0
2865	Cyclic Crudes and Intermediates	406	0	0	0	406	22.5
2869	Industrial Organic Chemicals, nec	W	W	W	W	3,151	9.8
2873	Nitrogenous Fertilizers	29	0	0	0	29	61.5
2874	Phosphatic Fertilizers	0	0	0	0	0	NF
29	Petroleum and Coal Products	3,054	0	W	W	3,568	5.6
2911	Petroleum Refining	2,515	0	W	W	W	4.2
30	Rubber and Misc. Plastics Products	5,484	0	W	6	W	19.9
3011	Tires and Inner Tubes	125	0	0	0	125	12.0
308	Miscellaneous Plastics Products, nec	4,810	0	W	Q	4,848	21.3
31	Leather and Leather Products	205	*	1	*	205	26.5
32	Stone, Clay and Glass Products	5,599	25	W	W	5,673	16.4
3211	Flat Glass	W	0	0	0	W	6.0
3221	Glass Containers	834	0	0	0	834	9.0
3229	Pressed and Blown Glass, nec	W	W	0	0	W	8.7
3241	Cement, Hydraulic	1,334	0	0	0	1,334	21.0
3274	Lime	Q	0	0	0	Q	NF
3296	Mineral Wool	W	W	0	0	304	2.4
33	Primary Metal Industries	17,771	0	W	W	18,832	5.3
3312	Blast Furnaces and Steel Mills	8,136	0	W	W	8,657	6.1
3313	Electrometallurgical Products	W	0	0	0	W	19.5
3321	Gray and Ductile Iron Foundries	350	0	0	0	350	19.5
3331	Primary Copper	W	0	0	0	W	1.5
3334	Primary Aluminum	W	0	0	0	W	6.0
3339	Primary Nonferrous Metals, nec	100	0	W	W	640	1.5
3353	Aluminum Sheet, Plate, and Foil	451	0	0	0	451	3.0
34	Fabricated Metal Products	5,053	Q	83	0	5,158	16.4
35	Industrial Machinery and Equipment	W	W	W	Q	W	18.4
357	Computer and Office Equipment	819	0	0	0	819	25.5
36	Electronic and Other Electric Equipment	6,541	Q	*	11	6,544	17.0
37	Transportation Equipment	W	W	W	W	3,464	10.7
3711	Motor Vehicles and Car Bodies	W	0	0	0	W	9.0
3714	Motor Vehicle Parts and Accessories	887	0	0	0	887	10.5
38	Instruments and Related Products	W	Q	W	W	W	16.4
3841	Surgical and Medical Instruments	332	0	0	0	332	13.5
39	Misc. Manufacturing Industries	1,187	0	*	0	1,187	17.9
	Total	86,471	1,380	14,592	4,301	98,142	4.0

See footnotes at end of table.

Table A16. Components of Total Electricity Demand by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Purchases	Transfers In ^b	Total Onsite Generation ^c	Sales and/or Transfers Offsite	Net Demand for Electricity ^d	RSE Row Factors
Midwest Census Region							
	RSE Column Factors:	0.6	1.4	1.3	1.6	0.6	
20	Food and Kindred Products	W	W	2,541	61	22,120	7.5
2011	Meat Packing Plants	2,065	0	71	0	2,137	10.1
2033	Canned Fruits and Vegetables	375	0	0	0	375	11.5
2037	Frozen Fruits and Vegetables	289	0	0	0	289	31.2
2046	Wet Corn Milling	W	W	W	W	4,809	12.7
2051	Bread, Cake, and Related Products	632	0	6	0	637	16.6
2063	Beet Sugar	234	0	W	W	399	7.7
2075	Soybean Oil Mills	W	W	W	W	1,344	4.9
2082	Malt Beverages	480	0	W	0	W	18.9
21	Tobacco Products	NA	NA	NA	NA	NA	13.1
22	Textile Mill Products	NA	NA	NA	NA	NA	34.5
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	26.3
24	Lumber and Wood Products	2,834	0	68	0	2,902	24.6
25	Furniture and Fixtures	1,571	0	18	1	1,588	22.9
26	Paper and Allied Products	14,038	Q	6,475	716	20,278	6.3
2611	Pulp Mills	556	0	523	257	822	30.2
2621	Paper Mills	7,730	0	4,777	438	12,069	5.4
2631	Paperboard Mills	2,059	0	W	W	3,192	10.9
27	Printing and Publishing	5,224	0	*	0	5,224	14.8
28	Chemicals and Allied Products	W	W	1,077	155	34,879	9.9
2812	Alkalies and Chlorine	W	0	0	0	W	39.4
2813	Industrial Gases	3,319	W	0	0	W	9.1
2819	Industrial Inorganic Chemicals, nec	W	W	W	0	W	19.6
2821	Plastics Materials and Resins	3,247	1	W	W	3,379	8.6
2822	Synthetic Rubber	241	0	0	0	241	26.3
2823	Cellulosic Manmade Fibers	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	756	0	W	0	W	15.1
2869	Industrial Organic Chemicals, nec	W	W	W	W	2,322	7.4
2873	Nitrogenous Fertilizers	556	0	4	0	560	35.5
2874	Phosphatic Fertilizers	1	0	0	0	1	6.6
29	Petroleum and Coal Products	W	Q	W	W	7,547	7.0
2911	Petroleum Refining	6,168	0	W	W	W	3.4
30	Rubber and Misc. Plastics Products	13,132	Q	*	0	13,237	13.4
3011	Tires and Inner Tubes	W	W	0	0	W	5.0
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	14.8
31	Leather and Leather Products	262	0	8	0	270	25.4
32	Stone, Clay and Glass Products	W	W	W	W	8,473	10.7
3211	Flat Glass	W	0	0	0	W	4.9
3221	Glass Containers	873	0	0	0	873	8.2
3229	Pressed and Blown Glass, nec	614	3	0	0	617	8.6
3241	Cement, Hydraulic	2,247	0	W	W	W	17.9
3274	Lime	367	0	0	0	367	21.4
3296	Mineral Wool	1,251	0	0	0	1,251	1.6
33	Primary Metal Industries	W	W	3,377	776	50,133	4.7
3312	Blast Furnaces and Steel Mills	W	W	3,371	586	20,562	5.7
3313	Electrometallurgical Products	2,378	0	*	W	W	11.2
3321	Gray and Ductile Iron Foundries	4,350	0	W	W	4,349	12.3
3331	Primary Copper	W	0	0	0	W	1.6
3334	Primary Aluminum	W	W	0	0	W	5.7
3339	Primary Nonferrous Metals, nec	727	0	0	W	W	1.2
3353	Aluminum Sheet, Plate, and Foil	W	W	0	0	1,453	2.0
34	Fabricated Metal Products	12,749	198	Q	W	12,906	13.8
35	Industrial Machinery and Equipment	W	Q	W	W	12,625	12.1
357	Computer and Office Equipment	796	23	0	0	820	21.7
36	Electronic and Other Electric Equipment	7,001	165	Q	7	7,176	14.3
37	Transportation Equipment	W	W	W	W	16,250	5.9
3711	Motor Vehicles and Car Bodies	W	W	W	W	4,826	5.8
3714	Motor Vehicle Parts and Accessories	W	W	W	W	8,006	8.5
38	Instruments and Related Products	1,806	0	0	0	1,806	18.1
3841	Surgical and Medical Instruments	276	0	0	0	276	19.7
39	Misc. Manufacturing Industries	929	0	0	0	929	18.1
	Total	198,408	8,696	15,097	2,707	219,493	4.2

See footnotes at end of table.

Table A16. Components of Total Electricity Demand by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Purchases	Transfers In ^b	Total Onsite Generation ^c	Sales and/or Transfers Offsite	Net Demand for Electricity ^d	RSE Row Factors
South Census Region							
	RSE Column Factors:	0.6	1.4	1.2	1.5	0.6	
20	Food and Kindred Products	W	Q	1,365	245	17,302	11.9
2011	Meat Packing Plants	892	0	0	0	892	12.8
2033	Canned Fruits and Vegetables	200	0	W	W	495	24.9
2037	Frozen Fruits and Vegetables	551	0	63	0	614	18.5
2046	Wet Corn Milling	837	0	W	W	W	19.4
2051	Bread, Cake, and Related Products	838	0	3	*	841	16.8
2063	Beet Sugar	W	0	W	0	W	20.5
2075	Soybean Oil Mills	539	0	W	W	566	5.1
2082	Malt Beverages	863	0	W	0	W	14.0
21	Tobacco Products	1,452	0	W	W	1,794	5.2
22	Textile Mill Products	W	W	W	W	27,701	8.8
23	Apparel and Other Textile Products	4,165	0	0	0	4,165	16.0
24	Lumber and Wood Products	W	W	33	Q	W	24.3
25	Furniture and Fixtures	2,592	0	12	0	2,604	18.8
26	Paper and Allied Products	27,095	260	32,331	2,253	57,432	5.6
2611	Pulp Mills	1,421	0	4,319	172	5,568	15.1
2621	Paper Mills	W	W	14,728	819	28,423	3.6
2631	Paperboard Mills	6,887	0	13,283	1,256	18,915	5.5
27	Printing and Publishing	4,797	Q	0	0	4,798	16.0
28	Chemicals and Allied Products	79,359	4,191	37,577	8,480	112,647	4.9
2812	Alkalies and Chlorine	10,289	0	W	W	15,313	15.1
2813	Industrial Gases	W	W	W	W	W	8.7
2819	Industrial Inorganic Chemicals, nec	W	W	W	W	18,122	12.6
2821	Plastics Materials and Resins	W	W	2,409	232	12,622	6.2
2822	Synthetic Rubber	W	0	W	W	W	14.0
2823	Cellulosic Manmade Fibers	W	0	961	W	1,170	24.6
2824	Organic Fibers, Noncellulosic	6,881	0	626	0	7,507	4.7
2865	Cyclic Crudes and Intermediates	3,209	50	W	9	W	12.7
2869	Industrial Organic Chemicals, nec	13,961	1,149	20,836	4,869	31,077	6.6
2873	Nitrogenous Fertilizers	1,872	0	233	7	2,097	31.3
2874	Phosphatic Fertilizers	1,908	0	W	W	3,998	2.4
29	Petroleum and Coal Products	15,699	0	8,781	1,821	22,658	2.9
2911	Petroleum Refining	15,216	0	8,780	1,821	22,175	2.9
30	Rubber and Misc. Plastics Products	12,328	0	*	1	12,328	11.3
3011	Tires and Inner Tubes	2,855	0	*	0	2,855	5.1
308	Miscellaneous Plastics Products, nec	7,801	0	*	0	7,801	14.4
31	Leather and Leather Products	258	0	Q	0	288	18.4
32	Stone, Clay and Glass Products	W	W	W	W	11,868	7.1
3211	Flat Glass	781	0	0	W	W	4.5
3221	Glass Containers	1,262	0	0	0	1,262	8.0
3229	Pressed and Blown Glass, nec	1,598	0	*	*	1,598	8.2
3241	Cement, Hydraulic	3,519	0	0	Q	3,518	14.4
3274	Lime	405	0	0	0	405	30.4
3296	Mineral Wool	W	W	0	0	936	1.5
33	Primary Metal Industries	W	W	2,551	684	49,304	4.4
3312	Blast Furnaces and Steel Mills	W	W	1,785	293	12,529	6.5
3313	Electrometallurgical Products	W	0	W	W	1,805	12.3
3321	Gray and Ductile Iron Foundries	W	W	0	0	1,622	15.8
3331	Primary Copper	200	0	W	0	W	1.3
3334	Primary Aluminum	W	W	0	W	24,240	4.3
3339	Primary Nonferrous Metals, nec	1,694	0	0	0	1,694	6.4
3353	Aluminum Sheet, Plate, and Foil	W	W	0	0	W	1.9
34	Fabricated Metal Products	8,886	0	0	0	8,886	17.6
35	Industrial Machinery and Equipment	8,138	0	17	9	8,146	16.6
357	Computer and Office Equipment	809	0	17	9	816	20.8
36	Electronic and Other Electric Equipment	10,724	Q	*	Q	10,742	12.0
37	Transportation Equipment	8,542	0	1	W	W	8.0
3711	Motor Vehicles and Car Bodies	2,375	0	*	W	W	6.0
3714	Motor Vehicle Parts and Accessories	1,919	0	0	0	1,919	11.2
38	Instruments and Related Products	3,239	Q	0	0	3,285	14.4
3841	Surgical and Medical Instruments	331	0	0	0	331	17.6
39	Misc. Manufacturing Industries	1,168	0	0	0	1,168	16.0
	Total	295,955	9,173	83,821	14,078	374,870	3.0

See footnotes at end of table.

Table A16. Components of Total Electricity Demand by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Purchases	Transfers In ^b	Total Onsite Generation ^c	Sales and/or Transfers Offsite	Net Demand for Electricity ^d	RSE Row Factors
West Census Region							
	RSE Column Factors:	0.7	1.3	1.2	1.4	0.7	
20	Food and Kindred Products	9,230	Q	1,485	624	10,114	11.0
2011	Meat Packing Plants	311	0	0	0	311	14.8
2033	Canned Fruits and Vegetables	547	0	W	W	556	15.2
2037	Frozen Fruits and Vegetables	2,117	Q	71	27	2,162	20.5
2046	Wet Corn Milling	93	0	W	0	W	21.4
2051	Bread, Cake, and Related Products	388	0	W	0	W	27.3
2063	Beet Sugar	W	0	258	0	W	8.5
2075	Soybean Oil Mills	0	0	0	0	0	NF
2082	Malt Beverages	506	0	W	W	776	17.3
21	Tobacco Products	0	0	0	0	0	NF
22	Textile Mill Products	274	0	0	0	274	35.5
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	31.0
24	Lumber and Wood Products	W	W	2,818	W	W	20.9
25	Furniture and Fixtures	304	0	0	0	304	29.6
26	Paper and Allied Products	13,785	103	6,035	2,955	16,968	6.8
2611	Pulp Mills	843	6	912	17	1,743	23.2
2621	Paper Mills	8,196	0	3,082	1,857	9,421	4.8
2631	Paperboard Mills	3,155	0	2,037	1,081	4,111	7.2
27	Printing and Publishing	NA	NA	NA	NA	NA	19.2
28	Chemicals and Allied Products	11,126	914	1,994	1,125	12,910	8.8
2812	Alkalies and Chlorine	W	0	0	0	W	20.7
2813	Industrial Gases	2,561	W	W	0	3,473	12.5
2819	Industrial Inorganic Chemicals, nec	4,373	106	W	W	W	12.2
2821	Plastics Materials and Resins	189	23	*	0	212	16.6
2822	Synthetic Rubber	*	0	0	0	*	32.5
2823	Cellulosic Manmade Fibers	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	11	0	0	0	11	38.4
2869	Industrial Organic Chemicals, nec	Q	2	W	W	214	21.3
2873	Nitrogenous Fertilizers	428	33	156	0	617	35.4
2874	Phosphatic Fertilizers	510	0	W	W	562	11.7
29	Petroleum and Coal Products	W	W	2,874	379	10,460	4.5
2911	Petroleum Refining	W	W	2,423	133	9,952	3.0
30	Rubber and Misc. Plastics Products	2,865	0	W	0	W	21.4
3011	Tires and Inner Tubes	W	0	0	0	W	8.9
308	Miscellaneous Plastics Products, nec	2,573	0	*	0	2,574	23.7
31	Leather and Leather Products	70	0	0	0	70	45.8
32	Stone, Clay and Glass Products	5,156	0	W	W	5,333	14.4
3211	Flat Glass	148	0	W	0	W	4.7
3221	Glass Containers	1,129	0	0	0	1,129	8.9
3229	Pressed and Blown Glass, nec	W	0	0	0	W	16.3
3241	Cement, Hydraulic	2,390	0	W	W	W	21.5
3274	Lime	W	0	0	0	W	23.7
3296	Mineral Wool	330	0	0	0	330	3.0
33	Primary Metal Industries	W	W	W	W	35,230	3.8
3312	Blast Furnaces and Steel Mills	2,531	0	W	W	2,670	8.5
3313	Electrometallurgical Products	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	92	0	0	0	92	48.8
3331	Primary Copper	W	W	W	0	W	1.1
3334	Primary Aluminum	26,391	0	0	0	26,391	4.4
3339	Primary Nonferrous Metals, nec	1,263	0	W	0	W	1.2
3353	Aluminum Sheet, Plate, and Foil	W	0	0	0	W	1.5
34	Fabricated Metal Products	2,922	0	Q	0	2,949	14.8
35	Industrial Machinery and Equipment	3,614	6	W	0	W	20.6
357	Computer and Office Equipment	1,945	6	0	0	1,950	16.4
36	Electronic and Other Electric Equipment	5,550	0	*	0	5,550	16.1

See footnotes at end of table.

Table A16. Components of Total Electricity Demand by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Purchases	Transfers In ^b	Total Onsite Generation ^c	Sales and/or Transfers Offsite	Net Demand for Electricity ^d	RSE Row Factors
West Census Region							
	RSE Column Factors:	0.7	1.3	1.2	1.4	0.7	
37	Transportation Equipment	7,096	0	W	0	W	8.9
3711	Motor Vehicles and Car Bodies	W	0	0	0	W	8.9
3714	Motor Vehicle Parts and Accessories	243	0	0	0	243	34.0
38	Instruments and Related Products	3,188	Q	W	*	W	16.0
3841	Surgical and Medical Instruments	222	0	0	0	222	25.1
39	Misc. Manufacturing Industries	376	0	0	0	376	31.0
	Total	116,720	1,678	16,518	7,135	127,781	5.0

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Transfers In" are the quantities purchased by a central purchasing agent or other establishment of the same company.

^c "Onsite Generation" includes cogeneration, generation by renewable energy sources, and conventional generation by combustible fuels.

^d "Net Demand" is the sum of purchases, transfers in, and total onsite generation, minus sales and transfers offsite. It is the total amount of electricity used. It is not comparable to net electricity which excludes electricity generated onsite by combustible energy sources.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A17. Components of Onsite Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
		Total United States				
RSE Column Factors:		0.8	0.8	1.4	1.2	
20	Food and Kindred Products	5,743	5,579	6	157	12.2
2011	<i>Meat Packing Plants</i>	71	71	0	*	23.7
2033	<i>Canned Fruits and Vegetables</i>	W	W	0	W	30.7
2037	<i>Frozen Fruits and Vegetables</i>	135	134	0	1	29.9
2046	<i>Wet Corn Milling</i>	W	W	0	0	12.6
2051	<i>Bread, Cake, and Related Products</i>	33	33	0	*	22.6
2063	<i>Beet Sugar</i>	W	436	0	W	7.6
2075	<i>Soybean Oil Mills</i>	W	W	0	0	6.3
2082	<i>Malt Beverages</i>	W	W	0	0	17.7
21	Tobacco Products	W	W	0	0	7.6
22	Textile Mill Products	W	W	W	W	19.6
23	Apparel and Other Textile Products	0	0	0	0	NF
24	Lumber and Wood Products	2,950	2,671	Q	*	41.9
25	Furniture and Fixtures	33	33	0	0	31.6
26	Paper and Allied Products	53,831	45,447	2,856	5,528	3.1
2611	<i>Pulp Mills</i>	6,138	4,963	W	W	16.2
2621	<i>Paper Mills</i>	30,841	27,058	2,522	1,261	2.8
2631	<i>Paperboard Mills</i>	16,739	13,361	W	W	6.0
27	Printing and Publishing	Q	Q	0	*	NF
28	Chemicals and Allied Products	41,428	38,348	Q	3,079	7.0
2812	<i>Alkalies and Chlorine</i>	W	W	0	W	20.4
2813	<i>Industrial Gases</i>	W	W	0	W	17.2
2819	<i>Industrial Inorganic Chemicals, nec</i>	W	2,654	0	W	11.0
2821	<i>Plastics Materials and Resins</i>	2,627	2,525	0	103	8.1
2822	<i>Synthetic Rubber</i>	W	W	0	0	24.0
2823	<i>Cellulosic Manmade Fibers</i>	961	961	0	0	24.0
2824	<i>Organic Fibers, Noncellulosic</i>	626	626	0	0	3.8
2865	<i>Cyclic Crudes and Intermediates</i>	457	W	0	W	19.8
2869	<i>Industrial Organic Chemicals, nec</i>	21,661	W	Q	W	8.8
2873	<i>Nitrogenous Fertilizers</i>	392	391	0	1	40.1
2874	<i>Phosphatic Fertilizers</i>	2,677	2,677	0	0	2.5
29	Petroleum and Coal Products	13,452	W	0	W	2.5
2911	<i>Petroleum Refining</i>	12,993	W	0	W	2.5
30	Rubber and Misc. Plastics Products	115	W	W	*	16.5
3011	<i>Tires and Inner Tubes</i>	*	0	0	*	7.3
308	<i>Miscellaneous Plastics Products, nec</i>	W	W	0	*	38.5
31	Leather and Leather Products	39	38	1	0	47.7
32	Stone, Clay and Glass Products	533	499	0	Q	20.8
3211	<i>Flat Glass</i>	W	0	0	W	6.3
3221	<i>Glass Containers</i>	0	0	0	0	NF
3229	<i>Pressed and Blown Glass, nec</i>	*	0	0	*	10.4
3241	<i>Cement, Hydraulic</i>	W	W	0	0	24.0
3274	<i>Lime</i>	0	0	0	0	NF
3296	<i>Mineral Wool</i>	0	0	0	0	NF
33	Primary Metal Industries	8,370	4,956	W	W	5.1
3312	<i>Blast Furnaces and Steel Mills</i>	6,235	4,560	0	1,674	5.9
3313	<i>Electrometallurgical Products</i>	W	W	W	*	14.0
3321	<i>Gray and Ductile Iron Foundries</i>	W	W	0	*	30.5
3331	<i>Primary Copper</i>	279	W	0	W	1.1
3334	<i>Primary Aluminum</i>	0	0	0	0	NF
3339	<i>Primary Nonferrous Metals, nec</i>	W	W	W	0	1.1
3353	<i>Aluminum Sheet, Plate, and Foil</i>	0	0	0	0	NF
34	Fabricated Metal Products	W	W	*	*	34.1
35	Industrial Machinery and Equipment	148	126	Q	19	18.2
357	<i>Computer and Office Equipment</i>	17	13	0	4	36.6
36	Electronic and Other Electric Equipment	Q	Q	*	*	19.6
37	Transportation Equipment	714	602	W	W	12.2
3711	<i>Motor Vehicles and Car Bodies</i>	W	*	W	0	9.8
3714	<i>Motor Vehicle Parts and Accessories</i>	W	W	0	0	20.2
38	Instruments and Related Products	W	W	Q	Q	34.7
3841	<i>Surgical and Medical Instruments</i>	0	0	0	0	NF
39	Misc. Manufacturing Industries	*	*	0	*	40.1
	Total	130,028	113,912	4,444	11,672	4.0

See footnotes at end of table.

Table A17. Components of Onsite Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
Northeast Census Region						
	RSE Column Factors:	1.0	1.0	0.8	1.3	
20	Food and Kindred Products	352	339	0	Q	17.1
2011	Meat Packing Plants	0	0	0	0	NF
2033	Canned Fruits and Vegetables	5	5	0	0	39.5
2037	Frozen Fruits and Vegetables	1	0	0	1	33.5
2046	Wet Corn Milling	0	0	0	0	NF
2051	Bread, Cake, and Related Products	W	W	0	0	26.0
2063	Beet Sugar	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	NF
2082	Malt Beverages	W	W	0	0	23.9
21	Tobacco Products	NA	NA	NA	NA	NF
22	Textile Mill Products	W	W	3	0	46.2
23	Apparel and Other Textile Products	0	0	0	0	NF
24	Lumber and Wood Products	NA	NA	NA	NA	NF
25	Furniture and Fixtures	Q	Q	0	0	NF
26	Paper and Allied Products	8,991	6,829	W	W	4.2
2611	Pulp Mills	384	W	W	0	39.1
2621	Paper Mills	8,253	6,344	1,685	224	3.7
2631	Paperboard Mills	W	W	0	W	13.0
27	Printing and Publishing	Q	Q	0	0	NF
28	Chemicals and Allied Products	780	W	0	W	11.3
2812	Alkalies and Chlorine	0	0	0	0	NF
2813	Industrial Gases	0	0	0	0	NF
2819	Industrial Inorganic Chemicals, nec	W	W	0	*	15.7
2821	Plastics Materials and Resins	W	W	0	*	9.8
2822	Synthetic Rubber	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	0	NF
2869	Industrial Organic Chemicals, nec	W	W	0	W	12.2
2873	Nitrogenous Fertilizers	0	0	0	0	NF
2874	Phosphatic Fertilizers	0	0	0	0	NF
29	Petroleum and Coal Products	W	714	0	W	4.1
2911	Petroleum Refining	W	714	0	W	4.1
30	Rubber and Misc. Plastics Products	W	76	W	*	19.1
3011	Tires and Inner Tubes	0	0	0	0	NF
308	Miscellaneous Plastics Products, nec	W	W	0	0	32.2
31	Leather and Leather Products	1	0	1	0	50.3
32	Stone, Clay and Glass Products	W	W	0	Q	26.1
3211	Flat Glass	0	0	0	0	NF
3221	Glass Containers	0	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	0	NF
3241	Cement, Hydraulic	0	0	0	0	NF
3274	Lime	0	0	0	0	NF
3296	Mineral Wool	0	0	0	0	NF
33	Primary Metal Industries	W	W	W	W	4.5
3312	Blast Furnaces and Steel Mills	W	W	0	W	8.1
3313	Electrometallurgical Products	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	0	0	0	0	NF
3331	Primary Copper	0	0	0	0	NF
3334	Primary Aluminum	0	0	0	0	NF
3339	Primary Nonferrous Metals, nec	W	0	W	0	1.1
3353	Aluminum Sheet, Plate, and Foil	0	0	0	0	NF
34	Fabricated Metal Products	83	83	*	0	34.3
35	Industrial Machinery and Equipment	W	W	Q	Q	44.2
357	Computer and Office Equipment	0	0	0	0	NF
36	Electronic and Other Electric Equipment	*	0	0	*	25.3
37	Transportation Equipment	W	W	0	*	15.8
3711	Motor Vehicles and Car Bodies	0	0	0	0	NF
3714	Motor Vehicle Parts and Accessories	0	0	0	0	NF
38	Instruments and Related Products	W	W	Q	Q	28.6
3841	Surgical and Medical Instruments	0	0	0	0	NF
39	Misc. Manufacturing Industries	*	*	0	*	34.1
	Total	14,592	10,913	2,491	1,188	4.7

See footnotes at end of table.

Table A17. Components of Onsite Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
Midwest Census Region						
	RSE Column Factors:	0.9	0.9	0.9	1.4	
20	Food and Kindred Products	2,541	2,540	0	*	11.4
2011	Meat Packing Plants	71	71	0	*	20.3
2033	Canned Fruits and Vegetables	0	0	0	0	NF
2037	Frozen Fruits and Vegetables	0	0	0	0	NF
2046	Wet Corn Milling	W	W	0	0	12.2
2051	Bread, Cake, and Related Products	6	6	0	*	36.5
2063	Beet Sugar	W	W	0	0	7.7
2075	Soybean Oil Mills	W	W	0	0	5.5
2082	Malt Beverages	W	W	0	0	24.3
21	Tobacco Products	NA	NA	NA	NA	NF
22	Textile Mill Products	NA	NA	NA	NA	NF
23	Apparel and Other Textile Products	NA	NA	NA	NA	NF
24	Lumber and Wood Products	68	68	0	0	38.7
25	Furniture and Fixtures	18	18	0	0	39.8
26	Paper and Allied Products	6,475	5,513	W	W	6.6
2611	Pulp Mills	523	523	0	0	28.8
2621	Paper Mills	4,777	W	475	W	4.4
2631	Paperboard Mills	W	772	W	236	14.7
27	Printing and Publishing	*	0	0	*	NF
28	Chemicals and Allied Products	1,077	878	0	199	10.6
2812	Alkalies and Chlorine	0	0	0	0	NF
2813	Industrial Gases	0	0	0	0	NF
2819	Industrial Inorganic Chemicals, nec	W	W	0	0	19.9
2821	Plastics Materials and Resins	W	W	0	W	12.0
2822	Synthetic Rubber	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	W	W	0	0	17.7
2869	Industrial Organic Chemicals, nec	W	W	0	*	9.2
2873	Nitrogenous Fertilizers	4	2	0	1	42.0
2874	Phosphatic Fertilizers	0	0	0	0	NF
29	Petroleum and Coal Products	W	W	0	W	5.0
2911	Petroleum Refining	W	W	0	W	5.0
30	Rubber and Misc. Plastics Products	*	*	0	0	25.4
3011	Tires and Inner Tubes	0	0	0	0	NF
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NF
31	Leather and Leather Products	8	8	0	0	49.8
32	Stone, Clay and Glass Products	W	W	0	0	28.8
3211	Flat Glass	0	0	0	0	NF
3221	Glass Containers	0	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	0	NF
3241	Cement, Hydraulic	W	W	0	0	28.8
3274	Lime	0	0	0	0	NF
3296	Mineral Wool	0	0	0	0	NF
33	Primary Metal Industries	3,377	2,573	0	804	7.2
3312	Blast Furnaces and Steel Mills	3,371	2,567	0	804	7.2
3313	Electrometallurgical Products	*	0	0	*	12.4
3321	Gray and Ductile Iron Foundries	W	W	0	*	26.1
3331	Primary Copper	0	0	0	0	NF
3334	Primary Aluminum	0	0	0	0	NF
3339	Primary Nonferrous Metals, nec	0	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	0	0	0	0	NF
34	Fabricated Metal Products	Q	Q	0	*	NF
35	Industrial Machinery and Equipment	W	W	0	W	18.3
357	Computer and Office Equipment	0	0	0	0	NF
36	Electronic and Other Electric Equipment	Q	Q	0	0	NF
37	Transportation Equipment	W	W	W	W	13.9
3711	Motor Vehicles and Car Bodies	W	*	W	0	11.3
3714	Motor Vehicle Parts and Accessories	W	W	0	0	17.7
38	Instruments and Related Products	0	0	0	0	NF
3841	Surgical and Medical Instruments	0	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	0	NF
	Total	15,097	12,993	706	1,398	4.9

See footnotes at end of table.

Table A17. Components of Onsite Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
South Census Region						
	RSE Column Factors:	0.8	0.8	1.8	1.0	
20	Food and Kindred Products	1,365	1,283	0	83	28.2
2011	Meat Packing Plants	0	0	0	0	NF
2033	Canned Fruits and Vegetables	W	W	0	0	37.2
2037	Frozen Fruits and Vegetables	63	63	0	0	33.2
2046	Wet Corn Milling	W	W	0	0	22.6
2051	Bread, Cake, and Related Products	3	3	0	*	45.7
2063	Beet Sugar	W	W	0	0	21.2
2075	Soybean Oil Mills	W	W	0	0	8.0
2082	Malt Beverages	W	W	0	0	21.2
21	Tobacco Products	W	W	0	0	8.0
22	Textile Mill Products	W	W	W	W	19.7
23	Apparel and Other Textile Products	0	0	0	0	NF
24	Lumber and Wood Products	33	33	0	*	63.7
25	Furniture and Fixtures	12	12	0	0	51.8
26	Paper and Allied Products	32,331	27,558	W	W	4.6
2611	Pulp Mills	4,319	W	0	W	18.2
2621	Paper Mills	14,728	13,624	W	W	3.6
2631	Paperboard Mills	13,283	W	W	2,787	6.6
27	Printing and Publishing	0	0	0	0	NF
28	Chemicals and Allied Products	37,577	34,780	Q	2,796	8.4
2812	Alkalies and Chlorine	W	W	0	W	22.3
2813	Industrial Gases	W	W	0	0	25.2
2819	Industrial Inorganic Chemicals, nec	W	1,918	0	W	12.9
2821	Plastics Materials and Resins	2,409	W	0	W	9.2
2822	Synthetic Rubber	W	W	0	0	25.2
2823	Cellulosic Manmade Fibers	961	961	0	0	25.2
2824	Organic Fibers, Noncellulosic	626	626	0	0	4.0
2865	Cyclic Crudes and Intermediates	W	W	0	W	24.6
2869	Industrial Organic Chemicals, nec	20,836	W	Q	W	10.0
2873	Nitrogenous Fertilizers	233	233	0	0	59.7
2874	Phosphatic Fertilizers	W	W	0	0	2.7
29	Petroleum and Coal Products	8,781	8,580	0	201	4.0
2911	Petroleum Refining	8,780	8,580	0	199	4.0
30	Rubber and Misc. Plastics Products	*	0	0	*	NF
3011	Tires and Inner Tubes	*	0	0	*	8.1
308	Miscellaneous Plastics Products, nec	*	0	0	*	NF
31	Leather and Leather Products	Q	Q	0	0	NF
32	Stone, Clay and Glass Products	W	W	0	*	24.3
3211	Flat Glass	0	0	0	0	NF
3221	Glass Containers	0	0	0	0	NF
3229	Pressed and Blown Glass, nec	*	0	0	*	11.5
3241	Cement, Hydraulic	0	0	0	0	NF
3274	Lime	0	0	0	0	NF
3296	Mineral Wool	0	0	0	0	NF
33	Primary Metal Industries	2,551	1,673	W	W	8.9
3312	Blast Furnaces and Steel Mills	1,785	W	0	W	9.6
3313	Electrometallurgical Products	W	W	W	0	14.0
3321	Gray and Ductile Iron Foundries	0	0	0	0	NF
3331	Primary Copper	W	W	0	0	1.3
3334	Primary Aluminum	0	0	0	0	NF
3339	Primary Nonferrous Metals, nec	0	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	0	0	0	0	NF
34	Fabricated Metal Products	0	0	0	0	NF
35	Industrial Machinery and Equipment	17	13	0	4	39.9
357	Computer and Office Equipment	17	13	0	4	39.9
36	Electronic and Other Electric Equipment	*	0	0	*	26.5
37	Transportation Equipment	1	1	0	*	20.2
3711	Motor Vehicles and Car Bodies	*	*	0	0	13.3
3714	Motor Vehicle Parts and Accessories	0	0	0	0	NF
38	Instruments and Related Products	0	0	0	0	NF
3841	Surgical and Medical Instruments	0	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	0	NF
	Total	83,821	75,037	W	W	4.8

See footnotes at end of table.

Table A17. Components of Onsite Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
West Census Region						
	RSE Column Factors:	0.8	0.8	1.4	1.1	
20	Food and Kindred Products	1,485	1,417	6	62	16.0
2011	Meat Packing Plants	0	0	0	0	NF
2033	Canned Fruits and Vegetables	W	0	0	W	31.7
2037	Frozen Fruits and Vegetables	71	71	0	0	44.5
2046	Wet Corn Milling	W	W	0	0	28.4
2051	Bread, Cake, and Related Products	W	W	0	0	40.8
2063	Beet Sugar	258	W	0	W	9.1
2075	Soybean Oil Mills	0	0	0	0	NF
2082	Malt Beverages	W	W	0	0	28.4
21	Tobacco Products	0	0	0	0	NF
22	Textile Mill Products	0	0	0	0	NF
23	Apparel and Other Textile Products	NA	NA	NA	NA	NF
24	Lumber and Wood Products	2,818	2,539	Q	*	40.4
25	Furniture and Fixtures	0	0	0	0	NF
26	Paper and Allied Products	6,035	5,547	W	W	8.4
2611	Pulp Mills	912	721	0	190	24.3
2621	Paper Mills	3,082	W	W	0	7.2
2631	Paperboard Mills	2,037	W	0	W	9.3
27	Printing and Publishing	NA	NA	NA	NA	NF
28	Chemicals and Allied Products	1,994	W	0	W	12.2
2812	Alkalies and Chlorine	0	0	0	0	NF
2813	Industrial Gases	W	W	0	W	21.2
2819	Industrial Inorganic Chemicals, nec	W	W	0	W	18.5
2821	Plastics Materials and Resins	*	0	0	*	14.8
2822	Synthetic Rubber	0	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	0	NF
2869	Industrial Organic Chemicals, nec	W	W	0	0	17.3
2873	Nitrogenous Fertilizers	156	156	0	0	44.5
2874	Phosphatic Fertilizers	W	W	0	0	3.7
29	Petroleum and Coal Products	2,874	W	0	W	5.9
2911	Petroleum Refining	2,423	W	0	W	4.2
30	Rubber and Misc. Plastics Products	W	W	0	0	28.4
3011	Tires and Inner Tubes	0	0	0	0	NF
308	Miscellaneous Plastics Products, nec	*	*	0	0	NF
31	Leather and Leather Products	0	0	0	0	NF
32	Stone, Clay and Glass Products	W	W	0	Q	29.0
3211	Flat Glass	W	0	0	W	6.3
3221	Glass Containers	0	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	0	NF
3241	Cement, Hydraulic	W	W	0	0	32.1
3274	Lime	0	0	0	0	NF
3296	Mineral Wool	0	0	0	0	NF
33	Primary Metal Industries	W	W	0	W	8.9
3312	Blast Furnaces and Steel Mills	W	W	0	0	16.1
3313	Electrometallurgical Products	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	0	0	0	0	NF
3331	Primary Copper	W	W	0	W	1.1
3334	Primary Aluminum	0	0	0	0	NF
3339	Primary Nonferrous Metals, nec	W	W	0	0	1.2
3353	Aluminum Sheet, Plate, and Foil	0	0	0	0	NF
34	Fabricated Metal Products	Q	Q	0	*	29.8
35	Industrial Machinery and Equipment	W	0	0	W	32.8
357	Computer and Office Equipment	0	0	0	0	NF
36	Electronic and Other Electric Equipment	*	*	*	*	33.1

See footnotes at end of table.

Table A17. Components of Onsite Electricity Generation by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
		West Census Region				
RSE Column Factors:		0.8	0.8	1.4	1.1	
37	Transportation Equipment	W	W	0	1	17.1
3711	Motor Vehicles and Car Bodies	0	0	0	0	NF
3714	Motor Vehicle Parts and Accessories	0	0	0	0	NF
38	Instruments and Related Products	W	W	0	0	34.6
3841	Surgical and Medical Instruments	0	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	0	NF
	Total	16,518	14,969	W	W	12.1

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Other" is that electricity obtained from a generator fueled by combustible energy sources such as diesel or other fuel oils.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A18. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
Total United States					
	RSE Column Factors:	0.9	1.0	1.0	
20	Food and Kindred Products	988	940	48	16.2
2011	Meat Packing Plants	0	0	0	NF
2033	Canned Fruits and Vegetables	W	W	W	26.8
2037	Frozen Fruits and Vegetables	27	27	0	37.6
2046	Wet Corn Milling	W	W	0	21.3
2051	Bread, Cake, and Related Products	*	0	0	26.8
2063	Beet Sugar	W	W	W	14.5
2075	Soybean Oil Mills	W	W	0	7.1
2082	Malt Beverages	W	W	W	20.8
21	Tobacco Products	W	W	W	7.3
22	Textile Mill Products	Q	Q	W	20.4
23	Apparel and Other Textile Products	0	0	0	NF
24	Lumber and Wood Products	1,976	1,733	Q	44.6
25	Furniture and Fixtures	1	*	1	41.3
26	Paper and Allied Products	9,012	8,254	759	3.6
2611	Pulp Mills	462	339	123	24.2
2621	Paper Mills	6,104	5,755	349	3.0
2631	Paperboard Mills	2,378	2,110	268	6.6
27	Printing and Publishing	0	0	0	NF
28	Chemicals and Allied Products	9,967	7,269	2,698	7.2
2812	Alkalies and Chlorine	W	W	0	23.4
2813	Industrial Gases	W	W	W	19.0
2819	Industrial Inorganic Chemicals, nec	W	W	W	15.1
2821	Plastics Materials and Resins	247	W	W	8.5
2822	Synthetic Rubber	W	0	W	22.4
2823	Cellulosic Manmade Fibers	W	18	W	34.0
2824	Organic Fibers, Noncellulosic	0	0	0	NF
2865	Cyclic Crudes and Intermediates	9	W	W	20.2
2869	Industrial Organic Chemicals, nec	5,040	3,358	1,682	7.9
2873	Nitrogenous Fertilizers	7	7	0	49.8
2874	Phosphatic Fertilizers	533	W	W	3.3
29	Petroleum and Coal Products	2,698	1,276	1,422	5.9
2911	Petroleum Refining	2,410	1,029	1,381	4.3
30	Rubber and Misc. Plastics Products	6	*	6	33.8
3011	Tires and Inner Tubes	0	0	0	NF
308	Miscellaneous Plastics Products, nec	Q	0	Q	NF
31	Leather and Leather Products	*	*	0	45.7
32	Stone, Clay and Glass Products	71	W	W	12.7
3211	Flat Glass	W	0	W	6.1
3221	Glass Containers	0	0	0	NF
3229	Pressed and Blown Glass, nec	*	*	0	13.2
3241	Cement, Hydraulic	W	W	Q	21.8
3274	Lime	0	0	0	NF
3296	Mineral Wool	0	0	0	NF
33	Primary Metal Industries	1,949	952	998	4.6
3312	Blast Furnaces and Steel Mills	1,297	490	807	5.9
3313	Electrometallurgical Products	W	0	W	13.3
3321	Gray and Ductile Iron Foundries	W	0	W	22.4
3331	Primary Copper	0	0	0	NF
3334	Primary Aluminum	W	W	0	6.1
3339	Primary Nonferrous Metals, nec	W	W	W	1.0
3353	Aluminum Sheet, Plate, and Foil	0	0	0	NF
34	Fabricated Metal Products	W	0	W	31.6
35	Industrial Machinery and Equipment	176	9	167	27.8
357	Computer and Office Equipment	9	9	0	33.5
36	Electronic and Other Electric Equipment	Q	1	Q	32.7
37	Transportation Equipment	761	W	W	7.7
3711	Motor Vehicles and Car Bodies	W	W	W	7.9
3714	Motor Vehicle Parts and Accessories	W	W	W	12.8
38	Instruments and Related Products	W	W	*	27.5
3841	Surgical and Medical Instruments	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	NF
	Total	28,222	21,063	7,159	4.9

See footnotes at end of table.

Table A18. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
Northeast Census Region					
	RSE Column Factors:	0.9	1.0	1.1	
20	Food and Kindred Products	58	58	0	20.9
2011	Meat Packing Plants	0	0	0	NF
2033	Canned Fruits and Vegetables	0	0	0	NF
2037	Frozen Fruits and Vegetables	0	0	0	NF
2046	Wet Corn Milling	0	0	0	NF
2051	Bread, Cake, and Related Products	0	0	0	NF
2063	Beet Sugar	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	NF
2082	Malt Beverages	W	W	0	24.0
21	Tobacco Products	NA	NA	NA	NF
22	Textile Mill Products	Q	Q	W	25.7
23	Apparel and Other Textile Products	0	0	0	NF
24	Lumber and Wood Products	NA	NA	NA	NF
25	Furniture and Fixtures	0	0	0	NF
26	Paper and Allied Products	3,088	2,961	127	4.6
2611	Pulp Mills	15	7	8	36.0
2621	Paper Mills	2,990	2,881	109	3.9
2631	Paperboard Mills	W	W	0	17.7
27	Printing and Publishing	0	0	0	NF
28	Chemicals and Allied Products	207	W	W	20.9
2812	Alkalies and Chlorine	0	0	0	NF
2813	Industrial Gases	W	0	W	18.7
2819	Industrial Inorganic Chemicals, nec	0	0	0	NF
2821	Plastics Materials and Resins	W	*	W	12.9
2822	Synthetic Rubber	*	0	*	NF
2823	Cellulosic Manmade Fibers	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	NF
2869	Industrial Organic Chemicals, nec	W	W	0	13.6
2873	Nitrogenous Fertilizers	0	0	0	NF
2874	Phosphatic Fertilizers	0	0	0	NF
29	Petroleum and Coal Products	W	W	W	5.6
2911	Petroleum Refining	W	W	W	5.6
30	Rubber and Misc. Plastics Products	6	*	5	36.0
3011	Tires and Inner Tubes	0	0	0	NF
308	Miscellaneous Plastics Products, nec	Q	0	Q	NF
31	Leather and Leather Products	*	*	0	46.9
32	Stone, Clay and Glass Products	W	W	W	28.7
3211	Flat Glass	0	0	0	NF
3221	Glass Containers	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	NF
3241	Cement, Hydraulic	0	0	0	NF
3274	Lime	0	0	0	NF
3296	Mineral Wool	0	0	0	NF
33	Primary Metal Industries	W	W	W	7.0
3312	Blast Furnaces and Steel Mills	W	W	W	8.0
3313	Electrometallurgical Products	0	0	0	NF
3321	Gray and Ductile Iron Foundries	0	0	0	NF
3331	Primary Copper	0	0	0	NF
3334	Primary Aluminum	0	0	0	NF
3339	Primary Nonferrous Metals, nec	W	W	0	1.0
3353	Aluminum Sheet, Plate, and Foil	0	0	0	NF
34	Fabricated Metal Products	0	0	0	NF
35	Industrial Machinery and Equipment	Q	0	Q	NF
357	Computer and Office Equipment	0	0	0	NF
36	Electronic and Other Electric Equipment	11	0	11	33.5
37	Transportation Equipment	W	W	10	17.5
3711	Motor Vehicles and Car Bodies	0	0	0	NF
3714	Motor Vehicle Parts and Accessories	0	0	0	NF
38	Instruments and Related Products	W	W	*	30.7
3841	Surgical and Medical Instruments	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	NF
	Total	4,301	3,987	314	3.8

See footnotes at end of table.

Table A18. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
Midwest Census Region					
	RSE Column Factors:	1.0	1.0	1.0	
20	Food and Kindred Products	61	42	19	12.8
2011	Meat Packing Plants	0	0	0	NF
2033	Canned Fruits and Vegetables	0	0	0	NF
2037	Frozen Fruits and Vegetables	0	0	0	NF
2046	Wet Corn Milling	W	W	0	20.9
2051	Bread, Cake, and Related Products	0	0	0	NF
2063	Beet Sugar	W	W	W	14.5
2075	Soybean Oil Mills	W	W	0	9.0
2082	Malt Beverages	0	0	0	NF
21	Tobacco Products	NA	NA	NA	NF
22	Textile Mill Products	NA	NA	NA	NF
23	Apparel and Other Textile Products	NA	NA	NA	NF
24	Lumber and Wood Products	0	0	0	NF
25	Furniture and Fixtures	1	*	1	41.1
26	Paper and Allied Products	716	W	W	10.4
2611	Pulp Mills	257	257	0	35.9
2621	Paper Mills	438	W	W	5.3
2631	Paperboard Mills	W	*	W	16.3
27	Printing and Publishing	0	0	0	NF
28	Chemicals and Allied Products	155	W	W	16.0
2812	Alkalies and Chlorine	0	0	0	NF
2813	Industrial Gases	0	0	0	NF
2819	Industrial Inorganic Chemicals, nec	0	0	0	NF
2821	Plastics Materials and Resins	W	W	W	12.9
2822	Synthetic Rubber	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	NF
2869	Industrial Organic Chemicals, nec	W	W	W	10.4
2873	Nitrogenous Fertilizers	0	0	0	NF
2874	Phosphatic Fertilizers	0	0	0	NF
29	Petroleum and Coal Products	W	W	W	21.4
2911	Petroleum Refining	W	W	W	5.3
30	Rubber and Misc. Plastics Products	0	0	0	NF
3011	Tires and Inner Tubes	0	0	0	NF
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NF
31	Leather and Leather Products	0	0	0	NF
32	Stone, Clay and Glass Products	W	W	0	25.9
3211	Flat Glass	0	0	0	NF
3221	Glass Containers	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	NF
3241	Cement, Hydraulic	W	W	0	25.9
3274	Lime	0	0	0	NF
3296	Mineral Wool	0	0	0	NF
33	Primary Metal Industries	776	23	753	8.0
3312	Blast Furnaces and Steel Mills	586	22	563	8.3
3313	Electrometallurgical Products	W	0	W	13.2
3321	Gray and Ductile Iron Foundries	W	0	W	22.4
3331	Primary Copper	0	0	0	NF
3334	Primary Aluminum	0	0	0	NF
3339	Primary Nonferrous Metals, nec	W	0	W	1.0
3353	Aluminum Sheet, Plate, and Foil	0	0	0	NF
34	Fabricated Metal Products	W	0	W	31.5
35	Industrial Machinery and Equipment	W	0	W	27.4
357	Computer and Office Equipment	0	0	0	NF
36	Electronic and Other Electric Equipment	7	1	6	33.0
37	Transportation Equipment	W	W	W	7.6
3711	Motor Vehicles and Car Bodies	W	W	W	7.9
3714	Motor Vehicle Parts and Accessories	W	W	W	12.8
38	Instruments and Related Products	0	0	0	NF
3841	Surgical and Medical Instruments	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	NF
	Total	2,707	749	1,958	7.3

See footnotes at end of table.

Table A18. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
South Census Region					
	RSE Column Factors:	0.9	1.0	1.0	
20	Food and Kindred Products	245	245	0	28.5
2011	Meat Packing Plants	0	0	0	NF
2033	Canned Fruits and Vegetables	W	W	0	30.5
2037	Frozen Fruits and Vegetables	0	0	0	NF
2046	Wet Corn Milling	W	W	0	23.4
2051	Bread, Cake, and Related Products	*	0	0	26.5
2063	Beet Sugar	0	0	0	NF
2075	Soybean Oil Mills	W	W	0	9.1
2082	Malt Beverages	0	0	0	NF
21	Tobacco Products	W	W	W	7.3
22	Textile Mill Products	W	W	W	25.4
23	Apparel and Other Textile Products	0	0	0	NF
24	Lumber and Wood Products	Q	*	Q	46.7
25	Furniture and Fixtures	0	0	0	NF
26	Paper and Allied Products	2,253	W	W	6.9
2611	Pulp Mills	172	58	114	24.2
2621	Paper Mills	819	W	W	5.5
2631	Paperboard Mills	1,256	1,147	109	8.7
27	Printing and Publishing	0	0	0	NF
28	Chemicals and Allied Products	8,480	5,969	2,511	8.2
2812	Alkalies and Chlorine	W	W	0	23.4
2813	Industrial Gases	W	W	0	19.3
2819	Industrial Inorganic Chemicals, nec	W	W	W	17.0
2821	Plastics Materials and Resins	232	W	W	9.4
2822	Synthetic Rubber	W	0	W	22.3
2823	Cellulosic Manmade Fibers	W	18	W	34.0
2824	Organic Fibers, Noncellulosic	0	0	0	NF
2865	Cyclic Crudes and Intermediates	9	W	W	20.2
2869	Industrial Organic Chemicals, nec	4,869	W	W	8.2
2873	Nitrogenous Fertilizers	7	7	0	49.8
2874	Phosphatic Fertilizers	W	343	W	3.3
29	Petroleum and Coal Products	1,821	W	W	4.3
2911	Petroleum Refining	1,821	W	W	4.3
30	Rubber and Misc. Plastics Products	1	0	1	23.3
3011	Tires and Inner Tubes	0	0	0	NF
308	Miscellaneous Plastics Products, nec	0	0	0	NF
31	Leather and Leather Products	0	0	0	NF
32	Stone, Clay and Glass Products	W	*	W	9.6
3211	Flat Glass	W	0	W	6.1
3221	Glass Containers	0	0	0	NF
3229	Pressed and Blown Glass, nec	*	*	0	13.2
3241	Cement, Hydraulic	Q	0	Q	NF
3274	Lime	0	0	0	NF
3296	Mineral Wool	0	0	0	NF
33	Primary Metal Industries	684	W	W	6.3
3312	Blast Furnaces and Steel Mills	293	W	W	8.6
3313	Electrometallurgical Products	W	0	W	14.2
3321	Gray and Ductile Iron Foundries	0	0	0	NF
3331	Primary Copper	0	0	0	NF
3334	Primary Aluminum	W	W	0	6.1
3339	Primary Nonferrous Metals, nec	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	0	0	0	NF
34	Fabricated Metal Products	0	0	0	NF
35	Industrial Machinery and Equipment	9	9	0	33.5
357	Computer and Office Equipment	9	9	0	33.5
36	Electronic and Other Electric Equipment	Q	0	Q	NF
37	Transportation Equipment	W	*	W	16.0
3711	Motor Vehicles and Car Bodies	W	0	W	10.1
3714	Motor Vehicle Parts and Accessories	0	0	0	NF
38	Instruments and Related Products	0	0	0	NF
3841	Surgical and Medical Instruments	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	NF
	Total	14,078	9,703	4,374	5.6

See footnotes at end of table.

Table A18. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
West Census Region					
	RSE Column Factors:	1.0	1.0	1.1	
20	Food and Kindred Products	624	595	29	22.4
2011	Meat Packing Plants	0	0	0	NF
2033	Canned Fruits and Vegetables	W	0	W	27.7
2037	Frozen Fruits and Vegetables	27	27	0	38.2
2046	Wet Corn Milling	0	0	0	NF
2051	Bread, Cake, and Related Products	0	0	0	NF
2063	Beet Sugar	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	NF
2082	Malt Beverages	W	0	W	22.7
21	Tobacco Products	0	0	0	NF
22	Textile Mill Products	0	0	0	NF
23	Apparel and Other Textile Products	NA	NA	NA	NF
24	Lumber and Wood Products	W	1,723	Q	46.4
25	Furniture and Fixtures	0	0	0	NF
26	Paper and Allied Products	2,955	2,802	153	6.5
2611	Pulp Mills	17	17	*	35.7
2621	Paper Mills	1,857	W	W	5.6
2631	Paperboard Mills	1,081	W	W	9.2
27	Printing and Publishing	NA	NA	NA	NF
28	Chemicals and Allied Products	1,125	W	W	12.6
2812	Alkalies and Chlorine	0	0	0	NF
2813	Industrial Gases	0	0	0	NF
2819	Industrial Inorganic Chemicals, nec	W	W	W	15.9
2821	Plastics Materials and Resins	0	0	0	NF
2822	Synthetic Rubber	0	0	0	NF
2823	Cellulosic Manmade Fibers	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	NF
2865	Cyclic Crudes and Intermediates	0	0	0	NF
2869	Industrial Organic Chemicals, nec	W	W	0	14.4
2873	Nitrogenous Fertilizers	0	0	0	NF
2874	Phosphatic Fertilizers	W	W	0	4.1
29	Petroleum and Coal Products	379	W	W	12.9
2911	Petroleum Refining	133	W	W	4.6
30	Rubber and Misc. Plastics Products	0	0	0	NF
3011	Tires and Inner Tubes	0	0	0	NF
308	Miscellaneous Plastics Products, nec	0	0	0	NF
31	Leather and Leather Products	0	0	0	NF
32	Stone, Clay and Glass Products	W	W	0	22.7
3211	Flat Glass	0	0	0	NF
3221	Glass Containers	0	0	0	NF
3229	Pressed and Blown Glass, nec	0	0	0	NF
3241	Cement, Hydraulic	W	W	0	26.8
3274	Lime	0	0	0	NF
3296	Mineral Wool	0	0	0	NF
33	Primary Metal Industries	W	*	W	12.3
3312	Blast Furnaces and Steel Mills	W	*	W	12.3
3313	Electrometallurgical Products	0	0	0	NF
3321	Gray and Ductile Iron Foundries	0	0	0	NF
3331	Primary Copper	0	0	0	NF
3334	Primary Aluminum	0	0	0	NF
3339	Primary Nonferrous Metals, nec	0	0	0	NF
3353	Aluminum Sheet, Plate, and Foil	0	0	0	NF
34	Fabricated Metal Products	0	0	0	NF
35	Industrial Machinery and Equipment	0	0	0	NF
357	Computer and Office Equipment	0	0	0	NF
36	Electronic and Other Electric Equipment	0	0	0	NF

See footnotes at end of table.

Table A18. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
		West Census Region			
RSE Column Factors:		1.0	1.0	1.1	
37	Transportation Equipment	0	0	0	NF
3711	Motor Vehicles and Car Bodies	0	0	0	NF
3714	Motor Vehicle Parts and Accessories	0	0	0	NF
38	Instruments and Related Products	*	*	0	28.9
3841	Surgical and Medical Instruments	0	0	0	NF
39	Misc. Manufacturing Industries	0	0	0	NF
	Total	7,135	6,623	513	17.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b A "Utility" is a company that produces and/or delivers electricity and/or natural gas, and is legally obligated to provide service to the public within its franchise area.

^c Includes independent power producers, small power producers, and cogenerators not located at the establishment site.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A19. Components of Total Electricity Demand by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Purchases	Transfers In ^b	Onsite Generation ^c	Sales/Transfers Offsite	Net Demand ^d	RSE Row Factors
Total United States						
RSE Column Factors:	0.5	1.4	1.3	1.9	0.5	
Value of Shipments and Receipts (million dollars)						
Under 20	107,510	3,301	562	188	111,185	7.7
20-49	106,665	2,758	4,127	2,311	111,239	10.1
50-99	92,598	1,167	8,581	2,951	99,396	6.0
100-249	146,260	2,305	29,466	6,674	171,357	3.8
250-499	112,420	6,436	36,743	6,783	148,816	3.2
500 and Over	132,100	4,960	50,549	9,317	178,292	3.9
Total	697,553	20,927	130,028	28,222	820,286	3.0
Employment Size						
Under 50	W	W	107	Q	47,239	8.0
50-99	W	W	1,409	564	49,347	9.4
100-249	127,139	1,786	10,392	5,861	133,457	8.1
250-499	127,755	1,386	20,296	4,765	144,672	3.8
500-999	153,780	2,147	31,564	4,656	182,834	3.2
1,000 and Over	198,837	9,966	66,259	12,325	262,737	3.3
Total	697,553	20,927	130,028	28,222	820,286	3.0
Northeast Census Region						
RSE Column Factors:	0.7	1.9	1.1	1.1	0.6	
Value of Shipments and Receipts (million dollars)						
Under 20	W	W	W	W	19,417	11.7
20-49	14,780	263	296	127	15,213	10.1
50-99	11,198	77	W	W	11,865	6.2
100-249	16,278	192	4,312	1,032	19,750	5.3
250-499	W	W	5,145	2,006	15,709	5.2
500 and Over	13,188	0	3,892	891	16,188	7.2
Total	86,471	1,380	14,592	4,301	98,142	4.0
Employment Size						
Under 50	7,428	442	Q	W	7,900	9.7
50-99	W	W	W	W	7,091	10.8
100-249	15,201	98	427	113	15,613	11.5
250-499	14,044	114	1,169	462	14,865	5.8
500-999	W	W	3,307	388	24,494	4.5
1,000 and Over	21,602	321	9,518	3,262	28,179	6.1
Total	86,471	1,380	14,592	4,301	98,142	4.0

See footnotes at end of table.

Table A19. Components of Total Electricity Demand by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Purchases	Transfers In ^b	Onsite Generation ^c	Sales/Transfers Offsite	Net Demand ^d	RSE Row Factors
Midwest Census Region						
RSE Column Factors:	0.5	1.8	1.2	1.6	0.5	
Value of Shipments and Receipts (million dollars)						
Under 20	W	W	148	*	32,223	12.6
20-49	28,358	1,407	W	W	30,245	12.6
50-99	25,927	47	W	W	27,412	8.4
100-249	29,584	259	3,241	644	32,440	6.4
250-499	W	W	3,480	561	34,606	4.8
500 and Over	56,635	1,124	6,154	1,347	62,566	6.2
Total	198,408	8,696	15,097	2,707	219,493	4.2
Employment Size						
Under 50	W	W	19	0	13,400	13.7
50-99	14,492	101	W	W	14,735	11.3
100-249	34,762	962	1,767	145	37,346	10.7
250-499	30,592	462	2,837	337	33,555	8.5
500-999	29,448	114	2,740	598	31,703	6.4
1,000 and Over	W	W	W	W	88,754	4.7
Total	198,408	8,696	15,097	2,707	219,493	4.2
South Census Region						
RSE Column Factors:	0.6	1.5	1.2	1.7	0.6	
Value of Shipments and Receipts (million dollars)						
Under 20	40,701	1,679	Q	Q	42,387	7.5
20-49	49,075	824	W	W	50,163	10.6
50-99	40,415	868	1,787	182	42,888	5.9
100-249	65,401	1,749	18,306	3,631	81,825	5.1
250-499	52,982	216	25,939	3,220	75,917	5.7
500 and Over	47,381	3,836	37,202	6,729	81,690	3.9
Total	295,955	9,173	83,821	14,078	374,870	3.0
Employment Size						
Under 50	W	W	31	Q	17,842	7.6
50-99	17,652	864	W	Q	18,646	14.3
100-249	56,019	626	W	W	57,648	8.7
250-499	62,432	513	12,849	2,532	73,262	4.5
500-999	70,686	1,404	20,738	2,382	90,446	3.8
1,000 and Over	W	W	46,879	6,933	117,027	4.5
Total	295,955	9,173	83,821	14,078	374,870	3.0

See footnotes at end of table.

Table A19. Components of Total Electricity Demand by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Purchases	Transfers In ^b	Onsite Generation ^c	Sales/Transfers Offsite	Net Demand ^d	RSE Row Factors
West Census Region						
RSE Column Factors:	0.5	2.0	1.2	1.9	0.5	
Value of Shipments and Receipts (million dollars)						
Under 20	16,344	707	152	Q	17,158	13.0
20-49	14,453	264	2,734	1,831	15,620	15.8
50-99	15,058	176	4,546	2,548	17,231	9.8
100-249	34,997	104	3,607	1,366	37,342	6.4
250-499	20,973	428	2,179	996	22,583	5.9
500 and Over	14,896	0	3,300	349	17,847	5.7
Total	116,720	1,678	16,518	7,135	127,781	5.0
Employment Size						
Under 50	7,312	769	Q	W	8,096	12.0
50-99	W	W	803	294	8,876	15.3
100-249	21,158	100	W	W	22,850	12.6
250-499	20,687	297	3,441	1,435	22,991	8.5
500-999	W	W	4,779	1,288	36,191	4.9
1,000 and Over	26,895	113	W	W	28,777	7.4
Total	116,720	1,678	16,518	7,135	127,781	5.0

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Transfers In" are the quantities purchased by a central purchasing agent or other establishment of the same company.

^c "Onsite Generation" includes cogeneration, generation by renewable energy sources, and conventional generation by combustible fuels.

^d "Net Demand" is the sum of purchases, transfers in, and total onsite generation, minus sales and transfers offsite. It is the total amount of electricity used. It is not comparable to net electricity which excludes electricity generated onsite by combustible energy sources.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A20. Components of Onsite Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
Total United States					
RSE Column Factors:	0.8	0.8	1.2	1.3	
Value of Shipments and Receipts (million dollars)					
Under 20	562	349	W	W	23.0
20-49	4,127	3,917	79	131	20.1
50-99	8,581	7,255	955	371	10.0
100-249	29,466	25,688	1,766	2,012	4.9
250-499	36,743	31,848	1,325	3,571	4.2
500 and Over	50,549	44,855	W	W	4.9
Total	130,028	113,912	4,444	11,672	4.0
Employment Size					
Under 50	107	88	Q	Q	36.1
50-99	1,409	1,303	W	W	12.3
100-249	10,392	10,051	149	192	15.0
250-499	20,296	17,889	1,352	1,056	7.2
500-999	31,564	26,254	987	4,323	4.1
1,000 and Over	66,259	58,328	1,933	5,999	4.4
Total	130,028	113,912	4,444	11,672	4.0
Northeast Census Region					
RSE Column Factors:	0.8	1.0	1.0	1.2	
Value of Shipments and Receipts (million dollars)					
Under 20	W	99	W	W	29.4
20-49	296	174	36	87	19.3
50-99	W	W	40	W	6.2
100-249	4,312	2,978	1,156	178	5.8
250-499	5,145	3,804	1,198	143	5.1
500 and Over	3,892	W	W	625	13.2
Total	14,592	10,913	2,491	1,188	4.7
Employment Size					
Under 50	Q	Q	W	Q	8.0
50-99	W	W	W	67	20.7
100-249	427	260	96	70	16.9
250-499	1,169	850	W	W	5.9
500-999	3,307	2,220	W	W	6.0
1,000 and Over	9,518	7,505	W	W	6.2
Total	14,592	10,913	2,491	1,188	4.7

See footnotes at end of table.

Table A20. Components of Onsite Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
Midwest Census Region					
RSE Column Factors:	0.9	0.9	0.8	1.4	
Value of Shipments and Receipts (million dollars)					
Under 20	148	67	W	Q	21.1
20-49	W	W	*	34	14.5
50-99	W	1,308	W	W	11.7
100-249	3,241	2,765	W	W	6.2
250-499	3,480	W	127	W	6.5
500 and Over	6,154	5,053	W	W	6.7
Total	15,097	12,993	706	1,398	4.9
Employment Size					
Under 50	19	19	0	0	50.4
50-99	W	126	W	Q	11.9
100-249	1,767	1,655	29	Q	12.4
250-499	2,837	2,482	W	W	11.0
500-999	2,740	2,263	W	W	6.7
1,000 and Over	W	6,448	292	W	4.8
Total	15,097	12,993	706	1,398	4.9
South Census Region					
RSE Column Factors:	0.7	0.7	1.8	1.2	
Value of Shipments and Receipts (million dollars)					
Under 20	Q	Q	Q	Q	NF
20-49	W	W	W	W	26.0
50-99	1,787	W	W	82	10.3
100-249	18,306	16,837	W	W	9.1
250-499	25,939	22,733	0	3,207	5.1
500 and Over	37,202	33,784	W	W	6.7
Total	83,821	75,037	W	W	4.8
Employment Size					
Under 50	31	29	Q	Q	11.5
50-99	W	W	0	W	37.8
100-249	W	W	Q	W	21.2
250-499	12,849	W	W	W	7.3
500-999	20,738	17,283	W	W	6.9
1,000 and Over	46,879	42,618	W	W	6.2
Total	83,821	75,037	W	W	4.8

See footnotes at end of table.

Table A20. Components of Onsite Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Total	Cogeneration	Renewables	Other ^b	RSE Row Factors
West Census Region					
RSE Column Factors:	0.7	0.8	2.1	0.8	
Value of Shipments and Receipts (million dollars)					
Under 20	152	142	0	Q	38.1
20-49	2,734	2,726	W	W	25.4
50-99	4,546	4,211	Q	44	16.7
100-249	3,607	3,108	W	W	9.3
250-499	2,179	W	*	W	6.8
500 and Over	3,300	W	0	W	7.5
Total	16,518	14,969	W	W	12.1
Employment Size					
Under 50	Q	Q	0	Q	NF
50-99	803	796	0	Q	18.7
100-249	W	W	16	W	13.4
250-499	3,441	W	Q	244	17.0
500-999	4,779	4,488	*	292	9.2
1,000 and Over	W	1,757	0	W	10.0
Total	16,518	14,969	W	W	12.1

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Other" is that electricity obtained from a generator fueled by combustible energy sources such as diesel fuels or fuel oils.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A21. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
Total United States				
RSE Column Factors:	1.0	1.1	1.0	
Value of Shipments and Receipts (million dollars)				
Under 20	188	122	66	35.6
20-49	2,311	1,901	410	39.5
50-99	2,951	2,721	230	9.6
100-249	6,674	5,699	974	7.1
250-499	6,783	4,562	2,220	4.8
500 and Over	9,317	6,058	3,259	4.9
Total	28,222	21,063	7,159	4.9
Employment Size				
Under 50	Q	W	Q	7.4
50-99	564	W	W	22.0
100-249	5,861	5,444	417	14.2
250-499	4,765	3,127	1,638	8.6
500-999	4,656	3,471	1,186	6.1
1,000 and Over	12,325	8,502	3,823	4.3
Total	28,222	21,063	7,159	4.9
Northeast Census Region				
RSE Column Factors:	0.8	0.9	1.3	
Value of Shipments and Receipts (million dollars)				
Under 20	W	W	W	32.5
20-49	127	61	66	23.5
50-99	W	W	7	10.7
100-249	1,032	938	94	4.8
250-499	2,006	W	W	5.2
500 and Over	891	W	W	6.3
Total	4,301	3,987	314	3.8
Employment Size				
Under 50	W	*	W	9.6
50-99	W	W	W	16.2
100-249	113	85	28	31.7
250-499	462	447	15	11.8
500-999	388	W	W	5.8
1,000 and Over	3,262	3,107	154	4.0
Total	4,301	3,987	314	3.8

See footnotes at end of table.

Table A21. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
Midwest Census Region				
RSE Column Factors:	1.0	1.1	0.9	
Value of Shipments and Receipts (million dollars)				
Under 20	*	*	0	NF
20-49	W	2	W	42.6
50-99	W	W	W	11.1
100-249	644	336	309	16.5
250-499	561	W	W	9.9
500 and Over	1,347	47	1,300	6.3
Total	2,707	749	1,958	7.3
Employment Size				
Under 50	0	0	0	NF
50-99	W	W	0	8.6
100-249	145	25	119	21.3
250-499	337	305	32	22.4
500-999	598	W	W	7.9
1,000 and Over	W	W	W	5.6
Total	2,707	749	1,958	7.3
South Census Region				
RSE Column Factors:	1.0	1.2	0.9	
Value of Shipments and Receipts (million dollars)				
Under 20	Q	*	Q	24.9
20-49	W	220	W	44.2
50-99	182	89	92	8.7
100-249	3,631	3,137	494	11.1
250-499	3,220	1,390	1,830	6.6
500 and Over	6,729	4,868	1,861	5.9
Total	14,078	9,703	4,374	5.6
Employment Size				
Under 50	Q	W	Q	7.7
50-99	Q	Q	6	12.5
100-249	W	W	W	12.8
250-499	2,532	1,161	1,371	7.9
500-999	2,382	1,643	739	8.0
1,000 and Over	6,933	4,887	2,046	5.5
Total	14,078	9,703	4,374	5.6

See footnotes at end of table.

Table A21. Quantity of Electricity Sold to Utility and Nonutility Purchasers by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Kilowatthours)

Economic Characteristics ^a	Total Sold	Utility Purchaser ^b	Nonutility Purchaser ^c	RSE Row Factors
	West Census Region			
RSE Column Factors:	0.9	1.0	1.1	
Value of Shipments and Receipts (million dollars)				
Under 20	Q	Q	W	15.1
20-49	1,831	1,618	Q	48.2
50-99	2,548	W	W	12.9
100-249	1,366	1,289	77	9.0
250-499	996	W	W	12.3
500 and Over	349	W	W	16.3
Total	7,135	6,623	513	17.7
Employment Size				
Under 50	W	0	W	17.6
50-99	294	294	*	23.6
100-249	W	W	W	19.8
250-499	1,435	1,214	Q	13.6
500-999	1,288	1,211	78	10.9
1,000 and Over	W	W	W	13.6
Total	7,135	6,623	513	17.7

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b A "Utility" is a company that produces and/or delivers electricity and/or natural gas, and is legally obligated to provide service to the public within its franchise area.

^c Includes independent power producers, small power producers, and cogenerators not located at the establishment site.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A22. Total Quantity of Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Total United States											
RSE Column Factors:		0.6	0.6	1.3	1.3	0.7	1.2	1.2	1.5	1.2	
20	Food and Kindred Products	918	W	4,314	3,150	W	1,425	6,918	W	25	6.0
2011	Meat Packing Plants	48	3,410	152	285	31	156	28	0	*	9.9
2033	Canned Fruits and Vegetables	44	1,415	290	130	35	126	Q	0	*	9.3
2037	Frozen Fruits and Vegetables	40	3,096	322	76	25	41	0	0	*	14.8
2046	Wet Corn Milling	139	W	29	31	51	1	3,058	W	W	11.7
2051	Bread, Cake, and Related Products	32	2,240	*	133	23	23	0	0	*	12.4
2063	Beet Sugar	67	407	W	30	18	5	1,903	W	*	5.4
2075	Soybean Oil Mills	47	W	49	31	25	5	595	0	W	3.5
2082	Malt Beverages	50	2,371	411	58	22	8	705	0	*	11.2
21	Tobacco Products	26	1,468	133	41	4	24	681	0	*	6.2
22	Textile Mill Products	267	W	1,953	1,071	105	634	1,259	0	W	7.2
23	Apparel and Other Textile Products	44	5,643	Q	142	18	169	88	0	*	17.9
24	Lumber and Wood Products	209	19,209	334	2,823	39	1,017	87	0	79	14.4
25	Furniture and Fixtures	46	4,913	182	163	18	255	156	0	4	18.2
26	Paper and Allied Products	W	63,744	24,543	1,600	W	W	12,878	W	264	4.0
2611	Pulp Mills	101	2,871	4,183	162	32	143	330	0	23	14.8
2621	Paper Mills	768	W	13,529	W	252	617	8,562	W	103	2.9
2631	Paperboard Mills	479	W	W	W	W	W	W	0	136	4.6
27	Printing and Publishing	108	15,627	50	319	47	179	0	0	4	12.3
28	Chemicals and Allied Products	4,357	131,858	W	2,466	2,060	323,486	W	417	257	6.4
2812	Alkalies and Chlorine	159	12,629	W	43	W	2	W	0	*	16.0
2813	Industrial Gases	W	W	0	Q	15	W	0	0	3	10.2
2819	Industrial Inorganic Chemicals, nec	317	38,026	W	W	W	74	W	359	10	9.0
2821	Plastics Materials and Resins	W	W	665	190	209	W	1,079	0	W	6.1
2822	Synthetic Rubber	122	1,946	61	19	W	4,084	W	0	W	14.3
2823	Cellulosic Manmade Fibers	31	W	0	21	W	1	1,202	0	*	24.9
2824	Organic Fibers, Noncellulosic	W	6,976	W	54	W	W	W	0	*	3.9
2865	Cyclic Crudes and Intermediates	202	4,382	1,164	84	87	18,127	W	0	W	12.3
2869	Industrial Organic Chemicals, nec	W	18,588	2,002	480	W	W	3,782	0	129	6.6
2873	Nitrogenous Fertilizers	568	2,886	0	27	539	166	0	0	Q	23.4
2874	Phosphatic Fertilizers	66	2,419	250	W	W	1	W	0	W	4.8
29	Petroleum and Coal Products	1,190	33,463	Q	2,600	744	1,502	W	W	282	8.6
2911	Petroleum Refining	970	W	0	W	700	857	135	0	W	4.4
30	Rubber and Misc. Plastics Products	237	33,808	1,259	531	93	844	302	0	5	9.1
3011	Tires and Inner Tubes	W	W	502	69	20	79	W	0	W	3.4
308	Miscellaneous Plastics Products, nec	151	25,514	415	W	51	462	129	0	W	13.8
31	Leather and Leather Products	12	795	225	221	5	45	Q	0	Q	24.9
32	Stone, Clay and Glass Products	879	30,846	1,379	3,582	369	W	13,238	W	W	7.6
3211	Flat Glass	49	1,512	W	12	40	40	*	0	W	3.3
3221	Glass Containers	85	4,098	277	24	67	80	0	0	*	5.4
3229	Pressed and Blown Glass, nec	W	W	81	W	W	W	0	0	*	8.1
3241	Cement, Hydraulic	309	9,490	137	642	38	12	8,750	274	31	11.0
3274	Lime	120	1,324	W	244	8	Q	4,010	W	14	29.1
3296	Mineral Wool	40	W	W	W	28	W	*	W	*	1.4
33	Primary Metal Industries	W	W	W	1,845	674	W	28,045	8,129	68	3.7
3312	Blast Furnaces and Steel Mills	1,470	W	W	W	394	71	26,711	6,713	15	4.1
3313	Electrometallurgical Products	41	3,796	0	21	1	W	794	W	W	7.8
3321	Gray and Ductile Iron Foundries	W	W	4	145	28	106	W	W	*	11.5
3331	Primary Copper	20	W	W	W	15	3	W	W	*	1.0
3334	Primary Aluminum	268	W	1	129	20	42	40	W	W	3.1
3339	Primary Nonferrous Metals, nec	W	3,784	1	53	16	W	346	243	W	1.7
3353	Aluminum Sheet, Plate, and Foil	58	W	0	75	41	61	W	0	W	1.5
34	Fabricated Metal Products	306	29,610	500	1,020	170	1,234	255	W	W	11.3
35	Industrial Machinery and Equipment	235	29,349	476	770	106	680	483	24	4	11.6
357	Computer and Office Equipment	21	4,369	10	16	5	4	0	0	*	16.0
36	Electronic and Other Electric Equipment	211	29,816	607	421	77	404	W	44	W	10.3
37	Transportation Equipment	316	35,160	1,870	1,287	124	550	W	W	13	4.9
3711	Motor Vehicles and Car Bodies	91	W	414	116	42	59	W	W	5	3.3
3714	Motor Vehicle Parts and Accessories	99	W	60	W	40	177	W	W	W	7.0
38	Instruments and Related Products	95	W	536	W	25	Q	W	0	1	12.4
3841	Surgical and Medical Instruments	6	1,161	9	30	2	8	0	0	*	15.1
39	Misc. Manufacturing Industries	33	3,661	114	W	14	89	32	0	Q	13.3
	Total	13,194	697,553	61,475	24,442	5,713	336,791	78,616	9,340	1,104	3.4

See footnotes at end of table.

Table A22. Total Quantity of Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Northeast Census Region											
RSE Column Factors:		0.7	0.7	1.0	1.2	0.8	1.2	1.3	1.2	1.2	
20	Food and Kindred Products	79	5,443	1,143	981	40	220	99	0	Q	13.9
2011	Meat Packing Plants	1	141	W	34	1	Q	0	0	*	23.6
2033	Canned Fruits and Vegetables	6	292	146	22	4	13	Q	0	*	17.0
2037	Frozen Fruits and Vegetables	1	140	128	3	*	Q	0	0	*	32.0
2046	Wet Corn Milling	*	15	W	W	*	*	0	0	*	23.1
2051	Bread, Cake, and Related Products	7	382	*	W	W	8	0	0	*	18.7
2063	Beet Sugar	0	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	8	521	W	9	3	4	W	0	0	15.7
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.8
22	Textile Mill Products	27	1,372	777	557	10	164	17	0	*	19.1
23	Apparel and Other Textile Products	5	495	44	49	2	Q	0	0	*	29.1
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.5
25	Furniture and Fixtures	5	446	Q	49	2	60	0	0	1	28.3
26	Paper and Allied Products	W	8,826	11,431	624	36	W	W	0	38	6.0
2611	Pulp Mills	5	Q	290	7	0	13	0	0	3	33.2
2621	Paper Mills	166	W	9,763	W	19	284	W	0	30	4.3
2631	Paperboard Mills	W	W	W	Q	6	5	W	0	W	15.1
27	Printing and Publishing	23	3,167	36	241	9	31	0	0	*	25.2
28	Chemicals and Allied Products	W	W	3,254	W	58	862	W	0	14	8.5
2812	Alkalies and Chlorine	*	W	0	0	*	0	0	0	0	35.9
2813	Industrial Gases	5	W	0	1	*	Q	0	0	1	14.1
2819	Industrial Inorganic Chemicals, nec	9	W	W	81	6	14	0	0	*	21.4
2821	Plastics Materials and Resins	21	W	476	108	8	W	W	0	W	9.9
2822	Synthetic Rubber	W	W	W	*	W	*	0	0	*	25.6
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	*	95	Q	W	*	*	0	0	0	14.6
2865	Cyclic Crudes and Intermediates	12	406	W	W	7	2	W	0	*	20.7
2869	Industrial Organic Chemicals, nec	W	W	1,601	W	W	258	0	0	W	9.0
2873	Nitrogenous Fertilizers	1	29	0	3	1	1	0	0	*	48.3
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	59	3,054	0	1,290	28	Q	W	0	W	10.2
2911	Petroleum Refining	41	2,515	0	0	23	0	W	0	W	5.7
30	Rubber and Misc. Plastics Products	W	5,484	455	206	W	W	86	0	1	19.6
3011	Tires and Inner Tubes	2	125	63	Q	1	5	0	0	*	12.5
308	Miscellaneous Plastics Products, nec	28	4,810	251	W	7	180	W	0	W	24.1
31	Leather and Leather Products	4	205	142	197	1	29	Q	0	*	27.3
32	Stone, Clay and Glass Products	170	5,599	434	734	57	W	3,505	W	W	17.8
3211	Flat Glass	W	W	0	1	W	W	*	0	*	4.5
3221	Glass Containers	19	834	195	14	14	24	0	0	*	8.8
3229	Pressed and Blown Glass, nec	W	W	80	W	W	8	0	0	*	10.8
3241	Cement, Hydraulic	42	1,334	14	W	*	1	1,457	W	W	18.3
3274	Lime	Q	Q	0	Q	*	Q	Q	0	*	NF
3296	Mineral Wool	4	W	0	13	W	W	*	W	*	1.7
33	Primary Metal Industries	466	17,771	770	331	102	308	9,969	691	10	9.4
3312	Blast Furnaces and Steel Mills	375	8,136	534	155	65	30	W	476	W	7.2
3313	Electrometallurgical Products	W	W	0	1	*	*	W	W	*	12.9
3321	Gray and Ductile Iron Foundries	5	350	0	14	2	18	1	74	*	16.4
3331	Primary Copper	*	W	0	W	*	*	0	*	*	1.0
3334	Primary Aluminum	W	W	1	W	W	W	W	0	W	4.9
3339	Primary Nonferrous Metals, nec	W	100	1	W	1	1	W	W	*	2.2
3353	Aluminum Sheet, Plate, and Foil	W	451	0	12	W	22	0	0	*	1.5
34	Fabricated Metal Products	57	5,053	368	367	32	155	10	37	1	15.7
35	Industrial Machinery and Equipment	W	W	396	W	15	W	0	0	Q	20.8
357	Computer and Office Equipment	4	819	8	10	1	2	0	0	*	20.6
36	Electronic and Other Electric Equipment	43	6,541	503	292	14	167	4	2	1	16.1
37	Transportation Equipment	W	W	1,077	W	10	W	W	0	W	10.9
3711	Motor Vehicles and Car Bodies	W	W	W	W	1	1	0	0	*	7.4
3714	Motor Vehicle Parts and Accessories	8	887	W	6	W	W	W	0	*	11.5
38	Instruments and Related Products	50	W	513	W	W	Q	W	0	*	16.6
3841	Surgical and Medical Instruments	2	332	9	16	*	2	0	0	*	18.3
39	Misc. Manufacturing Industries	W	1,187	84	W	W	40	22	0	*	17.8
	Total	1,482	86,471	21,586	7,849	445	3,803	W	W	90	5.4

See footnotes at end of table.

Table A22. Total Quantity of Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Midwest Census Region											
RSE Column Factors:		0.7	0.6	1.5	1.3	0.7	1.2	1.0	1.3	1.1	
20	Food and Kindred Products	414	W	869	568	W	345	4,823	W	10	8.8
2011	Meat Packing Plants	32	2,065	132	59	22	14	28	0	*	9.7
2033	Canned Fruits and Vegetables	10	375	0	62	8	39	0	0	*	17.0
2037	Frozen Fruits and Vegetables	4	289	36	3	2	3	0	0	*	26.8
2046	Wet Corn Milling	120	W	W	27	45	*	2,736	W	W	13.4
2051	Bread, Cake, and Related Products	9	632	0	W	W	*	0	0	*	16.2
2063	Beet Sugar	34	234	W	11	6	2	1,092	W	*	6.6
2075	Soybean Oil Mills	32	W	15	7	16	W	W	0	W	4.3
2082	Malt Beverages	11	480	35	1	W	W	W	0	*	17.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.5
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.0
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.9
24	Lumber and Wood Products	32	2,834	Q	362	11	197	61	0	7	30.1
25	Furniture and Fixtures	W	1,571	*	10	W	45	Q	0	*	21.8
26	Paper and Allied Products	W	14,038	799	160	112	W	4,020	W	31	6.2
2611	Pulp Mills	10	556	0	14	3	Q	161	0	1	33.8
2621	Paper Mills	168	7,730	W	110	57	67	2,808	W	15	5.4
2631	Paperboard Mills	W	2,059	39	12	23	20	969	0	W	13.9
27	Printing and Publishing	42	5,224	10	28	22	60	0	0	1	16.8
28	Chemicals and Allied Products	W	W	321	Q	223	W	2,810	8	W	9.8
2812	Alkalies and Chlorine	W	W	0	W	*	*	0	0	*	26.7
2813	Industrial Gases	W	3,319	0	Q	W	Q	0	0	*	14.2
2819	Industrial Inorganic Chemicals, nec	71	W	W	3	W	4	W	1	1	12.8
2821	Plastics Materials and Resins	W	3,247	W	W	24	W	W	0	8	9.1
2822	Synthetic Rubber	W	241	0	W	W	1	W	0	*	18.8
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	W	756	W	W	14	W	W	0	W	13.5
2869	Industrial Organic Chemicals, nec	W	W	10	W	W	4,483	1,137	0	6	8.0
2873	Nitrogenous Fertilizers	74	556	0	5	69	*	0	0	*	33.9
2874	Phosphatic Fertilizers	*	1	0	*	*	*	0	0	*	4.5
29	Petroleum and Coal Products	139	W	Q	476	83	Q	W	0	W	12.8
2911	Petroleum Refining	93	6,168	0	0	67	0	W	0	W	4.6
30	Rubber and Misc. Plastics Products	94	13,132	269	33	41	173	134	0	1	11.6
3011	Tires and Inner Tubes	W	W	186	*	6	W	W	0	1	4.0
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.5
31	Leather and Leather Products	4	262	58	5	2	11	0	0	*	25.6
32	Stone, Clay and Glass Products	251	W	69	W	105	123	3,488	83	30	10.2
3211	Flat Glass	13	W	0	W	11	W	0	0	*	4.0
3221	Glass Containers	20	873	0	1	17	11	0	0	*	7.5
3229	Pressed and Blown Glass, nec	14	614	*	9	11	8	0	0	*	6.6
3241	Cement, Hydraulic	85	2,247	W	W	6	5	2,366	0	W	15.1
3274	Lime	35	367	0	65	3	1	934	W	W	18.6
3296	Mineral Wool	17	1,251	W	W	W	14	0	W	*	1.1
33	Primary Metal Industries	936	W	W	749	W	254	10,570	4,835	W	5.2
3312	Blast Furnaces and Steel Mills	687	W	W	W	W	24	9,953	4,156	5	5.2
3313	Electrometallurgical Products	27	2,378	0	13	1	W	W	W	W	10.0
3321	Gray and Ductile Iron Foundries	W	4,350	4	Q	W	38	W	W	*	12.1
3331	Primary Copper	*	W	0	0	*	*	0	0	0	1.3
3334	Primary Aluminum	W	7,782	0	W	3	W	W	0	W	5.0
3339	Primary Nonferrous Metals, nec	W	727	0	11	3	7	0	W	*	2.0
3353	Aluminum Sheet, Plate, and Foil	22	W	0	W	16	W	0	0	W	1.3
34	Fabricated Metal Products	W	12,749	7	W	79	W	245	W	W	14.7
35	Industrial Machinery and Equipment	116	W	38	W	56	W	483	Q	W	13.5
357	Computer and Office Equipment	4	796	0	1	2	1	0	0	*	24.0
36	Electronic and Other Electric Equipment	58	7,001	46	W	28	70	W	0	W	14.0
37	Transportation Equipment	W	W	391	311	70	216	W	W	6	6.1
3711	Motor Vehicles and Car Bodies	63	W	W	W	29	26	W	W	W	4.6
3714	Motor Vehicle Parts and Accessories	75	W	W	W	29	W	W	W	W	8.2
38	Instruments and Related Products	11	1,806	Q	Q	W	6	W	0	*	22.4
3841	Surgical and Medical Instruments	1	276	0	*	*	3	0	0	*	18.5
39	Misc. Manufacturing Industries	11	929	2	9	5	16	10	0	Q	23.6
	Total	W	198,408	W	4,555	1,407	W	28,074	5,135	174	4.8

See footnotes at end of table.

Table A22. Total Quantity of Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
South Census Region											
RSE Column Factors:		0.6	0.6	1.4	1.2	0.7	1.1	1.1	1.6	1.1	
20	Food and Kindred Products	230	W	1,571	924	131	621	770	W	W	10.0
2011	Meat Packing Plants	10	892	14	178	5	112	0	0	*	16.8
2033	Canned Fruits and Vegetables	7	200	26	9	6	14	0	0	*	19.3
2037	Frozen Fruits and Vegetables	8	551	123	12	5	6	0	0	*	17.8
2046	Wet Corn Milling	W	837	0	2	4	*	322	0	W	22.5
2051	Bread, Cake, and Related Products	11	838	0	19	7	8	0	0	*	12.8
2063	Beet Sugar	W	W	0	1	W	*	0	W	*	17.0
2075	Soybean Oil Mills	14	539	34	24	8	W	W	0	W	4.9
2082	Malt Beverages	14	863	W	W	8	1	W	0	*	13.9
21	Tobacco Products	25	1,452	133	41	4	23	681	0	*	6.3
22	Textile Mill Products	229	W	1,176	513	87	458	1,242	0	W	6.5
23	Apparel and Other Textile Products	31	4,165	Q	71	12	134	83	0	*	22.8
24	Lumber and Wood Products	79	W	Q	W	15	341	26	0	23	20.8
25	Furniture and Fixtures	W	2,592	61	100	W	121	W	0	3	18.8
26	Paper and Allied Products	723	27,095	10,865	705	W	495	6,745	0	W	4.4
2611	Pulp Mills	70	1,421	3,365	115	21	122	170	0	17	17.6
2621	Paper Mills	318	W	2,803	W	122	150	3,864	0	36	3.4
2631	Paperboard Mills	W	6,887	4,609	W	W	39	2,674	0	79	5.2
27	Printing and Publishing	28	4,797	Q	35	10	45	0	0	1	21.5
28	Chemicals and Allied Products	W	79,359	W	1,109	1,660	W	W	118	206	7.2
2812	Alkalies and Chlorine	147	10,289	0	35	W	1	W	0	*	17.9
2813	Industrial Gases	W	W	0	*	11	W	0	0	1	13.3
2819	Industrial Inorganic Chemicals, nec	W	W	W	W	W	49	527	68	6	12.1
2821	Plastics Materials and Resins	425	W	W	W	176	50,420	W	0	W	5.5
2822	Synthetic Rubber	114	W	W	W	W	4,083	0	0	W	13.3
2823	Cellulosic Manmade Fibers	31	W	0	21	W	1	1,202	0	*	25.2
2824	Organic Fibers, Noncellulosic	W	6,881	W	W	W	W	W	0	*	3.9
2865	Cyclic Crudes and Intermediates	W	3,209	W	16	66	W	W	0	9	12.2
2869	Industrial Organic Chemicals, nec	W	13,961	390	W	W	W	2,646	0	115	8.1
2873	Nitrogenous Fertilizers	414	1,872	0	15	395	123	0	0	*	28.8
2874	Phosphatic Fertilizers	W	1,908	250	W	W	1	W	0	21	3.3
29	Petroleum and Coal Products	808	15,699	Q	W	537	956	W	W	W	7.9
2911	Petroleum Refining	714	15,216	0	W	524	857	W	0	W	4.1
30	Rubber and Misc. Plastics Products	88	12,328	534	259	35	246	60	0	2	10.1
3011	Tires and Inner Tubes	W	2,855	W	W	13	53	W	0	W	4.1
308	Miscellaneous Plastics Products, nec	46	7,801	158	W	16	124	W	0	*	20.5
31	Leather and Leather Products	2	258	26	9	*	3	0	0	Q	24.7
32	Stone, Clay and Glass Products	321	W	200	W	156	W	3,873	232	17	11.7
3211	Flat Glass	23	781	0	7	19	9	0	0	*	4.0
3221	Glass Containers	29	1,262	W	W	W	23	0	0	*	8.4
3229	Pressed and Blown Glass, nec	W	1,598	1	W	W	W	0	0	*	9.1
3241	Cement, Hydraulic	104	3,519	62	191	21	4	2,555	190	7	16.5
3274	Lime	37	405	0	69	W	*	1,156	W	W	21.8
3296	Mineral Wool	16	W	W	1	11	15	0	W	*	1.4
33	Primary Metal Industries	W	W	1,202	W	W	W	W	2,484	15	4.5
3312	Blast Furnaces and Steel Mills	339	W	1,197	W	W	13	5,744	2,061	W	6.4
3313	Electrometallurgical Products	W	W	0	7	*	0	W	W	1	11.2
3321	Gray and Ductile Iron Foundries	21	W	*	56	W	46	Q	W	*	11.6
3331	Primary Copper	W	200	W	5	W	1	0	0	*	1.1
3334	Primary Aluminum	94	W	0	W	W	9	W	W	W	4.2
3339	Primary Nonferrous Metals, nec	W	1,694	0	9	W	W	W	0	W	3.9
3353	Aluminum Sheet, Plate, and Foil	25	W	0	25	17	22	W	0	*	1.8
34	Fabricated Metal Products	W	8,886	Q	W	42	W	0	23	3	21.4
35	Industrial Machinery and Equipment	W	8,138	42	126	26	W	1	Q	W	17.9
357	Computer and Office Equipment	4	809	3	Q	1	*	0	0	*	23.0
36	Electronic and Other Electric Equipment	81	10,724	58	44	26	154	W	41	W	14.5
37	Transportation Equipment	66	8,542	W	332	27	133	W	1	3	8.2
3711	Motor Vehicles and Car Bodies	23	2,375	73	35	12	28	W	0	W	4.5
3714	Motor Vehicle Parts and Accessories	13	1,919	*	8	W	41	W	1	*	11.9
38	Instruments and Related Products	17	3,239	Q	45	5	6	0	0	*	18.5
3841	Surgical and Medical Instruments	2	331	0	11	*	1	0	0	*	21.5
39	Misc. Manufacturing Industries	W	1,168	28	Q	W	25	0	0	*	21.1
	Total	W	295,955	W	8,546	3,217	W	27,864	2,911	628	4.0

See footnotes at end of table.

Table A22. Total Quantity of Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
West Census Region											
RSE Column Factors:		0.8	0.7	1.2	1.1	0.8	1.1	1.2	1.2	1.2	
20	Food and Kindred Products	194	9,230	731	676	116	239	1,226	W	W	9.9
2011	Meat Packing Plants	5	311	W	14	3	Q	0	0	*	17.1
2033	Canned Fruits and Vegetables	20	547	119	37	16	60	0	0	*	10.6
2037	Frozen Fruits and Vegetables	26	2,117	Q	57	17	31	0	0	*	16.9
2046	Wet Corn Milling	W	93	0	W	2	*	0	0	W	20.1
2051	Bread, Cake, and Related Products	6	388	0	2	5	7	0	0	*	25.8
2063	Beet Sugar	W	W	39	18	W	3	811	52	*	8.4
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	17	506	W	W	W	W	W	0	*	16.3
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	6	274	0	1	4	9	0	0	*	30.5
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.0
24	Lumber and Wood Products	87	W	132	W	10	354	0	0	46	18.3
25	Furniture and Fixtures	3	304	0	Q	1	28	0	0	*	32.6
26	Paper and Allied Products	242	13,785	1,449	110	108	W	W	0	W	6.3
2611	Pulp Mills	16	843	528	25	7	5	0	0	3	21.4
2621	Paper Mills	116	8,196	W	39	53	116	W	0	22	5.1
2631	Paperboard Mills	94	3,155	W	W	39	W	W	0	37	7.6
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.6
28	Chemicals and Allied Products	W	11,126	W	149	120	W	W	290	W	13.7
2812	Alkalies and Chlorine	W	W	W	W	4	*	0	0	*	20.1
2813	Industrial Gases	W	2,561	0	W	W	W	0	0	*	15.7
2819	Industrial Inorganic Chemicals, nec	W	4,373	W	123	W	Q	W	290	3	11.5
2821	Plastics Materials and Resins	3	189	0	*	2	2	0	0	*	17.4
2822	Synthetic Rubber	*	*	0	*	*	*	0	0	*	24.0
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	*	11	0	*	*	1	0	0	*	25.0
2869	Industrial Organic Chemicals, nec	5	Q	0	Q	W	Q	0	0	W	12.9
2873	Nitrogenous Fertilizers	79	428	0	4	74	42	0	0	*	40.8
2874	Phosphatic Fertilizers	W	510	0	7	W	0	0	0	W	21.6
29	Petroleum and Coal Products	184	W	0	Q	96	Q	0	0	W	9.5
2911	Petroleum Refining	122	W	0	0	85	0	0	0	W	2.8
30	Rubber and Misc. Plastics Products	W	2,865	1	Q	W	W	Q	0	*	14.9
3011	Tires and Inner Tubes	*	W	W	W	*	W	0	0	*	7.0
308	Miscellaneous Plastics Products, nec	14	2,573	0	Q	5	37	0	0	*	21.9
31	Leather and Leather Products	Q	70	0	Q	Q	Q	0	0	*	44.5
32	Stone, Clay and Glass Products	138	5,156	677	678	51	125	2,373	48	5	15.2
3211	Flat Glass	W	148	W	W	W	W	0	0	*	4.5
3221	Glass Containers	18	1,129	W	W	W	22	0	0	*	9.2
3229	Pressed and Blown Glass, nec	W	W	0	*	W	*	0	0	*	13.0
3241	Cement, Hydraulic	78	2,390	W	139	11	1	2,373	Q	3	21.3
3274	Lime	W	W	W	W	W	*	0	0	*	20.7
3296	Mineral Wool	3	330	0	W	W	W	0	W	*	2.1
33	Primary Metal Industries	250	W	90	W	W	W	W	119	W	5.9
3312	Blast Furnaces and Steel Mills	69	2,531	W	W	W	4	W	20	1	7.6
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	3	92	0	3	W	3	0	W	*	37.3
3331	Primary Copper	W	W	W	W	W	1	W	W	*	1.0
3334	Primary Aluminum	118	26,391	*	18	6	28	6	0	22	3.5
3339	Primary Nonferrous Metals, nec	W	1,263	0	W	W	W	W	W	*	1.0
3353	Aluminum Sheet, Plate, and Foil	W	W	0	W	W	W	0	0	*	1.1
34	Fabricated Metal Products	28	2,922	*	78	16	102	0	0	*	19.4
35	Industrial Machinery and Equipment	22	3,614	0	14	8	72	0	0	*	26.5
357	Computer and Office Equipment	9	1,945	0	*	2	Q	0	0	*	16.0
36	Electronic and Other Electric Equipment	29	5,550	0	Q	9	13	0	0	W	17.5

See footnotes at end of table.

Table A22. Total Quantity of Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
West Census Region											
RSE Column Factors:		0.8	0.7	1.2	1.1	0.8	1.1	1.2	1.2	1.2	
37	Transportation Equipment	W	7,096	W	W	17	W	0	0	W	11.7
3711	Motor Vehicles and Car Bodies	W	W	0	W	1	3	0	0	*	6.8
3714	Motor Vehicle Parts and Accessories	3	243	Q	2	2	7	0	0	*	21.5
38	Instruments and Related Products	17	3,188	4	9	5	6	0	0	*	14.6
3841	Surgical and Medical Instruments	1	222	0	3	*	2	0	0	*	27.0
39	Misc. Manufacturing Industries	2	376	0	1	1	8	0	0	*	25.9
	Total	1,466	116,720	3,189	3,491	644	1,616	W	W	213	6.4

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" energy sources include such combustible energy sources as wood waste, hydrogen, or waste oils and tars.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • "Purchases" exclude quantities that are transferred in from other establishments of the same company, quantities purchased by a central purchasing office offsite, and quantities for which payment is made in-kind.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A23. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Total United States									
RSE Column Factors:		0.5	1.9	1.5	1.3	0.7	0.9	0.8	
20	Food and Kindred Products	W	195	9,879	8,308	269	W	145	7.3
2011	Meat Packing Plants	3,375	Q	W	Q	17	7	7	9.3
2033	Canned Fruits and Vegetables	1,414	*	0	0	15	7	14	12.9
2037	Frozen Fruits and Vegetables	3,056	40	0	791	17	4	3	19.2
2046	Wet Corn Milling	W	W	W	W	W	W	23	14.5
2051	Bread, Cake, and Related Products	2,226	Q	W	0	17	3	3	12.9
2063	Beet Sugar	407	0	0	0	W	W	5	11.9
2075	Soybean Oil Mills	W	0	W	W	7	7	11	4.5
2082	Malt Beverages	2,371	0	W	0	4	6	12	12.6
21	Tobacco Products	1,468	0	W	0	3	*	1	13.8
22	Textile Mill Products	W	167	2,094	4,791	74	15	16	10.1
23	Apparel and Other Textile Products	5,607	37	171	0	15	2	1	25.1
24	Lumber and Wood Products	19,042	Q	Q	Q	22	11	7	20.6
25	Furniture and Fixtures	4,889	25	Q	0	14	1	3	18.7
26	Paper and Allied Products	63,403	341	8,371	10,661	222	W	175	4.9
2611	Pulp Mills	2,721	150	0	Q	18	9	4	21.9
2621	Paper Mills	W	W	2,441	7,697	100	57	96	4.0
2631	Paperboard Mills	W	W	5,877	2,343	58	W	61	7.4
27	Printing and Publishing	15,521	Q	918	315	35	4	8	17.7
28	Chemicals and Allied Products	119,332	12,526	29,967	75,597	533	927	600	6.8
2812	Alkalies and Chlorine	W	W	0	W	W	W	W	19.1
2813	Industrial Gases	W	0	0	W	W	W	W	14.8
2819	Industrial Inorganic Chemicals, nec	W	W	0	1,885	49	57	W	10.7
2821	Plastics Materials and Resins	W	300	3,998	9,206	37	120	52	5.9
2822	Synthetic Rubber	W	W	W	7,690	W	69	3	14.2
2823	Cellulosic Manmade Fibers	W	0	0	0	W	0	0	40.3
2824	Organic Fibers, Noncellulosic	W	W	W	137	13	W	W	5.0
2865	Cyclic Crudes and Intermediates	W	W	W	6,837	53	19	15	13.3
2869	Industrial Organic Chemicals, nec	17,931	656	15,524	32,722	W	376	186	5.8
2873	Nitrogenous Fertilizers	2,630	256	Q	Q	145	200	194	26.0
2874	Phosphatic Fertilizers	2,419	0	0	0	7	W	W	10.9
29	Petroleum and Coal Products	W	W	24,535	14,625	170	449	124	3.1
2911	Petroleum Refining	W	W	W	14,490	141	445	113	2.8
30	Rubber and Misc. Plastics Products	33,688	Q	Q	1,438	61	6	27	9.5
3011	Tires and Inner Tubes	W	0	0	W	15	1	4	4.6
308	Miscellaneous Plastics Products, nec	25,394	Q	Q	425	32	3	16	16.1
31	Leather and Leather Products	780	14	0	80	3	*	2	28.0
32	Stone, Clay and Glass Products	30,799	47	Q	322	170	59	140	7.6
3211	Flat Glass	1,512	0	W	W	16	W	W	4.0
3221	Glass Containers	4,098	0	0	0	23	9	35	6.4
3229	Pressed and Blown Glass, nec	W	W	0	W	27	W	9	7.1
3241	Cement, Hydraulic	9,490	0	0	0	16	10	12	24.2
3274	Lime	1,324	0	0	0	W	3	W	27.6
3296	Mineral Wool	W	0	0	0	W	W	14	1.4
33	Primary Metal Industries	W	W	W	1,772	216	86	371	4.8
3312	Blast Furnaces and Steel Mills	W	W	W	W	96	43	255	5.8
3313	Electrometallurgical Products	W	W	W	309	*	*	1	10.2
3321	Gray and Ductile Iron Foundries	W	*	0	W	16	1	10	11.9
3331	Primary Copper	W	0	0	0	W	W	W	1.4
3334	Primary Aluminum	W	0	0	0	9	6	5	4.1
3339	Primary Nonferrous Metals, nec	3,784	0	0	W	4	4	9	2.9
3353	Aluminum Sheet, Plate, and Foil	W	0	W	0	9	7	26	1.7
34	Fabricated Metal Products	29,463	Q	701	3,756	106	20	44	13.0
35	Industrial Machinery and Equipment	29,348	Q	391	285	75	7	24	14.5
357	Computer and Office Equipment	4,368	Q	1	285	4	*	1	20.4
36	Electronic and Other Electric Equipment	29,764	51	1,386	Q	50	9	17	11.7
37	Transportation Equipment	34,634	526	1,541	3,282	53	16	56	5.8
3711	Motor Vehicles and Car Bodies	W	W	1,426	W	11	7	24	4.6
3714	Motor Vehicle Parts and Accessories	W	Q	W	2,157	14	6	20	8.0
38	Instruments and Related Products	W	Q	29	W	16	4	5	15.2
3841	Surgical and Medical Instruments	1,157	Q	Q	0	2	*	*	17.6
39	Misc. Manufacturing Industries	3,661	0	Q	69	12	1	2	19.0
	Total	681,538	16,015	84,438	134,033	2,117	1,829	1,767	4.0

See footnotes at end of table

Table A23. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Trans-mission Pipelines	Other Supplier ^d	
Northeast Census Region									
	RSE Column Factors:	0.6	1.5	1.2	1.2	0.8	1.0	0.9	
20	Food and Kindred Products	5,434	Q	1,512	875	23	6	11	19.5
2011	Meat Packing Plants	141	0	0	0	*	0	*	25.6
2033	Canned Fruits and Vegetables	292	0	0	0	W	W	Q	23.9
2037	Frozen Fruits and Vegetables	140	0	0	36	*	0	*	34.6
2046	Wet Corn Milling	15	0	0	0	*	0	0	32.8
2051	Bread, Cake, and Related Products	W	Q	0	0	3	*	W	22.1
2063	Beet Sugar	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	NF
2082	Malt Beverages	521	0	0	0	*	*	W	23.5
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	23.7
22	Textile Mill Products	1,286	86	Q	1,906	8	1	1	23.9
23	Apparel and Other Textile Products	494	Q	171	0	2	0	*	32.1
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	39.9
25	Furniture and Fixtures	437	Q	0	0	1	*	*	33.6
26	Paper and Allied Products	W	W	1,479	W	18	3	15	10.4
2611	Pulp Mills	13	Q	0	Q	0	0	0	59.0
2621	Paper Mills	W	W	W	2,856	7	*	12	6.1
2631	Paperboard Mills	W	0	W	W	4	W	W	20.0
27	Printing and Publishing	3,060	Q	Q	0	8	1	1	32.7
28	Chemicals and Allied Products	W	135	W	6,413	29	7	22	10.3
2812	Alkalies and Chlorine	W	0	0	0	0	*	0	32.6
2813	Industrial Gases	W	0	0	0	*	0	0	14.8
2819	Industrial Inorganic Chemicals, nec	W	0	0	W	3	*	Q	21.3
2821	Plastics Materials and Resins	W	*	W	W	3	1	4	10.1
2822	Synthetic Rubber	W	0	0	W	*	*	W	24.9
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	95	0	0	0	*	*	0	14.9
2865	Cyclic Crudes and Intermediates	W	W	0	W	W	W	1	20.3
2869	Industrial Organic Chemicals, nec	W	W	W	W	6	W	W	12.4
2873	Nitrogenous Fertilizers	5	25	0	7	*	0	1	47.4
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	3,048	Q	W	Q	7	7	14	8.6
2911	Petroleum Refining	2,515	0	W	0	W	7	W	5.3
30	Rubber and Misc. Plastics Products	5,484	0	Q	Q	W	1	W	21.8
3011	Tires and Inner Tubes	125	0	0	0	1	0	*	8.1
308	Miscellaneous Plastics Products, nec	4,810	0	Q	Q	5	*	2	25.3
31	Leather and Leather Products	205	0	0	0	1	*	0	29.1
32	Stone, Clay and Glass Products	5,558	40	0	W	23	8	26	12.7
3211	Flat Glass	W	0	0	0	0	W	W	5.6
3221	Glass Containers	834	0	0	0	3	W	W	10.2
3229	Pressed and Blown Glass, nec	W	W	0	W	8	W	2	8.9
3241	Cement, Hydraulic	1,334	0	0	0	*	*	0	26.6
3274	Lime	Q	0	0	0	0	*	0	NF
3296	Mineral Wool	W	0	0	0	W	*	2	2.5
33	Primary Metal Industries	W	W	0	188	57	9	36	7.8
3312	Blast Furnaces and Steel Mills	8,136	0	0	W	36	4	25	7.3
3313	Electrometallurgical Products	W	W	0	W	*	0	0	12.6
3321	Gray and Ductile Iron Foundries	350	0	0	0	W	W	*	23.5
3331	Primary Copper	W	0	0	0	*	0	*	1.3
3334	Primary Aluminum	W	0	0	0	W	0	0	6.4
3339	Primary Nonferrous Metals, nec	100	0	0	0	*	*	*	3.0
3353	Aluminum Sheet, Plate, and Foil	451	0	0	0	W	0	W	2.4
34	Fabricated Metal Products	5,053	0	Q	W	19	2	10	18.6
35	Industrial Machinery and Equipment	W	0	0	285	9	1	5	21.5
357	Computer and Office Equipment	819	0	0	285	1	*	*	26.1
36	Electronic and Other Electric Equipment	6,541	0	W	0	10	1	4	19.0
37	Transportation Equipment	W	W	0	W	5	1	5	10.9
3711	Motor Vehicles and Car Bodies	W	0	0	0	*	0	W	9.6
3714	Motor Vehicle Parts and Accessories	887	0	0	W	W	*	2	12.3
38	Instruments and Related Products	W	Q	0	W	5	2	W	18.4
3841	Surgical and Medical Instruments	329	Q	0	0	*	*	*	22.7
39	Misc. Manufacturing Industries	1,187	0	0	69	W	*	1	22.0
	Total	85,769	702	17,235	14,806	238	52	155	5.8

See footnotes at end of table

Table A23. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Midwest Census Region									
	RSE Column Factors:	0.5	1.6	1.3	1.5	0.8	1.0	0.8	
20	Food and Kindred Products	W	77	7,673	1,328	107	W	73	10.9
2011	Meat Packing Plants	2,065	0	W	0	12	5	5	10.9
2033	Canned Fruits and Vegetables	375	0	0	0	4	2	2	16.8
2037	Frozen Fruits and Vegetables	289	0	0	0	1	*	1	38.7
2046	Wet Corn Milling	W	0	W	0	21	W	W	15.1
2051	Bread, Cake, and Related Products	W	W	W	0	4	1	W	16.7
2063	Beet Sugar	234	0	0	0	W	W	W	13.5
2075	Soybean Oil Mills	W	0	W	0	4	5	8	4.9
2082	Malt Beverages	480	0	W	0	1	W	W	20.5
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	12.5
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	32.6
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	35.9
24	Lumber and Wood Products	2,834	0	256	0	8	Q	Q	29.6
25	Furniture and Fixtures	1,555	15	0	0	W	1	2	24.4
26	Paper and Allied Products	W	W	W	W	46	16	50	8.2
2611	Pulp Mills	556	0	0	0	2	0	1	45.7
2621	Paper Mills	W	W	W	W	W	W	34	7.0
2631	Paperboard Mills	2,059	0	W	0	7	W	W	13.8
27	Printing and Publishing	5,224	0	470	315	15	3	5	21.3
28	Chemicals and Allied Products	W	W	W	8,921	61	72	89	11.7
2812	Alkalies and Chlorine	W	0	0	0	0	0	*	37.6
2813	Industrial Gases	3,319	0	0	W	*	0	W	15.4
2819	Industrial Inorganic Chemicals, nec	W	W	0	W	5	3	W	12.9
2821	Plastics Materials and Resins	W	W	2,479	W	6	1	17	8.5
2822	Synthetic Rubber	241	0	0	0	*	0	W	22.9
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	756	0	0	Q	W	W	8	17.9
2869	Industrial Organic Chemicals, nec	1,120	W	W	W	14	W	7	9.9
2873	Nitrogenous Fertilizers	514	Q	0	Q	13	31	26	46.7
2874	Phosphatic Fertilizers	1	0	0	0	*	0	*	5.7
29	Petroleum and Coal Products	W	*	Q	W	21	51	11	6.5
2911	Petroleum Refining	6,168	*	0	W	W	49	W	3.9
30	Rubber and Misc. Plastics Products	13,012	Q	0	0	24	3	13	14.4
3011	Tires and Inner Tubes	W	0	0	0	W	*	W	5.5
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	21.5
31	Leather and Leather Products	248	14	0	80	1	*	1	26.8
32	Stone, Clay and Glass Products	W	0	Q	Q	41	14	49	8.7
3211	Flat Glass	W	0	W	0	4	0	6	5.0
3221	Glass Containers	873	0	0	0	W	W	12	10.0
3229	Pressed and Blown Glass, nec	614	0	0	0	6	W	W	9.2
3241	Cement, Hydraulic	2,247	0	0	0	3	Q	2	26.5
3274	Lime	367	0	0	0	W	W	*	29.7
3296	Mineral Wool	1,251	0	0	0	4	W	6	1.6
33	Primary Metal Industries	W	W	W	W	W	31	242	6.7
3312	Blast Furnaces and Steel Mills	W	W	W	W	W	W	183	7.4
3313	Electrometallurgical Products	W	W	W	W	*	0	1	11.4
3321	Gray and Ductile Iron Foundries	4,350	*	0	W	W	W	9	13.4
3331	Primary Copper	W	0	0	0	*	0	0	1.6
3334	Primary Aluminum	W	0	0	0	W	0	W	7.1
3339	Primary Nonferrous Metals, nec	727	0	0	W	W	W	1	1.8
3353	Aluminum Sheet, Plate, and Foil	W	0	W	0	W	W	8	1.4
34	Fabricated Metal Products	12,640	Q	620	3,560	41	W	W	15.0
35	Industrial Machinery and Equipment	W	Q	391	0	35	4	17	15.6
357	Computer and Office Equipment	795	Q	1	0	1	*	*	26.9
36	Electronic and Other Electric Equipment	6,999	Q	884	Q	15	3	10	15.4
37	Transportation Equipment	W	157	W	2,420	22	12	36	6.6
3711	Motor Vehicles and Car Bodies	W	W	W	W	6	W	W	5.4
3714	Motor Vehicle Parts and Accessories	W	Q	W	W	7	6	16	9.1
38	Instruments and Related Products	1,806	0	Q	0	3	*	W	26.0
3841	Surgical and Medical Instruments	276	0	Q	0	*	*	0	18.8
39	Misc. Manufacturing Industries	929	0	Q	0	4	*	1	22.6
	Total	196,691	1,717	26,217	19,762	520	257	629	5.1

See footnotes at end of table

Table A23. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
South Census Region									
	RSE Column Factors:	0.5	1.9	1.4	1.1	0.7	1.0	1.0	
20	Food and Kindred Products	W	Q	694	1,783	78	29	24	12.6
2011	Meat Packing Plants	W	Q	0	Q	2	W	W	17.1
2033	Canned Fruits and Vegetables	200	0	0	0	W	W	*	27.3
2037	Frozen Fruits and Vegetables	551	0	0	0	4	1	*	26.5
2046	Wet Corn Milling	837	0	0	0	W	*	W	26.1
2051	Bread, Cake, and Related Products	838	0	0	0	7	*	*	20.2
2063	Beet Sugar	W	0	0	0	W	0	0	26.9
2075	Soybean Oil Mills	539	0	0	W	3	2	4	6.2
2082	Malt Beverages	863	0	0	0	3	W	W	16.6
21	Tobacco Products	1,452	0	W	0	3	*	1	13.7
22	Textile Mill Products	W	81	1,104	2,863	61	13	13	9.5
23	Apparel and Other Textile Products	4,129	35	0	0	10	*	1	28.0
24	Lumber and Wood Products	W	0	Q	Q	6	5	3	29.6
25	Furniture and Fixtures	2,592	0	Q	0	W	*	*	20.9
26	Paper and Allied Products	27,095	0	W	W	126	W	43	6.6
2611	Pulp Mills	1,421	0	0	0	12	7	2	27.0
2621	Paper Mills	W	0	0	W	60	47	15	5.8
2631	Paperboard Mills	6,887	0	W	W	40	41	W	10.1
27	Printing and Publishing	4,797	0	126	0	8	*	2	23.1
28	Chemicals and Allied Products	W	W	18,254	59,212	364	845	450	7.6
2812	Alkalies and Chlorine	W	W	0	W	W	W	W	19.9
2813	Industrial Gases	W	0	0	0	W	W	*	16.3
2819	Industrial Inorganic Chemicals, nec	6,453	W	0	W	37	53	W	11.8
2821	Plastics Materials and Resins	W	W	W	4,461	26	118	32	7.4
2822	Synthetic Rubber	W	W	W	W	W	69	*	15.1
2823	Cellulosic Manmade Fibers	W	0	0	0	W	0	0	39.3
2824	Organic Fibers, Noncellulosic	W	W	W	137	13	W	W	5.0
2865	Cyclic Crudes and Intermediates	W	W	W	5,930	44	16	6	16.0
2869	Industrial Organic Chemicals, nec	W	W	W	25,169	W	W	175	6.6
2873	Nitrogenous Fertilizers	1,872	0	Q	0	72	168	155	31.7
2874	Phosphatic Fertilizers	1,908	0	0	0	W	W	W	4.1
29	Petroleum and Coal Products	W	W	W	W	104	369	64	4.7
2911	Petroleum Refining	15,216	0	W	W	93	369	62	3.7
30	Rubber and Misc. Plastics Products	12,328	0	0	1,343	23	3	9	12.3
3011	Tires and Inner Tubes	2,855	0	0	W	W	1	W	4.8
308	Miscellaneous Plastics Products, nec	7,801	0	0	W	9	1	6	23.8
31	Leather and Leather Products	258	0	0	0	*	*	0	30.2
32	Stone, Clay and Glass Products	W	W	0	0	82	27	47	9.2
3211	Flat Glass	781	0	0	0	W	W	8	5.0
3221	Glass Containers	1,262	0	0	0	14	W	W	9.3
3229	Pressed and Blown Glass, nec	1,598	0	0	0	13	2	W	9.2
3241	Cement, Hydraulic	3,519	0	0	0	8	Q	8	24.7
3274	Lime	405	0	0	0	1	W	W	22.5
3296	Mineral Wool	W	0	0	0	5	W	W	1.6
33	Primary Metal Industries	W	W	0	0	77	W	60	6.6
3312	Blast Furnaces and Steel Mills	W	W	0	0	37	W	34	8.1
3313	Electrometallurgical Products	W	0	0	0	0	*	*	15.5
3321	Gray and Ductile Iron Foundries	W	0	0	0	W	*	*	19.0
3331	Primary Copper	200	0	0	0	W	0	W	1.4
3334	Primary Aluminum	W	0	0	0	4	W	W	5.0
3339	Primary Nonferrous Metals, nec	1,694	0	0	0	3	W	W	3.8
3353	Aluminum Sheet, Plate, and Foil	W	0	0	0	W	W	10	3.4
34	Fabricated Metal Products	8,848	Q	0	Q	33	5	4	22.8
35	Industrial Machinery and Equipment	8,138	0	0	0	23	1	2	23.0
357	Computer and Office Equipment	809	0	0	0	*	0	*	20.1
36	Electronic and Other Electric Equipment	10,724	0	0	0	18	5	3	14.8
37	Transportation Equipment	W	W	W	0	15	3	9	7.7
3711	Motor Vehicles and Car Bodies	2,375	0	W	0	4	W	W	5.9
3714	Motor Vehicle Parts and Accessories	1,919	0	0	0	W	*	*	11.4
38	Instruments and Related Products	3,239	0	0	0	4	1	*	21.0
3841	Surgical and Medical Instruments	331	0	0	0	*	*	*	24.4
39	Misc. Manufacturing Industries	1,168	0	0	0	W	*	*	24.9
	Total	W	W	40,084	71,683	1,044	1,437	736	5.1

See footnotes at end of table

Table A23. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
West Census Region									
	RSE Column Factors:	0.5	1.5	2.9	0.8	0.7	1.0	0.8	
20	Food and Kindred Products	9,156	74	0	4,322	61	18	37	13.4
2011	Meat Packing Plants	W	W	0	0	2	W	W	20.5
2033	Canned Fruits and Vegetables	547	*	0	0	5	1	10	15.5
2037	Frozen Fruits and Vegetables	2,076	40	0	755	12	3	2	24.8
2046	Wet Corn Milling	W	W	0	W	*	0	W	24.7
2051	Bread, Cake, and Related Products	388	0	0	0	4	1	*	27.3
2063	Beet Sugar	W	0	0	0	W	3	W	17.3
2075	Soybean Oil Mills	0	0	0	0	0	0	0	NF
2082	Malt Beverages	506	0	0	0	*	W	W	20.2
21	Tobacco Products	0	0	0	0	0	0	0	NF
22	Textile Mill Products	274	0	0	0	3	0	1	37.9
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	40.5
24	Lumber and Wood Products	W	Q	0	Q	5	3	1	31.7
25	Furniture and Fixtures	304	0	0	0	1	0	0	39.5
26	Paper and Allied Products	13,649	136	W	W	31	9	67	10.4
2611	Pulp Mills	732	111	0	0	3	2	1	36.2
2621	Paper Mills	8,196	0	0	4,266	W	W	34	8.5
2631	Paperboard Mills	W	W	W	W	8	0	31	12.1
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	26.3
28	Chemicals and Allied Products	10,934	192	0	1,051	79	2	39	22.6
2812	Alkalies and Chlorine	W	0	0	W	W	0	W	29.9
2813	Industrial Gases	2,561	0	0	0	*	0	W	16.4
2819	Industrial Inorganic Chemicals, nec	4,370	3	0	793	4	*	W	14.8
2821	Plastics Materials and Resins	189	0	0	W	1	*	*	33.7
2822	Synthetic Rubber	*	0	0	0	*	0	0	36.7
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	11	0	0	0	*	0	0	39.9
2869	Industrial Organic Chemicals, nec	Q	0	0	W	W	0	W	15.9
2873	Nitrogenous Fertilizers	239	189	0	28	60	1	13	49.0
2874	Phosphatic Fertilizers	510	0	0	0	W	0	0	52.1
29	Petroleum and Coal Products	7,057	W	0	7,170	38	22	36	5.1
2911	Petroleum Refining	W	W	0	7,170	32	21	32	4.2
30	Rubber and Misc. Plastics Products	2,865	0	0	W	W	*	W	21.0
3011	Tires and Inner Tubes	W	0	0	W	*	0	0	9.9
308	Miscellaneous Plastics Products, nec	2,573	0	0	0	4	*	1	35.3
31	Leather and Leather Products	70	0	0	0	Q	0	*	54.9
32	Stone, Clay and Glass Products	W	W	0	W	24	10	18	15.4
3211	Flat Glass	148	0	0	W	W	*	*	6.5
3221	Glass Containers	1,129	0	0	0	W	W	7	12.5
3229	Pressed and Blown Glass, nec	W	0	0	0	*	*	0	17.5
3241	Cement, Hydraulic	2,390	0	0	0	6	Q	2	43.5
3274	Lime	W	0	0	0	*	W	*	29.0
3296	Mineral Wool	330	0	0	0	*	*	W	2.8
33	Primary Metal Industries	W	W	0	W	W	W	33	10.3
3312	Blast Furnaces and Steel Mills	2,531	0	0	0	W	W	13	10.5
3313	Electrometallurgical Products	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	92	0	0	0	W	0	*	47.1
3331	Primary Copper	W	0	0	0	W	W	W	1.4
3334	Primary Aluminum	26,391	0	0	0	2	W	W	5.2
3339	Primary Nonferrous Metals, nec	1,263	0	0	0	W	*	W	1.4
3353	Aluminum Sheet, Plate, and Foil	W	0	0	0	0	0	W	1.6
34	Fabricated Metal Products	2,922	0	0	0	13	W	W	23.3
35	Industrial Machinery and Equipment	3,614	0	0	0	7	1	*	35.5
357	Computer and Office Equipment	1,945	0	0	0	1	*	*	23.1
36	Electronic and Other Electric Equipment	5,500	49	Q	0	8	*	1	24.1

See footnotes at end of table.

Table A23. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Trans-mission Pipelines	Other Supplier ^d	
West Census Region									
RSE Column Factors:		0.5	1.5	2.9	0.8	0.7	1.0	0.8	
37	Transportation Equipment	6,924	172	0	W	10	1	7	18.3
3711	Motor Vehicles and Car Bodies	W	0	0	0	*	0	*	9.6
3714	Motor Vehicle Parts and Accessories	243	0	0	0	1	0	1	24.4
38	Instruments and Related Products	3,188	0	24	0	4	*	2	19.4
3841	Surgical and Medical Instruments	222	0	0	0	*	*	0	28.8
39	Misc. Manufacturing Industries	376	0	1	0	1	*	*	31.7
	Total	W	W	903	27,783	315	83	246	8.8

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b A "Utility" is a company that produces and/or delivers electricity and/or natural gas, and is legally obligated to provide service to the public within its franchise area.

^c Includes independent power producers, small power producers, and cogenerators not located at the establishment site.

^d Other suppliers of natural gas include such sources as brokers and producers.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • "Purchases" exclude quantities that are transferred in from other establishments of the same company, quantities purchased by a central purchasing office offsite, and quantities for which payment is made in-kind.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A24. Total Expenditures for Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
Total United States											
	RSE Column Factors:	0.6	0.6	1.3	1.3	0.7	1.2	1.2	1.5	1.1	
20	Food and Kindred Products	4,637	W	77	111	W	39	221	W	98	5.8
2011	Meat Packing Plants	254	160	2	10	75	W	1	0	W	9.7
2033	Canned Fruits and Vegetables	218	99	5	5	103	4	*	0	1	9.1
2037	Frozen Fruits and Vegetables	205	128	W	2	64	1	0	0	W	13.9
2046	Wet Corn Milling	357	W	1	1	119	*	90	W	W	11.6
2051	Bread, Cake, and Related Products	228	138	*	5	82	1	0	0	3	13.0
2063	Beet Sugar	141	19	W	1	43	*	59	W	1	5.5
2075	Soybean Oil Mills	144	W	1	1	54	*	19	0	W	3.4
2082	Malt Beverages	218	124	W	W	58	*	25	0	W	10.9
21	Tobacco Products	123	73	2	1	14	1	32	0	*	6.7
22	Textile Mill Products	1,883	W	34	28	332	14	55	0	W	7.3
23	Apparel and Other Textile Products	474	381	Q	6	71	5	W	0	2	16.9
24	Lumber and Wood Products	1,423	996	W	106	127	25	W	0	159	14.1
25	Furniture and Fixtures	421	322	4	6	69	8	7	0	6	16.6
26	Paper and Allied Products	5,385	2,655	389	43	W	W	538	W	492	4.0
2611	Pulp Mills	303	115	61	5	73	3	13	0	32	13.7
2621	Paper Mills	2,714	W	223	W	566	14	351	W	199	3.2
2631	Paperboard Mills	1,376	W	W	W	W	W	W	0	256	5.2
27	Printing and Publishing	1,274	1,055	1	11	173	6	0	0	27	12.7
28	Chemicals and Allied Products	15,867	4,480	W	76	3,843	5,517	W	50	1,222	5.6
2812	Alkalies and Chlorine	492	305	*	1	W	*	W	0	W	14.9
2813	Industrial Gases	649	W	0	*	29	W	0	0	W	11.3
2819	Industrial Inorganic Chemicals, nec	1,377	891	W	W	W	2	W	45	60	8.2
2821	Plastics Materials and Resins	2,657	W	12	6	393	W	44	0	W	6.0
2822	Synthetic Rubber	376	82	W	1	W	W	W	0	W	14.0
2823	Cellulosic Manmade Fibers	W	W	0	W	W	*	46	0	*	24.7
2824	Organic Fibers, Noncellulosic	W	284	W	W	W	W	W	0	2	4.0
2865	Cyclic Crudes and Intermediates	763	184	17	2	184	W	W	0	W	12.5
2869	Industrial Organic Chemicals, nec	5,896	660	35	16	W	W	123	0	512	6.3
2873	Nitrogenous Fertilizers	990	100	0	1	875	W	0	0	W	23.2
2874	Phosphatic Fertilizers	469	98	4	W	W	*	W	0	W	4.2
29	Petroleum and Coal Products	3,757	1,441	Q	78	1,507	27	W	*	692	8.3
2911	Petroleum Refining	3,222	W	0	W	1,374	W	5	0	W	4.4
30	Rubber and Misc. Plastics Products	2,367	1,960	20	17	301	24	15	0	31	9.2
3011	Tires and Inner Tubes	W	W	7	W	49	2	W	0	W	4.2
308	Miscellaneous Plastics Products, nec	1,767	1,534	7	W	180	16	6	0	W	13.2
31	Leather and Leather Products	83	55	W	6	15	1	Q	0	W	19.5
32	Stone, Clay and Glass Products	3,218	1,516	27	125	961	W	468	W	W	6.9
3211	Flat Glass	179	68	W	*	99	1	*	0	W	3.2
3221	Glass Containers	375	197	6	1	169	2	0	0	1	5.2
3229	Pressed and Blown Glass, nec	W	W	Q	W	W	W	0	0	W	6.2
3241	Cement, Hydraulic	848	406	2	20	72	*	306	8	34	10.4
3274	Lime	243	59	W	8	18	*	141	W	13	28.3
3296	Mineral Wool	206	W	*	W	70	W	*	W	*	1.4
33	Primary Metal Industries	9,358	W	W	63	1,753	W	1,396	942	318	3.6
3312	Blast Furnaces and Steel Mills	4,770	W	W	W	947	2	1,330	736	40	4.1
3313	Electrometallurgical Products	158	95	0	1	4	*	32	W	W	7.5
3321	Gray and Ductile Iron Foundries	W	W	*	5	79	3	W	W	5	11.4
3331	Primary Copper	82	W	*	W	30	*	*	W	1	1.0
3334	Primary Aluminum	1,553	W	*	W	54	1	10	W	W	3.0
3339	Primary Nonferrous Metals, nec	211	110	*	W	36	W	17	25	W	2.0
3353	Aluminum Sheet, Plate, and Foil	273	W	0	2	106	1	W	0	W	1.8
34	Fabricated Metal Products	2,586	1,848	10	34	590	37	11	W	W	11.1
35	Industrial Machinery and Equipment	2,303	1,817	9	26	377	19	17	Q	35	10.2
357	Computer and Office Equipment	278	256	*	1	W	*	0	0	W	15.6
36	Electronic and Other Electric Equipment	2,063	1,695	13	13	263	11	W	4	W	9.7
37	Transportation Equipment	2,571	1,942	36	40	397	14	W	W	72	5.0
3711	Motor Vehicles and Car Bodies	598	W	W	5	122	1	W	W	29	3.4
3714	Motor Vehicle Parts and Accessories	770	W	W	W	126	4	W	W	W	6.3
38	Instruments and Related Products	939	W	11	W	90	2	W	0	5	12.5
3841	Surgical and Medical Instruments	84	75	*	1	8	*	0	0	*	13.9
39	Misc. Manufacturing Industries	328	246	2	W	58	3	W	0	Q	13.1
	Total	61,059	32,098	982	801	13,557	5,848	3,326	1,054	3,393	3.2

See footnotes at end of table.

Table A24. Total Expenditures for Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
Northeast Census Region											
	RSE Column Factors:	0.7	0.7	1.0	1.2	0.8	1.2	1.3	1.2	1.2	
20	Food and Kindred Products	614	391	22	34	143	6	5	0	Q	14.1
2011	Meat Packing Plants	12	8	*	1	1	*	0	0	*	24.9
2033	Canned Fruits and Vegetables	42	22	3	1	16	*	*	0	*	17.1
2037	Frozen Fruits and Vegetables	13	W	W	*	*	*	0	0	*	32.2
2046	Wet Corn Milling	2	1	*	*	*	*	0	0	*	23.3
2051	Bread, Cake, and Related Products	51	31	*	W	W	*	0	0	*	19.1
2063	Beet Sugar	0	0	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	51	33	W	*	10	*	W	0	0	15.4
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.5
22	Textile Mill Products	198	108	14	15	43	4	W	0	W	18.7
23	Apparel and Other Textile Products	63	49	1	2	10	Q	0	0	W	28.7
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.2
25	Furniture and Fixtures	53	39	Q	2	8	1	0	0	1	27.9
26	Paper and Allied Products	1,066	562	199	14	119	W	W	0	88	5.8
2611	Pulp Mills	W	Q	W	*	0	*	0	0	W	33.6
2621	Paper Mills	696	W	168	W	56	6	W	0	64	4.2
2631	Paperboard Mills	W	W	W	*	17	*	W	0	W	14.8
27	Printing and Publishing	328	268	1	8	43	1	0	0	6	24.0
28	Chemicals and Allied Products	W	W	61	W	194	20	W	0	70	8.6
2812	Alkalies and Chlorine	*	*	0	0	*	0	0	0	0	35.0
2813	Industrial Gases	47	W	0	*	W	*	0	0	W	13.5
2819	Industrial Inorganic Chemicals, nec	57	W	W	3	19	*	0	0	*	19.1
2821	Plastics Materials and Resins	131	W	W	Q	25	W	W	0	W	8.5
2822	Synthetic Rubber	W	W	W	*	W	*	0	0	W	25.0
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	W	6	*	*	W	*	0	0	0	16.9
2865	Cyclic Crudes and Intermediates	W	W	W	Q	22	*	W	0	W	19.1
2869	Industrial Organic Chemicals, nec	W	W	29	W	W	W	0	0	W	8.6
2873	Nitrogenous Fertilizers	W	2	0	*	W	*	0	0	*	45.2
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	327	168	0	42	78	Q	W	0	Q	13.2
2911	Petroleum Refining	204	122	0	0	W	0	W	0	W	5.5
30	Rubber and Misc. Plastics Products	485	410	8	6	W	W	W	0	5	20.4
3011	Tires and Inner Tubes	10	5	W	*	W	*	0	0	*	15.6
308	Miscellaneous Plastics Products, nec	414	363	4	W	31	5	W	0	W	24.6
31	Leather and Leather Products	31	18	2	5	3	1	Q	0	*	26.2
32	Stone, Clay and Glass Products	663	318	9	24	179	W	120	W	W	15.7
3211	Flat Glass	W	W	0	*	W	*	*	0	*	4.3
3221	Glass Containers	95	47	4	*	43	1	0	0	*	8.8
3229	Pressed and Blown Glass, nec	W	W	Q	W	W	*	0	0	W	7.6
3241	Cement, Hydraulic	130	70	*	W	*	*	50	W	W	18.3
3274	Lime	Q	Q	0	Q	Q	*	Q	0	Q	NF
3296	Mineral Wool	27	W	0	W	W	*	*	*	*	1.7
33	Primary Metal Industries	1,750	795	13	12	324	8	493	69	36	10.3
3312	Blast Furnaces and Steel Mills	1,101	366	8	6	186	1	W	W	W	6.9
3313	Electrometallurgical Products	W	W	0	*	*	*	W	*	W	12.2
3321	Gray and Ductile Iron Foundries	47	25	0	*	8	1	*	13	*	17.8
3331	Primary Copper	W	W	0	*	W	*	0	*	*	1.0
3334	Primary Aluminum	W	W	*	*	W	*	*	0	W	4.9
3339	Primary Nonferrous Metals, nec	W	6	*	*	3	*	W	W	*	2.3
3353	Aluminum Sheet, Plate, and Foil	W	27	0	*	W	*	0	0	*	1.5
34	Fabricated Metal Products	544	381	7	12	128	5	W	W	4	15.3
35	Industrial Machinery and Equipment	496	W	8	W	67	W	0	0	9	19.3
357	Computer and Office Equipment	63	57	*	*	W	*	0	0	W	19.5
36	Electronic and Other Electric Equipment	537	450	12	9	58	4	*	*	5	15.7
37	Transportation Equipment	W	W	23	W	39	W	W	0	W	10.6
3711	Motor Vehicles and Car Bodies	W	W	W	*	W	*	0	0	W	7.2
3714	Motor Vehicle Parts and Accessories	81	63	*	*	W	*	W	0	W	12.4
38	Instruments and Related Products	400	W	10	W	W	Q	W	0	1	14.7
3841	Surgical and Medical Instruments	29	26	*	1	3	*	0	0	*	18.2
39	Misc. Manufacturing Industries	W	94	2	W	W	1	W	0	*	17.3
	Total	8,936	5,502	393	248	1,551	95	W	W	297	5.3

See footnotes at end of table.

Table A24. Total Expenditures for Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
Midwest Census Region											
	RSE Column Factors:	0.6	0.6	1.5	1.3	0.7	1.2	1.0	1.2	1.1	
20	Food and Kindred Products	1,674	W	12	19	W	9	146	W	44	7.8
2011	Meat Packing Plants	151	93	1	2	51	*	1	0	*	9.5
2033	Canned Fruits and Vegetables	48	22	0	W	22	W	0	0	1	16.8
2037	Frozen Fruits and Vegetables	22	W	W	*	6	*	0	0	*	26.9
2046	Wet Corn Milling	289	W	*	1	104	*	76	W	W	13.3
2051	Bread, Cake, and Related Products	57	35	0	W	W	*	0	0	*	16.6
2063	Beet Sugar	71	W	W	*	13	*	36	W	*	6.6
2075	Soybean Oil Mills	93	W	*	*	35	*	W	0	W	4.1
2082	Malt Beverages	42	21	*	*	W	*	W	0	W	17.1
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.5
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.8
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.8
24	Lumber and Wood Products	239	164	Q	14	40	4	W	0	W	29.4
25	Furniture and Fixtures	W	92	*	*	W	1	Q	0	1	21.3
26	Paper and Allied Products	1,129	590	13	5	291	W	163	W	60	7.0
2611	Pulp Mills	W	W	0	*	W	*	W	0	W	33.3
2621	Paper Mills	582	287	W	3	141	2	114	W	24	5.4
2631	Paperboard Mills	W	84	W	*	55	1	41	0	W	14.3
27	Printing and Publishing	381	299	*	1	71	2	0	0	Q	17.4
28	Chemicals and Allied Products	1,982	W	5	Q	482	W	105	W	W	9.1
2812	Alkalies and Chlorine	W	W	0	*	W	*	0	0	*	26.6
2813	Industrial Gases	W	W	0	*	W	*	0	0	W	17.7
2819	Industrial Inorganic Chemicals, nec	366	W	W	*	W	*	W	*	5	12.9
2821	Plastics Materials and Resins	413	134	*	*	51	W	W	0	W	8.8
2822	Synthetic Rubber	W	8	0	*	W	*	W	0	*	17.9
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	130	34	*	*	35	W	W	0	W	13.7
2869	Industrial Organic Chemicals, nec	W	W	*	W	W	W	37	0	W	7.4
2873	Nitrogenous Fertilizers	W	20	0	*	W	*	0	0	*	32.7
2874	Phosphatic Fertilizers	*	*	0	*	*	*	0	0	*	4.5
29	Petroleum and Coal Products	502	W	Q	Q	185	3	*	0	W	11.1
2911	Petroleum Refining	391	243	0	0	W	0	*	0	W	4.2
30	Rubber and Misc. Plastics Products	893	741	3	1	126	6	6	0	9	12.1
3011	Tires and Inner Tubes	W	W	2	*	14	*	W	0	W	4.1
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.4
31	Leather and Leather Products	24	15	W	*	W	*	0	0	*	24.8
32	Stone, Clay and Glass Products	842	W	W	W	277	4	109	5	33	9.6
3211	Flat Glass	46	W	0	*	24	*	0	0	W	3.8
3221	Glass Containers	78	39	0	*	38	*	0	0	*	7.5
3229	Pressed and Blown Glass, nec	65	28	*	*	35	*	0	0	1	6.7
3241	Cement, Hydraulic	200	96	*	W	13	*	69	0	W	14.9
3274	Lime	70	19	0	2	8	*	32	W	W	18.2
3296	Mineral Wool	80	47	*	*	W	*	0	W	*	1.1
33	Primary Metal Industries	3,856	W	W	27	W	7	534	571	W	5.4
3312	Blast Furnaces and Steel Mills	2,342	W	W	W	W	1	509	473	16	5.2
3313	Electrometallurgical Products	101	65	0	*	W	*	W	W	W	9.4
3321	Gray and Ductile Iron Foundries	W	215	*	Q	W	1	W	W	4	13.6
3331	Primary Copper	*	*	0	0	*	*	0	0	0	1.3
3334	Primary Aluminum	W	W	0	*	W	*	W	0	W	5.0
3339	Primary Nonferrous Metals, nec	W	26	0	*	6	*	0	W	*	2.4
3353	Aluminum Sheet, Plate, and Foil	85	W	0	W	37	*	0	0	W	1.5
34	Fabricated Metal Products	1,067	769	*	W	243	W	W	W	W	15.0
35	Industrial Machinery and Equipment	940	W	Q	W	186	W	17	Q	W	11.6
357	Computer and Office Equipment	43	38	0	*	5	*	0	0	*	23.1
36	Electronic and Other Electric Equipment	460	350	1	W	88	2	W	0	W	13.9
37	Transportation Equipment	W	W	W	10	210	5	W	W	31	5.8
3711	Motor Vehicles and Car Bodies	395	W	W	W	80	1	W	W	W	4.7
3714	Motor Vehicle Parts and Accessories	547	W	W	W	87	W	W	W	W	7.2
38	Instruments and Related Products	115	99	*	*	W	*	*	0	W	22.8
3841	Surgical and Medical Instruments	16	13	0	*	2	*	0	0	*	21.1
39	Misc. Manufacturing Industries	88	59	*	*	21	1	W	0	Q	22.3
	Total	15,598	9,135	W	152	3,657	W	1,161	597	474	4.1

See footnotes at end of table.

Table A24. Total Expenditures for Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
South Census Region											
	RSE Column Factors:	0.6	0.6	1.4	1.2	0.8	1.1	1.1	1.6	1.1	
20	Food and Kindred Products	1,336	W	28	32	368	17	34	W	W	10.5
2011	Meat Packing Plants	69	45	*	7	14	W	0	0	W	16.2
2033	Canned Fruits and Vegetables	30	12	*	*	17	*	0	0	*	19.6
2037	Frozen Fruits and Vegetables	52	31	3	*	18	*	0	0	*	17.0
2046	Wet Corn Milling	W	31	0	*	W	*	14	0	W	22.6
2051	Bread, Cake, and Related Products	73	45	0	1	27	*	0	0	1	13.2
2063	Beet Sugar	W	*	0	*	W	*	0	W	*	17.0
2075	Soybean Oil Mills	51	23	1	1	19	*	W	0	W	4.9
2082	Malt Beverages	67	41	W	*	20	*	W	0	*	13.8
21	Tobacco Products	121	72	2	1	13	1	32	0	*	6.8
22	Textile Mill Products	1,609	W	21	13	260	10	W	0	W	6.5
23	Apparel and Other Textile Products	318	258	Q	3	44	W	W	0	W	21.7
24	Lumber and Wood Products	614	W	Q	W	43	9	W	0	41	20.2
25	Furniture and Fixtures	W	160	1	3	W	4	W	0	4	18.7
26	Paper and Allied Products	2,223	1,039	152	20	W	13	281	0	W	4.4
2611	Pulp Mills	194	68	W	4	W	2	W	0	20	16.9
2621	Paper Mills	998	W	39	W	242	3	156	0	54	3.8
2631	Paperboard Mills	W	268	65	W	W	1	117	0	86	5.3
27	Printing and Publishing	327	284	*	1	33	2	0	0	7	21.1
28	Chemicals and Allied Products	12,374	2,677	W	35	2,942	W	W	11	981	6.4
2812	Alkalies and Chlorine	428	251	0	1	W	*	W	0	W	16.7
2813	Industrial Gases	388	W	0	*	18	W	0	0	W	14.3
2819	Industrial Inorganic Chemicals, nec	W	W	W	W	W	1	28	6	38	10.2
2821	Plastics Materials and Resins	2,090	W	W	W	308	1,340	W	0	W	5.2
2822	Synthetic Rubber	340	W	*	*	W	W	0	0	W	13.4
2823	Cellulosic Manmade Fibers	W	W	0	W	W	*	46	0	*	25.1
2824	Organic Fibers, Noncellulosic	W	278	W	W	W	W	W	0	2	4.0
2865	Cyclic Crudes and Intermediates	574	124	W	1	127	W	*	0	W	12.8
2869	Industrial Organic Chemicals, nec	5,405	500	6	W	W	W	86	0	446	7.9
2873	Nitrogenous Fertilizers	728	68	0	1	656	W	0	0	W	28.9
2874	Phosphatic Fertilizers	W	W	4	W	W	*	W	0	282	3.1
29	Petroleum and Coal Products	2,149	581	Q	W	943	W	W	*	W	7.4
2911	Petroleum Refining	1,948	556	0	W	911	W	W	0	W	4.1
30	Rubber and Misc. Plastics Products	746	599	9	8	104	7	3	0	16	10.7
3011	Tires and Inner Tubes	W	121	W	W	31	1	W	0	W	4.0
308	Miscellaneous Plastics Products, nec	456	389	3	W	50	5	W	0	W	19.7
31	Leather and Leather Products	21	17	*	*	W	*	0	0	W	23.2
32	Stone, Clay and Glass Products	1,145	W	W	W	364	W	149	11	30	10.6
3211	Flat Glass	76	31	0	*	43	*	0	0	2	3.6
3221	Glass Containers	105	54	W	*	W	1	0	0	*	8.3
3229	Pressed and Blown Glass, nec	W	60	*	*	W	W	0	0	*	10.6
3241	Cement, Hydraulic	284	130	W	6	36	*	97	W	9	15.7
3274	Lime	78	18	0	2	W	*	44	*	W	20.7
3296	Mineral Wool	72	W	*	*	26	*	0	W	*	1.4
33	Primary Metal Industries	2,503	W	W	W	W	W	W	284	70	4.7
3312	Blast Furnaces and Steel Mills	1,112	W	W	W	W	*	272	W	W	5.9
3313	Electrometallurgical Products	W	W	0	*	W	0	W	W	W	11.0
3321	Gray and Ductile Iron Foundries	148	W	*	2	W	1	*	W	1	12.1
3331	Primary Copper	W	9	*	*	W	*	0	0	*	1.1
3334	Primary Aluminum	584	W	0	W	W	*	W	W	W	4.0
3339	Primary Nonferrous Metals, nec	91	52	0	*	W	W	W	0	W	5.6
3353	Aluminum Sheet, Plate, and Foil	123	W	0	W	46	1	W	0	2	1.8
34	Fabricated Metal Products	679	482	Q	W	150	W	0	W	17	20.3
35	Industrial Machinery and Equipment	561	447	1	4	90	W	*	*	W	16.3
357	Computer and Office Equipment	41	38	*	*	3	*	0	0	*	21.9
36	Electronic and Other Electric Equipment	635	504	1	W	81	4	W	4	W	14.5
37	Transportation Equipment	541	415	W	10	85	3	W	*	19	8.5
3711	Motor Vehicles and Car Bodies	153	103	W	1	35	1	W	0	W	4.4
3714	Motor Vehicle Parts and Accessories	114	93	*	*	W	W	W	*	1	12.1
38	Instruments and Related Products	190	169	*	1	18	*	0	0	1	18.3
3841	Surgical and Medical Instruments	20	18	0	*	2	*	0	0	*	21.3
39	Misc. Manufacturing Industries	W	65	*	*	W	1	0	0	Q	19.9
	Total	28,373	12,210	W	276	6,564	W	1,166	315	2,030	3.9

See footnotes at end of table.

Table A24. Total Expenditures for Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
West Census Region											
	RSE Column Factors:	0.7	0.7	1.3	1.1	0.8	1.1	1.2	1.2	1.0	
20	Food and Kindred Products	1,013	556	15	25	343	8	36	W	W	10.4
2011	Meat Packing Plants	22	13	*	1	8	*	0	0	*	16.7
2033	Canned Fruits and Vegetables	97	43	2	W	48	W	0	0	*	10.1
2037	Frozen Fruits and Vegetables	117	72	Q	2	39	1	0	0	W	16.8
2046	Wet Corn Milling	W	W	0	*	W	*	0	0	W	20.9
2051	Bread, Cake, and Related Products	47	28	0	*	18	*	0	0	Q	26.3
2063	Beet Sugar	W	W	W	1	W	*	22	8	*	8.1
2075	Soybean Oil Mills	0	0	0	0	0	0	0	0	0	NF
2082	Malt Beverages	58	29	*	W	W	*	W	0	*	16.2
21	Tobacco Products	0	0	0	0	0	0	0	0	0	NF
22	Textile Mill Products	39	20	0	*	19	*	0	0	*	29.2
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.0
24	Lumber and Wood Products	474	W	W	W	27	9	0	0	W	18.6
25	Furniture and Fixtures	39	31	0	*	6	1	0	0	*	31.5
26	Paper and Allied Products	967	464	26	4	267	W	W	0	W	7.4
2611	Pulp Mills	57	26	10	1	17	*	0	0	3	20.6
2621	Paper Mills	437	230	W	1	127	2	W	0	57	5.3
2631	Paperboard Mills	333	104	W	W	90	W	W	0	121	8.1
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.1
28	Chemicals and Allied Products	W	349	W	5	224	W	W	38	W	12.2
2812	Alkalies and Chlorine	W	W	*	*	8	*	0	0	*	19.5
2813	Industrial Gases	W	89	0	*	W	*	0	0	*	14.9
2819	Industrial Inorganic Chemicals, nec	W	110	W	4	W	*	W	38	16	11.7
2821	Plastics Materials and Resins	23	14	0	*	8	*	0	0	*	17.4
2822	Synthetic Rubber	*	*	0	*	*	*	0	0	*	24.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	W	W	0	*	*	*	0	0	W	23.8
2869	Industrial Organic Chemicals, nec	21	7	0	*	W	*	0	0	W	20.5
2873	Nitrogenous Fertilizers	W	10	0	*	W	W	0	0	Q	38.3
2874	Phosphatic Fertilizers	W	W	0	*	W	0	0	0	W	22.6
29	Petroleum and Coal Products	779	W	0	2	302	Q	0	0	W	8.7
2911	Petroleum Refining	679	W	0	0	263	0	0	0	W	3.4
30	Rubber and Misc. Plastics Products	243	209	*	Q	W	W	Q	0	*	18.2
3011	Tires and Inner Tubes	W	W	*	*	W	*	0	0	*	6.7
308	Miscellaneous Plastics Products, nec	212	187	0	Q	22	2	0	0	*	23.1
31	Leather and Leather Products	8	4	0	*	Q	*	0	0	*	45.5
32	Stone, Clay and Glass Products	567	282	13	23	141	3	90	2	13	13.8
3211	Flat Glass	W	10	W	*	W	*	0	0	1	4.4
3221	Glass Containers	96	56	W	*	W	*	0	0	*	8.7
3229	Pressed and Blown Glass, nec	W	W	0	*	W	*	0	0	*	13.7
3241	Cement, Hydraulic	235	109	W	5	23	*	90	Q	5	21.0
3274	Lime	W	W	W	*	W	*	0	0	*	20.1
3296	Mineral Wool	27	20	0	*	W	*	0	W	*	2.1
33	Primary Metal Industries	1,248	W	1	W	W	W	W	17	W	6.8
3312	Blast Furnaces and Steel Mills	215	89	W	W	W	*	W	1	4	7.6
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	19	7	0	*	W	*	0	W	*	32.9
3331	Primary Copper	W	W	*	W	W	*	W	W	1	1.0
3334	Primary Aluminum	651	515	*	1	14	1	2	0	119	3.5
3339	Primary Nonferrous Metals, nec	W	28	0	W	W	*	W	W	W	1.0
3353	Aluminum Sheet, Plate, and Foil	W	W	0	*	W	*	0	0	*	1.1
34	Fabricated Metal Products	296	216	*	3	69	3	0	0	4	19.1
35	Industrial Machinery and Equipment	306	266	0	W	33	3	0	0	Q	27.7
357	Computer and Office Equipment	130	122	0	*	7	*	0	0	*	14.7
36	Electronic and Other Electric Equipment	432	391	0	Q	36	1	0	0	W	16.9

See footnotes at end of table.

Table A24. Total Expenditures for Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimated in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
West Census Region											
RSE Column Factors:		0.7	0.7	1.3	1.1	0.8	1.1	1.2	1.2	1.0	
37	Transportation Equipment	W	444	*	W	62	W	0	0	W	10.9
3711	Motor Vehicles and Car Bodies	W	W	0	W	W	*	0	0	*	6.9
3714	Motor Vehicle Parts and Accessories	28	20	*	*	7	*	0	0	Q	21.3
38	Instruments and Related Products	234	209	*	*	22	*	0	0	2	14.7
3841	Surgical and Medical Instruments	20	18	0	*	2	*	0	0	*	26.6
39	Misc. Manufacturing Industries	34	28	0	*	W	*	0	0	W	27.5
	Total	8,151	5,251	60	124	1,785	48	W	W	592	5.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" energy sources include such combustible energy sources as wood waste, hydrogen, or waste oils and tars.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • To minimize respondent burden, quantities of petroleum based products (e.g., residual and distillate fuel oil and LPG) purchased, and associated expenditures, were not collected from the Refinery Industry, SIC 2911. These products are produced by petroleum refineries rather than purchased by them.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A25. Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 1
(Estimates in Dollars per Physical Unit)

SIC Code ^a	Industry Groups and Industry	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^b (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
Total United States								
	RSE Column Factors:	0.7	0.8	1.0	2.8	1.0	0.7	
20	Food and Kindred Products	0.054	0.427	0.841	2.778	0.653	31.972	4.5
2011	Meat Packing Plants	0.047	0.274	0.837	2.412	W	38.382	2.9
2033	Canned Fruits and Vegetables	0.070	0.451	0.837	2.939	0.683	W	2.9
2037	Frozen Fruits and Vegetables	0.041	W	0.748	2.555	0.642	--	5.1
2046	Wet Corn Milling	0.036	0.492	0.724	2.348	0.892	29.456	3.4
2051	Bread, Cake, and Related Products	0.062	W	0.894	3.644	0.741	--	3.4
2063	Beet Sugar	0.046	0.349	0.814	2.309	0.804	30.852	2.1
2075	Soybean Oil Mills	0.041	0.442	0.711	2.174	0.665	32.185	1.8
2082	Malt Beverages	0.052	W	W	2.630	0.761	35.552	2.7
21	Tobacco Products	0.050	0.386	0.715	3.417	0.624	46.720	2.3
22	Textile Mill Products	0.047	0.421	0.620	3.164	0.529	44.008	2.6
23	Apparel and Other Textile Products	0.067	0.467	0.925	3.853	0.676	W	5.2
24	Lumber and Wood Products	0.052	W	0.891	3.229	0.586	W	4.5
25	Furniture and Fixtures	0.066	0.496	0.807	3.761	0.735	44.175	4.9
26	Paper and Allied Products	0.042	0.377	0.633	2.360	0.644	41.743	3.1
2611	Pulp Mills	0.040	0.347	0.792	2.324	0.492	38.473	3.8
2621	Paper Mills	0.037	0.392	0.689	2.248	0.547	40.993	1.8
2631	Paperboard Mills	0.039	0.357	0.744	2.138	0.685	43.911	2.8
27	Printing and Publishing	0.067	0.556	0.832	3.719	0.821	--	5.7
28	Chemicals and Allied Products	0.034	0.353	0.733	1.865	0.406	37.651	3.0
2812	Alkalies and Chlorine	0.024	W	0.694	W	0.836	W	3.1
2813	Industrial Gases	0.034	--	W	1.914	W	--	2.7
2819	Industrial Inorganic Chemicals, nec	0.023	0.504	0.758	2.265	0.559	48.831	3.7
2821	Plastics Materials and Resins	0.040	0.441	0.732	1.880	0.511	40.313	2.4
2822	Synthetic Rubber	0.042	W	0.752	1.572	W	W	3.0
2823	Cellulosic Manmade Fibers	W	--	W	W	W	38.139	5.5
2824	Organic Fibers, Noncellulosic	0.041	W	W	2.177	W	39.390	1.3
2865	Cyclic Crudes and Intermediates	0.042	0.354	0.661	2.113	W	45.064	4.4
2869	Industrial Organic Chemicals, nec	0.035	0.414	0.778	1.779	0.370	32.525	2.5
2873	Nitrogenous Fertilizers	0.035	--	0.861	1.623	W	--	3.7
2874	Phosphatic Fertilizers	0.041	0.381	0.738	1.849	0.799	W	2.1
29	Petroleum and Coal Products	0.043	W	0.716	2.026	0.426	45.824	4.5
2911	Petroleum Refining	0.041	--	W	1.964	W	36.884	1.6
30	Rubber and Misc. Plastics Products	0.058	0.373	0.745	3.229	0.685	48.391	5.1
3011	Tires and Inner Tubes	0.043	0.326	W	2.389	0.594	54.184	2.0
308	Miscellaneous Plastics Products, nec	0.060	0.394	0.830	3.497	0.807	50.034	5.0
31	Leather and Leather Products	0.069	W	0.675	2.948	0.713	W	6.7
32	Stone, Clay and Glass Products	0.049	0.470	0.834	2.608	0.694	35.328	3.8
3211	Flat Glass	0.045	W	0.808	2.446	0.462	W	1.2
3221	Glass Containers	0.048	0.490	0.775	2.519	0.581	--	2.0
3229	Pressed and Blown Glass, nec	0.043	W	0.824	2.708	0.697	--	3.9
3241	Cement, Hydraulic	0.043	0.413	0.750	1.874	0.751	34.982	4.6
3274	Lime	0.044	W	0.791	2.258	0.630	35.084	5.3
3296	Mineral Wool	0.044	W	1.006	2.507	0.576	W	1.1
33	Primary Metal Industries	0.035	0.325	0.809	2.603	0.444	49.777	2.6
3312	Blast Furnaces and Steel Mills	0.041	0.316	0.867	2.406	0.694	49.786	2.4
3313	Electrometallurgical Products	0.025	--	0.808	2.919	W	39.825	2.7
3321	Gray and Ductile Iron Foundries	0.051	W	0.801	2.868	0.636	W	4.1
3331	Primary Copper	0.048	W	W	2.081	0.752	W	NF
3334	Primary Aluminum ^d	0.021	W	W	2.650	0.669	245.042	1.6
3339	Primary Nonferrous Metals, nec	0.029	W	W	2.229	W	47.835	1.4
3353	Aluminum Sheet, Plate, and Foil	0.041	--	0.701	2.552	0.572	W	1.0
34	Fabricated Metal Products	0.062	0.473	0.791	3.474	0.705	44.449	5.3
35	Industrial Machinery and Equipment	0.062	0.461	0.804	3.554	0.663	34.410	6.3
357	Computer and Office Equipment	0.059	W	0.777	W	1.149	--	6.6
36	Electronic and Other Electric Equipment	0.057	0.519	0.727	3.420	0.626	W	3.8
37	Transportation Equipment	0.055	0.454	0.746	3.188	0.612	45.936	3.0
3711	Motor Vehicles and Car Bodies	0.049	W	0.925	2.892	0.494	49.025	1.6
3714	Motor Vehicle Parts and Accessories	0.054	W	0.573	3.140	0.604	W	4.6
38	Instruments and Related Products	0.064	0.473	0.673	3.639	0.621	W	3.6
3841	Surgical and Medical Instruments	0.065	W	0.653	4.466	0.737	--	3.6
39	Misc. Manufacturing Industries	0.067	0.442	0.849	3.995	0.863	W	3.9
	Total	0.046	0.380	0.780	2.373	0.413	42.305	1.8

See footnotes at end of table.

Table A25. Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Dollars per Physical Unit)

SIC Code ^a	Industry Groups and Industry	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^b (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
Northeast Census Region								
	RSE Column Factors:	0.8	0.6	0.9	3.2	1.1	0.6	
20	Food and Kindred Products	0.072	0.466	0.837	3.525	0.609	47.499	4.2
2011	Meat Packing Plants	0.060	W	0.831	2.902	0.542	--	4.6
2033	Canned Fruits and Vegetables	0.074	0.480	0.963	3.751	0.870	W	4.7
2037	Frozen Fruits and Vegetables	W	W	W	3.185	W	--	5.6
2046	Wet Corn Milling	0.058	W	W	W	W	--	2.2
2051	Bread, Cake, and Related Products	0.080	W	0.857	3.609	0.653	--	3.6
2063	Beet Sugar	--	--	--	--	--	--	NF
2075	Soybean Oil Mills	--	--	--	--	--	--	NF
2082	Malt Beverages	0.063	W	0.427	2.951	0.742	W	3.5
21	Tobacco Products	NA	NA	NA	NA	NA	NA	12.9
22	Textile Mill Products	0.079	0.422	0.628	4.169	0.509	W	5.3
23	Apparel and Other Textile Products	0.098	0.459	0.918	4.698	1.109	--	7.2
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	6.3
25	Furniture and Fixtures	0.087	0.485	0.887	4.326	0.522	--	5.2
26	Paper and Allied Products	0.064	0.414	0.531	3.321	0.607	45.583	4.3
2611	Pulp Mills	W	W	W	--	W	--	2.0
2621	Paper Mills	0.060	0.410	0.811	2.993	0.535	44.786	1.8
2631	Paperboard Mills	0.068	0.447	0.678	2.873	0.770	W	3.6
27	Printing and Publishing	0.085	0.559	0.831	4.733	0.751	--	8.5
28	Chemicals and Allied Products	0.052	0.448	0.711	3.361	0.559	43.314	3.5
2812	Alkalies and Chlorine	W	--	--	W	--	--	3.1
2813	Industrial Gases	0.039	--	W	W	W	--	3.2
2819	Industrial Inorganic Chemicals, nec	0.062	0.494	0.739	3.358	0.517	--	4.8
2821	Plastics Materials and Resins	0.059	W	0.667	3.307	W	W	2.8
2822	Synthetic Rubber	W	W	W	W	W	--	2.1
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	0.063	W	W	W	W	--	4.0
2865	Cyclic Crudes and Intermediates	W	0.409	0.627	3.093	1.019	W	7.0
2869	Industrial Organic Chemicals, nec	0.029	0.426	0.798	3.386	W	--	2.9
2873	Nitrogenous Fertilizers	0.061	--	W	W	W	--	7.6
2874	Phosphatic Fertilizers	--	--	--	--	--	--	NF
29	Petroleum and Coal Products	0.055	--	0.767	2.792	0.582	47.201	7.7
2911	Petroleum Refining	0.049	--	--	W	--	36.953	3.3
30	Rubber and Misc. Plastics Products	0.075	0.421	0.716	4.345	0.584	W	5.6
3011	Tires and Inner Tubes	0.040	W	W	W	0.956	--	4.6
308	Miscellaneous Plastics Products, nec	0.076	0.399	0.733	4.404	0.671	W	5.4
31	Leather and Leather Products	0.087	0.398	0.650	4.772	0.703	W	7.4
32	Stone, Clay and Glass Products	0.057	0.476	0.789	3.150	0.743	34.202	5.2
3211	Flat Glass	W	--	W	W	W	W	1.5
3221	Glass Containers	0.057	0.478	0.699	3.093	0.542	--	2.4
3229	Pressed and Blown Glass, nec	0.053	W	W	2.751	0.776	--	3.3
3241	Cement, Hydraulic	0.052	0.561	0.727	W	1.187	34.495	5.6
3274	Lime	0.039	--	0.844	W	W	33.613	4.3
3296	Mineral Wool	0.058	--	W	2.922	0.543	W	1.1
33	Primary Metal Industries	0.045	0.398	0.879	3.170	0.615	49.467	3.8
3312	Blast Furnaces and Steel Mills	0.045	0.343	0.926	2.883	0.668	49.604	1.9
3313	Electrometallurgical Products	W	--	W	4.536	W	W	2.3
3321	Gray and Ductile Iron Foundries	0.071	--	0.831	3.666	0.687	W	5.9
3331	Primary Copper	W	--	W	W	W	--	NF
3334	Primary Aluminum ^d	W	W	W	W	W	W	1.3
3339	Primary Nonferrous Metals, nec	0.055	W	W	3.196	0.882	W	1.6
3353	Aluminum Sheet, Plate, and Foil	0.060	--	W	3.056	0.523	--	0.6
34	Fabricated Metal Products	0.075	0.438	0.809	4.022	0.783	W	5.5
35	Industrial Machinery and Equipment	0.078	0.467	0.783	4.375	0.535	--	7.4
357	Computer and Office Equipment	0.070	W	0.802	W	0.883	--	6.1
36	Electronic and Other Electric Equipment	0.069	0.545	0.708	4.129	0.551	W	3.8
37	Transportation Equipment	0.073	0.497	0.734	3.720	0.689	W	4.7
3711	Motor Vehicles and Car Bodies	W	W	W	W	0.617	--	1.6
3714	Motor Vehicle Parts and Accessories	0.071	W	0.835	3.816	0.634	W	3.9
38	Instruments and Related Products	0.078	0.472	0.670	3.870	0.558	W	4.2
3841	Surgical and Medical Instruments	0.077	W	0.760	5.509	0.745	--	3.4
39	Misc. Manufacturing Industries	0.079	0.460	0.841	4.171	0.882	W	5.1
	Total	0.064	0.434	0.752	3.488	0.597	45.399	3.1

See footnotes at end of table.

Table A25. Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Dollars per Physical Unit)

SIC Code ^a	Industry Groups and Industry	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^b (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
Midwest Census Region								
	RSE Column Factors:	0.7	0.9	0.9	2.8	1.1	0.6	
20	Food and Kindred Products	0.047	0.325	0.816	2.510	0.608	30.311	3.4
2011	Meat Packing Plants	0.045	0.252	0.671	2.324	0.552	38.382	2.5
2033	Canned Fruits and Vegetables	0.059	--	W	2.709	W	--	5.2
2037	Frozen Fruits and Vegetables	W	W	W	2.649	0.540	--	5.6
2046	Wet Corn Milling	0.036	W	0.717	2.325	W	27.686	3.0
2051	Bread, Cake, and Related Products	0.055	--	W	3.348	0.993	--	3.8
2063	Beet Sugar	W	W	0.859	2.137	0.784	33.206	2.2
2075	Soybean Oil Mills	0.040	0.380	0.924	2.128	W	28.864	1.7
2082	Malt Beverages	0.045	W	W	2.619	W	W	3.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	1.8
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	7.3
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	6.1
24	Lumber and Wood Products	0.058	W	0.928	3.748	0.515	W	6.3
25	Furniture and Fixtures	0.059	W	0.812	3.338	0.781	W	9.8
26	Paper and Allied Products	0.042	0.375	0.694	2.600	0.744	40.527	3.7
2611	Pulp Mills	W	--	W	W	W	W	5.6
2621	Paper Mills	0.037	0.365	0.593	2.449	0.721	40.559	2.9
2631	Paperboard Mills	0.041	W	0.824	2.360	0.662	42.720	4.9
27	Printing and Publishing	0.057	W	0.865	3.219	0.671	--	5.4
28	Chemicals and Allied Products	0.031	0.358	0.701	2.168	W	37.417	4.0
2812	Alkalies and Chlorine	W	--	W	W	W	--	2.4
2813	Industrial Gases	W	--	W	W	W	--	2.6
2819	Industrial Inorganic Chemicals, nec	W	W	0.918	2.497	0.815	W	2.6
2821	Plastics Materials and Resins	0.041	W	0.728	2.160	W	W	2.8
2822	Synthetic Rubber	0.035	--	W	2.684	W	W	3.1
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	--	--	--	--	--	--	NF
2865	Cyclic Crudes and Intermediates	0.045	W	0.884	2.553	W	47.002	3.0
2869	Industrial Organic Chemicals, nec	0.044	W	0.728	2.057	W	32.903	2.4
2873	Nitrogenous Fertilizers	0.035	--	0.768	W	W	--	8.6
2874	Phosphatic Fertilizers	W	--	W	W	W	--	1.3
29	Petroleum and Coal Products	0.042	W	0.679	2.231	0.499	W	4.6
2911	Petroleum Refining	0.039	--	--	W	--	W	1.6
30	Rubber and Misc. Plastics Products	0.056	0.269	0.856	3.079	0.810	47.414	3.9
3011	Tires and Inner Tubes	0.043	0.254	W	2.207	0.565	55.974	1.3
308	Miscellaneous Plastics Products, nec	NA	NA	NA	NA	NA	NA	4.5
31	Leather and Leather Products	0.058	W	0.969	W	0.596	--	6.2
32	Stone, Clay and Glass Products	0.047	W	0.852	2.646	0.716	31.234	4.8
3211	Flat Glass	0.049	--	0.806	2.235	0.553	--	1.1
3221	Glass Containers	0.045	--	1.030	2.268	W	--	2.3
3229	Pressed and Blown Glass, nec	0.046	W	0.821	3.120	0.814	--	2.5
3241	Cement, Hydraulic	0.043	W	0.755	2.134	0.716	29.106	3.9
3274	Lime	0.051	--	0.774	2.479	W	34.609	4.9
3296	Mineral Wool	0.037	W	0.851	2.455	0.483	--	0.9
33	Primary Metal Industries	0.042	0.328	0.862	2.453	0.676	50.487	3.3
3312	Blast Furnaces and Steel Mills	0.043	0.327	0.897	2.281	0.838	51.137	2.3
3313	Electrometallurgical Products	0.027	--	0.789	W	W	32.084	3.1
3321	Gray and Ductile Iron Foundries	0.050	W	0.842	2.840	0.657	W	4.0
3331	Primary Copper	W	--	--	W	W	--	NF
3334	Primary Aluminum ^d	W	--	0.871	W	W	W	1.3
3339	Primary Nonferrous Metals, nec	0.035	--	W	2.337	0.594	--	1.5
3353	Aluminum Sheet, Plate, and Foil	0.043	--	W	2.254	0.576	--	1.0
34	Fabricated Metal Products	0.060	W	0.806	3.079	0.660	W	6.2
35	Industrial Machinery and Equipment	0.056	0.427	0.811	3.297	0.600	34.370	5.6
357	Computer and Office Equipment	0.048	--	W	3.012	W	--	8.5
36	Electronic and Other Electric Equipment	0.050	0.290	0.701	3.137	0.598	W	6.4
37	Transportation Equipment	0.052	W	0.734	2.993	0.606	W	3.9
3711	Motor Vehicles and Car Bodies	0.050	W	0.937	2.778	0.469	W	1.4
3714	Motor Vehicle Parts and Accessories	0.053	W	0.535	3.003	0.572	W	3.8
38	Instruments and Related Products	0.055	W	1.177	3.261	0.688	W	4.8
3841	Surgical and Medical Instruments	0.049	--	W	4.041	0.579	--	5.5
39	Misc. Manufacturing Industries	0.063	0.525	0.759	4.047	0.824	W	6.2
	Total	0.046	0.344	0.797	2.598	0.273	41.350	2.7

See footnotes at end of table.

Table A25. Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Dollars per Physical Unit)

SIC Code ^a	Industry Groups and Industry	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^b (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
South Census Region								
	RSE Column Factors:	0.7	0.7	1.0	3.2	1.0	0.6	
20	Food and Kindred Products	0.052	0.432	0.831	2.813	0.652	44.423	6.6
2011	Meat Packing Plants	0.051	W	0.888	2.729	W	--	3.4
2033	Canned Fruits and Vegetables	0.061	0.436	0.755	2.668	0.668	--	4.4
2037	Frozen Fruits and Vegetables	0.056	0.575	0.769	3.233	0.772	--	3.7
2046	Wet Corn Milling	0.038	--	0.794	W	W	44.495	3.4
2051	Bread, Cake, and Related Products	0.053	--	0.870	3.728	0.739	--	4.1
2063	Beet Sugar	W	--	W	W	W	--	5.1
2075	Soybean Oil Mills	0.043	0.470	0.649	2.262	0.541	W	2.3
2082	Malt Beverages	0.048	W	W	2.456	0.777	W	3.3
21	Tobacco Products	0.049	0.386	0.715	3.412	0.623	46.720	2.3
22	Textile Mill Products	0.045	0.419	0.610	2.995	0.535	W	2.7
23	Apparel and Other Textile Products	0.062	0.453	0.924	3.697	W	W	5.4
24	Lumber and Wood Products	0.052	W	0.871	2.943	0.603	W	5.3
25	Furniture and Fixtures	0.062	0.514	0.765	4.096	0.804	50.580	4.8
26	Paper and Allied Products	0.038	0.333	0.686	2.088	0.628	41.737	3.0
2611	Pulp Mills	0.048	W	0.762	W	0.465	W	3.8
2621	Paper Mills	0.034	0.335	0.651	1.979	0.553	40.269	1.7
2631	Paperboard Mills	0.039	0.335	0.731	1.966	0.706	43.629	2.7
27	Printing and Publishing	0.059	W	0.775	3.402	0.906	--	5.4
28	Chemicals and Allied Products	0.034	0.329	0.747	1.773	0.421	37.583	2.8
2812	Alkalies and Chlorine	0.024	--	0.662	W	W	W	3.8
2813	Industrial Gases	0.032	--	W	1.629	W	--	2.6
2819	Industrial Inorganic Chemicals, nec	0.026	0.491	0.724	2.095	0.541	53.026	3.0
2821	Plastics Materials and Resins	0.036	0.448	0.837	1.754	0.633	42.932	2.8
2822	Synthetic Rubber	0.042	W	0.790	1.494	W	--	3.5
2823	Cellulosic Manmade Fibers	W	--	W	W	W	38.139	5.4
2824	Organic Fibers, Noncellulosic	0.040	W	0.732	2.167	W	39.390	1.3
2865	Cyclic Crudes and Intermediates	0.039	0.340	0.757	1.916	W	W	3.8
2869	Industrial Organic Chemicals, nec	0.036	0.363	0.776	1.729	0.371	32.362	2.5
2873	Nitrogenous Fertilizers	0.036	--	0.903	1.661	W	--	3.3
2874	Phosphatic Fertilizers	W	0.381	0.726	1.817	0.799	W	1.4
29	Petroleum and Coal Products	0.037	W	W	1.756	W	W	2.0
2911	Petroleum Refining	0.037	--	W	1.738	W	W	1.3
30	Rubber and Misc. Plastics Products	0.049	0.385	0.714	2.974	0.704	48.636	4.2
3011	Tires and Inner Tubes	0.042	0.352	0.403	2.391	0.568	W	1.4
308	Miscellaneous Plastics Products, nec	0.050	0.382	0.834	3.181	0.872	W	5.0
31	Leather and Leather Products	0.067	W	0.595	W	0.899	--	4.7
32	Stone, Clay and Glass Products	0.044	W	0.863	2.335	0.696	38.364	4.1
3211	Flat Glass	0.039	--	0.805	2.233	0.580	--	1.4
3221	Glass Containers	0.043	W	W	2.117	0.597	--	1.7
3229	Pressed and Blown Glass, nec	0.038	W	0.976	2.485	0.626	--	3.7
3241	Cement, Hydraulic	0.037	W	0.734	1.697	0.630	37.848	4.8
3274	Lime	0.045	--	0.733	2.059	W	37.909	2.3
3296	Mineral Wool	0.043	W	0.966	2.332	0.690	--	0.8
33	Primary Metal Industries	0.032	W	0.710	2.559	0.353	48.208	3.1
3312	Blast Furnaces and Steel Mills	0.037	W	0.753	2.417	0.496	47.277	2.3
3313	Electrometallurgical Products	0.023	--	0.792	W	--	W	3.1
3321	Gray and Ductile Iron Foundries	0.048	W	0.736	2.681	0.587	W	3.1
3331	Primary Copper	0.044	W	0.739	1.833	W	--	NF
3334	Primary Aluminum ^d	0.023	--	W	2.672	0.473	W	1.3
3339	Primary Nonferrous Metals, nec	0.030	--	0.776	2.186	W	W	1.6
3353	Aluminum Sheet, Plate, and Foil	0.039	--	W	2.666	0.629	W	1.9
34	Fabricated Metal Products	0.054	W	0.729	3.526	0.716	--	4.2
35	Industrial Machinery and Equipment	0.055	0.435	0.813	3.490	0.826	W	7.4
357	Computer and Office Equipment	0.047	W	0.721	3.585	1.319	--	3.6
36	Electronic and Other Electric Equipment	0.047	0.481	W	3.102	0.688	W	4.5
37	Transportation Equipment	0.049	0.360	0.719	3.184	0.582	45.190	4.0
3711	Motor Vehicles and Car Bodies	0.043	W	0.973	3.009	0.485	W	1.8
3714	Motor Vehicle Parts and Accessories	0.048	W	W	3.223	W	W	2.5
38	Instruments and Related Products	0.052	0.443	0.654	3.241	0.941	--	5.1
3841	Surgical and Medical Instruments	0.054	--	W	3.739	W	--	2.9
39	Misc. Manufacturing Industries	0.056	W	1.037	3.414	0.826	--	5.5
	Total	0.041	0.343	0.770	2.041	0.423	41.848	2.0

See footnotes at end of table.

Table A25. Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Dollars per Physical Unit)

SIC Code ^a	Industry Groups and Industry	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^b (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
West Census Region								
	RSE Column Factors:	1.0	0.7	0.7	3.5	0.9	0.7	
20	Food and Kindred Products	0.060	0.478	0.881	2.968	0.764	29.436	4.0
2011	Meat Packing Plants	0.042	W	0.904	2.424	0.636	--	3.3
2033	Canned Fruits and Vegetables	0.079	0.418	W	2.952	W	--	2.8
2037	Frozen Fruits and Vegetables	0.034	0.582	0.722	2.320	0.621	--	6.3
2046	Wet Corn Milling	W	--	W	W	W	--	2.9
2051	Bread, Cake, and Related Products	0.071	--	0.938	3.959	0.828	--	6.3
2063	Beet Sugar	0.042	W	0.794	2.473	0.867	27.682	2.9
2075	Soybean Oil Mills	--	--	--	--	--	--	NF
2082	Malt Beverages	0.057	W	W	2.696	W	W	2.8
21	Tobacco Products	--	--	--	--	--	--	NF
22	Textile Mill Products	0.072	--	W	4.190	0.517	--	9.5
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	4.8
24	Lumber and Wood Products	0.045	W	0.873	2.772	0.639	--	7.3
25	Furniture and Fixtures	0.102	--	0.875	4.629	0.821	--	7.0
26	Paper and Allied Products	0.034	0.427	0.786	2.465	0.646	W	3.8
2611	Pulp Mills	0.030	0.449	0.869	2.569	0.872	--	4.4
2621	Paper Mills	0.028	0.396	0.699	2.388	0.468	W	2.1
2631	Paperboard Mills	0.033	0.423	0.778	2.345	0.658	W	2.1
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	6.6
28	Chemicals and Allied Products	0.031	W	0.845	1.865	0.581	34.433	6.6
2812	Alkalies and Chlorine	0.022	W	0.806	2.024	W	--	3.0
2813	Industrial Gases	0.035	--	W	W	W	--	2.4
2819	Industrial Inorganic Chemicals, nec	0.025	W	0.828	2.882	0.620	34.433	5.4
2821	Plastics Materials and Resins	0.076	--	0.936	4.426	0.910	--	4.5
2822	Synthetic Rubber	W	--	W	W	W	--	2.1
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	--	--	--	--	--	--	NF
2865	Cyclic Crudes and Intermediates	W	--	W	W	W	--	5.5
2869	Industrial Organic Chemicals, nec	0.054	--	0.838	W	1.244	--	13.8
2873	Nitrogenous Fertilizers	0.024	--	0.810	W	W	--	6.8
2874	Phosphatic Fertilizers	W	--	1.013	W	--	--	5.0
29	Petroleum and Coal Products	0.051	--	0.589	3.137	W	--	3.0
2911	Petroleum Refining	0.050	--	--	3.092	--	--	1.2
30	Rubber and Misc. Plastics Products	0.073	W	1.058	3.780	0.945	W	6.0
3011	Tires and Inner Tubes	W	W	W	W	W	--	2.1
308	Miscellaneous Plastics Products, nec	0.073	--	W	4.353	0.975	--	4.8
31	Leather and Leather Products	0.061	--	W	1.692	1.089	--	5.3
32	Stone, Clay and Glass Products	0.055	0.460	0.800	2.758	0.612	38.055	4.6
3211	Flat Glass	0.068	W	0.797	3.356	W	--	1.2
3221	Glass Containers	0.050	W	W	2.954	0.510	--	2.3
3229	Pressed and Blown Glass, nec	W	--	W	W	W	--	2.3
3241	Cement, Hydraulic	0.046	W	0.790	2.064	1.002	38.055	5.0
3274	Lime	W	W	W	W	W	--	3.1
3296	Mineral Wool	0.062	--	W	3.249	0.549	--	1.0
33	Primary Metal Industries	0.025	0.348	0.758	2.606	0.737	W	2.8
3312	Blast Furnaces and Steel Mills	0.035	W	0.755	2.229	0.664	W	2.2
3313	Electrometallurgical Products	--	--	--	--	--	--	NF
3321	Gray and Ductile Iron Foundries	0.074	--	0.875	3.122	0.822	--	7.6
3331	Primary Copper	0.048	W	W	2.184	W	W	NF
3334	Primary Aluminum ^d	0.020	W	0.849	2.358	0.758	298.608	1.3
3339	Primary Nonferrous Metals, nec	0.022	--	W	2.081	W	W	NF
3353	Aluminum Sheet, Plate, and Foil	W	--	W	W	W	--	NF
34	Fabricated Metal Products	0.074	W	0.985	4.176	0.803	--	4.1
35	Industrial Machinery and Equipment	0.074	--	W	3.972	0.830	--	8.1
357	Computer and Office Equipment	0.063	--	W	4.176	1.154	--	6.1
36	Electronic and Other Electric Equipment	0.070	--	0.911	4.150	0.989	--	4.1

See footnotes at end of table.

Table A25. Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 1 (Continued)
(Estimates in Dollars per Physical Unit)

SIC Code ^a	Industry Groups and Industry	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^b (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
		West Census Region						
RSE Column Factors:		1.0	0.7	0.7	3.5	0.9	0.7	
37	Transportation Equipment	0.063	W	0.881	3.673	0.615	--	5.6
3711	Motor Vehicles and Car Bodies	0.062	--	0.878	W	0.729	--	1.8
3714	Motor Vehicle Parts and Accessories	0.081	W	W	3.621	0.815	--	7.0
38	Instruments and Related Products	0.066	W	0.799	3.965	0.779	--	5.8
3841	Surgical and Medical Instruments	0.080	--	W	4.716	0.758	--	4.8
39	Misc. Manufacturing Industries	0.074	--	1.090	W	0.957	--	5.1
	Total	0.045	0.447	0.847	2.772	0.700	39.987	3.0

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d The price estimates for coal for SIC 3334 include anthracite coal for the production of carbon anodes. Because of the high cost of transporting anthracite from the East Coast to the West and South, the prices of coal in those regions are extremely high.

NF=No applicable RSE row/column factor.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

-- Estimation of average price is not applicable.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A25 Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 2
(Estimates in Dollars per Million Btu)

SIC Code ^a	Industry Groups and Industry	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
Total United States								
	RSE Column Factors:	0.7	0.8	1.0	2.8	1.0	0.7	
20	Food and Kindred Products	15.789	2.854	6.064	2.697	7.596	1.433	4.5
2011	Meat Packing Plants	13.726	1.831	6.035	2.342	5.782	1.723	2.9
2033	Canned Fruits and Vegetables	20.591	3.013	6.032	2.853	7.937	W	2.9
2037	Frozen Fruits and Vegetables	12.074	3.489	5.392	2.481	7.463	--	5.1
2046	Wet Corn Milling	10.559	3.287	5.222	2.279	10.372	1.322	3.4
2051	Bread, Cake, and Related Products	18.046	W	6.446	3.538	8.617	--	3.4
2063	Beet Sugar	13.413	2.334	5.868	2.242	9.345	1.379	2.1
2075	Soybean Oil Mills	12.041	2.953	5.127	2.111	7.733	1.443	1.8
2082	Malt Beverages	15.321	W	3.603	2.554	8.850	1.596	2.7
21	Tobacco Products	14.588	2.577	5.153	3.317	7.251	2.097	2.3
22	Textile Mill Products	13.853	2.809	4.468	3.072	6.154	1.952	2.6
23	Apparel and Other Textile Products	19.773	3.121	6.667	3.741	7.860	W	5.2
24	Lumber and Wood Products	15.199	2.680	6.421	3.134	6.399	W	4.5
25	Furniture and Fixtures	19.220	3.312	5.821	3.651	8.548	1.983	4.9
26	Paper and Allied Products	12.206	2.522	4.566	2.292	7.064	1.870	3.1
2611	Pulp Mills	11.776	2.316	5.708	2.256	5.388	1.727	3.8
2621	Paper Mills	10.925	2.619	4.965	2.183	5.991	1.835	1.8
2631	Paperboard Mills	11.385	2.388	5.363	2.076	7.472	1.971	2.8
27	Printing and Publishing	19.778	3.717	6.002	Q	9.549	--	5.7
28	Chemicals and Allied Products	9.957	2.358	5.284	1.811	4.829	1.681	3.0
2812	Alkalies and Chlorine	7.089	W	5.001	W	9.157	W	3.1
2813	Industrial Gases	9.935	--	W	1.859	W	--	2.7
2819	Industrial Inorganic Chemicals, nec	6.866	3.367	5.468	2.199	6.125	2.090	3.7
2821	Plastics Materials and Resins	11.609	2.943	5.278	1.826	6.102	1.809	2.4
2822	Synthetic Rubber	12.409	W	5.422	1.526	W	W	3.0
2823	Cellulosic Manmade Fibers	W	--	W	W	W	1.712	5.5
2824	Organic Fibers, Noncellulosic	11.937	W	5.208	2.114	W	1.743	1.3
2865	Cyclic Crudes and Intermediates	12.307	2.365	4.768	2.051	W	2.021	4.4
2869	Industrial Organic Chemicals, nec	10.404	2.768	5.611	1.727	4.427	1.460	2.5
2873	Nitrogenous Fertilizers	10.185	--	6.211	1.576	W	--	3.7
2874	Phosphatic Fertilizers	11.925	2.547	5.324	1.795	8.753	W	2.1
29	Petroleum and Coal Products	12.617	W	5.164	1.967	4.603	2.010	4.5
2911	Petroleum Refining	12.119	--	W	1.907	W	1.655	1.6
30	Rubber and Misc. Plastics Products	16.988	2.494	5.372	3.135	7.959	2.154	5.1
3011	Tires and Inner Tubes	12.565	2.180	3.070	2.319	6.911	2.417	2.0
308	Miscellaneous Plastic Products, nec	17.626	2.629	5.981	3.396	9.376	2.246	5.0
31	Leather and Leather Products	20.179	2.626	4.864	2.863	8.292	W	6.7
32	Stone, Clay and Glass Products	14.400	3.141	6.010	2.532	8.065	1.583	3.8
3211	Flat Glass	13.184	W	5.824	2.374	5.374	W	1.2
3221	Glass Containers	14.077	3.273	5.587	2.446	6.758	--	2.0
3229	Pressed and Blown Glass, nec	12.609	W	5.942	2.629	8.109	--	3.9
3241	Cement, Hydraulic	12.532	2.759	5.409	1.820	8.735	1.570	4.6
3274	Lime	13.032	W	5.706	2.192	7.323	1.572	5.3
3296	Mineral Wool	13.015	W	7.250	2.434	6.685	W	1.1
33	Primary Metal Industries	10.178	2.172	5.835	2.527	5.230	1.878	2.6
3312	Blast Furnaces and Steel Mills	12.114	2.111	6.254	2.336	7.518	1.868	2.4
3313	Electrometallurgical Products	7.339	--	5.829	2.834	W	1.681	2.7
3321	Gray and Ductile Iron Foundries	14.846	W	5.774	2.785	6.955	W	4.1
3331	Primary Copper	14.172	W	W	2.021	8.257	W	NF
3334	Primary Aluminum ^d	6.203	W	4.984	2.573	7.777	9.421	1.6
3339	Primary Nonferrous Metals, nec	8.556	W	5.332	2.164	W	2.082	1.4
3353	Aluminum Sheet, Plate, and Foil	12.044	--	5.052	2.478	6.655	W	1.0
34	Fabricated Metal Products	18.293	3.159	5.706	3.373	8.192	1.993	5.3
35	Industrial Machinery and Equipment	18.144	3.079	5.799	3.450	7.713	1.544	6.3
357	Computer and Office Equipment	17.146	W	5.601	3.537	13.360	--	6.6
36	Electronic and Other Electric Equipment	16.661	3.470	5.245	3.320	7.279	W	3.8
37	Transportation Equipment	16.184	3.035	5.378	3.095	7.111	2.060	3.0
3711	Motor Vehicles and Car Bodies	14.497	W	6.672	2.808	5.743	2.195	1.6
3714	Motor Vehicle Parts and Accessories	15.958	3.493	4.134	3.049	7.020	W	4.6
38	Instruments and Related Products	18.870	3.160	4.855	3.533	7.211	W	3.6
3841	Surgical and Medical Instruments	18.912	W	4.712	4.336	8.523	--	3.6
39	Misc. Manufacturing Industries	19.664	2.953	6.118	3.878	10.033	W	3.9
	Total	13.486	2.540	5.625	2.304	4.909	1.775	1.8

See footnotes at end of table.

Table A25 Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Dollars per Million Btu)

SIC Code ^a	Industry Groups and Industry	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
Northeast Census Region								
	RSE Column Factors:	0.8	0.6	0.9	3.2	1.1	0.6	
20	Food and Kindred Products	21.063	3.116	6.037	3.422	7.083	2.132	4.2
2011	Meat Packing Plants	17.566	W	5.993	2.818	6.308	--	4.6
2033	Canned Fruits and Vegetables	21.614	3.207	6.944	3.642	10.118	W	4.7
2037	Frozen Fruits and Vegetables	20.503	W	W	3.092	W	--	5.6
2046	Wet Corn Milling	16.999	W	W	Q	W	--	2.2
2051	Bread, Cake, and Related Products	23.445	W	6.178	3.504	7.595	--	3.6
2063	Beet Sugar	--	--	--	--	--	--	NF
2075	Soybean Oil Mills	--	--	--	--	--	--	NF
2082	Malt Beverages	18.361	W	3.082	2.865	8.628	W	3.5
21	Tobacco Products	W	--	--	W	W	--	12.9
22	Textile Mill Products	23.068	2.822	4.529	4.048	5.918	W	5.3
23	Apparel and Other Textile Products	28.847	3.067	6.620	4.562	12.892	--	7.2
24	Lumber and Wood Products	22.589	W	7.677	3.829	5.518	--	6.3
25	Furniture and Fixtures	25.528	3.243	6.395	4.200	6.074	--	5.2
26	Paper and Allied Products	18.646	2.763	3.827	3.224	6.653	2.015	4.3
2611	Pulp Mills	W	W	W	--	W	--	2.0
2621	Paper Mills	17.487	2.739	5.850	2.906	5.839	1.981	1.8
2631	Paperboard Mills	19.813	2.987	4.889	2.789	8.474	W	3.6
27	Printing and Publishing	24.811	3.736	5.991	4.595	8.717	--	8.5
28	Chemicals and Allied Products	15.140	2.991	5.130	3.264	6.158	1.944	3.5
2812	Alkalies and Chlorine	W	--	--	W	--	--	3.1
2813	Industrial Gases	11.475	--	W	W	W	--	3.2
2819	Industrial Inorganic Chemicals, nec	18.288	3.302	5.329	3.260	5.666	--	4.8
2821	Plastics Materials and Resins	17.275	2.969	4.807	3.211	W	W	2.8
2822	Synthetic Rubber	W	W	W	W	W	--	2.1
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	18.331	W	W	W	W	--	4.0
2865	Cyclic Crudes and Intermediates	18.529	2.735	4.523	3.003	11.159	W	7.0
2869	Industrial Organic Chemicals, nec	8.524	2.845	5.756	3.287	W	--	2.9
2873	Nitrogenous Fertilizers	17.917	--	W	W	W	--	7.6
2874	Phosphatic Fertilizers	--	--	--	--	--	--	NF
29	Petroleum and Coal Products	16.147	--	5.531	2.711	6.376	2.057	7.7
2911	Petroleum Refining	14.259	--	--	2.489	--	1.659	3.3
30	Rubber and Misc. Plastics Products	21.899	2.810	5.166	4.219	6.795	W	5.6
3011	Tires and Inner Tubes	11.862	W	W	3.185	11.115	--	4.6
308	Miscellaneous Plastic Products, nec	22.129	2.663	5.282	4.276	7.806	W	5.4
31	Leather and Leather Products	25.612	2.661	4.687	4.633	8.176	W	7.4
32	Stone, Clay and Glass Products	16.634	3.178	5.687	3.059	8.643	1.524	5.2
3211	Flat Glass	W	--	W	W	W	W	1.5
3221	Glass Containers	16.623	3.195	5.043	3.002	6.308	--	2.4
3229	Pressed and Blown Glass, nec	15.643	W	W	2.671	9.021	--	3.3
3241	Cement, Hydraulic	15.302	3.749	5.239	W	13.804	1.548	5.6
3274	Lime	11.456	--	6.083	Q	W	1.504	4.3
3296	Mineral Wool	17.046	--	W	2.837	6.310	W	1.1
33	Primary Metal Industries	13.104	2.660	6.334	3.078	7.077	1.858	3.8
3312	Blast Furnaces and Steel Mills	13.192	2.292	6.678	2.799	7.308	1.853	1.9
3313	Electrometallurgical Products	W	--	W	4.404	W	W	2.3
3321	Gray and Ductile Iron Foundries	20.940	--	5.995	3.560	7.534	W	5.9
3331	Primary Copper	W	--	W	W	W	--	NF
3334	Primary Aluminum ^d	W	W	W	W	W	W	1.3
3339	Primary Nonferrous Metals, nec	16.200	W	W	3.103	9.664	W	1.6
3353	Aluminum Sheet, Plate, and Foil	17.443	--	W	2.967	6.079	--	0.6
34	Fabricated Metal Products	22.076	2.925	5.833	3.904	9.107	W	5.5
35	Industrial Machinery and Equipment	23.003	3.119	5.645	4.247	6.220	--	7.4
357	Computer and Office Equipment	20.564	W	5.783	3.697	10.266	--	6.1
36	Electronic and Other Electric Equipment	20.168	3.641	5.107	4.009	6.412	W	3.8
37	Transportation Equipment	21.540	3.323	5.295	3.612	8.014	W	4.7
3711	Motor Vehicles and Car Bodies	W	W	W	W	7.170	--	1.6
3714	Motor Vehicle Parts and Accessories	20.767	W	6.023	3.705	7.373	W	3.9
38	Instruments and Related Products	22.821	3.153	4.828	3.757	6.485	W	4.2
3841	Surgical and Medical Instruments	22.616	W	5.481	5.348	8.661	--	3.4
39	Misc. Manufacturing Industries	23.084	3.075	6.063	4.050	10.254	W	5.1
	Total	18.648	2.897	5.426	3.386	6.745	1.822	3.1

See footnotes at end of table.

Table A25 Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Dollars per Million Btu)

SIC Code ^a	Industry Groups and Industry	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
Midwest Census Region								
	RSE Column Factors:	0.7	0.9	0.9	2.8	1.1	0.6	
20	Food and Kindred Products	13.868	2.168	5.886	2.437	7.065	1.358	3.4
2011	Meat Packing Plants	13.138	1.683	4.836	2.256	6.417	1.723	2.5
2033	Canned Fruits and Vegetables	17.272	--	5.477	2.630	7.657	--	5.2
2037	Frozen Fruits and Vegetables	15.174	W	W	2.572	6.281	--	5.6
2046	Wet Corn Milling	10.461	W	5.172	2.257	W	1.243	3.0
2051	Bread, Cake, and Related Products	16.236	--	W	3.250	11.546	--	3.8
2063	Beet Sugar	14.018	W	6.194	2.075	9.120	1.480	2.2
2075	Soybean Oil Mills	11.770	2.540	6.661	2.066	W	1.294	1.7
2082	Malt Beverages	13.105	W	W	2.543	W	W	3.3
21	Tobacco Products	W	--	W	W	--	--	1.8
22	Textile Mill Products	16.553	W	W	2.956	8.782	--	7.3
23	Apparel and Other Textile Products	18.893	W	W	3.362	6.271	W	6.1
24	Lumber and Wood Products	16.915	W	6.691	3.638	5.617	W	6.3
25	Furniture and Fixtures	17.156	W	5.853	3.241	9.081	W	9.8
26	Paper and Allied Products	12.316	2.506	5.003	2.524	8.180	1.819	3.7
2611	Pulp Mills	W	--	W	W	W	W	5.6
2621	Paper Mills	10.895	2.440	4.277	2.378	7.909	1.820	2.9
2631	Paperboard Mills	11.935	W	5.940	2.291	7.167	1.917	4.9
27	Printing and Publishing	16.748	W	6.238	3.126	7.798	--	5.4
28	Chemicals and Allied Products	8.960	2.395	5.058	2.105	W	1.678	4.0
2812	Alkalies and Chlorine	W	--	W	W	W	--	2.4
2813	Industrial Gases	W	--	W	W	W	--	2.6
2819	Industrial Inorganic Chemicals, nec	W	W	6.619	2.425	8.932	W	2.6
2821	Plastics Materials and Resins	12.113	W	5.247	2.097	W	W	2.8
2822	Synthetic Rubber	10.140	--	W	2.606	W	W	3.1
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	--	--	--	--	--	--	NF
2865	Cyclic Crudes and Intermediates	13.175	W	6.372	2.479	W	2.110	3.0
2869	Industrial Organic Chemicals, nec	12.802	W	5.250	1.997	W	1.477	2.4
2873	Nitrogenous Fertilizers	10.397	--	5.537	W	W	--	8.6
2874	Phosphatic Fertilizers	W	--	W	W	W	--	1.3
29	Petroleum and Coal Products	12.226	W	4.895	2.166	5.469	W	4.6
2911	Petroleum Refining	11.555	--	--	2.032	--	W	1.6
30	Rubber and Misc. Plastics Products	16.547	1.799	6.174	2.989	9.402	2.090	3.9
3011	Tires and Inner Tubes	12.615	1.699	W	2.143	6.575	2.488	1.3
308	Miscellaneous Plastic Products, nec	16.870	W	6.492	3.166	10.346	W	4.5
31	Leather and Leather Products	17.086	W	6.989	3.087	6.927	--	6.2
32	Stone, Clay and Glass Products	13.827	W	6.140	2.569	8.328	1.402	4.8
3211	Flat Glass	14.435	--	5.810	2.169	6.426	--	1.1
3221	Glass Containers	13.190	--	7.428	2.202	W	--	2.3
3229	Pressed and Blown Glass, nec	13.432	W	5.917	3.029	9.467	--	2.5
3241	Cement, Hydraulic	12.578	W	5.446	2.072	8.320	1.306	3.9
3274	Lime	14.992	--	5.583	2.407	W	1.552	4.9
3296	Mineral Wool	10.936	W	6.137	2.384	5.612	--	0.9
33	Primary Metal Industries	12.197	2.188	6.218	2.381	7.688	1.915	3.3
3312	Blast Furnaces and Steel Mills	12.708	2.187	6.466	2.214	9.176	1.926	2.3
3313	Electrometallurgical Products	7.968	--	5.692	2.820	W	1.380	3.1
3321	Gray and Ductile Iron Foundries	14.509	W	6.074	2.757	7.153	W	4.0
3331	Primary Copper	W	--	--	W	W	--	NF
3334	Primary Aluminum ^d	W	--	6.283	W	W	W	1.3
3339	Primary Nonferrous Metals, nec	10.289	--	W	2.269	6.512	--	1.5
3353	Aluminum Sheet, Plate, and Foil	12.540	--	W	2.188	6.696	--	1.0
34	Fabricated Metal Products	17.679	W	5.814	2.989	7.671	1.951	6.2
35	Industrial Machinery and Equipment	16.530	2.852	5.845	3.201	6.971	1.543	5.6
357	Computer and Office Equipment	14.040	--	W	2.924	W	--	8.5
36	Electronic and Other Electric Equipment	14.663	1.937	5.054	3.046	6.953	W	6.4
37	Transportation Equipment	15.266	2.852	5.289	2.906	7.052	W	3.9
3711	Motor Vehicles and Car Bodies	14.786	W	6.753	2.697	5.452	W	1.4
3714	Motor Vehicle Parts and Accessories	15.610	W	3.858	2.916	6.651	W	3.8
38	Instruments and Related Products	16.084	W	8.487	3.166	8.004	W	4.8
3841	Surgical and Medical Instruments	14.297	--	W	3.923	6.730	--	5.5
39	Misc. Manufacturing Industries	18.547	3.510	5.472	3.929	9.581	W	6.2
	Total	13.493	2.300	5.744	2.523	3.446	1.735	2.7

See footnotes at end of table.

Table A25 Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Dollars per Million Btu)

SIC Code ^a	Industry Groups and Industry	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
South Census Region								
	RSE Column Factors:	0.7	0.7	1.0	3.2	1.0	0.6	
20	Food and Kindred Products	15.215	2.884	5.989	2.731	7.576	1.994	6.6
2011	Meat Packing Plants	14.930	W	6.401	2.649	W	--	3.4
2033	Canned Fruits and Vegetables	17.988	2.915	5.441	2.590	7.767	--	4.4
2037	Frozen Fruits and Vegetables	16.419	3.842	5.548	3.139	8.982	--	3.7
2046	Wet Corn Milling	11.001	--	5.722	2.344	W	1.997	3.4
2051	Bread, Cake, and Related Products	15.650	--	6.273	3.620	8.596	--	4.1
2063	Beet Sugar	W	--	W	W	W	--	5.1
2075	Soybean Oil Mills	12.552	3.138	4.679	2.196	6.293	W	2.3
2082	Malt Beverages	13.976	W	W	2.384	9.040	W	3.3
21	Tobacco Products	14.472	2.577	5.152	3.313	7.246	2.097	2.3
22	Textile Mill Products	13.266	2.801	4.399	2.908	6.224	1.948	2.7
23	Apparel and Other Textile Products	18.127	3.027	6.663	3.590	7.546	W	5.4
24	Lumber and Wood Products	15.351	W	6.279	2.857	6.553	W	5.3
25	Furniture and Fixtures	18.118	3.432	5.518	3.977	9.348	2.270	4.8
26	Paper and Allied Products	11.236	2.225	4.949	2.027	6.882	1.873	3.0
2611	Pulp Mills	14.044	2.177	5.496	2.095	5.092	W	3.8
2621	Paper Mills	9.974	2.239	4.691	1.921	6.081	1.807	1.7
2631	Paperboard Mills	11.401	2.236	5.270	1.909	7.707	1.958	2.7
27	Printing and Publishing	17.341	W	5.585	Q	10.535	--	5.4
28	Chemicals and Allied Products	9.885	2.196	5.384	1.721	4.975	1.675	2.8
2812	Alkalies and Chlorine	7.158	--	4.774	W	W	W	3.8
2813	Industrial Gases	9.504	--	W	1.582	W	--	2.6
2819	Industrial Inorganic Chemicals, nec	7.479	3.279	5.223	2.034	5.929	2.240	3.0
2821	Plastics Materials and Resins	10.630	2.991	6.032	1.703	7.351	1.927	2.8
2822	Synthetic Rubber	12.243	W	5.694	1.451	W	--	3.5
2823	Cellulosic Manmade Fibers	W	--	W	W	W	1.712	5.4
2824	Organic Fibers, Noncellulosic	11.849	W	5.277	2.104	W	1.743	1.3
2865	Cyclic Crudes and Intermediates	11.290	2.268	5.457	1.860	W	W	3.8
2869	Industrial Organic Chemicals, nec	10.506	2.424	5.598	1.679	4.441	1.453	2.5
2873	Nitrogenous Fertilizers	10.695	--	6.509	1.613	W	--	3.3
2874	Phosphatic Fertilizers	12.951	2.547	5.236	1.765	8.748	W	1.4
29	Petroleum and Coal Products	10.844	W	W	1.705	W	W	2.0
2911	Petroleum Refining	10.716	--	W	1.688	W	W	1.3
30	Rubber and Misc. Plastics Products	14.247	2.572	5.147	2.887	8.177	2.183	4.2
3011	Tires and Inner Tubes	12.441	2.355	2.903	2.322	6.607	W	1.4
308	Miscellaneous Plastic Products, nec	14.630	2.555	6.015	3.088	10.133	W	5.0
31	Leather and Leather Products	19.630	W	4.293	4.477	10.454	--	4.7
32	Stone, Clay and Glass Products	13.030	3.087	6.219	2.267	8.087	1.722	4.1
3211	Flat Glass	11.492	--	5.805	2.168	6.747	--	1.4
3221	Glass Containers	12.539	W	W	2.055	6.940	--	1.7
3229	Pressed and Blown Glass, nec	11.058	W	7.036	2.413	7.284	--	3.7
3241	Cement, Hydraulic	10.853	1.572	5.294	1.647	7.321	1.699	4.8
3274	Lime	13.131	--	5.284	1.999	W	1.701	2.3
3296	Mineral Wool	12.718	W	6.965	2.264	7.993	--	0.8
33	Primary Metal Industries	9.287	W	5.116	2.485	4.209	1.821	3.1
3312	Blast Furnaces and Steel Mills	10.709	W	5.428	2.346	5.123	1.779	2.3
3313	Electrometallurgical Products	6.653	--	5.707	W	--	W	3.1
3321	Gray and Ductile Iron Foundries	14.039	W	5.308	2.602	6.436	W	3.1
3331	Primary Copper	12.926	W	5.329	1.780	W	--	NF
3334	Primary Aluminum ^d	6.854	--	W	2.594	5.502	W	1.3
3339	Primary Nonferrous Metals, nec	8.922	--	5.594	2.122	W	W	1.6
3353	Aluminum Sheet, Plate, and Foil	11.415	--	6.076	2.588	7.316	W	1.9
34	Fabricated Metal Products	15.911	W	5.255	3.424	8.317	--	4.2
35	Industrial Machinery and Equipment	16.104	2.905	5.862	3.388	9.603	W	7.4
357	Computer and Office Equipment	13.730	W	5.196	3.480	15.341	--	3.6
36	Electronic and Other Electric Equipment	13.762	3.210	5.976	3.012	7.999	W	4.5
37	Transportation Equipment	14.238	2.405	5.185	3.091	6.762	2.028	4.0
3711	Motor Vehicles and Car Bodies	12.711	W	7.014	2.922	5.644	W	1.8
3714	Motor Vehicle Parts and Accessories	14.142	W	W	3.129	7.529	W	2.5
38	Instruments and Related Products	15.312	2.957	4.718	3.146	10.943	--	5.1
3841	Surgical and Medical Instruments	15.909	--	W	3.630	W	--	2.9
39	Misc. Manufacturing Industries	16.391	W	7.477	3.314	9.607	--	5.5
	Total	12.092	2.289	5.550	1.981	4.998	1.800	2.0

See footnotes at end of table.

Table A25 Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Dollars per Million Btu)

SIC Code ^a	Industry Groups and Industry	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
West Census Region								
	RSE Column Factors:	1.0	0.7	0.7	3.5	0.9	0.7	
20	Food and Kindred Products	17.650	3.193	6.355	Q	8.889	1.321	4.0
2011	Meat Packing Plants	12.440	W	6.517	2.354	7.395	--	3.3
2033	Canned Fruits and Vegetables	23.275	2.795	W	2.866	7.677	--	2.8
2037	Frozen Fruits and Vegetables	9.964	3.886	5.208	2.253	7.219	--	6.3
2046	Wet Corn Milling	W	--	W	W	W	--	2.9
2051	Bread, Cake, and Related Products	20.845	--	6.761	3.844	9.630	--	6.3
2063	Beet Sugar	12.429	W	5.723	2.401	10.080	1.242	2.9
2075	Soybean Oil Mills	--	--	--	--	--	--	NF
2082	Malt Beverages	16.587	W	W	2.617	W	W	2.8
21	Tobacco Products	--	--	--	--	--	--	NF
22	Textile Mill Products	21.076	--	W	4.068	6.009	--	9.5
23	Apparel and Other Textile Products	28.737	W	W	5.259	16.485	--	4.8
24	Lumber and Wood Products	13.284	2.869	6.298	2.692	7.000	--	7.3
25	Furniture and Fixtures	30.012	--	6.312	4.494	9.552	--	7.0
26	Paper and Allied Products	9.875	2.850	5.670	2.393	7.082	W	3.8
2611	Pulp Mills	8.938	2.999	6.268	2.494	9.553	--	4.4
2621	Paper Mills	8.236	2.645	5.040	2.318	5.134	W	2.1
2631	Paperboard Mills	9.670	2.825	5.613	2.276	7.198	W	2.1
27	Printing and Publishing	24.524	--	6.750	4.457	11.538	--	6.6
28	Chemicals and Allied Products	9.182	W	6.096	1.810	5.897	1.545	6.6
2812	Alkalies and Chlorine	6.508	W	5.813	1.966	W	--	3.0
2813	Industrial Gases	10.185	--	W	W	W	--	2.4
2819	Industrial Inorganic Chemicals, nec	7.340	W	5.968	2.798	6.788	1.545	5.4
2821	Plastics Materials and Resins	22.404	--	6.746	4.297	10.005	--	4.5
2822	Synthetic Rubber	W	--	W	W	W	--	2.1
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	--	--	--	--	--	--	NF
2865	Cyclic Crudes and Intermediates	W	--	W	W	W	--	5.5
2869	Industrial Organic Chemicals, nec	15.702	--	6.044	W	13.084	--	13.8
2873	Nitrogenous Fertilizers	7.151	--	5.839	W	W	--	6.8
2874	Phosphatic Fertilizers	W	--	7.307	W	--	--	5.0
29	Petroleum and Coal Products	15.090	--	4.249	3.045	W	--	3.0
2911	Petroleum Refining	14.658	--	--	3.002	--	--	1.2
30	Rubber and Misc. Plastics Products	21.407	W	7.628	3.670	10.991	W	6.0
3011	Tires and Inner Tubes	W	W	W	W	W	--	2.1
308	Miscellaneous Plastic Products, nec	21.328	--	W	4.226	11.340	--	4.8
31	Leather and Leather Products	17.906	--	W	Q	12.659	--	5.3
32	Stone, Clay and Glass Products	16.044	3.073	5.768	2.677	7.114	1.708	4.6
3211	Flat Glass	20.003	W	5.747	3.258	W	--	1.2
3221	Glass Containers	14.602	W	W	2.868	5.932	--	2.3
3229	Pressed and Blown Glass, nec	W	--	W	W	W	--	2.3
3241	Cement, Hydraulic	13.415	W	5.695	2.004	11.656	1.708	5.0
3274	Lime	W	W	W	W	W	--	3.1
3296	Mineral Wool	18.055	--	W	3.155	6.383	--	1.0
33	Primary Metal Industries	7.274	2.328	5.469	2.530	8.517	W	2.8
3312	Blast Furnaces and Steel Mills	10.352	W	5.442	2.164	7.283	W	2.2
3313	Electrometallurgical Products	--	--	--	--	--	--	NF
3321	Gray and Ductile Iron Foundries	21.691	--	6.310	3.031	9.006	--	7.6
3331	Primary Copper	14.044	W	W	2.120	W	W	NF
3334	Primary Aluminum ^d	5.717	W	6.121	2.289	8.815	11.481	1.3
3339	Primary Nonferrous Metals, nec	6.463	--	W	2.020	W	W	NF
3353	Aluminum Sheet, Plate, and Foil	W	--	W	W	W	--	NF
34	Fabricated Metal Products	21.673	W	7.101	4.054	9.335	--	4.1
35	Industrial Machinery and Equipment	21.550	--	W	3.856	9.650	--	8.1
357	Computer and Office Equipment	18.400	--	W	4.054	13.420	--	6.1
36	Electronic and Other Electric Equipment	20.652	--	6.565	4.029	11.497	--	4.1

See footnotes at end of table.

Table A25. Average Prices of Selected Purchased Energy Sources by Census Region, Industry Group, and Selected Industries, 1991: Part 2 (Continued)
(Estimates in Dollars per Million Btu)

SIC Code ^a	Industry Groups and Industry	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
West Census Region								
RSE Column Factors:		1.0	0.7	0.7	3.5	0.9	0.7	
37	Transportation Equipment	18.333	W	6.354	3.566	7.145	--	5.6
3711	Motor Vehicles and Car Bodies	18.173	--	6.332	2.901	8.480	--	1.8
3714	Motor Vehicle Parts and Accessories	23.850	W	W	3.516	9.474	--	7.0
38	Instruments and Related Products	19.253	W	5.760	3.849	8.926	--	5.8
3841	Surgical and Medical Instruments	23.571	--	W	4.579	8.648	--	4.8
39	Misc. Manufacturing Industries	21.790	--	7.862	4.821	11.133	--	5.1
	Total	13.185	2.989	6.105	2.691	7.909	1.708	3.0

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d The price estimates for coal for SIC 3334 include anthracite coal for the production of carbon anodes. Because of the high cost of transporting anthracite from the East Coast to the West and South, the prices of coal in those regions are extremely high.

NF=No applicable RSE row/column factor.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

-- Estimation of average price is not applicable.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A26. Total Quantity of Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Total United States										
RSE Column Factors:	0.6	0.5	1.4	1.2	0.7	1.2	1.2	1.4	1.4	
Value of Shipments and Receipts (million dollars)										
Under 20	W	107,510	W	10,283	586	W	4,772	354	119	10.6
20-49	1,568	106,665	10,892	4,840	675	3,301	10,599	666	139	7.8
50-99	W	92,598	8,563	2,347	W	W	W	456	178	6.2
100-249	2,476	146,260	12,752	2,176	1,092	42,870	W	W	212	4.1
250-499	2,193	112,420	14,067	1,692	W	57,617	W	824	188	4.1
500 and Over	4,137	132,100	W	3,105	1,704	213,145	27,672	W	269	3.4
Total	13,194	697,553	61,475	24,442	5,713	336,791	78,616	9,340	1,104	3.4
Employment Size										
Under 50	586	42,680	Q	5,883	W	2,111	W	33	Q	15.6
50-99	912	47,362	8,824	3,327	400	13,005	2,270	339	159	11.4
100-249	2,310	127,139	7,828	5,222	1,111	28,157	W	W	175	6.8
250-499	2,267	127,755	10,247	3,434	1,041	54,178	9,979	673	227	4.1
500-999	2,613	153,780	9,893	2,565	1,110	87,235	W	W	234	3.9
1,000 and Over	4,507	198,837	W	4,010	W	152,106	36,818	7,030	254	3.3
Total	13,194	697,553	61,475	24,442	5,713	336,791	78,616	9,340	1,104	3.4
Northeast Census Region										
RSE Column Factors:	0.7	0.5	0.8	1.5	0.6	1.5	1.6	1.5	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	W	18,966	1,770	4,029	W	W	Q	W	11	14.4
20-49	216	14,780	2,447	1,469	W	639	2,087	W	11	13.4
50-99	162	11,198	3,338	671	71	334	578	53	10	8.4
100-249	W	16,278	4,687	686	86	W	W	W	20	5.1
250-499	185	12,061	6,934	W	49	471	W	W	23	5.6
500 and Over	369	13,188	2,410	W	78	50	W	0	14	6.2
Total	1,482	86,471	21,586	7,849	445	3,803	W	W	90	5.4
Employment Size										
Under 50	W	7,428	341	W	37	W	W	Q	4	20.8
50-99	W	6,968	993	W	40	W	145	W	W	15.0
100-249	W	15,201	2,642	2,039	75	W	4,454	104	W	15.6
250-499	184	14,044	3,644	990	85	538	W	W	8	7.6
500-999	W	21,229	4,480	W	86	734	W	W	30	5.5
1,000 and Over	W	21,602	9,486	1,047	123	375	W	W	28	5.9
Total	1,482	86,471	21,586	7,849	445	3,803	W	W	90	5.4

See footnotes at end of table.

Table A26. Total Quantity of Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Midwest Census Region										
RSE Column Factors:	0.5	0.5	1.7	1.6	0.6	1.5	0.9	1.3	1.3	
Value of Shipments and Receipts (million dollars)										
Under 20	W	31,500	Q	W	221	957	1,030	169	W	14.7
20-49	445	28,358	511	W	237	819	W	W	29	10.0
50-99	W	25,927	325	372	W	351	W	179	36	7.8
100-249	466	29,584	852	338	200	4,753	W	W	W	5.4
250-499	W	26,404	W	257	W	W	W	W	21	5.1
500 and Over	1,050	56,635	W	962	W	155	13,370	3,607	25	4.8
Total	W	198,408	W	4,555	1,407	W	28,074	5,135	174	4.8
Employment Size										
Under 50	W	12,049	Q	1,487	120	W	172	W	4	20.0
50-99	W	14,492	Q	552	116	439	973	W	W	17.6
100-249	582	34,762	529	645	282	874	W	151	W	8.7
250-499	W	30,592	491	344	W	W	W	237	32	6.2
500-999	W	29,448	453	334	197	W	3,254	W	23	6.0
1,000 and Over	1,247	77,065	W	1,194	W	W	13,870	W	45	4.3
Total	W	198,408	W	4,555	1,407	W	28,074	5,135	174	4.8
South Census Region										
RSE Column Factors:	0.6	0.5	1.8	1.2	0.9	1.0	0.9	1.7	1.2	
Value of Shipments and Receipts (million dollars)										
Under 20	W	40,701	W	W	W	W	1,160	W	33	13.6
20-49	678	49,075	7,221	W	285	1,441	W	323	58	10.4
50-99	W	40,415	3,782	825	280	W	3,038	190	W	9.1
100-249	W	65,401	6,606	793	612	W	W	148	W	5.7
250-499	W	52,982	6,432	895	675	W	W	W	124	5.5
500 and Over	2,555	47,381	3,128	1,227	W	212,870	5,796	W	220	4.2
Total	W	295,955	W	8,546	3,217	W	27,864	2,911	628	4.0
Employment Size										
Under 50	W	15,891	Q	W	107	W	Q	5	10	16.9
50-99	W	17,652	7,201	W	190	W	479	W	98	16.0
100-249	W	56,019	3,898	1,630	543	W	W	W	83	8.6
250-499	W	62,432	4,736	1,543	587	W	W	235	157	5.5
500-999	W	70,686	4,530	1,116	664	W	W	150	118	4.9
1,000 and Over	2,488	73,275	7,897	1,499	1,125	151,240	12,168	2,124	162	4.5
Total	W	295,955	W	8,546	3,217	W	27,864	2,911	628	4.0

See footnotes at end of table.

Table A26. Total Quantity of Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Total (trillion Btu)	Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
West Census Region										
RSE Column Factors:	0.7	0.4	1.2	1.3	0.7	1.3	1.5	1.2	1.3	
Value of Shipments and Receipts (million dollars)										
Under 20	W	16,344	492	1,462	W	556	295	23	Q	15.5
20-49	229	14,453	712	W	W	403	W	118	41	12.3
50-99	W	15,058	1,117	479	107	268	818	34	W	9.0
100-249	425	34,997	608	359	193	269	W	W	71	8.3
250-499	217	20,973	W	W	86	51	W	W	20	5.0
500 and Over	162	14,896	W	W	87	70	W	0	9	6.2
Total	1,466	116,720	3,189	3,491	644	1,616	W	W	213	6.4
Employment Size										
Under 50	W	7,312	Q	W	W	222	W	W	Q	12.7
50-99	127	8,251	390	567	53	245	673	45	21	17.6
100-249	W	21,158	759	909	211	W	1,692	W	43	11.9
250-499	247	20,687	1,377	557	W	309	W	W	31	8.1
500-999	360	32,418	430	W	163	155	W	W	62	6.8
1,000 and Over	W	26,895	215	270	72	W	W	W	19	6.0
Total	1,466	116,720	3,189	3,491	644	1,616	W	W	213	6.4

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" energy sources include such combustible energy sources as wood waste, hydrogen, or waste oils and tars.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • "Purchases" exclude quantities that are transferred in from other establishments of the same company, quantities purchased by a central purchasing office offsite, and quantities for which payment is made in-kind.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A27. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Trans-mission Pipelines	Other Supplier ^d	
Total United States								
RSE Column Factors:	0.4	2.4	1.3	1.4	0.6	1.1	0.9	
Value of Shipments and Receipts (million dollars)								
Under 20	107,184	326	2,967	4,271	404	73	109	10.0
20-49	105,509	1,157	5,365	15,176	343	121	211	9.3
50-99	91,832	766	5,216	12,848	298	110	W	7.8
100-249	145,652	608	13,577	43,332	481	279	332	8.3
250-499	W	W	20,676	19,144	285	435	W	5.8
500 and Over	W	W	36,636	39,262	306	811	587	3.8
Total	681,538	16,015	84,438	134,033	2,117	1,829	1,767	4.0
Employment Size								
Under 50	W	224	2,681	1,544	173	42	W	15.0
50-99	W	448	2,869	11,325	221	58	121	11.2
100-249	126,111	1,028	8,288	33,959	548	264	299	8.7
250-499	127,156	599	22,516	13,645	374	368	299	6.2
500-999	152,145	1,635	20,643	45,129	404	344	361	4.9
1,000 and Over	186,756	12,081	27,440	28,431	397	753	W	4.6
Total	681,538	16,015	84,438	134,033	2,117	1,829	1,767	4.0
Northeast Census Region								
RSE Column Factors:	0.4	2.1	1.7	1.4	0.6	1.1	0.7	
Value of Shipments and Receipts (million dollars)								
Under 20	W	128	1,387	1,766	62	W	W	18.9
20-49	14,649	Q	Q	2,657	43	W	W	12.3
50-99	11,148	50	1,252	W	35	7	29	11.2
100-249	W	W	1,183	5,793	42	15	29	7.0
250-499	W	0	505	2,485	24	1	24	11.4
500 and Over	W	W	W	W	32	9	37	8.0
Total	85,769	702	17,235	14,806	238	52	155	5.8
Employment Size								
Under 50	7,349	79	0	Q	28	4	6	25.7
50-99	W	W	Q	2,539	24	5	10	18.5
100-249	15,175	26	1,484	1,969	46	10	19	14.5
250-499	13,949	Q	W	424	44	14	27	10.0
500-999	W	192	W	7,668	31	11	43	5.9
1,000 and Over	W	W	W	W	64	8	51	7.9
Total	85,769	702	17,235	14,806	238	52	155	5.8

See footnotes at end of table.

Table A27. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Midwest Census Region								
RSE Column Factors:	0.4	2.5	1.3	2.0	0.6	0.9	0.7	
Value of Shipments and Receipts (million dollars)								
Under 20	W	161	Q	908	145	28	49	16.4
20-49	28,279	79	2,403	2,187	113	38	85	15.7
50-99	25,687	239	3,476	W	70	49	W	12.3
100-249	29,484	100	10,285	6,212	68	40	92	7.7
250-499	W	0	4,549	W	W	W	W	8.7
500 and Over	55,498	1,138	W	W	W	W	230	5.7
Total	196,691	1,717	26,217	19,762	520	257	629	5.1
Employment Size								
Under 50	W	Q	Q	Q	69	26	25	22.6
50-99	14,401	91	W	2,061	68	15	33	15.8
100-249	34,686	76	5,403	1,864	134	54	94	11.8
250-499	30,464	129	5,386	1,381	94	W	114	8.1
500-999	29,314	Q	8,388	W	63	43	92	6.4
1,000 and Over	W	1,177	W	10,558	93	W	270	5.6
Total	196,691	1,717	26,217	19,762	520	257	629	5.1
South Census Region								
RSE Column Factors:	0.3	2.2	1.5	0.9	0.7	1.1	1.3	
Value of Shipments and Receipts (million dollars)								
Under 20	40,673	29	992	741	132	W	28	13.9
20-49	48,225	850	1,068	7,069	146	61	79	12.2
50-99	40,305	110	91	5,834	148	48	84	11.4
100-249	W	W	2,109	22,225	262	204	145	10.7
250-499	W	W	15,623	12,073	W	W	113	7.4
500 and Over	W	W	20,201	23,741	W	W	287	4.9
Total	W	W	40,084	71,683	1,044	1,437	736	5.1
Employment Size								
Under 50	W	33	2,373	439	49	9	49	15.3
50-99	17,442	210	W	4,481	96	34	60	12.1
100-249	W	W	897	26,211	241	186	116	13.8
250-499	62,363	69	W	3,760	191	282	114	7.8
500-999	70,167	519	W	25,979	255	259	150	5.2
1,000 and Over	W	W	16,875	10,812	211	667	247	5.1
Total	W	W	40,084	71,683	1,044	1,437	736	5.1

See footnotes at end of table.

Table A27. Quantity of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Btu or Physical Units)

Economic Characteristics ^a	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (Billion cu ft)			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
West Census Region								
RSE Column Factors:	0.3	1.6	3.5	1.3	0.7	0.9	0.6	
Value of Shipments and Receipts (million dollars)								
Under 20	16,335	9	0	855	66	W	W	20.0
20-49	14,356	Q	505	3,262	42	W	W	18.4
50-99	14,691	367	Q	4,218	44	6	57	13.6
100-249	34,715	Q	1	Q	108	19	65	14.7
250-499	20,922	50	0	W	24	14	48	8.8
500 and Over	W	W	0	7,052	31	22	34	5.0
Total	W	W	903	27,783	315	83	246	8.8
Employment Size								
Under 50	7,310	2	0	W	28	3	W	22.8
50-99	W	W	0	2,244	32	4	17	16.9
100-249	W	W	505	3,915	127	15	70	18.7
250-499	20,380	307	Q	8,080	45	W	43	11.0
500-999	W	790	24	Q	55	31	77	8.6
1,000 and Over	W	W	0	W	29	W	W	7.0
Total	W	W	903	27,783	315	83	246	8.8

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b A "Utility" is a company that produces and/or delivers electricity and/or natural gas, and is legally obligated to provide service to the public within its franchise area.

^c Includes independent power producers, small power producers, and cogenerators not located at the establishment site.

^d Other suppliers of natural gas include such sources as brokers and producers.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • "Purchases" exclude quantities that are transferred in from other establishments of the same company, quantities purchased by a central purchasing office offsite, and quantities for which payment is made in-kind.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A28. Total Expenditures for Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991
(Estimates in Million Dollars)

Economic Characteristics ^a	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
Total United States										
RSE Column Factors:	0.5	0.5	1.5	1.3	0.7	1.3	1.4	1.5	1.1	
Value of Shipments and Receipts (million dollars)										
Under 20	10,116	7,044	W	351	2,006	W	177	43	272	8.3
20-49	8,726	5,631	166	154	1,873	88	422	66	326	7.1
50-99	7,487	4,406	150	76	W	W	W	60	437	5.4
100-249	10,778	5,693	204	72	2,464	846	W	W	724	3.6
250-499	8,618	3,950	217	53	W	1,229	W	92	548	3.7
500 and Over	15,333	5,374	W	95	3,450	3,278	1,280	W	1,086	3.3
Total	61,059	32,098	982	801	13,557	5,848	3,326	1,054	3,393	3.2
Employment Size										
Under 50	4,244	2,838	W	204	W	61	W	5	127	13.2
50-99	4,742	2,805	127	111	1,088	196	83	24	308	9.5
100-249	11,416	6,479	134	173	2,716	812	W	W	453	6.1
250-499	11,123	5,924	173	104	2,516	1,057	413	89	847	3.7
500-999	11,737	6,045	162	81	2,607	1,532	W	W	706	3.8
1,000 and Over	17,796	8,007	W	127	W	2,190	1,695	791	952	3.2
Total	61,059	32,098	982	801	13,557	5,848	3,326	1,054	3,393	3.2
Northeast Census Region										
RSE Column Factors:	0.6	0.6	0.8	1.4	0.6	1.5	1.7	1.7	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	2,262	1,531	36	132	W	W	Q	W	58	12.7
20-49	1,562	1,051	46	40	W	16	94	W	33	11.3
50-99	1,155	756	63	21	248	8	24	8	27	8.5
100-249	1,483	860	82	22	276	W	W	W	69	5.0
250-499	989	558	119	W	156	11	W	W	57	5.7
500 and Over	1,485	746	48	W	220	1	W	0	53	6.0
Total	8,936	5,502	393	248	1,551	95	W	W	297	5.3
Employment Size										
Under 50	W	624	7	W	166	W	W	*	27	20.0
50-99	W	553	20	W	159	W	5	W	W	15.0
100-249	1,732	1,095	51	64	283	W	174	6	W	13.5
250-499	1,386	931	69	25	295	13	W	W	26	6.8
500-999	W	1,051	79	W	284	17	W	W	100	6.2
1,000 and Over	W	1,249	168	34	365	9	W	W	78	5.7
Total	8,936	5,502	393	248	1,551	95	W	W	297	5.3

See footnotes at end of table.

Table A28. Total Expenditures for Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Dollars)

Economic Characteristics ^a	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
Midwest Census Region										
RSE Column Factors:	0.5	0.5	1.7	1.7	0.6	1.4	1.0	1.4	1.1	
Value of Shipments and Receipts (million dollars)										
Under 20	W	2,002	Q	W	715	30	38	20	W	11.6
20-49	2,381	1,511	7	W	634	20	W	W	69	9.8
50-99	W	1,215	5	13	W	10	W	24	100	7.5
100-249	2,258	1,313	13	11	533	62	W	W	W	5.1
250-499	1,883	1,032	W	8	W	W	W	W	71	4.9
500 and Over	4,121	2,062	W	31	W	4	623	406	98	4.7
Total	15,598	9,135	W	152	3,657	W	1,161	597	474	4.1
Employment Size										
Under 50	1,240	785	Q	49	359	W	6	W	23	18.3
50-99	W	848	Q	19	329	13	35	W	W	15.7
100-249	2,941	1,826	8	23	754	23	W	23	W	8.6
250-499	2,566	1,473	8	12	W	W	W	33	86	6.2
500-999	W	1,294	7	10	506	W	118	W	66	5.8
1,000 and Over	5,389	2,909	W	39	W	W	660	W	151	4.2
Total	15,598	9,135	W	152	3,657	W	1,161	597	474	4.1
South Census Region										
RSE Column Factors:	0.5	0.5	1.8	1.4	0.8	1.1	0.9	1.7	1.1	
Value of Shipments and Receipts (million dollars)										
Under 20	3,259	2,313	W	W	W	W	47	W	106	11.3
20-49	3,472	2,251	99	W	710	40	W	25	129	9.5
50-99	3,155	1,746	61	26	673	W	147	23	W	7.8
100-249	5,180	2,416	97	25	1,251	W	W	20	W	4.9
250-499	4,768	1,740	89	27	1,239	W	W	W	344	4.7
500 and Over	8,540	1,744	45	35	W	3,271	246	W	890	4.3
Total	28,373	12,210	W	276	6,564	W	1,166	315	2,030	3.9
Employment Size										
Under 50	1,290	858	Q	W	272	W	Q	1	46	13.7
50-99	1,867	905	98	W	437	W	20	W	190	13.6
100-249	4,873	2,466	61	54	1,165	W	W	W	190	8.3
250-499	5,797	2,648	71	47	1,257	W	W	28	634	5.3
500-999	6,110	2,682	68	35	1,344	W	W	25	336	4.4
1,000 and Over	8,436	2,651	112	45	2,088	2,168	505	232	634	4.4
Total	28,373	12,210	W	276	6,564	W	1,166	315	2,030	3.9

See footnotes at end of table.

Table A28. Total Expenditures for Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Dollars)

Economic Characteristics ^a	Total	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	Coke and Breeze	Other ^d	RSE Row Factors
	West Census Region									
RSE Column Factors:	0.5	0.6	1.3	1.4	0.7	1.4	1.6	1.2	1.0	
Value of Shipments and Receipts (million dollars)										
Under 20	W	1,198	9	54	W	18	12	2	W	12.6
20-49	1,311	818	14	W	W	12	W	16	95	11.5
50-99	W	688	21	16	310	7	26	5	W	8.9
100-249	1,857	1,104	12	12	404	7	W	W	244	7.3
250-499	979	620	W	W	204	1	W	W	75	4.8
500 and Over	1,187	822	W	W	292	2	W	0	46	6.3
Total	8,151	5,251	60	124	1,785	48	W	W	592	5.7
Employment Size										
Under 50	W	571	Q	W	W	7	W	W	31	12.4
50-99	772	499	7	22	163	8	22	2	48	16.0
100-249	1,871	1,091	15	32	513	W	62	W	121	10.6
250-499	1,374	873	25	20	W	8	W	W	100	7.7
500-999	1,762	1,018	8	W	473	4	W	W	204	6.6
1,000 and Over	W	1,199	4	9	192	W	W	*	88	5.8
Total	8,151	5,251	60	124	1,785	48	W	W	592	5.7

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" energy sources include such combustible energy sources as wood waste, hydrogen, or waste oils and tars.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • To minimize respondent burden, quantities of petroleum based products (e.g., residual and distillate fuel oil and LPG) purchased, and associated expenditures, were not collected from the Refinery Industry, SIC 2911. These products are produced by petroleum refineries rather than purchased by them.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A29. Average Prices of Selected Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991: Part 1
(Estimates in Dollars per Physical Unit)

Economic Characteristics ^a	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^b (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
Total United States							
RSE Column Factors:	0.7	1.2	1.1	0.8	1.2	1.0	
Value of Shipments and Receipts (million dollars)							
Under 20	0.066	0.404	0.813	3.422	0.705	37.024	3.4
20-49	0.053	0.363	0.757	2.773	0.635	39.852	3.3
50-99	0.048	0.416	0.768	2.626	0.426	41.897	2.3
100-249	0.039	0.381	0.784	2.257	0.470	39.363	1.5
250-499	0.035	0.368	0.752	2.035	0.508	41.518	1.9
500 and Over	0.041	0.373	0.730	2.024	0.366	46.248	1.8
Total	0.046	0.380	0.780	2.373	0.413	42.305	1.6
Employment Size							
Under 50	0.067	0.348	0.827	3.117	0.688	41.000	4.8
50-99	0.059	0.344	0.797	2.724	0.359	36.523	3.4
100-249	0.051	0.409	0.788	2.444	0.687	36.870	2.7
250-499	0.046	0.401	0.722	2.418	0.465	41.419	2.6
500-999	0.039	0.389	0.752	2.348	0.418	40.125	1.7
1,000 and Over	0.040	0.375	0.754	2.107	0.343	46.036	1.4
Total	0.046	0.380	0.780	2.373	0.413	42.305	1.6
Northeast Census Region							
RSE Column Factors:	0.8	0.7	1.4	0.8	1.4	1.1	
Value of Shipments and Receipts (million dollars)							
Under 20	0.081	0.479	0.781	4.318	0.652	34.835	3.9
20-49	0.071	0.448	0.651	3.731	0.591	45.177	4.7
50-99	0.068	0.446	0.738	3.493	0.586	41.890	2.6
100-249	0.053	0.416	0.775	3.198	0.527	41.970	1.7
250-499	0.046	0.409	0.813	3.179	0.534	62.373	1.8
500 and Over	0.057	0.472	0.765	2.836	0.706	49.040	2.0
Total	0.064	0.434	0.752	3.488	0.597	45.399	2.5
Employment Size							
Under 50	0.084	0.455	0.820	4.477	0.678	W	5.3
50-99	0.079	0.473	0.732	3.989	0.705	35.449	4.3
100-249	0.072	0.456	0.749	3.794	0.559	39.020	4.3
250-499	0.066	0.448	0.600	3.462	0.560	48.043	3.2
500-999	0.049	0.421	0.753	3.318	0.551	42.671	2.0
1,000 and Over	0.058	0.423	0.775	2.976	0.568	49.335	2.0
Total	0.064	0.434	0.752	3.488	0.597	45.399	2.5

See footnotes at end of table.

Table A29. Average Prices of Selected Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991: Part 1 (Continued)
(Estimates in Dollars per Physical Unit)

Economic Characteristics ^a	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^p (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
Midwest Census Region							
RSE Column Factors:	0.8	1.2	1.2	0.8	1.3	0.9	
Value of Shipments and Receipts (million dollars)							
Under 20	0.064	0.496	0.808	3.233	0.752	37.029	3.9
20-49	0.053	0.319	0.813	2.680	0.583	35.539	3.5
50-99	0.047	0.399	0.809	2.497	0.680	38.557	3.2
100-249	0.044	0.371	0.801	2.659	0.311	37.179	2.5
250-499	0.039	0.312	0.746	2.309	W	34.955	2.0
500 and Over	0.036	0.336	0.770	2.323	0.612	46.560	2.2
Total	0.046	0.344	0.797	2.598	0.273	41.350	2.3
Employment Size							
Under 50	0.065	0.514	0.783	3.002	0.782	37.042	6.1
50-99	0.058	0.319	0.834	2.831	0.713	36.212	4.4
100-249	0.053	0.353	0.832	2.675	0.619	32.418	3.6
250-499	0.048	0.395	0.857	2.537	W	37.811	2.4
500-999	0.044	0.355	0.735	2.565	W	36.165	2.4
1,000 and Over	0.038	0.336	0.777	2.425	0.572	47.601	2.0
Total	0.046	0.344	0.797	2.598	0.273	41.350	2.3
South Census Region							
RSE Column Factors:	0.7	1.4	1.2	0.9	1.1	0.8	
Value of Shipments and Receipts (million dollars)							
Under 20	0.057	0.351	0.828	3.165	0.696	40.353	3.8
20-49	0.046	0.325	0.772	2.491	0.668	40.737	3.2
50-99	0.043	0.384	0.759	2.401	W	48.399	2.7
100-249	0.037	0.350	0.765	2.045	0.488	39.848	2.0
250-499	0.033	0.328	0.718	1.837	0.682	41.303	1.8
500 and Over	0.037	0.340	0.677	1.781	0.366	42.518	1.6
Total	0.041	0.343	0.770	2.041	0.423	41.848	1.5
Employment Size							
Under 50	0.054	0.318	0.881	2.543	0.637	39.350	5.4
50-99	0.051	0.323	0.761	2.296	0.324	42.045	3.9
100-249	0.044	0.371	0.787	2.145	0.694	40.428	2.8
250-499	0.042	0.355	0.722	2.143	0.523	45.524	2.4
500-999	0.038	0.355	0.751	2.023	0.454	41.048	2.0
1,000 and Over	0.036	0.339	0.717	1.856	0.341	41.522	1.8
Total	0.041	0.343	0.770	2.041	0.423	41.848	1.5

See footnotes at end of table.

Table A29. Average Prices of Selected Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991: Part 1 (Continued)
(Estimates in Dollars per Physical Unit)

Economic Characteristics ^a	Electricity (kWh)	Residual Fuel Oil (gallon)	Distillate Fuel Oil ^b (gallon)	Natural Gas ^c (1000 cu ft)	LPG (gallon)	Coal (short ton)	RSE Row Factors
	West Census Region						
RSE Column Factors:	0.8	0.9	1.1	1.0	1.1	1.1	
Value of Shipments and Receipts (million dollars)							
Under 20	0.073	0.437	0.881	3.550	0.790	40.892	4.0
20-49	0.057	0.477	0.873	3.177	0.695	38.526	4.2
50-99	0.046	0.439	0.793	2.895	0.642	31.367	3.3
100-249	0.032	0.456	0.828	2.091	0.588	35.032	2.8
250-499	0.030	0.347	0.803	2.372	0.690	W	1.9
500 and Over	0.055	W	0.740	3.351	0.676	W	2.2
Total	0.045	0.447	0.847	2.772	0.700	39.987	2.7
Employment Size							
Under 50	0.078	0.813	0.834	3.743	0.745	W	7.6
50-99	0.061	0.414	0.944	3.075	0.787	33.279	5.5
100-249	0.052	0.478	0.848	2.429	0.705	36.658	3.9
250-499	0.042	0.438	0.856	2.813	0.614	36.780	3.4
500-999	0.031	0.454	0.768	2.903	0.658	W	2.1
1,000 and Over	0.045	0.422	0.779	2.661	0.698	W	2.6
Total	0.045	0.447	0.847	2.772	0.700	39.987	2.7

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A29. Average Prices of Selected Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991: Part 2
(Estimates in Dollars per Million Btu)

Economic Characteristics ^a	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
Total United States							
RSE Column Factors:	0.8	1.2	1.2	0.9	1.3	0.8	
Value of Shipments and Receipts (million dollars)							
Under 20	19.202	2.701	5.863	3.322	8.021	1.646	3.4
20-49	15.472	2.422	5.457	2.693	7.126	1.735	3.1
50-99	13.944	2.780	5.537	2.550	4.683	1.772	2.3
100-249	11.408	2.543	5.653	2.191	5.469	1.676	1.5
250-499	10.298	2.456	5.419	1.976	6.236	1.803	1.7
500 and Over	11.923	2.489	5.261	1.965	4.360	1.851	1.6
Total	13.486	2.540	5.625	2.304	4.909	1.775	1.4
Employment Size							
Under 50	19.490	2.322	5.964	3.026	7.525	1.744	4.5
50-99	17.355	2.295	5.746	2.645	4.322	1.628	3.4
100-249	14.935	2.729	5.685	2.373	7.952	1.622	2.6
250-499	13.590	2.679	5.205	2.348	5.346	1.775	2.6
500-999	11.521	2.601	5.424	2.280	4.988	1.694	1.7
1,000 and Over	11.802	2.503	5.439	2.046	4.125	1.873	1.4
Total	13.486	2.540	5.625	2.304	4.909	1.775	1.4
Northeast Census Region							
RSE Column Factors:	0.8	0.7	1.4	0.8	1.4	1.0	
Value of Shipments and Receipts (million dollars)							
Under 20	23.652	3.203	5.630	4.193	7.415	1.556	3.9
20-49	20.845	2.995	4.697	3.622	6.829	1.869	4.4
50-99	19.788	2.982	5.319	3.391	6.740	1.868	2.6
100-249	15.483	2.781	5.586	3.105	5.707	1.674	1.7
250-499	13.557	2.732	5.861	3.087	6.123	2.767	2.0
500 and Over	16.582	3.154	5.519	2.754	8.074	1.879	2.1
Total	18.648	2.897	5.426	3.386	6.745	1.822	2.4
Employment Size							
Under 50	24.605	3.042	5.914	4.347	7.588	W	5.4
50-99	23.248	3.157	5.278	3.873	8.145	1.591	4.3
100-249	21.118	3.045	5.401	3.683	6.183	1.684	3.9
250-499	19.424	2.995	4.326	3.361	6.366	2.131	3.2
500-999	14.506	2.814	5.432	3.221	6.333	1.676	2.0
1,000 and Over	16.942	2.825	5.590	2.890	6.507	1.918	2.0
Total	18.648	2.897	5.426	3.386	6.745	1.822	2.4

See footnotes at end of table.

Table A29. Average Prices of Selected Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991: Part 2 (Continued)
(Estimates in Dollars per Million Btu)

Economic Characteristics ^a	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
Midwest Census Region							
RSE Column Factors:	0.8	1.2	1.3	0.8	1.2	0.9	
Value of Shipments and Receipts (million dollars)							
Under 20	18.624	3.315	5.823	3.139	8.611	1.661	3.9
20-49	15.615	2.132	5.860	2.602	6.647	1.585	3.5
50-99	13.738	2.665	5.836	2.425	7.811	1.673	3.2
100-249	13.010	2.480	5.778	2.581	3.928	1.668	2.5
250-499	11.451	2.086	5.377	2.242	W	1.565	2.0
500 and Over	10.670	2.243	5.550	2.255	7.047	1.840	2.0
Total	13.493	2.300	5.744	2.523	3.446	1.735	2.1
Employment Size							
Under 50	19.095	3.437	5.645	2.915	8.849	1.661	6.1
50-99	17.142	2.132	6.015	2.748	8.227	1.611	4.4
100-249	15.399	2.357	5.996	2.597	7.062	1.449	3.6
250-499	14.109	2.640	6.176	2.463	W	1.657	2.4
500-999	12.882	2.370	5.300	2.490	W	1.623	2.4
1,000 and Over	11.061	2.243	5.605	2.355	6.583	1.889	1.8
Total	13.493	2.300	5.744	2.523	3.446	1.735	2.1
South Census Region							
RSE Column Factors:	0.7	1.4	1.2	0.9	1.2	0.8	
Value of Shipments and Receipts (million dollars)							
Under 20	16.659	2.343	5.967	3.073	7.938	1.811	3.8
20-49	13.441	2.173	5.570	2.418	7.319	1.768	3.2
50-99	12.664	2.567	5.476	2.331	W	1.943	2.7
100-249	10.828	2.335	5.514	1.985	5.635	1.693	2.0
250-499	9.625	2.192	5.180	1.784	8.194	1.813	1.9
500 and Over	10.786	2.273	4.880	1.729	4.356	1.852	1.6
Total	12.092	2.289	5.550	1.981	4.998	1.800	1.5
Employment Size							
Under 50	15.831	2.128	6.354	2.469	6.746	1.766	5.4
50-99	15.024	2.157	5.488	2.229	3.916	1.887	3.9
100-249	12.901	2.476	5.678	2.082	8.059	1.763	2.8
250-499	12.430	2.368	5.205	2.081	5.859	1.883	2.4
500-999	11.121	2.374	5.415	1.964	5.348	1.736	2.0
1,000 and Over	10.604	2.263	5.168	1.802	4.109	1.814	1.6
Total	12.092	2.289	5.550	1.981	4.998	1.800	1.5

See footnotes at end of table.

Table A29. Average Prices of Selected Purchased Energy Sources by Census Region and Economic Characteristics of the Establishment, 1991: Part 2 (Continued)
(Estimates in Dollars per Million Btu)

Economic Characteristics ^a	Electricity	Residual Fuel Oil	Distillate Fuel Oil ^b	Natural Gas ^c	LPG	Coal	RSE Row Factors
	West Census Region						
RSE Column Factors:	0.8	0.9	1.1	1.0	1.1	1.0	
Value of Shipments and Receipts (million dollars)							
Under 20	21.487	2.921	6.351	3.447	8.868	1.649	4.1
20-49	16.597	3.188	6.297	3.084	7.838	1.727	4.2
50-99	13.389	2.932	5.716	2.811	7.289	1.408	3.3
100-249	9.242	3.048	5.971	2.030	6.656	1.572	2.8
250-499	8.671	2.316	5.788	2.303	7.858	W	1.9
500 and Over	16.180	W	5.333	3.253	7.847	W	2.2
Total	13.185	2.989	6.105	2.691	7.909	1.708	2.7
Employment Size							
Under 50	22.897	5.431	6.016	3.634	8.165	W	7.7
50-99	17.742	2.765	6.803	2.985	9.020	1.480	5.5
100-249	15.115	3.191	6.114	2.358	7.916	1.645	3.7
250-499	12.363	2.923	6.170	2.731	6.950	1.650	3.4
500-999	9.202	3.033	5.535	2.819	7.560	W	2.1
1,000 and Over	13.062	2.816	5.618	2.583	8.062	W	2.4
Total	13.185	2.989	6.105	2.691	7.909	1.708	2.7

^a Value of Shipments and Receipts and Employment Size were supplied by the Bureau of the Census. See Appendix B.

^b "Distillate Fuel Oil" includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A30. Total Primary Consumption of Energy for All Purposes by Value of Shipment Categories, Industry Group, and Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Value of Shipments and Receipts ^b (million dollars)						RSE Row Factors	
		Total	Under 20	20-49	50-99	100-249	250-499		500 and Over
RSE Column Factors:		0.6	1.6	1.3	1.0	0.8	1.0	1.1	
20	Food and Kindred Products	956	109	142	174	229	161	142	6.2
2011	Meat Packing Plants	49	2	3	3	6	13	23	7.8
2033	Canned Fruits and Vegetables	44	9	10	8	12	W	W	11.8
2037	Frozen Fruits and Vegetables	40	5	4	14	15	1	0	15.2
2046	Wet Corn Milling	140	*	W	W	23	64	W	12.4
2051	Bread, Cake and Related Products	32	10	13	6	3	*	*	10.5
2063	Beet Sugar	67	0	14	35	18	0	0	6.8
2075	Soybean Oil Mills	51	*	*	W	20	17	W	5.2
2082	Malt Beverages	50	*	*	2	5	7	36	11.6
21	Tobacco Manufactures	24	*	2	1	W	W	13	8.8
22	Textile Mill Products	274	54	81	63	W	22	W	7.2
23	Apparel and Other Textile Products	44	23	8	7	4	1	2	17.3
24	Lumber and Wood Products	451	161	206	60	23	0	1	17.0
25	Furniture and Fixtures	68	31	20	10	4	*	3	20.7
26	Paper and Allied Products	2,506	69	107	234	917	1,060	119	4.2
2611	Pulp Mills	300	0	3	41	159	97	0	18.3
2621	Paper Mills	1,211	13	16	85	388	613	95	5.1
2631	Paperboard Mills	859	W	33	83	358	340	W	7.0
27	Printing and Publishing	108	41	24	17	20	4	2	11.6
28	Chemicals and Allied Products	5,051	159	354	382	984	1,126	2,046	6.2
2812	Alkalies and Chlorine	160	W	8	22	W	0	W	15.7
2813	Industrial Gases	W	36	19	62	W	0	0	7.9
2819	Industrial Inorganic Chemicals, nec	325	W	37	33	52	113	W	8.3
2821	Plastics Materials and Resins	633	8	11	25	138	283	168	6.6
2822	Synthetic Rubber	119	*	1	11	10	97	0	15.0
2823	Cellulosic Manmade Fibers	31	*	0	4	10	12	6	32.1
2824	Organic Fibers, Noncellulosic	W	Q	1	2	W	35	W	3.7
2865	Cyclic Crudes and Intermediates	236	3	W	24	26	73	W	11.9
2869	Industrial Organic Chemicals, nec	2,289	32	41	28	291	359	1,538	7.0
2873	Nitrogenous Fertilizers	568	2	125	112	240	89	0	25.1
2874	Phosphatic Fertilizers	65	1	*	W	19	37	W	5.8
29	Petroleum and Coal Products	5,967	104	60	80	77	220	2,557	5.6
2911	Petroleum Refining ^c	5,762	13	17	10	76	220	2,557	3.8
30	Rubber and Misc. Plastics Products	238	84	55	35	36	W	W	5.7
3011	Tires and Inner Tubes	W	*	3	W	10	19	W	3.7
308	Miscellaneous Plastics Products, nec	151	63	40	25	21	2	0	10.4
31	Leather and Leather Products	12	5	4	2	2	0	0	22.1
32	Stone, Clay and Glass Products	880	247	358	201	68	W	W	7.8
3211	Flat Glass	49	*	8	24	16	0	0	3.1
3221	Glass Containers	85	*	W	53	W	0	0	6.4
3229	Pressed and Blown Glass, nec	W	3	13	W	29	0	0	6.6
3241	Cement, Hydraulic	312	25	230	57	0	0	0	10.1
3274	Lime	117	83	W	W	0	0	0	28.7
3296	Mineral Wool	41	3	10	19	W	W	0	1.4
33	Primary Metal Industries	2,467	99	143	182	474	358	1,210	4.8
3312	Blast Furnaces and Steel Mills	1,673	6	49	93	226	179	1,122	7.6
3313	Electrometallurgical Products	41	*	10	W	W	0	0	9.8
3321	Gray and Ductile Iron Foundries	W	W	15	17	14	W	0	8.4
3331	Primary Copper	21	W	0	*	W	12	W	1.0
3334	Primary Aluminum	297	*	*	0	134	W	W	3.3
3339	Primary Nonferrous Metals, nec	52	W	6	13	28	0	W	2.0
3353	Aluminum Sheet, Plate, and Foil	61	Q	1	3	12	13	32	1.2
34	Fabricated Metal Products	307	117	81	46	39	19	5	7.9
35	Industrial Machinery and Equipment	237	71	31	42	39	16	39	7.7
357	Computer and Office Equipment	21	2	2	2	4	2	10	11.5
36	Electronic and Other Electric Equipment	212	29	33	46	48	21	35	7.8

See footnotes at end of table.

Table A30. Total Primary Consumption of Energy for All Purposes by Value of Shipment Categories, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Value of Shipments and Receipts ^b (million dollars)					RSE Row Factors	
			Under 20	20-49	50-99	100-249	250-499		500 and Over
RSE Column Factors:		0.6	1.6	1.3	1.0	0.8	1.0	1.1	
37	Transportation Equipment	323	18	21	21	26	32	205	5.3
3711	Motor Vehicles and Car Bodies	88	*	*	*	*	2	86	5.0
3714	Motor Vehicle Parts and Accessories	100	7	9	13	13	18	40	6.0
38	Instruments and Related Products	98	9	9	10	19	10	41	12.3
3841	Surgical and Medical Instruments	6	1	1	2	2	*	*	13.3
39	Misc. Manufacturing Industries	32	12	8	5	4	3	0	13.1
	Total	20,257	1,443	1,747	1,619	3,071	3,081	6,429	3.0

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b Value of Shipments and Receipts were supplied by the Bureau of the Census.

^c For the petroleum refining industry only, the feedstocks and raw material inputs for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents) and feedstock consumption at adjoining petrochemical plants are included in the "Total" column, regardless of type of energy. The remaining columns for the petroleum refining industry include only energy that was consumed for the production of heat and power. See Appendix B for more information.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of energy for heat and power and as feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials such as wastepaper and packing materials. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991, and the Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A31. Total Inputs of Energy for Heat, Power, and Electricity Generation by Value of Shipment Categories, Industry Group, and Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Value of Shipments and Receipts ^b (million dollars)						RSE Row Factors	
		Total	Under 20	20-49	50-99	100-249	250-499		500 and Over
RSE Column Factors:		0.6	1.6	1.2	0.9	0.8	1.0	1.1	
20	Food and Kindred Products	953	109	142	173	228	160	141	6.2
2011	Meat Packing Plants	49	2	3	3	6	13	23	7.9
2033	Canned Fruits and Vegetables	44	9	10	8	12	W	W	11.8
2037	Frozen Fruits and Vegetables	40	5	4	14	15	1	0	15.3
2046	Wet Corn Milling	140	*	W	W	23	64	W	12.4
2051	Bread, Cake and Related Products	32	10	13	6	3	*	*	10.5
2063	Beet Sugar	67	0	14	35	18	0	0	6.9
2075	Soybean Oil Mills	50	*	*	W	20	17	W	5.2
2082	Malt Beverages	50	*	*	2	5	7	36	11.7
21	Tobacco Manufactures	24	*	2	1	W	W	13	8.8
22	Textile Mill Products	273	54	81	62	W	22	W	7.2
23	Apparel and Other Textile Products	44	23	8	7	4	1	2	17.3
24	Lumber and Wood Products	423	157	183	60	23	0	1	17.0
25	Furniture and Fixtures	67	30	20	10	4	*	3	20.8
26	Paper and Allied Products	2,472	67	104	227	900	1,056	118	4.3
2611	Pulp Mills	300	0	3	41	159	97	0	18.4
2621	Paper Mills	1,204	13	16	82	388	609	95	5.1
2631	Paperboard Mills	832	W	31	79	341	340	W	7.2
27	Printing and Publishing	108	41	24	17	20	4	2	11.6
28	Chemicals and Allied Products	3,040	127	240	255	616	685	1,117	5.5
2812	Alkalies and Chlorine	160	W	8	23	W	0	W	15.7
2813	Industrial Gases	91	34	18	17	21	0	0	6.5
2819	Industrial Inorganic Chemicals, nec	311	W	35	28	50	110	W	8.0
2821	Plastics Materials and Resins	288	7	11	18	59	115	77	6.4
2822	Synthetic Rubber	112	*	1	10	10	91	0	14.8
2823	Cellulosic Manmade Fibers	31	*	0	4	10	12	6	32.0
2824	Organic Fibers, Noncellulosic	98	Q	1	2	W	32	W	3.4
2865	Cyclic Crudes and Intermediates	159	3	W	17	23	56	W	11.6
2869	Industrial Organic Chemicals, nec	1,191	25	38	27	163	181	756	7.0
2873	Nitrogenous Fertilizers	280	1	68	63	111	38	0	24.6
2874	Phosphatic Fertilizers	34	1	*	Q	8	21	W	4.5
29	Petroleum and Coal Products	2,987	61	30	42	77	220	2,557	4.0
2911	Petroleum Refining	2,893	13	17	10	76	220	2,557	3.8
30	Rubber and Misc. Plastics Products	237	83	54	35	36	W	W	5.8
3011	Tires and Inner Tubes	42	*	3	W	10	18	W	3.8
308	Miscellaneous Plastics Products, nec	152	63	40	25	22	2	0	10.7
31	Leather and Leather Products	12	5	4	2	2	0	0	22.2
32	Stone, Clay and Glass Products	894	245	373	201	68	W	W	7.8
3211	Flat Glass	49	*	8	24	16	0	0	3.1
3221	Glass Containers	85	*	W	53	W	0	0	6.4
3229	Pressed and Blown Glass, nec	W	3	13	W	29	0	0	6.7
3241	Cement, Hydraulic	329	25	245	58	0	0	0	10.1
3274	Lime	117	82	W	W	0	0	0	29.1
3296	Mineral Wool	41	3	10	19	W	W	0	1.4
33	Primary Metal Industries	2,292	94	114	134	355	355	1,240	4.3
3312	Blast Furnaces and Steel Mills	1,569	2	25	51	139	197	1,154	6.9
3313	Electrometallurgical Products	31	*	7	W	W	0	0	9.9
3321	Gray and Ductile Iron Foundries	74	W	15	17	13	W	0	8.5
3331	Primary Copper	22	W	0	*	W	12	W	1.0
3334	Primary Aluminum	252	*	*	0	112	W	W	3.4
3339	Primary Nonferrous Metals, nec	42	W	5	13	20	0	W	2.4
3353	Aluminum Sheet, Plate, and Foil	60	Q	1	3	12	13	32	1.2
34	Fabricated Metal Products	305	116	80	46	39	19	5	7.9
35	Industrial Machinery and Equipment	235	70	30	42	38	16	38	7.7
357	Computer and Office Equipment	21	2	2	2	4	2	10	11.5
36	Electronic and Other Electric Equipment	196	28	33	35	45	21	35	7.3

See footnotes at end of table.

Table A31. Total Inputs of Energy for Heat, Power, and Electricity Generation by Value of Shipment Categories, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Value of Shipments and Receipts ^b (million dollars)					RSE Row Factors	
			Under 20	20-49	50-99	100-249	250-499		500 and Over
RSE Column Factors:		0.6	1.6	1.2	0.9	0.8	1.0	1.1	
37	Transportation Equipment	333	18	21	21	26	31	216	5.3
3711	Motor Vehicles and Car Bodies	105	*	*	*	*	2	102	5.6
3714	Motor Vehicle Parts and Accessories	99	7	9	13	13	18	39	6.0
38	Instruments and Related Products	98	9	9	10	19	10	41	12.3
3841	Surgical and Medical Instruments	6	1	1	2	2	*	*	13.3
39	Misc. Manufacturing Industries	31	12	7	5	4	3	0	12.7
	Total	15,027	1,349	1,560	1,386	2,561	2,632	5,538	2.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b Value of Shipments and Receipts were supplied by the Bureau of the Census.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A32. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Value of Shipment Categories, Industry Group, and Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Value of Shipments and Receipts ^b (million dollars)						RSE Row Factors	
		Total	Under 20	20-49	50-99	100-249	250-499		500 and Over
	RSE Column Factors:	0.6	1.6	1.2	0.9	0.8	1.0	1.1	
20	Food and Kindred Products	922	109	135	174	203	161	141	5.2
2011	Meat Packing Plants	48	2	3	3	6	13	22	7.9
2033	Canned Fruits and Vegetables	44	9	10	8	12	W	W	11.7
2037	Frozen Fruits and Vegetables	40	5	4	14	15	1	0	15.3
2046	Wet Corn Milling	141	*	W	W	23	65	W	9.5
2051	Bread, Cake and Related Products	32	10	13	6	3	*	*	9.0
2063	Beet Sugar	67	0	14	35	18	0	0	6.9
2075	Soybean Oil Mills	50	*	*	W	20	17	W	5.9
2082	Malt Beverages	50	*	*	2	5	7	36	11.7
21	Tobacco Manufactures	26	*	2	1	W	W	15	8.8
22	Textile Mill Products	272	54	81	61	W	22	W	7.2
23	Apparel and Other Textile Products	44	23	8	7	4	1	2	17.3
24	Lumber and Wood Products	197	74	87	22	14	0	1	16.7
25	Furniture and Fixtures	46	16	15	8	3	*	3	16.8
26	Paper and Allied Products	1,540	63	104	187	555	566	65	4.4
2611	Pulp Mills	103	0	3	13	54	33	0	18.1
2621	Paper Mills	774	12	16	74	282	346	43	5.1
2631	Paperboard Mills	527	W	31	75	207	177	W	7.5
27	Printing and Publishing	108	41	24	17	20	4	2	11.6
28	Chemicals and Allied Products	2,674	119	233	242	594	625	861	5.5
2812	Alkalies and Chlorine	159	W	8	21	W	0	W	16.0
2813	Industrial Gases	86	34	18	13	21	0	0	6.2
2819	Industrial Inorganic Chemicals, nec	303	W	30	28	45	113	W	7.8
2821	Plastics Materials and Resins	262	7	11	15	56	108	65	6.3
2822	Synthetic Rubber	68	*	1	10	10	47	0	13.1
2823	Cellulosic Manmade Fibers	31	*	0	4	10	12	6	32.0
2824	Organic Fibers, Noncellulosic	97	Q	1	2	W	32	W	3.4
2865	Cyclic Crudes and Intermediates	136	3	W	17	22	54	W	11.1
2869	Industrial Organic Chemicals, nec	935	17	39	27	148	171	532	7.2
2873	Nitrogenous Fertilizers	278	1	68	63	109	38	0	24.5
2874	Phosphatic Fertilizers	36	1	*	Q	9	21	W	4.6
29	Petroleum and Coal Products	1,138	53	22	18	42	60	943	4.5
2911	Petroleum Refining	1,065	5	9	7	41	60	943	4.4
30	Rubber and Misc. Plastics Products	235	83	54	35	34	W	W	5.7
3011	Tires and Inner Tubes	42	*	3	W	10	18	W	3.8
308	Miscellaneous Plastics Products, nec	150	63	40	25	21	2	0	10.5
31	Leather and Leather Products	12	5	4	2	2	0	0	22.1
32	Stone, Clay and Glass Products	877	245	358	200	68	W	W	7.8
3211	Flat Glass	49	*	8	24	16	0	0	3.1
3221	Glass Containers	85	*	W	53	W	0	0	6.4
3229	Pressed and Blown Glass, nec	W	3	13	W	29	0	0	6.6
3241	Cement, Hydraulic	312	25	230	57	0	0	0	10.1
3274	Lime	117	82	W	W	0	0	0	29.1
3296	Mineral Wool	40	3	10	19	W	W	0	1.4
33	Primary Metal Industries	1,563	94	102	106	329	286	647	4.2
3312	Blast Furnaces and Steel Mills	842	2	12	25	115	128	560	6.7
3313	Electrometallurgical Products	30	*	7	W	W	0	0	9.8
3321	Gray and Ductile Iron Foundries	74	W	15	17	13	W	0	8.5
3331	Primary Copper	21	W	0	*	W	12	W	1.0
3334	Primary Aluminum	254	*	*	0	112	W	W	3.5
3339	Primary Nonferrous Metals, nec	40	W	5	13	18	0	W	2.4
3353	Aluminum Sheet, Plate, and Foil	60	Q	1	3	12	13	32	1.2
34	Fabricated Metal Products	305	116	80	46	39	19	4	7.9
35	Industrial Machinery and Equipment	236	71	30	42	39	16	38	7.7
357	Computer and Office Equipment	21	2	2	2	4	2	10	11.5
36	Electronic and Other Electric Equipment	196	29	33	35	45	21	35	7.3

See footnotes at end of table.

Table A32. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Value of Shipment Categories, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Value of Shipments and Receipts ^b (million dollars)					RSE Row Factors	
			Under 20	20-49	50-99	100-249	250-499		500 and Over
RSE Column Factors:		0.6	1.6	1.2	0.9	0.8	1.0	1.1	
37	Transportation Equipment	318	18	21	21	26	31	201	5.3
3711	Motor Vehicles and Car Bodies	90	*	*	*	*	2	88	5.0
3714	Motor Vehicle Parts and Accessories	99	7	9	13	13	18	38	6.0
38	Instruments and Related Products	97	9	9	10	19	10	41	12.3
3841	Surgical and Medical Instruments	6	1	1	2	2	*	*	13.3
39	Misc. Manufacturing Industries	31	12	6	5	4	3	0	11.7
	Total	10,837	1,232	1,409	1,238	2,098	1,854	3,006	2.6

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b Value of Shipments and Receipts were supplied by the Bureau of the Census.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table represent the consumption of energy originally produced offsite, acquired as a result of a purchase or transfer and consumed onsite for the production of heat and power. This definition is consistent with the definition of "purchased" fuels and electric energy used by the Bureau of the Census in the preparation of "Fuels and Electric Energy Consumed," of the *Annual Survey of Manufactures*, 1974 through 1981. See Appendix B.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A33. Total Primary Consumption of Energy for All Purposes by Employment Size Categories, Industry Group, and Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Employment Size ^b					RSE Row Factors	
			Under 20	20-49	50-99	100-249	250-499		500 and Over
RSE Column Factors:		0.6	2.0	1.6	1.1	0.8	0.8	0.8	
20	Food and Kindred Products	956	68	99	246	262	152	128	6.3
2011	Meat Packing Plants	49	1	2	5	5	8	29	8.8
2033	Canned Fruits and Vegetables	44	3	4	12	12	9	5	13.3
2037	Frozen Fruits and Vegetables	40	1	3	6	10	13	8	16.6
2046	Wet Corn Milling	140	*	W	48	57	20	W	14.1
2051	Bread, Cake and Related Products	32	2	4	9	11	5	2	9.9
2063	Beet Sugar	67	0	W	34	W	0	0	6.8
2075	Soybean Oil Mills	51	8	18	10	16	0	0	2.8
2082	Malt Beverages	50	*	*	W	W	14	31	11.8
21	Tobacco Manufactures	24	*	*	2	2	7	13	10.0
22	Textile Mill Products	274	4	11	52	82	83	42	7.4
23	Apparel and Other Textile Products	44	4	6	9	12	8	7	16.0
24	Lumber and Wood Products	451	31	84	202	103	28	2	16.6
25	Furniture and Fixtures	68	Q	Q	8	17	12	10	19.3
26	Paper and Allied Products	2,506	11	56	188	448	882	922	5.0
2611	Pulp Mills	300	*	Q	17	83	147	51	20.2
2621	Paper Mills	1,211	1	12	57	125	328	689	5.1
2631	Paperboard Mills	859	W	W	57	217	386	170	6.1
27	Printing and Publishing	108	20	10	22	22	19	16	11.6
28	Chemicals and Allied Products	5,051	193	320	977	1,001	931	1,630	5.7
2812	Alkalies and Chlorine	160	*	5	56	W	W	W	18.0
2813	Industrial Gases	W	44	30	W	W	0	0	7.9
2819	Industrial Inorganic Chemicals, nec	325	14	20	48	42	79	123	8.7
2821	Plastics Materials and Resins	633	6	27	108	262	149	80	7.0
2822	Synthetic Rubber	119	*	*	5	W	20	W	14.9
2823	Cellulosic Manmade Fibers	31	0	*	0	0	0	31	25.8
2824	Organic Fibers, Noncellulosic	W	*	*	Q	9	5	W	5.6
2865	Cyclic Crudes and Intermediates	236	W	22	42	31	128	W	12.2
2869	Industrial Organic Chemicals, nec	2,289	25	50	267	425	418	1,103	7.6
2873	Nitrogenous Fertilizers	568	69	91	332	50	25	0	26.4
2874	Phosphatic Fertilizers	65	*	1	Q	36	W	W	4.0
29	Petroleum and Coal Products	5,967	97	154	262	671	700	1,215	3.7
2911	Petroleum Refining ^c	5,762	23	37	250	669	698	1,215	3.1
30	Rubber and Misc. Plastics Products	238	25	32	55	44	40	43	7.0
3011	Tires and Inner Tubes	W	*	*	2	W	W	34	4.4
308	Miscellaneous Plastics Products, nec	151	19	27	42	32	27	3	11.1
31	Leather and Leather Products	12	1	Q	5	2	2	1	24.4
32	Stone, Clay and Glass Products	880	47	119	426	142	107	39	6.9
3211	Flat Glass	49	*	*	W	13	28	W	3.9
3221	Glass Containers	85	0	0	6	46	27	6	7.0
3229	Pressed and Blown Glass, nec	W	*	Q	8	W	19	21	7.8
3241	Cement, Hydraulic	312	*	36	250	26	0	0	13.3
3274	Lime	117	Q	21	Q	0	W	0	24.9
3296	Mineral Wool	41	W	2	8	20	7	W	1.5
33	Primary Metal Industries	2,467	37	43	167	225	473	1,521	6.0
3312	Blast Furnaces and Steel Mills	1,673	W	W	56	112	181	1,318	7.8
3313	Electrometallurgical Products	41	0	*	14	W	W	0	10.8
3321	Gray and Ductile Iron Foundries	W	3	3	W	W	13	27	10.3
3331	Primary Copper	21	*	0	W	W	16	0	1.0
3334	Primary Aluminum	297	*	*	*	W	176	W	4.0
3339	Primary Nonferrous Metals, nec	52	*	W	7	9	23	W	2.9
3353	Aluminum Sheet, Plate, and Foil	61	*	Q	4	5	17	33	1.4
34	Fabricated Metal Products	307	42	42	91	57	31	44	7.7
35	Industrial Machinery and Equipment	237	33	16	33	37	45	74	8.8
357	Computer and Office Equipment	21	1	1	2	2	4	13	13.3
36	Electronic and Other Electric Equipment	212	6	9	33	41	47	77	9.9

See footnotes at end of table.

Table A33. Total Primary Consumption of Energy for All Purposes by Employment Size Categories, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Employment Size ^b					RSE Row Factors	
			Under 20	20-49	50-99	100-249	250-499		500 and Over
RSE Column Factors:		0.6	2.0	1.6	1.1	0.8	0.8	0.8	
37	Transportation Equipment	323	3	5	17	25	28	246	7.5
3711	Motor Vehicles and Car Bodies	88	*	*	*	*	2	86	6.0
3714	Motor Vehicle Parts and Accessories	100	2	1	9	13	14	62	8.2
38	Instruments and Related Products	98	2	3	6	11	17	59	15.4
3841	Surgical and Medical Instruments	6	*	*	1	2	2	1	13.9
39	Misc. Manufacturing Industries	32	4	3	8	9	4	4	14.2
	Total	20,257	632	1,027	2,807	3,213	3,615	6,094	3.0

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b Employment Size categories were supplied by the Bureau of the Census.

^c For the petroleum refining industry only, the feedstocks and raw material inputs for the production of nonenergy products (i.e., asphalt, waxes, lubricants, and solvents) and feedstock consumption at adjoining petrochemical plants are included in the "Total" column, regardless of type of energy. The remaining columns for the petroleum refining industry include only energy that was consumed for the production of heat and power. See Appendix B for more information.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table are for the primary consumption of energy for heat and power and as feedstocks or raw material inputs. Primary consumption is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. Examples of the latter are hydrogen produced from the electrolysis of brine; the output of captive (onsite) mines or wells; woodchips, bark, and woodwaste from wood purchased as a raw material input; and waste materials such as wastepaper and packing materials. Primary consumption excludes quantities of energy that are produced from other energy inputs and, therefore, avoids double counting.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991, and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A34. Total Inputs of Energy for Heat, Power, and Electricity Generation by Employment Size Categories, Industry Group, and Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Employment Size ^b					1,000 and Over	RSE Row Factors
			Under 50	50-99	100-249	250-499	500-999		
	RSE Column Factors:	0.6	2.0	1.6	1.1	0.8	0.8	0.8	
20	Food and Kindred Products	953	68	99	245	261	152	128	6.3
2011	Meat Packing Plants	49	1	2	4	5	8	29	9.0
2033	Canned Fruits and Vegetables	44	3	4	12	12	9	5	13.3
2037	Frozen Fruits and Vegetables	40	1	3	6	10	13	8	16.6
2046	Wet Corn Milling	140	*	W	48	57	20	W	14.1
2051	Bread, Cake and Related Products	32	2	4	9	10	5	2	9.9
2063	Beet Sugar	67	0	W	34	W	0	0	6.8
2075	Soybean Oil Mills	50	8	18	9	15	0	0	2.8
2082	Malt Beverages	50	*	*	W	W	14	31	11.7
21	Tobacco Manufactures	24	*	*	2	2	7	13	10.0
22	Textile Mill Products	273	4	11	52	82	82	42	7.4
23	Apparel and Other Textile Products	44	4	6	9	12	8	7	16.0
24	Lumber and Wood Products	423	31	81	180	101	28	2	16.8
25	Furniture and Fixtures	67	Q	Q	8	17	12	10	18.9
26	Paper and Allied Products	2,472	11	52	183	444	862	920	5.1
2611	Pulp Mills	300	*	Q	17	83	147	51	20.1
2621	Paper Mills	1,204	1	12	53	125	325	688	5.2
2631	Paperboard Mills	832	W	W	55	212	369	169	6.1
27	Printing and Publishing	108	20	10	22	22	19	16	11.6
28	Chemicals and Allied Products	3,040	134	182	567	527	609	1,022	5.2
2812	Alkalies and Chlorine	160	*	5	56	W	W	W	17.9
2813	Industrial Gases	91	42	23	W	W	0	0	6.7
2819	Industrial Inorganic Chemicals, nec	311	13	16	45	40	72	123	8.5
2821	Plastics Materials and Resins	288	6	16	38	109	68	49	6.1
2822	Synthetic Rubber	112	*	*	5	W	21	W	14.7
2823	Cellulosic Manmade Fibers	31	0	*	0	0	0	31	25.6
2824	Organic Fibers, Noncellulosic	98	*	*	Q	9	5	82	5.6
2865	Cyclic Crudes and Intermediates	159	W	10	32	30	76	W	11.5
2869	Industrial Organic Chemicals, nec	1,191	21	39	126	199	260	546	7.5
2873	Nitrogenous Fertilizers	280	29	42	176	22	11	0	26.2
2874	Phosphatic Fertilizers	34	*	1	Q	19	W	8	4.1
29	Petroleum and Coal Products	2,987	66	50	285	671	700	1,215	3.2
2911	Petroleum Refining	2,893	23	37	250	669	698	1,215	3.1
30	Rubber and Misc. Plastics Products	237	25	32	54	46	39	41	7.0
3011	Tires and Inner Tubes	42	*	*	2	W	W	33	4.4
308	Miscellaneous Plastics Products, nec	152	19	27	42	34	27	3	11.2
31	Leather and Leather Products	12	1	Q	5	2	2	1	24.2
32	Stone, Clay and Glass Products	894	47	119	439	142	107	39	6.9
3211	Flat Glass	49	*	*	W	12	28	W	3.9
3221	Glass Containers	85	0	0	6	46	27	6	7.0
3229	Pressed and Blown Glass, nec	W	*	Q	8	W	19	21	7.9
3241	Cement, Hydraulic	329	*	36	266	27	0	0	13.3
3274	Lime	117	Q	20	Q	0	W	0	24.3
3296	Mineral Wool	41	W	2	8	20	7	W	1.5
33	Primary Metal Industries	2,292	32	41	137	176	351	1,554	5.1
3312	Blast Furnaces and Steel Mills	1,569	1	1	33	70	92	1,372	5.6
3313	Electrometallurgical Products	31	0	*	9	W	W	0	10.8
3321	Gray and Ductile Iron Foundries	74	3	3	W	W	13	27	10.3
3331	Primary Copper	22	*	0	W	W	16	0	1.1
3334	Primary Aluminum	252	*	*	*	W	148	W	4.0
3339	Primary Nonferrous Metals, nec	42	*	W	6	9	20	W	3.1
3353	Aluminum Sheet, Plate, and Foil	60	*	Q	4	5	17	33	1.4
34	Fabricated Metal Products	305	41	42	91	56	31	44	7.7
35	Industrial Machinery and Equipment	235	32	16	33	37	44	73	8.8
357	Computer and Office Equipment	21	1	1	2	2	4	13	13.3
36	Electronic and Other Electric Equipment	196	6	9	22	40	43	76	9.4

See footnotes at end of table.

Table A34. Total Inputs of Energy for Heat, Power, and Electricity Generation by Employment Size Categories, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Employment Size ^b					RSE Row Factors	
			Under 50	50-99	100-249	250-499	500-999		1,000 and Over
RSE Column Factors:		0.6	2.0	1.6	1.1	0.8	0.8		
37	Transportation Equipment	333	3	5	16	25	27	256	7.4
3711	Motor Vehicles and Car Bodies	105	*	*	*	*	2	102	6.9
3714	Motor Vehicle Parts and Accessories	99	2	1	8	13	14	61	8.2
38	Instruments and Related Products	98	2	3	6	11	17	59	15.4
3841	Surgical and Medical Instruments	6	*	*	1	2	2	1	13.9
39	Misc. Manufacturing Industries	31	4	3	8	9	4	4	13.8
	Total	15,027	537	776	2,363	2,681	3,145	5,524	2.8

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b Employment Size categories were supplied by the Bureau of the Census.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A35. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Employment Size Categories, Industry Group, and Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Employment Size ^b					1,000 and Over	RSE Row Factors
			Under 50	50-99	100-249	250-499	500-999		
	RSE Column Factors:	0.6	2.0	1.6	1.1	0.8	0.8	0.8	
20	Food and Kindred Products	922	68	99	243	234	152	128	5.3
2011	Meat Packing Plants	48	1	2	4	5	8	29	8.8
2033	Canned Fruits and Vegetables	44	3	4	12	12	9	5	13.2
2037	Frozen Fruits and Vegetables	40	1	3	6	10	13	8	16.6
2046	Wet Corn Milling	141	*	W	49	58	20	W	14.1
2051	Bread, Cake and Related Products	32	2	4	9	10	5	2	9.9
2063	Beet Sugar	67	0	W	34	W	0	0	6.8
2075	Soybean Oil Mills	50	8	18	9	15	0	0	2.8
2082	Malt Beverages	50	*	*	W	W	14	31	11.8
21	Tobacco Manufactures	26	*	*	2	2	7	15	10.0
22	Textile Mill Products	272	4	11	52	82	81	42	7.4
23	Apparel and Other Textile Products	44	4	6	9	12	7	7	16.0
24	Lumber and Wood Products	197	28	21	84	45	17	2	18.0
25	Furniture and Fixtures	46	3	5	7	12	11	7	16.2
26	Paper and Allied Products	1,540	11	48	171	319	484	506	4.9
2611	Pulp Mills	103	*	Q	6	27	48	22	19.5
2621	Paper Mills	774	1	11	53	116	232	361	4.9
2631	Paperboard Mills	527	W	W	57	153	183	111	6.3
27	Printing and Publishing	108	20	10	22	22	19	16	11.6
28	Chemicals and Allied Products	2,674	126	174	546	485	483	860	5.4
2812	Alkalies and Chlorine	159	*	5	59	W	W	W	18.5
2813	Industrial Gases	86	42	23	W	W	0	0	6.7
2819	Industrial Inorganic Chemicals, nec	303	13	16	40	35	75	123	8.4
2821	Plastics Materials and Resins	262	5	16	38	105	58	39	6.2
2822	Synthetic Rubber	68	*	*	5	W	20	W	13.8
2823	Cellulosic Manmade Fibers	31	0	*	0	0	0	31	25.8
2824	Organic Fibers, Noncellulosic	97	*	*	Q	9	5	W	5.6
2865	Cyclic Crudes and Intermediates	136	W	9	30	29	56	W	11.2
2869	Industrial Organic Chemicals, nec	935	14	32	112	173	162	442	7.5
2873	Nitrogenous Fertilizers	278	28	43	175	21	11	0	26.0
2874	Phosphatic Fertilizers	36	*	1	Q	20	W	W	4.1
29	Petroleum and Coal Products	1,138	55	36	84	179	215	569	3.5
2911	Petroleum Refining	1,065	11	22	71	178	213	569	3.2
30	Rubber and Misc. Plastics Products	235	25	32	54	44	39	41	7.0
3011	Tires and Inner Tubes	42	*	*	2	W	W	33	4.4
308	Miscellaneous Plastics Products, nec	150	19	27	42	32	27	3	11.1
31	Leather and Leather Products	12	1	Q	5	2	2	1	24.3
32	Stone, Clay and Glass Products	877	47	118	424	141	107	39	6.9
3211	Flat Glass	49	*	*	W	12	28	W	3.9
3221	Glass Containers	85	0	0	6	46	27	6	7.1
3229	Pressed and Blown Glass, nec	W	*	Q	8	W	19	21	7.9
3241	Cement, Hydraulic	312	*	36	250	26	0	0	13.3
3274	Lime	117	Q	20	Q	0	W	0	24.4
3296	Mineral Wool	40	W	2	8	20	7	W	1.5
33	Primary Metal Industries	1,563	32	41	124	147	328	889	4.8
3312	Blast Furnaces and Steel Mills	842	1	1	20	43	71	706	4.9
3313	Electrometallurgical Products	30	0	*	9	W	W	0	10.8
3321	Gray and Ductile Iron Foundries	74	3	3	W	W	13	27	10.3
3331	Primary Copper	21	*	0	W	W	16	0	1.1
3334	Primary Aluminum	254	*	*	*	W	148	W	4.0
3339	Primary Nonferrous Metals, nec	40	*	W	6	9	18	W	3.1
3353	Aluminum Sheet, Plate, and Foil	60	*	Q	4	5	17	33	1.4
34	Fabricated Metal Products	305	41	42	91	56	31	44	7.7
35	Industrial Machinery and Equipment	236	32	16	33	37	44	74	8.8
357	Computer and Office Equipment	21	1	1	2	2	4	13	13.3
36	Electronic and Other Electric Equipment	196	6	9	22	40	43	76	9.4

See footnotes at end of table.

Table A35. Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation by Employment Size Categories, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Employment Size ^b					RSE Row Factors	
			Under 50	50-99	100-249	250-499	500-999		1,000 and Over
RSE Column Factors:		0.6	2.0	1.6	1.1	0.8	0.8	0.8	
37	Transportation Equipment	318	3	5	16	25	27	242	7.4
3711	Motor Vehicles and Car Bodies	90	*	*	*	*	2	88	6.1
3714	Motor Vehicle Parts and Accessories	99	2	1	8	13	14	60	8.2
38	Instruments and Related Products	97	2	3	6	11	17	59	15.4
3841	Surgical and Medical Instruments	6	*	*	1	2	2	1	13.9
39	Misc. Manufacturing Industries	31	4	3	8	8	4	4	13.0
	Total	10,837	511	681	2,003	1,902	2,120	3,621	2.8

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b Employment Size categories were supplied by the Bureau of the Census.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The derived estimates presented in this table represent the consumption of energy originally produced offsite, acquired as a result of a purchase or transfer and consumed onsite for the production of heat and power. This definition is consistent with the definition of "purchased" fuels and electric energy used by the Bureau of the Census in the preparation of "Fuels and Electric Energy Consumed," of the *Annual Survey of Manufactures*, 1974 through 1981. See Appendix B.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Office of Oil and Gas, Petroleum Supply Division, Form EIA-810, "Monthly Refinery Report" for 1991.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
20-39	ALL INDUSTRY GROUPS									
	RSE Column Factors:	NF	0.4	1.6	1.5	0.7	1.0	1.6	NF	
	TOTAL INPUTS	15,027	694,702	65,837	23,885	5,345	27,970	53,035	5,309	3.0
	Boiler Fuel	--	W	47,009	6,850	2,037	4,928	38,473	--	3.6
	Total Process Uses	--	546,382	17,342	5,800	2,503	16,908	14,075	--	4.1
	Process Heating	--	68,853	16,959	3,177	2,312	12,704	14,075	--	4.1
	Process Cooling and Refrigeration	--	36,330	6	30	13	18	0	--	12.4
	Machine Drive	--	347,899	353	2,398	123	4,093	0	--	8.4
	Electro-Chemical Processes	--	89,005	--	--	--	--	--	--	5.0
	Other Process Use	--	4,295	24	196	55	93	*	--	14.0
	Total Non-Process Uses	--	116,156	1,148	9,134	682	5,105	W	--	4.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	56,165	673	1,372	275	731	15	--	6.8
	Facility Lighting	--	47,309	--	--	--	--	--	--	5.0
	Facility Support	--	10,537	W	81	22	62	0	--	10.5
	Onsite Transportation	--	1,114	--	6,533	*	4,242	--	--	9.4
	Conventional Electricity Generation	--	--	325	734	337	41	W	--	8.9
	Other Non-Process Use	--	1,031	W	413	48	30	0	--	11.2
	End Use Not Reported	5,547	W	339	2,101	124	1,028	W	5,309	10.6
20	FOOD and KINDRED PRODUCTS									
	RSE Column Factors:	NF	0.5	1.5	1.5	0.7	1.6	0.9	NF	
	TOTAL INPUTS	953	49,536	4,317	2,966	497	1,429	6,913	69	5.9
	Boiler Fuel	--	1,073	3,875	1,242	306	441	6,414	--	8.4
	Total Process Uses	--	38,445	W	270	140	292	W	--	9.4
	Process Heating	--	2,030	260	212	133	224	W	--	11.8
	Process Cooling and Refrigeration	--	12,711	0	15	W	1	0	--	17.6
	Machine Drive	--	23,597	Q	35	W	56	0	--	19.1
	Electro-Chemical Processes	--	Q	--	--	--	--	--	--	NF
	Other Process Use	--	83	0	8	2	11	0	--	33.5
	Total Non-Process Uses	--	7,926	W	1,242	34	598	W	--	11.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	3,430	26	128	20	50	W	--	16.1
	Facility Lighting	--	3,460	--	--	--	--	--	--	8.2
	Facility Support	--	779	Q	23	2	14	0	--	17.4
	Onsite Transportation	--	163	--	812	*	533	--	--	10.8
	Conventional Electricity Generation	--	--	0	246	12	*	W	--	22.7
	Other Non-Process Use	--	94	*	33	*	Q	0	--	25.2
	End Use Not Reported	95	3,166	82	212	17	Q	0	69	22.5
2011	Meat Packing Plants									
	RSE Column Factors:	NF	0.4	1.6	1.0	0.6	1.4	1.8	NF	
	TOTAL INPUTS	49	3,410	170	252	31	157	27	2	10.1
	Boiler Fuel	--	30	169	56	21	91	27	--	12.9
	Total Process Uses	--	2,858	*	31	6	47	0	--	14.5
	Process Heating	--	W	0	19	5	44	0	--	17.0
	Process Cooling and Refrigeration	--	1,749	0	Q	*	1	0	--	17.9
	Machine Drive	--	1,039	*	1	*	2	0	--	19.8
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	*	*	0	0	--	36.4
	Total Non-Process Uses	--	403	*	132	3	10	0	--	13.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	169	*	Q	2	3	0	--	10.2
	Facility Lighting	--	195	--	--	--	--	--	--	14.1
	Facility Support	--	37	0	*	*	Q	0	--	23.0
	Onsite Transportation	--	2	--	131	*	5	--	--	25.9
	Conventional Electricity Generation	--	--	0	*	1	0	0	--	36.1
	Other Non-Process Use	--	0	0	*	0	0	0	--	27.6
	End Use Not Reported	3	148	*	33	*	8	0	2	32.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2033	Canned Fruits and Vegetables									
	RSE Column Factors:	NF	0.6	1.1	1.3	0.9	1.2	NF	NF	
	TOTAL INPUTS	44	1,375	290	131	35	124	Q	*	9.0
	Boiler Fuel	--	23	289	Q	28	*	Q	--	13.5
	Total Process Uses	--	1,053	*	7	2	4	0	--	14.7
	Process Heating	--	27	0	0	1	*	0	--	26.1
	Process Cooling and Refrigeration	--	236	0	*	*	*	0	--	18.0
	Machine Drive	--	785	*	7	*	4	0	--	17.8
	Electro-Chemical Processes	--	1	--	--	--	--	--	--	37.4
	Other Process Use	--	4	0	0	*	0	0	--	35.5
	Total Non-Process Uses	--	249	0	70	4	118	0	--	11.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	84	0	2	1	16	0	--	14.4
	Facility Lighting	--	123	--	--	--	--	--	--	7.8
	Facility Support	--	32	0	*	*	*	0	--	22.6
	Onsite Transportation	--	9	--	W	0	102	--	--	11.1
	Conventional Electricity Generation	--	--	0	W	3	0	0	--	25.9
	Other Non-Process Use	--	2	0	*	0	0	0	--	22.4
	End Use Not Reported	2	73	Q	9	2	1	0	*	21.9
2037	Frozen Fruits and Vegetables									
	RSE Column Factors:	NF	0.6	1.2	1.2	0.8	1.3	NF	NF	
	TOTAL INPUTS	40	3,071	321	76	25	41	0	1	13.0
	Boiler Fuel	--	248	259	28	17	7	0	--	21.6
	Total Process Uses	--	2,313	62	Q	4	1	0	--	17.3
	Process Heating	--	150	62	3	4	*	0	--	21.6
	Process Cooling and Refrigeration	--	1,438	0	0	*	0	0	--	24.2
	Machine Drive	--	716	0	Q	*	1	0	--	24.3
	Electro-Chemical Processes	--	2	--	--	--	--	--	--	58.1
	Other Process Use	--	7	0	0	*	0	0	--	46.9
	Total Non-Process Uses	--	357	0	30	2	32	0	--	13.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	157	0	Q	1	*	0	--	16.3
	Facility Lighting	--	165	--	--	--	--	--	--	15.7
	Facility Support	--	25	0	0	*	*	0	--	17.3
	Onsite Transportation	--	9	--	24	0	31	--	--	16.1
	Conventional Electricity Generation	--	--	0	3	1	0	0	--	27.2
	Other Non-Process Use	--	1	0	2	0	0	0	--	40.0
	End Use Not Reported	3	401	*	Q	2	1	0	1	33.6
2046	Wet Corn Milling									
	RSE Column Factors:	NF	0.6	1.1	1.1	0.8	1.4	1.1	NF	
	TOTAL INPUTS	140	4,054	29	30	51	1	3,051	6	11.1
	Boiler Fuel	--	142	29	W	25	0	W	--	11.8
	Total Process Uses	--	3,783	0	W	24	*	W	--	13.6
	Process Heating	--	W	0	W	24	0	W	--	15.8
	Process Cooling and Refrigeration	--	29	0	0	0	0	0	--	17.3
	Machine Drive	--	3,721	0	*	0	*	0	--	15.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	0	0	0	0	--	36.1
	Total Non-Process Uses	--	129	0	3	1	1	W	--	16.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	51	0	*	*	*	0	--	21.2
	Facility Lighting	--	53	--	--	--	--	--	--	12.6
	Facility Support	--	W	0	0	*	*	0	--	23.1
	Onsite Transportation	--	1	--	3	0	*	--	--	15.7
	Conventional Electricity Generation	--	--	0	*	1	0	W	--	21.4
	Other Non-Process Use	--	W	0	*	0	0	0	--	23.7
	End Use Not Reported	7	142	0	0	1	*	0	6	18.9

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2051	Bread, Cake, and Related Products									
	RSE Column Factors:	NF	0.5	1.7	1.1	0.7	1.5	NF	NF	
	TOTAL INPUTS	32	2,240	*	131	22	23	0	*	12.1
	Boiler Fuel	--	38	*	41	5	3	0	--	18.9
	Total Process Uses	--	1,577	0	44	14	10	0	--	13.0
	Process Heating	--	143	0	W	13	10	0	--	16.3
	Process Cooling and Refrigeration	--	415	0	0	*	0	0	--	20.5
	Machine Drive	--	1,017	0	*	*	*	0	--	26.6
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	2	0	W	*	*	0	--	27.1
	Total Non-Process Uses	--	521	0	38	2	9	0	--	13.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	207	0	W	2	3	0	--	14.2
	Facility Lighting	--	241	--	--	--	--	--	--	11.2
	Facility Support	--	51	0	*	*	*	0	--	23.1
	Onsite Transportation	--	Q	--	20	*	6	--	--	21.5
	Conventional Electricity Generation	--	--	0	W	*	*	0	--	35.0
	Other Non-Process Use	--	5	0	*	*	0	0	--	39.9
	End Use Not Reported	2	141	0	9	1	2	0	*	27.3
2063	Beet Sugar									
	RSE Column Factors:	NF	1.1	1.5	1.0	0.9	1.1	0.6	NF	
	TOTAL INPUTS	67	386	W	30	18	5	1,901	W	5.8
	Boiler Fuel	--	7	W	W	12	0	1,590	--	10.2
	Total Process Uses	--	343	104	W	6	1	311	--	7.5
	Process Heating	--	3	104	*	6	*	311	--	12.3
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	38.0
	Machine Drive	--	339	0	W	*	1	0	--	8.3
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	36	W	23	*	5	0	--	6.6
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	12	W	0	*	1	0	--	8.8
	Facility Lighting	--	20	--	--	--	--	--	--	5.3
	Facility Support	--	4	0	0	*	1	0	--	9.7
	Onsite Transportation	--	*	--	23	0	2	--	--	8.2
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	*	0	--	14.9
	End Use Not Reported	W	7	0	*	0	*	0	W	17.3
2075	Soybean Oil Mills									
	RSE Column Factors:	NF	0.7	1.5	1.2	0.7	1.6	0.8	NF	
	TOTAL INPUTS	50	1,616	42	31	24	5	592	7	3.4
	Boiler Fuel	--	111	42	W	17	*	592	--	4.5
	Total Process Uses	--	1,388	*	W	5	2	0	--	4.7
	Process Heating	--	22	0	W	5	2	0	--	6.7
	Process Cooling and Refrigeration	--	23	0	0	0	0	0	--	6.0
	Machine Drive	--	1,342	*	*	0	*	0	--	4.7
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	*	*	0	--	7.6
	Total Non-Process Uses	--	96	*	8	1	3	0	--	4.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	43	0	0	*	0	0	--	5.1
	Facility Lighting	--	46	--	--	--	--	--	--	4.5
	Facility Support	--	6	0	*	*	0	0	--	9.6
	Onsite Transportation	--	*	--	8	0	3	--	--	3.1
	Conventional Electricity Generation	--	--	0	*	1	0	0	--	8.1
	Other Non-Process Use	--	0	*	0	0	0	0	--	6.0
	End Use Not Reported	7	133	0	*	0	*	0	7	6.3

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2082	Malt Beverages									
	RSE Column Factors:	NF	0.5	1.3	1.4	0.8	1.0	1.4	NF	
	TOTAL INPUTS	50	2,328	419	58	22	8	706	1	10.1
	Boiler Fuel	--	33	417	W	20	*	706	--	13.2
	Total Process Uses	--	1,772	0	*	1	0	0	--	13.8
	Process Heating	--	67	0	0	1	0	0	--	22.6
	Process Cooling and Refrigeration	--	769	0	0	*	0	0	--	18.1
	Machine Drive	--	935	0	*	0	0	0	--	14.7
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	460	2	W	*	W	1	--	14.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	172	2	0	*	W	1	--	16.5
	Facility Lighting	--	193	--	--	--	--	--	--	10.9
	Facility Support	--	60	0	*	0	0	0	--	16.6
	Onsite Transportation	--	34	--	W	0	4	--	--	14.0
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	1	97	0	*	*	W	0	1	23.4
21	TOBACCO PRODUCTS									
	RSE Column Factors:	NF	1.1	0.6	0.9	1.9	1.2	0.6	NF	
	TOTAL INPUTS	24	1,002	135	40	4	23	692	*	6.3
	Boiler Fuel	--	5	135	39	3	W	692	--	6.1
	Total Process Uses	--	633	0	*	1	W	0	--	5.2
	Process Heating	--	22	0	*	1	W	0	--	8.6
	Process Cooling and Refrigeration	--	W	0	0	*	0	0	--	6.2
	Machine Drive	--	578	0	*	*	0	0	--	5.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	0	0	0	0	--	7.3
	Total Non-Process Uses	--	364	0	2	*	14	0	--	8.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	W	0	0	*	*	0	--	8.8
	Facility Lighting	--	W	--	--	--	--	--	--	4.5
	Facility Support	--	19	0	0	*	0	0	--	4.4
	Onsite Transportation	--	2	--	2	0	14	--	--	7.2
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	*	0	--	6.5
	End Use Not Reported	*	5	0	0	0	*	0	*	5.5
22	TEXTILE MILL PRODUCTS									
	RSE Column Factors:	NF	0.4	1.3	1.6	0.8	1.2	1.2	NF	
	TOTAL INPUTS	273	29,532	1,966	1,064	105	629	1,362	13	7.2
	Boiler Fuel	--	174	1,706	811	68	38	1,334	--	11.1
	Total Process Uses	--	21,335	99	38	30	411	W	--	11.0
	Process Heating	--	1,011	W	37	27	397	W	--	13.9
	Process Cooling and Refrigeration	--	2,160	0	*	*	*	0	--	21.3
	Machine Drive	--	18,002	W	1	2	13	0	--	14.4
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	63.1
	Other Process Use	--	W	*	*	1	1	0	--	23.5
	Total Non-Process Uses	--	7,290	28	173	4	163	2	--	13.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4,221	28	W	4	27	2	--	16.9
	Facility Lighting	--	2,652	--	--	--	--	--	--	9.4
	Facility Support	--	369	*	*	*	*	0	--	13.4
	Onsite Transportation	--	34	--	34	0	134	--	--	13.8
	Conventional Electricity Generation	--	--	0	Q	*	1	0	--	44.9
	Other Non-Process Use	--	14	0	1	*	*	0	--	23.2
	End Use Not Reported	20	907	134	Q	3	17	W	13	19.7

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
23	APPAREL and OTHER TEXTILE PRODUCTS									
	RSE Column Factors:	NF	0.5	NF	1.4	0.7	1.3	1.5	NF	
	TOTAL INPUTS	44	5,645	Q	142	18	158	88	1	16.8
	Boiler Fuel	--	56	Q	76	6	42	88	--	27.1
	Total Process Uses	--	2,601	Q	Q	6	56	0	--	23.5
	Process Heating	--	194	0	Q	4	26	0	--	30.3
	Process Cooling and Refrigeration	--	90	0	0	0	0	0	--	69.2
	Machine Drive	--	2,298	Q	*	1	Q	0	--	38.5
	Electro-Chemical Processes	--	7	--	--	--	--	--	--	85.0
	Other Process Use	--	Q	0	0	0	*	0	--	37.9
	Total Non-Process Uses	--	2,091	Q	40	4	48	0	--	19.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,133	Q	31	4	35	0	--	22.8
	Facility Lighting	--	829	--	--	--	--	--	--	17.8
	Facility Support	--	126	0	*	*	1	0	--	36.1
	Onsite Transportation	--	Q	--	10	*	12	--	--	19.9
	Conventional Electricity Generation	--	--	0	0	*	0	0	--	NF
	Other Non-Process Use	--	0	0	*	0	0	0	--	33.4
	End Use Not Reported	6	953	Q	14	2	13	0	1	29.6
24	LUMBER and WOOD PRODUCTS									
	RSE Column Factors:	NF	0.6	1.3	1.0	0.9	1.1	1.5	NF	
	TOTAL INPUTS	423	17,878	333	2,373	39	1,000	92	300	15.4
	Boiler Fuel	--	275	295	151	12	63	92	--	26.8
	Total Process Uses	--	13,933	Q	645	18	450	0	--	18.1
	Process Heating	--	870	Q	Q	17	338	0	--	22.5
	Process Cooling and Refrigeration	--	74	0	0	0	0	0	--	88.3
	Machine Drive	--	12,945	0	563	Q	Q	0	--	17.9
	Electro-Chemical Processes	--	7	--	--	--	--	--	--	70.3
	Other Process Use	--	37	0	Q	0	Q	0	--	88.3
	Total Non-Process Uses	--	1,863	Q	1,016	5	455	*	--	18.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	662	Q	Q	5	Q	*	--	26.5
	Facility Lighting	--	1,004	--	--	--	--	--	--	19.8
	Facility Support	--	174	0	5	*	*	0	--	35.8
	Onsite Transportation	--	Q	--	922	0	395	--	--	13.1
	Conventional Electricity Generation	--	--	0	Q	0	0	0	--	NF
	Other Non-Process Use	--	*	0	2	*	*	0	--	46.1
	End Use Not Reported	314	2,082	Q	561	4	32	0	300	32.6
25	FURNITURE and FIXTURES									
	RSE Column Factors:	NF	0.5	2.0	1.1	0.6	0.9	1.8	NF	
	TOTAL INPUTS	67	4,915	184	162	18	255	157	25	17.9
	Boiler Fuel	--	81	Q	50	3	37	146	--	28.5
	Total Process Uses	--	3,082	*	Q	7	53	8	--	19.0
	Process Heating	--	174	0	Q	7	31	8	--	25.6
	Process Cooling and Refrigeration	--	37	0	0	*	0	0	--	36.5
	Machine Drive	--	2,826	*	Q	1	21	0	--	24.1
	Electro-Chemical Processes	--	22	--	--	--	--	--	--	40.6
	Other Process Use	--	23	0	*	0	*	0	--	55.1
	Total Non-Process Uses	--	1,425	Q	71	6	155	2	--	22.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	592	Q	31	6	62	2	--	26.8
	Facility Lighting	--	692	--	--	--	--	--	--	18.3
	Facility Support	--	115	*	*	*	1	0	--	34.4
	Onsite Transportation	--	9	--	Q	0	91	--	--	23.4
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	17	0	*	0	1	0	--	59.5
	End Use Not Reported	28	408	1	8	2	11	0	25	35.2

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
26	PAPER and ALLIED PRODUCTS									
	RSE Column Factors:	NF	0.8	0.8	1.7	0.8	1.4	0.8	NF	
	TOTAL INPUTS	2,472	58,896	24,883	1,566	532	W	13,252	W	4.6
	Boiler Fuel	--	1,510	21,232	665	350	W	13,133	--	5.8
	Total Process Uses	--	50,222	3,311	391	120	426	Q	--	5.6
	Process Heating	--	1,500	3,163	291	103	368	Q	--	8.4
	Process Cooling and Refrigeration	--	792	0	*	*	W	0	--	8.3
	Machine Drive	--	46,857	148	W	11	44	0	--	10.0
	Electro-Chemical Processes	--	619	--	--	--	--	--	--	7.9
	Other Process Use	--	454	0	W	6	13	0	--	9.8
	Total Non-Process Uses	--	5,844	336	486	52	624	*	--	6.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2,602	W	97	W	W	*	--	11.3
	Facility Lighting	--	2,572	--	--	--	--	--	--	5.2
	Facility Support	--	591	0	2	*	*	0	--	10.5
	Onsite Transportation	--	71	--	377	*	609	--	--	6.3
	Conventional Electricity Generation	--	--	W	7	37	Q	0	--	15.7
	Other Non-Process Use	--	8	1	Q	W	1	0	--	21.1
	End Use Not Reported	1,272	2,830	3	24	9	55	W	W	19.3
2611	Pulp Mills									
	RSE Column Factors:	NF	0.8	1.0	0.9	0.8	1.3	1.3	NF	
	TOTAL INPUTS	300	2,537	4,500	155	32	141	331	221	14.9
	Boiler Fuel	--	125	3,881	60	22	98	331	--	18.8
	Total Process Uses	--	2,215	608	21	9	19	0	--	17.3
	Process Heating	--	16	604	3	9	17	0	--	21.6
	Process Cooling and Refrigeration	--	18	0	0	0	0	0	--	22.0
	Machine Drive	--	2,105	4	17	0	2	0	--	24.0
	Electro-Chemical Processes	--	65	--	--	--	--	--	--	31.8
	Other Process Use	--	Q	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	197	7	74	*	22	0	--	18.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	86	0	*	*	*	0	--	22.6
	Facility Lighting	--	97	--	--	--	--	--	--	15.9
	Facility Support	--	13	0	0	0	0	0	--	22.0
	Onsite Transportation	--	1	--	74	0	22	--	--	18.9
	Conventional Electricity Generation	--	--	7	0	*	0	0	--	40.5
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	222	125	3	0	0	Q	0	221	27.6
2621	Paper Mills									
	RSE Column Factors:	NF	0.9	1.1	1.0	1.0	1.1	1.0	NF	
	TOTAL INPUTS	1,204	32,735	13,455	W	252	613	8,634	W	2.9
	Boiler Fuel	--	553	11,601	275	158	W	8,634	--	3.5
	Total Process Uses	--	29,462	1,569	W	56	279	0	--	3.5
	Process Heating	--	407	1,569	141	47	263	0	--	4.1
	Process Cooling and Refrigeration	--	274	0	*	*	1	0	--	8.2
	Machine Drive	--	28,205	*	47	W	6	0	--	4.6
	Electro-Chemical Processes	--	499	--	--	--	--	--	--	5.9
	Other Process Use	--	77	0	W	W	9	0	--	10.3
	Total Non-Process Uses	--	2,223	284	196	37	W	*	--	5.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,054	258	3	2	2	*	--	4.5
	Facility Lighting	--	905	--	--	--	--	--	--	3.5
	Facility Support	--	240	0	2	*	*	0	--	5.9
	Onsite Transportation	--	W	--	190	0	W	--	--	3.8
	Conventional Electricity Generation	--	--	W	*	34	0	0	--	8.8
	Other Non-Process Use	--	W	W	*	0	1	0	--	7.5
	End Use Not Reported	W	1,050	0	7	*	10	0	W	5.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2631	Paperboard Mills									
	RSE Column Factors:	NF	0.8	1.5	1.0	0.8	1.2	0.9	NF	
	TOTAL INPUTS	832	10,396	W	207	180	93	W	480	4.6
	Boiler Fuel	--	653	5,057	77	133	1	4,048	--	7.0
	Total Process Uses	--	8,937	W	W	36	5	Q	--	5.8
	Process Heating	--	412	W	W	W	3	Q	--	10.0
	Process Cooling and Refrigeration	--	58	0	0	*	0	0	--	11.6
	Machine Drive	--	8,083	0	W	W	2	0	--	9.9
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	18.4
	Other Process Use	--	W	0	W	*	0	0	--	18.4
	Total Non-Process Uses	--	794	3	111	W	84	0	--	9.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	319	3	0	2	*	0	--	13.1
	Facility Lighting	--	398	--	--	--	--	--	--	11.8
	Facility Support	--	76	0	*	*	0	0	--	14.6
	Onsite Transportation	--	Q	--	102	0	84	--	--	4.9
	Conventional Electricity Generation	--	--	0	7	W	0	0	--	26.8
	Other Non-Process Use	--	*	0	Q	W	0	0	--	21.3
	End Use Not Reported	486	664	*	W	W	2	0	480	14.3
27	PRINTING and PUBLISHING									
	RSE Column Factors:	NF	0.5	1.6	1.5	0.7	1.1	NF	NF	
	TOTAL INPUTS	108	15,629	50	312	47	179	0	4	12.6
	Boiler Fuel	--	108	40	117	14	W	0	--	26.7
	Total Process Uses	--	7,599	0	Q	16	W	0	--	15.9
	Process Heating	--	190	0	Q	14	W	0	--	23.2
	Process Cooling and Refrigeration	--	551	0	0	*	*	0	--	31.9
	Machine Drive	--	6,674	0	*	1	20	0	--	26.4
	Electro-Chemical Processes	--	76	--	--	--	--	--	--	79.8
	Other Process Use	--	109	0	0	*	0	0	--	60.4
	Total Non-Process Uses	--	5,480	10	180	12	134	0	--	18.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2,928	10	109	11	1	0	--	23.3
	Facility Lighting	--	1,954	--	--	--	--	--	--	16.0
	Facility Support	--	536	*	2	1	Q	0	--	27.9
	Onsite Transportation	--	50	--	65	0	131	--	--	24.1
	Conventional Electricity Generation	--	--	0	Q	0	0	0	--	NF
	Other Non-Process Use	--	Q	0	*	*	Q	0	--	18.9
	End Use Not Reported	18	2,549	0	8	5	Q	0	4	25.4
28	CHEMICALS and ALLIED PRODUCTS									
	RSE Column Factors:	NF	0.6	0.9	1.2	0.8	1.5	1.3	NF	
	TOTAL INPUTS	3,040	129,093	7,573	2,083	1,620	1,263	11,345	614	5.3
	Boiler Fuel	--	W	4,425	1,098	698	567	10,947	--	6.4
	Total Process Uses	--	113,504	W	386	653	454	354	--	7.5
	Process Heating	--	4,096	3,013	271	560	404	354	--	9.3
	Process Cooling and Refrigeration	--	7,844	0	*	2	W	0	--	10.1
	Machine Drive	--	83,727	0	88	53	34	0	--	7.8
	Electro-Chemical Processes	--	17,538	--	--	--	--	--	--	9.8
	Other Process Use	--	299	W	27	38	W	0	--	12.1
	Total Non-Process Uses	--	11,956	W	550	248	204	W	--	7.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	6,212	W	35	W	47	W	--	10.1
	Facility Lighting	--	4,413	--	--	--	--	--	--	6.5
	Facility Support	--	1,091	0	22	3	11	0	--	10.4
	Onsite Transportation	--	42	--	408	0	145	--	--	9.5
	Conventional Electricity Generation	--	--	W	21	186	*	0	--	12.1
	Other Non-Process Use	--	198	1	65	W	1	0	--	10.6
	End Use Not Reported	W	W	77	49	20	38	W	614	14.5

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2812	Alkalies and Chlorine									
	RSE Column Factors:	NF	0.7	1.3	0.9	0.9	1.1	1.2	NF	
	TOTAL INPUTS	160	10,718	W	43	W	2	W	21	16.4
	Boiler Fuel	--	1	W	W	54	0	W	--	23.1
	Total Process Uses	--	10,407	0	W	4	0	0	--	19.2
	Process Heating	--	W	0	W	4	0	0	--	27.2
	Process Cooling and Refrigeration	--	101	0	0	0	0	0	--	21.1
	Machine Drive	--	781	0	*	0	0	0	--	19.6
	Electro-Chemical Processes	--	9,502	--	--	--	--	--	--	13.6
	Other Process Use	--	W	0	1	1	0	0	--	31.3
	Total Non-Process Uses	--	W	0	9	W	2	0	--	15.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	97	0	0	1	0	0	--	20.2
	Facility Lighting	--	126	--	--	--	--	--	--	15.1
	Facility Support	--	W	0	0	0	0	0	--	33.2
	Onsite Transportation	--	0	--	9	0	2	--	--	14.2
	Conventional Electricity Generation	--	--	0	0	W	0	0	--	20.3
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	21	W	0	W	0	*	0	21	31.3
2813	Industrial Gases									
	RSE Column Factors:	NF	0.4	NF	1.3	0.8	2.2	NF	NF	
	TOTAL INPUTS	91	17,854	0	7	24	Q	0	5	14.2
	Boiler Fuel	--	0	0	1	8	0	0	--	13.6
	Total Process Uses	--	16,733	0	*	11	0	0	--	11.2
	Process Heating	--	W	0	0	11	0	0	--	23.0
	Process Cooling and Refrigeration	--	98	0	0	0	0	0	--	25.3
	Machine Drive	--	16,432	0	0	*	0	0	--	12.4
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	36.8
	Other Process Use	--	Q	0	*	*	0	0	--	34.3
	Total Non-Process Uses	--	W	0	Q	4	Q	0	--	14.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	326	0	1	*	*	0	--	14.5
	Facility Lighting	--	162	--	--	--	--	--	--	11.5
	Facility Support	--	W	0	0	*	0	0	--	12.3
	Onsite Transportation	--	0	--	Q	0	Q	--	--	NF
	Conventional Electricity Generation	--	--	0	0	2	0	0	--	24.9
	Other Non-Process Use	--	0	0	0	2	0	0	--	24.9
	End Use Not Reported	W	W	0	*	*	1	0	5	12.6
2819	Industrial Inorganic Chemicals, nec									
	RSE Column Factors:	NF	0.8	1.0	1.2	0.8	1.2	1.2	NF	
	TOTAL INPUTS	311	37,077	691	456	136	75	743	20	8.9
	Boiler Fuel	--	W	W	187	69	23	403	--	10.1
	Total Process Uses	--	35,008	W	78	53	33	304	--	11.7
	Process Heating	--	2,151	W	45	52	33	304	--	13.9
	Process Cooling and Refrigeration	--	W	0	0	*	0	0	--	12.8
	Machine Drive	--	28,380	0	W	*	*	0	--	13.1
	Electro-Chemical Processes	--	4,088	--	--	--	--	--	--	14.1
	Other Process Use	--	W	0	W	*	*	0	--	16.8
	Total Non-Process Uses	--	1,445	0	189	12	12	W	--	10.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	902	0	17	W	3	W	--	9.8
	Facility Lighting	--	375	--	--	--	--	--	--	7.1
	Facility Support	--	166	0	W	*	*	0	--	12.0
	Onsite Transportation	--	W	--	157	0	8	--	--	9.2
	Conventional Electricity Generation	--	--	0	W	W	0	0	--	16.7
	Other Non-Process Use	--	W	0	*	*	*	0	--	15.4
	End Use Not Reported	25	W	0	3	2	Q	W	20	13.7

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2821	Plastics Materials and Resins									
	RSE Column Factors:	NF	0.6	1.3	1.3	0.9	1.2	0.9	NF	
	TOTAL INPUTS	288	14,780	668	231	146	54	1,074	57	6.1
	Boiler Fuel	--	203	W	142	78	1	1,074	--	7.9
	Total Process Uses	--	12,909	W	33	51	21	0	--	5.9
	Process Heating	--	W	W	24	42	W	0	--	6.8
	Process Cooling and Refrigeration	--	1,330	0	0	*	W	0	--	9.4
	Machine Drive	--	9,181	0	9	W	*	0	--	7.5
	Electro-Chemical Processes	--	1,972	--	--	--	--	--	--	15.5
	Other Process Use	--	W	0	*	W	*	0	--	10.3
	Total Non-Process Uses	--	1,396	W	55	15	30	0	--	6.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	675	0	3	1	W	0	--	7.7
	Facility Lighting	--	549	--	--	--	--	--	--	4.6
	Facility Support	--	164	0	*	1	W	0	--	8.8
	Onsite Transportation	--	7	--	41	0	20	--	--	7.1
	Conventional Electricity Generation	--	--	W	1	12	0	0	--	8.7
	Other Non-Process Use	--	1	0	9	*	*	0	--	16.2
	End Use Not Reported	60	476	0	1	2	1	0	57	13.0
2822	Synthetic Rubber									
	RSE Column Factors:	NF	0.6	1.4	1.0	0.9	1.0	1.4	NF	
	TOTAL INPUTS	112	1,794	64	18	43	10	W	W	12.4
	Boiler Fuel	--	W	64	W	23	0	W	--	15.2
	Total Process Uses	--	1,549	0	W	19	*	0	--	17.2
	Process Heating	--	19	0	0	W	0	0	--	19.3
	Process Cooling and Refrigeration	--	223	0	0	*	0	0	--	19.2
	Machine Drive	--	1,305	0	W	*	*	0	--	17.0
	Electro-Chemical Processes	--	1	--	--	--	--	--	--	35.9
	Other Process Use	--	1	0	*	W	0	0	--	25.9
	Total Non-Process Uses	--	237	0	6	*	W	0	--	13.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	120	0	0	*	*	0	--	17.1
	Facility Lighting	--	111	--	--	--	--	--	--	14.7
	Facility Support	--	6	0	*	*	0	0	--	16.9
	Onsite Transportation	--	*	--	6	0	W	--	--	17.0
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	23.6
	Other Non-Process Use	--	0	0	*	*	0	0	--	23.6
	End Use Not Reported	W	W	0	*	*	W	0	W	22.7
2823	Cellulosic Manmade Fibers									
	RSE Column Factors:	NF	1.1	NF	1.1	1.1	1.0	0.8	NF	
	TOTAL INPUTS	31	W	0	21	W	1	1,202	*	22.7
	Boiler Fuel	--	W	0	17	W	*	1,202	--	27.8
	Total Process Uses	--	W	0	1	2	0	0	--	24.2
	Process Heating	--	W	0	1	2	0	0	--	29.1
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	21.0
	Machine Drive	--	W	0	0	0	0	0	--	21.9
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	*	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	W	0	4	*	1	0	--	27.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	W	0	4	0	*	0	--	30.5
	Facility Lighting	--	W	--	--	--	--	--	--	21.0
	Facility Support	--	W	0	0	*	0	0	--	33.0
	Onsite Transportation	--	5	--	*	0	1	--	--	28.4
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	*	W	0	0	0	*	0	*	31.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2824	Organic Fibers, Noncellulosic									
	RSE Column Factors:	NF	1.1	1.1	1.0	0.9	1.1	0.8	NF	
	TOTAL INPUTS	98	6,976	W	53	W	38	1,558	W	3.5
	Boiler Fuel	--	68	323	34	23	W	1,558	--	3.8
	Total Process Uses	--	5,600	W	2	W	W	0	--	4.3
	Process Heating	--	W	W	1	W	W	0	--	5.4
	Process Cooling and Refrigeration	--	726	0	0	*	0	0	--	2.7
	Machine Drive	--	3,894	0	*	*	*	0	--	5.6
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	6.3
	Other Process Use	--	W	0	0	*	0	0	--	5.5
	Total Non-Process Uses	--	1,308	W	17	*	18	0	--	4.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	703	W	*	*	2	0	--	6.6
	Facility Lighting	--	436	--	--	--	--	--	--	5.4
	Facility Support	--	W	0	*	*	*	0	--	6.3
	Onsite Transportation	--	2	--	15	0	16	--	--	4.2
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	W	1	1	0	*	0	--	5.8
	End Use Not Reported	W	68	W	*	0	*	0	W	5.7
2865	Cyclic Crudes and Intermediates									
	RSE Column Factors:	NF	0.7	1.2	1.2	0.8	1.2	1.1	NF	
	TOTAL INPUTS	159	4,423	1,299	136	94	79	W	W	11.6
	Boiler Fuel	--	59	W	104	46	W	W	--	13.4
	Total Process Uses	--	3,886	W	13	37	41	0	--	12.6
	Process Heating	--	W	W	*	35	W	0	--	18.3
	Process Cooling and Refrigeration	--	638	0	*	0	0	0	--	15.1
	Machine Drive	--	3,187	0	12	1	W	0	--	15.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	*	1	W	0	--	23.1
	Total Non-Process Uses	--	470	*	19	W	W	0	--	13.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	253	*	*	1	*	0	--	17.9
	Facility Lighting	--	168	--	--	--	--	--	--	9.2
	Facility Support	--	36	0	*	*	*	0	--	18.0
	Onsite Transportation	--	W	--	19	0	W	--	--	16.0
	Conventional Electricity Generation	--	--	0	1	W	0	0	--	22.4
	Other Non-Process Use	--	W	0	0	0	0	0	--	33.7
	End Use Not Reported	39	66	0	0	W	1	1	W	21.2
2869	Industrial Organic Chemicals, nec									
	RSE Column Factors:	NF	0.7	1.5	1.2	0.8	1.3	0.8	NF	
	TOTAL INPUTS	1,191	15,104	1,747	439	625	825	3,819	394	8.1
	Boiler Fuel	--	133	1,595	Q	213	W	3,819	--	6.6
	Total Process Uses	--	13,064	149	71	241	W	0	--	6.5
	Process Heating	--	224	W	41	196	W	0	--	8.9
	Process Cooling and Refrigeration	--	1,999	0	0	2	2	0	--	10.1
	Machine Drive	--	9,847	0	23	28	3	0	--	8.9
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	53.4
	Other Process Use	--	W	W	7	16	7	0	--	9.6
	Total Non-Process Uses	--	1,699	1	94	170	33	0	--	7.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	747	1	Q	3	W	0	--	7.7
	Facility Lighting	--	625	--	--	--	--	--	--	4.5
	Facility Support	--	211	0	W	1	1	0	--	8.4
	Onsite Transportation	--	14	--	64	0	W	--	--	10.1
	Conventional Electricity Generation	--	--	0	*	W	*	0	--	10.4
	Other Non-Process Use	--	102	0	19	W	*	0	--	10.5
	End Use Not Reported	395	341	1	8	1	*	0	394	8.8

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2873	Nitrogenous Fertilizers									
	RSE Column Factors:	NF	0.9	NF	1.0	0.7	1.5	NF	NF	
	TOTAL INPUTS	280	2,911	0	26	258	43	0	4	19.3
	Boiler Fuel	--	11	0	3	90	0	0	--	32.1
	Total Process Uses	--	2,552	0	2	167	41	0	--	26.1
	Process Heating	--	25	0	0	148	41	0	--	33.8
	Process Cooling and Refrigeration	--	327	0	0	0	0	0	--	34.0
	Machine Drive	--	2,045	0	2	2	0	0	--	35.9
	Electro-Chemical Processes	--	155	--	--	--	--	--	--	57.4
	Other Process Use	--	0	0	0	17	0	0	--	48.1
	Total Non-Process Uses	--	226	0	15	1	2	0	--	24.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	86	0	1	1	*	0	--	33.1
	Facility Lighting	--	89	--	--	--	--	--	--	27.0
	Facility Support	--	51	0	3	0	0	0	--	38.0
	Onsite Transportation	--	0	--	12	0	1	--	--	20.4
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	55.4
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	5	133	0	5	*	*	0	4	32.6
2874	Phosphatic Fertilizers									
	RSE Column Factors:	NF	1.5	0.7	0.6	1.6	0.7	1.5	NF	
	TOTAL INPUTS	34	1,886	250	150	18	1	W	W	5.2
	Boiler Fuel	--	W	W	24	2	*	0	--	5.7
	Total Process Uses	--	1,382	199	45	14	*	W	--	5.1
	Process Heating	--	1	199	W	14	*	W	--	4.1
	Process Cooling and Refrigeration	--	21	0	0	*	0	0	--	2.2
	Machine Drive	--	1,360	0	W	*	0	0	--	5.2
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	W	0	79	*	1	0	--	7.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	39	0	0	*	*	0	--	9.9
	Facility Lighting	--	38	--	--	--	--	--	--	17.0
	Facility Support	--	10	0	W	*	*	0	--	3.5
	Onsite Transportation	--	0	--	42	0	*	--	--	4.5
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	W	0	0	0	--	6.7
	End Use Not Reported	W	W	W	Q	2	*	0	W	3.9
29	PETROLEUM and COAL PRODUCTS									
	RSE Column Factors:	NF	0.5	0.9	2.0	0.5	0.8	2.8	NF	
	TOTAL INPUTS	2,987	30,782	13,862	3,599	813	16,528	W	W	4.6
	Boiler Fuel	--	316	6,086	614	256	3,122	W	--	6.2
	Total Process Uses	--	27,507	7,776	1,870	446	12,880	W	--	6.1
	Process Heating	--	1,001	7,776	1,241	410	9,724	W	--	7.4
	Process Cooling and Refrigeration	--	1,491	0	Q	W	W	0	--	8.2
	Machine Drive	--	24,922	0	597	W	W	0	--	8.2
	Electro-Chemical Processes	--	84	--	--	--	--	--	--	8.8
	Other Process Use	--	9	0	W	1	0	0	--	11.2
	Total Non-Process Uses	--	2,736	0	873	107	114	0	--	9.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,275	0	12	10	W	0	--	10.3
	Facility Lighting	--	1,157	--	--	--	--	--	--	6.6
	Facility Support	--	300	0	Q	2	W	0	--	10.1
	Onsite Transportation	--	-7	--	658	*	40	--	--	11.5
	Conventional Electricity Generation	--	--	0	Q	95	W	0	--	7.5
	Other Non-Process Use	--	11	0	W	*	*	0	--	17.0
	End Use Not Reported	1,877	538	0	Q	5	412	0	W	38.9

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
2911	Petroleum Refining^f									
	RSE Column Factors:	NF	0.5	1.6	1.0	0.5	0.7	3.6	NF	
	TOTAL INPUTS	2,893	29,152	10,292	1,525	769	15,889	134	1,864	3.9
	Boiler Fuel	--	W	5,198	299	246	3,039	134	--	3.3
	Total Process Uses	--	26,325	5,094	745	416	12,535	0	--	4.7
	Process Heating	--	817	5,094	679	380	9,382	0	--	5.6
	Process Cooling and Refrigeration	--	1,528	0	0	W	W	0	--	7.3
	Machine Drive	--	23,888	0	W	W	W	0	--	5.3
	Electro-Chemical Processes	--	82	--	--	--	--	--	--	8.8
	Other Process Use	--	9	0	W	*	0	0	--	8.1
	Total Non-Process Uses	--	2,482	0	W	105	W	0	--	5.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,173	0	*	8	W	0	--	6.4
	Facility Lighting	--	1,045	--	--	--	--	--	--	4.4
	Facility Support	--	271	0	*	1	W	0	--	7.3
	Onsite Transportation	--	(8)	--	449	0	*	--	--	6.5
	Conventional Electricity Generation	--	--	0	*	95	W	0	--	14.2
	Other Non-Process Use	--	1	0	W	*	*	0	--	9.3
	End Use Not Reported	1,868	W	0	W	2	W	0	1,864	6.8
30	RUBBER and MISC. PLASTICS PRODUCTS									
	RSE Column Factors:	NF	0.5	1.1	1.5	0.9	1.2	1.2	NF	
	TOTAL INPUTS	237	33,908	1,253	508	93	786	295	5	9.8
	Boiler Fuel	--	175	1,084	283	55	Q	295	--	11.7
	Total Process Uses	--	26,284	W	28	19	263	0	--	17.1
	Process Heating	--	5,673	W	W	16	216	0	--	19.3
	Process Cooling and Refrigeration	--	2,398	1	0	*	0	0	--	20.2
	Machine Drive	--	18,045	*	Q	3	46	0	--	20.5
	Electro-Chemical Processes	--	64	--	--	--	--	--	--	55.5
	Other Process Use	--	104	0	*	*	1	0	--	32.4
	Total Non-Process Uses	--	5,988	W	185	16	364	0	--	11.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2,745	W	54	15	37	0	--	18.1
	Facility Lighting	--	2,499	--	--	--	--	--	--	9.6
	Facility Support	--	626	*	1	*	W	0	--	12.1
	Onsite Transportation	--	109	--	123	*	316	--	--	22.8
	Conventional Electricity Generation	--	--	0	2	*	0	0	--	20.0
	Other Non-Process Use	--	Q	0	Q	*	W	0	--	14.7
	End Use Not Reported	14	1,636	Q	Q	3	21	0	5	26.7
3011	Tires and Inner Tubes									
	RSE Column Factors:	NF	0.7	1.1	1.5	1.0	0.8	1.1	NF	
	TOTAL INPUTS	42	4,037	506	68	21	79	75	1	3.6
	Boiler Fuel	--	W	479	59	19	0	75	--	3.4
	Total Process Uses	--	3,082	Q	4	1	W	0	--	5.8
	Process Heating	--	86	Q	0	1	0	0	--	16.0
	Process Cooling and Refrigeration	--	230	0	0	0	0	0	--	4.5
	Machine Drive	--	2,767	0	4	*	W	0	--	5.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	*	0	0	--	6.2
	Total Non-Process Uses	--	930	2	5	1	W	0	--	7.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	400	2	Q	1	Q	0	--	6.5
	Facility Lighting	--	402	--	--	--	--	--	--	3.0
	Facility Support	--	98	*	1	*	W	0	--	6.0
	Onsite Transportation	--	29	--	1	*	70	--	--	6.6
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	3.3
	Other Non-Process Use	--	0	0	1	*	W	0	--	6.5
	End Use Not Reported	1	W	*	*	*	*	0	1	6.6

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
308	Miscellaneous Plastic Products, nec									
	RSE Column Factors:	NF	0.5	1.5	1.7	0.7	1.0	1.1	NF	
	TOTAL INPUTS	152	25,594	413	W	51	396	130	W	13.3
	Boiler Fuel	--	103	316	W	24	Q	130	--	21.4
	Total Process Uses	--	20,052	81	7	13	121	0	--	17.9
	Process Heating	--	4,953	81	6	11	82	0	--	21.6
	Process Cooling and Refrigeration	--	1,957	0	0	0	0	0	--	17.3
	Machine Drive	--	12,994	*	Q	1	39	0	--	25.0
	Electro-Chemical Processes	--	53	--	--	--	--	--	--	65.5
	Other Process Use	--	94	0	*	*	*	0	--	45.0
	Total Non-Process Uses	--	4,054	16	146	12	230	0	--	16.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,871	16	33	11	27	0	--	24.0
	Facility Lighting	--	1,686	--	--	--	--	--	--	13.5
	Facility Support	--	427	*	*	*	*	0	--	25.4
	Onsite Transportation	--	65	--	109	0	204	--	--	22.9
	Conventional Electricity Generation	--	--	0	Q	*	0	0	--	NF
	Other Non-Process Use	--	Q	0	Q	*	*	0	--	44.9
	End Use Not Reported	W	1,488	0	Q	3	18	0	W	33.2
31	LEATHER and LEATHER PRODUCTS									
	RSE Column Factors:	NF	0.4	1.2	1.3	0.9	1.1	1.6	NF	
	TOTAL INPUTS	12	795	225	220	5	44	Q	1	23.4
	Boiler Fuel	--	5	155	155	2	2	Q	--	31.3
	Total Process Uses	--	485	65	11	1	26	0	--	28.6
	Process Heating	--	59	65	11	1	W	0	--	36.2
	Process Cooling and Refrigeration	--	13	0	0	*	0	0	--	60.0
	Machine Drive	--	412	0	*	*	Q	0	--	28.4
	Electro-Chemical Processes	--	1	--	--	--	--	--	--	108.0
	Other Process Use	--	0	0	0	*	*	0	--	51.0
	Total Non-Process Uses	--	225	5	41	Q	16	*	--	25.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	W	5	16	Q	6	*	--	29.7
	Facility Lighting	--	W	--	--	--	--	--	--	21.6
	Facility Support	--	12	0	*	*	*	0	--	36.0
	Onsite Transportation	--	1	--	16	0	9	--	--	36.2
	Conventional Electricity Generation	--	--	0	0	0	*	0	--	40.0
	Other Non-Process Use	--	*	0	Q	0	0	0	--	108.0
	End Use Not Reported	2	86	*	13	*	*	0	1	33.2
32	STONE, CLAY and GLASS PRODUCTS									
	RSE Column Factors:	NF	0.5	1.1	1.5	0.6	1.6	1.2	NF	
	TOTAL INPUTS	894	30,814	1,345	3,312	369	577	13,127	86	6.9
	Boiler Fuel	--	122	208	365	16	9	W	--	20.9
	Total Process Uses	--	26,139	1,122	1,020	323	221	13,060	--	9.1
	Process Heating	--	8,019	W	W	317	154	13,060	--	9.5
	Process Cooling and Refrigeration	--	804	0	*	2	*	0	--	22.8
	Machine Drive	--	17,117	W	616	3	67	0	--	15.9
	Electro-Chemical Processes	--	20	--	--	--	--	--	--	32.5
	Other Process Use	--	178	0	W	1	1	*	--	10.3
	Total Non-Process Uses	--	3,582	Q	1,341	18	300	0	--	6.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,623	Q	79	17	29	0	--	11.9
	Facility Lighting	--	1,592	--	--	--	--	--	--	7.7
	Facility Support	--	297	0	7	1	5	0	--	16.6
	Onsite Transportation	--	42	--	1,192	*	265	--	--	11.2
	Conventional Electricity Generation	--	--	0	Q	*	*	0	--	25.7
	Other Non-Process Use	--	27	0	27	0	*	0	--	29.2
	End Use Not Reported	W	1,094	*	586	12	48	W	86	19.9

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
3211	Flat Glass									
	RSE Column Factors:	NF	0.7	1.6	0.9	0.6	1.0	1.6	NF	
	TOTAL INPUTS	49	1,503	W	12	40	40	*	W	3.5
	Boiler Fuel	--	W	0	0	W	0	0	--	11.2
	Total Process Uses	--	1,166	W	W	35	W	*	--	4.0
	Process Heating	--	652	W	W	34	W	0	--	4.1
	Process Cooling and Refrigeration	--	62	0	*	1	0	0	--	6.1
	Machine Drive	--	453	0	*	*	2	0	--	5.2
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	0	0	*	--	3.7
	Total Non-Process Uses	--	W	0	6	2	15	0	--	4.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	151	0	0	1	*	0	--	4.7
	Facility Lighting	--	W	--	--	--	--	--	--	4.3
	Facility Support	--	15	0	0	*	0	0	--	7.4
	Onsite Transportation	--	12	--	6	0	15	--	--	5.6
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	4.4
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	W	W	0	W	W	W	0	W	5.6
3221	Glass Containers									
	RSE Column Factors:	NF	0.7	1.5	1.3	0.6	1.2	NF	NF	
	TOTAL INPUTS	85	4,098	276	23	67	82	0	*	4.8
	Boiler Fuel	--	1	1	5	1	0	0	--	14.4
	Total Process Uses	--	3,580	275	15	64	16	0	--	6.0
	Process Heating	--	1,187	275	14	63	W	0	--	6.9
	Process Cooling and Refrigeration	--	W	0	0	*	0	0	--	17.6
	Machine Drive	--	2,198	0	1	*	W	0	--	9.2
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	27.3
	Other Process Use	--	W	0	0	1	*	0	--	9.7
	Total Non-Process Uses	--	517	*	3	3	66	0	--	6.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	196	*	1	2	*	0	--	9.5
	Facility Lighting	--	307	--	--	--	--	--	--	6.1
	Facility Support	--	14	0	*	*	*	0	--	11.6
	Onsite Transportation	--	1	--	2	0	65	--	--	7.1
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	*	1	*	*	0	*	0	*	16.3
3229	Pressed and Blown Glass, nec.									
	RSE Column Factors:	NF	0.6	2.7	1.0	0.6	1.0	NF	NF	
	TOTAL INPUTS	W	2,862	81	38	W	31	0	*	8.8
	Boiler Fuel	--	1	W	2	W	0	0	--	9.8
	Total Process Uses	--	2,315	Q	W	36	8	0	--	10.2
	Process Heating	--	1,279	Q	W	35	7	0	--	11.2
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	8.1
	Machine Drive	--	869	*	2	*	1	0	--	8.0
	Electro-Chemical Processes	--	1	--	--	--	--	--	--	11.3
	Other Process Use	--	W	0	*	0	*	0	--	16.0
	Total Non-Process Uses	--	W	*	W	2	20	0	--	5.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	293	*	*	2	1	0	--	7.2
	Facility Lighting	--	178	--	--	--	--	--	--	8.1
	Facility Support	--	35	0	*	*	0	0	--	9.9
	Onsite Transportation	--	7	--	5	0	19	--	--	6.0
	Conventional Electricity Generation	--	--	0	W	0	0	0	--	11.8
	Other Non-Process Use	--	W	0	*	0	0	0	--	13.7
	End Use Not Reported	W	W	0	*	W	Q	0	*	14.1

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
3241	Cement, Hydraulic									
	RSE Column Factors:	NF	0.9	1.7	0.8	1.2	1.1	0.7	NF	
	TOTAL INPUTS	329	9,455	138	616	38	12	8,736	58	11.0
	Boiler Fuel	--	Q	0	18	*	0	0	--	26.2
	Total Process Uses	--	8,900	138	248	37	6	8,736	--	11.4
	Process Heating	--	1,640	W	162	37	5	8,736	--	12.7
	Process Cooling and Refrigeration	--	249	0	0	0	0	0	--	22.0
	Machine Drive	--	6,979	W	W	*	*	0	--	13.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	31	0	W	0	*	0	--	35.3
	Total Non-Process Uses	--	554	0	322	1	6	0	--	15.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	264	0	4	1	3	0	--	20.9
	Facility Lighting	--	205	--	--	--	--	--	--	16.2
	Facility Support	--	84	0	4	*	*	0	--	21.8
	Onsite Transportation	--	1	--	314	0	2	--	--	17.1
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	32.5
	Other Non-Process Use	--	0	0	0	0	*	0	--	NF
	End Use Not Reported	58	Q	*	28	*	*	0	58	30.2
3274	Lime									
	RSE Column Factors:	NF	1.3	0.9	0.9	0.6	0.8	1.8	NF	
	TOTAL INPUTS	117	1,324	W	240	8	Q	3,926	W	25.9
	Boiler Fuel	--	Q	0	Q	*	Q	0	--	NF
	Total Process Uses	--	1,180	W	55	8	*	3,926	--	22.7
	Process Heating	--	280	W	Q	8	0	3,926	--	22.0
	Process Cooling and Refrigeration	--	1	0	0	0	0	0	--	12.7
	Machine Drive	--	899	0	30	*	*	0	--	27.9
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	W	0	0	0	--	24.7
	Total Non-Process Uses	--	91	0	159	*	1	0	--	31.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	43	0	2	*	*	0	--	23.8
	Facility Lighting	--	45	--	--	--	--	--	--	23.8
	Facility Support	--	3	0	0	0	*	0	--	8.2
	Onsite Transportation	--	0	--	158	0	1	--	--	34.6
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	W	Q	0	Q	0	0	0	W	NF
3296	Mineral Wool									
	RSE Column Factors:	NF	0.7	1.2	1.1	0.8	1.1	1.2	NF	
	TOTAL INPUTS	41	2,821	W	12	28	41	*	W	1.6
	Boiler Fuel	--	W	W	*	1	*	*	--	1.8
	Total Process Uses	--	2,489	0	*	23	W	0	--	1.3
	Process Heating	--	1,242	0	*	22	7	0	--	1.5
	Process Cooling and Refrigeration	--	W	0	0	*	0	0	--	1.8
	Machine Drive	--	1,183	0	*	*	W	0	--	1.8
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	0	*	0	0	--	2.6
	Total Non-Process Uses	--	W	0	11	2	28	0	--	1.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	120	0	W	2	*	0	--	1.8
	Facility Lighting	--	109	--	--	--	--	--	--	1.4
	Facility Support	--	24	0	W	*	0	0	--	1.5
	Onsite Transportation	--	W	--	3	0	28	--	--	1.7
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	1.8
	Other Non-Process Use	--	2	0	*	0	0	0	--	2.2
	End Use Not Reported	W	W	0	*	2	W	0	W	2.2

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
33	PRIMARY METAL INDUSTRIES									
	RSE Column Factors:	NF	0.6	1.2	1.2	0.7	2.2	0.8	NF	
	TOTAL INPUTS	2,292	146,276	5,285	1,806	666	888	2,054	1,014	4.6
	Boiler Fuel	--	341	3,963	88	90	38	1,690	--	7.9
	Total Process Uses	--	132,938	1,268	444	507	298	W	--	7.2
	Process Heating	--	29,435	1,261	347	501	239	W	--	8.0
	Process Cooling and Refrigeration	--	833	0	0	*	0	0	--	12.4
	Machine Drive	--	34,482	Q	96	4	54	0	--	7.5
	Electro-Chemical Processes	--	66,954	--	--	--	--	--	--	3.5
	Other Process Use	--	1,234	0	1	2	5	0	--	11.4
	Total Non-Process Uses	--	10,552	Q	1,176	52	510	W	--	3.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4,640	Q	58	43	51	0	--	8.9
	Facility Lighting	--	4,715	--	--	--	--	--	--	5.3
	Facility Support	--	913	Q	1	6	10	0	--	9.1
	Onsite Transportation	--	164	--	1,094	*	442	--	--	4.3
	Conventional Electricity Generation	--	--	0	Q	4	*	W	--	3.5
	Other Non-Process Use	--	120	0	W	1	7	0	--	13.9
	End Use Not Reported	1,041	2,786	1	99	17	41	1	1,014	14.5
3312	Blast Furnaces and Steel Mills									
	RSE Column Factors:	NF	0.6	1.6	1.0	0.7	1.0	1.6	NF	
	TOTAL INPUTS	1,569	38,183	4,986	901	387	74	1,075	978	4.1
	Boiler Fuel	--	W	3,810	32	61	W	1,056	--	6.7
	Total Process Uses	--	34,083	1,173	169	303	22	17	--	4.8
	Process Heating	--	15,635	1,173	121	301	19	17	--	5.3
	Process Cooling and Refrigeration	--	209	0	0	0	0	0	--	9.8
	Machine Drive	--	16,602	0	48	1	2	0	--	7.1
	Electro-Chemical Processes	--	778	--	--	--	--	--	--	14.7
	Other Process Use	--	859	0	*	1	2	0	--	14.0
	Total Non-Process Uses	--	2,951	3	658	21	37	0	--	5.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,212	3	W	16	5	0	--	7.5
	Facility Lighting	--	1,314	--	--	--	--	--	--	4.9
	Facility Support	--	332	0	0	4	6	0	--	9.1
	Onsite Transportation	--	W	--	610	0	26	--	--	6.9
	Conventional Electricity Generation	--	--	0	*	*	*	0	--	15.0
	Other Non-Process Use	--	W	0	W	1	1	0	--	13.7
	End Use Not Reported	985	W	0	42	2	W	1	978	10.2
3313	Electrometallurgical Products									
	RSE Column Factors:	NF	0.8	NF	0.9	0.9	1.3	1.3	NF	
	TOTAL INPUTS	31	4,222	0	20	1	W	W	3	8.4
	Boiler Fuel	--	W	0	0	*	1	W	--	12.6
	Total Process Uses	--	3,995	0	W	1	*	W	--	9.5
	Process Heating	--	3,024	0	0	1	*	W	--	9.3
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	18.4
	Machine Drive	--	792	0	W	*	*	0	--	12.3
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	15.8
	Other Process Use	--	W	0	0	*	0	0	--	14.1
	Total Non-Process Uses	--	W	0	W	*	W	0	--	10.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	61	0	*	*	*	0	--	11.8
	Facility Lighting	--	105	--	--	--	--	--	--	7.9
	Facility Support	--	20	0	0	*	*	0	--	10.5
	Onsite Transportation	--	W	--	W	0	W	--	--	11.8
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	15.5
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	3	W	0	0	0	0	0	3	18.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
3321	Gray and Ductile Iron Foundries									
	RSE Column Factors:	NF	0.6	1.6	1.3	0.6	1.3	1.2	NF	
	TOTAL INPUTS	74	6,412	4	144	28	105	5	22	14.0
	Boiler Fuel	--	24	W	2	2	*	0	--	18.9
	Total Process Uses	--	5,138	Q	Q	18	61	5	--	13.7
	Process Heating	--	2,694	0	Q	16	34	5	--	16.4
	Process Cooling and Refrigeration	--	40	0	0	0	0	0	--	16.3
	Machine Drive	--	2,393	Q	18	1	27	0	--	11.5
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	39.9
	Other Process Use	--	Q	0	*	*	*	0	--	19.4
	Total Non-Process Uses	--	1,048	*	67	7	37	0	--	11.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	574	*	4	6	8	0	--	20.0
	Facility Lighting	--	414	--	--	--	--	--	--	10.9
	Facility Support	--	47	0	1	*	0	0	--	12.2
	Onsite Transportation	--	12	--	62	*	28	--	--	17.7
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	13.6
	Other Non-Process Use	--	*	0	0	*	1	0	--	37.5
	End Use Not Reported	24	226	0	5	1	6	*	22	29.1
3331	Primary Copper									
	RSE Column Factors:	NF	1.0	1.0	1.0	1.0	1.0	1.0	NF	
	TOTAL INPUTS	22	1,246	W	W	15	3	W	1	1.0
	Boiler Fuel	--	W	W	5	4	0	0	--	1.0
	Total Process Uses	--	1,130	W	W	9	*	W	--	1.0
	Process Heating	--	86	W	W	8	*	W	--	1.0
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	1.0
	Machine Drive	--	638	0	0	0	*	0	--	1.0
	Electro-Chemical Processes	--	216	--	--	--	--	--	--	1.0
	Other Process Use	--	W	0	0	*	0	0	--	1.0
	Total Non-Process Uses	--	107	0	W	2	2	0	--	1.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	43	0	*	*	*	0	--	1.0
	Facility Lighting	--	50	--	--	--	--	--	--	1.0
	Facility Support	--	14	0	0	*	0	0	--	1.0
	Onsite Transportation	--	0	--	W	0	2	--	--	1.0
	Conventional Electricity Generation	--	--	0	1	2	0	0	--	1.0
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	1	W	0	0	0	1	0	1	1.0
3334	Primary Aluminum									
	RSE Column Factors:	NF	0.8	1.4	1.1	0.8	1.1	NF	NF	
	TOTAL INPUTS	252	67,317	*	127	20	42	0	1	3.1
	Boiler Fuel	--	W	*	W	2	W	0	--	5.0
	Total Process Uses	--	64,981	0	W	16	18	0	--	3.1
	Process Heating	--	W	0	W	16	18	0	--	3.9
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	7.8
	Machine Drive	--	1,301	0	2	*	*	0	--	5.5
	Electro-Chemical Processes	--	63,226	--	--	--	--	--	--	2.6
	Other Process Use	--	W	0	0	0	0	0	--	6.5
	Total Non-Process Uses	--	W	*	87	1	15	0	--	3.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,207	*	*	1	1	0	--	5.8
	Facility Lighting	--	822	--	--	--	--	--	--	3.9
	Facility Support	--	143	0	0	*	0	0	--	4.5
	Onsite Transportation	--	W	--	87	0	14	--	--	4.0
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	1	0	--	5.6
	End Use Not Reported	2	W	0	2	1	W	0	1	5.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
3339	Primary Nonferrous Metals, nec									
	RSE Column Factors:	NF	1.3	0.4	1.6	1.3	1.4	0.6	NF	
	TOTAL INPUTS	42	4,312	1	53	16	19	W	W	1.9
	Boiler Fuel	--	W	1	3	3	0	W	--	2.8
	Total Process Uses	--	4,050	0	15	7	W	0	--	1.6
	Process Heating	--	1,378	0	W	7	W	0	--	1.3
	Process Cooling and Refrigeration	--	19	0	0	0	0	0	--	3.9
	Machine Drive	--	651	0	W	*	*	0	--	1.0
	Electro-Chemical Processes	--	1,999	--	--	--	--	--	--	1.6
	Other Process Use	--	2	0	0	0	0	0	--	15.5
	Total Non-Process Uses	--	230	0	34	W	W	W	--	1.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	120	0	*	1	W	0	--	2.5
	Facility Lighting	--	84	--	--	--	--	--	--	2.3
	Facility Support	--	24	0	0	*	*	0	--	4.9
	Onsite Transportation	--	2	--	33	0	11	--	--	1.4
	Conventional Electricity Generation	--	--	0	0	W	0	W	--	1.1
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	7	W	0	1	W	*	0	W	1.5
3353	Aluminum Sheet, Plate, and Foil									
	RSE Column Factors:	NF	1.5	NF	0.8	1.2	0.8	0.9	NF	
	TOTAL INPUTS	60	4,261	0	67	41	62	W	W	1.1
	Boiler Fuel	--	W	0	*	2	2	W	--	1.0
	Total Process Uses	--	3,562	0	4	37	19	0	--	1.2
	Process Heating	--	391	0	4	37	W	0	--	1.4
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	1.3
	Machine Drive	--	3,138	0	*	0	W	0	--	1.0
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	0	*	0	0	--	0.7
	Total Non-Process Uses	--	677	0	57	2	42	0	--	1.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	234	0	*	2	W	0	--	1.4
	Facility Lighting	--	385	--	--	--	--	--	--	0.7
	Facility Support	--	34	0	*	*	*	0	--	1.3
	Onsite Transportation	--	24	--	57	0	W	--	--	1.0
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	1	0	0	0	0	0	--	0.7
	End Use Not Reported	W	W	0	5	*	*	0	W	3.1
34	FABRICATED METAL PRODUCTS									
	RSE Column Factors:	NF	0.5	1.7	1.6	0.5	1.1	1.4	NF	
	TOTAL INPUTS	305	29,772	501	994	169	1,122	245	11	11.4
	Boiler Fuel	--	241	357	248	36	Q	238	--	15.8
	Total Process Uses	--	20,603	Q	241	89	456	W	--	16.7
	Process Heating	--	3,395	14	160	86	W	W	--	19.5
	Process Cooling and Refrigeration	--	691	0	1	*	*	0	--	21.6
	Machine Drive	--	15,105	Q	71	1	W	0	--	25.7
	Electro-Chemical Processes	--	1,197	--	--	--	--	--	--	26.6
	Other Process Use	--	215	Q	Q	1	5	0	--	50.0
	Total Non-Process Uses	--	6,903	Q	437	36	512	0	--	14.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2,892	Q	113	33	44	0	--	19.5
	Facility Lighting	--	3,357	--	--	--	--	--	--	15.5
	Facility Support	--	529	Q	1	2	Q	0	--	24.3
	Onsite Transportation	--	99	--	320	*	464	--	--	17.9
	Conventional Electricity Generation	--	--	0	1	1	0	0	--	36.1
	Other Non-Process Use	--	25	0	Q	*	*	0	--	64.8
	End Use Not Reported	27	2,265	Q	68	8	136	Q	11	32.8

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
35	INDUSTRIAL MACHINERY and EQUIPMENT									
	RSE Column Factors:	NF	0.4	2.0	1.2	0.7	1.4	1.1	NF	
	TOTAL INPUTS	235	29,484	490	718	106	651	480	6	10.5
	Boiler Fuel	--	168	426	152	27	35	479	--	17.5
	Total Process Uses	--	16,411	Q	186	36	230	2	--	15.1
	Process Heating	--	2,261	Q	3	31	94	2	--	19.2
	Process Cooling and Refrigeration	--	980	0	0	*	0	0	--	28.7
	Machine Drive	--	12,510	*	89	3	Q	0	--	24.7
	Electro-Chemical Processes	--	268	--	--	--	--	--	--	36.5
	Other Process Use	--	392	*	94	1	6	*	--	28.2
	Total Non-Process Uses	--	10,590	29	359	32	337	0	--	13.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4,934	28	222	30	82	0	--	18.5
	Facility Lighting	--	4,266	--	--	--	--	--	--	12.2
	Facility Support	--	1,260	Q	4	1	Q	0	--	23.5
	Onsite Transportation	--	74	--	76	0	245	--	--	19.0
	Conventional Electricity Generation	--	--	0	Q	*	Q	0	--	46.7
	Other Non-Process Use	--	56	0	46	*	Q	0	--	38.3
	End Use Not Reported	25	2,483	20	20	11	50	0	6	29.0
357	Computer and Office Equipment									
	RSE Column Factors:	NF	0.5	1.5	1.2	0.7	1.6	NF	NF	
	TOTAL INPUTS	21	4,389	11	16	5	4	0	*	15.0
	Boiler Fuel	--	17	8	5	4	*	0	--	20.9
	Total Process Uses	--	1,575	0	*	*	*	0	--	19.9
	Process Heating	--	182	0	0	*	*	0	--	19.2
	Process Cooling and Refrigeration	--	428	0	0	*	0	0	--	31.5
	Machine Drive	--	678	0	*	*	*	0	--	20.4
	Electro-Chemical Processes	--	54	--	--	--	--	--	--	24.6
	Other Process Use	--	233	0	0	*	0	0	--	36.8
	Total Non-Process Uses	--	2,351	3	11	1	4	0	--	18.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,149	3	9	1	3	0	--	21.3
	Facility Lighting	--	731	--	--	--	--	--	--	12.3
	Facility Support	--	420	0	1	*	*	0	--	24.1
	Onsite Transportation	--	4	--	1	0	1	--	--	24.3
	Conventional Electricity Generation	--	--	0	*	*	*	0	--	25.2
	Other Non-Process Use	--	48	0	*	*	0	0	--	43.6
	End Use Not Reported	2	462	1	Q	*	*	0	*	24.0
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT									
	RSE Column Factors:	NF	0.4	1.6	1.2	0.6	1.1	1.7	NF	
	TOTAL INPUTS	196	29,996	612	416	76	396	W	W	9.1
	Boiler Fuel	--	171	571	233	29	22	W	--	12.9
	Total Process Uses	--	17,377	Q	27	31	180	6	--	15.9
	Process Heating	--	4,660	Q	22	29	159	6	--	18.7
	Process Cooling and Refrigeration	--	2,180	1	*	Q	*	0	--	23.6
	Machine Drive	--	8,996	*	3	1	13	0	--	19.5
	Electro-Chemical Processes	--	1,319	--	--	--	--	--	--	25.4
	Other Process Use	--	222	0	1	*	8	0	--	27.8
	Total Non-Process Uses	--	11,107	36	110	15	177	1	--	17.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	6,096	36	77	14	55	1	--	20.9
	Facility Lighting	--	3,822	--	--	--	--	--	--	11.6
	Facility Support	--	1,059	0	Q	1	Q	0	--	16.6
	Onsite Transportation	--	76	--	24	0	119	--	--	17.6
	Conventional Electricity Generation	--	--	0	2	*	*	0	--	27.2
	Other Non-Process Use	--	53	0	3	*	Q	0	--	41.0
	End Use Not Reported	W	1,511	*	47	2	16	0	W	29.7

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
37	TRANSPORTATION EQUIPMENT									
	RSE Column Factors:	NF	0.5	1.4	1.3	0.7	1.5	1.1	NF	
	TOTAL INPUTS	333	34,721	1,865	1,214	129	526	1,464	28	5.1
	Boiler Fuel	--	239	W	261	47	36	W	--	7.0
	Total Process Uses	--	19,990	18	167	51	154	W	--	10.8
	Process Heating	--	3,010	13	W	48	97	W	--	8.3
	Process Cooling and Refrigeration	--	1,529	0	0	*	0	0	--	14.8
	Machine Drive	--	14,409	Q	129	2	Q	0	--	14.3
	Electro-Chemical Processes	--	467	--	--	--	--	--	--	10.7
	Other Process Use	--	574	*	W	1	Q	0	--	15.9
	Total Non-Process Uses	--	12,564	W	734	27	315	0	--	7.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	5,965	43	W	24	69	0	--	10.4
	Facility Lighting	--	5,252	--	--	--	--	--	--	6.4
	Facility Support	--	1,033	W	5	2	2	0	--	8.3
	Onsite Transportation	--	131	--	310	*	241	--	--	8.1
	Conventional Electricity Generation	--	--	W	W	1	*	0	--	14.4
	Other Non-Process Use	--	182	W	180	*	2	0	--	15.2
	End Use Not Reported	39	2,166	Q	52	3	21	0	28	12.6
3711	Motor Vehicles and Car Bodies									
	RSE Column Factors:	NF	0.5	1.8	1.2	0.7	1.1	1.1	NF	
	TOTAL INPUTS	105	7,705	408	65	44	59	W	W	3.0
	Boiler Fuel	--	W	W	6	11	1	W	--	4.7
	Total Process Uses	--	4,959	W	W	24	11	0	--	4.5
	Process Heating	--	538	W	*	23	11	0	--	5.0
	Process Cooling and Refrigeration	--	470	0	0	*	0	0	--	9.6
	Machine Drive	--	3,580	0	W	1	*	0	--	8.8
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	7.4
	Other Process Use	--	W	0	*	*	*	0	--	9.7
	Total Non-Process Uses	--	2,601	W	46	9	40	0	--	3.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,448	W	W	8	11	0	--	5.6
	Facility Lighting	--	925	--	--	--	--	--	--	5.5
	Facility Support	--	182	0	W	1	*	0	--	7.3
	Onsite Transportation	--	W	--	26	0	29	--	--	4.0
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	6.8
	Other Non-Process Use	--	W	0	11	*	0	0	--	8.6
	End Use Not Reported	W	W	0	W	*	6	0	W	9.5
3714	Motor Vehicle Parts and Accessories									
	RSE Column Factors:	NF	0.4	2.0	1.2	0.7	1.5	1.0	NF	
	TOTAL INPUTS	99	10,888	60	104	40	168	W	W	7.0
	Boiler Fuel	--	47	55	W	12	W	W	--	8.1
	Total Process Uses	--	7,389	3	26	18	32	W	--	12.1
	Process Heating	--	919	1	W	17	22	W	--	14.1
	Process Cooling and Refrigeration	--	477	0	0	*	0	0	--	19.9
	Machine Drive	--	5,780	Q	W	*	10	0	--	22.0
	Electro-Chemical Processes	--	144	--	--	--	--	--	--	19.3
	Other Process Use	--	69	*	Q	*	0	0	--	13.5
	Total Non-Process Uses	--	3,028	2	71	9	120	0	--	10.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1,493	2	W	8	Q	0	--	12.4
	Facility Lighting	--	1,210	--	--	--	--	--	--	9.7
	Facility Support	--	250	0	*	*	*	0	--	16.8
	Onsite Transportation	--	W	--	W	*	107	--	--	10.8
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	21.7
	Other Non-Process Use	--	W	*	1	*	*	0	--	18.2
	End Use Not Reported	W	471	*	W	1	W	0	W	18.1

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
38	INSTRUMENTS and RELATED PRODUCTS									
	RSE Column Factors:	NF	0.5	0.9	1.3	0.8	1.4	1.6	NF	
	TOTAL INPUTS	98	12,367	536	W	25	Q	W	W	12.3
	Boiler Fuel	--	94	492	W	14	Q	W	--	16.2
	Total Process Uses	--	5,152	Q	15	4	12	0	--	15.7
	Process Heating	--	749	0	W	3	9	0	--	20.7
	Process Cooling and Refrigeration	--	W	Q	*	*	0	0	--	25.8
	Machine Drive	--	2,997	0	W	*	Q	0	--	22.9
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	23.4
	Other Process Use	--	308	0	*	*	1	0	--	28.9
	Total Non-Process Uses	--	6,459	Q	62	6	27	0	--	16.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	3,306	Q	23	6	Q	0	--	16.7
	Facility Lighting	--	2,346	--	--	--	--	--	--	12.8
	Facility Support	--	622	*	2	*	Q	0	--	18.7
	Onsite Transportation	--	14	--	36	0	9	--	--	17.9
	Conventional Electricity Generation	--	--	0	1	*	*	0	--	23.3
	Other Non-Process Use	--	171	Q	*	*	*	0	--	29.8
	End Use Not Reported	W	756	Q	Q	1	Q	1	W	25.1
3841	Surgical and Medical Instruments									
	RSE Column Factors:	NF	0.6	1.8	1.2	0.7	1.1	NF	NF	
	TOTAL INPUTS	6	1,161	9	30	2	8	0	*	13.4
	Boiler Fuel	--	10	9	21	1	*	0	--	20.5
	Total Process Uses	--	530	0	4	*	6	0	--	19.9
	Process Heating	--	61	0	3	*	5	0	--	21.0
	Process Cooling and Refrigeration	--	88	0	*	*	0	0	--	16.9
	Machine Drive	--	379	0	*	*	Q	0	--	11.8
	Electro-Chemical Processes	--	2	--	--	--	--	--	--	45.6
	Other Process Use	--	1	0	*	0	*	0	--	37.6
	Total Non-Process Uses	--	538	0	6	1	2	0	--	15.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	336	0	4	1	*	0	--	20.4
	Facility Lighting	--	166	--	--	--	--	--	--	15.2
	Facility Support	--	35	0	*	*	*	0	--	21.4
	Onsite Transportation	--	2	--	2	0	1	--	--	27.1
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	38.3
	Other Non-Process Use	--	*	0	*	*	*	0	--	35.2
	End Use Not Reported	*	93	*	0	*	*	0	*	26.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Total (trillion Btu)	Net Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^e (trillion Btu)	RSE Row Factors
39	MISC. MANUFACTURING INDUSTRIES									
	RSE Column Factors:	NF	0.5	1.2	1.3	0.7	1.0	1.8	NF	
	TOTAL INPUTS	31	3,661	115	W	14	W	32	W	13.3
	Boiler Fuel	--	29	99	W	5	W	30	--	20.9
	Total Process Uses	--	2,140	Q	9	5	19	0	--	18.7
	Process Heating	--	503	Q	Q	5	8	0	--	20.0
	Process Cooling and Refrigeration	--	183	0	0	*	0	0	--	33.4
	Machine Drive	--	1,399	0	1	*	10	0	--	29.7
	Electro-Chemical Processes	--	54	--	--	--	--	--	--	68.1
	Other Process Use	--	*	0	*	*	1	0	--	55.9
	Total Non-Process Uses	--	1,210	12	58	4	40	Q	--	20.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	592	12	39	3	Q	Q	--	23.6
	Facility Lighting	--	484	--	--	--	--	--	--	17.0
	Facility Support	--	87	*	*	*	2	0	--	30.6
	Onsite Transportation	--	13	--	Q	*	27	--	--	20.1
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	28.9
	Other Non-Process Use	--	34	0	2	*	2	0	--	39.6
	End Use Not Reported	W	310	1	25	1	5	0	W	36.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^c Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers) and other energy that respondents indicated was used to produce heat and power.

^f Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
20-39	ALL INDUSTRY GROUPS									
	RSE Column Factors:	NF	0.4	1.6	1.5	0.7	1.0	1.6	NF	
	TOTAL INPUTS	15,027	2,370	414	139	5,506	105	1,184	5,309	3.0
	Boiler Fuel	--	W	296	40	2,098	18	859	--	3.6
	Total Process Uses	--	1,864	109	34	2,578	64	314	--	4.1
	Process Heating	--	235	107	19	2,382	49	314	--	4.1
	Process Cooling and Refrigeration	--	124	*	*	13	*	0	--	12.4
	Machine Drive	--	1,187	2	14	127	15	0	--	8.4
	Electro-Chemical Processes	--	304	--	--	--	--	--	--	5.0
	Other Process Use	--	15	*	1	56	*	*	--	14.0
	Total Non-Process Uses	--	396	7	53	702	19	W	--	4.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	192	4	8	283	3	*	--	6.8
	Facility Lighting	--	161	--	--	--	--	--	--	5.0
	Facility Support	--	36	W	*	23	*	0	--	10.5
	Onsite Transportation	--	4	--	38	*	16	--	--	9.4
	Conventional Electricity Generation	--	--	2	4	347	*	W	--	8.9
	Other Non-Process Use	--	4	W	2	49	*	0	--	11.2
	End Use Not Reported	5,547	W	2	12	128	4	W	5,309	10.6
20	FOOD and KINDRED PRODUCTS									
	RSE Column Factors:	NF	0.5	1.5	1.5	0.7	1.6	0.9	NF	
	TOTAL INPUTS	953	169	27	17	512	5	154	69	5.9
	Boiler Fuel	--	4	24	7	315	2	143	--	8.4
	Total Process Uses	--	131	W	2	144	1	W	--	9.4
	Process Heating	--	7	2	1	137	1	W	--	11.8
	Process Cooling and Refrigeration	--	43	0	*	W	*	0	--	17.6
	Machine Drive	--	81	Q	*	W	*	0	--	19.1
	Electro-Chemical Processes	--	Q	--	--	--	--	--	--	NF
	Other Process Use	--	*	0	*	2	*	0	--	33.5
	Total Non-Process Uses	--	27	W	7	35	2	W	--	11.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	12	*	1	20	*	W	--	16.1
	Facility Lighting	--	12	--	--	--	--	--	--	8.2
	Facility Support	--	3	Q	*	2	*	0	--	17.4
	Onsite Transportation	--	1	--	5	*	2	--	--	10.8
	Conventional Electricity Generation	--	--	0	1	12	*	W	--	22.7
	Other Non-Process Use	--	*	*	*	*	Q	0	--	25.2
	End Use Not Reported	95	7	1	1	17	Q	0	69	22.5
2011	Meat Packing Plants									
	RSE Column Factors:	NF	0.4	1.6	1.0	0.6	1.4	1.8	NF	
	TOTAL INPUTS	49	12	1	1	32	1	1	2	10.1
	Boiler Fuel	--	*	1	*	22	*	1	--	12.9
	Total Process Uses	--	10	*	*	6	*	0	--	14.5
	Process Heating	--	W	0	*	6	*	0	--	17.0
	Process Cooling and Refrigeration	--	6	0	Q	*	*	0	--	17.9
	Machine Drive	--	4	*	*	*	*	0	--	19.8
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	*	*	0	0	--	36.4
	Total Non-Process Uses	--	1	*	1	3	*	0	--	13.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	*	Q	2	*	0	--	10.2
	Facility Lighting	--	1	--	--	--	--	--	--	14.1
	Facility Support	--	*	0	*	*	Q	0	--	23.0
	Onsite Transportation	--	*	--	1	*	*	--	--	25.9
	Conventional Electricity Generation	--	--	0	*	1	0	0	--	36.1
	Other Non-Process Use	--	0	0	*	0	0	0	--	27.6
	End Use Not Reported	3	*	*	*	*	*	0	2	32.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2033	Canned Fruits and Vegetables									
	RSE Column Factors:	NF	0.6	1.1	1.3	0.9	1.2	NF	NF	
	TOTAL INPUTS	44	5	2	1	36	*	Q	*	9.0
	Boiler Fuel	--	*	2	Q	29	*	Q	--	13.5
	Total Process Uses	--	4	*	*	2	*	0	--	14.7
	Process Heating	--	*	0	0	1	*	0	--	26.1
	Process Cooling and Refrigeration	--	1	0	*	*	*	0	--	18.0
	Machine Drive	--	3	*	*	*	*	0	--	17.8
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	37.4
	Other Process Use	--	*	0	0	*	0	0	--	35.5
	Total Non-Process Uses	--	1	0	*	4	*	0	--	11.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	*	1	*	0	--	14.4
	Facility Lighting	--	*	--	--	--	--	--	--	7.8
	Facility Support	--	*	0	*	*	*	0	--	22.6
	Onsite Transportation	--	*	--	W	0	*	--	--	11.1
	Conventional Electricity Generation	--	--	0	W	3	0	0	--	25.9
	Other Non-Process Use	--	*	0	*	0	0	0	--	22.4
	End Use Not Reported	2	*	Q	*	2	*	0	*	21.9
2037	Frozen Fruits and Vegetables									
	RSE Column Factors:	NF	0.6	1.2	1.2	0.8	1.3	NF	NF	
	TOTAL INPUTS	40	10	2	*	26	*	0	1	13.0
	Boiler Fuel	--	1	2	*	18	*	0	--	21.6
	Total Process Uses	--	8	*	Q	4	*	0	--	17.3
	Process Heating	--	1	*	*	4	*	0	--	21.6
	Process Cooling and Refrigeration	--	5	0	0	*	0	0	--	24.2
	Machine Drive	--	2	0	Q	*	*	0	--	24.3
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	58.1
	Other Process Use	--	*	0	0	*	0	0	--	46.9
	Total Non-Process Uses	--	1	0	*	2	*	0	--	13.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	0	Q	1	*	0	--	16.3
	Facility Lighting	--	1	--	--	--	--	--	--	15.7
	Facility Support	--	*	0	0	*	*	0	--	17.3
	Onsite Transportation	--	*	--	*	0	*	--	--	16.1
	Conventional Electricity Generation	--	--	0	*	1	0	0	--	27.2
	Other Non-Process Use	--	*	0	*	0	0	0	--	40.0
	End Use Not Reported	3	1	*	Q	2	*	0	1	33.6
2046	Wet Corn Milling									
	RSE Column Factors:	NF	0.6	1.1	1.1	0.8	1.4	1.1	NF	
	TOTAL INPUTS	140	14	*	*	52	*	68	6	11.1
	Boiler Fuel	--	*	*	W	26	0	W	--	11.8
	Total Process Uses	--	13	0	W	25	*	W	--	13.6
	Process Heating	--	W	0	W	25	0	W	--	15.8
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	17.3
	Machine Drive	--	13	0	*	0	*	0	--	15.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	0	0	0	0	--	36.1
	Total Non-Process Uses	--	*	0	*	1	*	W	--	16.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	*	*	*	0	--	21.2
	Facility Lighting	--	*	--	--	--	--	--	--	12.6
	Facility Support	--	W	0	0	*	*	0	--	23.1
	Onsite Transportation	--	*	--	*	0	*	--	--	15.7
	Conventional Electricity Generation	--	--	0	*	1	0	W	--	21.4
	Other Non-Process Use	--	W	0	*	0	0	0	--	23.7
	End Use Not Reported	7	*	0	0	1	*	0	6	18.9

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2051	Bread, Cake, and Related Products									
	RSE Column Factors:	NF	0.5	1.7	1.1	0.7	1.5	NF	NF	
	TOTAL INPUTS	32	8	*	1	23	*	0	*	12.1
	Boiler Fuel	--	*	*	*	6	*	0	--	18.9
	Total Process Uses	--	5	0	*	14	*	0	--	13.0
	Process Heating	--	*	0	W	14	*	0	--	16.3
	Process Cooling and Refrigeration	--	1	0	0	*	0	0	--	20.5
	Machine Drive	--	3	0	*	*	*	0	--	26.6
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	*	0	W	*	*	0	--	27.1
	Total Non-Process Uses	--	2	0	*	3	*	0	--	13.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	0	W	2	*	0	--	14.2
	Facility Lighting	--	1	--	--	--	--	--	--	11.2
	Facility Support	--	*	0	*	*	*	0	--	23.1
	Onsite Transportation	--	Q	--	*	*	*	--	--	21.5
	Conventional Electricity Generation	--	--	0	W	*	*	0	--	35.0
	Other Non-Process Use	--	*	0	*	*	0	0	--	39.9
	End Use Not Reported	2	*	0	*	1	*	0	*	27.3
2063	Beet Sugar									
	RSE Column Factors:	NF	1.1	1.5	1.0	0.9	1.1	0.6	NF	
	TOTAL INPUTS	67	1	W	*	19	*	43	W	5.8
	Boiler Fuel	--	*	W	W	12	0	36	--	10.2
	Total Process Uses	--	1	1	W	6	*	7	--	7.5
	Process Heating	--	*	1	*	6	*	7	--	12.3
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	38.0
	Machine Drive	--	1	0	W	*	*	0	--	8.3
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	*	W	*	*	*	0	--	6.6
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	W	0	*	*	0	--	8.8
	Facility Lighting	--	*	--	--	--	--	--	--	5.3
	Facility Support	--	*	0	0	*	*	0	--	9.7
	Onsite Transportation	--	*	--	*	0	*	--	--	8.2
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	*	0	--	14.9
	End Use Not Reported	W	0	0	*	*	*	0	W	17.3
2075	Soybean Oil Mills									
	RSE Column Factors:	NF	0.7	1.5	1.2	0.7	1.6	0.8	NF	
	TOTAL INPUTS	50	6	*	*	24	*	13	7	3.4
	Boiler Fuel	--	*	*	W	18	*	13	--	4.5
	Total Process Uses	--	5	*	W	6	*	0	--	4.7
	Process Heating	--	*	0	W	5	*	0	--	6.7
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	6.0
	Machine Drive	--	5	*	*	0	*	0	--	4.7
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	*	*	0	--	7.6
	Total Non-Process Uses	--	*	*	*	1	*	0	--	4.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	0	*	0	0	--	5.1
	Facility Lighting	--	*	--	--	--	--	--	--	4.5
	Facility Support	--	*	0	*	*	0	0	--	9.6
	Onsite Transportation	--	*	--	*	0	*	--	--	3.1
	Conventional Electricity Generation	--	--	0	*	1	0	0	--	8.1
	Other Non-Process Use	--	0	*	0	0	0	0	--	6.0
	End Use Not Reported	7	*	*	*	*	*	0	7	6.3

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2082	Malt Beverages									
	RSE Column Factors:	NF	0.5	1.3	1.4	0.8	1.0	1.4	NF	
	TOTAL INPUTS	50	8	3	*	23	*	16	1	10.1
	Boiler Fuel	--	*	3	W	21	*	16	--	13.2
	Total Process Uses	--	6	0	*	1	0	0	--	13.8
	Process Heating	--	*	0	0	1	0	0	--	22.6
	Process Cooling and Refrigeration	--	3	0	0	*	0	0	--	18.1
	Machine Drive	--	3	0	*	0	0	0	--	14.7
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	2	*	W	*	W	*	--	14.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	*	0	*	W	*	--	16.5
	Facility Lighting	--	1	--	--	--	--	--	--	10.9
	Facility Support	--	*	0	*	0	0	0	--	16.6
	Onsite Transportation	--	*	--	W	0	*	--	--	14.0
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	1	*	0	*	*	W	0	1	23.4
21	TOBACCO PRODUCTS									
	RSE Column Factors:	NF	1.1	0.6	0.9	1.9	1.2	0.6	NF	
	TOTAL INPUTS	24	3	1	*	4	*	15	*	6.3
	Boiler Fuel	--	*	1	*	3	W	15	--	6.1
	Total Process Uses	--	2	0	*	1	W	0	--	5.2
	Process Heating	--	*	0	*	1	W	0	--	8.6
	Process Cooling and Refrigeration	--	W	0	0	*	0	0	--	6.2
	Machine Drive	--	2	0	*	*	0	0	--	5.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	0	0	0	0	--	7.3
	Total Non-Process Uses	--	1	0	*	*	*	0	--	8.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	W	0	0	*	*	0	--	8.8
	Facility Lighting	--	W	--	--	--	--	--	--	4.5
	Facility Support	--	*	0	0	*	0	0	--	4.4
	Onsite Transportation	--	*	--	*	0	*	--	--	7.2
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	*	0	--	6.5
	End Use Not Reported	*	*	0	0	*	*	0	*	5.5
22	TEXTILE MILL PRODUCTS									
	RSE Column Factors:	NF	0.4	1.3	1.6	0.8	1.2	1.2	NF	
	TOTAL INPUTS	273	101	12	6	108	2	31	13	7.2
	Boiler Fuel	--	1	11	5	70	*	30	--	11.1
	Total Process Uses	--	73	1	*	31	1	W	--	11.0
	Process Heating	--	3	W	*	28	1	W	--	13.9
	Process Cooling and Refrigeration	--	7	0	*	*	*	0	--	21.3
	Machine Drive	--	61	W	*	2	*	0	--	14.4
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	63.1
	Other Process Use	--	W	*	*	1	*	0	--	23.5
	Total Non-Process Uses	--	25	*	1	4	1	*	--	13.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	14	*	W	4	*	*	--	16.9
	Facility Lighting	--	9	--	--	--	--	--	--	9.4
	Facility Support	--	1	*	*	*	*	0	--	13.4
	Onsite Transportation	--	*	--	*	0	*	--	--	13.8
	Conventional Electricity Generation	--	--	0	Q	*	*	0	--	44.9
	Other Non-Process Use	--	*	0	*	*	*	0	--	23.2
	End Use Not Reported	20	2	1	Q	3	*	W	13	19.7

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
23	APPAREL and OTHER TEXTILE PRODUCTS									
	RSE Column Factors:	NF	0.5	NF	1.4	0.7	1.3	1.5	NF	
	TOTAL INPUTS	44	19	Q	1	19	1	2	1	16.8
	Boiler Fuel	--	*	Q	*	7	*	2	--	27.1
	Total Process Uses	--	9	Q	Q	6	*	0	--	23.5
	Process Heating	--	1	0	Q	5	*	0	--	30.3
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	69.2
	Machine Drive	--	8	Q	*	1	Q	0	--	38.5
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	85.0
	Other Process Use	--	Q	0	0	0	*	0	--	37.9
	Total Non-Process Uses	--	7	Q	*	4	*	0	--	19.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4	Q	*	4	*	0	--	22.8
	Facility Lighting	--	3	--	--	--	--	--	--	17.8
	Facility Support	--	*	0	*	*	*	0	--	36.1
	Onsite Transportation	--	Q	--	*	*	*	--	--	19.9
	Conventional Electricity Generation	--	--	0	0	*	0	0	--	NF
	Other Non-Process Use	--	0	0	*	0	0	0	--	33.4
	End Use Not Reported	6	3	Q	*	2	*	0	1	29.6
24	LUMBER and WOOD PRODUCTS									
	RSE Column Factors:	NF	0.6	1.3	1.0	0.9	1.1	1.5	NF	
	TOTAL INPUTS	423	61	2	14	41	4	2	300	15.4
	Boiler Fuel	--	1	2	1	13	*	2	--	26.8
	Total Process Uses	--	48	Q	4	19	2	0	--	18.1
	Process Heating	--	3	Q	Q	18	1	0	--	22.5
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	88.3
	Machine Drive	--	44	0	3	Q	Q	0	--	17.9
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	70.3
	Other Process Use	--	Q	0	Q	0	Q	0	--	88.3
	Total Non-Process Uses	--	6	Q	6	5	2	*	--	18.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2	Q	Q	5	Q	*	--	26.5
	Facility Lighting	--	3	--	--	--	--	--	--	19.8
	Facility Support	--	1	0	*	*	*	0	--	35.8
	Onsite Transportation	--	Q	--	5	0	2	--	--	13.1
	Conventional Electricity Generation	--	--	0	Q	0	0	0	--	NF
	Other Non-Process Use	--	*	0	*	*	*	0	--	46.1
	End Use Not Reported	314	6	Q	3	4	*	0	300	32.6
25	FURNITURE and FIXTURES									
	RSE Column Factors:	NF	0.5	2.0	1.1	0.6	0.9	1.8	NF	
	TOTAL INPUTS	67	17	1	1	19	1	4	25	17.9
	Boiler Fuel	--	*	Q	*	3	*	3	--	28.5
	Total Process Uses	--	11	*	Q	7	*	*	--	19.0
	Process Heating	--	1	0	Q	7	*	*	--	25.6
	Process Cooling and Refrigeration	--	*	0	0	*	0	0	--	36.5
	Machine Drive	--	10	*	Q	1	*	0	--	24.1
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	40.6
	Other Process Use	--	Q	0	*	0	*	0	--	55.1
	Total Non-Process Uses	--	5	Q	*	7	1	*	--	22.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2	Q	*	7	*	*	--	26.8
	Facility Lighting	--	2	--	--	--	--	--	--	18.3
	Facility Support	--	*	*	*	*	*	0	--	34.4
	Onsite Transportation	--	*	--	Q	0	*	--	--	23.4
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	*	0	*	0	*	0	--	59.5
	End Use Not Reported	28	1	*	*	2	*	0	25	35.2

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
26	PAPER and ALLIED PRODUCTS									
	RSE Column Factors:	NF	0.8	0.8	1.7	0.8	1.4	0.8	NF	
	TOTAL INPUTS	2,472	201	156	9	548	W	296	W	4.6
	Boiler Fuel	--	5	133	4	361	W	293	--	5.8
	Total Process Uses	--	171	21	2	124	2	Q	--	5.6
	Process Heating	--	5	20	2	106	1	Q	--	8.4
	Process Cooling and Refrigeration	--	3	0	*	*	W	0	--	8.3
	Machine Drive	--	160	1	W	12	*	0	--	10.0
	Electro-Chemical Processes	--	2	--	--	--	--	--	--	7.9
	Other Process Use	--	2	0	W	6	*	0	--	9.8
	Total Non-Process Uses	--	20	2	3	54	2	*	--	6.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	9	W	1	W	W	*	--	11.3
	Facility Lighting	--	9	--	--	--	--	--	--	5.2
	Facility Support	--	2	0	*	*	*	0	--	10.5
	Onsite Transportation	--	*	--	2	*	2	--	--	6.3
	Conventional Electricity Generation	--	--	W	*	38	Q	0	--	15.7
	Other Non-Process Use	--	*	*	Q	W	*	0	--	21.1
	End Use Not Reported	1,272	5	*	*	9	*	W	W	19.3
2611	Pulp Mills									
	RSE Column Factors:	NF	0.8	1.0	0.9	0.8	1.3	1.3	NF	
	TOTAL INPUTS	300	9	28	1	32	1	7	221	14.9
	Boiler Fuel	--	*	24	*	23	*	7	--	18.8
	Total Process Uses	--	8	4	*	10	*	0	--	17.3
	Process Heating	--	*	4	*	10	*	0	--	21.6
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	22.0
	Machine Drive	--	7	*	*	0	*	0	--	24.0
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	31.8
	Other Process Use	--	Q	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	1	*	*	*	*	0	--	18.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	*	*	*	0	--	22.6
	Facility Lighting	--	*	--	--	--	--	--	--	15.9
	Facility Support	--	*	0	0	0	0	0	--	22.0
	Onsite Transportation	--	*	--	*	0	*	--	--	18.9
	Conventional Electricity Generation	--	--	*	0	*	0	0	--	40.5
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	222	*	*	*	*	Q	0	221	27.6
2621	Paper Mills									
	RSE Column Factors:	NF	0.9	1.1	1.0	1.0	1.1	1.0	NF	
	TOTAL INPUTS	1,204	112	85	W	260	2	193	W	2.9
	Boiler Fuel	--	2	73	2	163	W	193	--	3.5
	Total Process Uses	--	101	10	W	58	1	0	--	3.5
	Process Heating	--	1	10	1	48	1	0	--	4.1
	Process Cooling and Refrigeration	--	1	0	*	*	*	0	--	8.2
	Machine Drive	--	96	*	*	W	*	0	--	4.6
	Electro-Chemical Processes	--	2	--	--	--	--	--	--	5.9
	Other Process Use	--	*	0	W	W	*	0	--	10.3
	Total Non-Process Uses	--	8	2	1	38	W	*	--	5.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4	2	*	2	*	*	--	4.5
	Facility Lighting	--	3	--	--	--	--	--	--	3.5
	Facility Support	--	1	0	*	*	*	0	--	5.9
	Onsite Transportation	--	W	--	1	0	W	--	--	3.8
	Conventional Electricity Generation	--	--	W	*	36	0	0	--	8.8
	Other Non-Process Use	--	W	W	*	0	*	0	--	7.5
	End Use Not Reported	W	2	*	*	*	*	0	W	5.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2631	Paperboard Mills									
	RSE Column Factors:	NF	0.8	1.5	1.0	0.8	1.2	0.9	NF	
	TOTAL INPUTS	832	35	W	1	185	*	W	480	4.6
	Boiler Fuel	--	2	32	*	136	*	90	--	7.0
	Total Process Uses	--	30	W	W	37	*	Q	--	5.8
	Process Heating	--	1	W	W	W	*	Q	--	10.0
	Process Cooling and Refrigeration	--	*	0	0	*	0	0	--	11.6
	Machine Drive	--	28	0	W	W	*	0	--	9.9
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	18.4
	Other Process Use	--	W	0	W	*	0	0	--	18.4
	Total Non-Process Uses	--	3	*	1	W	*	0	--	9.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	*	0	2	*	0	--	13.1
	Facility Lighting	--	1	--	--	--	--	--	--	11.8
	Facility Support	--	*	0	*	*	0	0	--	14.6
	Onsite Transportation	--	Q	--	1	0	*	--	--	4.9
	Conventional Electricity Generation	--	--	0	*	W	0	0	--	26.8
	Other Non-Process Use	--	*	0	Q	W	0	0	--	21.3
	End Use Not Reported	486	*	*	W	W	*	0	480	14.3
27	PRINTING and PUBLISHING									
	RSE Column Factors:	NF	0.5	1.6	1.5	0.7	1.1	NF	NF	
	TOTAL INPUTS	108	53	*	2	48	1	0	4	12.6
	Boiler Fuel	--	*	*	1	14	W	0	--	26.7
	Total Process Uses	--	26	0	Q	17	W	0	--	15.9
	Process Heating	--	1	0	Q	15	W	0	--	23.2
	Process Cooling and Refrigeration	--	2	0	0	*	*	0	--	31.9
	Machine Drive	--	23	0	*	2	*	0	--	26.4
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	79.8
	Other Process Use	--	*	0	0	*	0	0	--	60.4
	Total Non-Process Uses	--	19	*	1	12	*	0	--	18.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	10	*	1	11	*	0	--	23.3
	Facility Lighting	--	7	--	--	--	--	--	--	16.0
	Facility Support	--	2	*	*	1	Q	0	--	27.9
	Onsite Transportation	--	*	--	*	0	*	--	--	24.1
	Conventional Electricity Generation	--	--	0	Q	0	0	0	--	NF
	Other Non-Process Use	--	Q	0	*	*	Q	0	--	18.9
	End Use Not Reported	18	8	0	*	5	Q	0	4	25.4
28	CHEMICALS and ALLIED PRODUCTS									
	RSE Column Factors:	NF	0.6	0.9	1.2	0.8	1.5	1.3	NF	
	TOTAL INPUTS	3,040	440	48	12	1,669	4	253	614	5.3
	Boiler Fuel	--	W	28	6	719	2	244	--	6.4
	Total Process Uses	--	387	W	2	673	2	8	--	7.5
	Process Heating	--	14	19	2	577	1	8	--	9.3
	Process Cooling and Refrigeration	--	27	0	*	2	W	0	--	10.1
	Machine Drive	--	286	0	1	55	*	0	--	7.8
	Electro-Chemical Processes	--	60	--	--	--	--	--	--	9.8
	Other Process Use	--	1	W	*	39	W	0	--	12.1
	Total Non-Process Uses	--	41	W	3	256	1	W	--	7.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	21	W	*	W	*	W	--	10.1
	Facility Lighting	--	15	--	--	--	--	--	--	6.5
	Facility Support	--	4	0	*	4	*	0	--	10.4
	Onsite Transportation	--	*	--	2	0	1	--	--	9.5
	Conventional Electricity Generation	--	--	W	*	191	*	0	--	12.1
	Other Non-Process Use	--	1	0	*	W	*	0	--	10.6
	End Use Not Reported	W	W	*	*	21	*	W	614	14.5

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2812	Alkalies and Chlorine									
	RSE Column Factors:	NF	0.7	1.3	0.9	0.9	1.1	1.2	NF	
	TOTAL INPUTS	160	37	W	*	W	*	W	21	16.4
	Boiler Fuel	--	*	W	W	56	0	W	--	23.1
	Total Process Uses	--	36	0	W	4	0	0	--	19.2
	Process Heating	--	W	0	W	4	0	0	--	27.2
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	21.1
	Machine Drive	--	3	0	*	0	0	0	--	19.6
	Electro-Chemical Processes	--	32	--	--	--	--	--	--	13.6
	Other Process Use	--	W	0	*	1	0	0	--	31.3
	Total Non-Process Uses	--	W	0	*	W	*	0	--	15.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	0	1	0	0	--	20.2
	Facility Lighting	--	*	--	--	--	--	--	--	15.1
	Facility Support	--	W	0	0	0	0	0	--	33.2
	Onsite Transportation	--	0	--	*	0	*	--	--	14.2
	Conventional Electricity Generation	--	--	0	0	W	0	0	--	20.3
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	21	W	0	W	0	*	0	21	31.3
2813	Industrial Gases									
	RSE Column Factors:	NF	0.4	NF	1.3	0.8	2.2	NF	NF	
	TOTAL INPUTS	91	61	0	*	25	Q	0	5	14.2
	Boiler Fuel	--	0	0	*	8	0	0	--	13.6
	Total Process Uses	--	57	0	*	12	0	0	--	11.2
	Process Heating	--	W	0	0	11	0	0	--	23.0
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	25.3
	Machine Drive	--	56	0	0	*	0	0	--	12.4
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	36.8
	Other Process Use	--	Q	0	*	*	0	0	--	34.3
	Total Non-Process Uses	--	W	0	Q	4	Q	0	--	14.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	0	*	*	*	0	--	14.5
	Facility Lighting	--	1	--	--	--	--	--	--	11.5
	Facility Support	--	W	0	0	*	0	0	--	12.3
	Onsite Transportation	--	0	--	Q	0	Q	--	--	NF
	Conventional Electricity Generation	--	--	0	0	2	0	0	--	24.9
	Other Non-Process Use	--	0	0	0	2	0	0	--	24.9
	End Use Not Reported	W	W	0	*	*	*	0	5	12.6
2819	Industrial Inorganic Chemicals, nec									
	RSE Column Factors:	NF	0.8	1.0	1.2	0.8	1.2	1.2	NF	
	TOTAL INPUTS	311	127	4	3	140	*	17	20	8.9
	Boiler Fuel	--	W	W	1	71	*	9	--	10.1
	Total Process Uses	--	119	W	*	54	*	7	--	11.7
	Process Heating	--	7	W	*	54	*	7	--	13.9
	Process Cooling and Refrigeration	--	W	0	0	*	0	0	--	12.8
	Machine Drive	--	97	0	W	*	*	0	--	13.1
	Electro-Chemical Processes	--	14	--	--	--	--	--	--	14.1
	Other Process Use	--	W	0	W	*	*	0	--	16.8
	Total Non-Process Uses	--	5	0	1	12	*	W	--	10.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	3	0	*	W	*	W	--	9.8
	Facility Lighting	--	1	--	--	--	--	--	--	7.1
	Facility Support	--	1	0	W	*	*	0	--	12.0
	Onsite Transportation	--	W	--	1	0	*	--	--	9.2
	Conventional Electricity Generation	--	--	0	W	W	0	0	--	16.7
	Other Non-Process Use	--	W	0	*	*	*	0	--	15.4
	End Use Not Reported	25	W	0	*	2	Q	W	20	13.7

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2821	Plastics Materials and Resins									
	RSE Column Factors:	NF	0.6	1.3	1.3	0.9	1.2	0.9	NF	
	TOTAL INPUTS	288	50	4	1	151	*	24	57	6.1
	Boiler Fuel	--	1	W	1	81	*	24	--	7.9
	Total Process Uses	--	44	W	*	53	*	0	--	5.9
	Process Heating	--	W	W	*	43	W	0	--	6.8
	Process Cooling and Refrigeration	--	5	0	0	*	W	0	--	9.4
	Machine Drive	--	31	0	*	W	*	0	--	7.5
	Electro-Chemical Processes	--	7	--	--	--	--	--	--	15.5
	Other Process Use	--	W	0	*	W	*	0	--	10.3
	Total Non-Process Uses	--	5	W	*	15	*	0	--	6.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2	0	*	2	W	0	--	7.7
	Facility Lighting	--	2	--	--	--	--	--	--	4.6
	Facility Support	--	1	0	*	1	W	0	--	8.8
	Onsite Transportation	--	*	--	*	0	*	--	--	7.1
	Conventional Electricity Generation	--	--	W	*	13	0	0	--	8.7
	Other Non-Process Use	--	*	0	*	*	*	0	--	16.2
	End Use Not Reported	60	1	0	*	2	*	0	57	13.0
2822	Synthetic Rubber									
	RSE Column Factors:	NF	0.6	1.4	1.0	0.9	1.0	1.4	NF	
	TOTAL INPUTS	112	6	*	*	44	*	W	W	12.4
	Boiler Fuel	--	W	*	W	24	0	W	--	15.2
	Total Process Uses	--	5	0	W	20	*	0	--	17.2
	Process Heating	--	*	0	0	W	0	0	--	19.3
	Process Cooling and Refrigeration	--	1	0	0	*	0	0	--	19.2
	Machine Drive	--	4	0	W	*	*	0	--	17.0
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	35.9
	Other Process Use	--	*	0	*	W	0	0	--	25.9
	Total Non-Process Uses	--	1	0	*	*	W	0	--	13.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	0	*	*	0	--	17.1
	Facility Lighting	--	*	--	--	--	--	--	--	14.7
	Facility Support	--	*	0	*	*	0	0	--	16.9
	Onsite Transportation	--	*	--	*	0	W	--	--	17.0
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	23.6
	Other Non-Process Use	--	0	0	*	*	0	0	--	23.6
	End Use Not Reported	W	W	0	*	*	W	0	W	22.7
2823	Cellulosic Manmade Fibers									
	RSE Column Factors:	NF	1.1	NF	1.1	1.1	1.0	0.8	NF	
	TOTAL INPUTS	31	W	0	*	W	*	27	*	22.7
	Boiler Fuel	--	W	0	*	W	*	27	--	27.8
	Total Process Uses	--	W	0	*	2	0	0	--	24.2
	Process Heating	--	W	0	*	2	0	0	--	29.1
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	21.0
	Machine Drive	--	W	0	0	0	0	0	--	21.9
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	*	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	W	0	*	*	*	0	--	27.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	W	0	*	0	*	0	--	30.5
	Facility Lighting	--	W	--	--	--	--	--	--	21.0
	Facility Support	--	W	0	0	*	0	0	--	33.0
	Onsite Transportation	--	*	--	*	0	*	--	--	28.4
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	*	W	0	0	0	*	0	*	31.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2824	Organic Fibers, Noncellulosic									
	RSE Column Factors:	NF	1.1	1.1	1.0	0.9	1.1	0.8	NF	
	TOTAL INPUTS	98	24	W	*	W	*	35	W	3.5
	Boiler Fuel	--	*	2	*	23	W	35	--	3.8
	Total Process Uses	--	19	W	*	W	W	0	--	4.3
	Process Heating	--	W	W	*	W	W	0	--	5.4
	Process Cooling and Refrigeration	--	2	0	0	*	0	0	--	2.7
	Machine Drive	--	13	0	*	*	*	0	--	5.6
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	6.3
	Other Process Use	--	W	0	0	*	0	0	--	5.5
	Total Non-Process Uses	--	4	W	*	*	*	0	--	4.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2	W	*	*	*	0	--	6.6
	Facility Lighting	--	1	--	--	--	--	--	--	5.4
	Facility Support	--	W	0	*	*	*	0	--	6.3
	Onsite Transportation	--	*	--	*	0	*	--	--	4.2
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	W	0	*	0	*	0	--	5.8
	End Use Not Reported	W	*	W	*	*	*	0	W	5.7
2865	Cyclic Crudes and Intermediates									
	RSE Column Factors:	NF	0.7	1.2	1.2	0.8	1.2	1.1	NF	
	TOTAL INPUTS	159	15	8	1	97	*	W	W	11.6
	Boiler Fuel	--	*	W	1	47	W	W	--	13.4
	Total Process Uses	--	13	W	*	38	*	0	--	12.6
	Process Heating	--	W	W	*	36	W	0	--	18.3
	Process Cooling and Refrigeration	--	2	0	*	0	0	0	--	15.1
	Machine Drive	--	11	0	*	1	W	0	--	15.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	*	1	W	0	--	23.1
	Total Non-Process Uses	--	2	*	*	W	W	0	--	13.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	*	*	1	*	0	--	17.9
	Facility Lighting	--	1	--	--	--	--	--	--	9.2
	Facility Support	--	*	0	*	*	*	0	--	18.0
	Onsite Transportation	--	W	--	*	0	W	--	--	16.0
	Conventional Electricity Generation	--	--	0	*	W	0	0	--	22.4
	Other Non-Process Use	--	W	0	0	0	0	0	--	33.7
	End Use Not Reported	39	*	0	0	W	*	*	W	21.2
2869	Industrial Organic Chemicals, nec									
	RSE Column Factors:	NF	0.7	1.5	1.2	0.8	1.3	0.8	NF	
	TOTAL INPUTS	1,191	52	11	3	644	3	85	394	8.1
	Boiler Fuel	--	*	10	Q	220	W	85	--	6.6
	Total Process Uses	--	45	1	*	249	W	0	--	6.5
	Process Heating	--	1	W	*	201	W	0	--	8.9
	Process Cooling and Refrigeration	--	7	0	0	2	*	0	--	10.1
	Machine Drive	--	34	0	*	29	*	0	--	8.9
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	53.4
	Other Process Use	--	W	W	*	16	*	0	--	9.6
	Total Non-Process Uses	--	6	*	1	175	*	0	--	7.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	3	*	Q	3	W	0	--	7.7
	Facility Lighting	--	2	--	--	--	--	--	--	4.5
	Facility Support	--	1	0	W	1	*	0	--	8.4
	Onsite Transportation	--	*	--	*	0	W	--	--	10.1
	Conventional Electricity Generation	--	--	0	*	W	*	0	--	10.4
	Other Non-Process Use	--	*	0	*	W	*	0	--	10.5
	End Use Not Reported	395	1	*	*	1	*	0	394	8.8

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2873	Nitrogenous Fertilizers									
	RSE Column Factors:	NF	0.9	NF	1.0	0.7	1.5	NF	NF	
	TOTAL INPUTS	280	10	0	*	266	*	0	4	19.3
	Boiler Fuel	--	*	0	*	93	0	0	--	32.1
	Total Process Uses	--	9	0	*	172	*	0	--	26.1
	Process Heating	--	*	0	0	153	*	0	--	33.8
	Process Cooling and Refrigeration	--	1	0	0	0	0	0	--	34.0
	Machine Drive	--	7	0	*	2	0	0	--	35.9
	Electro-Chemical Processes	--	1	--	--	--	--	--	--	57.4
	Other Process Use	--	0	0	0	18	0	0	--	48.1
	Total Non-Process Uses	--	1	0	*	1	*	0	--	24.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	*	1	*	0	--	33.1
	Facility Lighting	--	*	--	--	--	--	--	--	27.0
	Facility Support	--	*	0	*	0	0	0	--	38.0
	Onsite Transportation	--	0	--	*	0	*	--	--	20.4
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	55.4
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	5	*	0	*	*	*	0	4	32.6
2874	Phosphatic Fertilizers									
	RSE Column Factors:	NF	1.5	0.7	0.6	1.6	0.7	1.5	NF	
	TOTAL INPUTS	34	6	2	1	19	*	W	W	5.2
	Boiler Fuel	--	W	W	*	2	*	0	--	5.7
	Total Process Uses	--	5	1	*	15	*	W	--	5.1
	Process Heating	--	*	1	W	14	*	W	--	4.1
	Process Cooling and Refrigeration	--	*	0	0	*	0	0	--	2.2
	Machine Drive	--	5	0	W	*	0	0	--	5.2
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	0	0	0	--	NF
	Total Non-Process Uses	--	W	0	*	*	*	0	--	7.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	0	*	*	0	--	9.9
	Facility Lighting	--	*	--	--	--	--	--	--	17.0
	Facility Support	--	*	0	W	*	*	0	--	3.5
	Onsite Transportation	--	0	--	*	0	*	--	--	4.5
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	W	0	0	0	--	6.7
	End Use Not Reported	W	W	W	Q	2	*	0	W	3.9
29	PETROLEUM and COAL PRODUCTS									
	RSE Column Factors:	NF	0.5	0.9	2.0	0.5	0.8	2.8	NF	
	TOTAL INPUTS	2,987	105	87	21	838	63	W	W	4.6
	Boiler Fuel	--	1	38	4	263	12	W	--	6.2
	Total Process Uses	--	94	49	11	460	49	W	--	6.1
	Process Heating	--	3	49	7	422	38	W	--	7.4
	Process Cooling and Refrigeration	--	5	0	Q	W	W	0	--	8.2
	Machine Drive	--	85	0	3	W	W	0	--	8.2
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	8.8
	Other Process Use	--	*	0	W	1	0	0	--	11.2
	Total Non-Process Uses	--	9	0	5	110	*	0	--	9.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4	0	*	10	W	0	--	10.3
	Facility Lighting	--	4	--	--	--	--	--	--	6.6
	Facility Support	--	1	0	Q	2	W	0	--	10.1
	Onsite Transportation	--	*	--	4	*	*	--	--	11.5
	Conventional Electricity Generation	--	--	0	Q	98	W	0	--	7.5
	Other Non-Process Use	--	*	0	W	*	*	0	--	17.0
	End Use Not Reported	1,877	1	0	Q	5	2	0	W	38.9

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
2911	Petroleum Refining^f									
	RSE Column Factors:	NF	0.5	1.6	1.0	0.5	0.7	3.6	NF	
	TOTAL INPUTS	2,893	99	65	9	792	60	3	1,864	3.9
	Boiler Fuel	--	W	33	2	253	11	3	--	3.3
	Total Process Uses	--	90	32	4	429	48	0	--	4.7
	Process Heating	--	3	32	4	392	36	0	--	5.6
	Process Cooling and Refrigeration	--	5	0	0	W	W	0	--	7.3
	Machine Drive	--	82	0	W	W	W	0	--	5.3
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	8.8
	Other Process Use	--	*	0	W	*	0	0	--	8.1
	Total Non-Process Uses	--	8	0	W	108	W	0	--	5.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4	0	*	8	W	0	--	6.4
	Facility Lighting	--	4	--	--	--	--	--	--	4.4
	Facility Support	--	1	0	*	1	W	0	--	7.3
	Onsite Transportation	--	*	--	3	0	*	--	--	6.5
	Conventional Electricity Generation	--	--	0	*	98	W	0	--	14.2
	Other Non-Process Use	--	*	0	W	*	*	0	--	9.3
	End Use Not Reported	1,868	W	0	W	2	W	0	1,864	6.8
30	RUBBER and MISC. PLASTICS PRODUCTS									
	RSE Column Factors:	NF	0.5	1.1	1.5	0.9	1.2	1.2	NF	
	TOTAL INPUTS	237	116	8	3	96	3	7	5	9.8
	Boiler Fuel	--	1	7	2	57	Q	7	--	11.7
	Total Process Uses	--	90	W	*	19	1	0	--	17.1
	Process Heating	--	19	W	W	16	1	0	--	19.3
	Process Cooling and Refrigeration	--	8	*	0	*	0	0	--	20.2
	Machine Drive	--	62	*	Q	3	*	0	--	20.5
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	55.5
	Other Process Use	--	*	0	*	*	*	0	--	32.4
	Total Non-Process Uses	--	20	W	1	16	1	0	--	11.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	9	W	*	15	*	0	--	18.1
	Facility Lighting	--	9	--	--	--	--	--	--	9.6
	Facility Support	--	2	*	*	*	W	0	--	12.1
	Onsite Transportation	--	*	--	1	*	1	--	--	22.8
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	20.0
	Other Non-Process Use	--	Q	0	Q	*	W	0	--	14.7
	End Use Not Reported	14	5	Q	Q	3	*	0	5	26.7
3011	Tires and Inner Tubes									
	RSE Column Factors:	NF	0.7	1.1	1.5	1.0	0.8	1.1	NF	
	TOTAL INPUTS	42	14	3	*	21	*	2	1	3.6
	Boiler Fuel	--	W	3	*	19	0	2	--	3.4
	Total Process Uses	--	11	Q	*	1	W	0	--	5.8
	Process Heating	--	*	Q	0	1	0	0	--	16.0
	Process Cooling and Refrigeration	--	1	0	0	0	0	0	--	4.5
	Machine Drive	--	9	0	*	*	W	0	--	5.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	*	0	0	--	6.2
	Total Non-Process Uses	--	3	*	*	1	W	0	--	7.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	*	Q	1	Q	0	--	6.5
	Facility Lighting	--	1	--	--	--	--	--	--	3.0
	Facility Support	--	*	*	*	*	W	0	--	6.0
	Onsite Transportation	--	*	--	*	*	*	--	--	6.6
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	3.3
	Other Non-Process Use	--	0	0	*	*	W	0	--	6.5
	End Use Not Reported	1	W	*	*	*	*	0	1	6.6

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
308	Miscellaneous Plastic Products, nec									
	RSE Column Factors:	NF	0.5	1.5	1.7	0.7	1.0	1.1	NF	
	TOTAL INPUTS	152	87	3	W	53	1	3	W	13.3
	Boiler Fuel	--	*	2	W	24	Q	3	--	21.4
	Total Process Uses	--	68	1	*	13	*	0	--	17.9
	Process Heating	--	17	1	*	12	*	0	--	21.6
	Process Cooling and Refrigeration	--	7	0	0	0	0	0	--	17.3
	Machine Drive	--	44	*	Q	1	*	0	--	25.0
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	65.5
	Other Process Use	--	*	0	*	*	*	0	--	45.0
	Total Non-Process Uses	--	14	*	1	12	1	0	--	16.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	6	*	*	12	*	0	--	24.0
	Facility Lighting	--	6	--	--	--	--	--	--	13.5
	Facility Support	--	1	*	*	*	*	0	--	25.4
	Onsite Transportation	--	*	--	1	0	1	--	--	22.9
	Conventional Electricity Generation	--	--	0	Q	*	0	0	--	NF
	Other Non-Process Use	--	Q	0	Q	*	*	0	--	44.9
	End Use Not Reported	W	5	0	Q	3	*	0	W	33.2
31	LEATHER and LEATHER PRODUCTS									
	RSE Column Factors:	NF	0.4	1.2	1.3	0.9	1.1	1.6	NF	
	TOTAL INPUTS	12	3	1	1	5	*	Q	1	23.4
	Boiler Fuel	--	*	1	1	2	*	Q	--	31.3
	Total Process Uses	--	2	*	*	1	*	0	--	28.6
	Process Heating	--	*	*	*	1	W	0	--	36.2
	Process Cooling and Refrigeration	--	*	0	0	*	0	0	--	60.0
	Machine Drive	--	1	0	*	*	Q	0	--	28.4
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	108.0
	Other Process Use	--	0	0	0	*	*	0	--	51.0
	Total Non-Process Uses	--	1	*	*	Q	*	*	--	25.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	W	*	*	Q	*	*	--	29.7
	Facility Lighting	--	W	--	--	--	--	--	--	21.6
	Facility Support	--	*	0	*	*	*	0	--	36.0
	Onsite Transportation	--	*	--	*	0	*	--	--	36.2
	Conventional Electricity Generation	--	--	0	0	0	*	0	--	40.0
	Other Non-Process Use	--	*	0	Q	0	0	0	--	108.0
	End Use Not Reported	2	*	*	*	*	*	0	1	33.2
32	STONE, CLAY and GLASS PRODUCTS									
	RSE Column Factors:	NF	0.5	1.1	1.5	0.6	1.6	1.2	NF	
	TOTAL INPUTS	894	105	8	19	380	2	293	86	6.9
	Boiler Fuel	--	*	1	2	16	*	W	--	20.9
	Total Process Uses	--	89	7	6	332	1	291	--	9.1
	Process Heating	--	27	W	W	326	1	291	--	9.5
	Process Cooling and Refrigeration	--	3	0	*	2	*	0	--	22.8
	Machine Drive	--	58	W	4	3	*	0	--	15.9
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	32.5
	Other Process Use	--	1	0	W	1	*	*	--	10.3
	Total Non-Process Uses	--	12	Q	8	19	1	0	--	6.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	6	Q	*	17	*	0	--	11.9
	Facility Lighting	--	5	--	--	--	--	--	--	7.7
	Facility Support	--	1	0	*	1	*	0	--	16.6
	Onsite Transportation	--	*	--	7	*	1	--	--	11.2
	Conventional Electricity Generation	--	--	0	Q	*	*	0	--	25.7
	Other Non-Process Use	--	*	0	*	0	*	0	--	29.2
	End Use Not Reported	W	3	*	3	13	*	W	86	19.9

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
3211	Flat Glass									
	RSE Column Factors:	NF	0.7	1.6	0.9	0.6	1.0	1.6	NF	
	TOTAL INPUTS	49	5	W	*	42	*	*	W	3.5
	Boiler Fuel	--	W	0	0	W	0	0	--	11.2
	Total Process Uses	--	4	W	W	36	W	*	--	4.0
	Process Heating	--	2	W	W	35	W	0	--	4.1
	Process Cooling and Refrigeration	--	*	0	*	1	0	0	--	6.1
	Machine Drive	--	2	0	*	*	*	0	--	5.2
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	0	0	0	*	--	3.7
	Total Non-Process Uses	--	W	0	*	2	*	0	--	4.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	0	0	1	*	0	--	4.7
	Facility Lighting	--	W	--	--	--	--	--	--	4.3
	Facility Support	--	*	0	0	*	0	0	--	7.4
	Onsite Transportation	--	*	--	*	0	*	--	--	5.6
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	4.4
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	W	W	0	W	W	W	0	W	5.6
3221	Glass Containers									
	RSE Column Factors:	NF	0.7	1.5	1.3	0.6	1.2	NF	NF	
	TOTAL INPUTS	85	14	2	*	69	*	0	*	4.8
	Boiler Fuel	--	*	*	*	1	0	0	--	14.4
	Total Process Uses	--	12	2	*	66	*	0	--	6.0
	Process Heating	--	4	2	*	64	W	0	--	6.9
	Process Cooling and Refrigeration	--	W	0	0	*	0	0	--	17.6
	Machine Drive	--	7	0	*	*	W	0	--	9.2
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	27.3
	Other Process Use	--	W	0	0	1	*	0	--	9.7
	Total Non-Process Uses	--	2	*	*	3	*	0	--	6.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	*	*	2	*	0	--	9.5
	Facility Lighting	--	1	--	--	--	--	--	--	6.1
	Facility Support	--	*	0	*	*	*	0	--	11.6
	Onsite Transportation	--	*	--	*	0	*	--	--	7.1
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	*	*	*	*	*	*	0	*	16.3
3229	Pressed and Blown Glass, nec.									
	RSE Column Factors:	NF	0.6	2.7	1.0	0.6	1.0	NF	NF	
	TOTAL INPUTS	W	10	1	*	W	*	0	*	8.8
	Boiler Fuel	--	*	W	*	W	0	0	--	9.8
	Total Process Uses	--	8	Q	W	37	*	0	--	10.2
	Process Heating	--	4	Q	W	36	*	0	--	11.2
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	8.1
	Machine Drive	--	3	*	*	*	*	0	--	8.0
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	11.3
	Other Process Use	--	W	0	*	0	*	0	--	16.0
	Total Non-Process Uses	--	W	*	W	2	*	0	--	5.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	*	*	2	*	0	--	7.2
	Facility Lighting	--	1	--	--	--	--	--	--	8.1
	Facility Support	--	*	0	*	*	0	0	--	9.9
	Onsite Transportation	--	*	--	*	0	*	--	--	6.0
	Conventional Electricity Generation	--	--	0	W	0	0	0	--	11.8
	Other Non-Process Use	--	W	0	*	0	0	0	--	13.7
	End Use Not Reported	W	W	0	*	W	Q	0	*	14.1

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
3241	Cement, Hydraulic									
	RSE Column Factors:	NF	0.9	1.7	0.8	1.2	1.1	0.7	NF	
	TOTAL INPUTS	329	32	1	4	39	*	195	58	11.0
	Boiler Fuel	--	Q	0	*	*	0	0	--	26.2
	Total Process Uses	--	30	1	1	38	*	195	--	11.4
	Process Heating	--	6	W	1	38	*	195	--	12.7
	Process Cooling and Refrigeration	--	1	0	0	0	0	0	--	22.0
	Machine Drive	--	24	W	W	*	*	0	--	13.5
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	*	0	W	0	*	0	--	35.3
	Total Non-Process Uses	--	2	0	2	1	*	0	--	15.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	0	*	1	*	0	--	20.9
	Facility Lighting	--	1	--	--	--	--	--	--	16.2
	Facility Support	--	*	0	*	*	*	0	--	21.8
	Onsite Transportation	--	*	--	2	0	*	--	--	17.1
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	32.5
	Other Non-Process Use	--	0	0	0	0	*	0	--	NF
	End Use Not Reported	58	Q	*	*	*	*	0	58	30.2
3274	Lime									
	RSE Column Factors:	NF	1.3	0.9	0.9	0.6	0.8	1.8	NF	
	TOTAL INPUTS	117	5	W	1	8	Q	88	W	25.9
	Boiler Fuel	--	Q	0	Q	*	Q	0	--	NF
	Total Process Uses	--	4	W	*	8	*	88	--	22.7
	Process Heating	--	1	W	Q	8	0	88	--	22.0
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	12.7
	Machine Drive	--	3	0	*	*	*	0	--	27.9
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	0	0	W	0	0	0	--	24.7
	Total Non-Process Uses	--	*	0	1	*	*	0	--	31.3
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	*	*	*	0	--	23.8
	Facility Lighting	--	*	--	--	--	--	--	--	23.8
	Facility Support	--	*	0	0	0	*	0	--	8.2
	Onsite Transportation	--	0	--	1	0	*	--	--	34.6
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	W	Q	0	Q	0	*	0	W	NF
3296	Mineral Wool									
	RSE Column Factors:	NF	0.7	1.2	1.1	0.8	1.1	1.2	NF	
	TOTAL INPUTS	41	10	W	*	29	*	*	W	1.6
	Boiler Fuel	--	W	W	*	1	*	*	--	1.8
	Total Process Uses	--	8	0	*	23	W	0	--	1.3
	Process Heating	--	4	0	*	22	*	0	--	1.5
	Process Cooling and Refrigeration	--	W	0	0	*	0	0	--	1.8
	Machine Drive	--	4	0	*	*	W	0	--	1.8
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	0	*	0	0	--	2.6
	Total Non-Process Uses	--	W	0	*	2	*	0	--	1.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	W	2	*	0	--	1.8
	Facility Lighting	--	*	--	--	--	--	--	--	1.4
	Facility Support	--	*	0	W	*	0	0	--	1.5
	Onsite Transportation	--	W	--	*	0	*	--	--	1.7
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	1.8
	Other Non-Process Use	--	*	0	*	0	0	0	--	2.2
	End Use Not Reported	W	W	0	*	2	W	0	W	2.2

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
33	PRIMARY METAL INDUSTRIES									
	RSE Column Factors:	NF	0.6	1.2	1.2	0.7	2.2	0.8	NF	
	TOTAL INPUTS	2,292	499	33	11	686	3	46	1,014	4.6
	Boiler Fuel	--	1	25	1	93	*	38	--	7.9
	Total Process Uses	--	454	8	3	522	1	W	--	7.2
	Process Heating	--	100	8	2	516	1	W	--	8.0
	Process Cooling and Refrigeration	--	3	0	0	*	0	0	--	12.4
	Machine Drive	--	118	Q	1	4	*	0	--	7.5
	Electro-Chemical Processes	--	228	--	--	--	--	--	--	3.5
	Other Process Use	--	4	0	*	2	*	0	--	11.4
	Total Non-Process Uses	--	36	Q	7	54	2	W	--	3.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	16	Q	*	44	*	0	--	8.9
	Facility Lighting	--	16	--	--	--	--	--	--	5.3
	Facility Support	--	3	Q	*	6	*	0	--	9.1
	Onsite Transportation	--	1	--	6	*	2	--	--	4.3
	Conventional Electricity Generation	--	--	0	Q	4	*	W	--	3.5
	Other Non-Process Use	--	*	0	W	1	*	0	--	13.9
	End Use Not Reported	1,041	8	*	1	17	*	*	1,014	14.5
3312	Blast Furnaces and Steel Mills									
	RSE Column Factors:	NF	0.6	1.6	1.0	0.7	1.0	1.6	NF	
	TOTAL INPUTS	1,569	130	31	5	399	*	24	978	4.1
	Boiler Fuel	--	W	24	*	63	W	24	--	6.7
	Total Process Uses	--	116	7	1	312	*	*	--	4.8
	Process Heating	--	53	7	1	310	*	*	--	5.3
	Process Cooling and Refrigeration	--	1	0	0	0	0	0	--	9.8
	Machine Drive	--	57	0	*	1	*	0	--	7.1
	Electro-Chemical Processes	--	3	--	--	--	--	--	--	14.7
	Other Process Use	--	3	0	*	1	*	0	--	14.0
	Total Non-Process Uses	--	10	*	4	22	*	0	--	5.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4	*	W	17	*	0	--	7.5
	Facility Lighting	--	4	--	--	--	--	--	--	4.9
	Facility Support	--	1	0	0	4	*	0	--	9.1
	Onsite Transportation	--	W	--	4	0	*	--	--	6.9
	Conventional Electricity Generation	--	--	0	*	*	*	0	--	15.0
	Other Non-Process Use	--	W	0	W	1	*	0	--	13.7
	End Use Not Reported	985	W	0	*	2	W	*	978	10.2
3313	Electrometallurgical Products									
	RSE Column Factors:	NF	0.8	NF	0.9	0.9	1.3	1.3	NF	
	TOTAL INPUTS	31	14	0	*	1	W	W	3	8.4
	Boiler Fuel	--	W	0	0	*	*	W	--	12.6
	Total Process Uses	--	14	0	W	1	*	W	--	9.5
	Process Heating	--	10	0	0	1	*	W	--	9.3
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	18.4
	Machine Drive	--	3	0	W	*	*	0	--	12.3
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	15.8
	Other Process Use	--	W	0	0	*	0	0	--	14.1
	Total Non-Process Uses	--	W	0	W	*	W	0	--	10.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	*	*	*	0	--	11.8
	Facility Lighting	--	*	--	--	--	--	--	--	7.9
	Facility Support	--	*	0	0	*	*	0	--	10.5
	Onsite Transportation	--	W	--	W	0	W	--	--	11.8
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	15.5
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	3	W	0	0	*	0	0	3	18.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
3321	Gray and Ductile Iron Foundries									
	RSE Column Factors:	NF	0.6	1.6	1.3	0.6	1.3	1.2	NF	
	TOTAL INPUTS	74	22	*	1	28	*	*	22	14.0
	Boiler Fuel	--	*	W	*	2	*	0	--	18.9
	Total Process Uses	--	18	Q	Q	18	*	*	--	13.7
	Process Heating	--	9	0	Q	17	*	*	--	16.4
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	16.3
	Machine Drive	--	8	Q	*	1	*	0	--	11.5
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	39.9
	Other Process Use	--	Q	0	*	*	*	0	--	19.4
	Total Non-Process Uses	--	4	*	*	7	*	0	--	11.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2	*	*	7	*	0	--	20.0
	Facility Lighting	--	1	--	--	--	--	--	--	10.9
	Facility Support	--	*	0	*	*	0	0	--	12.2
	Onsite Transportation	--	*	--	*	*	*	--	--	17.7
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	13.6
	Other Non-Process Use	--	*	0	0	*	*	0	--	37.5
	End Use Not Reported	24	1	0	*	1	*	*	22	29.1
3331	Primary Copper									
	RSE Column Factors:	NF	1.0	1.0	1.0	1.0	1.0	1.0	NF	
	TOTAL INPUTS	22	4	W	W	15	*	W	1	1.0
	Boiler Fuel	--	W	W	*	4	0	0	--	1.0
	Total Process Uses	--	4	W	W	9	*	W	--	1.0
	Process Heating	--	*	W	W	8	*	W	--	1.0
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	1.0
	Machine Drive	--	2	0	0	0	*	0	--	1.0
	Electro-Chemical Processes	--	1	--	--	--	--	--	--	1.0
	Other Process Use	--	W	0	0	*	0	0	--	1.0
	Total Non-Process Uses	--	*	0	W	2	*	0	--	1.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	*	*	*	0	--	1.0
	Facility Lighting	--	*	--	--	--	--	--	--	1.0
	Facility Support	--	*	0	0	*	0	0	--	1.0
	Onsite Transportation	--	0	--	W	0	*	--	--	1.0
	Conventional Electricity Generation	--	--	0	*	2	0	0	--	1.0
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	1	W	0	0	*	*	0	1	1.0
3334	Primary Aluminum									
	RSE Column Factors:	NF	0.8	1.4	1.1	0.8	1.1	NF	NF	
	TOTAL INPUTS	252	230	*	1	21	*	0	1	3.1
	Boiler Fuel	--	W	*	W	2	W	0	--	5.0
	Total Process Uses	--	222	0	W	17	*	0	--	3.1
	Process Heating	--	W	0	W	17	*	0	--	3.9
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	7.8
	Machine Drive	--	4	0	*	*	*	0	--	5.5
	Electro-Chemical Processes	--	216	--	--	--	--	--	--	2.6
	Other Process Use	--	W	0	0	0	0	0	--	6.5
	Total Non-Process Uses	--	W	*	1	1	*	0	--	3.7
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4	*	*	1	*	0	--	5.8
	Facility Lighting	--	3	--	--	--	--	--	--	3.9
	Facility Support	--	*	0	0	*	0	0	--	4.5
	Onsite Transportation	--	W	--	1	0	*	--	--	4.0
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	0	0	0	0	*	0	--	5.6
	End Use Not Reported	2	W	0	*	1	W	0	1	5.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
3339	Primary Nonferrous Metals, nec									
	RSE Column Factors:	NF	1.3	0.4	1.6	1.3	1.4	0.6	NF	
	TOTAL INPUTS	42	15	*	*	17	*	W	W	1.9
	Boiler Fuel	--	W	*	*	3	0	W	--	2.8
	Total Process Uses	--	14	0	*	8	W	0	--	1.6
	Process Heating	--	5	0	W	8	W	0	--	1.3
	Process Cooling and Refrigeration	--	*	0	0	0	0	0	--	3.9
	Machine Drive	--	2	0	W	*	*	0	--	1.0
	Electro-Chemical Processes	--	7	--	--	--	--	--	--	1.6
	Other Process Use	--	*	0	0	0	0	0	--	15.5
	Total Non-Process Uses	--	1	0	*	W	W	W	--	1.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	*	0	*	1	W	0	--	2.5
	Facility Lighting	--	*	--	--	--	--	--	--	2.3
	Facility Support	--	*	0	0	*	*	0	--	4.9
	Onsite Transportation	--	*	--	*	0	*	--	--	1.4
	Conventional Electricity Generation	--	--	0	0	W	0	W	--	1.1
	Other Non-Process Use	--	0	0	0	0	0	0	--	NF
	End Use Not Reported	7	W	0	*	W	*	0	W	1.5
3353	Aluminum Sheet, Plate, and Foil									
	RSE Column Factors:	NF	1.5	NF	0.8	1.2	0.8	0.9	NF	
	TOTAL INPUTS	60	15	0	*	43	*	W	W	1.1
	Boiler Fuel	--	W	0	*	2	*	W	--	1.0
	Total Process Uses	--	12	0	*	38	*	0	--	1.2
	Process Heating	--	1	0	*	38	W	0	--	1.4
	Process Cooling and Refrigeration	--	W	0	0	0	0	0	--	1.3
	Machine Drive	--	11	0	*	0	W	0	--	1.0
	Electro-Chemical Processes	--	0	--	--	--	--	--	--	NF
	Other Process Use	--	W	0	0	*	0	0	--	0.7
	Total Non-Process Uses	--	2	0	*	2	*	0	--	1.4
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	0	*	2	W	0	--	1.4
	Facility Lighting	--	1	--	--	--	--	--	--	0.7
	Facility Support	--	*	0	*	*	*	0	--	1.3
	Onsite Transportation	--	*	--	*	0	W	--	--	1.0
	Conventional Electricity Generation	--	--	0	0	0	0	0	--	NF
	Other Non-Process Use	--	*	0	0	0	0	0	--	0.7
	End Use Not Reported	W	W	0	*	*	*	0	W	3.1
34	FABRICATED METAL PRODUCTS									
	RSE Column Factors:	NF	0.5	1.7	1.6	0.5	1.1	1.4	NF	
	TOTAL INPUTS	305	102	3	6	174	4	5	11	11.4
	Boiler Fuel	--	1	2	1	37	Q	5	--	15.8
	Total Process Uses	--	70	Q	1	91	2	W	--	16.7
	Process Heating	--	12	*	1	89	W	W	--	19.5
	Process Cooling and Refrigeration	--	2	0	*	*	*	0	--	21.6
	Machine Drive	--	52	Q	*	1	W	0	--	25.7
	Electro-Chemical Processes	--	4	--	--	--	--	--	--	26.6
	Other Process Use	--	1	Q	Q	1	*	0	--	50.0
	Total Non-Process Uses	--	24	Q	3	37	2	0	--	14.2
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	10	Q	1	34	*	0	--	19.5
	Facility Lighting	--	11	--	--	--	--	--	--	15.5
	Facility Support	--	2	Q	*	2	Q	0	--	24.3
	Onsite Transportation	--	*	--	2	*	2	--	--	17.9
	Conventional Electricity Generation	--	--	0	*	1	0	0	--	36.1
	Other Non-Process Use	--	*	0	Q	*	*	0	--	64.8
	End Use Not Reported	27	7	Q	*	8	*	Q	11	32.8

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
35	INDUSTRIAL MACHINERY and EQUIPMENT									
	RSE Column Factors:	NF	0.4	2.0	1.2	0.7	1.4	1.1	NF	
	TOTAL INPUTS	235	101	3	4	109	2	11	6	10.5
	Boiler Fuel	--	1	3	1	28	*	11	--	17.5
	Total Process Uses	--	56	Q	1	37	1	*	--	15.1
	Process Heating	--	8	Q	*	32	*	*	--	19.2
	Process Cooling and Refrigeration	--	3	0	0	*	0	0	--	28.7
	Machine Drive	--	43	*	1	3	Q	0	--	24.7
	Electro-Chemical Processes	--	1	--	--	--	--	--	--	36.5
	Other Process Use	--	1	*	1	1	*	*	--	28.2
	Total Non-Process Uses	--	36	*	2	33	1	0	--	13.9
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	17	*	1	31	*	0	--	18.5
	Facility Lighting	--	15	--	--	--	--	--	--	12.2
	Facility Support	--	4	Q	*	1	Q	0	--	23.5
	Onsite Transportation	--	*	--	*	0	1	--	--	19.0
	Conventional Electricity Generation	--	--	0	Q	*	Q	0	--	46.7
	Other Non-Process Use	--	*	0	*	*	Q	0	--	38.3
	End Use Not Reported	25	8	*	*	11	*	0	6	29.0
357	Computer and Office Equipment									
	RSE Column Factors:	NF	0.5	1.5	1.2	0.7	1.6	NF	NF	
	TOTAL INPUTS	21	15	*	*	6	*	0	*	15.0
	Boiler Fuel	--	*	*	*	4	*	0	--	20.9
	Total Process Uses	--	5	0	*	*	*	0	--	19.9
	Process Heating	--	1	0	0	*	*	0	--	19.2
	Process Cooling and Refrigeration	--	1	0	0	*	0	0	--	31.5
	Machine Drive	--	2	0	*	*	*	0	--	20.4
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	24.6
	Other Process Use	--	1	0	0	*	0	0	--	36.8
	Total Non-Process Uses	--	8	*	*	1	*	0	--	18.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	4	*	*	1	*	0	--	21.3
	Facility Lighting	--	2	--	--	--	--	--	--	12.3
	Facility Support	--	1	0	*	*	*	0	--	24.1
	Onsite Transportation	--	*	--	*	0	*	--	--	24.3
	Conventional Electricity Generation	--	--	0	*	*	*	0	--	25.2
	Other Non-Process Use	--	*	0	*	*	0	0	--	43.6
	End Use Not Reported	2	2	*	Q	*	*	0	*	24.0
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT									
	RSE Column Factors:	NF	0.4	1.6	1.2	0.6	1.1	1.7	NF	
	TOTAL INPUTS	196	102	4	2	79	1	W	W	9.1
	Boiler Fuel	--	1	4	1	29	*	W	--	12.9
	Total Process Uses	--	59	Q	*	32	1	*	--	15.9
	Process Heating	--	16	Q	*	30	1	*	--	18.7
	Process Cooling and Refrigeration	--	7	*	*	Q	*	0	--	23.6
	Machine Drive	--	31	*	*	1	*	0	--	19.5
	Electro-Chemical Processes	--	5	--	--	--	--	--	--	25.4
	Other Process Use	--	1	0	*	*	*	0	--	27.8
	Total Non-Process Uses	--	38	*	1	15	1	*	--	17.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	21	*	*	15	*	*	--	20.9
	Facility Lighting	--	13	--	--	--	--	--	--	11.6
	Facility Support	--	4	0	Q	1	Q	0	--	16.6
	Onsite Transportation	--	*	--	*	0	*	--	--	17.6
	Conventional Electricity Generation	--	--	0	*	*	*	0	--	27.2
	Other Non-Process Use	--	*	0	*	*	Q	0	--	41.0
	End Use Not Reported	W	5	*	*	2	*	0	W	29.7

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
37	TRANSPORTATION EQUIPMENT									
	RSE Column Factors:	NF	0.5	1.4	1.3	0.7	1.5	1.1	NF	
	TOTAL INPUTS	333	118	12	7	132	2	33	28	5.1
	Boiler Fuel	--	1	W	2	48	*	W	--	7.0
	Total Process Uses	--	68	*	1	53	1	W	--	10.8
	Process Heating	--	10	*	W	49	*	W	--	8.3
	Process Cooling and Refrigeration	--	5	0	0	*	0	0	--	14.8
	Machine Drive	--	49	Q	1	2	Q	0	--	14.3
	Electro-Chemical Processes	--	2	--	--	--	--	--	--	10.7
	Other Process Use	--	2	*	W	1	Q	0	--	15.9
	Total Non-Process Uses	--	43	W	4	28	1	0	--	7.1
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	20	*	W	25	*	0	--	10.4
	Facility Lighting	--	18	--	--	--	--	--	--	6.4
	Facility Support	--	4	W	*	2	*	0	--	8.3
	Onsite Transportation	--	*	--	2	*	1	--	--	8.1
	Conventional Electricity Generation	--	--	W	W	1	*	0	--	14.4
	Other Non-Process Use	--	1	W	1	*	*	0	--	15.2
	End Use Not Reported	39	7	Q	*	3	*	0	28	12.6
3711	Motor Vehicles and Car Bodies									
	RSE Column Factors:	NF	0.5	1.8	1.2	0.7	1.1	1.1	NF	
	TOTAL INPUTS	105	26	3	*	45	*	W	W	3.0
	Boiler Fuel	--	W	W	*	11	*	W	--	4.7
	Total Process Uses	--	17	W	W	24	*	0	--	4.5
	Process Heating	--	2	W	*	23	*	0	--	5.0
	Process Cooling and Refrigeration	--	2	0	0	*	0	0	--	9.6
	Machine Drive	--	12	0	W	1	*	0	--	8.8
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	7.4
	Other Process Use	--	W	0	*	*	*	0	--	9.7
	Total Non-Process Uses	--	9	W	*	9	*	0	--	3.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	5	W	W	8	*	0	--	5.6
	Facility Lighting	--	3	--	--	--	--	--	--	5.5
	Facility Support	--	1	0	W	1	*	0	--	7.3
	Onsite Transportation	--	W	--	*	0	*	--	--	4.0
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	6.8
	Other Non-Process Use	--	W	0	*	*	0	0	--	8.6
	End Use Not Reported	W	W	0	W	*	*	0	W	9.5
3714	Motor Vehicle Parts and Accessories									
	RSE Column Factors:	NF	0.4	2.0	1.2	0.7	1.5	1.0	NF	
	TOTAL INPUTS	99	37	*	1	41	1	W	W	7.0
	Boiler Fuel	--	*	*	W	12	W	W	--	8.1
	Total Process Uses	--	25	*	*	19	*	W	--	12.1
	Process Heating	--	3	*	W	18	*	W	--	14.1
	Process Cooling and Refrigeration	--	2	0	0	*	0	0	--	19.9
	Machine Drive	--	20	Q	W	*	*	0	--	22.0
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	19.3
	Other Process Use	--	*	*	Q	*	0	0	--	13.5
	Total Non-Process Uses	--	10	*	*	9	*	0	--	10.8
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	5	*	W	9	Q	0	--	12.4
	Facility Lighting	--	4	--	--	--	--	--	--	9.7
	Facility Support	--	1	0	*	*	*	0	--	16.8
	Onsite Transportation	--	W	--	W	*	*	--	--	10.8
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	21.7
	Other Non-Process Use	--	W	*	*	*	*	0	--	18.2
	End Use Not Reported	W	1	*	W	1	W	0	W	18.1

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^f	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
38	INSTRUMENTS and RELATED PRODUCTS									
	RSE Column Factors:	NF	0.5	0.9	1.3	0.8	1.4	1.6	NF	
	TOTAL INPUTS	98	42	3	W	25	Q	W	W	12.3
	Boiler Fuel	--	*	3	W	14	Q	W	--	16.2
	Total Process Uses	--	18	Q	*	4	*	0	--	15.7
	Process Heating	--	3	0	W	4	*	0	--	20.7
	Process Cooling and Refrigeration	--	W	Q	*	*	0	0	--	25.8
	Machine Drive	--	10	0	W	*	Q	0	--	22.9
	Electro-Chemical Processes	--	W	--	--	--	--	--	--	23.4
	Other Process Use	--	1	0	*	*	*	0	--	28.9
	Total Non-Process Uses	--	22	Q	*	6	*	0	--	16.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	11	Q	*	6	Q	0	--	16.7
	Facility Lighting	--	8	--	--	--	--	--	--	12.8
	Facility Support	--	2	*	*	*	Q	0	--	18.7
	Onsite Transportation	--	*	--	*	0	*	--	--	17.9
	Conventional Electricity Generation	--	--	0	*	*	*	0	--	23.3
	Other Non-Process Use	--	1	Q	*	*	*	0	--	29.8
	End Use Not Reported	W	2	Q	Q	1	Q	*	W	25.1
3841	Surgical and Medical Instruments									
	RSE Column Factors:	NF	0.6	1.8	1.2	0.7	1.1	NF	NF	
	TOTAL INPUTS	6	4	*	*	2	*	0	*	13.4
	Boiler Fuel	--	*	*	*	1	*	0	--	20.5
	Total Process Uses	--	2	0	*	*	*	0	--	19.9
	Process Heating	--	*	0	*	*	*	0	--	21.0
	Process Cooling and Refrigeration	--	*	0	*	*	0	0	--	16.9
	Machine Drive	--	1	0	*	*	Q	0	--	11.8
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	45.6
	Other Process Use	--	*	0	*	0	*	0	--	37.6
	Total Non-Process Uses	--	2	0	*	1	*	0	--	15.0
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	1	0	*	1	*	0	--	20.4
	Facility Lighting	--	1	--	--	--	--	--	--	15.2
	Facility Support	--	*	0	*	*	*	0	--	21.4
	Onsite Transportation	--	*	--	*	0	*	--	--	27.1
	Conventional Electricity Generation	--	--	0	*	*	0	0	--	38.3
	Other Non-Process Use	--	*	0	*	*	*	0	--	35.2
	End Use Not Reported	*	*	*	0	*	*	0	*	26.4

See footnotes at end of table.

Table A36. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Industry Group, Selected Industries, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Total	Net Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	Other ^e	RSE Row Factors
39	MISC. MANUFACTURING INDUSTRIES									
	RSE Column Factors:	NF	0.5	1.2	1.3	0.7	1.0	1.8	NF	
	TOTAL INPUTS	31	12	1	W	15	W	1	W	13.3
	Boiler Fuel	--	*	1	W	5	W	1	--	20.9
	Total Process Uses	--	7	Q	*	5	*	0	--	18.7
	Process Heating	--	2	Q	Q	5	*	0	--	20.0
	Process Cooling and Refrigeration	--	1	0	0	*	0	0	--	33.4
	Machine Drive	--	5	0	*	*	*	0	--	29.7
	Electro-Chemical Processes	--	*	--	--	--	--	--	--	68.1
	Other Process Use	--	*	0	*	*	*	0	--	55.9
	Total Non-Process Uses	--	4	*	*	4	*	Q	--	20.5
	Facility Heating, Ventilation, and Air Conditioning ^f ..	--	2	*	*	3	Q	Q	--	23.6
	Facility Lighting	--	2	--	--	--	--	--	--	17.0
	Facility Support	--	*	*	*	*	*	0	--	30.6
	Onsite Transportation	--	*	--	Q	*	*	--	--	20.1
	Conventional Electricity Generation	--	--	0	*	0	0	0	--	28.9
	Other Non-Process Use	--	*	0	*	*	*	0	--	39.6
	End Use Not Reported	W	1	*	*	1	*	0	W	36.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^c Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers) and other energy that respondents indicated was used to produce heat and power.

^f Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A37. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Census Region, and End Use, 1991: Part 1
(Estimates in Btu or Physical Units)

End-Use Categories	Total (trillion Btu)	Net Electricity ^a (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
Total United States									
RSE Column Factors:	NF	0.4	1.6	1.5	0.7	1.0	1.6	NF	
TOTAL INPUTS	15,027	694,702	65,837	23,885	5,345	27,970	53,035	5,309	3.0
Boiler Fuel	--	W	47,009	6,850	2,037	4,928	38,473	--	3.6
Total Process Uses	--	546,382	17,342	5,800	2,503	16,908	14,075	--	4.1
Process Heating	--	68,853	16,959	3,177	2,312	12,704	14,075	--	4.1
Process Cooling and Refrigeration	--	36,330	6	30	13	18	0	--	12.4
Machine Drive	--	347,899	353	2,398	123	4,093	0	--	8.4
Electro-Chemical Processes	--	89,005	--	--	--	--	--	--	5.0
Other Process Use	--	4,295	24	196	55	93	*	--	14.0
Total Non-Process Uses	--	116,156	1,148	9,134	682	5,105	W	--	4.2
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	56,165	673	1,372	275	731	15	--	6.8
Facility Lighting	--	47,309	--	--	--	--	--	--	5.0
Facility Support	--	10,537	W	81	22	62	0	--	10.5
Onsite Transportation	--	1,114	--	6,533	*	4,242	--	--	9.4
Conventional Electricity Generation	--	--	325	734	337	41	W	--	8.9
Other Non-Process Use	--	1,031	W	413	48	30	0	--	11.2
End Use Not Reported	5,547	W	339	2,101	124	1,028	W	5,309	10.6
Northeast Census Region									
RSE Column Factors:	NF	0.5	1.1	1.5	0.7	1.5	1.2	NF	
TOTAL INPUTS	1,635	86,041	29,245	7,805	446	W	7,420	W	6.6
Boiler Fuel	--	W	20,525	3,185	164	W	3,642	--	8.0
Total Process Uses	--	62,610	7,593	1,667	208	1,896	3,482	--	9.9
Process Heating	--	12,750	7,392	978	199	1,679	3,482	--	10.3
Process Cooling and Refrigeration	--	4,989	Q	Q	2	2	0	--	15.7
Machine Drive	--	37,642	W	673	4	196	0	--	16.5
Electro-Chemical Processes	--	6,654	--	--	--	--	--	--	8.6
Other Process Use	--	575	W	8	2	19	*	--	10.4
Total Non-Process Uses	--	18,271	964	2,443	59	766	W	--	4.8
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	8,135	536	972	43	253	*	--	12.7
Facility Lighting	--	7,923	--	--	--	--	--	--	6.5
Facility Support	--	1,839	12	W	W	W	0	--	16.8
Onsite Transportation	--	207	--	972	*	497	--	--	8.9
Conventional Electricity Generation	--	--	W	369	12	W	W	--	8.7
Other Non-Process Use	--	167	W	W	W	3	0	--	19.9
End Use Not Reported	W	W	164	510	15	Q	W	W	19.6
Midwest Census Region									
RSE Column Factors:	NF	0.5	1.3	1.6	0.6	1.5	1.2	NF	
TOTAL INPUTS	3,833	205,102	8,134	3,885	1,363	3,877	18,828	1,221	4.1
Boiler Fuel	--	1,600	6,495	563	486	403	14,854	--	6.3
Total Process Uses	--	161,519	1,571	1,008	688	1,741	3,845	--	6.2
Process Heating	--	23,204	1,560	587	664	1,396	3,845	--	6.3
Process Cooling and Refrigeration	--	9,556	1	2	2	*	0	--	17.6
Machine Drive	--	111,818	8	302	17	325	0	--	15.0
Electro-Chemical Processes	--	15,512	--	--	--	--	--	--	6.2
Other Process Use	--	1,430	Q	117	5	19	*	--	14.1
Total Non-Process Uses	--	34,882	W	1,961	153	1,551	W	--	7.5
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	15,446	39	192	136	131	W	--	11.4
Facility Lighting	--	15,541	--	--	--	--	--	--	6.2
Facility Support	--	3,152	W	12	9	W	0	--	9.9
Onsite Transportation	--	481	--	1,375	*	1,398	--	--	5.4
Conventional Electricity Generation	--	--	0	Q	7	Q	W	--	30.7
Other Non-Process Use	--	262	W	181	1	8	0	--	13.3
End Use Not Reported	1,285	8,700	W	353	36	182	W	1,221	18.6

See footnotes at end of table.

Table A37. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Census Region, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

End-Use Categories	Total (trillion Btu)	Net Electricity ^a (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	Other ^d (trillion Btu)	RSE Row Factors
South Census Region									
RSE Column Factors:	NF	0.4	1.2	1.5	0.7	1.2	1.5	NF	
TOTAL INPUTS	7,507	291,819	23,114	8,014	2,896	W	22,514	W	3.2
Boiler Fuel	--	2,665	16,557	2,464	1,138	W	18,239	--	4.9
Total Process Uses	--	233,914	6,282	1,717	1,307	3,150	4,225	--	4.9
Process Heating	--	23,460	6,112	848	1,177	W	4,225	--	5.6
Process Cooling and Refrigeration	--	16,701	0	Q	7	W	0	--	8.8
Machine Drive	--	155,608	Q	796	83	W	0	--	7.6
Electro-Chemical Processes	--	36,413	--	--	--	--	--	--	9.3
Other Process Use	--	1,732	W	54	41	17	0	--	17.5
Total Non-Process Uses	--	45,758	115	2,913	395	1,790	4	--	7.0
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	24,547	99	189	69	237	4	--	10.4
Facility Lighting	--	16,672	--	--	--	--	--	--	7.0
Facility Support	--	3,769	Q	29	W	29	0	--	11.8
Onsite Transportation	--	300	--	2,588	*	1,504	--	--	10.7
Conventional Electricity Generation	--	--	*	27	276	Q	0	--	11.0
Other Non-Process Use	--	470	2	80	W	17	0	--	13.0
End Use Not Reported	W	12,147	159	920	56	452	45	W	14.0
West Census Region									
RSE Column Factors:	NF	0.5	1.3	1.4	0.9	0.7	1.8	NF	
TOTAL INPUTS	2,052	111,741	5,344	4,180	640	13,345	4,274	806	4.9
Boiler Fuel	--	1,137	3,433	638	248	2,067	1,738	--	6.4
Total Process Uses	--	88,338	1,895	1,408	299	10,121	2,523	--	5.9
Process Heating	--	9,440	1,895	764	272	W	2,523	--	6.6
Process Cooling and Refrigeration	--	5,084	0	*	2	W	0	--	16.1
Machine Drive	--	42,830	Q	626	19	W	0	--	9.9
Electro-Chemical Processes	--	30,426	--	--	--	--	--	--	5.6
Other Process Use	--	558	0	18	6	Q	0	--	11.7
Total Non-Process Uses	--	17,245	W	1,816	75	998	W	--	9.5
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	8,037	*	19	27	109	W	--	11.7
Facility Lighting	--	7,173	--	--	--	--	--	--	7.5
Facility Support	--	1,778	0	W	W	W	0	--	16.4
Onsite Transportation	--	126	--	1,598	*	843	--	--	18.7
Conventional Electricity Generation	--	--	W	138	42	W	0	--	14.7
Other Non-Process Use	--	132	0	W	W	2	0	--	21.9
End Use Not Reported	844	6,157	W	318	18	158	W	806	14.8

^a "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^b Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers) and other energy that respondents indicated was used to produce heat and power.

^e Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A37. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Census Region, and End Use, 1991: Part 2
(Estimates in Trillion Btu)

End-Use Categories	Total	Net Electricity ^a	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^b	Natural Gas ^c	LPG	Coal (excluding Coal Coke and Breeze)	Other ^d	RSE Row Factors
Total United States									
RSE Column Factors:	NF	0.4	1.6	1.5	0.7	1.0	1.6	NF	
TOTAL INPUTS	15,027	2,370	414	139	5,506	105	1,184	5,309	3.0
Boiler Fuel	--	W	296	40	2,098	18	859	--	3.6
Total Process Uses	--	1,864	109	34	2,578	64	314	--	4.1
Process Heating	--	235	107	19	2,382	49	314	--	4.1
Process Cooling and Refrigeration	--	124	*	*	13	*	0	--	12.4
Machine Drive	--	1,187	2	14	127	15	0	--	8.4
Electro-Chemical Processes	--	304	--	--	--	--	--	--	5.0
Other Process Use	--	15	*	1	56	*	*	--	14.0
Total Non-Process Uses	--	396	7	53	702	19	W	--	4.2
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	192	4	8	283	3	*	--	6.8
Facility Lighting	--	161	--	--	--	--	--	--	5.0
Facility Support	--	36	W	*	23	*	0	--	10.5
Onsite Transportation	--	4	--	38	*	16	--	--	9.4
Conventional Electricity Generation	--	--	2	4	347	*	W	--	8.9
Other Non-Process Use	--	4	W	2	49	*	0	--	11.2
End Use Not Reported	5,547	W	2	12	128	4	W	5,309	10.6
Northeast Census Region									
RSE Column Factors:	NF	0.5	1.1	1.5	0.7	1.5	1.2	NF	
TOTAL INPUTS	1,635	294	184	45	459	W	167	W	6.6
Boiler Fuel	--	W	129	19	169	W	82	--	8.0
Total Process Uses	--	214	48	10	214	7	78	--	9.9
Process Heating	--	44	46	6	205	6	78	--	10.3
Process Cooling and Refrigeration	--	17	Q	Q	2	*	0	--	15.7
Machine Drive	--	128	W	4	5	1	0	--	16.5
Electro-Chemical Processes	--	23	--	--	--	--	--	--	8.6
Other Process Use	--	2	W	*	2	*	*	--	10.4
Total Non-Process Uses	--	62	6	14	60	3	W	--	4.8
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	28	3	6	45	1	*	--	12.7
Facility Lighting	--	27	--	--	--	--	--	--	6.5
Facility Support	--	6	*	W	W	W	0	--	16.8
Onsite Transportation	--	1	--	6	*	2	--	--	8.9
Conventional Electricity Generation	--	--	W	2	12	W	W	--	8.7
Other Non-Process Use	--	1	W	W	W	*	0	--	19.9
End Use Not Reported	W	W	2	3	15	Q	W	W	19.6
Midwest Census Region									
RSE Column Factors:	NF	0.5	1.3	1.6	0.6	1.5	1.2	NF	
TOTAL INPUTS	3,833	700	51	23	1,404	14	420	1,221	4.1
Boiler Fuel	--	5	41	3	501	1	331	--	6.3
Total Process Uses	--	551	10	6	709	7	86	--	6.2
Process Heating	--	79	10	3	684	5	86	--	6.3
Process Cooling and Refrigeration	--	33	*	*	2	*	0	--	17.6
Machine Drive	--	382	*	2	17	1	0	--	15.0
Electro-Chemical Processes	--	53	--	--	--	--	--	--	6.2
Other Process Use	--	5	Q	1	6	*	*	--	14.1
Total Non-Process Uses	--	119	W	11	158	6	W	--	7.5
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	53	*	1	140	*	W	--	11.4
Facility Lighting	--	53	--	--	--	--	--	--	6.2
Facility Support	--	11	W	*	9	W	0	--	9.9
Onsite Transportation	--	2	--	8	*	5	--	--	5.4
Conventional Electricity Generation	--	--	0	Q	7	Q	W	--	30.7
Other Non-Process Use	--	1	W	1	1	*	0	--	13.3
End Use Not Reported	1,285	24	W	2	37	1	W	1,221	18.6

See footnotes at end of table.

Table A37. Total Inputs of Energy for Heat, Power, and Electricity Generation by Fuel Type, Census Region, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

End-Use Categories	Total	Net Electricity ^a	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^b	Natural Gas ^c	LPG	Coal (excluding Coal Coke and Breeze)	Other ^d	RSE Row Factors
South Census Region									
RSE Column Factors:	NF	0.4	1.2	1.5	0.7	1.2	1.5	NF	
TOTAL INPUTS	7,507	996	145	47	2,983	W	502	W	3.2
Boiler Fuel	--	9	104	14	1,172	W	407	--	4.9
Total Process Uses	--	798	39	10	1,346	11	94	--	4.9
Process Heating	--	80	38	5	1,212	W	94	--	5.6
Process Cooling and Refrigeration	--	57	0	Q	8	W	0	--	8.8
Machine Drive	--	531	Q	5	85	W	0	--	7.6
Electro-Chemical Processes	--	124	--	--	--	--	--	--	9.3
Other Process Use	--	6	W	*	42	*	0	--	17.5
Total Non-Process Uses	--	156	1	17	407	7	*	--	7.0
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	84	1	1	71	1	*	--	10.4
Facility Lighting	--	57	--	--	--	--	--	--	7.0
Facility Support	--	13	Q	*	W	*	0	--	11.8
Onsite Transportation	--	1	--	15	*	6	--	--	10.7
Conventional Electricity Generation	--	--	*	*	284	Q	0	--	11.0
Other Non-Process Use	--	2	*	*	W	*	0	--	13.0
End Use Not Reported	W	32	1	5	58	2	1	W	14.0
West Census Region									
RSE Column Factors:	NF	0.5	1.3	1.4	0.9	0.7	1.8	NF	
TOTAL INPUTS	2,052	381	34	24	659	51	95	806	4.9
Boiler Fuel	--	4	22	4	256	8	39	--	6.4
Total Process Uses	--	301	12	8	308	39	56	--	5.9
Process Heating	--	32	12	4	280	W	56	--	6.6
Process Cooling and Refrigeration	--	17	0	*	2	W	0	--	16.1
Machine Drive	--	146	Q	4	20	W	0	--	9.9
Electro-Chemical Processes	--	104	--	--	--	--	--	--	5.6
Other Process Use	--	2	0	*	6	Q	0	--	11.7
Total Non-Process Uses	--	59	W	11	77	4	W	--	9.5
Facility Heating, Ventilation, and Air Conditioning ^e ..	--	27	*	*	28	*	W	--	11.7
Facility Lighting	--	24	--	--	--	--	--	--	7.5
Facility Support	--	6	0	W	W	W	0	--	16.4
Onsite Transportation	--	*	--	9	*	3	--	--	18.7
Conventional Electricity Generation	--	--	W	1	43	W	0	--	14.7
Other Non-Process Use	--	*	0	W	W	*	0	--	21.9
End Use Not Reported	844	17	W	2	18	1	W	806	14.8

^a "Net Electricity" is obtained by summing purchases, transfers in, and generation from noncombustible renewable resources, minus quantities sold and transferred out. It does not include electricity inputs from onsite cogeneration or generation from combustible fuels because that energy has already been included as generating fuel (for example, coal).

^b Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d "Other" includes net steam (the sum of purchases, generation from renewables, and net transfers) and other energy that respondents indicated was used to produce heat and power.

^e Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

• Allotations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
20-39	ALL INDUSTRY GROUPS							
	RSE Column Factors:	0.4	1.7	1.5	0.7	1.0	1.6	
	TOTAL INPUTS	2,799	414	139	5,506	105	1,184	3.0
	Boiler Fuel	32	296	40	2,098	18	859	3.6
	Total Process Uses	2,244	109	34	2,578	64	314	4.1
	Process Heating	244	107	19	2,381	49	314	4.1
	Process Cooling and Refrigeration	140	*	*	13	*	0	12.4
	Machine Drive	1,482	2	14	127	15	0	8.4
	Electro-Chemical Processes	361	--	--	--	--	--	7.7
	Other Process Use	17	*	1	56	*	*	14.0
	Total Non-Process Uses	429	7	53	702	19	W	4.2
	Facility Heating, Ventilation, and Air Conditioning ^e	206	4	8	283	3	*	6.8
	Facility Lighting	176	--	--	--	--	--	5.1
	Facility Support	39	W	*	23	*	0	9.6
	Onsite Transportation	4	--	38	*	16	--	9.4
	Conventional Electricity Generation	--	2	4	347	*	W	8.8
	Other Non-Process Use	4	W	2	49	*	0	10.9
	End Use Not Reported	94	2	12	128	4	W	10.6
20	FOOD and KINDRED PRODUCTS							
	RSE Column Factors:	0.5	1.5	1.5	0.7	1.6	0.9	
	TOTAL INPUTS	189	27	17	512	5	154	5.9
	Boiler Fuel	5	24	7	315	2	143	8.4
	Total Process Uses	147	W	2	144	1	W	9.4
	Process Heating	7	2	1	137	1	W	11.8
	Process Cooling and Refrigeration	46	0	*	W	*	0	17.6
	Machine Drive	94	Q	*	W	*	0	17.8
	Electro-Chemical Processes	Q	--	--	--	--	--	NF
	Other Process Use	*	0	*	2	*	0	33.2
	Total Non-Process Uses	29	W	7	35	2	W	11.4
	Facility Heating, Ventilation, and Air Conditioning ^e	13	*	1	20	*	W	16.1
	Facility Lighting	13	--	--	--	--	--	8.5
	Facility Support	3	Q	*	2	*	0	17.5
	Onsite Transportation	1	--	5	*	2	--	10.5
	Conventional Electricity Generation	--	0	1	12	*	W	22.6
	Other Non-Process Use	1	*	*	*	Q	0	22.3
	End Use Not Reported	7	1	1	17	Q	0	24.5
2011	Meat Packing Plants							
	RSE Column Factors:	0.4	1.6	1.0	0.6	1.4	1.8	
	TOTAL INPUTS	12	1	1	32	1	1	10.1
	Boiler Fuel	*	1	*	22	*	1	12.9
	Total Process Uses	10	*	*	6	*	0	14.5
	Process Heating	W	0	*	6	*	0	17.0
	Process Cooling and Refrigeration	6	0	Q	*	*	0	17.8
	Machine Drive	4	*	*	*	*	0	19.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	*	*	0	0	36.3
	Total Non-Process Uses	1	*	1	3	*	0	13.2
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	Q	2	*	0	10.2
	Facility Lighting	1	--	--	--	--	--	14.0
	Facility Support	*	0	*	*	Q	0	22.9
	Onsite Transportation	*	--	1	*	*	--	25.9
	Conventional Electricity Generation	--	0	*	1	0	0	36.2
	Other Non-Process Use	0	0	*	0	0	0	27.6
	End Use Not Reported	*	*	*	*	*	0	33.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2033	Canned Fruits and Vegetables							
	RSE Column Factors:	0.7	1.1	1.3	0.9	1.2	NF	
	TOTAL INPUTS	6	2	1	36	*	Q	9.7
	Boiler Fuel	*	2	Q	29	*	Q	13.2
	Total Process Uses	5	*	*	2	*	0	15.6
	Process Heating	*	0	0	1	*	0	24.9
	Process Cooling and Refrigeration	1	0	*	*	*	0	20.3
	Machine Drive	3	*	*	*	*	0	17.8
	Electro-Chemical Processes	*	--	--	--	--	--	34.5
	Other Process Use	*	0	0	*	0	0	34.4
	Total Non-Process Uses	1	0	*	4	*	0	11.4
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	1	*	0	14.3
	Facility Lighting	*	--	--	--	--	--	7.2
	Facility Support	*	0	*	*	*	0	22.1
	Onsite Transportation	*	--	W	0	*	--	10.9
	Conventional Electricity Generation	--	0	W	3	0	0	26.5
	Other Non-Process Use	*	0	*	0	0	0	21.8
	End Use Not Reported	*	Q	*	2	*	0	23.7
2037	Frozen Fruits and Vegetables							
	RSE Column Factors:	0.7	1.2	1.2	0.8	1.3	NF	
	TOTAL INPUTS	11	2	*	26	*	0	13.0
	Boiler Fuel	1	2	*	18	*	0	21.6
	Total Process Uses	8	*	Q	4	*	0	17.4
	Process Heating	1	*	*	4	*	0	21.6
	Process Cooling and Refrigeration	5	0	0	*	0	0	23.8
	Machine Drive	3	0	Q	*	*	0	24.2
	Electro-Chemical Processes	*	--	--	--	--	--	55.7
	Other Process Use	*	0	0	*	0	0	46.1
	Total Non-Process Uses	1	0	*	2	*	0	13.8
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	Q	1	*	0	16.2
	Facility Lighting	1	--	--	--	--	--	15.1
	Facility Support	*	0	0	*	*	0	18.1
	Onsite Transportation	*	--	*	0	*	--	15.9
	Conventional Electricity Generation	--	0	*	1	0	0	27.2
	Other Non-Process Use	*	0	*	0	0	0	39.0
	End Use Not Reported	1	*	Q	2	*	0	38.6
2046	Wet Corn Milling							
	RSE Column Factors:	0.7	1.1	1.1	0.8	1.4	1.1	
	TOTAL INPUTS	20	*	*	52	*	68	11.1
	Boiler Fuel	1	*	W	26	0	W	12.5
	Total Process Uses	18	0	W	25	*	W	13.6
	Process Heating	W	0	W	25	0	W	16.0
	Process Cooling and Refrigeration	*	0	0	0	0	0	14.8
	Machine Drive	18	0	*	0	*	0	15.2
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	0	0	0	34.1
	Total Non-Process Uses	1	0	*	1	*	W	16.2
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	*	*	0	21.0
	Facility Lighting	*	--	--	--	--	--	10.4
	Facility Support	W	0	0	*	*	0	22.0
	Onsite Transportation	*	--	*	0	*	--	15.4
	Conventional Electricity Generation	--	0	*	1	0	W	21.6
	Other Non-Process Use	W	0	*	0	0	0	22.3
	End Use Not Reported	0	0	0	1	*	0	22.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2051	Bread, Cake, and Related Products							
	RSE Column Factors:	0.5	1.7	1.1	0.7	1.5	NF	
	TOTAL INPUTS	8	*	1	23	*	0	12.1
	Boiler Fuel	*	*	*	6	*	0	18.9
	Total Process Uses	5	0	*	14	*	0	13.0
	Process Heating	1	0	W	14	*	0	16.0
	Process Cooling and Refrigeration	1	0	0	*	0	0	20.4
	Machine Drive	4	0	*	*	*	0	26.6
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	*	0	W	*	*	0	27.8
	Total Non-Process Uses	2	0	*	3	*	0	13.3
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	W	2	*	0	14.2
	Facility Lighting	1	--	--	--	--	--	11.1
	Facility Support	*	0	*	*	*	0	22.4
	Onsite Transportation	Q	--	*	*	*	--	21.6
	Conventional Electricity Generation	--	0	W	*	*	0	35.1
	Other Non-Process Use	*	0	*	*	0	0	39.9
	End Use Not Reported	*	0	*	1	*	0	29.0
2063	Beet Sugar							
	RSE Column Factors:	0.9	1.6	1.1	0.9	1.1	0.7	
	TOTAL INPUTS	3	W	*	19	*	43	5.6
	Boiler Fuel	*	W	W	12	0	36	9.6
	Total Process Uses	3	1	W	6	*	7	7.2
	Process Heating	W	1	*	6	*	7	10.2
	Process Cooling and Refrigeration	*	0	0	0	0	0	34.6
	Machine Drive	W	0	W	*	*	0	8.1
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	*	W	*	*	*	0	6.5
	Facility Heating, Ventilation, and Air Conditioning ^e	*	W	0	*	*	0	8.7
	Facility Lighting	*	--	--	--	--	--	5.8
	Facility Support	*	0	0	*	*	0	9.9
	Onsite Transportation	*	--	*	0	*	--	8.7
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	*	0	14.5
	End Use Not Reported	0	0	*	0	*	0	15.2
2075	Soybean Oil Mills							
	RSE Column Factors:	0.8	1.5	1.1	0.7	1.5	0.8	
	TOTAL INPUTS	7	*	*	24	*	13	3.4
	Boiler Fuel	W	*	W	18	*	13	4.5
	Total Process Uses	5	*	W	6	*	0	4.7
	Process Heating	*	0	W	5	*	0	6.7
	Process Cooling and Refrigeration	*	0	0	0	0	0	3.9
	Machine Drive	5	*	*	0	*	0	4.7
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	*	*	0	7.9
	Total Non-Process Uses	*	*	*	1	*	0	4.3
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	0	*	0	0	4.8
	Facility Lighting	*	--	--	--	--	--	3.9
	Facility Support	*	0	*	*	0	0	8.8
	Onsite Transportation	*	--	*	0	*	--	5.1
	Conventional Electricity Generation	--	0	*	1	0	0	8.3
	Other Non-Process Use	0	*	0	0	0	0	6.0
	End Use Not Reported	W	0	*	0	*	0	7.7

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2082	Malt Beverages							
	RSE Column Factors:	0.6	1.3	1.4	0.8	1.0	1.4	
	TOTAL INPUTS	10	3	*	23	*	16	10.1
	Boiler Fuel	W	3	W	21	*	16	13.2
	Total Process Uses	7	0	*	1	0	0	13.8
	Process Heating	*	0	0	1	0	0	21.8
	Process Cooling and Refrigeration	3	0	0	*	0	0	19.4
	Machine Drive	4	0	*	0	0	0	14.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	2	*	W	*	W	*	14.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	0	*	W	*	16.4
	Facility Lighting	1	--	--	--	--	--	10.6
	Facility Support	*	0	*	0	0	0	16.4
	Onsite Transportation	*	--	W	0	*	--	14.0
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	*	*	W	0	25.6
21	TOBACCO PRODUCTS							
	RSE Column Factors:	0.9	0.7	1.0	2.0	1.3	0.7	
	TOTAL INPUTS	6	1	*	4	*	15	5.8
	Boiler Fuel	*	1	*	3	W	15	6.1
	Total Process Uses	3	0	*	1	W	0	5.0
	Process Heating	*	0	*	1	W	0	8.8
	Process Cooling and Refrigeration	W	0	0	*	0	0	6.7
	Machine Drive	3	0	*	*	0	0	5.3
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	0	0	0	9.1
	Total Non-Process Uses	3	0	*	*	*	0	6.8
	Facility Heating, Ventilation, and Air Conditioning ^e	2	0	0	*	*	0	7.0
	Facility Lighting	1	--	--	--	--	--	3.4
	Facility Support	*	0	0	*	0	0	4.3
	Onsite Transportation	*	--	*	0	*	--	7.5
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	*	0	6.3
	End Use Not Reported	0	0	0	0	*	0	6.3
22	TEXTILE MILL PRODUCTS							
	RSE Column Factors:	0.4	1.3	1.6	0.8	1.2	1.2	
	TOTAL INPUTS	102	12	6	108	2	31	7.2
	Boiler Fuel	1	11	5	70	*	30	11.1
	Total Process Uses	74	1	*	31	1	W	11.0
	Process Heating	3	W	*	28	1	W	13.9
	Process Cooling and Refrigeration	7	0	*	*	*	0	21.2
	Machine Drive	62	W	*	2	*	0	14.4
	Electro-Chemical Processes	W	--	--	--	--	--	62.4
	Other Process Use	W	*	*	1	*	0	23.5
	Total Non-Process Uses	25	*	1	4	1	*	13.1
	Facility Heating, Ventilation, and Air Conditioning ^e	14	*	W	4	*	*	16.9
	Facility Lighting	9	--	--	--	--	--	9.2
	Facility Support	1	*	*	*	*	0	13.3
	Onsite Transportation	*	--	*	0	*	--	13.7
	Conventional Electricity Generation	--	0	Q	*	*	0	45.0
	Other Non-Process Use	*	0	*	*	*	0	23.2
	End Use Not Reported	2	1	Q	3	*	W	20.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
23	APPAREL and OTHER TEXTILE PRODUCTS							
	RSE Column Factors:	0.5	NF	1.4	0.7	1.3	1.5	
	TOTAL INPUTS	19	Q	1	19	1	2	16.8
	Boiler Fuel	*	Q	*	7	*	2	27.1
	Total Process Uses	9	Q	Q	6	*	0	23.5
	Process Heating	1	0	Q	5	*	0	30.2
	Process Cooling and Refrigeration	*	0	0	0	0	0	68.8
	Machine Drive	8	Q	*	1	Q	0	38.4
	Electro-Chemical Processes	*	--	--	--	--	--	84.5
	Other Process Use	Q	0	0	0	*	0	38.0
	Total Non-Process Uses	7	Q	*	4	*	0	19.1
	Facility Heating, Ventilation, and Air Conditioning ^e	4	Q	*	4	*	0	22.8
	Facility Lighting	3	--	--	--	--	--	17.7
	Facility Support	*	0	*	*	*	0	36.0
	Onsite Transportation	Q	--	*	*	*	--	20.0
	Conventional Electricity Generation	--	0	0	*	0	0	NF
	Other Non-Process Use	0	0	*	0	0	0	33.5
	End Use Not Reported	3	Q	*	2	*	0	30.1
24	LUMBER and WOOD PRODUCTS							
	RSE Column Factors:	0.5	1.3	1.0	0.9	1.0	1.6	
	TOTAL INPUTS	70	2	14	41	4	2	14.8
	Boiler Fuel	2	2	1	13	*	2	24.6
	Total Process Uses	55	Q	4	19	2	0	17.1
	Process Heating	3	Q	Q	18	1	0	22.3
	Process Cooling and Refrigeration	*	0	0	0	0	0	59.5
	Machine Drive	51	0	3	Q	Q	0	15.5
	Electro-Chemical Processes	*	--	--	--	--	--	72.5
	Other Process Use	*	0	Q	0	Q	0	87.3
	Total Non-Process Uses	7	Q	6	5	2	*	18.5
	Facility Heating, Ventilation, and Air Conditioning ^e	2	Q	Q	5	Q	*	26.8
	Facility Lighting	4	--	--	--	--	--	18.6
	Facility Support	1	0	*	*	*	0	35.7
	Onsite Transportation	*	--	5	0	2	--	24.7
	Conventional Electricity Generation	--	0	Q	0	0	0	NF
	Other Non-Process Use	Q	0	*	*	*	0	46.7
	End Use Not Reported	6	Q	3	4	*	0	34.2
25	FURNITURE and FIXTURES							
	RSE Column Factors:	0.5	1.9	1.1	0.6	0.9	1.8	
	TOTAL INPUTS	17	1	1	19	1	4	17.9
	Boiler Fuel	*	Q	*	3	*	3	28.1
	Total Process Uses	11	*	Q	7	*	*	18.9
	Process Heating	1	0	Q	7	*	*	25.0
	Process Cooling and Refrigeration	W	0	0	*	0	0	36.2
	Machine Drive	10	*	Q	1	*	0	24.0
	Electro-Chemical Processes	*	--	--	--	--	--	40.2
	Other Process Use	W	0	*	0	*	0	55.0
	Total Non-Process Uses	5	Q	*	7	1	*	22.0
	Facility Heating, Ventilation, and Air Conditioning ^e	2	Q	*	7	*	*	26.7
	Facility Lighting	2	--	--	--	--	--	18.1
	Facility Support	*	*	*	*	*	0	34.3
	Onsite Transportation	W	--	Q	0	*	--	23.3
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	W	0	*	0	*	0	59.1
	End Use Not Reported	1	*	*	2	*	0	36.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
26	PAPER and ALLIED PRODUCTS							
	RSE Column Factors:	0.6	0.9	1.8	0.9	1.5	0.8	
	TOTAL INPUTS	375	156	9	548	W	296	4.3
	Boiler Fuel	12	133	4	361	W	293	5.8
	Total Process Uses	324	21	2	124	2	Q	5.2
	Process Heating	8	20	2	106	1	Q	7.7
	Process Cooling and Refrigeration	5	0	*	*	*	0	7.7
	Machine Drive	305	1	W	12	*	0	9.3
	Electro-Chemical Processes	4	--	--	--	--	--	13.7
	Other Process Use	3	0	W	6	*	0	9.6
	Total Non-Process Uses	31	2	3	54	2	*	6.5
	Facility Heating, Ventilation, and Air Conditioning ^e	13	W	1	W	W	*	10.8
	Facility Lighting	14	--	--	--	--	--	5.1
	Facility Support	3	0	*	*	*	0	9.9
	Onsite Transportation	*	--	2	*	2	--	6.3
	Conventional Electricity Generation	--	W	*	38	Q	0	14.8
	Other Non-Process Use	*	*	Q	W	*	0	16.6
	End Use Not Reported	8	*	*	9	*	W	19.6
2611	Pulp Mills							
	RSE Column Factors:	0.7	1.1	1.0	0.8	1.3	1.4	
	TOTAL INPUTS	29	28	1	32	1	7	14.4
	Boiler Fuel	1	24	*	23	*	7	18.2
	Total Process Uses	26	4	*	10	*	0	16.4
	Process Heating	*	4	*	10	*	0	20.5
	Process Cooling and Refrigeration	*	0	0	0	0	0	24.3
	Machine Drive	24	*	*	0	*	0	22.8
	Electro-Chemical Processes	1	--	--	--	--	--	37.1
	Other Process Use	1	0	0	0	0	0	34.3
	Total Non-Process Uses	2	*	*	*	*	0	17.9
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	*	*	0	21.4
	Facility Lighting	1	--	--	--	--	--	14.3
	Facility Support	*	0	0	0	0	0	21.4
	Onsite Transportation	*	--	*	0	*	--	19.4
	Conventional Electricity Generation	--	*	0	*	0	0	39.5
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	*	0	0	Q	0	34.2
2621	Paper Mills							
	RSE Column Factors:	0.7	1.1	1.0	1.1	1.1	1.1	
	TOTAL INPUTS	208	85	W	260	2	193	2.7
	Boiler Fuel	5	73	2	163	W	193	3.3
	Total Process Uses	184	10	W	58	1	0	3.3
	Process Heating	4	10	1	48	1	0	4.1
	Process Cooling and Refrigeration	2	0	*	*	*	0	7.1
	Machine Drive	175	*	*	W	*	0	4.3
	Electro-Chemical Processes	2	--	--	--	--	--	7.2
	Other Process Use	1	0	W	W	*	0	9.6
	Total Non-Process Uses	14	2	1	38	W	*	4.9
	Facility Heating, Ventilation, and Air Conditioning ^e	6	W	*	2	*	*	4.2
	Facility Lighting	6	--	--	--	--	--	2.9
	Facility Support	2	0	*	*	*	0	5.6
	Onsite Transportation	W	--	1	0	W	--	3.9
	Conventional Electricity Generation	--	W	*	36	0	0	8.5
	Other Non-Process Use	W	*	*	0	*	0	8.3
	End Use Not Reported	5	0	*	*	*	0	6.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2631	Paperboard Mills							
	RSE Column Factors:	0.6	1.5	1.1	0.8	1.2	0.9	
	TOTAL INPUTS	92	W	1	185	*	W	4.4
	Boiler Fuel	5	32	*	136	*	90	7.0
	Total Process Uses	81	W	W	37	*	Q	5.3
	Process Heating	2	W	W	W	*	Q	9.4
	Process Cooling and Refrigeration	W	0	0	*	0	0	13.7
	Machine Drive	76	0	W	W	*	0	9.4
	Electro-Chemical Processes	1	--	--	--	--	--	20.1
	Other Process Use	W	0	*	*	0	0	19.1
	Total Non-Process Uses	6	*	1	W	*	0	8.7
	Facility Heating, Ventilation, and Air Conditioning ^e	2	*	0	2	*	0	13.3
	Facility Lighting	3	--	--	--	--	--	9.3
	Facility Support	1	0	*	*	0	0	13.8
	Onsite Transportation	Q	--	1	0	*	--	4.7
	Conventional Electricity Generation	--	0	*	W	0	0	26.1
	Other Non-Process Use	*	0	Q	W	0	0	23.0
	End Use Not Reported	Q	*	W	W	*	0	14.5
27	PRINTING and PUBLISHING							
	RSE Column Factors:	0.5	1.6	1.5	0.7	1.1	NF	
	TOTAL INPUTS	53	*	2	48	1	0	12.6
	Boiler Fuel	*	*	1	14	W	0	26.7
	Total Process Uses	26	0	Q	17	W	0	15.9
	Process Heating	1	0	Q	15	W	0	23.2
	Process Cooling and Refrigeration	2	0	0	*	*	0	31.9
	Machine Drive	23	0	*	2	*	0	26.4
	Electro-Chemical Processes	*	--	--	--	--	--	79.8
	Other Process Use	*	0	0	*	0	0	60.4
	Total Non-Process Uses	19	*	1	12	*	0	18.7
	Facility Heating, Ventilation, and Air Conditioning ^e	10	*	1	11	*	0	23.3
	Facility Lighting	7	--	--	--	--	--	16.0
	Facility Support	2	*	*	1	Q	0	27.9
	Onsite Transportation	*	--	*	0	*	--	24.1
	Conventional Electricity Generation	--	0	Q	0	0	0	NF
	Other Non-Process Use	Q	0	*	*	Q	0	18.9
	End Use Not Reported	8	0	*	5	Q	0	25.4
28	CHEMICALS and ALLIED PRODUCTS							
	RSE Column Factors:	0.6	0.9	1.2	0.8	1.6	1.3	
	TOTAL INPUTS	582	48	12	1,669	4	253	5.0
	Boiler Fuel	4	28	6	719	2	244	6.6
	Total Process Uses	518	W	2	673	2	8	7.2
	Process Heating	16	19	2	577	1	8	9.1
	Process Cooling and Refrigeration	34	0	*	2	W	0	9.4
	Machine Drive	353	0	1	55	*	0	7.4
	Electro-Chemical Processes	114	--	--	--	--	--	9.1
	Other Process Use	1	W	*	39	W	0	12.1
	Total Non-Process Uses	49	W	3	256	1	W	6.7
	Facility Heating, Ventilation, and Air Conditioning ^e	25	W	*	W	*	W	10.1
	Facility Lighting	18	--	--	--	--	--	7.3
	Facility Support	5	0	*	4	*	0	10.5
	Onsite Transportation	*	--	2	0	1	--	7.5
	Conventional Electricity Generation	--	W	*	191	*	0	11.8
	Other Non-Process Use	1	*	*	W	*	0	10.7
	End Use Not Reported	11	*	*	21	*	W	14.9

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2812	Alkalies and Chlorine							
	RSE Column Factors:	0.7	1.3	0.9	0.9	1.1	1.2	
	TOTAL INPUTS	60	W	*	W	*	W	16.4
	Boiler Fuel	W	W	W	56	0	W	23.0
	Total Process Uses	59	0	W	4	0	0	19.2
	Process Heating	W	0	W	4	0	0	27.5
	Process Cooling and Refrigeration	W	0	0	0	0	0	19.3
	Machine Drive	5	0	*	0	0	0	19.5
	Electro-Chemical Processes	53	--	--	--	--	--	13.3
	Other Process Use	W	0	*	1	0	0	31.2
	Total Non-Process Uses	1	0	*	W	*	0	16.1
	Facility Heating, Ventilation, and Air Conditioning ^e	W	0	0	1	0	0	20.1
	Facility Lighting	1	--	--	--	--	--	14.8
	Facility Support	W	0	0	0	0	0	31.1
	Onsite Transportation	0	--	*	0	*	--	14.3
	Conventional Electricity Generation	--	0	0	W	0	0	20.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	W	0	*	0	31.8
2813	Industrial Gases							
	RSE Column Factors:	0.4	NF	1.3	0.8	2.2	NF	
	TOTAL INPUTS	62	0	*	25	Q	0	14.2
	Boiler Fuel	0	0	*	8	0	0	13.6
	Total Process Uses	58	0	*	12	0	0	11.2
	Process Heating	W	0	0	11	0	0	23.0
	Process Cooling and Refrigeration	*	0	0	0	0	0	25.3
	Machine Drive	57	0	0	*	0	0	12.4
	Electro-Chemical Processes	W	--	--	--	--	--	36.8
	Other Process Use	Q	0	*	*	0	0	34.3
	Total Non-Process Uses	W	0	Q	4	Q	0	14.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	*	*	0	14.5
	Facility Lighting	1	--	--	--	--	--	11.5
	Facility Support	W	0	0	*	0	0	12.3
	Onsite Transportation	0	--	Q	0	Q	--	NF
	Conventional Electricity Generation	--	0	0	2	0	0	24.9
	Other Non-Process Use	0	0	0	2	0	0	24.9
	End Use Not Reported	W	0	*	*	*	0	12.6
2819	Industrial Inorganic Chemicals, nec							
	RSE Column Factors:	0.8	1.0	1.2	0.8	1.2	1.2	
	TOTAL INPUTS	136	4	3	140	*	17	8.8
	Boiler Fuel	W	W	1	71	*	9	10.1
	Total Process Uses	128	W	*	54	*	7	11.7
	Process Heating	8	W	*	54	*	7	13.8
	Process Cooling and Refrigeration	W	0	0	*	0	0	12.9
	Machine Drive	104	0	W	*	*	0	12.9
	Electro-Chemical Processes	14	--	--	--	--	--	14.4
	Other Process Use	W	0	W	*	*	0	16.8
	Total Non-Process Uses	6	0	1	12	*	W	10.0
	Facility Heating, Ventilation, and Air Conditioning ^e	3	0	*	W	*	W	9.6
	Facility Lighting	1	--	--	--	--	--	6.0
	Facility Support	1	0	W	*	*	0	11.7
	Onsite Transportation	W	--	1	0	*	--	10.4
	Conventional Electricity Generation	--	0	W	W	0	0	16.7
	Other Non-Process Use	W	0	*	*	*	0	15.4
	End Use Not Reported	W	0	*	2	Q	W	14.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2821	Plastics Materials and Resins							
	RSE Column Factors:	0.6	1.3	1.3	0.9	1.2	0.9	
	TOTAL INPUTS	59	4	1	151	*	24	6.1
	Boiler Fuel	1	W	1	81	*	24	7.9
	Total Process Uses	52	W	*	53	*	0	5.9
	Process Heating	W	W	*	43	W	0	6.8
	Process Cooling and Refrigeration	6	0	0	*	W	0	10.2
	Machine Drive	38	0	*	W	*	0	7.5
	Electro-Chemical Processes	7	--	--	--	--	--	15.7
	Other Process Use	W	0	*	W	*	0	10.3
	Total Non-Process Uses	5	W	*	15	*	0	6.7
	Facility Heating, Ventilation, and Air Conditioning ^e	3	0	*	2	W	0	7.2
	Facility Lighting	2	--	--	--	--	--	4.7
	Facility Support	1	0	*	1	W	0	8.2
	Onsite Transportation	*	--	*	0	*	--	6.2
	Conventional Electricity Generation	--	W	*	13	0	0	8.7
	Other Non-Process Use	*	0	*	*	*	0	16.2
	End Use Not Reported	1	0	*	2	*	0	14.5
2822	Synthetic Rubber							
	RSE Column Factors:	0.6	1.4	1.0	0.9	1.0	1.4	
	TOTAL INPUTS	6	*	*	44	*	W	12.4
	Boiler Fuel	W	*	W	24	0	W	15.2
	Total Process Uses	6	0	W	20	*	0	17.2
	Process Heating	*	0	0	W	0	0	19.3
	Process Cooling and Refrigeration	1	0	0	*	0	0	19.2
	Machine Drive	5	0	W	*	*	0	17.0
	Electro-Chemical Processes	*	--	--	--	--	--	36.0
	Other Process Use	*	0	*	W	0	0	25.9
	Total Non-Process Uses	W	0	*	*	W	0	12.8
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	0	*	*	0	17.1
	Facility Lighting	*	--	--	--	--	--	14.7
	Facility Support	W	0	*	*	0	0	16.9
	Onsite Transportation	*	--	*	0	W	--	17.0
	Conventional Electricity Generation	--	0	*	*	0	0	23.6
	Other Non-Process Use	0	0	*	*	0	0	23.6
	End Use Not Reported	0	0	*	*	W	0	23.2
2823	Cellulosic Manmade Fibers							
	RSE Column Factors:	0.9	NF	1.2	1.1	1.1	0.8	
	TOTAL INPUTS	4	0	*	W	*	27	21.6
	Boiler Fuel	*	0	*	W	*	27	26.5
	Total Process Uses	3	0	*	2	0	0	23.8
	Process Heating	*	0	*	2	0	0	27.5
	Process Cooling and Refrigeration	1	0	0	0	0	0	21.7
	Machine Drive	2	0	0	0	0	0	22.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	*	0	0	0	0	0	36.9
	Total Non-Process Uses	1	0	*	*	*	0	25.8
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	0	*	0	27.2
	Facility Lighting	*	--	--	--	--	--	21.7
	Facility Support	*	0	0	*	0	0	32.3
	Onsite Transportation	*	--	*	0	*	--	29.3
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	*	0	31.5

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2824	Organic Fibers, Noncellulosic							
	RSE Column Factors:	1.1	1.1	1.0	0.9	1.1	0.8	
	TOTAL INPUTS	26	W	*	W	*	35	3.5
	Boiler Fuel	*	2	*	23	W	35	3.8
	Total Process Uses	21	W	*	W	W	0	4.0
	Process Heating	W	W	*	W	W	0	5.3
	Process Cooling and Refrigeration	3	0	0	*	0	0	1.8
	Machine Drive	14	0	*	*	*	0	5.6
	Electro-Chemical Processes	W	--	--	--	--	--	6.3
	Other Process Use	W	0	0	*	0	0	5.4
	Total Non-Process Uses	5	W	*	*	*	0	4.8
	Facility Heating, Ventilation, and Air Conditioning ^e	3	W	*	*	*	0	6.4
	Facility Lighting	2	--	--	--	--	--	5.4
	Facility Support	W	0	*	*	*	0	6.3
	Onsite Transportation	*	--	*	0	*	--	4.5
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	W	*	*	0	*	0	5.8
	End Use Not Reported	0	W	*	0	*	0	6.6
2865	Cyclic Crudes and Intermediates							
	RSE Column Factors:	0.7	1.2	1.2	0.8	1.2	1.0	
	TOTAL INPUTS	17	8	1	97	*	W	11.6
	Boiler Fuel	*	W	1	47	W	W	13.4
	Total Process Uses	15	W	*	38	*	0	12.6
	Process Heating	W	W	*	36	W	0	17.9
	Process Cooling and Refrigeration	3	0	*	0	0	0	17.5
	Machine Drive	11	0	*	1	W	0	15.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	*	1	W	0	23.1
	Total Non-Process Uses	2	*	*	W	W	0	13.7
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	*	1	*	0	17.9
	Facility Lighting	1	--	--	--	--	--	9.0
	Facility Support	*	0	*	*	*	0	17.9
	Onsite Transportation	W	--	*	0	W	--	15.9
	Conventional Electricity Generation	--	0	*	W	0	0	22.5
	Other Non-Process Use	W	0	0	0	0	0	32.9
	End Use Not Reported	Q	0	0	W	*	*	22.4
2869	Industrial Organic Chemicals, nec							
	RSE Column Factors:	0.6	1.5	1.2	0.8	1.4	0.8	
	TOTAL INPUTS	125	11	3	644	3	85	7.8
	Boiler Fuel	1	10	Q	220	W	85	6.4
	Total Process Uses	115	1	*	249	W	0	6.3
	Process Heating	2	W	*	201	W	0	7.7
	Process Cooling and Refrigeration	10	0	0	2	*	0	9.6
	Machine Drive	67	0	*	29	*	0	9.0
	Electro-Chemical Processes	36	--	--	--	--	--	13.0
	Other Process Use	*	W	*	16	*	0	9.7
	Total Non-Process Uses	9	*	1	175	*	0	7.2
	Facility Heating, Ventilation, and Air Conditioning ^e	4	*	Q	3	W	0	7.3
	Facility Lighting	3	--	--	--	--	--	4.9
	Facility Support	1	0	W	1	*	0	8.5
	Onsite Transportation	*	--	*	0	W	--	10.3
	Conventional Electricity Generation	--	0	*	W	*	0	10.3
	Other Non-Process Use	*	0	*	W	*	0	11.0
	End Use Not Reported	1	*	*	1	*	0	9.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2873	Nitrogenous Fertilizers							
	RSE Column Factors:	0.8	NF	1.1	0.8	1.5	NF	
	TOTAL INPUTS	11	0	*	266	*	0	18.9
	Boiler Fuel	*	0	*	93	0	0	32.2
	Total Process Uses	10	0	*	172	*	0	25.6
	Process Heating	*	0	0	153	*	0	33.9
	Process Cooling and Refrigeration	1	0	0	0	0	0	35.1
	Machine Drive	8	0	*	2	0	0	35.1
	Electro-Chemical Processes	1	--	--	--	--	--	59.2
	Other Process Use	0	0	0	18	0	0	47.4
	Total Non-Process Uses	1	0	*	1	*	0	24.0
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	1	*	0	32.5
	Facility Lighting	*	--	--	--	--	--	25.4
	Facility Support	*	0	*	0	0	0	37.7
	Onsite Transportation	0	--	*	0	*	--	20.2
	Conventional Electricity Generation	--	0	*	*	0	0	54.8
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	*	0	*	*	*	0	33.5
2874	Phosphatic Fertilizers							
	RSE Column Factors:	1.0	0.7	0.7	1.7	0.7	1.6	
	TOTAL INPUTS	16	2	1	19	*	W	4.6
	Boiler Fuel	W	W	*	2	*	0	5.8
	Total Process Uses	13	1	*	15	*	W	4.3
	Process Heating	W	1	W	14	*	W	4.3
	Process Cooling and Refrigeration	W	0	0	*	0	0	2.1
	Machine Drive	12	0	W	*	0	0	4.3
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	W	0	*	*	*	0	5.7
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	0	*	*	0	7.3
	Facility Lighting	*	--	--	--	--	--	11.4
	Facility Support	W	0	W	*	*	0	3.6
	Onsite Transportation	0	--	*	0	*	--	4.1
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	W	0	0	0	6.1
	End Use Not Reported	W	W	Q	2	*	0	4.0
29	PETROLEUM and COAL PRODUCTS							
	RSE Column Factors:	0.4	0.9	2.0	0.5	0.8	2.8	
	TOTAL INPUTS	151	87	21	838	63	W	4.6
	Boiler Fuel	1	38	4	263	12	W	6.0
	Total Process Uses	136	49	11	460	49	W	6.1
	Process Heating	4	49	7	422	38	W	7.2
	Process Cooling and Refrigeration	8	0	Q	W	W	0	7.3
	Machine Drive	124	0	3	W	W	0	8.3
	Electro-Chemical Processes	W	--	--	--	--	--	9.3
	Other Process Use	W	0	W	1	0	0	11.3
	Total Non-Process Uses	12	0	5	110	*	0	8.4
	Facility Heating, Ventilation, and Air Conditioning ^e	6	0	*	10	W	0	10.4
	Facility Lighting	5	--	--	--	--	--	4.7
	Facility Support	1	0	Q	2	W	0	9.3
	Onsite Transportation	W	--	4	*	*	--	12.2
	Conventional Electricity Generation	--	0	Q	98	W	0	7.5
	Other Non-Process Use	W	0	W	*	*	0	16.0
	End Use Not Reported	1	0	Q	5	2	0	51.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2911	Petroleum Refining^f							
	RSE Column Factors:	0.5	1.6	0.9	0.5	0.7	3.6	
	TOTAL INPUTS	144	65	9	792	60	3	3.9
	Boiler Fuel	W	33	2	253	11	3	3.3
	Total Process Uses	131	32	4	429	48	0	4.7
	Process Heating	3	32	4	392	36	0	5.6
	Process Cooling and Refrigeration	8	0	0	W	W	0	7.2
	Machine Drive	119	0	W	W	W	0	5.3
	Electro-Chemical Processes	W	--	--	--	--	--	8.2
	Other Process Use	W	0	W	*	0	0	8.0
	Total Non-Process Uses	11	0	W	108	W	0	5.8
	Facility Heating, Ventilation, and Air Conditioning ^g	5	0	*	8	W	0	6.3
	Facility Lighting	5	--	--	--	--	--	4.1
	Facility Support	1	0	*	1	W	0	7.2
	Onsite Transportation	W	--	3	0	*	--	8.2
	Conventional Electricity Generation	--	0	*	98	W	0	14.6
	Other Non-Process Use	W	0	W	*	*	0	8.8
	End Use Not Reported	W	0	W	2	W	0	8.1
30	RUBBER and MISC. PLASTICS PRODUCTS							
	RSE Column Factors:	0.5	1.1	1.5	0.9	1.2	1.2	
	TOTAL INPUTS	116	8	3	96	3	7	9.8
	Boiler Fuel	1	7	2	57	Q	7	11.7
	Total Process Uses	90	W	*	19	1	0	17.1
	Process Heating	19	W	W	16	1	0	19.3
	Process Cooling and Refrigeration	8	*	0	*	0	0	20.2
	Machine Drive	62	*	Q	3	*	0	20.5
	Electro-Chemical Processes	*	--	--	--	--	--	55.3
	Other Process Use	*	0	*	*	*	0	32.4
	Total Non-Process Uses	21	W	1	16	1	0	11.9
	Facility Heating, Ventilation, and Air Conditioning ^g	9	W	*	15	*	0	18.1
	Facility Lighting	9	--	--	--	--	--	9.5
	Facility Support	2	*	*	*	W	0	12.1
	Onsite Transportation	*	--	1	*	1	--	22.8
	Conventional Electricity Generation	--	0	*	*	0	0	20.0
	Other Non-Process Use	Q	0	Q	*	W	0	14.7
	End Use Not Reported	5	Q	Q	3	*	0	27.3
3011	Tires and Inner Tubes							
	RSE Column Factors:	0.7	1.1	1.5	1.0	0.8	1.1	
	TOTAL INPUTS	14	3	*	21	*	2	3.6
	Boiler Fuel	W	3	*	19	0	2	3.4
	Total Process Uses	11	Q	*	1	W	0	5.7
	Process Heating	*	Q	0	1	0	0	15.7
	Process Cooling and Refrigeration	1	0	0	0	0	0	4.3
	Machine Drive	9	0	*	*	W	0	5.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	*	0	0	6.2
	Total Non-Process Uses	3	*	*	1	W	0	7.4
	Facility Heating, Ventilation, and Air Conditioning ^g	1	*	Q	1	Q	0	6.5
	Facility Lighting	1	--	--	--	--	--	2.9
	Facility Support	*	*	*	*	W	0	6.0
	Onsite Transportation	*	--	*	*	*	--	6.6
	Conventional Electricity Generation	--	0	*	0	0	0	3.3
	Other Non-Process Use	0	0	*	*	W	0	6.6
	End Use Not Reported	W	*	*	*	*	0	7.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
308	Miscellaneous Plastic Products, nec							
	RSE Column Factors:	0.5	1.5	1.7	0.7	1.0	1.1	
	TOTAL INPUTS	87	3	W	53	1	3	13.3
	Boiler Fuel	*	2	W	24	Q	3	21.4
	Total Process Uses	69	1	*	13	*	0	17.9
	Process Heating	17	1	*	12	*	0	21.6
	Process Cooling and Refrigeration	7	0	0	0	0	0	17.3
	Machine Drive	44	*	Q	1	*	0	25.0
	Electro-Chemical Processes	*	--	--	--	--	--	65.3
	Other Process Use	*	0	*	*	*	0	45.0
	Total Non-Process Uses	14	*	1	12	1	0	16.0
	Facility Heating, Ventilation, and Air Conditioning ^e	6	*	*	12	*	0	24.0
	Facility Lighting	6	--	--	--	--	--	13.4
	Facility Support	1	*	*	*	*	0	25.4
	Onsite Transportation	*	--	1	0	1	--	22.9
	Conventional Electricity Generation	--	0	Q	*	0	0	NF
	Other Non-Process Use	Q	0	Q	*	*	0	45.0
	End Use Not Reported	5	0	Q	3	*	0	33.8
31	LEATHER and LEATHER PRODUCTS							
	RSE Column Factors:	0.4	1.2	1.3	0.9	1.1	1.6	
	TOTAL INPUTS	3	1	1	5	*	Q	24.0
	Boiler Fuel	*	1	1	2	*	Q	31.0
	Total Process Uses	2	*	*	1	*	0	28.5
	Process Heating	*	*	*	1	W	0	36.1
	Process Cooling and Refrigeration	*	0	0	*	0	0	58.6
	Machine Drive	1	0	*	*	Q	0	28.2
	Electro-Chemical Processes	*	--	--	--	--	--	105.5
	Other Process Use	0	0	0	*	*	0	51.0
	Total Non-Process Uses	1	*	*	Q	*	*	25.8
	Facility Heating, Ventilation, and Air Conditioning ^e	*	*	*	Q	*	*	29.7
	Facility Lighting	*	--	--	--	--	--	23.4
	Facility Support	*	0	*	*	*	0	35.9
	Onsite Transportation	*	--	*	0	*	--	36.0
	Conventional Electricity Generation	--	0	0	0	*	0	40.1
	Other Non-Process Use	*	0	Q	0	0	0	105.5
	End Use Not Reported	*	*	*	*	*	0	33.5
32	STONE, CLAY and GLASS PRODUCTS							
	RSE Column Factors:	0.5	1.1	1.5	0.6	1.6	1.2	
	TOTAL INPUTS	107	8	19	380	2	293	6.9
	Boiler Fuel	*	1	2	16	*	W	20.9
	Total Process Uses	91	7	6	332	1	291	9.1
	Process Heating	27	W	W	326	1	291	9.5
	Process Cooling and Refrigeration	3	0	*	2	*	0	22.8
	Machine Drive	60	W	4	3	*	0	15.9
	Electro-Chemical Processes	*	--	--	--	--	--	32.4
	Other Process Use	1	0	W	1	*	*	10.3
	Total Non-Process Uses	12	Q	8	19	1	0	6.2
	Facility Heating, Ventilation, and Air Conditioning ^e	6	Q	*	17	*	0	11.9
	Facility Lighting	6	--	--	--	--	--	7.6
	Facility Support	1	0	*	1	*	0	16.6
	Onsite Transportation	*	--	7	*	1	--	11.2
	Conventional Electricity Generation	--	0	Q	*	*	0	25.7
	Other Non-Process Use	*	0	*	0	*	0	29.2
	End Use Not Reported	3	*	3	13	*	W	20.2

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
3211	Flat Glass							
	RSE Column Factors:	0.7	1.6	0.9	0.6	1.0	1.6	
	TOTAL INPUTS	5	W	*	42	*	*	3.5
	Boiler Fuel	W	0	0	W	0	0	11.2
	Total Process Uses	4	W	W	36	W	*	4.0
	Process Heating	2	W	W	35	W	0	4.1
	Process Cooling and Refrigeration	*	0	*	1	0	0	6.1
	Machine Drive	2	0	*	*	*	0	5.2
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	*	3.7
	Total Non-Process Uses	W	0	*	2	*	0	4.1
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	0	1	*	0	4.7
	Facility Lighting	W	--	--	--	--	--	4.3
	Facility Support	*	0	0	*	0	0	7.4
	Onsite Transportation	*	--	*	0	*	--	5.6
	Conventional Electricity Generation	--	0	*	0	0	0	4.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	W	W	W	0	5.6
3221	Glass Containers							
	RSE Column Factors:	0.6	1.6	1.4	0.6	1.2	NF	
	TOTAL INPUTS	14	2	*	69	*	0	4.8
	Boiler Fuel	*	*	*	1	0	0	14.3
	Total Process Uses	12	2	*	66	*	0	6.0
	Process Heating	4	2	*	64	W	0	6.9
	Process Cooling and Refrigeration	W	0	0	*	0	0	18.2
	Machine Drive	7	0	*	*	W	0	9.3
	Electro-Chemical Processes	W	--	--	--	--	--	28.8
	Other Process Use	W	0	0	1	*	0	9.9
	Total Non-Process Uses	2	*	*	3	*	0	6.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	*	2	*	0	9.5
	Facility Lighting	1	--	--	--	--	--	6.4
	Facility Support	*	0	*	*	*	0	11.7
	Onsite Transportation	*	--	*	0	*	--	7.2
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	*	*	0	*	0	12.2
3229	Pressed and Blown Glass, nec.							
	RSE Column Factors:	0.6	2.7	1.0	0.6	1.0	NF	
	TOTAL INPUTS	10	1	*	W	*	0	8.8
	Boiler Fuel	*	W	*	W	0	0	9.8
	Total Process Uses	8	Q	W	37	*	0	10.2
	Process Heating	4	Q	W	36	*	0	11.2
	Process Cooling and Refrigeration	W	0	0	0	0	0	8.1
	Machine Drive	3	*	*	*	*	0	8.0
	Electro-Chemical Processes	*	--	--	--	--	--	11.3
	Other Process Use	W	0	*	0	*	0	16.0
	Total Non-Process Uses	W	*	W	2	*	0	5.9
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	*	2	*	0	7.2
	Facility Lighting	1	--	--	--	--	--	8.1
	Facility Support	*	0	*	*	0	0	9.9
	Onsite Transportation	*	--	*	0	*	--	6.0
	Conventional Electricity Generation	--	0	W	0	0	0	11.8
	Other Non-Process Use	W	0	*	0	0	0	13.7
	End Use Not Reported	W	0	*	W	Q	0	14.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
3241	Cement, Hydraulic							
	RSE Column Factors:	0.8	1.7	0.8	1.2	1.1	0.7	
	TOTAL INPUTS	34	1	4	39	*	195	10.7
	Boiler Fuel	Q	0	*	*	0	0	26.1
	Total Process Uses	32	1	1	38	*	195	11.4
	Process Heating	6	W	1	38	*	195	12.7
	Process Cooling and Refrigeration	1	0	0	0	0	0	22.7
	Machine Drive	25	W	W	*	*	0	13.6
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	*	0	W	0	*	0	35.8
	Total Non-Process Uses	2	0	2	1	*	0	15.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	1	*	0	20.7
	Facility Lighting	1	--	--	--	--	--	15.5
	Facility Support	*	0	*	*	*	0	21.7
	Onsite Transportation	*	--	2	0	*	--	17.3
	Conventional Electricity Generation	--	0	*	0	0	0	32.4
	Other Non-Process Use	0	0	0	0	*	0	NF
	End Use Not Reported	Q	*	*	*	*	0	30.1
3274	Lime							
	RSE Column Factors:	1.3	0.9	0.9	0.6	0.8	1.8	
	TOTAL INPUTS	5	W	1	8	Q	88	25.9
	Boiler Fuel	Q	0	Q	*	Q	0	NF
	Total Process Uses	4	W	*	8	*	88	22.7
	Process Heating	1	W	Q	8	0	88	22.0
	Process Cooling and Refrigeration	*	0	0	0	0	0	12.7
	Machine Drive	3	0	*	*	*	0	27.9
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	W	0	0	0	24.7
	Total Non-Process Uses	*	0	1	*	*	0	31.3
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	*	*	0	23.8
	Facility Lighting	*	--	--	--	--	--	23.8
	Facility Support	*	0	0	0	*	0	8.2
	Onsite Transportation	0	--	1	0	*	--	34.6
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	Q	0	Q	0	*	0	NF
3296	Mineral Wool							
	RSE Column Factors:	0.7	1.2	1.1	0.8	1.1	1.2	
	TOTAL INPUTS	10	W	*	29	*	*	1.6
	Boiler Fuel	W	W	*	1	*	*	1.8
	Total Process Uses	8	0	*	23	W	0	1.3
	Process Heating	4	0	*	22	*	0	1.5
	Process Cooling and Refrigeration	W	0	0	*	0	0	1.8
	Machine Drive	4	0	*	*	W	0	1.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	*	0	0	2.6
	Total Non-Process Uses	W	0	*	2	*	0	1.8
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	W	2	*	0	1.8
	Facility Lighting	*	--	--	--	--	--	1.4
	Facility Support	*	0	W	*	0	0	1.5
	Onsite Transportation	W	--	*	0	*	--	1.7
	Conventional Electricity Generation	--	0	*	0	0	0	1.8
	Other Non-Process Use	*	0	*	0	0	0	2.2
	End Use Not Reported	W	0	*	2	W	0	2.2

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
33	PRIMARY METAL INDUSTRIES							
	RSE Column Factors:	0.6	1.2	1.3	0.7	2.2	0.8	
	TOTAL INPUTS	524	33	11	686	3	46	4.6
	Boiler Fuel	1	25	1	93	*	38	7.6
	Total Process Uses	474	8	3	522	1	W	7.2
	Process Heating	103	8	2	516	1	W	8.0
	Process Cooling and Refrigeration	3	0	0	*	0	0	12.7
	Machine Drive	134	Q	1	4	*	0	7.5
	Electro-Chemical Processes	229	--	--	--	--	--	3.6
	Other Process Use	5	0	*	2	*	0	11.1
	Total Non-Process Uses	40	Q	7	54	2	W	3.2
	Facility Heating, Ventilation, and Air Conditioning ^e	17	Q	*	44	*	0	8.9
	Facility Lighting	18	--	--	--	--	--	5.4
	Facility Support	4	Q	*	6	*	0	9.1
	Onsite Transportation	1	--	6	*	2	--	4.3
	Conventional Electricity Generation	--	0	Q	4	*	W	3.5
	Other Non-Process Use	1	0	W	1	*	0	13.4
	End Use Not Reported	8	*	1	17	*	*	14.8
3312	Blast Furnaces and Steel Mills							
	RSE Column Factors:	0.7	1.6	0.9	0.7	1.0	1.5	
	TOTAL INPUTS	152	31	5	399	*	24	4.4
	Boiler Fuel	1	24	*	63	W	24	6.7
	Total Process Uses	134	7	1	312	*	*	5.2
	Process Heating	55	7	1	310	*	*	5.3
	Process Cooling and Refrigeration	1	0	0	0	0	0	9.2
	Machine Drive	72	0	*	1	*	0	7.0
	Electro-Chemical Processes	3	--	--	--	--	--	13.8
	Other Process Use	4	0	*	1	*	0	13.4
	Total Non-Process Uses	13	*	4	22	*	0	5.2
	Facility Heating, Ventilation, and Air Conditioning ^e	5	*	W	17	*	0	7.4
	Facility Lighting	6	--	--	--	--	--	4.6
	Facility Support	2	0	0	4	*	0	8.9
	Onsite Transportation	W	--	4	0	*	--	7.0
	Conventional Electricity Generation	--	0	*	*	*	0	15.0
	Other Non-Process Use	W	0	W	1	*	0	13.2
	End Use Not Reported	4	0	*	2	W	*	10.4
3313	Electrometallurgical Products							
	RSE Column Factors:	0.8	NF	0.9	0.9	1.3	1.3	
	TOTAL INPUTS	15	0	*	1	W	W	8.4
	Boiler Fuel	W	0	0	*	*	W	12.7
	Total Process Uses	14	0	W	1	*	W	9.5
	Process Heating	11	0	0	1	*	W	9.3
	Process Cooling and Refrigeration	W	0	0	0	0	0	18.6
	Machine Drive	3	0	W	*	*	0	12.3
	Electro-Chemical Processes	W	--	--	--	--	--	16.0
	Other Process Use	W	0	0	*	0	0	14.1
	Total Non-Process Uses	W	0	W	*	W	0	9.7
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	*	*	0	11.8
	Facility Lighting	*	--	--	--	--	--	8.0
	Facility Support	*	0	0	*	*	0	10.5
	Onsite Transportation	W	--	W	0	W	--	11.8
	Conventional Electricity Generation	--	0	*	0	0	0	15.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	0	0	NF

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
3321	Gray and Ductile Iron Foundries							
	RSE Column Factors:	0.6	1.6	1.3	0.6	1.3	1.2	
	TOTAL INPUTS	22	*	1	28	*	*	14.0
	Boiler Fuel	*	W	*	2	*	0	18.8
	Total Process Uses	18	Q	Q	18	*	*	13.7
	Process Heating	9	0	Q	17	*	*	16.4
	Process Cooling and Refrigeration	*	0	0	0	0	0	16.2
	Machine Drive	8	Q	*	1	*	0	11.5
	Electro-Chemical Processes	W	--	--	--	--	--	39.6
	Other Process Use	Q	0	*	*	*	0	19.4
	Total Non-Process Uses	4	*	*	7	*	0	11.0
	Facility Heating, Ventilation, and Air Conditioning ^e	2	*	*	7	*	0	19.9
	Facility Lighting	1	--	--	--	--	--	10.8
	Facility Support	*	0	*	*	0	0	12.1
	Onsite Transportation	*	--	*	*	*	--	17.7
	Conventional Electricity Generation	--	0	*	0	0	0	13.7
	Other Non-Process Use	*	0	0	*	*	0	37.4
	End Use Not Reported	1	0	*	1	*	*	29.7
3331	Primary Copper							
	RSE Column Factors:	1.0	1.0	1.0	1.0	1.0	1.0	
	TOTAL INPUTS	5	W	W	15	*	W	1.0
	Boiler Fuel	W	W	*	4	0	0	1.0
	Total Process Uses	5	W	W	9	*	W	1.0
	Process Heating	*	W	W	8	*	W	1.0
	Process Cooling and Refrigeration	W	0	0	0	0	0	1.0
	Machine Drive	3	0	0	0	*	0	1.0
	Electro-Chemical Processes	1	--	--	--	--	--	1.0
	Other Process Use	W	0	0	*	0	0	1.0
	Total Non-Process Uses	W	0	W	2	*	0	1.0
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	*	*	0	1.0
	Facility Lighting	*	--	--	--	--	--	1.0
	Facility Support	W	0	0	*	0	0	1.0
	Onsite Transportation	0	--	W	0	*	--	1.0
	Conventional Electricity Generation	--	0	*	2	0	0	1.0
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	*	0	1.0
3334	Primary Aluminum							
	RSE Column Factors:	0.8	1.4	1.1	0.8	1.1	NF	
	TOTAL INPUTS	230	*	1	21	*	0	3.1
	Boiler Fuel	W	*	W	2	W	0	5.0
	Total Process Uses	222	0	W	17	*	0	3.1
	Process Heating	W	0	W	17	*	0	3.9
	Process Cooling and Refrigeration	W	0	0	0	0	0	7.6
	Machine Drive	4	0	*	*	*	0	5.5
	Electro-Chemical Processes	216	--	--	--	--	--	2.5
	Other Process Use	W	0	0	0	0	0	6.4
	Total Non-Process Uses	W	*	1	1	*	0	3.7
	Facility Heating, Ventilation, and Air Conditioning ^e	4	*	*	1	*	0	5.8
	Facility Lighting	3	--	--	--	--	--	3.8
	Facility Support	*	0	0	*	0	0	4.5
	Onsite Transportation	W	--	1	0	*	--	4.0
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	*	0	5.6
	End Use Not Reported	W	0	*	1	W	0	5.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
3339	Primary Nonferrous Metals, nec							
	RSE Column Factors:	1.3	0.4	1.6	1.3	1.4	0.6	
	TOTAL INPUTS	15	*	*	17	*	W	1.9
	Boiler Fuel	W	*	*	3	0	W	2.8
	Total Process Uses	14	0	*	8	W	0	1.6
	Process Heating	5	0	W	8	W	0	1.3
	Process Cooling and Refrigeration	*	0	0	0	0	0	3.7
	Machine Drive	2	0	W	*	*	0	1.0
	Electro-Chemical Processes	7	--	--	--	--	--	1.5
	Other Process Use	*	0	0	0	0	0	15.0
	Total Non-Process Uses	1	0	*	W	W	W	1.5
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	1	W	0	2.5
	Facility Lighting	*	--	--	--	--	--	2.2
	Facility Support	*	0	0	*	*	0	4.9
	Onsite Transportation	*	--	*	0	*	--	1.4
	Conventional Electricity Generation	--	0	0	W	0	W	1.2
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	*	W	*	0	1.8
3353	Aluminum Sheet, Plate, and Foil							
	RSE Column Factors:	1.2	NF	0.8	1.3	0.8	0.9	
	TOTAL INPUTS	15	0	*	43	*	W	1.1
	Boiler Fuel	W	0	*	2	*	W	1.0
	Total Process Uses	12	0	*	38	*	0	1.2
	Process Heating	1	0	*	38	W	0	1.4
	Process Cooling and Refrigeration	W	0	0	0	0	0	1.7
	Machine Drive	11	0	*	0	W	0	1.1
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	*	0	0	0.8
	Total Non-Process Uses	2	0	*	2	*	0	1.4
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	2	W	0	1.4
	Facility Lighting	1	--	--	--	--	--	0.8
	Facility Support	*	0	*	*	*	0	1.3
	Onsite Transportation	*	--	*	0	W	--	1.1
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	*	0	0	0	0	0	0.8
	End Use Not Reported	Q	0	*	*	*	0	1.3
34	FABRICATED METAL PRODUCTS							
	RSE Column Factors:	0.5	1.7	1.6	0.5	1.1	1.4	
	TOTAL INPUTS	102	3	6	174	4	5	11.4
	Boiler Fuel	1	2	1	37	Q	5	15.7
	Total Process Uses	71	Q	1	91	2	W	16.7
	Process Heating	12	*	1	89	W	W	19.5
	Process Cooling and Refrigeration	2	0	*	*	*	0	21.6
	Machine Drive	52	Q	*	1	W	0	25.7
	Electro-Chemical Processes	4	--	--	--	--	--	24.3
	Other Process Use	1	Q	Q	1	*	0	50.1
	Total Non-Process Uses	24	Q	3	37	2	0	14.2
	Facility Heating, Ventilation, and Air Conditioning ^e	10	Q	1	34	*	0	19.5
	Facility Lighting	12	--	--	--	--	--	15.5
	Facility Support	2	Q	*	2	Q	0	24.3
	Onsite Transportation	*	--	2	*	2	--	17.9
	Conventional Electricity Generation	--	0	*	1	0	0	36.2
	Other Non-Process Use	*	0	Q	*	*	0	64.8
	End Use Not Reported	7	Q	*	8	*	Q	33.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
35	INDUSTRIAL MACHINERY and EQUIPMENT							
	RSE Column Factors:	0.4	2.0	1.2	0.7	1.4	1.1	
	TOTAL INPUTS	101	3	4	109	2	11	10.5
	Boiler Fuel	1	3	1	28	*	11	17.5
	Total Process Uses	56	Q	1	37	1	*	15.1
	Process Heating	8	Q	*	32	*	*	19.2
	Process Cooling and Refrigeration	3	0	0	*	0	0	28.6
	Machine Drive	43	*	1	3	Q	0	24.6
	Electro-Chemical Processes	1	--	--	--	--	--	36.3
	Other Process Use	1	*	1	1	*	*	28.2
	Total Non-Process Uses	36	*	2	33	1	0	13.9
	Facility Heating, Ventilation, and Air Conditioning ^e	17	*	1	31	*	0	18.5
	Facility Lighting	15	--	--	--	--	--	12.1
	Facility Support	4	Q	*	1	Q	0	23.5
	Onsite Transportation	*	--	*	0	1	--	19.0
	Conventional Electricity Generation	--	0	Q	*	Q	0	46.8
	Other Non-Process Use	*	0	*	*	Q	0	38.3
	End Use Not Reported	8	*	*	11	*	0	29.3
357	Computer and Office Equipment							
	RSE Column Factors:	0.5	1.5	1.2	0.7	1.6	NF	
	TOTAL INPUTS	15	*	*	6	*	0	15.0
	Boiler Fuel	*	*	*	4	*	0	20.9
	Total Process Uses	5	0	*	*	*	0	19.9
	Process Heating	1	0	0	*	*	0	19.2
	Process Cooling and Refrigeration	1	0	0	*	0	0	31.5
	Machine Drive	2	0	*	*	*	0	20.4
	Electro-Chemical Processes	*	--	--	--	--	--	24.6
	Other Process Use	1	0	0	*	0	0	36.8
	Total Non-Process Uses	8	*	*	1	*	0	18.5
	Facility Heating, Ventilation, and Air Conditioning ^e	4	*	*	1	*	0	21.3
	Facility Lighting	3	--	--	--	--	--	12.3
	Facility Support	1	0	*	*	*	0	24.1
	Onsite Transportation	*	--	*	0	*	--	24.3
	Conventional Electricity Generation	--	0	*	*	*	0	25.2
	Other Non-Process Use	*	0	*	*	0	0	43.6
	End Use Not Reported	2	*	Q	*	*	0	24.0
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT							
	RSE Column Factors:	0.4	1.6	1.2	0.6	1.1	1.7	
	TOTAL INPUTS	102	4	2	79	1	W	9.1
	Boiler Fuel	1	4	1	29	*	W	12.9
	Total Process Uses	59	Q	*	32	1	*	15.9
	Process Heating	16	Q	*	30	1	*	18.7
	Process Cooling and Refrigeration	7	*	*	Q	*	0	23.6
	Machine Drive	31	*	*	1	*	0	19.5
	Electro-Chemical Processes	5	--	--	--	--	--	25.3
	Other Process Use	1	0	*	*	*	0	27.8
	Total Non-Process Uses	38	*	1	15	1	*	17.0
	Facility Heating, Ventilation, and Air Conditioning ^e	21	*	*	15	*	*	20.9
	Facility Lighting	13	--	--	--	--	--	11.5
	Facility Support	4	0	Q	1	Q	0	16.6
	Onsite Transportation	*	--	*	0	*	--	17.6
	Conventional Electricity Generation	--	0	*	*	*	0	27.2
	Other Non-Process Use	*	0	*	*	Q	0	41.0
	End Use Not Reported	5	*	*	2	*	0	30.0

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
37	TRANSPORTATION EQUIPMENT							
	RSE Column Factors:	0.5	1.4	1.3	0.7	1.5	1.1	
	TOTAL INPUTS	121	12	7	132	2	33	5.1
	Boiler Fuel	1	W	2	48	*	W	7.0
	Total Process Uses	70	*	1	53	1	W	10.8
	Process Heating	10	*	W	49	*	W	8.3
	Process Cooling and Refrigeration	5	0	0	*	0	0	14.7
	Machine Drive	50	Q	1	2	Q	0	14.3
	Electro-Chemical Processes	2	--	--	--	--	--	10.6
	Other Process Use	2	*	W	1	Q	0	15.9
	Total Non-Process Uses	44	W	4	28	1	0	7.1
	Facility Heating, Ventilation, and Air Conditioning ^e	21	*	W	25	*	0	10.4
	Facility Lighting	18	--	--	--	--	--	6.4
	Facility Support	4	W	*	2	*	0	8.3
	Onsite Transportation	*	--	2	*	1	--	8.1
	Conventional Electricity Generation	--	W	W	1	*	0	14.4
	Other Non-Process Use	1	W	1	*	*	0	15.2
	End Use Not Reported	7	Q	*	3	*	0	13.0
3711	Motor Vehicles and Car Bodies							
	RSE Column Factors:	0.6	1.8	1.2	0.7	1.1	1.1	
	TOTAL INPUTS	26	3	*	45	*	W	3.0
	Boiler Fuel	W	W	*	11	*	W	4.7
	Total Process Uses	17	W	W	24	*	0	4.5
	Process Heating	2	W	*	23	*	0	5.0
	Process Cooling and Refrigeration	2	0	0	*	0	0	9.5
	Machine Drive	12	0	W	1	*	0	8.8
	Electro-Chemical Processes	W	--	--	--	--	--	7.2
	Other Process Use	W	0	*	*	*	0	9.7
	Total Non-Process Uses	9	W	*	9	*	0	3.8
	Facility Heating, Ventilation, and Air Conditioning ^e	5	W	W	8	*	0	5.6
	Facility Lighting	3	--	--	--	--	--	5.4
	Facility Support	1	0	W	1	*	0	7.3
	Onsite Transportation	W	--	*	0	*	--	4.0
	Conventional Electricity Generation	--	0	*	0	0	0	6.9
	Other Non-Process Use	W	0	*	*	0	0	8.6
	End Use Not Reported	W	0	W	*	*	0	10.7
3714	Motor Vehicle Parts and Accessories							
	RSE Column Factors:	0.4	2.0	1.1	0.7	1.5	1.0	
	TOTAL INPUTS	38	*	1	41	1	W	7.0
	Boiler Fuel	*	*	W	12	W	W	8.1
	Total Process Uses	26	*	*	19	*	W	12.1
	Process Heating	3	*	W	18	*	W	14.1
	Process Cooling and Refrigeration	2	0	0	*	0	0	18.4
	Machine Drive	20	Q	W	*	*	0	22.0
	Electro-Chemical Processes	*	--	--	--	--	--	19.3
	Other Process Use	*	*	Q	*	0	0	13.5
	Total Non-Process Uses	11	*	*	9	*	0	10.8
	Facility Heating, Ventilation, and Air Conditioning ^e	5	*	W	9	Q	0	12.4
	Facility Lighting	4	--	--	--	--	--	9.7
	Facility Support	1	0	*	*	*	0	16.8
	Onsite Transportation	W	--	W	*	*	--	10.8
	Conventional Electricity Generation	--	0	*	*	0	0	21.7
	Other Non-Process Use	W	*	*	*	*	0	18.2
	End Use Not Reported	1	*	W	1	W	0	18.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
38	INSTRUMENTS and RELATED PRODUCTS							
	RSE Column Factors:	0.5	0.8	1.3	0.8	1.4	1.5	
	TOTAL INPUTS	47	3	W	25	Q	W	12.8
	Boiler Fuel	1	3	W	14	Q	W	17.7
	Total Process Uses	20	Q	*	4	*	0	15.9
	Process Heating	3	0	W	4	*	0	20.1
	Process Cooling and Refrigeration	4	Q	*	*	0	0	26.4
	Machine Drive	12	0	W	*	Q	0	23.4
	Electro-Chemical Processes	1	--	--	--	--	--	21.4
	Other Process Use	1	0	*	*	*	0	27.8
	Total Non-Process Uses	23	Q	*	6	*	0	15.5
	Facility Heating, Ventilation, and Air Conditioning ^e	12	Q	*	6	Q	0	16.2
	Facility Lighting	9	--	--	--	--	--	11.7
	Facility Support	2	*	*	*	Q	0	18.1
	Onsite Transportation	*	--	*	0	*	--	17.2
	Conventional Electricity Generation	--	0	*	*	*	0	23.1
	Other Non-Process Use	1	Q	*	*	*	0	29.0
	End Use Not Reported	2	Q	Q	1	Q	*	25.7
3841	Surgical and Medical Instruments							
	RSE Column Factors:	0.6	1.8	1.2	0.7	1.1	NF	
	TOTAL INPUTS	4	*	*	2	*	0	13.4
	Boiler Fuel	*	*	*	1	*	0	20.5
	Total Process Uses	2	0	*	*	*	0	19.8
	Process Heating	*	0	*	*	*	0	20.9
	Process Cooling and Refrigeration	*	0	*	*	0	0	16.8
	Machine Drive	1	0	*	*	Q	0	11.7
	Electro-Chemical Processes	*	--	--	--	--	--	45.3
	Other Process Use	*	0	*	0	*	0	37.5
	Total Non-Process Uses	2	0	*	1	*	0	15.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	1	*	0	20.3
	Facility Lighting	1	--	--	--	--	--	15.1
	Facility Support	*	0	*	*	*	0	21.3
	Onsite Transportation	*	--	*	0	*	--	27.0
	Conventional Electricity Generation	--	0	*	*	0	0	38.3
	Other Non-Process Use	*	0	*	*	*	0	35.2
	End Use Not Reported	*	*	0	*	*	0	27.0

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
39	MISC. MANUFACTURING INDUSTRIES							
	RSE Column Factors:	0.5	1.2	1.3	0.7	1.0	1.8	
	TOTAL INPUTS	12	1	W	15	W	1	13.3
	Boiler Fuel	*	1	W	5	W	1	20.9
	Total Process Uses	7	Q	*	5	*	0	18.7
	Process Heating	2	Q	Q	5	*	0	19.9
	Process Cooling and Refrigeration	1	0	0	*	0	0	33.3
	Machine Drive	5	0	*	*	*	0	29.6
	Electro-Chemical Processes	*	--	--	--	--	--	67.6
	Other Process Use	*	0	*	*	*	0	55.7
	Total Non-Process Uses	4	*	*	4	*	Q	20.5
	Facility Heating, Ventilation, and Air Conditioning ^e	2	*	*	3	Q	Q	23.6
	Facility Lighting	2	--	--	--	--	--	16.9
	Facility Support	*	*	*	*	*	0	30.6
	Onsite Transportation	*	--	Q	*	*	--	20.0
	Conventional Electricity Generation	--	0	*	0	0	0	29.0
	Other Non-Process Use	*	0	*	*	*	0	39.5
	End Use Not Reported	1	*	*	1	*	0	37.5

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Demand for Electricity" is the sum of purchases, transfers in, and total onsite electricity generation, minus sales and transfers offsite. It is the total amount of electricity used by establishments. "Net Demand for Electricity" is not directly comparable with "Net Electricity" which specifically excludes electricity generated onsite by combustible energy sources.

^c Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
20-39	ALL INDUSTRY GROUPS							
	RSE Column Factors:	0.4	1.7	1.5	0.7	1.0	1.6	
	TOTAL INPUTS	820,286	65,837	23,885	5,345	27,970	53,035	3.0
	Boiler Fuel	9,245	47,009	6,850	2,037	4,928	38,473	3.6
	Total Process Uses	657,659	17,342	5,800	2,503	16,908	14,075	4.1
	Process Heating	71,658	16,959	3,177	2,312	12,704	14,075	4.1
	Process Cooling and Refrigeration	40,987	6	30	13	18	0	12.4
	Machine Drive	434,349	353	2,398	123	4,093	0	8.4
	Electro-Chemical Processes	105,663	--	--	--	--	--	7.7
	Other Process Use	5,001	24	196	55	93	*	14.0
	Total Non-Process Uses	125,751	1,148	9,134	682	5,105	W	4.2
	Facility Heating, Ventilation, and Air Conditioning ^e	60,301	673	1,372	275	731	15	6.8
	Facility Lighting	51,443	--	--	--	--	--	5.1
	Facility Support	11,522	W	81	22	62	0	9.6
	Onsite Transportation	1,298	--	6,533	*	4,242	--	9.4
	Conventional Electricity Generation	--	325	734	337	41	W	8.8
	Other Non-Process Use	1,187	W	413	48	30	0	10.9
	End Use Not Reported	27,631	339	2,101	124	1,028	W	10.6
20	FOOD and KINDRED PRODUCTS							
	RSE Column Factors:	0.5	1.5	1.5	0.7	1.6	0.9	
	TOTAL INPUTS	55,273	4,317	2,966	497	1,429	6,913	5.9
	Boiler Fuel	1,392	3,875	1,242	306	441	6,414	8.4
	Total Process Uses	43,198	W	270	140	292	W	9.4
	Process Heating	2,141	260	212	133	224	W	11.8
	Process Cooling and Refrigeration	13,366	0	15	W	1	0	17.6
	Machine Drive	27,580	Q	35	W	56	0	17.8
	Electro-Chemical Processes	Q	--	--	--	--	--	NF
	Other Process Use	87	0	8	2	11	0	33.2
	Total Non-Process Uses	8,590	W	1,242	34	598	W	11.4
	Facility Heating, Ventilation, and Air Conditioning ^e	3,672	26	128	20	50	W	16.1
	Facility Lighting	3,731	--	--	--	--	--	8.5
	Facility Support	849	Q	23	2	14	0	17.5
	Onsite Transportation	177	--	812	*	533	--	10.5
	Conventional Electricity Generation	--	0	246	12	*	W	22.6
	Other Non-Process Use	162	*	33	*	Q	0	22.3
	End Use Not Reported	2,093	82	212	17	Q	0	24.5
2011	Meat Packing Plants							
	RSE Column Factors:	0.4	1.6	1.0	0.6	1.4	1.8	
	TOTAL INPUTS	3,481	170	252	31	157	27	10.1
	Boiler Fuel	30	169	56	21	91	27	12.9
	Total Process Uses	2,916	*	31	6	47	0	14.5
	Process Heating	W	0	19	5	44	0	17.0
	Process Cooling and Refrigeration	1,774	0	Q	*	1	0	17.8
	Machine Drive	1,072	*	1	*	2	0	19.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	*	*	0	0	36.3
	Total Non-Process Uses	417	*	132	3	10	0	13.2
	Facility Heating, Ventilation, and Air Conditioning ^e	174	*	Q	2	3	0	10.2
	Facility Lighting	201	--	--	--	--	--	14.0
	Facility Support	41	0	*	*	Q	0	22.9
	Onsite Transportation	2	--	131	*	5	--	25.9
	Conventional Electricity Generation	--	0	*	1	0	0	36.2
	Other Non-Process Use	0	0	*	0	0	0	27.6
	End Use Not Reported	118	*	33	*	8	0	33.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2033	Canned Fruits and Vegetables							
	RSE Column Factors:	0.7	1.1	1.3	0.9	1.2	NF	
	TOTAL INPUTS	1,724	290	131	35	124	Q	9.7
	Boiler Fuel	25	289	Q	28	*	Q	13.2
	Total Process Uses	1,369	*	7	2	4	0	15.6
	Process Heating	28	0	0	1	*	0	24.9
	Process Cooling and Refrigeration	415	0	*	*	*	0	20.3
	Machine Drive	921	*	7	*	4	0	17.8
	Electro-Chemical Processes	1	--	--	--	--	--	34.5
	Other Process Use	4	0	0	*	0	0	34.4
	Total Non-Process Uses	280	0	70	4	118	0	11.4
	Facility Heating, Ventilation, and Air Conditioning ^e	101	0	2	1	16	0	14.3
	Facility Lighting	132	--	--	--	--	--	7.2
	Facility Support	36	0	*	*	*	0	22.1
	Onsite Transportation	9	--	W	0	102	--	10.9
	Conventional Electricity Generation	--	0	W	3	0	0	26.5
	Other Non-Process Use	2	0	*	0	0	0	21.8
	End Use Not Reported	50	Q	9	2	1	0	23.7
2037	Frozen Fruits and Vegetables							
	RSE Column Factors:	0.7	1.2	1.2	0.8	1.3	NF	
	TOTAL INPUTS	3,205	321	76	25	41	0	13.0
	Boiler Fuel	248	259	28	17	7	0	21.6
	Total Process Uses	2,430	62	Q	4	1	0	17.4
	Process Heating	151	62	3	4	*	0	21.6
	Process Cooling and Refrigeration	1,509	0	0	*	0	0	23.8
	Machine Drive	760	0	Q	*	1	0	24.2
	Electro-Chemical Processes	2	--	--	--	--	--	55.7
	Other Process Use	7	0	0	*	0	0	46.1
	Total Non-Process Uses	375	0	30	2	32	0	13.8
	Facility Heating, Ventilation, and Air Conditioning ^e	165	0	Q	1	*	0	16.2
	Facility Lighting	171	--	--	--	--	--	15.1
	Facility Support	28	0	0	*	*	0	18.1
	Onsite Transportation	9	--	24	0	31	--	15.9
	Conventional Electricity Generation	--	0	3	1	0	0	27.2
	Other Non-Process Use	1	0	2	0	0	0	39.0
	End Use Not Reported	153	*	Q	2	1	0	38.6
2046	Wet Corn Milling							
	RSE Column Factors:	0.7	1.1	1.1	0.8	1.4	1.1	
	TOTAL INPUTS	5,820	29	30	51	1	3,051	11.1
	Boiler Fuel	261	29	W	25	0	W	12.5
	Total Process Uses	5,383	0	W	24	*	W	13.6
	Process Heating	W	0	W	24	0	W	16.0
	Process Cooling and Refrigeration	34	0	0	0	0	0	14.8
	Machine Drive	5,307	0	*	0	*	0	15.2
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	0	0	0	34.1
	Total Non-Process Uses	176	0	3	1	1	W	16.2
	Facility Heating, Ventilation, and Air Conditioning ^e	72	0	*	*	*	0	21.0
	Facility Lighting	69	--	--	--	--	--	10.4
	Facility Support	W	0	0	*	*	0	22.0
	Onsite Transportation	1	--	3	0	*	--	15.4
	Conventional Electricity Generation	--	0	*	1	0	W	21.6
	Other Non-Process Use	W	0	*	0	0	0	22.3
	End Use Not Reported	0	0	0	1	*	0	22.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2051	Bread, Cake, and Related Products							
	RSE Column Factors:	0.5	1.7	1.1	0.7	1.5	NF	
	TOTAL INPUTS	2,272	*	131	22	23	0	12.1
	Boiler Fuel	38	*	41	5	3	0	18.9
	Total Process Uses	1,602	0	44	14	10	0	13.0
	Process Heating	150	0	W	13	10	0	16.0
	Process Cooling and Refrigeration	421	0	0	*	0	0	20.4
	Machine Drive	1,028	0	*	*	*	0	26.6
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	2	0	W	*	*	0	27.8
	Total Non-Process Uses	529	0	38	2	9	0	13.3
	Facility Heating, Ventilation, and Air Conditioning ^e	210	0	W	2	3	0	14.2
	Facility Lighting	245	--	--	--	--	--	11.1
	Facility Support	53	0	*	*	*	0	22.4
	Onsite Transportation	Q	--	20	*	6	--	21.6
	Conventional Electricity Generation	--	0	W	*	*	0	35.1
	Other Non-Process Use	5	0	*	*	0	0	39.9
	End Use Not Reported	104	0	9	1	2	0	29.0
2063	Beet Sugar							
	RSE Column Factors:	0.9	1.6	1.1	0.9	1.1	0.7	
	TOTAL INPUTS	848	W	30	18	5	1,901	5.6
	Boiler Fuel	13	W	W	12	0	1,590	9.6
	Total Process Uses	744	104	W	6	1	311	7.2
	Process Heating	W	104	*	6	*	311	10.2
	Process Cooling and Refrigeration	1	0	0	0	0	0	34.6
	Machine Drive	W	0	W	*	1	0	8.1
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	90	W	23	*	5	0	6.5
	Facility Heating, Ventilation, and Air Conditioning ^e	33	W	0	*	1	0	8.7
	Facility Lighting	48	--	--	--	--	--	5.8
	Facility Support	9	0	0	*	1	0	9.9
	Onsite Transportation	*	--	23	0	2	--	8.7
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	*	0	14.5
	End Use Not Reported	0	0	*	0	*	0	15.2
2075	Soybean Oil Mills							
	RSE Column Factors:	0.8	1.5	1.1	0.7	1.5	0.8	
	TOTAL INPUTS	1,910	42	31	24	5	592	3.4
	Boiler Fuel	W	42	W	17	*	592	4.5
	Total Process Uses	1,605	*	W	5	2	0	4.7
	Process Heating	22	0	W	5	2	0	6.7
	Process Cooling and Refrigeration	27	0	0	0	0	0	3.9
	Machine Drive	1,555	*	*	0	*	0	4.7
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	*	*	0	7.9
	Total Non-Process Uses	117	*	8	1	3	0	4.3
	Facility Heating, Ventilation, and Air Conditioning ^e	50	0	0	*	0	0	4.8
	Facility Lighting	61	--	--	--	--	--	3.9
	Facility Support	7	0	*	*	0	0	8.8
	Onsite Transportation	*	--	8	0	3	--	5.1
	Conventional Electricity Generation	--	0	*	1	0	0	8.3
	Other Non-Process Use	0	*	0	0	0	0	6.0
	End Use Not Reported	W	0	*	0	*	0	7.7

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2082	Malt Beverages							
	RSE Column Factors:	0.6	1.3	1.4	0.8	1.0	1.4	
	TOTAL INPUTS	2,886	419	58	22	8	706	10.1
	Boiler Fuel	W	417	W	20	*	706	13.2
	Total Process Uses	2,196	0	*	1	0	0	13.8
	Process Heating	70	0	0	1	0	0	21.8
	Process Cooling and Refrigeration	950	0	0	*	0	0	19.4
	Machine Drive	1,176	0	*	0	0	0	14.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	581	2	W	*	W	1	14.0
	Facility Heating, Ventilation, and Air Conditioning ^e	216	2	0	*	W	1	16.4
	Facility Lighting	247	--	--	--	--	--	10.6
	Facility Support	77	0	*	0	0	0	16.4
	Onsite Transportation	42	--	W	0	4	--	14.0
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	*	*	W	0	25.6
21	TOBACCO PRODUCTS							
	RSE Column Factors:	0.9	0.7	1.0	2.0	1.3	0.7	
	TOTAL INPUTS	1,810	135	40	4	23	692	5.8
	Boiler Fuel	5	135	39	3	W	692	6.1
	Total Process Uses	996	0	*	1	W	0	5.0
	Process Heating	22	0	*	1	W	0	8.8
	Process Cooling and Refrigeration	W	0	0	*	0	0	6.7
	Machine Drive	941	0	*	*	0	0	5.3
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	0	0	0	9.1
	Total Non-Process Uses	809	0	2	*	14	0	6.8
	Facility Heating, Ventilation, and Air Conditioning ^e	576	0	0	*	*	0	7.0
	Facility Lighting	213	--	--	--	--	--	3.4
	Facility Support	19	0	0	*	0	0	4.3
	Onsite Transportation	2	--	2	0	14	--	7.5
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	*	0	6.3
	End Use Not Reported	0	0	0	0	*	0	6.3
22	TEXTILE MILL PRODUCTS							
	RSE Column Factors:	0.4	1.3	1.6	0.8	1.2	1.2	
	TOTAL INPUTS	29,866	1,966	1,064	105	629	1,362	7.2
	Boiler Fuel	177	1,706	811	68	38	1,334	11.1
	Total Process Uses	21,621	99	38	30	411	W	11.0
	Process Heating	1,019	W	37	27	397	W	13.9
	Process Cooling and Refrigeration	2,176	0	*	*	*	0	21.2
	Machine Drive	18,260	W	1	2	13	0	14.4
	Electro-Chemical Processes	W	--	--	--	--	--	62.4
	Other Process Use	W	*	*	1	1	0	23.5
	Total Non-Process Uses	7,336	28	173	4	163	2	13.1
	Facility Heating, Ventilation, and Air Conditioning ^e	4,238	28	W	4	27	2	16.9
	Facility Lighting	2,679	--	--	--	--	--	9.2
	Facility Support	370	*	*	*	*	0	13.3
	Onsite Transportation	34	--	34	0	134	--	13.7
	Conventional Electricity Generation	--	0	Q	*	1	0	45.0
	Other Non-Process Use	14	0	1	*	*	0	23.2
	End Use Not Reported	733	134	Q	3	17	W	20.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
23	APPAREL and OTHER TEXTILE PRODUCTS							
	RSE Column Factors:	0.5	NF	1.4	0.7	1.3	1.5	
	TOTAL INPUTS	5,645	Q	142	18	158	88	16.8
	Boiler Fuel	56	Q	76	6	42	88	27.1
	Total Process Uses	2,601	Q	Q	6	56	0	23.5
	Process Heating	194	0	Q	4	26	0	30.2
	Process Cooling and Refrigeration	90	0	0	0	0	0	68.8
	Machine Drive	2,298	Q	*	1	Q	0	38.4
	Electro-Chemical Processes	7	--	--	--	--	--	84.5
	Other Process Use	Q	0	0	0	*	0	38.0
	Total Non-Process Uses	2,091	Q	40	4	48	0	19.1
	Facility Heating, Ventilation, and Air Conditioning ^e	1,133	Q	31	4	35	0	22.8
	Facility Lighting	829	--	--	--	--	--	17.7
	Facility Support	126	0	*	*	1	0	36.0
	Onsite Transportation	Q	--	10	*	12	--	20.0
	Conventional Electricity Generation	--	0	0	*	0	0	NF
	Other Non-Process Use	0	0	*	0	0	0	33.5
	End Use Not Reported	897	Q	14	2	13	0	30.1
24	LUMBER and WOOD PRODUCTS							
	RSE Column Factors:	0.5	1.3	1.0	0.9	1.0	1.6	
	TOTAL INPUTS	20,549	333	2,373	39	1,000	92	14.8
	Boiler Fuel	456	295	151	12	63	92	24.6
	Total Process Uses	16,145	Q	645	18	450	0	17.1
	Process Heating	978	Q	Q	17	338	0	22.3
	Process Cooling and Refrigeration	99	0	0	0	0	0	59.5
	Machine Drive	15,016	0	563	Q	Q	0	15.5
	Electro-Chemical Processes	7	--	--	--	--	--	72.5
	Other Process Use	44	0	Q	0	Q	0	87.3
	Total Non-Process Uses	2,074	Q	1,016	5	455	*	18.5
	Facility Heating, Ventilation, and Air Conditioning ^e	728	Q	Q	5	Q	*	26.8
	Facility Lighting	1,130	--	--	--	--	--	18.6
	Facility Support	186	0	5	*	*	0	35.7
	Onsite Transportation	28	--	922	0	395	--	24.7
	Conventional Electricity Generation	--	0	Q	0	0	0	NF
	Other Non-Process Use	Q	0	2	*	*	0	46.7
	End Use Not Reported	1,875	Q	561	4	32	0	34.2
25	FURNITURE and FIXTURES							
	RSE Column Factors:	0.5	1.9	1.1	0.6	0.9	1.8	
	TOTAL INPUTS	4,948	184	162	18	255	157	17.9
	Boiler Fuel	82	Q	50	3	37	146	28.1
	Total Process Uses	3,104	*	Q	7	53	8	18.9
	Process Heating	175	0	Q	7	31	8	25.0
	Process Cooling and Refrigeration	W	0	0	*	0	0	36.2
	Machine Drive	2,846	*	Q	1	21	0	24.0
	Electro-Chemical Processes	22	--	--	--	--	--	40.2
	Other Process Use	W	0	*	0	*	0	55.0
	Total Non-Process Uses	1,435	Q	71	6	155	2	22.0
	Facility Heating, Ventilation, and Air Conditioning ^e	595	Q	31	6	62	2	26.7
	Facility Lighting	699	--	--	--	--	--	18.1
	Facility Support	115	*	*	*	1	0	34.3
	Onsite Transportation	W	--	Q	0	91	--	23.3
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	W	0	*	0	1	0	59.1
	End Use Not Reported	327	1	8	2	11	0	36.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
26	PAPER and ALLIED PRODUCTS							
	RSE Column Factors:	0.6	0.9	1.8	0.9	1.5	0.8	
	TOTAL INPUTS	109,871	24,883	1,566	532	W	13,252	4.3
	Boiler Fuel	3,569	21,232	665	350	W	13,133	5.8
	Total Process Uses	94,985	3,311	391	120	426	Q	5.2
	Process Heating	2,424	3,163	291	103	368	Q	7.7
	Process Cooling and Refrigeration	1,420	0	*	*	1	0	7.7
	Machine Drive	89,329	148	W	11	44	0	9.3
	Electro-Chemical Processes	1,032	--	--	--	--	--	13.7
	Other Process Use	780	0	W	6	13	0	9.6
	Total Non-Process Uses	9,006	336	486	52	624	*	6.5
	Facility Heating, Ventilation, and Air Conditioning ^e	3,913	W	97	W	W	*	10.8
	Facility Lighting	4,058	--	--	--	--	--	5.1
	Facility Support	924	0	2	*	*	0	9.9
	Onsite Transportation	81	--	377	*	609	--	6.3
	Conventional Electricity Generation	--	W	7	37	Q	0	14.8
	Other Non-Process Use	30	1	Q	W	1	0	16.6
	End Use Not Reported	2,311	3	24	9	55	W	19.6
2611	Pulp Mills							
	RSE Column Factors:	0.7	1.1	1.0	0.8	1.3	1.4	
	TOTAL INPUTS	8,553	4,500	155	32	141	331	14.4
	Boiler Fuel	285	3,881	60	22	98	331	18.2
	Total Process Uses	7,699	608	21	9	19	0	16.4
	Process Heating	26	604	3	9	17	0	20.5
	Process Cooling and Refrigeration	88	0	0	0	0	0	24.3
	Machine Drive	7,158	4	17	0	2	0	22.8
	Electro-Chemical Processes	273	--	--	--	--	--	37.1
	Other Process Use	154	0	0	0	0	0	34.3
	Total Non-Process Uses	569	7	74	*	22	0	17.9
	Facility Heating, Ventilation, and Air Conditioning ^e	237	0	*	*	*	0	21.4
	Facility Lighting	292	--	--	--	--	--	14.3
	Facility Support	39	0	0	0	0	0	21.4
	Onsite Transportation	2	--	74	0	22	--	19.4
	Conventional Electricity Generation	--	7	0	*	0	0	39.5
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	3	0	0	Q	0	34.2
2621	Paper Mills							
	RSE Column Factors:	0.7	1.1	1.0	1.1	1.1	1.1	
	TOTAL INPUTS	61,054	13,455	W	252	613	8,634	2.7
	Boiler Fuel	1,544	11,601	275	158	W	8,634	3.3
	Total Process Uses	53,957	1,569	W	56	279	0	3.3
	Process Heating	1,135	1,569	141	47	263	0	4.1
	Process Cooling and Refrigeration	683	0	*	*	1	0	7.1
	Machine Drive	51,313	*	47	W	6	0	4.3
	Electro-Chemical Processes	582	--	--	--	--	--	7.2
	Other Process Use	245	0	W	W	9	0	9.6
	Total Non-Process Uses	4,130	284	196	37	W	*	4.9
	Facility Heating, Ventilation, and Air Conditioning ^e	1,815	W	3	2	2	*	4.2
	Facility Lighting	1,800	--	--	--	--	--	2.9
	Facility Support	462	0	2	*	*	0	5.6
	Onsite Transportation	W	--	190	0	W	--	3.9
	Conventional Electricity Generation	--	W	*	34	0	0	8.5
	Other Non-Process Use	W	1	*	0	1	0	8.3
	End Use Not Reported	1,422	0	7	*	10	0	6.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2631	Paperboard Mills							
	RSE Column Factors:	0.6	1.5	1.1	0.8	1.2	0.9	
	TOTAL INPUTS	26,971	W	207	180	93	W	4.4
	Boiler Fuel	1,560	5,057	77	133	1	4,048	7.0
	Total Process Uses	23,663	W	W	36	5	Q	5.3
	Process Heating	593	W	W	W	3	Q	9.4
	Process Cooling and Refrigeration	W	0	0	*	0	0	13.7
	Machine Drive	22,343	0	W	W	2	0	9.4
	Electro-Chemical Processes	167	--	--	--	--	--	20.1
	Other Process Use	W	0	2	*	0	0	19.1
	Total Non-Process Uses	1,672	3	111	W	84	0	8.7
	Facility Heating, Ventilation, and Air Conditioning ^e	715	3	0	2	*	0	13.3
	Facility Lighting	793	--	--	--	--	--	9.3
	Facility Support	160	0	*	*	0	0	13.8
	Onsite Transportation	Q	--	102	0	84	--	4.7
	Conventional Electricity Generation	--	0	7	W	0	0	26.1
	Other Non-Process Use	2	0	Q	W	0	0	23.0
	End Use Not Reported	Q	*	W	W	2	0	14.5
27	PRINTING and PUBLISHING							
	RSE Column Factors:	0.5	1.6	1.5	0.7	1.1	NF	
	TOTAL INPUTS	15,641	50	312	47	179	0	12.6
	Boiler Fuel	108	40	117	14	W	0	26.7
	Total Process Uses	7,607	0	Q	16	W	0	15.9
	Process Heating	190	0	Q	14	W	0	23.2
	Process Cooling and Refrigeration	551	0	0	*	*	0	31.9
	Machine Drive	6,682	0	*	1	20	0	26.4
	Electro-Chemical Processes	76	--	--	--	--	--	79.8
	Other Process Use	109	0	0	*	0	0	60.4
	Total Non-Process Uses	5,484	10	180	12	134	0	18.7
	Facility Heating, Ventilation, and Air Conditioning ^e	2,930	10	109	11	1	0	23.3
	Facility Lighting	1,955	--	--	--	--	--	16.0
	Facility Support	537	*	2	1	Q	0	27.9
	Onsite Transportation	50	--	65	0	131	--	24.1
	Conventional Electricity Generation	--	0	Q	0	0	0	NF
	Other Non-Process Use	Q	0	*	*	Q	0	18.9
	End Use Not Reported	2,441	0	8	5	Q	0	25.4
28	CHEMICALS and ALLIED PRODUCTS							
	RSE Column Factors:	0.6	0.9	1.2	0.8	1.6	1.3	
	TOTAL INPUTS	170,520	7,573	2,083	1,620	1,263	11,345	5.0
	Boiler Fuel	1,150	4,425	1,098	698	567	10,947	6.6
	Total Process Uses	151,906	W	386	653	454	354	7.2
	Process Heating	4,756	3,013	271	560	404	354	9.1
	Process Cooling and Refrigeration	9,921	0	*	2	W	0	9.4
	Machine Drive	103,402	0	88	53	34	0	7.4
	Electro-Chemical Processes	33,485	--	--	--	--	--	9.1
	Other Process Use	342	W	27	38	W	0	12.1
	Total Non-Process Uses	14,251	W	550	248	204	W	6.7
	Facility Heating, Ventilation, and Air Conditioning ^e	7,253	W	35	W	47	W	10.1
	Facility Lighting	5,284	--	--	--	--	--	7.3
	Facility Support	1,386	0	22	3	11	0	10.5
	Onsite Transportation	98	--	408	0	145	--	7.5
	Conventional Electricity Generation	--	W	21	186	*	0	11.8
	Other Non-Process Use	230	1	65	W	1	0	10.7
	End Use Not Reported	3,213	77	49	20	38	W	14.9

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2812	Alkalies and Chlorine							
	RSE Column Factors:	0.7	1.3	0.9	0.9	1.1	1.2	
	TOTAL INPUTS	17,653	W	43	W	2	W	16.4
	Boiler Fuel	W	W	W	54	0	W	23.0
	Total Process Uses	17,181	0	W	4	0	0	19.2
	Process Heating	W	0	W	4	0	0	27.5
	Process Cooling and Refrigeration	W	0	0	0	0	0	19.3
	Machine Drive	1,428	0	*	0	0	0	19.5
	Electro-Chemical Processes	15,480	--	--	--	--	--	13.3
	Other Process Use	W	0	1	1	0	0	31.2
	Total Non-Process Uses	359	0	9	W	2	0	16.1
	Facility Heating, Ventilation, and Air Conditioning ^e	W	0	0	1	0	0	20.1
	Facility Lighting	170	--	--	--	--	--	14.8
	Facility Support	W	0	0	0	0	0	31.1
	Onsite Transportation	0	--	9	0	2	--	14.3
	Conventional Electricity Generation	--	0	0	W	0	0	20.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	W	0	*	0	31.8
2813	Industrial Gases							
	RSE Column Factors:	0.4	NF	1.3	0.8	2.2	NF	
	TOTAL INPUTS	18,252	0	7	24	Q	0	14.2
	Boiler Fuel	0	0	1	8	0	0	13.6
	Total Process Uses	17,127	0	*	11	0	0	11.2
	Process Heating	W	0	0	11	0	0	23.0
	Process Cooling and Refrigeration	98	0	0	0	0	0	25.3
	Machine Drive	16,826	0	0	*	0	0	12.4
	Electro-Chemical Processes	W	--	--	--	--	--	36.8
	Other Process Use	Q	0	*	*	0	0	34.3
	Total Non-Process Uses	W	0	Q	4	Q	0	14.0
	Facility Heating, Ventilation, and Air Conditioning ^e	328	0	1	*	*	0	14.5
	Facility Lighting	164	--	--	--	--	--	11.5
	Facility Support	W	0	0	*	0	0	12.3
	Onsite Transportation	0	--	Q	0	Q	--	NF
	Conventional Electricity Generation	--	0	0	2	0	0	24.9
	Other Non-Process Use	0	0	0	2	0	0	24.9
	End Use Not Reported	W	0	*	*	1	0	12.6
2819	Industrial Inorganic Chemicals, nec							
	RSE Column Factors:	0.8	1.0	1.2	0.8	1.2	1.2	
	TOTAL INPUTS	39,777	691	456	136	75	743	8.8
	Boiler Fuel	W	W	187	69	23	403	10.1
	Total Process Uses	37,381	W	78	53	33	304	11.7
	Process Heating	2,258	W	45	52	33	304	13.8
	Process Cooling and Refrigeration	W	0	0	*	0	0	12.9
	Machine Drive	30,588	0	W	*	*	0	12.9
	Electro-Chemical Processes	4,120	--	--	--	--	--	14.4
	Other Process Use	W	0	W	*	*	0	16.8
	Total Non-Process Uses	1,713	0	189	12	12	W	10.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1,023	0	17	W	3	W	9.6
	Facility Lighting	435	--	--	--	--	--	6.0
	Facility Support	208	0	W	*	*	0	11.7
	Onsite Transportation	W	--	157	0	8	--	10.4
	Conventional Electricity Generation	--	0	W	W	0	0	16.7
	Other Non-Process Use	W	0	*	*	*	0	15.4
	End Use Not Reported	W	0	3	2	Q	W	14.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2821	Plastics Materials and Resins							
	RSE Column Factors:	0.6	1.3	1.3	0.9	1.2	0.9	
	TOTAL INPUTS	17,408	668	231	146	54	1,074	6.1
	Boiler Fuel	218	W	142	78	1	1,074	7.9
	Total Process Uses	15,382	W	33	51	21	0	5.9
	Process Heating	W	W	24	42	W	0	6.8
	Process Cooling and Refrigeration	1,759	0	0	*	W	0	10.2
	Machine Drive	11,197	0	9	W	*	0	7.5
	Electro-Chemical Processes	1,975	--	--	--	--	--	15.7
	Other Process Use	W	0	*	W	*	0	10.3
	Total Non-Process Uses	1,535	W	55	15	30	0	6.7
	Facility Heating, Ventilation, and Air Conditioning ^e	756	0	3	1	W	0	7.2
	Facility Lighting	594	--	--	--	--	--	4.7
	Facility Support	174	0	*	1	W	0	8.2
	Onsite Transportation	10	--	41	0	20	--	6.2
	Conventional Electricity Generation	--	W	1	12	0	0	8.7
	Other Non-Process Use	1	0	9	*	*	0	16.2
	End Use Not Reported	273	0	1	2	1	0	14.5
2822	Synthetic Rubber							
	RSE Column Factors:	0.6	1.4	1.0	0.9	1.0	1.4	
	TOTAL INPUTS	1,877	64	18	43	10	W	12.4
	Boiler Fuel	W	64	W	23	0	W	15.2
	Total Process Uses	1,625	0	W	19	*	0	17.2
	Process Heating	19	0	0	W	0	0	19.3
	Process Cooling and Refrigeration	227	0	0	*	0	0	19.2
	Machine Drive	1,378	0	W	*	*	0	17.0
	Electro-Chemical Processes	1	--	--	--	--	--	36.0
	Other Process Use	1	0	*	W	0	0	25.9
	Total Non-Process Uses	W	0	6	*	W	0	12.8
	Facility Heating, Ventilation, and Air Conditioning ^e	122	0	0	*	*	0	17.1
	Facility Lighting	113	--	--	--	--	--	14.7
	Facility Support	W	0	*	*	0	0	16.9
	Onsite Transportation	*	--	6	0	W	--	17.0
	Conventional Electricity Generation	--	0	*	*	0	0	23.6
	Other Non-Process Use	0	0	*	*	0	0	23.6
	End Use Not Reported	0	0	*	*	W	0	23.2
2823	Cellulosic Manmade Fibers							
	RSE Column Factors:	0.9	NF	1.2	1.1	1.1	0.8	
	TOTAL INPUTS	1,170	0	21	W	1	1,202	21.6
	Boiler Fuel	101	0	17	W	*	1,202	26.5
	Total Process Uses	834	0	1	2	0	0	23.8
	Process Heating	16	0	1	2	0	0	27.5
	Process Cooling and Refrigeration	159	0	0	0	0	0	21.7
	Machine Drive	657	0	0	0	0	0	22.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	2	0	0	0	0	0	36.9
	Total Non-Process Uses	234	0	4	*	1	0	25.8
	Facility Heating, Ventilation, and Air Conditioning ^e	101	0	4	0	*	0	27.2
	Facility Lighting	107	--	--	--	--	--	21.7
	Facility Support	10	0	0	*	0	0	32.3
	Onsite Transportation	17	--	*	0	1	--	29.3
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	*	0	31.5

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2824	Organic Fibers, Noncellulosic							
	RSE Column Factors:	1.1	1.1	1.0	0.9	1.1	0.8	
	TOTAL INPUTS	7,601	W	53	W	38	1,558	3.5
	Boiler Fuel	79	323	34	23	W	1,558	3.8
	Total Process Uses	6,047	W	2	W	W	0	4.0
	Process Heating	W	W	1	W	W	0	5.3
	Process Cooling and Refrigeration	790	0	0	*	0	0	1.8
	Machine Drive	4,244	0	*	*	*	0	5.6
	Electro-Chemical Processes	W	--	--	--	--	--	6.3
	Other Process Use	W	0	0	*	0	0	5.4
	Total Non-Process Uses	1,475	W	17	*	18	0	4.8
	Facility Heating, Ventilation, and Air Conditioning ^e	789	W	*	*	2	0	6.4
	Facility Lighting	494	--	--	--	--	--	5.4
	Facility Support	W	0	*	*	*	0	6.3
	Onsite Transportation	2	--	15	0	16	--	4.5
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	W	1	1	0	*	0	5.8
	End Use Not Reported	0	W	*	0	*	0	6.6
2865	Cyclic Crudes and Intermediates							
	RSE Column Factors:	0.7	1.2	1.2	0.8	1.2	1.0	
	TOTAL INPUTS	4,880	1,299	136	94	79	W	11.6
	Boiler Fuel	59	W	104	46	W	W	13.4
	Total Process Uses	4,322	W	13	37	41	0	12.6
	Process Heating	W	W	*	35	W	0	17.9
	Process Cooling and Refrigeration	965	0	*	0	0	0	17.5
	Machine Drive	3,288	0	12	1	W	0	15.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	*	1	W	0	23.1
	Total Non-Process Uses	491	*	19	W	W	0	13.7
	Facility Heating, Ventilation, and Air Conditioning ^e	265	*	*	1	*	0	17.9
	Facility Lighting	176	--	--	--	--	--	9.0
	Facility Support	37	0	*	*	*	0	17.9
	Onsite Transportation	W	--	19	0	W	--	15.9
	Conventional Electricity Generation	--	0	1	W	0	0	22.5
	Other Non-Process Use	W	0	0	0	0	0	32.9
	End Use Not Reported	Q	0	0	W	1	1	22.4
2869	Industrial Organic Chemicals, nec							
	RSE Column Factors:	0.6	1.5	1.2	0.8	1.4	0.8	
	TOTAL INPUTS	36,764	1,747	439	625	825	3,819	7.8
	Boiler Fuel	190	1,595	Q	213	W	3,819	6.4
	Total Process Uses	33,715	149	71	241	W	0	6.3
	Process Heating	498	W	41	196	W	0	7.7
	Process Cooling and Refrigeration	2,903	0	0	2	2	0	9.6
	Machine Drive	19,547	0	23	28	3	0	9.0
	Electro-Chemical Processes	10,626	--	--	--	--	--	13.0
	Other Process Use	142	W	7	16	7	0	9.7
	Total Non-Process Uses	2,570	1	94	170	33	0	7.2
	Facility Heating, Ventilation, and Air Conditioning ^e	1,080	1	Q	3	W	0	7.3
	Facility Lighting	982	--	--	--	--	--	4.9
	Facility Support	369	0	W	1	1	0	8.5
	Onsite Transportation	14	--	64	0	W	--	10.3
	Conventional Electricity Generation	--	0	*	W	*	0	10.3
	Other Non-Process Use	126	0	19	W	*	0	11.0
	End Use Not Reported	289	1	8	1	*	0	9.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2873	Nitrogenous Fertilizers							
	RSE Column Factors:	0.8	NF	1.1	0.8	1.5	NF	
	TOTAL INPUTS	3,303	0	26	258	43	0	18.9
	Boiler Fuel	11	0	3	90	0	0	32.2
	Total Process Uses	2,920	0	2	167	41	0	25.6
	Process Heating	25	0	0	148	41	0	33.9
	Process Cooling and Refrigeration	327	0	0	0	0	0	35.1
	Machine Drive	2,414	0	2	2	0	0	35.1
	Electro-Chemical Processes	155	--	--	--	--	--	59.2
	Other Process Use	0	0	0	17	0	0	47.4
	Total Non-Process Uses	249	0	15	1	2	0	24.0
	Facility Heating, Ventilation, and Air Conditioning ^e	96	0	1	1	*	0	32.5
	Facility Lighting	99	--	--	--	--	--	25.4
	Facility Support	54	0	3	0	0	0	37.7
	Onsite Transportation	0	--	12	0	1	--	20.2
	Conventional Electricity Generation	--	0	*	*	0	0	54.8
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	123	0	5	*	*	0	33.5
2874	Phosphatic Fertilizers							
	RSE Column Factors:	1.0	0.7	0.7	1.7	0.7	1.6	
	TOTAL INPUTS	4,562	250	150	18	1	W	4.6
	Boiler Fuel	W	W	24	2	*	0	5.8
	Total Process Uses	3,700	199	45	14	*	W	4.3
	Process Heating	W	199	W	14	*	W	4.3
	Process Cooling and Refrigeration	W	0	0	*	0	0	2.1
	Machine Drive	3,651	0	W	*	0	0	4.3
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	W	0	79	*	1	0	5.7
	Facility Heating, Ventilation, and Air Conditioning ^e	106	0	0	*	*	0	7.3
	Facility Lighting	84	--	--	--	--	--	11.4
	Facility Support	W	0	W	*	*	0	3.6
	Onsite Transportation	0	--	42	0	*	--	4.1
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	W	0	0	0	6.1
	End Use Not Reported	W	W	Q	2	*	0	4.0
29	PETROLEUM and COAL PRODUCTS							
	RSE Column Factors:	0.4	0.9	2.0	0.5	0.8	2.8	
	TOTAL INPUTS	44,234	13,862	3,599	813	16,528	W	4.6
	Boiler Fuel	393	6,086	614	256	3,122	W	6.0
	Total Process Uses	39,976	7,776	1,870	446	12,880	W	6.1
	Process Heating	1,210	7,776	1,241	410	9,724	W	7.2
	Process Cooling and Refrigeration	2,432	0	Q	W	W	0	7.3
	Machine Drive	36,219	0	597	W	W	0	8.3
	Electro-Chemical Processes	W	--	--	--	--	--	9.3
	Other Process Use	W	0	W	1	0	0	11.3
	Total Non-Process Uses	3,637	0	873	107	114	0	8.4
	Facility Heating, Ventilation, and Air Conditioning ^e	1,667	0	12	10	W	0	10.4
	Facility Lighting	1,499	--	--	--	--	--	4.7
	Facility Support	375	0	Q	2	W	0	9.3
	Onsite Transportation	W	--	658	*	40	--	12.2
	Conventional Electricity Generation	--	0	Q	95	W	0	7.5
	Other Non-Process Use	W	0	W	*	*	0	16.0
	End Use Not Reported	229	0	Q	5	412	0	51.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
2911	Petroleum Refining^e							
	RSE Column Factors:	0.5	1.6	0.9	0.5	0.7	3.6	
	TOTAL INPUTS	42,145	10,292	1,525	769	15,889	134	3.9
	Boiler Fuel	W	5,198	299	246	3,039	134	3.3
	Total Process Uses	38,355	5,094	745	416	12,535	0	4.7
	Process Heating	1,025	5,094	679	380	9,382	0	5.6
	Process Cooling and Refrigeration	2,403	0	0	W	W	0	7.2
	Machine Drive	34,814	0	W	W	W	0	5.3
	Electro-Chemical Processes	W	--	--	--	--	--	8.2
	Other Process Use	W	0	W	*	0	0	8.0
	Total Non-Process Uses	3,369	0	W	105	W	0	5.8
	Facility Heating, Ventilation, and Air Conditioning ^e	1,551	0	*	8	W	0	6.3
	Facility Lighting	1,387	--	--	--	--	--	4.1
	Facility Support	346	0	*	1	W	0	7.2
	Onsite Transportation	W	--	449	0	*	--	8.2
	Conventional Electricity Generation	--	0	*	95	W	0	14.6
	Other Non-Process Use	W	0	W	*	*	0	8.8
	End Use Not Reported	W	0	W	2	W	0	8.1
30	RUBBER and MISC. PLASTICS PRODUCTS							
	RSE Column Factors:	0.5	1.1	1.5	0.9	1.2	1.2	
	TOTAL INPUTS	34,022	1,253	508	93	786	295	9.8
	Boiler Fuel	175	1,084	283	55	Q	295	11.7
	Total Process Uses	26,368	W	28	19	263	0	17.1
	Process Heating	5,682	W	W	16	216	0	19.3
	Process Cooling and Refrigeration	2,406	1	0	*	0	0	20.2
	Machine Drive	18,111	*	Q	3	46	0	20.5
	Electro-Chemical Processes	64	--	--	--	--	--	55.3
	Other Process Use	104	0	*	*	1	0	32.4
	Total Non-Process Uses	6,018	W	185	16	364	0	11.9
	Facility Heating, Ventilation, and Air Conditioning ^e	2,758	W	54	15	37	0	18.1
	Facility Lighting	2,516	--	--	--	--	--	9.5
	Facility Support	626	*	1	*	W	0	12.1
	Onsite Transportation	109	--	123	*	316	--	22.8
	Conventional Electricity Generation	--	0	2	*	0	0	20.0
	Other Non-Process Use	Q	0	Q	*	W	0	14.7
	End Use Not Reported	1,461	Q	Q	3	21	0	27.3
3011	Tires and Inner Tubes							
	RSE Column Factors:	0.7	1.1	1.5	1.0	0.8	1.1	
	TOTAL INPUTS	4,037	506	68	21	79	75	3.6
	Boiler Fuel	W	479	59	19	0	75	3.4
	Total Process Uses	3,082	Q	4	1	W	0	5.7
	Process Heating	86	Q	0	1	0	0	15.7
	Process Cooling and Refrigeration	230	0	0	0	0	0	4.3
	Machine Drive	2,767	0	4	*	W	0	5.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	*	0	0	6.2
	Total Non-Process Uses	930	2	5	1	W	0	7.4
	Facility Heating, Ventilation, and Air Conditioning ^e	400	2	Q	1	Q	0	6.5
	Facility Lighting	402	--	--	--	--	--	2.9
	Facility Support	98	*	1	*	W	0	6.0
	Onsite Transportation	29	--	1	*	70	--	6.6
	Conventional Electricity Generation	--	0	*	0	0	0	3.3
	Other Non-Process Use	0	0	1	*	W	0	6.6
	End Use Not Reported	W	*	*	*	*	0	7.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
308	Miscellaneous Plastic Products, nec							
	RSE Column Factors:	0.5	1.5	1.7	0.7	1.0	1.1	
	TOTAL INPUTS	25,635	413	W	51	396	130	13.3
	Boiler Fuel	103	316	W	24	Q	130	21.4
	Total Process Uses	20,085	81	7	13	121	0	17.9
	Process Heating	4,953	81	6	11	82	0	21.6
	Process Cooling and Refrigeration	1,962	0	0	0	0	0	17.3
	Machine Drive	13,023	*	Q	1	39	0	25.0
	Electro-Chemical Processes	53	--	--	--	--	--	65.3
	Other Process Use	94	0	*	*	*	0	45.0
	Total Non-Process Uses	4,061	16	146	12	230	0	16.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1,875	16	33	11	27	0	24.0
	Facility Lighting	1,689	--	--	--	--	--	13.4
	Facility Support	428	*	*	*	*	0	25.4
	Onsite Transportation	65	--	109	0	204	--	22.9
	Conventional Electricity Generation	--	0	Q	*	0	0	NF
	Other Non-Process Use	Q	0	Q	*	*	0	45.0
	End Use Not Reported	1,385	0	Q	3	18	0	33.8
31	LEATHER and LEATHER PRODUCTS							
	RSE Column Factors:	0.4	1.2	1.3	0.9	1.1	1.6	
	TOTAL INPUTS	834	225	220	5	44	Q	24.0
	Boiler Fuel	7	155	155	2	2	Q	31.0
	Total Process Uses	507	65	11	1	26	0	28.5
	Process Heating	59	65	11	1	W	0	36.1
	Process Cooling and Refrigeration	13	0	0	*	0	0	58.6
	Machine Drive	434	0	*	*	Q	0	28.2
	Electro-Chemical Processes	1	--	--	--	--	--	105.5
	Other Process Use	0	0	0	*	*	0	51.0
	Total Non-Process Uses	239	5	41	Q	16	*	25.8
	Facility Heating, Ventilation, and Air Conditioning ^e	102	5	16	Q	6	*	29.7
	Facility Lighting	125	--	--	--	--	--	23.4
	Facility Support	12	0	*	*	*	0	35.9
	Onsite Transportation	1	--	16	0	9	--	36.0
	Conventional Electricity Generation	--	0	0	0	*	0	40.1
	Other Non-Process Use	*	0	Q	0	0	0	105.5
	End Use Not Reported	80	*	13	*	*	0	33.5
32	STONE, CLAY and GLASS PRODUCTS							
	RSE Column Factors:	0.5	1.1	1.5	0.6	1.6	1.2	
	TOTAL INPUTS	31,347	1,345	3,312	369	577	13,127	6.9
	Boiler Fuel	122	208	365	16	9	W	20.9
	Total Process Uses	26,631	1,122	1,020	323	221	13,060	9.1
	Process Heating	8,025	W	W	317	154	13,060	9.5
	Process Cooling and Refrigeration	804	0	*	2	*	0	22.8
	Machine Drive	17,604	W	616	3	67	0	15.9
	Electro-Chemical Processes	20	--	--	--	--	--	32.4
	Other Process Use	178	0	W	1	1	*	10.3
	Total Non-Process Uses	3,622	Q	1,341	18	300	0	6.2
	Facility Heating, Ventilation, and Air Conditioning ^e	1,637	Q	79	17	29	0	11.9
	Facility Lighting	1,614	--	--	--	--	--	7.6
	Facility Support	301	0	7	1	5	0	16.6
	Onsite Transportation	42	--	1,192	*	265	--	11.2
	Conventional Electricity Generation	--	0	Q	*	*	0	25.7
	Other Non-Process Use	27	0	27	0	*	0	29.2
	End Use Not Reported	972	*	586	12	48	W	20.2

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
3211	Flat Glass							
	RSE Column Factors:	0.7	1.6	0.9	0.6	1.0	1.6	
	TOTAL INPUTS	1,506	W	12	40	40	*	3.5
	Boiler Fuel	W	0	0	W	0	0	11.2
	Total Process Uses	1,168	W	W	35	W	*	4.0
	Process Heating	653	W	W	34	W	0	4.1
	Process Cooling and Refrigeration	62	0	*	1	0	0	6.1
	Machine Drive	454	0	*	*	2	0	5.2
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	*	3.7
	Total Non-Process Uses	W	0	6	2	15	0	4.1
	Facility Heating, Ventilation, and Air Conditioning ^e	152	0	0	1	*	0	4.7
	Facility Lighting	W	--	--	--	--	--	4.3
	Facility Support	15	0	0	*	0	0	7.4
	Onsite Transportation	12	--	6	0	15	--	5.6
	Conventional Electricity Generation	--	0	*	0	0	0	4.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	W	W	W	0	5.6
3221	Glass Containers							
	RSE Column Factors:	0.6	1.6	1.4	0.6	1.2	NF	
	TOTAL INPUTS	4,098	276	23	67	82	0	4.8
	Boiler Fuel	1	1	5	1	0	0	14.3
	Total Process Uses	3,580	275	15	64	16	0	6.0
	Process Heating	1,187	275	14	63	W	0	6.9
	Process Cooling and Refrigeration	W	0	0	*	0	0	18.2
	Machine Drive	2,198	0	1	*	W	0	9.3
	Electro-Chemical Processes	W	--	--	--	--	--	28.8
	Other Process Use	W	0	0	1	*	0	9.9
	Total Non-Process Uses	517	*	3	3	66	0	6.0
	Facility Heating, Ventilation, and Air Conditioning ^e	196	*	1	2	*	0	9.5
	Facility Lighting	307	--	--	--	--	--	6.4
	Facility Support	14	0	*	*	*	0	11.7
	Onsite Transportation	1	--	2	0	65	--	7.2
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	*	*	0	*	0	12.2
3229	Pressed and Blown Glass, nec.							
	RSE Column Factors:	0.6	2.7	1.0	0.6	1.0	NF	
	TOTAL INPUTS	2,862	81	38	W	31	0	8.8
	Boiler Fuel	1	W	2	W	0	0	9.8
	Total Process Uses	2,315	Q	W	36	8	0	10.2
	Process Heating	1,279	Q	W	35	7	0	11.2
	Process Cooling and Refrigeration	W	0	0	0	0	0	8.1
	Machine Drive	869	*	2	*	1	0	8.0
	Electro-Chemical Processes	1	--	--	--	--	--	11.3
	Other Process Use	W	0	*	0	*	0	16.0
	Total Non-Process Uses	W	*	W	2	20	0	5.9
	Facility Heating, Ventilation, and Air Conditioning ^e	293	*	*	2	1	0	7.2
	Facility Lighting	178	--	--	--	--	--	8.1
	Facility Support	35	0	*	*	0	0	9.9
	Onsite Transportation	7	--	5	0	19	--	6.0
	Conventional Electricity Generation	--	0	W	0	0	0	11.8
	Other Non-Process Use	W	0	*	0	0	0	13.7
	End Use Not Reported	W	0	*	W	Q	0	14.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
3241	Cement, Hydraulic							
	RSE Column Factors:	0.8	1.7	0.8	1.2	1.1	0.7	
	TOTAL INPUTS	9,888	138	616	38	12	8,736	10.7
	Boiler Fuel	Q	0	18	*	0	0	26.1
	Total Process Uses	9,305	138	248	37	6	8,736	11.4
	Process Heating	1,640	W	162	37	5	8,736	12.7
	Process Cooling and Refrigeration	249	0	0	0	0	0	22.7
	Machine Drive	7,385	W	W	*	*	0	13.6
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	31	0	W	0	*	0	35.8
	Total Non-Process Uses	581	0	322	1	6	0	15.0
	Facility Heating, Ventilation, and Air Conditioning ^e	273	0	4	1	3	0	20.7
	Facility Lighting	222	--	--	--	--	--	15.5
	Facility Support	85	0	4	*	*	0	21.7
	Onsite Transportation	1	--	314	0	2	--	17.3
	Conventional Electricity Generation	--	0	*	0	0	0	32.4
	Other Non-Process Use	0	0	0	0	*	0	NF
	End Use Not Reported	Q	*	28	*	*	0	30.1
3274	Lime							
	RSE Column Factors:	1.3	0.9	0.9	0.6	0.8	1.8	
	TOTAL INPUTS	1,324	W	240	8	Q	3,926	25.9
	Boiler Fuel	Q	0	Q	*	Q	0	NF
	Total Process Uses	1,180	W	55	8	*	3,926	22.7
	Process Heating	280	W	Q	8	0	3,926	22.0
	Process Cooling and Refrigeration	1	0	0	0	0	0	12.7
	Machine Drive	899	0	30	*	*	0	27.9
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	W	0	0	0	24.7
	Total Non-Process Uses	91	0	159	*	1	0	31.3
	Facility Heating, Ventilation, and Air Conditioning ^e	43	0	2	*	*	0	23.8
	Facility Lighting	45	--	--	--	--	--	23.8
	Facility Support	3	0	0	0	*	0	8.2
	Onsite Transportation	0	--	158	0	1	--	34.6
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	Q	0	Q	0	0	0	NF
3296	Mineral Wool							
	RSE Column Factors:	0.7	1.2	1.1	0.8	1.1	1.2	
	TOTAL INPUTS	2,821	W	12	28	41	*	1.6
	Boiler Fuel	W	W	*	1	*	*	1.8
	Total Process Uses	2,489	0	*	23	W	0	1.3
	Process Heating	1,242	0	*	22	7	0	1.5
	Process Cooling and Refrigeration	W	0	0	*	0	0	1.8
	Machine Drive	1,183	0	*	*	W	0	1.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	*	0	0	2.6
	Total Non-Process Uses	W	0	11	2	28	0	1.8
	Facility Heating, Ventilation, and Air Conditioning ^e	120	0	W	2	*	0	1.8
	Facility Lighting	109	--	--	--	--	--	1.4
	Facility Support	24	0	W	*	0	0	1.5
	Onsite Transportation	W	--	3	0	28	--	1.7
	Conventional Electricity Generation	--	0	*	0	0	0	1.8
	Other Non-Process Use	2	0	*	0	0	0	2.2
	End Use Not Reported	W	0	*	2	W	0	2.2

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
33	PRIMARY METAL INDUSTRIES							
	RSE Column Factors:	0.6	1.2	1.3	0.7	2.2	0.8	
	TOTAL INPUTS	153,499	5,285	1,806	666	888	2,054	4.6
	Boiler Fuel	416	3,963	88	90	38	1,690	7.6
	Total Process Uses	139,042	1,268	444	507	298	W	7.2
	Process Heating	30,085	1,261	347	501	239	W	8.0
	Process Cooling and Refrigeration	966	0	0	*	0	0	12.7
	Machine Drive	39,262	Q	96	4	54	0	7.5
	Electro-Chemical Processes	67,189	--	--	--	--	--	3.6
	Other Process Use	1,541	0	1	2	5	0	11.1
	Total Non-Process Uses	11,596	Q	1,176	52	510	W	3.2
	Facility Heating, Ventilation, and Air Conditioning ^e	4,971	Q	58	43	51	0	8.9
	Facility Lighting	5,232	--	--	--	--	--	5.4
	Facility Support	1,071	Q	1	6	10	0	9.1
	Onsite Transportation	173	--	1,094	*	442	--	4.3
	Conventional Electricity Generation	--	0	Q	4	*	W	3.5
	Other Non-Process Use	148	0	W	1	7	0	13.4
	End Use Not Reported	2,445	1	99	17	41	1	14.8
3312	Blast Furnaces and Steel Mills							
	RSE Column Factors:	0.7	1.6	0.9	0.7	1.0	1.5	
	TOTAL INPUTS	44,417	4,986	901	387	74	1,075	4.4
	Boiler Fuel	189	3,810	32	61	W	1,056	6.7
	Total Process Uses	39,279	1,173	169	303	22	17	5.2
	Process Heating	16,078	1,173	121	301	19	17	5.3
	Process Cooling and Refrigeration	316	0	0	0	0	0	9.2
	Machine Drive	20,973	0	48	1	2	0	7.0
	Electro-Chemical Processes	796	--	--	--	--	--	13.8
	Other Process Use	1,115	0	*	1	2	0	13.4
	Total Non-Process Uses	3,922	3	658	21	37	0	5.2
	Facility Heating, Ventilation, and Air Conditioning ^e	1,513	3	W	16	5	0	7.4
	Facility Lighting	1,795	--	--	--	--	--	4.6
	Facility Support	484	0	0	4	6	0	8.9
	Onsite Transportation	W	--	610	0	26	--	7.0
	Conventional Electricity Generation	--	0	*	*	*	0	15.0
	Other Non-Process Use	W	0	W	1	1	0	13.2
	End Use Not Reported	1,027	0	42	2	W	1	10.4
3313	Electrometallurgical Products							
	RSE Column Factors:	0.8	NF	0.9	0.9	1.3	1.3	
	TOTAL INPUTS	4,386	0	20	1	W	W	8.4
	Boiler Fuel	W	0	0	*	1	W	12.7
	Total Process Uses	4,153	0	W	1	*	W	9.5
	Process Heating	3,158	0	0	1	*	W	9.3
	Process Cooling and Refrigeration	W	0	0	0	0	0	18.6
	Machine Drive	814	0	W	*	*	0	12.3
	Electro-Chemical Processes	W	--	--	--	--	--	16.0
	Other Process Use	W	0	0	*	0	0	14.1
	Total Non-Process Uses	W	0	W	*	W	0	9.7
	Facility Heating, Ventilation, and Air Conditioning ^e	61	0	*	*	*	0	11.8
	Facility Lighting	108	--	--	--	--	--	8.0
	Facility Support	20	0	0	*	*	0	10.5
	Onsite Transportation	W	--	W	0	W	--	11.8
	Conventional Electricity Generation	--	0	*	0	0	0	15.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	0	0	NF

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
3321	Gray and Ductile Iron Foundries							
	RSE Column Factors:	0.6	1.6	1.3	0.6	1.3	1.2	
	TOTAL INPUTS	6,413	4	144	28	105	5	14.0
	Boiler Fuel	24	W	2	2	*	0	18.8
	Total Process Uses	5,139	Q	Q	18	61	5	13.7
	Process Heating	2,694	0	Q	16	34	5	16.4
	Process Cooling and Refrigeration	40	0	0	0	0	0	16.2
	Machine Drive	2,394	Q	18	1	27	0	11.5
	Electro-Chemical Processes	W	--	--	--	--	--	39.6
	Other Process Use	Q	0	*	*	*	0	19.4
	Total Non-Process Uses	1,048	*	67	7	37	0	11.0
	Facility Heating, Ventilation, and Air Conditioning ^e	575	*	4	6	8	0	19.9
	Facility Lighting	414	--	--	--	--	--	10.8
	Facility Support	47	0	1	*	0	0	12.1
	Onsite Transportation	12	--	62	*	28	--	17.7
	Conventional Electricity Generation	--	0	*	0	0	0	13.7
	Other Non-Process Use	*	0	0	*	1	0	37.4
	End Use Not Reported	202	0	5	1	6	*	29.7
3331	Primary Copper							
	RSE Column Factors:	1.0	1.0	1.0	1.0	1.0	1.0	
	TOTAL INPUTS	1,525	W	W	15	3	W	1.0
	Boiler Fuel	W	W	5	4	0	0	1.0
	Total Process Uses	1,385	W	W	9	*	W	1.0
	Process Heating	112	W	W	8	*	W	1.0
	Process Cooling and Refrigeration	W	0	0	0	0	0	1.0
	Machine Drive	741	0	0	0	*	0	1.0
	Electro-Chemical Processes	267	--	--	--	--	--	1.0
	Other Process Use	W	0	0	*	0	0	1.0
	Total Non-Process Uses	W	0	W	2	2	0	1.0
	Facility Heating, Ventilation, and Air Conditioning ^e	52	0	*	*	*	0	1.0
	Facility Lighting	59	--	--	--	--	--	1.0
	Facility Support	W	0	0	*	0	0	1.0
	Onsite Transportation	0	--	W	0	2	--	1.0
	Conventional Electricity Generation	--	0	1	2	0	0	1.0
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	1	0	1.0
3334	Primary Aluminum							
	RSE Column Factors:	0.8	1.4	1.1	0.8	1.1	NF	
	TOTAL INPUTS	67,317	*	127	20	42	0	3.1
	Boiler Fuel	W	*	W	2	W	0	5.0
	Total Process Uses	64,981	0	W	16	18	0	3.1
	Process Heating	W	0	W	16	18	0	3.9
	Process Cooling and Refrigeration	W	0	0	0	0	0	7.6
	Machine Drive	1,301	0	2	*	*	0	5.5
	Electro-Chemical Processes	63,226	--	--	--	--	--	2.5
	Other Process Use	W	0	0	0	0	0	6.4
	Total Non-Process Uses	W	*	87	1	15	0	3.7
	Facility Heating, Ventilation, and Air Conditioning ^e	1,207	*	*	1	1	0	5.8
	Facility Lighting	822	--	--	--	--	--	3.8
	Facility Support	143	0	0	*	0	0	4.5
	Onsite Transportation	W	--	87	0	14	--	4.0
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	1	0	5.6
	End Use Not Reported	W	0	2	1	W	0	5.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
3339	Primary Nonferrous Metals, nec							
	RSE Column Factors:	1.3	0.4	1.6	1.3	1.4	0.6	
	TOTAL INPUTS	4,433	1	53	16	19	W	1.9
	Boiler Fuel	W	1	3	3	0	W	2.8
	Total Process Uses	4,170	0	15	7	W	0	1.6
	Process Heating	1,378	0	W	7	W	0	1.3
	Process Cooling and Refrigeration	19	0	0	0	0	0	3.7
	Machine Drive	668	0	W	*	*	0	1.0
	Electro-Chemical Processes	2,102	--	--	--	--	--	1.5
	Other Process Use	2	0	0	0	0	0	15.0
	Total Non-Process Uses	232	0	34	W	W	W	1.5
	Facility Heating, Ventilation, and Air Conditioning ^e	120	0	*	1	W	0	2.5
	Facility Lighting	85	--	--	--	--	--	2.2
	Facility Support	24	0	0	*	*	0	4.9
	Onsite Transportation	2	--	33	0	11	--	1.4
	Conventional Electricity Generation	--	0	0	W	0	W	1.2
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	1	W	*	0	1.8
3353	Aluminum Sheet, Plate, and Foil							
	RSE Column Factors:	1.2	NF	0.8	1.3	0.8	0.9	
	TOTAL INPUTS	4,261	0	67	41	62	W	1.1
	Boiler Fuel	W	0	*	2	2	W	1.0
	Total Process Uses	3,562	0	4	37	19	0	1.2
	Process Heating	391	0	4	37	W	0	1.4
	Process Cooling and Refrigeration	W	0	0	0	0	0	1.7
	Machine Drive	3,138	0	*	0	W	0	1.1
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	*	0	0	0.8
	Total Non-Process Uses	677	0	57	2	42	0	1.4
	Facility Heating, Ventilation, and Air Conditioning ^e	234	0	*	2	W	0	1.4
	Facility Lighting	385	--	--	--	--	--	0.8
	Facility Support	34	0	*	*	*	0	1.3
	Onsite Transportation	24	--	57	0	W	--	1.1
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	1	0	0	0	0	0	0.8
	End Use Not Reported	Q	0	5	*	*	0	1.3
34	FABRICATED METAL PRODUCTS							
	RSE Column Factors:	0.5	1.7	1.6	0.5	1.1	1.4	
	TOTAL INPUTS	29,899	501	994	169	1,122	245	11.4
	Boiler Fuel	244	357	248	36	Q	238	15.7
	Total Process Uses	20,689	Q	241	89	456	W	16.7
	Process Heating	3,399	14	160	86	W	W	19.5
	Process Cooling and Refrigeration	697	0	1	*	*	0	21.6
	Machine Drive	15,139	Q	71	1	W	0	25.7
	Electro-Chemical Processes	1,240	--	--	--	--	--	24.3
	Other Process Use	215	Q	Q	1	5	0	50.1
	Total Non-Process Uses	6,939	Q	437	36	512	0	14.2
	Facility Heating, Ventilation, and Air Conditioning ^e	2,905	Q	113	33	44	0	19.5
	Facility Lighting	3,376	--	--	--	--	--	15.5
	Facility Support	533	Q	1	2	Q	0	24.3
	Onsite Transportation	99	--	320	*	464	--	17.9
	Conventional Electricity Generation	--	0	1	1	0	0	36.2
	Other Non-Process Use	25	0	Q	*	*	0	64.8
	End Use Not Reported	2,027	Q	68	8	136	Q	33.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
35	INDUSTRIAL MACHINERY and EQUIPMENT							
	RSE Column Factors:	0.4	2.0	1.2	0.7	1.4	1.1	
	TOTAL INPUTS	29,629	490	718	106	651	480	10.5
	Boiler Fuel	168	426	152	27	35	479	17.5
	Total Process Uses	16,489	Q	186	36	230	2	15.1
	Process Heating	2,266	Q	3	31	94	2	19.2
	Process Cooling and Refrigeration	983	0	0	*	0	0	28.6
	Machine Drive	12,581	*	89	3	Q	0	24.6
	Electro-Chemical Processes	268	--	--	--	--	--	36.3
	Other Process Use	392	*	94	1	6	*	28.2
	Total Non-Process Uses	10,657	29	359	32	337	0	13.9
	Facility Heating, Ventilation, and Air Conditioning ^e	4,961	28	222	30	82	0	18.5
	Facility Lighting	4,291	--	--	--	--	--	12.1
	Facility Support	1,274	Q	4	1	Q	0	23.5
	Onsite Transportation	74	--	76	0	245	--	19.0
	Conventional Electricity Generation	--	0	Q	*	Q	0	46.8
	Other Non-Process Use	56	0	46	*	Q	0	38.3
	End Use Not Reported	2,315	20	20	11	50	0	29.3
357	Computer and Office Equipment							
	RSE Column Factors:	0.5	1.5	1.2	0.7	1.6	NF	
	TOTAL INPUTS	4,405	11	16	5	4	0	15.0
	Boiler Fuel	17	8	5	4	*	0	20.9
	Total Process Uses	1,579	0	*	*	*	0	19.9
	Process Heating	184	0	0	*	*	0	19.2
	Process Cooling and Refrigeration	428	0	0	*	0	0	31.5
	Machine Drive	680	0	*	*	*	0	20.4
	Electro-Chemical Processes	54	--	--	--	--	--	24.6
	Other Process Use	233	0	0	*	0	0	36.8
	Total Non-Process Uses	2,364	3	11	1	4	0	18.5
	Facility Heating, Ventilation, and Air Conditioning ^e	1,149	3	9	1	3	0	21.3
	Facility Lighting	734	--	--	--	--	--	12.3
	Facility Support	429	0	1	*	*	0	24.1
	Onsite Transportation	4	--	1	0	1	--	24.3
	Conventional Electricity Generation	--	0	*	*	*	0	25.2
	Other Non-Process Use	48	0	*	*	0	0	43.6
	End Use Not Reported	446	1	Q	*	*	0	24.0
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT							
	RSE Column Factors:	0.4	1.6	1.2	0.6	1.1	1.7	
	TOTAL INPUTS	30,013	612	416	76	396	W	9.1
	Boiler Fuel	171	571	233	29	22	W	12.9
	Total Process Uses	17,387	Q	27	31	180	6	15.9
	Process Heating	4,662	Q	22	29	159	6	18.7
	Process Cooling and Refrigeration	2,180	1	*	Q	*	0	23.6
	Machine Drive	9,003	*	3	1	13	0	19.5
	Electro-Chemical Processes	1,319	--	--	--	--	--	25.3
	Other Process Use	222	0	1	*	8	0	27.8
	Total Non-Process Uses	11,114	36	110	15	177	1	17.0
	Facility Heating, Ventilation, and Air Conditioning ^e	6,100	36	77	14	55	1	20.9
	Facility Lighting	3,825	--	--	--	--	--	11.5
	Facility Support	1,059	0	Q	1	Q	0	16.6
	Onsite Transportation	76	--	24	0	119	--	17.6
	Conventional Electricity Generation	--	0	2	*	*	0	27.2
	Other Non-Process Use	53	0	3	*	Q	0	41.0
	End Use Not Reported	1,341	*	47	2	16	0	30.0

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
37	TRANSPORTATION EQUIPMENT							
	RSE Column Factors:	0.5	1.4	1.3	0.7	1.5	1.1	
	TOTAL INPUTS	35,355	1,865	1,214	129	526	1,464	5.1
	Boiler Fuel	241	W	261	47	36	W	7.0
	Total Process Uses	20,391	18	167	51	154	W	10.8
	Process Heating	3,071	13	W	48	97	W	8.3
	Process Cooling and Refrigeration	1,558	0	0	*	0	0	14.7
	Machine Drive	14,718	Q	129	2	Q	0	14.3
	Electro-Chemical Processes	469	--	--	--	--	--	10.6
	Other Process Use	574	*	W	1	Q	0	15.9
	Total Non-Process Uses	12,796	W	734	27	315	0	7.1
	Facility Heating, Ventilation, and Air Conditioning ^e	6,071	43	W	24	69	0	10.4
	Facility Lighting	5,362	--	--	--	--	--	6.4
	Facility Support	1,049	W	5	2	2	0	8.3
	Onsite Transportation	132	--	310	*	241	--	8.1
	Conventional Electricity Generation	--	W	W	1	*	0	14.4
	Other Non-Process Use	182	W	180	*	2	0	15.2
	End Use Not Reported	1,927	Q	52	3	21	0	13.0
3711	Motor Vehicles and Car Bodies							
	RSE Column Factors:	0.6	1.8	1.2	0.7	1.1	1.1	
	TOTAL INPUTS	7,705	408	65	44	59	W	3.0
	Boiler Fuel	W	W	6	11	1	W	4.7
	Total Process Uses	4,960	W	W	24	11	0	4.5
	Process Heating	538	W	*	23	11	0	5.0
	Process Cooling and Refrigeration	470	0	0	*	0	0	9.5
	Machine Drive	3,580	0	W	1	*	0	8.8
	Electro-Chemical Processes	W	--	--	--	--	--	7.2
	Other Process Use	W	0	*	*	*	0	9.7
	Total Non-Process Uses	2,602	W	46	9	40	0	3.8
	Facility Heating, Ventilation, and Air Conditioning ^e	1,448	W	W	8	11	0	5.6
	Facility Lighting	925	--	--	--	--	--	5.4
	Facility Support	182	0	W	1	*	0	7.3
	Onsite Transportation	W	--	26	0	29	--	4.0
	Conventional Electricity Generation	--	0	*	0	0	0	6.9
	Other Non-Process Use	W	0	11	*	0	0	8.6
	End Use Not Reported	W	0	W	*	6	0	10.7
3714	Motor Vehicle Parts and Accessories							
	RSE Column Factors:	0.4	2.0	1.1	0.7	1.5	1.0	
	TOTAL INPUTS	11,054	60	104	40	168	W	7.0
	Boiler Fuel	47	55	W	12	W	W	8.1
	Total Process Uses	7,497	3	26	18	32	W	12.1
	Process Heating	927	1	W	17	22	W	14.1
	Process Cooling and Refrigeration	502	0	0	*	0	0	18.4
	Machine Drive	5,854	Q	W	*	10	0	22.0
	Electro-Chemical Processes	144	--	--	--	--	--	19.3
	Other Process Use	69	*	Q	*	0	0	13.5
	Total Non-Process Uses	3,087	2	71	9	120	0	10.8
	Facility Heating, Ventilation, and Air Conditioning ^e	1,526	2	W	8	Q	0	12.4
	Facility Lighting	1,231	--	--	--	--	--	9.7
	Facility Support	253	0	*	*	*	0	16.8
	Onsite Transportation	W	--	W	*	107	--	10.8
	Conventional Electricity Generation	--	0	*	*	0	0	21.7
	Other Non-Process Use	W	*	1	*	*	0	18.2
	End Use Not Reported	424	*	W	1	W	0	18.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
38	INSTRUMENTS and RELATED PRODUCTS							
	RSE Column Factors:	0.5	0.8	1.3	0.8	1.4	1.5	
	TOTAL INPUTS	13,673	536	W	25	Q	W	12.8
	Boiler Fuel	285	492	W	14	Q	W	17.7
	Total Process Uses	5,878	Q	15	4	12	0	15.9
	Process Heating	800	0	W	3	9	0	20.1
	Process Cooling and Refrigeration	1,085	Q	*	*	0	0	26.4
	Machine Drive	3,523	0	W	*	Q	0	23.4
	Electro-Chemical Processes	161	--	--	--	--	--	21.4
	Other Process Use	308	0	*	*	1	0	27.8
	Total Non-Process Uses	6,845	Q	62	6	27	0	15.5
	Facility Heating, Ventilation, and Air Conditioning ^e	3,499	Q	23	6	Q	0	16.2
	Facility Lighting	2,539	--	--	--	--	--	11.7
	Facility Support	622	*	2	*	Q	0	18.1
	Onsite Transportation	14	--	36	0	9	--	17.2
	Conventional Electricity Generation	--	0	1	*	*	0	23.1
	Other Non-Process Use	171	Q	*	*	*	0	29.0
	End Use Not Reported	665	Q	Q	1	Q	1	25.7
3841	Surgical and Medical Instruments							
	RSE Column Factors:	0.6	1.8	1.2	0.7	1.1	NF	
	TOTAL INPUTS	1,161	9	30	2	8	0	13.4
	Boiler Fuel	10	9	21	1	*	0	20.5
	Total Process Uses	530	0	4	*	6	0	19.8
	Process Heating	61	0	3	*	5	0	20.9
	Process Cooling and Refrigeration	88	0	*	*	0	0	16.8
	Machine Drive	379	0	*	*	Q	0	11.7
	Electro-Chemical Processes	2	--	--	--	--	--	45.3
	Other Process Use	1	0	*	0	*	0	37.5
	Total Non-Process Uses	538	0	6	1	2	0	15.0
	Facility Heating, Ventilation, and Air Conditioning ^e	336	0	4	1	*	0	20.3
	Facility Lighting	166	--	--	--	--	--	15.1
	Facility Support	35	0	*	*	*	0	21.3
	Onsite Transportation	2	--	2	0	1	--	27.0
	Conventional Electricity Generation	--	0	*	*	0	0	38.3
	Other Non-Process Use	*	0	*	*	*	0	35.2
	End Use Not Reported	83	*	0	*	*	0	27.0

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^c (1000 bbls)	Natural Gas ^d (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
39	MISC. MANUFACTURING INDUSTRIES							
	RSE Column Factors:	0.5	1.2	1.3	0.7	1.0	1.8	
	TOTAL INPUTS	3,661	115	W	14	W	32	13.3
	Boiler Fuel	29	99	W	5	W	30	20.9
	Total Process Uses	2,140	Q	9	5	19	0	18.7
	Process Heating	503	Q	Q	5	8	0	19.9
	Process Cooling and Refrigeration	183	0	0	*	0	0	33.3
	Machine Drive	1,399	0	1	*	10	0	29.6
	Electro-Chemical Processes	54	--	--	--	--	--	67.6
	Other Process Use	*	0	*	*	1	0	55.7
	Total Non-Process Uses	1,210	12	58	4	40	Q	20.5
	Facility Heating, Ventilation, and Air Conditioning ^e	592	12	39	3	Q	Q	23.6
	Facility Lighting	484	--	--	--	--	--	16.9
	Facility Support	87	*	*	*	2	0	30.6
	Onsite Transportation	13	--	Q	*	27	--	20.0
	Conventional Electricity Generation	--	0	*	0	0	0	29.0
	Other Non-Process Use	34	0	2	*	2	0	39.5
	End Use Not Reported	281	1	25	1	5	0	37.5

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Demand for Electricity" is the sum of purchases, transfers in, and total onsite electricity generation, minus sales and transfers offsite. It is the total amount of electricity used by establishments. "Net Demand for Electricity" is not directly comparable with "Net Electricity" which specifically excludes electricity generated onsite by combustible energy sources.

^c Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
20-39	ALL INDUSTRY GROUPS							
	RSE Column Factors:	0.4	1.7	1.5	0.7	1.0	1.6	
	TOTAL INPUTS	2,799	414	139	5,506	105	1,184	3.0
	Boiler Fuel	32	296	40	2,098	18	859	3.6
	Total Process Uses	2,244	109	34	2,578	64	314	4.1
	Process Heating	244	107	19	2,381	49	314	4.1
	Process Cooling and Refrigeration	140	*	*	13	*	0	12.4
	Machine Drive	1,482	2	14	127	15	0	8.4
	Electro-Chemical Processes	361	--	--	--	--	--	7.7
	Other Process Use	17	*	1	56	*	*	14.0
	Total Non-Process Uses	429	7	53	702	19	W	4.2
	Facility Heating, Ventilation, and Air Conditioning ^e	206	4	8	283	3	*	6.8
	Facility Lighting	176	--	--	--	--	--	5.1
	Facility Support	39	W	*	23	*	0	9.6
	Onsite Transportation	4	--	38	*	16	--	9.4
	Conventional Electricity Generation	--	2	4	347	*	W	8.8
	Other Non-Process Use	4	W	2	49	*	0	10.9
	End Use Not Reported	94	2	12	128	4	W	10.6
20	FOOD and KINDRED PRODUCTS							
	RSE Column Factors:	0.5	1.5	1.5	0.7	1.6	0.9	
	TOTAL INPUTS	189	27	17	512	5	154	5.9
	Boiler Fuel	5	24	7	315	2	143	8.4
	Total Process Uses	147	W	2	144	1	W	9.4
	Process Heating	7	2	1	137	1	W	11.8
	Process Cooling and Refrigeration	46	0	*	W	*	0	17.6
	Machine Drive	94	Q	*	W	*	0	17.8
	Electro-Chemical Processes	Q	--	--	--	--	--	NF
	Other Process Use	*	0	*	2	*	0	33.2
	Total Non-Process Uses	29	W	7	35	2	W	11.4
	Facility Heating, Ventilation, and Air Conditioning ^e	13	*	1	20	*	W	16.1
	Facility Lighting	13	--	--	--	--	--	8.5
	Facility Support	3	Q	*	2	*	0	17.5
	Onsite Transportation	1	--	5	*	2	--	10.5
	Conventional Electricity Generation	--	0	1	12	*	W	22.6
	Other Non-Process Use	1	*	*	*	Q	0	22.3
	End Use Not Reported	7	1	1	17	Q	0	24.5
2011	Meat Packing Plants							
	RSE Column Factors:	0.4	1.6	1.0	0.6	1.4	1.8	
	TOTAL INPUTS	12	1	1	32	1	1	10.1
	Boiler Fuel	*	1	*	22	*	1	12.9
	Total Process Uses	10	*	*	6	*	0	14.5
	Process Heating	W	0	*	6	*	0	17.0
	Process Cooling and Refrigeration	6	0	Q	*	*	0	17.8
	Machine Drive	4	*	*	*	*	0	19.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	*	*	0	0	36.3
	Total Non-Process Uses	1	*	1	3	*	0	13.2
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	Q	2	*	0	10.2
	Facility Lighting	1	--	--	--	--	--	14.0
	Facility Support	*	0	*	*	Q	0	22.9
	Onsite Transportation	*	--	1	*	*	--	25.9
	Conventional Electricity Generation	--	0	*	1	0	0	36.2
	Other Non-Process Use	0	0	*	0	0	0	27.6
	End Use Not Reported	*	*	*	*	*	0	33.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2033	Canned Fruits and Vegetables							
	RSE Column Factors:	0.7	1.1	1.3	0.9	1.2	NF	
	TOTAL INPUTS	6	2	1	36	*	Q	9.7
	Boiler Fuel	*	2	Q	29	*	Q	13.2
	Total Process Uses	5	*	*	2	*	0	15.6
	Process Heating	*	0	0	1	*	0	24.9
	Process Cooling and Refrigeration	1	0	*	*	*	0	20.3
	Machine Drive	3	*	*	*	*	0	17.8
	Electro-Chemical Processes	*	--	--	--	--	--	34.5
	Other Process Use	*	0	0	*	0	0	34.4
	Total Non-Process Uses	1	0	*	4	*	0	11.4
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	1	*	0	14.3
	Facility Lighting	*	--	--	--	--	--	7.2
	Facility Support	*	0	*	*	*	0	22.1
	Onsite Transportation	*	--	W	0	*	--	10.9
	Conventional Electricity Generation	--	0	W	3	0	0	26.5
	Other Non-Process Use	*	0	*	0	0	0	21.8
	End Use Not Reported	*	Q	*	2	*	0	23.7
2037	Frozen Fruits and Vegetables							
	RSE Column Factors:	0.7	1.2	1.2	0.8	1.3	NF	
	TOTAL INPUTS	11	2	*	26	*	0	13.0
	Boiler Fuel	1	2	*	18	*	0	21.6
	Total Process Uses	8	*	Q	4	*	0	17.4
	Process Heating	1	*	*	4	*	0	21.6
	Process Cooling and Refrigeration	5	0	0	*	0	0	23.8
	Machine Drive	3	0	Q	*	*	0	24.2
	Electro-Chemical Processes	*	--	--	--	--	--	55.7
	Other Process Use	*	0	0	*	0	0	46.1
	Total Non-Process Uses	1	0	*	2	*	0	13.8
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	Q	1	*	0	16.2
	Facility Lighting	1	--	--	--	--	--	15.1
	Facility Support	*	0	0	*	*	0	18.1
	Onsite Transportation	*	--	*	0	*	--	15.9
	Conventional Electricity Generation	--	0	*	1	0	0	27.2
	Other Non-Process Use	*	0	*	0	0	0	39.0
	End Use Not Reported	1	*	Q	2	*	0	38.6
2046	Wet Corn Milling							
	RSE Column Factors:	0.7	1.1	1.1	0.8	1.4	1.1	
	TOTAL INPUTS	20	*	*	52	*	68	11.1
	Boiler Fuel	1	*	W	26	0	W	12.5
	Total Process Uses	18	0	W	25	*	W	13.6
	Process Heating	W	0	W	25	0	W	16.0
	Process Cooling and Refrigeration	*	0	0	0	0	0	14.8
	Machine Drive	18	0	*	0	*	0	15.2
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	0	0	0	34.1
	Total Non-Process Uses	1	0	*	1	*	W	16.2
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	*	*	0	21.0
	Facility Lighting	*	--	--	--	--	--	10.4
	Facility Support	W	0	0	*	*	0	22.0
	Onsite Transportation	*	--	*	0	*	--	15.4
	Conventional Electricity Generation	--	0	*	1	0	W	21.6
	Other Non-Process Use	W	0	*	0	0	0	22.3
	End Use Not Reported	0	0	0	1	*	0	22.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2051	Bread, Cake, and Related Products							
	RSE Column Factors:	0.5	1.7	1.1	0.7	1.5	NF	
	TOTAL INPUTS	8	*	1	23	*	0	12.1
	Boiler Fuel	*	*	*	6	*	0	18.9
	Total Process Uses	5	0	*	14	*	0	13.0
	Process Heating	1	0	W	14	*	0	16.0
	Process Cooling and Refrigeration	1	0	0	*	0	0	20.4
	Machine Drive	4	0	*	*	*	0	26.6
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	*	0	W	*	*	0	27.8
	Total Non-Process Uses	2	0	*	3	*	0	13.3
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	W	2	*	0	14.2
	Facility Lighting	1	--	--	--	--	--	11.1
	Facility Support	*	0	*	*	*	0	22.4
	Onsite Transportation	Q	--	*	*	*	--	21.6
	Conventional Electricity Generation	--	0	W	*	*	0	35.1
	Other Non-Process Use	*	0	*	*	0	0	39.9
	End Use Not Reported	*	0	*	1	*	0	29.0
2063	Beet Sugar							
	RSE Column Factors:	0.9	1.6	1.1	0.9	1.1	0.7	
	TOTAL INPUTS	3	W	*	19	*	43	5.6
	Boiler Fuel	*	W	W	12	0	36	9.6
	Total Process Uses	3	1	W	6	*	7	7.2
	Process Heating	W	1	*	6	*	7	10.2
	Process Cooling and Refrigeration	*	0	0	0	0	0	34.6
	Machine Drive	W	0	W	*	*	0	8.1
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	*	W	*	*	*	0	6.5
	Facility Heating, Ventilation, and Air Conditioning ^e	*	W	0	*	*	0	8.7
	Facility Lighting	*	--	--	--	--	--	5.8
	Facility Support	*	0	0	*	*	0	9.9
	Onsite Transportation	*	--	*	0	*	--	8.7
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	*	0	14.5
	End Use Not Reported	0	0	*	0	*	0	15.2
2075	Soybean Oil Mills							
	RSE Column Factors:	0.8	1.5	1.1	0.7	1.5	0.8	
	TOTAL INPUTS	7	*	*	24	*	13	3.4
	Boiler Fuel	W	*	W	18	*	13	4.5
	Total Process Uses	5	*	W	6	*	0	4.7
	Process Heating	*	0	W	5	*	0	6.7
	Process Cooling and Refrigeration	*	0	0	0	0	0	3.9
	Machine Drive	5	*	*	0	*	0	4.7
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	*	*	0	7.9
	Total Non-Process Uses	*	*	*	1	*	0	4.3
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	0	*	0	0	4.8
	Facility Lighting	*	--	--	--	--	--	3.9
	Facility Support	*	0	*	*	0	0	8.8
	Onsite Transportation	*	--	*	0	*	--	5.1
	Conventional Electricity Generation	--	0	*	1	0	0	8.3
	Other Non-Process Use	0	*	0	0	0	0	6.0
	End Use Not Reported	W	0	*	0	*	0	7.7

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2082	Malt Beverages							
	RSE Column Factors:	0.6	1.3	1.4	0.8	1.0	1.4	
	TOTAL INPUTS	10	3	*	23	*	16	10.1
	Boiler Fuel	W	3	W	21	*	16	13.2
	Total Process Uses	7	0	*	1	0	0	13.8
	Process Heating	*	0	0	1	0	0	21.8
	Process Cooling and Refrigeration	3	0	0	*	0	0	19.4
	Machine Drive	4	0	*	0	0	0	14.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	2	*	W	*	W	*	14.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	0	*	W	*	16.4
	Facility Lighting	1	--	--	--	--	--	10.6
	Facility Support	*	0	*	0	0	0	16.4
	Onsite Transportation	*	--	W	0	*	--	14.0
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	*	*	W	0	25.6
21	TOBACCO PRODUCTS							
	RSE Column Factors:	0.9	0.7	1.0	2.0	1.3	0.7	
	TOTAL INPUTS	6	1	*	4	*	15	5.8
	Boiler Fuel	*	1	*	3	W	15	6.1
	Total Process Uses	3	0	*	1	W	0	5.0
	Process Heating	*	0	*	1	W	0	8.8
	Process Cooling and Refrigeration	W	0	0	*	0	0	6.7
	Machine Drive	3	0	*	*	0	0	5.3
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	0	0	0	9.1
	Total Non-Process Uses	3	0	*	*	*	0	6.8
	Facility Heating, Ventilation, and Air Conditioning ^e	2	0	0	*	*	0	7.0
	Facility Lighting	1	--	--	--	--	--	3.4
	Facility Support	*	0	0	*	0	0	4.3
	Onsite Transportation	*	--	*	0	*	--	7.5
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	*	0	6.3
	End Use Not Reported	0	0	0	0	*	0	6.3
22	TEXTILE MILL PRODUCTS							
	RSE Column Factors:	0.4	1.3	1.6	0.8	1.2	1.2	
	TOTAL INPUTS	102	12	6	108	2	31	7.2
	Boiler Fuel	1	11	5	70	*	30	11.1
	Total Process Uses	74	1	*	31	1	W	11.0
	Process Heating	3	W	*	28	1	W	13.9
	Process Cooling and Refrigeration	7	0	*	*	*	0	21.2
	Machine Drive	62	W	*	2	*	0	14.4
	Electro-Chemical Processes	W	--	--	--	--	--	62.4
	Other Process Use	W	*	*	1	*	0	23.5
	Total Non-Process Uses	25	*	1	4	1	*	13.1
	Facility Heating, Ventilation, and Air Conditioning ^e	14	*	W	4	*	*	16.9
	Facility Lighting	9	--	--	--	--	--	9.2
	Facility Support	1	*	*	*	*	0	13.3
	Onsite Transportation	*	--	*	0	*	--	13.7
	Conventional Electricity Generation	--	0	Q	*	*	0	45.0
	Other Non-Process Use	*	0	*	*	*	0	23.2
	End Use Not Reported	2	1	Q	3	*	W	20.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
23	APPAREL and OTHER TEXTILE PRODUCTS							
	RSE Column Factors:	0.5	NF	1.4	0.7	1.3	1.5	
	TOTAL INPUTS	19	Q	1	19	1	2	16.8
	Boiler Fuel	*	Q	*	7	*	2	27.1
	Total Process Uses	9	Q	Q	6	*	0	23.5
	Process Heating	1	0	Q	5	*	0	30.2
	Process Cooling and Refrigeration	*	0	0	0	0	0	68.8
	Machine Drive	8	Q	*	1	Q	0	38.4
	Electro-Chemical Processes	*	--	--	--	--	--	84.5
	Other Process Use	Q	0	0	0	*	0	38.0
	Total Non-Process Uses	7	Q	*	4	*	0	19.1
	Facility Heating, Ventilation, and Air Conditioning ^e	4	Q	*	4	*	0	22.8
	Facility Lighting	3	--	--	--	--	--	17.7
	Facility Support	*	0	*	*	*	0	36.0
	Onsite Transportation	Q	--	*	*	*	--	20.0
	Conventional Electricity Generation	--	0	0	*	0	0	NF
	Other Non-Process Use	0	0	*	0	0	0	33.5
	End Use Not Reported	3	Q	*	2	*	0	30.1
24	LUMBER and WOOD PRODUCTS							
	RSE Column Factors:	0.5	1.3	1.0	0.9	1.0	1.6	
	TOTAL INPUTS	70	2	14	41	4	2	14.8
	Boiler Fuel	2	2	1	13	*	2	24.6
	Total Process Uses	55	Q	4	19	2	0	17.1
	Process Heating	3	Q	Q	18	1	0	22.3
	Process Cooling and Refrigeration	*	0	0	0	0	0	59.5
	Machine Drive	51	0	3	Q	Q	0	15.5
	Electro-Chemical Processes	*	--	--	--	--	--	72.5
	Other Process Use	*	0	Q	0	Q	0	87.3
	Total Non-Process Uses	7	Q	6	5	2	*	18.5
	Facility Heating, Ventilation, and Air Conditioning ^e	2	Q	Q	5	Q	*	26.8
	Facility Lighting	4	--	--	--	--	--	18.6
	Facility Support	1	0	*	*	*	0	35.7
	Onsite Transportation	*	--	5	0	2	--	24.7
	Conventional Electricity Generation	--	0	Q	0	0	0	NF
	Other Non-Process Use	Q	0	*	*	*	0	46.7
	End Use Not Reported	6	Q	3	4	*	0	34.2
25	FURNITURE and FIXTURES							
	RSE Column Factors:	0.5	1.9	1.1	0.6	0.9	1.8	
	TOTAL INPUTS	17	1	1	19	1	4	17.9
	Boiler Fuel	*	Q	*	3	*	3	28.1
	Total Process Uses	11	*	Q	7	*	*	18.9
	Process Heating	1	0	Q	7	*	*	25.0
	Process Cooling and Refrigeration	W	0	0	*	0	0	36.2
	Machine Drive	10	*	Q	1	*	0	24.0
	Electro-Chemical Processes	*	--	--	--	--	--	40.2
	Other Process Use	W	0	*	0	*	0	55.0
	Total Non-Process Uses	5	Q	*	7	1	*	22.0
	Facility Heating, Ventilation, and Air Conditioning ^e	2	Q	*	7	*	*	26.7
	Facility Lighting	2	--	--	--	--	--	18.1
	Facility Support	*	*	*	*	*	0	34.3
	Onsite Transportation	W	--	Q	0	*	--	23.3
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	W	0	*	0	*	0	59.1
	End Use Not Reported	1	*	*	2	*	0	36.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
26	PAPER and ALLIED PRODUCTS							
	RSE Column Factors:	0.6	0.9	1.8	0.9	1.5	0.8	
	TOTAL INPUTS	375	156	9	548	W	296	4.3
	Boiler Fuel	12	133	4	361	W	293	5.8
	Total Process Uses	324	21	2	124	2	Q	5.2
	Process Heating	8	20	2	106	1	Q	7.7
	Process Cooling and Refrigeration	5	0	*	*	*	0	7.7
	Machine Drive	305	1	W	12	*	0	9.3
	Electro-Chemical Processes	4	--	--	--	--	--	13.7
	Other Process Use	3	0	W	6	*	0	9.6
	Total Non-Process Uses	31	2	3	54	2	*	6.5
	Facility Heating, Ventilation, and Air Conditioning ^e	13	W	1	W	W	*	10.8
	Facility Lighting	14	--	--	--	--	--	5.1
	Facility Support	3	0	*	*	*	0	9.9
	Onsite Transportation	*	--	2	*	2	--	6.3
	Conventional Electricity Generation	--	W	*	38	Q	0	14.8
	Other Non-Process Use	*	*	Q	W	*	0	16.6
	End Use Not Reported	8	*	*	9	*	W	19.6
2611	Pulp Mills							
	RSE Column Factors:	0.7	1.1	1.0	0.8	1.3	1.4	
	TOTAL INPUTS	29	28	1	32	1	7	14.4
	Boiler Fuel	1	24	*	23	*	7	18.2
	Total Process Uses	26	4	*	10	*	0	16.4
	Process Heating	*	4	*	10	*	0	20.5
	Process Cooling and Refrigeration	*	0	0	0	0	0	24.3
	Machine Drive	24	*	*	0	*	0	22.8
	Electro-Chemical Processes	1	--	--	--	--	--	37.1
	Other Process Use	1	0	0	0	0	0	34.3
	Total Non-Process Uses	2	*	*	*	*	0	17.9
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	*	*	0	21.4
	Facility Lighting	1	--	--	--	--	--	14.3
	Facility Support	*	0	0	0	0	0	21.4
	Onsite Transportation	*	--	*	0	*	--	19.4
	Conventional Electricity Generation	--	*	0	*	0	0	39.5
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	*	0	0	Q	0	34.2
2621	Paper Mills							
	RSE Column Factors:	0.7	1.1	1.0	1.1	1.1	1.1	
	TOTAL INPUTS	208	85	W	260	2	193	2.7
	Boiler Fuel	5	73	2	163	W	193	3.3
	Total Process Uses	184	10	W	58	1	0	3.3
	Process Heating	4	10	1	48	1	0	4.1
	Process Cooling and Refrigeration	2	0	*	*	*	0	7.1
	Machine Drive	175	*	*	W	*	0	4.3
	Electro-Chemical Processes	2	--	--	--	--	--	7.2
	Other Process Use	1	0	W	W	*	0	9.6
	Total Non-Process Uses	14	2	1	38	W	*	4.9
	Facility Heating, Ventilation, and Air Conditioning ^e	6	W	*	2	*	*	4.2
	Facility Lighting	6	--	--	--	--	--	2.9
	Facility Support	2	0	*	*	*	0	5.6
	Onsite Transportation	W	--	1	0	W	--	3.9
	Conventional Electricity Generation	--	W	*	36	0	0	8.5
	Other Non-Process Use	W	*	*	0	*	0	8.3
	End Use Not Reported	5	0	*	*	*	0	6.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2631	Paperboard Mills							
	RSE Column Factors:	0.6	1.5	1.1	0.8	1.2	0.9	
	TOTAL INPUTS	92	W	1	185	*	W	4.4
	Boiler Fuel	5	32	*	136	*	90	7.0
	Total Process Uses	81	W	W	37	*	Q	5.3
	Process Heating	2	W	W	W	*	Q	9.4
	Process Cooling and Refrigeration	W	0	0	*	0	0	13.7
	Machine Drive	76	0	W	W	*	0	9.4
	Electro-Chemical Processes	1	--	--	--	--	--	20.1
	Other Process Use	W	0	*	*	0	0	19.1
	Total Non-Process Uses	6	*	1	W	*	0	8.7
	Facility Heating, Ventilation, and Air Conditioning ^e	2	*	0	2	*	0	13.3
	Facility Lighting	3	--	--	--	--	--	9.3
	Facility Support	1	0	*	*	0	0	13.8
	Onsite Transportation	Q	--	1	0	*	--	4.7
	Conventional Electricity Generation	--	0	*	W	0	0	26.1
	Other Non-Process Use	*	0	Q	W	0	0	23.0
	End Use Not Reported	Q	*	W	W	*	0	14.5
27	PRINTING and PUBLISHING							
	RSE Column Factors:	0.5	1.6	1.5	0.7	1.1	NF	
	TOTAL INPUTS	53	*	2	48	1	0	12.6
	Boiler Fuel	*	*	1	14	W	0	26.7
	Total Process Uses	26	0	Q	17	W	0	15.9
	Process Heating	1	0	Q	15	W	0	23.2
	Process Cooling and Refrigeration	2	0	0	*	*	0	31.9
	Machine Drive	23	0	*	2	*	0	26.4
	Electro-Chemical Processes	*	--	--	--	--	--	79.8
	Other Process Use	*	0	0	*	0	0	60.4
	Total Non-Process Uses	19	*	1	12	*	0	18.7
	Facility Heating, Ventilation, and Air Conditioning ^e	10	*	1	11	*	0	23.3
	Facility Lighting	7	--	--	--	--	--	16.0
	Facility Support	2	*	*	1	Q	0	27.9
	Onsite Transportation	*	--	*	0	*	--	24.1
	Conventional Electricity Generation	--	0	Q	0	0	0	NF
	Other Non-Process Use	Q	0	*	*	Q	0	18.9
	End Use Not Reported	8	0	*	5	Q	0	25.4
28	CHEMICALS and ALLIED PRODUCTS							
	RSE Column Factors:	0.6	0.9	1.2	0.8	1.6	1.3	
	TOTAL INPUTS	582	48	12	1,669	4	253	5.0
	Boiler Fuel	4	28	6	719	2	244	6.6
	Total Process Uses	518	W	2	673	2	8	7.2
	Process Heating	16	19	2	577	1	8	9.1
	Process Cooling and Refrigeration	34	0	*	2	W	0	9.4
	Machine Drive	353	0	1	55	*	0	7.4
	Electro-Chemical Processes	114	--	--	--	--	--	9.1
	Other Process Use	1	W	*	39	W	0	12.1
	Total Non-Process Uses	49	W	3	256	1	W	6.7
	Facility Heating, Ventilation, and Air Conditioning ^e	25	W	*	W	*	W	10.1
	Facility Lighting	18	--	--	--	--	--	7.3
	Facility Support	5	0	*	4	*	0	10.5
	Onsite Transportation	*	--	2	0	1	--	7.5
	Conventional Electricity Generation	--	W	*	191	*	0	11.8
	Other Non-Process Use	1	*	*	W	*	0	10.7
	End Use Not Reported	11	*	*	21	*	W	14.9

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2812	Alkalies and Chlorine							
	RSE Column Factors:	0.7	1.3	0.9	0.9	1.1	1.2	
	TOTAL INPUTS	60	W	*	W	*	W	16.4
	Boiler Fuel	W	W	W	56	0	W	23.0
	Total Process Uses	59	0	W	4	0	0	19.2
	Process Heating	W	0	W	4	0	0	27.5
	Process Cooling and Refrigeration	W	0	0	0	0	0	19.3
	Machine Drive	5	0	*	0	0	0	19.5
	Electro-Chemical Processes	53	--	--	--	--	--	13.3
	Other Process Use	W	0	*	1	0	0	31.2
	Total Non-Process Uses	1	0	*	W	*	0	16.1
	Facility Heating, Ventilation, and Air Conditioning ^e	W	0	0	1	0	0	20.1
	Facility Lighting	1	--	--	--	--	--	14.8
	Facility Support	W	0	0	0	0	0	31.1
	Onsite Transportation	0	--	*	0	*	--	14.3
	Conventional Electricity Generation	--	0	0	W	0	0	20.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	W	0	*	0	31.8
2813	Industrial Gases							
	RSE Column Factors:	0.4	NF	1.3	0.8	2.2	NF	
	TOTAL INPUTS	62	0	*	25	Q	0	14.2
	Boiler Fuel	0	0	*	8	0	0	13.6
	Total Process Uses	58	0	*	12	0	0	11.2
	Process Heating	W	0	0	11	0	0	23.0
	Process Cooling and Refrigeration	*	0	0	0	0	0	25.3
	Machine Drive	57	0	0	*	0	0	12.4
	Electro-Chemical Processes	W	--	--	--	--	--	36.8
	Other Process Use	Q	0	*	*	0	0	34.3
	Total Non-Process Uses	W	0	Q	4	Q	0	14.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	*	*	0	14.5
	Facility Lighting	1	--	--	--	--	--	11.5
	Facility Support	W	0	0	*	0	0	12.3
	Onsite Transportation	0	--	Q	0	Q	--	NF
	Conventional Electricity Generation	--	0	0	2	0	0	24.9
	Other Non-Process Use	0	0	0	2	0	0	24.9
	End Use Not Reported	W	0	*	*	*	0	12.6
2819	Industrial Inorganic Chemicals, nec							
	RSE Column Factors:	0.8	1.0	1.2	0.8	1.2	1.2	
	TOTAL INPUTS	136	4	3	140	*	17	8.8
	Boiler Fuel	W	W	1	71	*	9	10.1
	Total Process Uses	128	W	*	54	*	7	11.7
	Process Heating	8	W	*	54	*	7	13.8
	Process Cooling and Refrigeration	W	0	0	*	0	0	12.9
	Machine Drive	104	0	W	*	*	0	12.9
	Electro-Chemical Processes	14	--	--	--	--	--	14.4
	Other Process Use	W	0	W	*	*	0	16.8
	Total Non-Process Uses	6	0	1	12	*	W	10.0
	Facility Heating, Ventilation, and Air Conditioning ^e	3	0	*	W	*	W	9.6
	Facility Lighting	1	--	--	--	--	--	6.0
	Facility Support	1	0	W	*	*	0	11.7
	Onsite Transportation	W	--	1	0	*	--	10.4
	Conventional Electricity Generation	--	0	W	W	0	0	16.7
	Other Non-Process Use	W	0	*	*	*	0	15.4
	End Use Not Reported	W	0	*	2	Q	W	14.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2821	Plastics Materials and Resins							
	RSE Column Factors:	0.6	1.3	1.3	0.9	1.2	0.9	
	TOTAL INPUTS	59	4	1	151	*	24	6.1
	Boiler Fuel	1	W	1	81	*	24	7.9
	Total Process Uses	52	W	*	53	*	0	5.9
	Process Heating	W	W	*	43	W	0	6.8
	Process Cooling and Refrigeration	6	0	0	*	W	0	10.2
	Machine Drive	38	0	*	W	*	0	7.5
	Electro-Chemical Processes	7	--	--	--	--	--	15.7
	Other Process Use	W	0	*	W	*	0	10.3
	Total Non-Process Uses	5	W	*	15	*	0	6.7
	Facility Heating, Ventilation, and Air Conditioning ^e	3	0	*	2	W	0	7.2
	Facility Lighting	2	--	--	--	--	--	4.7
	Facility Support	1	0	*	1	W	0	8.2
	Onsite Transportation	*	--	*	0	*	--	6.2
	Conventional Electricity Generation	--	W	*	13	0	0	8.7
	Other Non-Process Use	*	0	*	*	*	0	16.2
	End Use Not Reported	1	0	*	2	*	0	14.5
2822	Synthetic Rubber							
	RSE Column Factors:	0.6	1.4	1.0	0.9	1.0	1.4	
	TOTAL INPUTS	6	*	*	44	*	W	12.4
	Boiler Fuel	W	*	W	24	0	W	15.2
	Total Process Uses	6	0	W	20	*	0	17.2
	Process Heating	*	0	0	W	0	0	19.3
	Process Cooling and Refrigeration	1	0	0	*	0	0	19.2
	Machine Drive	5	0	W	*	*	0	17.0
	Electro-Chemical Processes	*	--	--	--	--	--	36.0
	Other Process Use	*	0	*	W	0	0	25.9
	Total Non-Process Uses	W	0	*	*	W	0	12.8
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	0	*	*	0	17.1
	Facility Lighting	*	--	--	--	--	--	14.7
	Facility Support	W	0	*	*	0	0	16.9
	Onsite Transportation	*	--	*	0	W	--	17.0
	Conventional Electricity Generation	--	0	*	*	0	0	23.6
	Other Non-Process Use	0	0	*	*	0	0	23.6
	End Use Not Reported	0	0	*	*	W	0	23.2
2823	Cellulosic Manmade Fibers							
	RSE Column Factors:	0.9	NF	1.2	1.1	1.1	0.8	
	TOTAL INPUTS	4	0	*	W	*	27	21.6
	Boiler Fuel	*	0	*	W	*	27	26.5
	Total Process Uses	3	0	*	2	0	0	23.8
	Process Heating	*	0	*	2	0	0	27.5
	Process Cooling and Refrigeration	1	0	0	0	0	0	21.7
	Machine Drive	2	0	0	0	0	0	22.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	*	0	0	0	0	0	36.9
	Total Non-Process Uses	1	0	*	*	*	0	25.8
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	0	*	0	27.2
	Facility Lighting	*	--	--	--	--	--	21.7
	Facility Support	*	0	0	*	0	0	32.3
	Onsite Transportation	*	--	*	0	*	--	29.3
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	*	0	31.5

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2824	Organic Fibers, Noncellulosic							
	RSE Column Factors:	1.1	1.1	1.0	0.9	1.1	0.8	
	TOTAL INPUTS	26	W	*	W	*	35	3.5
	Boiler Fuel	*	2	*	23	W	35	3.8
	Total Process Uses	21	W	*	W	W	0	4.0
	Process Heating	W	W	*	W	W	0	5.3
	Process Cooling and Refrigeration	3	0	0	*	0	0	1.8
	Machine Drive	14	0	*	*	*	0	5.6
	Electro-Chemical Processes	W	--	--	--	--	--	6.3
	Other Process Use	W	0	0	*	0	0	5.4
	Total Non-Process Uses	5	W	*	*	*	0	4.8
	Facility Heating, Ventilation, and Air Conditioning ^e	3	W	*	*	*	0	6.4
	Facility Lighting	2	--	--	--	--	--	5.4
	Facility Support	W	0	*	*	*	0	6.3
	Onsite Transportation	*	--	*	0	*	--	4.5
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	W	*	*	0	*	0	5.8
	End Use Not Reported	0	W	*	0	*	0	6.6
2865	Cyclic Crudes and Intermediates							
	RSE Column Factors:	0.7	1.2	1.2	0.8	1.2	1.0	
	TOTAL INPUTS	17	8	1	97	*	W	11.6
	Boiler Fuel	*	W	1	47	W	W	13.4
	Total Process Uses	15	W	*	38	*	0	12.6
	Process Heating	W	W	*	36	W	0	17.9
	Process Cooling and Refrigeration	3	0	*	0	0	0	17.5
	Machine Drive	11	0	*	1	W	0	15.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	*	1	W	0	23.1
	Total Non-Process Uses	2	*	*	W	W	0	13.7
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	*	1	*	0	17.9
	Facility Lighting	1	--	--	--	--	--	9.0
	Facility Support	*	0	*	*	*	0	17.9
	Onsite Transportation	W	--	*	0	W	--	15.9
	Conventional Electricity Generation	--	0	*	W	0	0	22.5
	Other Non-Process Use	W	0	0	0	0	0	32.9
	End Use Not Reported	Q	0	0	W	*	*	22.4
2869	Industrial Organic Chemicals, nec							
	RSE Column Factors:	0.6	1.5	1.2	0.8	1.4	0.8	
	TOTAL INPUTS	125	11	3	644	3	85	7.8
	Boiler Fuel	1	10	Q	220	W	85	6.4
	Total Process Uses	115	1	*	249	W	0	6.3
	Process Heating	2	W	*	201	W	0	7.7
	Process Cooling and Refrigeration	10	0	0	2	*	0	9.6
	Machine Drive	67	0	*	29	*	0	9.0
	Electro-Chemical Processes	36	--	--	--	--	--	13.0
	Other Process Use	*	W	*	16	*	0	9.7
	Total Non-Process Uses	9	*	1	175	*	0	7.2
	Facility Heating, Ventilation, and Air Conditioning ^e	4	*	Q	3	W	0	7.3
	Facility Lighting	3	--	--	--	--	--	4.9
	Facility Support	1	0	W	1	*	0	8.5
	Onsite Transportation	*	--	*	0	W	--	10.3
	Conventional Electricity Generation	--	0	*	W	*	0	10.3
	Other Non-Process Use	*	0	*	W	*	0	11.0
	End Use Not Reported	1	*	*	1	*	0	9.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2873	Nitrogenous Fertilizers							
	RSE Column Factors:	0.8	NF	1.1	0.8	1.5	NF	
	TOTAL INPUTS	11	0	*	266	*	0	18.9
	Boiler Fuel	*	0	*	93	0	0	32.2
	Total Process Uses	10	0	*	172	*	0	25.6
	Process Heating	*	0	0	153	*	0	33.9
	Process Cooling and Refrigeration	1	0	0	0	0	0	35.1
	Machine Drive	8	0	*	2	0	0	35.1
	Electro-Chemical Processes	1	--	--	--	--	--	59.2
	Other Process Use	0	0	0	18	0	0	47.4
	Total Non-Process Uses	1	0	*	1	*	0	24.0
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	1	*	0	32.5
	Facility Lighting	*	--	--	--	--	--	25.4
	Facility Support	*	0	*	0	0	0	37.7
	Onsite Transportation	0	--	*	0	*	--	20.2
	Conventional Electricity Generation	--	0	*	*	0	0	54.8
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	*	0	*	*	*	0	33.5
2874	Phosphatic Fertilizers							
	RSE Column Factors:	1.0	0.7	0.7	1.7	0.7	1.6	
	TOTAL INPUTS	16	2	1	19	*	W	4.6
	Boiler Fuel	W	W	*	2	*	0	5.8
	Total Process Uses	13	1	*	15	*	W	4.3
	Process Heating	W	1	W	14	*	W	4.3
	Process Cooling and Refrigeration	W	0	0	*	0	0	2.1
	Machine Drive	12	0	W	*	0	0	4.3
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	0	NF
	Total Non-Process Uses	W	0	*	*	*	0	5.7
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	0	*	*	0	7.3
	Facility Lighting	*	--	--	--	--	--	11.4
	Facility Support	W	0	W	*	*	0	3.6
	Onsite Transportation	0	--	*	0	*	--	4.1
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	W	0	0	0	6.1
	End Use Not Reported	W	W	Q	2	*	0	4.0
29	PETROLEUM and COAL PRODUCTS							
	RSE Column Factors:	0.4	0.9	2.0	0.5	0.8	2.8	
	TOTAL INPUTS	151	87	21	838	63	W	4.6
	Boiler Fuel	1	38	4	263	12	W	6.0
	Total Process Uses	136	49	11	460	49	W	6.1
	Process Heating	4	49	7	422	38	W	7.2
	Process Cooling and Refrigeration	8	0	Q	W	W	0	7.3
	Machine Drive	124	0	3	W	W	0	8.3
	Electro-Chemical Processes	W	--	--	--	--	--	9.3
	Other Process Use	W	0	W	1	0	0	11.3
	Total Non-Process Uses	12	0	5	110	*	0	8.4
	Facility Heating, Ventilation, and Air Conditioning ^e	6	0	*	10	W	0	10.4
	Facility Lighting	5	--	--	--	--	--	4.7
	Facility Support	1	0	Q	2	W	0	9.3
	Onsite Transportation	W	--	4	*	*	--	12.2
	Conventional Electricity Generation	--	0	Q	98	W	0	7.5
	Other Non-Process Use	W	0	W	*	*	0	16.0
	End Use Not Reported	1	0	Q	5	2	0	51.3

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
2911	Petroleum Refining^f							
	RSE Column Factors:	0.5	1.6	0.9	0.5	0.7	3.6	
	TOTAL INPUTS	144	65	9	792	60	3	3.9
	Boiler Fuel	W	33	2	253	11	3	3.3
	Total Process Uses	131	32	4	429	48	0	4.7
	Process Heating	3	32	4	392	36	0	5.6
	Process Cooling and Refrigeration	8	0	0	W	W	0	7.2
	Machine Drive	119	0	W	W	W	0	5.3
	Electro-Chemical Processes	W	--	--	--	--	--	8.2
	Other Process Use	W	0	W	*	0	0	8.0
	Total Non-Process Uses	11	0	W	108	W	0	5.8
	Facility Heating, Ventilation, and Air Conditioning ^g	5	0	*	8	W	0	6.3
	Facility Lighting	5	--	--	--	--	--	4.1
	Facility Support	1	0	*	1	W	0	7.2
	Onsite Transportation	W	--	3	0	*	--	8.2
	Conventional Electricity Generation	--	0	*	98	W	0	14.6
	Other Non-Process Use	W	0	W	*	*	0	8.8
	End Use Not Reported	W	0	W	2	W	0	8.1
30	RUBBER and MISC. PLASTICS PRODUCTS							
	RSE Column Factors:	0.5	1.1	1.5	0.9	1.2	1.2	
	TOTAL INPUTS	116	8	3	96	3	7	9.8
	Boiler Fuel	1	7	2	57	Q	7	11.7
	Total Process Uses	90	W	*	19	1	0	17.1
	Process Heating	19	W	W	16	1	0	19.3
	Process Cooling and Refrigeration	8	*	0	*	0	0	20.2
	Machine Drive	62	*	Q	3	*	0	20.5
	Electro-Chemical Processes	*	--	--	--	--	--	55.3
	Other Process Use	*	0	*	*	*	0	32.4
	Total Non-Process Uses	21	W	1	16	1	0	11.9
	Facility Heating, Ventilation, and Air Conditioning ^g	9	W	*	15	*	0	18.1
	Facility Lighting	9	--	--	--	--	--	9.5
	Facility Support	2	*	*	*	W	0	12.1
	Onsite Transportation	*	--	1	*	1	--	22.8
	Conventional Electricity Generation	--	0	*	*	0	0	20.0
	Other Non-Process Use	Q	0	Q	*	W	0	14.7
	End Use Not Reported	5	Q	Q	3	*	0	27.3
3011	Tires and Inner Tubes							
	RSE Column Factors:	0.7	1.1	1.5	1.0	0.8	1.1	
	TOTAL INPUTS	14	3	*	21	*	2	3.6
	Boiler Fuel	W	3	*	19	0	2	3.4
	Total Process Uses	11	Q	*	1	W	0	5.7
	Process Heating	*	Q	0	1	0	0	15.7
	Process Cooling and Refrigeration	1	0	0	0	0	0	4.3
	Machine Drive	9	0	*	*	W	0	5.5
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	*	0	0	6.2
	Total Non-Process Uses	3	*	*	1	W	0	7.4
	Facility Heating, Ventilation, and Air Conditioning ^g	1	*	Q	1	Q	0	6.5
	Facility Lighting	1	--	--	--	--	--	2.9
	Facility Support	*	*	*	*	W	0	6.0
	Onsite Transportation	*	--	*	*	*	--	6.6
	Conventional Electricity Generation	--	0	*	0	0	0	3.3
	Other Non-Process Use	0	0	*	*	W	0	6.6
	End Use Not Reported	W	*	*	*	*	0	7.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
308	Miscellaneous Plastic Products, nec							
	RSE Column Factors:	0.5	1.5	1.7	0.7	1.0	1.1	
	TOTAL INPUTS	87	3	W	53	1	3	13.3
	Boiler Fuel	*	2	W	24	Q	3	21.4
	Total Process Uses	69	1	*	13	*	0	17.9
	Process Heating	17	1	*	12	*	0	21.6
	Process Cooling and Refrigeration	7	0	0	0	0	0	17.3
	Machine Drive	44	*	Q	1	*	0	25.0
	Electro-Chemical Processes	*	--	--	--	--	--	65.3
	Other Process Use	*	0	*	*	*	0	45.0
	Total Non-Process Uses	14	*	1	12	1	0	16.0
	Facility Heating, Ventilation, and Air Conditioning ^e	6	*	*	12	*	0	24.0
	Facility Lighting	6	--	--	--	--	--	13.4
	Facility Support	1	*	*	*	*	0	25.4
	Onsite Transportation	*	--	1	0	1	--	22.9
	Conventional Electricity Generation	--	0	Q	*	0	0	NF
	Other Non-Process Use	Q	0	Q	*	*	0	45.0
	End Use Not Reported	5	0	Q	3	*	0	33.8
31	LEATHER and LEATHER PRODUCTS							
	RSE Column Factors:	0.4	1.2	1.3	0.9	1.1	1.6	
	TOTAL INPUTS	3	1	1	5	*	Q	24.0
	Boiler Fuel	*	1	1	2	*	Q	31.0
	Total Process Uses	2	*	*	1	*	0	28.5
	Process Heating	*	*	*	1	W	0	36.1
	Process Cooling and Refrigeration	*	0	0	*	0	0	58.6
	Machine Drive	1	0	*	*	Q	0	28.2
	Electro-Chemical Processes	*	--	--	--	--	--	105.5
	Other Process Use	0	0	0	*	*	0	51.0
	Total Non-Process Uses	1	*	*	Q	*	*	25.8
	Facility Heating, Ventilation, and Air Conditioning ^e	*	*	*	Q	*	*	29.7
	Facility Lighting	*	--	--	--	--	--	23.4
	Facility Support	*	0	*	*	*	0	35.9
	Onsite Transportation	*	--	*	0	*	--	36.0
	Conventional Electricity Generation	--	0	0	0	*	0	40.1
	Other Non-Process Use	*	0	Q	0	0	0	105.5
	End Use Not Reported	*	*	*	*	*	0	33.5
32	STONE, CLAY and GLASS PRODUCTS							
	RSE Column Factors:	0.5	1.1	1.5	0.6	1.6	1.2	
	TOTAL INPUTS	107	8	19	380	2	293	6.9
	Boiler Fuel	*	1	2	16	*	W	20.9
	Total Process Uses	91	7	6	332	1	291	9.1
	Process Heating	27	W	W	326	1	291	9.5
	Process Cooling and Refrigeration	3	0	*	2	*	0	22.8
	Machine Drive	60	W	4	3	*	0	15.9
	Electro-Chemical Processes	*	--	--	--	--	--	32.4
	Other Process Use	1	0	W	1	*	*	10.3
	Total Non-Process Uses	12	Q	8	19	1	0	6.2
	Facility Heating, Ventilation, and Air Conditioning ^e	6	Q	*	17	*	0	11.9
	Facility Lighting	6	--	--	--	--	--	7.6
	Facility Support	1	0	*	1	*	0	16.6
	Onsite Transportation	*	--	7	*	1	--	11.2
	Conventional Electricity Generation	--	0	Q	*	*	0	25.7
	Other Non-Process Use	*	0	*	0	*	0	29.2
	End Use Not Reported	3	*	3	13	*	W	20.2

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
3211	Flat Glass							
	RSE Column Factors:	0.7	1.6	0.9	0.6	1.0	1.6	
	TOTAL INPUTS	5	W	*	42	*	*	3.5
	Boiler Fuel	W	0	0	W	0	0	11.2
	Total Process Uses	4	W	W	36	W	*	4.0
	Process Heating	2	W	W	35	W	0	4.1
	Process Cooling and Refrigeration	*	0	*	1	0	0	6.1
	Machine Drive	2	0	*	*	*	0	5.2
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	0	0	0	*	3.7
	Total Non-Process Uses	W	0	*	2	*	0	4.1
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	0	1	*	0	4.7
	Facility Lighting	W	--	--	--	--	--	4.3
	Facility Support	*	0	0	*	0	0	7.4
	Onsite Transportation	*	--	*	0	*	--	5.6
	Conventional Electricity Generation	--	0	*	0	0	0	4.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	W	W	W	0	5.6
3221	Glass Containers							
	RSE Column Factors:	0.6	1.6	1.4	0.6	1.2	NF	
	TOTAL INPUTS	14	2	*	69	*	0	4.8
	Boiler Fuel	*	*	*	1	0	0	14.3
	Total Process Uses	12	2	*	66	*	0	6.0
	Process Heating	4	2	*	64	W	0	6.9
	Process Cooling and Refrigeration	W	0	0	*	0	0	18.2
	Machine Drive	7	0	*	*	W	0	9.3
	Electro-Chemical Processes	W	--	--	--	--	--	28.8
	Other Process Use	W	0	0	1	*	0	9.9
	Total Non-Process Uses	2	*	*	3	*	0	6.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	*	2	*	0	9.5
	Facility Lighting	1	--	--	--	--	--	6.4
	Facility Support	*	0	*	*	*	0	11.7
	Onsite Transportation	*	--	*	0	*	--	7.2
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	*	*	0	*	0	12.2
3229	Pressed and Blown Glass, nec.							
	RSE Column Factors:	0.6	2.7	1.0	0.6	1.0	NF	
	TOTAL INPUTS	10	1	*	W	*	0	8.8
	Boiler Fuel	*	W	*	W	0	0	9.8
	Total Process Uses	8	Q	W	37	*	0	10.2
	Process Heating	4	Q	W	36	*	0	11.2
	Process Cooling and Refrigeration	W	0	0	0	0	0	8.1
	Machine Drive	3	*	*	*	*	0	8.0
	Electro-Chemical Processes	*	--	--	--	--	--	11.3
	Other Process Use	W	0	*	0	*	0	16.0
	Total Non-Process Uses	W	*	W	2	*	0	5.9
	Facility Heating, Ventilation, and Air Conditioning ^e	1	*	*	2	*	0	7.2
	Facility Lighting	1	--	--	--	--	--	8.1
	Facility Support	*	0	*	*	0	0	9.9
	Onsite Transportation	*	--	*	0	*	--	6.0
	Conventional Electricity Generation	--	0	W	0	0	0	11.8
	Other Non-Process Use	W	0	*	0	0	0	13.7
	End Use Not Reported	W	0	*	W	Q	0	14.1

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
3241	Cement, Hydraulic							
	RSE Column Factors:	0.8	1.7	0.8	1.2	1.1	0.7	
	TOTAL INPUTS	34	1	4	39	*	195	10.7
	Boiler Fuel	Q	0	*	*	0	0	26.1
	Total Process Uses	32	1	1	38	*	195	11.4
	Process Heating	6	W	1	38	*	195	12.7
	Process Cooling and Refrigeration	1	0	0	0	0	0	22.7
	Machine Drive	25	W	W	*	*	0	13.6
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	*	0	W	0	*	0	35.8
	Total Non-Process Uses	2	0	2	1	*	0	15.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	1	*	0	20.7
	Facility Lighting	1	--	--	--	--	--	15.5
	Facility Support	*	0	*	*	*	0	21.7
	Onsite Transportation	*	--	2	0	*	--	17.3
	Conventional Electricity Generation	--	0	*	0	0	0	32.4
	Other Non-Process Use	0	0	0	0	*	0	NF
	End Use Not Reported	Q	*	*	*	*	0	30.1
3274	Lime							
	RSE Column Factors:	1.3	0.9	0.9	0.6	0.8	1.8	
	TOTAL INPUTS	5	W	1	8	Q	88	25.9
	Boiler Fuel	Q	0	Q	*	Q	0	NF
	Total Process Uses	4	W	*	8	*	88	22.7
	Process Heating	1	W	Q	8	0	88	22.0
	Process Cooling and Refrigeration	*	0	0	0	0	0	12.7
	Machine Drive	3	0	*	*	*	0	27.9
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	0	0	W	0	0	0	24.7
	Total Non-Process Uses	*	0	1	*	*	0	31.3
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	*	*	0	23.8
	Facility Lighting	*	--	--	--	--	--	23.8
	Facility Support	*	0	0	0	*	0	8.2
	Onsite Transportation	0	--	1	0	*	--	34.6
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	Q	0	Q	0	*	0	NF
3296	Mineral Wool							
	RSE Column Factors:	0.7	1.2	1.1	0.8	1.1	1.2	
	TOTAL INPUTS	10	W	*	29	*	*	1.6
	Boiler Fuel	W	W	*	1	*	*	1.8
	Total Process Uses	8	0	*	23	W	0	1.3
	Process Heating	4	0	*	22	*	0	1.5
	Process Cooling and Refrigeration	W	0	0	*	0	0	1.8
	Machine Drive	4	0	*	*	W	0	1.8
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	*	0	0	2.6
	Total Non-Process Uses	W	0	*	2	*	0	1.8
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	W	2	*	0	1.8
	Facility Lighting	*	--	--	--	--	--	1.4
	Facility Support	*	0	W	*	0	0	1.5
	Onsite Transportation	W	--	*	0	*	--	1.7
	Conventional Electricity Generation	--	0	*	0	0	0	1.8
	Other Non-Process Use	*	0	*	0	0	0	2.2
	End Use Not Reported	W	0	*	2	W	0	2.2

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
33	PRIMARY METAL INDUSTRIES							
	RSE Column Factors:	0.6	1.2	1.3	0.7	2.2	0.8	
	TOTAL INPUTS	524	33	11	686	3	46	4.6
	Boiler Fuel	1	25	1	93	*	38	7.6
	Total Process Uses	474	8	3	522	1	W	7.2
	Process Heating	103	8	2	516	1	W	8.0
	Process Cooling and Refrigeration	3	0	0	*	0	0	12.7
	Machine Drive	134	Q	1	4	*	0	7.5
	Electro-Chemical Processes	229	--	--	--	--	--	3.6
	Other Process Use	5	0	*	2	*	0	11.1
	Total Non-Process Uses	40	Q	7	54	2	W	3.2
	Facility Heating, Ventilation, and Air Conditioning ^e	17	Q	*	44	*	0	8.9
	Facility Lighting	18	--	--	--	--	--	5.4
	Facility Support	4	Q	*	6	*	0	9.1
	Onsite Transportation	1	--	6	*	2	--	4.3
	Conventional Electricity Generation	--	0	Q	4	*	W	3.5
	Other Non-Process Use	1	0	W	1	*	0	13.4
	End Use Not Reported	8	*	1	17	*	*	14.8
3312	Blast Furnaces and Steel Mills							
	RSE Column Factors:	0.7	1.6	0.9	0.7	1.0	1.5	
	TOTAL INPUTS	152	31	5	399	*	24	4.4
	Boiler Fuel	1	24	*	63	W	24	6.7
	Total Process Uses	134	7	1	312	*	*	5.2
	Process Heating	55	7	1	310	*	*	5.3
	Process Cooling and Refrigeration	1	0	0	0	0	0	9.2
	Machine Drive	72	0	*	1	*	0	7.0
	Electro-Chemical Processes	3	--	--	--	--	--	13.8
	Other Process Use	4	0	*	1	*	0	13.4
	Total Non-Process Uses	13	*	4	22	*	0	5.2
	Facility Heating, Ventilation, and Air Conditioning ^e	5	*	W	17	*	0	7.4
	Facility Lighting	6	--	--	--	--	--	4.6
	Facility Support	2	0	0	4	*	0	8.9
	Onsite Transportation	W	--	4	0	*	--	7.0
	Conventional Electricity Generation	--	0	*	*	*	0	15.0
	Other Non-Process Use	W	0	W	1	*	0	13.2
	End Use Not Reported	4	0	*	2	W	*	10.4
3313	Electrometallurgical Products							
	RSE Column Factors:	0.8	NF	0.9	0.9	1.3	1.3	
	TOTAL INPUTS	15	0	*	1	W	W	8.4
	Boiler Fuel	W	0	0	*	*	W	12.7
	Total Process Uses	14	0	W	1	*	W	9.5
	Process Heating	11	0	0	1	*	W	9.3
	Process Cooling and Refrigeration	W	0	0	0	0	0	18.6
	Machine Drive	3	0	W	*	*	0	12.3
	Electro-Chemical Processes	W	--	--	--	--	--	16.0
	Other Process Use	W	0	0	*	0	0	14.1
	Total Non-Process Uses	W	0	W	*	W	0	9.7
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	*	*	0	11.8
	Facility Lighting	*	--	--	--	--	--	8.0
	Facility Support	*	0	0	*	*	0	10.5
	Onsite Transportation	W	--	W	0	W	--	11.8
	Conventional Electricity Generation	--	0	*	0	0	0	15.4
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	0	0	NF

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
3321	Gray and Ductile Iron Foundries							
	RSE Column Factors:	0.6	1.6	1.3	0.6	1.3	1.2	
	TOTAL INPUTS	22	*	1	28	*	*	14.0
	Boiler Fuel	*	W	*	2	*	0	18.8
	Total Process Uses	18	Q	Q	18	*	*	13.7
	Process Heating	9	0	Q	17	*	*	16.4
	Process Cooling and Refrigeration	*	0	0	0	0	0	16.2
	Machine Drive	8	Q	*	1	*	0	11.5
	Electro-Chemical Processes	W	--	--	--	--	--	39.6
	Other Process Use	Q	0	*	*	*	0	19.4
	Total Non-Process Uses	4	*	*	7	*	0	11.0
	Facility Heating, Ventilation, and Air Conditioning ^e	2	*	*	7	*	0	19.9
	Facility Lighting	1	--	--	--	--	--	10.8
	Facility Support	*	0	*	*	0	0	12.1
	Onsite Transportation	*	--	*	*	*	--	17.7
	Conventional Electricity Generation	--	0	*	0	0	0	13.7
	Other Non-Process Use	*	0	0	*	*	0	37.4
	End Use Not Reported	1	0	*	1	*	*	29.7
3331	Primary Copper							
	RSE Column Factors:	1.0	1.0	1.0	1.0	1.0	1.0	
	TOTAL INPUTS	5	W	W	15	*	W	1.0
	Boiler Fuel	W	W	*	4	0	0	1.0
	Total Process Uses	5	W	W	9	*	W	1.0
	Process Heating	*	W	W	8	*	W	1.0
	Process Cooling and Refrigeration	W	0	0	0	0	0	1.0
	Machine Drive	3	0	0	0	*	0	1.0
	Electro-Chemical Processes	1	--	--	--	--	--	1.0
	Other Process Use	W	0	0	*	0	0	1.0
	Total Non-Process Uses	W	0	W	2	*	0	1.0
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	*	*	0	1.0
	Facility Lighting	*	--	--	--	--	--	1.0
	Facility Support	W	0	0	*	0	0	1.0
	Onsite Transportation	0	--	W	0	*	--	1.0
	Conventional Electricity Generation	--	0	*	2	0	0	1.0
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	0	0	0	0	*	0	1.0
3334	Primary Aluminum							
	RSE Column Factors:	0.8	1.4	1.1	0.8	1.1	NF	
	TOTAL INPUTS	230	*	1	21	*	0	3.1
	Boiler Fuel	W	*	W	2	W	0	5.0
	Total Process Uses	222	0	W	17	*	0	3.1
	Process Heating	W	0	W	17	*	0	3.9
	Process Cooling and Refrigeration	W	0	0	0	0	0	7.6
	Machine Drive	4	0	*	*	*	0	5.5
	Electro-Chemical Processes	216	--	--	--	--	--	2.5
	Other Process Use	W	0	0	0	0	0	6.4
	Total Non-Process Uses	W	*	1	1	*	0	3.7
	Facility Heating, Ventilation, and Air Conditioning ^e	4	*	*	1	*	0	5.8
	Facility Lighting	3	--	--	--	--	--	3.8
	Facility Support	*	0	0	*	0	0	4.5
	Onsite Transportation	W	--	1	0	*	--	4.0
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	0	0	0	0	*	0	5.6
	End Use Not Reported	W	0	*	1	W	0	5.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
3339	Primary Nonferrous Metals, nec							
	RSE Column Factors:	1.3	0.4	1.6	1.3	1.4	0.6	
	TOTAL INPUTS	15	*	*	17	*	W	1.9
	Boiler Fuel	W	*	*	3	0	W	2.8
	Total Process Uses	14	0	*	8	W	0	1.6
	Process Heating	5	0	W	8	W	0	1.3
	Process Cooling and Refrigeration	*	0	0	0	0	0	3.7
	Machine Drive	2	0	W	*	*	0	1.0
	Electro-Chemical Processes	7	--	--	--	--	--	1.5
	Other Process Use	*	0	0	0	0	0	15.0
	Total Non-Process Uses	1	0	*	W	W	W	1.5
	Facility Heating, Ventilation, and Air Conditioning ^e	*	0	*	1	W	0	2.5
	Facility Lighting	*	--	--	--	--	--	2.2
	Facility Support	*	0	0	*	*	0	4.9
	Onsite Transportation	*	--	*	0	*	--	1.4
	Conventional Electricity Generation	--	0	0	W	0	W	1.2
	Other Non-Process Use	0	0	0	0	0	0	NF
	End Use Not Reported	W	0	*	W	*	0	1.8
3353	Aluminum Sheet, Plate, and Foil							
	RSE Column Factors:	1.2	NF	0.8	1.3	0.8	0.9	
	TOTAL INPUTS	15	0	*	43	*	W	1.1
	Boiler Fuel	W	0	*	2	*	W	1.0
	Total Process Uses	12	0	*	38	*	0	1.2
	Process Heating	1	0	*	38	W	0	1.4
	Process Cooling and Refrigeration	W	0	0	0	0	0	1.7
	Machine Drive	11	0	*	0	W	0	1.1
	Electro-Chemical Processes	0	--	--	--	--	--	NF
	Other Process Use	W	0	0	*	0	0	0.8
	Total Non-Process Uses	2	0	*	2	*	0	1.4
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	2	W	0	1.4
	Facility Lighting	1	--	--	--	--	--	0.8
	Facility Support	*	0	*	*	*	0	1.3
	Onsite Transportation	*	--	*	0	W	--	1.1
	Conventional Electricity Generation	--	0	0	0	0	0	NF
	Other Non-Process Use	*	0	0	0	0	0	0.8
	End Use Not Reported	Q	0	*	*	*	0	1.3
34	FABRICATED METAL PRODUCTS							
	RSE Column Factors:	0.5	1.7	1.6	0.5	1.1	1.4	
	TOTAL INPUTS	102	3	6	174	4	5	11.4
	Boiler Fuel	1	2	1	37	Q	5	15.7
	Total Process Uses	71	Q	1	91	2	W	16.7
	Process Heating	12	*	1	89	W	W	19.5
	Process Cooling and Refrigeration	2	0	*	*	*	0	21.6
	Machine Drive	52	Q	*	1	W	0	25.7
	Electro-Chemical Processes	4	--	--	--	--	--	24.3
	Other Process Use	1	Q	Q	1	*	0	50.1
	Total Non-Process Uses	24	Q	3	37	2	0	14.2
	Facility Heating, Ventilation, and Air Conditioning ^e	10	Q	1	34	*	0	19.5
	Facility Lighting	12	--	--	--	--	--	15.5
	Facility Support	2	Q	*	2	Q	0	24.3
	Onsite Transportation	*	--	2	*	2	--	17.9
	Conventional Electricity Generation	--	0	*	1	0	0	36.2
	Other Non-Process Use	*	0	Q	*	*	0	64.8
	End Use Not Reported	7	Q	*	8	*	Q	33.6

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
35	INDUSTRIAL MACHINERY and EQUIPMENT							
	RSE Column Factors:	0.4	2.0	1.2	0.7	1.4	1.1	
	TOTAL INPUTS	101	3	4	109	2	11	10.5
	Boiler Fuel	1	3	1	28	*	11	17.5
	Total Process Uses	56	Q	1	37	1	*	15.1
	Process Heating	8	Q	*	32	*	*	19.2
	Process Cooling and Refrigeration	3	0	0	*	0	0	28.6
	Machine Drive	43	*	1	3	Q	0	24.6
	Electro-Chemical Processes	1	--	--	--	--	--	36.3
	Other Process Use	1	*	1	1	*	*	28.2
	Total Non-Process Uses	36	*	2	33	1	0	13.9
	Facility Heating, Ventilation, and Air Conditioning ^e	17	*	1	31	*	0	18.5
	Facility Lighting	15	--	--	--	--	--	12.1
	Facility Support	4	Q	*	1	Q	0	23.5
	Onsite Transportation	*	--	*	0	1	--	19.0
	Conventional Electricity Generation	--	0	Q	*	Q	0	46.8
	Other Non-Process Use	*	0	*	*	Q	0	38.3
	End Use Not Reported	8	*	*	11	*	0	29.3
357	Computer and Office Equipment							
	RSE Column Factors:	0.5	1.5	1.2	0.7	1.6	NF	
	TOTAL INPUTS	15	*	*	6	*	0	15.0
	Boiler Fuel	*	*	*	4	*	0	20.9
	Total Process Uses	5	0	*	*	*	0	19.9
	Process Heating	1	0	0	*	*	0	19.2
	Process Cooling and Refrigeration	1	0	0	*	0	0	31.5
	Machine Drive	2	0	*	*	*	0	20.4
	Electro-Chemical Processes	*	--	--	--	--	--	24.6
	Other Process Use	1	0	0	*	0	0	36.8
	Total Non-Process Uses	8	*	*	1	*	0	18.5
	Facility Heating, Ventilation, and Air Conditioning ^e	4	*	*	1	*	0	21.3
	Facility Lighting	3	--	--	--	--	--	12.3
	Facility Support	1	0	*	*	*	0	24.1
	Onsite Transportation	*	--	*	0	*	--	24.3
	Conventional Electricity Generation	--	0	*	*	*	0	25.2
	Other Non-Process Use	*	0	*	*	0	0	43.6
	End Use Not Reported	2	*	Q	*	*	0	24.0
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT							
	RSE Column Factors:	0.4	1.6	1.2	0.6	1.1	1.7	
	TOTAL INPUTS	102	4	2	79	1	W	9.1
	Boiler Fuel	1	4	1	29	*	W	12.9
	Total Process Uses	59	Q	*	32	1	*	15.9
	Process Heating	16	Q	*	30	1	*	18.7
	Process Cooling and Refrigeration	7	*	*	Q	*	0	23.6
	Machine Drive	31	*	*	1	*	0	19.5
	Electro-Chemical Processes	5	--	--	--	--	--	25.3
	Other Process Use	1	0	*	*	*	0	27.8
	Total Non-Process Uses	38	*	1	15	1	*	17.0
	Facility Heating, Ventilation, and Air Conditioning ^e	21	*	*	15	*	*	20.9
	Facility Lighting	13	--	--	--	--	--	11.5
	Facility Support	4	0	Q	1	Q	0	16.6
	Onsite Transportation	*	--	*	0	*	--	17.6
	Conventional Electricity Generation	--	0	*	*	*	0	27.2
	Other Non-Process Use	*	0	*	*	Q	0	41.0
	End Use Not Reported	5	*	*	2	*	0	30.0

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
37	TRANSPORTATION EQUIPMENT							
	RSE Column Factors:	0.5	1.4	1.3	0.7	1.5	1.1	
	TOTAL INPUTS	121	12	7	132	2	33	5.1
	Boiler Fuel	1	W	2	48	*	W	7.0
	Total Process Uses	70	*	1	53	1	W	10.8
	Process Heating	10	*	W	49	*	W	8.3
	Process Cooling and Refrigeration	5	0	0	*	0	0	14.7
	Machine Drive	50	Q	1	2	Q	0	14.3
	Electro-Chemical Processes	2	--	--	--	--	--	10.6
	Other Process Use	2	*	W	1	Q	0	15.9
	Total Non-Process Uses	44	W	4	28	1	0	7.1
	Facility Heating, Ventilation, and Air Conditioning ^e	21	*	W	25	*	0	10.4
	Facility Lighting	18	--	--	--	--	--	6.4
	Facility Support	4	W	*	2	*	0	8.3
	Onsite Transportation	*	--	2	*	1	--	8.1
	Conventional Electricity Generation	--	W	W	1	*	0	14.4
	Other Non-Process Use	1	W	1	*	*	0	15.2
	End Use Not Reported	7	Q	*	3	*	0	13.0
3711	Motor Vehicles and Car Bodies							
	RSE Column Factors:	0.6	1.8	1.2	0.7	1.1	1.1	
	TOTAL INPUTS	26	3	*	45	*	W	3.0
	Boiler Fuel	W	W	*	11	*	W	4.7
	Total Process Uses	17	W	W	24	*	0	4.5
	Process Heating	2	W	*	23	*	0	5.0
	Process Cooling and Refrigeration	2	0	0	*	0	0	9.5
	Machine Drive	12	0	W	1	*	0	8.8
	Electro-Chemical Processes	W	--	--	--	--	--	7.2
	Other Process Use	W	0	*	*	*	0	9.7
	Total Non-Process Uses	9	W	*	9	*	0	3.8
	Facility Heating, Ventilation, and Air Conditioning ^e	5	W	W	8	*	0	5.6
	Facility Lighting	3	--	--	--	--	--	5.4
	Facility Support	1	0	W	1	*	0	7.3
	Onsite Transportation	W	--	*	0	*	--	4.0
	Conventional Electricity Generation	--	0	*	0	0	0	6.9
	Other Non-Process Use	W	0	*	*	0	0	8.6
	End Use Not Reported	W	0	W	*	*	0	10.7
3714	Motor Vehicle Parts and Accessories							
	RSE Column Factors:	0.4	2.0	1.1	0.7	1.5	1.0	
	TOTAL INPUTS	38	*	1	41	1	W	7.0
	Boiler Fuel	*	*	W	12	W	W	8.1
	Total Process Uses	26	*	*	19	*	W	12.1
	Process Heating	3	*	W	18	*	W	14.1
	Process Cooling and Refrigeration	2	0	0	*	0	0	18.4
	Machine Drive	20	Q	W	*	*	0	22.0
	Electro-Chemical Processes	*	--	--	--	--	--	19.3
	Other Process Use	*	*	Q	*	0	0	13.5
	Total Non-Process Uses	11	*	*	9	*	0	10.8
	Facility Heating, Ventilation, and Air Conditioning ^e	5	*	W	9	Q	0	12.4
	Facility Lighting	4	--	--	--	--	--	9.7
	Facility Support	1	0	*	*	*	0	16.8
	Onsite Transportation	W	--	W	*	*	--	10.8
	Conventional Electricity Generation	--	0	*	*	0	0	21.7
	Other Non-Process Use	W	*	*	*	*	0	18.2
	End Use Not Reported	1	*	W	1	W	0	18.4

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
38	INSTRUMENTS and RELATED PRODUCTS							
	RSE Column Factors:	0.5	0.8	1.3	0.8	1.4	1.5	
	TOTAL INPUTS	47	3	W	25	Q	W	12.8
	Boiler Fuel	1	3	W	14	Q	W	17.7
	Total Process Uses	20	Q	*	4	*	0	15.9
	Process Heating	3	0	W	4	*	0	20.1
	Process Cooling and Refrigeration	4	Q	*	*	0	0	26.4
	Machine Drive	12	0	W	*	Q	0	23.4
	Electro-Chemical Processes	1	--	--	--	--	--	21.4
	Other Process Use	1	0	*	*	*	0	27.8
	Total Non-Process Uses	23	Q	*	6	*	0	15.5
	Facility Heating, Ventilation, and Air Conditioning ^e	12	Q	*	6	Q	0	16.2
	Facility Lighting	9	--	--	--	--	--	11.7
	Facility Support	2	*	*	*	Q	0	18.1
	Onsite Transportation	*	--	*	0	*	--	17.2
	Conventional Electricity Generation	--	0	*	*	*	0	23.1
	Other Non-Process Use	1	Q	*	*	*	0	29.0
	End Use Not Reported	2	Q	Q	1	Q	*	25.7
3841	Surgical and Medical Instruments							
	RSE Column Factors:	0.6	1.8	1.2	0.7	1.1	NF	
	TOTAL INPUTS	4	*	*	2	*	0	13.4
	Boiler Fuel	*	*	*	1	*	0	20.5
	Total Process Uses	2	0	*	*	*	0	19.8
	Process Heating	*	0	*	*	*	0	20.9
	Process Cooling and Refrigeration	*	0	*	*	0	0	16.8
	Machine Drive	1	0	*	*	Q	0	11.7
	Electro-Chemical Processes	*	--	--	--	--	--	45.3
	Other Process Use	*	0	*	0	*	0	37.5
	Total Non-Process Uses	2	0	*	1	*	0	15.0
	Facility Heating, Ventilation, and Air Conditioning ^e	1	0	*	1	*	0	20.3
	Facility Lighting	1	--	--	--	--	--	15.1
	Facility Support	*	0	*	*	*	0	21.3
	Onsite Transportation	*	--	*	0	*	--	27.0
	Conventional Electricity Generation	--	0	*	*	0	0	38.3
	Other Non-Process Use	*	0	*	*	*	0	35.2
	End Use Not Reported	*	*	0	*	*	0	27.0

See footnotes at end of table.

Table A38. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	End-Use Categories	Net Demand for Electricity ^b	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^c	Natural Gas ^d	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
39	MISC. MANUFACTURING INDUSTRIES							
	RSE Column Factors:	0.5	1.2	1.3	0.7	1.0	1.8	
	TOTAL INPUTS	12	1	W	15	W	1	13.3
	Boiler Fuel	*	1	W	5	W	1	20.9
	Total Process Uses	7	Q	*	5	*	0	18.7
	Process Heating	2	Q	Q	5	*	0	19.9
	Process Cooling and Refrigeration	1	0	0	*	0	0	33.3
	Machine Drive	5	0	*	*	*	0	29.6
	Electro-Chemical Processes	*	--	--	--	--	--	67.6
	Other Process Use	*	0	*	*	*	0	55.7
	Total Non-Process Uses	4	*	*	4	*	Q	20.5
	Facility Heating, Ventilation, and Air Conditioning ^e	2	*	*	3	Q	Q	23.6
	Facility Lighting	2	--	--	--	--	--	16.9
	Facility Support	*	*	*	*	*	0	30.6
	Onsite Transportation	*	--	Q	*	*	--	20.0
	Conventional Electricity Generation	--	0	*	0	0	0	29.0
	Other Non-Process Use	*	0	*	*	*	0	39.5
	End Use Not Reported	1	*	*	1	*	0	37.5

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Net Demand for Electricity" is the sum of purchases, transfers in, and total onsite electricity generation, minus sales and transfers offsite. It is the total amount of electricity used by establishments. "Net Demand for Electricity" is not directly comparable with "Net Electricity" which specifically excludes electricity generated onsite by combustible energy sources.

^c Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^d "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^e Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as diesel, or were extracted from captive (onsite) mines or wells. • Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A39. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type, Census Region, and End Use, 1991: Part 1
(Estimates in Btu or Physical Units)

End-Use Categories	Net Demand for Electricity ^a (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
Total United States							
RSE Column Factors:	0.4	1.7	1.5	0.7	1.0	1.6	
TOTAL INPUTS	820,286	65,837	23,885	5,345	27,970	53,035	3.0
Boiler Fuel	9,245	47,009	6,850	2,037	4,928	38,473	3.6
Total Process Uses	657,659	17,342	5,800	2,503	16,908	14,075	4.1
Process Heating	71,658	16,959	3,177	2,312	12,704	14,075	4.1
Process Cooling and Refrigeration	40,987	6	30	13	18	0	12.4
Machine Drive	434,349	353	2,398	123	4,093	0	8.4
Electro-Chemical Processes	105,663	--	--	--	--	--	7.7
Other Process Use	5,001	24	196	55	93	*	14.0
Total Non-Process Uses	125,751	1,148	9,134	682	5,105	W	4.2
Facility Heating, Ventilation, and Air Conditioning ^d	60,301	673	1,372	275	731	15	6.8
Facility Lighting	51,443	--	--	--	--	--	5.1
Facility Support	11,522	W	81	22	62	0	9.6
Onsite Transportation	1,298	--	6,533	*	4,242	--	9.4
Conventional Electricity Generation	--	325	734	337	41	W	8.8
Other Non-Process Use	1,187	W	413	48	30	0	10.9
End Use Not Reported	27,631	339	2,101	124	1,028	W	10.6
Northeast Census Region							
RSE Column Factors:	0.5	1.1	1.5	0.7	1.6	1.2	
TOTAL INPUTS	98,142	29,245	7,805	446	W	7,420	6.6
Boiler Fuel	1,244	20,525	3,185	164	W	3,642	7.7
Total Process Uses	72,047	7,593	1,667	208	1,896	3,482	9.9
Process Heating	13,038	7,392	978	199	1,679	3,482	10.3
Process Cooling and Refrigeration	5,506	Q	Q	2	2	0	15.8
Machine Drive	46,197	W	673	4	196	0	16.5
Electro-Chemical Processes	6,708	--	--	--	--	--	8.8
Other Process Use	598	W	8	2	19	*	10.4
Total Non-Process Uses	20,209	964	2,443	59	766	W	4.8
Facility Heating, Ventilation, and Air Conditioning ^d	8,932	536	972	43	253	*	12.7
Facility Lighting	8,865	--	--	--	--	--	6.6
Facility Support	1,980	12	W	W	W	0	16.8
Onsite Transportation	219	--	972	*	497	--	8.6
Conventional Electricity Generation	--	W	369	12	W	W	8.7
Other Non-Process Use	213	W	W	W	3	0	19.1
End Use Not Reported	4,641	164	510	15	Q	W	20.2
Midwest Census Region							
RSE Column Factors:	0.5	1.3	1.6	0.6	1.5	1.2	
TOTAL INPUTS	219,493	8,134	3,885	1,363	3,877	18,828	4.1
Boiler Fuel	2,040	6,495	563	486	403	14,854	6.1
Total Process Uses	173,687	1,571	1,008	688	1,741	3,845	6.2
Process Heating	23,742	1,560	587	664	1,396	3,845	6.3
Process Cooling and Refrigeration	9,951	1	2	2	*	0	17.6
Machine Drive	122,728	8	302	17	325	0	14.1
Electro-Chemical Processes	15,570	--	--	--	--	--	6.5
Other Process Use	1,697	Q	117	5	19	*	13.7
Total Non-Process Uses	36,513	W	1,961	153	1,551	W	7.5
Facility Heating, Ventilation, and Air Conditioning ^d	16,099	39	192	136	131	W	11.4
Facility Lighting	16,275	--	--	--	--	--	6.5
Facility Support	3,356	W	12	9	W	0	9.9
Onsite Transportation	487	--	1,375	*	1,398	--	5.4
Conventional Electricity Generation	--	0	Q	7	Q	W	30.5
Other Non-Process Use	296	W	181	1	8	0	12.9
End Use Not Reported	7,253	W	353	36	182	W	19.0

See footnotes at end of table.

Table A39. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type, Census Region, and End Use, 1991: Part 1 (Continued)
(Estimates in Btu or Physical Units)

End-Use Categories	Net Demand for Electricity ^a (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil and Diesel Fuel ^b (1000 bbls)	Natural Gas ^c (billion cu ft)	LPG (1000 bbls)	Coal (excluding Coal Coke and Breeze) (1000 short tons)	RSE Row Factors
South Census Region							
RSE Column Factors:	0.4	1.2	1.5	0.7	1.2	1.5	
TOTAL INPUTS	374,870	23,114	8,014	2,896	W	22,514	3.2
Boiler Fuel	4,501	16,557	2,464	1,138	W	18,239	4.9
Total Process Uses	309,173	6,282	1,717	1,307	3,150	4,225	4.9
Process Heating	25,007	6,112	848	1,177	W	4,225	5.3
Process Cooling and Refrigeration	19,823	0	Q	7	W	0	8.9
Machine Drive	209,794	Q	796	83	W	0	7.6
Electro-Chemical Processes	52,509	--	--	--	--	--	9.7
Other Process Use	2,040	W	54	41	17	0	17.1
Total Non-Process Uses	50,567	115	2,913	395	1,790	4	7.0
Facility Heating, Ventilation, and Air Conditioning ^d	26,844	99	189	69	237	4	9.7
Facility Lighting	18,501	--	--	--	--	--	4.8
Facility Support	4,304	Q	29	W	29	0	11.9
Onsite Transportation	418	--	2,588	*	1,504	--	10.7
Conventional Electricity Generation	--	*	27	276	Q	0	10.9
Other Non-Process Use	500	2	80	W	17	0	13.0
End Use Not Reported	10,629	159	920	56	452	45	14.4
West Census Region							
RSE Column Factors:	0.5	1.3	1.5	0.9	0.7	1.9	
TOTAL INPUTS	127,781	5,344	4,180	640	13,345	4,274	4.6
Boiler Fuel	1,459	3,433	638	248	2,067	1,738	6.3
Total Process Uses	102,752	1,895	1,408	299	10,121	2,523	5.5
Process Heating	9,872	1,895	764	272	W	2,523	6.6
Process Cooling and Refrigeration	5,708	0	*	2	W	0	16.3
Machine Drive	55,631	Q	626	19	W	0	9.3
Electro-Chemical Processes	30,876	--	--	--	--	--	6.3
Other Process Use	666	0	18	6	Q	0	11.4
Total Non-Process Uses	18,461	W	1,816	75	998	W	9.5
Facility Heating, Ventilation, and Air Conditioning ^d	8,426	*	19	27	109	W	11.7
Facility Lighting	7,802	--	--	--	--	--	6.3
Facility Support	1,882	0	W	W	W	0	16.6
Onsite Transportation	174	--	1,598	*	843	--	17.3
Conventional Electricity Generation	--	W	138	42	W	0	14.3
Other Non-Process Use	178	0	W	W	2	0	20.6
End Use Not Reported	5,109	W	318	18	158	W	15.1

^a "Net Demand for Electricity" is the sum of purchases, transfers in, and total onsite electricity generation, minus sales and transfers offsite. It is the total amount of electricity used by establishments. "Net Demand for Electricity" is not directly comparable with "Net Electricity" which specifically excludes electricity generated onsite by combustible energy sources.

^b Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A39. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type, Census Region, and End Use, 1991: Part 2
(Estimates in Trillion Btu)

End-Use Categories	Net Demand for Electricity ^a	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^b	Natural Gas ^c	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
Total United States							
RSE Column Factors:	0.4	1.7	1.5	0.7	1.0	1.6	
TOTAL INPUTS	2,799	414	139	5,506	105	1,184	3.0
Boiler Fuel	32	296	40	2,098	18	859	3.6
Total Process Uses	2,244	109	34	2,578	64	314	4.1
Process Heating	244	107	19	2,381	49	314	4.1
Process Cooling and Refrigeration	140	*	*	13	*	0	12.4
Machine Drive	1,482	2	14	127	15	0	8.4
Electro-Chemical Processes	361	--	--	--	--	--	7.7
Other Process Use	17	*	1	56	*	*	14.0
Total Non-Process Uses	429	7	53	702	19	W	4.2
Facility Heating, Ventilation, and Air Conditioning ^d	206	4	8	283	3	*	6.8
Facility Lighting	176	--	--	--	--	--	5.1
Facility Support	39	W	*	23	*	0	9.6
Onsite Transportation	4	--	38	*	16	--	9.4
Conventional Electricity Generation	--	2	4	347	*	W	8.8
Other Non-Process Use	4	W	2	49	*	0	10.9
End Use Not Reported	94	2	12	128	4	W	10.6
Northeast Census Region							
RSE Column Factors:	0.5	1.1	1.5	0.7	1.6	1.2	
TOTAL INPUTS	335	184	45	459	W	167	6.6
Boiler Fuel	4	129	19	169	W	82	7.7
Total Process Uses	246	48	10	214	7	78	9.9
Process Heating	44	46	6	205	6	78	10.3
Process Cooling and Refrigeration	19	Q	Q	2	*	0	15.8
Machine Drive	158	W	4	5	1	0	16.5
Electro-Chemical Processes	23	--	--	--	--	--	8.8
Other Process Use	2	W	*	2	*	*	10.4
Total Non-Process Uses	69	6	14	60	3	W	4.8
Facility Heating, Ventilation, and Air Conditioning ^d	30	3	6	45	1	*	12.7
Facility Lighting	30	--	--	--	--	--	6.6
Facility Support	7	*	W	W	W	0	16.8
Onsite Transportation	1	--	6	*	2	--	8.6
Conventional Electricity Generation	--	W	2	12	W	W	8.7
Other Non-Process Use	1	W	W	W	*	0	19.1
End Use Not Reported	16	1	3	15	Q	W	20.2
Midwest Census Region							
RSE Column Factors:	0.5	1.3	1.6	0.6	1.5	1.2	
TOTAL INPUTS	749	51	23	1,404	14	420	4.1
Boiler Fuel	7	41	3	501	1	331	6.1
Total Process Uses	593	10	6	709	7	86	6.2
Process Heating	81	10	3	684	5	86	6.3
Process Cooling and Refrigeration	34	*	*	2	*	0	17.6
Machine Drive	419	*	2	17	1	0	14.1
Electro-Chemical Processes	53	--	--	--	--	--	6.5
Other Process Use	6	Q	1	6	*	*	13.7
Total Non-Process Uses	125	W	11	158	6	W	7.5
Facility Heating, Ventilation, and Air Conditioning ^d	55	*	1	140	*	W	11.4
Facility Lighting	56	--	--	--	--	--	6.5
Facility Support	11	W	*	9	W	0	9.9
Onsite Transportation	2	--	8	*	5	--	5.4
Conventional Electricity Generation	--	0	Q	7	Q	W	30.5
Other Non-Process Use	1	W	1	1	*	0	12.9
End Use Not Reported	25	W	2	37	1	W	19.0

See footnotes at end of table.

Table A39. Selected Combustible Inputs of Energy for Heat, Power, and Electricity Generation and Net Demand for Electricity by Fuel Type, Census Region, and End Use, 1991: Part 2 (Continued)
(Estimates in Trillion Btu)

End-Use Categories	Net Demand for Electricity ^a	Residual Fuel Oil	Distillate Fuel Oil and Diesel Fuel ^b	Natural Gas ^c	LPG	Coal (excluding Coal Coke and Breeze)	RSE Row Factors
South Census Region							
RSE Column Factors:	0.4	1.2	1.5	0.7	1.2	1.5	
TOTAL INPUTS	1,279	145	47	2,983	W	502	3.2
Boiler Fuel	15	104	14	1,172	W	407	4.9
Total Process Uses	1,055	39	10	1,346	11	94	4.9
Process Heating	85	38	5	1,212	W	94	5.3
Process Cooling and Refrigeration	68	0	Q	8	W	0	8.9
Machine Drive	716	Q	5	85	W	0	7.6
Electro-Chemical Processes	179	--	--	--	--	--	9.7
Other Process Use	7	W	*	42	*	0	17.1
Total Non-Process Uses	173	1	17	407	7	*	7.0
Facility Heating, Ventilation, and Air Conditioning ^d	92	1	1	71	1	*	9.7
Facility Lighting	63	--	--	--	--	--	4.8
Facility Support	15	Q	*	W	*	0	11.9
Onsite Transportation	1	--	15	*	6	--	10.7
Conventional Electricity Generation	--	*	*	284	Q	0	10.9
Other Non-Process Use	2	*	*	W	*	0	13.0
End Use Not Reported	36	1	5	58	2	1	14.4
West Census Region							
RSE Column Factors:	0.5	1.3	1.5	0.9	0.7	1.9	
TOTAL INPUTS	436	34	24	659	51	95	4.6
Boiler Fuel	5	22	4	256	8	39	6.3
Total Process Uses	351	12	8	308	39	56	5.5
Process Heating	34	12	4	280	W	56	6.6
Process Cooling and Refrigeration	19	0	*	2	W	0	16.3
Machine Drive	190	Q	4	20	W	0	9.3
Electro-Chemical Processes	105	--	--	--	--	--	6.3
Other Process Use	2	0	*	6	Q	0	11.4
Total Non-Process Uses	63	W	11	77	4	W	9.5
Facility Heating, Ventilation, and Air Conditioning ^d	29	*	*	28	*	W	11.7
Facility Lighting	27	--	--	--	--	--	6.3
Facility Support	6	0	W	W	W	0	16.6
Onsite Transportation	1	--	9	*	3	--	17.3
Conventional Electricity Generation	--	W	1	43	W	0	14.3
Other Non-Process Use	1	0	W	W	*	0	20.6
End Use Not Reported	17	W	2	18	1	W	15.1

^a "Net Demand for Electricity" is the sum of purchases, transfers in, and total onsite electricity generation, minus sales and transfers offsite. It is the total amount of electricity used by establishments. "Net Demand for Electricity" is not directly comparable with "Net Electricity" which specifically excludes electricity generated onsite by combustible energy sources.

^b Includes Nos. 1, 2, and 4 fuel oils and Nos. 1, 2, and 4 diesel fuels.

^c "Natural Gas" includes natural gas obtained from utilities, transmission pipelines, and any other supplier(s) such as brokers and producers.

^d Excludes steam and hot water.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of energy input is not applicable.

NA=Not available. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • Allocations to specific end uses are made on the basis of reasonable approximations by respondents.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
20-39 ALL INDUSTRY GROUPS							
Participation in One or More of the Following Types of Programs							
	Programs	4,284	10,743	1,184	4,323	5,236	2.3
	Energy Audits	7,944	7,083	532	5,757	793	2.4
	Direct Electricity Load Control	9,941	5,086	565	3,853	668	2.9
	Special Rate Schedule ^b	8,509	6,517	3,939	1,269	1,310	2.5
	Standby Generation Program	13,894	1,133	176	918	38	4.6
	Equipment Rebate(s)	14,244	783	582	95	106	3.9
Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:							
	Steam Production ^c	10,269	4,757	200	4,360	197	2.9
	Direct/Indirect Process Heating	9,881	5,146	209	4,517	419	3.0
	Direct Process Cooling/Refrigeration	12,815	2,212	69	2,059	84	3.8
	Direct Machine Drive ^d	9,672	5,354	351	4,511	493	2.8
	Facility Heating, Ventilation, and Air Conditioning	11,603	3,424	175	3,061	187	2.8
	Facility Lighting	9,622	5,405	518	4,285	602	2.5
Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e							
	Using a Different Energy Source ^e	13,333	1,693	49	1,525	120	4.2
	Other ^f	14,651	376	56	271	49	3.9
20 FOOD and KINDRED PRODUCTS							
Participation in One or More of the Following Types of Programs							
	Programs	348	606	86	251	269	5.1
	Energy Audits	604	349	62	232	55	5.5
	Direct Electricity Load Control	739	215	43	157	15	6.7
	Special Rate Schedule ^b	654	299	211	39	50	5.9
	Standby Generation Program	893	61	6	53	2	11.0
	Equipment Rebate(s)	840	113	93	3	17	10.4
Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:							
	Steam Production ^c	666	288	27	243	18	7.0
	Direct/Indirect Process Heating	660	294	19	269	5	8.8
	Direct Process Cooling/Refrigeration	787	167	18	137	12	7.2
	Direct Machine Drive ^d	594	359	59	277	24	6.5
	Facility Heating, Ventilation, and Air Conditioning	755	198	23	169	7	7.3
	Facility Lighting	643	311	66	213	32	5.9
Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e							
	Using a Different Energy Source ^e	895	58	6	50	2	12.0
	Other ^f	942	11	1	9	1	13.0
2011 Meat Packing Plants							
Participation in One or More of the Following Types of Programs							
	Programs	21	28	2	10	16	7.4
	Energy Audits	29	20	W	16	W	8.9
	Direct Electricity Load Control	40	9	2	6	1	10.3
	Special Rate Schedule ^b	31	18	13	3	2	8.9
	Standby Generation Program	49	*	*	*	*	18.0
	Equipment Rebate(s)	45	4	4	*	*	14.1
Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:							
	Steam Production ^c	44	5	*	5	*	11.7
	Direct/Indirect Process Heating	39	10	*	10	*	10.3
	Direct Process Cooling/Refrigeration	36	13	1	11	1	10.2
	Direct Machine Drive ^d	37	12	3	9	*	10.8
	Facility Heating, Ventilation, and Air Conditioning	45	4	*	4	*	10.7
	Facility Lighting	39	10	2	6	2	10.2
Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e							
	Using a Different Energy Source ^e	47	2	0	2	*	14.1
	Other ^f	48	1	*	1	0	18.7

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship	
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5
2033	Canned Fruits and Vegetables					
	Participation in One or More of the Following Types of Programs	16	28	9	9	9
	Energy Audits	29	15	5	9	1
	Direct Electricity Load Control	37	8	3	4	1
	Special Rate Schedule ^b	35	10	8	1	1
	Standby Generation Program	40	5	1	4	*
	Equipment Rebate(s)	35	9	9	0	*
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	30	14	5	9	*
	Direct/Indirect Process Heating	37	8	W	5	Q
	Direct Process Cooling/Refrigeration	35	9	1	7	Q
	Direct Machine Drive ^d	27	18	7	8	2
	Facility Heating, Ventilation, and Air Conditioning	34	11	2	9	*
	Facility Lighting	28	16	8	6	2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	40	4	0	4	*
	Other ^f	43	1	*	1	*
2037	Frozen Fruits and Vegetables					
	Participation in One or More of the Following Types of Programs	13	27	7	9	11
	Energy Audits	24	16	4	10	2
	Direct Electricity Load Control	31	8	3	5	1
	Special Rate Schedule ^b	27	13	11	1	1
	Standby Generation Program	38	2	0	2	0
	Equipment Rebate(s)	37	3	3	*	*
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	27	13	Q	10	2
	Direct/Indirect Process Heating	29	11	2	8	*
	Direct Process Cooling/Refrigeration	26	14	2	10	2
	Direct Machine Drive ^d	27	13	2	10	1
	Facility Heating, Ventilation, and Air Conditioning	31	8	*	6	2
	Facility Lighting	27	13	3	8	3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	35	4	Q	3	0
	Other ^f	38	1	0	1	*
2046	Wet Corn Milling					
	Participation in One or More of the Following Types of Programs	15	126	5	85	36
	Energy Audits	82	58	W	47	W
	Direct Electricity Load Control	102	38	0	38	0
	Special Rate Schedule ^b	114	26	19	W	W
	Standby Generation Program	W	W	0	W	0
	Equipment Rebate(s)	W	W	W	0	0
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	39	101	W	91	W
	Direct/Indirect Process Heating	23	117	W	W	0
	Direct Process Cooling/Refrigeration	121	19	W	W	0
	Direct Machine Drive ^d	48	93	W	75	W
	Facility Heating, Ventilation, and Air Conditioning	106	35	W	W	0
	Facility Lighting	95	45	W	W	0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	140	0	0	0	0
	Other ^f	140	0	0	0	0

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
2051	Bread, Cake, and Related Products						
	Participation in One or More of the Following Types of Programs	17	15	4	3	7	10.1
	Energy Audits	21	11	4	5	2	10.8
	Direct Electricity Load Control	28	4	1	2	1	14.4
	Special Rate Schedule ^b	23	9	7	1	1	11.8
	Standby Generation Program	30	3	Q	2	*	20.4
	Equipment Rebate(s)	28	4	3	0	1	14.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	29	3	*	2	*	15.3
	Direct/Indirect Process Heating	30	2	*	2	0	19.0
	Direct Process Cooling/Refrigeration	28	4	1	3	*	15.3
	Direct Machine Drive ^d	25	7	2	4	1	13.6
	Facility Heating, Ventilation, and Air Conditioning	28	4	1	2	1	16.6
	Facility Lighting	24	8	3	4	1	12.9
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	29	3	1	2	*	20.8
	Other ^f	32	*	*	0	0	16.8
2063	Beet Sugar						
	Participation in One or More of the Following Types of Programs	33	34	W	22	W	8.3
	Energy Audits	43	24	W	W	0	8.5
	Direct Electricity Load Control	56	11	W	W	0	10.0
	Special Rate Schedule ^b	61	6	6	0	0	12.5
	Standby Generation Program	W	W	W	W	0	11.0
	Equipment Rebate(s)	66	1	1	0	0	21.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	53	14	0	14	0	8.9
	Direct/Indirect Process Heating	45	22	0	22	0	8.1
	Direct Process Cooling/Refrigeration	W	W	0	W	0	13.1
	Direct Machine Drive ^d	38	29	0	29	0	7.8
	Facility Heating, Ventilation, and Air Conditioning	W	W	W	W	0	10.3
	Facility Lighting	49	18	0	W	W	8.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	0	11.4
	Other ^f	67	0	0	0	0	7.2
2075	Soybean Oil Mills						
	Participation in One or More of the Following Types of Programs	21	29	2	13	13	3.5
	Energy Audits	34	16	2	14	1	4.3
	Direct Electricity Load Control	40	10	1	9	1	4.8
	Special Rate Schedule ^b	27	23	14	W	W	3.8
	Standby Generation Program	45	W	0	W	0	6.0
	Equipment Rebate(s)	49	1	1	*	0	6.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	34	16	1	16	0	4.4
	Direct/Indirect Process Heating	33	18	0	18	0	3.9
	Direct Process Cooling/Refrigeration	45	5	0	5	0	4.8
	Direct Machine Drive ^d	33	17	0	17	1	4.3
	Facility Heating, Ventilation, and Air Conditioning	42	W	*	W	0	5.1
	Facility Lighting	41	10	*	9	0	4.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	49	1	0	1	0	5.4
	Other ^f	50	*	0	*	0	7.1

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
2082	Malt Beverages						
	Participation in One or More of the Following Types of Programs	3	48	1	19	28	11.8
	Energy Audits	11	40	2	33	5	11.1
	Direct Electricity Load Control	21	29	W	26	W	13.1
	Special Rate Schedule ^b	16	34	17	W	W	11.4
	Standby Generation Program	W	W	0	W	0	17.2
	Equipment Rebate(s)	31	19	W	0	W	12.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	24	26	0	25	1	11.8
	Direct/Indirect Process Heating	29	22	0	22	0	11.2
	Direct Process Cooling/Refrigeration	21	29	1	27	1	13.5
	Direct Machine Drive ^d	12	39	0	33	6	10.5
	Facility Heating, Ventilation, and Air Conditioning	22	28	1	28	0	13.8
	Facility Lighting	14	36	3	28	5	11.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	0	15.0
	Other ^f	W	W	W	W	0	17.9
21	TOBACCO PRODUCTS						
	Participation in One or More of the Following Types of Programs	W	W	1	W	13	7.6
	Energy Audits	13	12	*	W	W	6.2
	Direct Electricity Load Control	21	3	*	2	1	13.8
	Special Rate Schedule ^b	9	15	12	W	W	6.1
	Standby Generation Program	24	*	0	*	*	7.5
	Equipment Rebate(s)	24	0	0	0	0	9.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	22	2	*	1	*	5.6
	Direct/Indirect Process Heating	24	*	*	*	0	7.1
	Direct Process Cooling/Refrigeration	24	*	0	*	0	8.9
	Direct Machine Drive ^d	16	8	*	7	*	7.8
	Facility Heating, Ventilation, and Air Conditioning	17	7	0	7	*	7.0
	Facility Lighting	20	4	*	4	*	6.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	24	*	*	*	0	6.6
	Other ^f	24	*	0	*	0	8.9
22	TEXTILE MILL PRODUCTS						
	Participation in One or More of the Following Types of Programs	78	195	40	49	106	5.3
	Energy Audits	143	130	22	90	18	5.9
	Direct Electricity Load Control	211	62	14	37	11	8.0
	Special Rate Schedule ^b	142	131	108	6	18	5.9
	Standby Generation Program	269	4	2	1	1	14.1
	Equipment Rebate(s)	267	7	4	2	1	12.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	211	63	11	50	1	9.8
	Direct/Indirect Process Heating	233	40	W	34	W	11.5
	Direct Process Cooling/Refrigeration	247	27	3	22	1	10.1
	Direct Machine Drive ^d	195	79	12	58	8	7.5
	Facility Heating, Ventilation, and Air Conditioning	209	64	W	50	W	8.9
	Facility Lighting	165	108	17	78	13	6.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	265	8	1	8	0	11.7
	Other ^f	268	5	0	5	*	11.5

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
23	APPAREL and OTHER TEXTILE PRODUCTS						
	Participation in One or More of the Following Types of Programs	29	16	3	5	7	15.7
	Energy Audits	34	10	3	6	1	18.5
	Direct Electricity Load Control	38	6	2	4	*	20.7
	Special Rate Schedule ^b	38	6	4	*	2	19.8
	Standby Generation Program	44	*	0	*	0	14.5
	Equipment Rebate(s)	43	1	1	0	*	27.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	42	2	*	2	*	26.9
	Direct/Indirect Process Heating	40	4	*	4	0	25.5
	Direct Process Cooling/Refrigeration	43	1	*	1	0	28.8
	Direct Machine Drive ^d	37	7	2	3	1	24.8
	Facility Heating, Ventilation, and Air Conditioning	37	7	1	6	1	20.7
	Facility Lighting	35	9	1	7	1	20.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	43	1	1	*	0	25.6
	Other ^f	44	0	0	0	0	14.5
24	LUMBER and WOOD PRODUCTS						
	Participation in One or More of the Following Types of Programs	294	130	36	45	48	16.4
	Energy Audits	357	66	20	30	16	19.5
	Direct Electricity Load Control	378	46	15	27	3	23.4
	Special Rate Schedule ^b	343	81	61	14	7	19.6
	Standby Generation Program	406	17	Q	15	1	28.3
	Equipment Rebate(s)	416	8	7	0	1	23.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	377	47	Q	45	0	22.2
	Direct/Indirect Process Heating	398	25	2	23	0	24.2
	Direct Process Cooling/Refrigeration	417	6	0	6	0	32.5
	Direct Machine Drive ^d	358	66	11	54	1	22.0
	Facility Heating, Ventilation, and Air Conditioning	398	26	2	24	0	24.5
	Facility Lighting	362	61	11	41	8	22.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	418	6	Q	3	Q	24.3
	Other ^f	412	11	Q	5	1	30.3
25	FURNITURE and FIXTURES						
	Participation in One or More of the Following Types of Programs	46	22	3	10	9	17.4
	Energy Audits	55	12	3	7	2	21.5
	Direct Electricity Load Control	59	9	2	7	*	24.0
	Special Rate Schedule ^b	59	8	4	1	3	21.7
	Standby Generation Program	67	1	*	1	0	37.9
	Equipment Rebate(s)	62	6	5	*	0	27.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	59	8	0	8	*	25.1
	Direct/Indirect Process Heating	62	5	Q	4	*	30.5
	Direct Process Cooling/Refrigeration	63	4	0	4	*	31.2
	Direct Machine Drive ^d	60	8	1	7	*	26.7
	Facility Heating, Ventilation, and Air Conditioning	57	11	1	9	*	23.3
	Facility Lighting	55	12	1	7	4	20.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	62	5	*	5	0	32.0
	Other ^f	67	Q	*	*	0	27.2

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
26	PAPER and ALLIED PRODUCTS						
	Participation in One or More of the Following Types of Programs	577	1,895	185	599	1,111	3.9
	Energy Audits	1,242	1,230	120	968	142	3.7
	Direct Electricity Load Control	1,317	1,155	169	810	176	3.9
	Special Rate Schedule ^b	1,161	1,311	929	200	182	4.3
	Standby Generation Program	2,252	221	67	153	*	5.3
	Equipment Rebate(s)	2,259	213	152	W	W	5.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	1,502	970	43	879	48	4.4
	Direct/Indirect Process Heating	1,670	802	W	711	W	4.5
	Direct Process Cooling/Refrigeration	2,172	301	W	241	W	5.8
	Direct Machine Drive ^d	1,388	1,084	49	931	104	4.0
	Facility Heating, Ventilation, and Air Conditioning	1,893	580	W	527	W	4.5
	Facility Lighting	1,660	812	90	625	97	4.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	2,081	391	W	336	W	4.7
	Other ^f	2,431	42	W	36	W	7.1
2611	Pulp Mills						
	Participation in One or More of the Following Types of Programs	53	247	12	85	149	16.5
	Energy Audits	113	186	6	167	13	19.7
	Direct Electricity Load Control	149	150	0	150	0	17.3
	Special Rate Schedule ^b	106	193	118	51	24	18.3
	Standby Generation Program	257	43	7	36	0	24.0
	Equipment Rebate(s)	280	20	5	0	15	24.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	182	118	0	118	0	17.3
	Direct/Indirect Process Heating	225	75	0	75	0	19.9
	Direct Process Cooling/Refrigeration	266	34	5	28	0	24.0
	Direct Machine Drive ^d	173	126	*	112	15	19.6
	Facility Heating, Ventilation, and Air Conditioning	265	35	0	35	0	23.3
	Facility Lighting	189	111	6	91	15	20.9
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	266	34	0	34	0	24.6
	Other ^f	300	0	0	0	0	18.1
2621	Paper Mills						
	Participation in One or More of the Following Types of Programs	230	974	54	274	646	2.9
	Energy Audits	521	683	92	497	94	3.2
	Direct Electricity Load Control	574	630	W	430	W	2.9
	Special Rate Schedule ^b	537	667	469	88	110	2.9
	Standby Generation Program	1,073	131	W	W	0	4.0
	Equipment Rebate(s)	1,048	156	119	W	W	4.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	754	450	W	394	W	3.6
	Direct/Indirect Process Heating	768	435	W	394	W	3.9
	Direct Process Cooling/Refrigeration	1,060	144	W	106	W	4.3
	Direct Machine Drive ^d	622	582	41	477	65	3.5
	Facility Heating, Ventilation, and Air Conditioning	869	335	W	300	W	4.0
	Facility Lighting	767	437	69	314	54	3.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	974	230	W	190	W	4.0
	Other ^f	W	W	0	W	W	6.0

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
2631	Paperboard Mills						
	Participation in One or More of the Following Types of Programs	229	603	96	219	287	5.4
	Energy Audits	511	321	11	284	26	6.9
	Direct Electricity Load Control	488	344	W	213	W	5.9
	Special Rate Schedule ^b	425	407	306	56	44	6.5
	Standby Generation Program	787	45	W	W	0	9.4
	Equipment Rebate(s)	803	29	21	W	W	10.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	446	386	W	353	W	7.5
	Direct/Indirect Process Heating	559	273	W	226	W	7.2
	Direct Process Cooling/Refrigeration	724	108	0	W	W	8.3
	Direct Machine Drive ^d	485	347	4	321	21	7.8
	Facility Heating, Ventilation, and Air Conditioning	642	190	W	176	W	8.8
	Facility Lighting	604	228	6	197	24	7.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	708	124	W	109	W	8.7
	Other ^f	W	W	0	12	0	9.8
27	PRINTING and PUBLISHING						
	Participation in One or More of the Following Types of Programs	58	51	13	20	18	10.9
	Energy Audits	77	32	13	14	5	13.2
	Direct Electricity Load Control	89	20	8	9	3	16.9
	Special Rate Schedule ^b	92	17	12	2	3	18.7
	Standby Generation Program	105	3	1	2	0	21.1
	Equipment Rebate(s)	100	9	8	0	1	16.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	101	7	1	6	*	18.4
	Direct/Indirect Process Heating	100	8	1	6	Q	19.4
	Direct Process Cooling/Refrigeration	99	9	3	5	1	20.8
	Direct Machine Drive ^d	92	16	4	11	2	17.3
	Facility Heating, Ventilation, and Air Conditioning	86	22	6	14	1	15.4
	Facility Lighting	78	31	9	18	4	12.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	106	2	1	1	0	26.7
	Other ^f	108	1	*	*	*	23.6
28	CHEMICALS and ALLIED PRODUCTS						
	Participation in One or More of the Following Types of Programs	900	2,140	174	1,111	855	4.9
	Energy Audits	1,573	1,467	28	1,349	90	5.3
	Direct Electricity Load Control	2,056	985	64	840	80	6.2
	Special Rate Schedule ^b	1,836	1,204	741	276	187	5.2
	Standby Generation Program	2,871	170	58	92	19	8.6
	Equipment Rebate(s)	2,973	67	23	34	11	9.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	2,198	843	26	806	11	6.4
	Direct/Indirect Process Heating	2,025	1,015	18	990	7	6.1
	Direct Process Cooling/Refrigeration	2,289	751	W	732	W	7.7
	Direct Machine Drive ^d	1,928	1,112	29	1,067	16	5.3
	Facility Heating, Ventilation, and Air Conditioning	2,427	614	8	595	10	7.3
	Facility Lighting	2,239	801	38	708	56	4.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	2,793	247	6	230	10	7.9
	Other ^f	2,935	105	W	99	W	5.8

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship	
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5
2812	Alkalies and Chlorine					
	Participation in One or More of the Following Types of Programs	23	137	W	W	121 16.0
	Energy Audits	W	W	W	W	W 18.6
	Direct Electricity Load Control	W	W	W	W	0 17.5
	Special Rate Schedule ^b	26	134	66	W	W 16.3
	Standby Generation Program	W	W	0	W	0 25.4
	Equipment Rebate(s)	W	W	0	W	0 25.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	86	74	W	W	0 20.2
	Direct/Indirect Process Heating	W	W	0	W	0 22.0
	Direct Process Cooling/Refrigeration	110	W	0	W	0 22.5
	Direct Machine Drive ^d	101	59	0	59	0 21.4
	Facility Heating, Ventilation, and Air Conditioning	W	W	0	W	0 22.5
	Facility Lighting	W	W	0	W	0 22.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	0 25.4
	Other ^f	W	W	0	W	0 25.4
2813	Industrial Gases					
	Participation in One or More of the Following Types of Programs	57	33	11	W	W 6.5
	Energy Audits	W	W	*	W	* 9.1
	Direct Electricity Load Control	W	W	3	W	* 7.3
	Special Rate Schedule ^b	61	30	29	1	* 8.3
	Standby Generation Program	W	W	W	W	0 14.3
	Equipment Rebate(s)	90	*	*	0	* 11.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	W	W	*	W	0 11.5
	Direct/Indirect Process Heating	89	1	*	1	0 17.4
	Direct Process Cooling/Refrigeration	W	W	0	W	0 9.6
	Direct Machine Drive ^d	W	W	0	W	* 10.0
	Facility Heating, Ventilation, and Air Conditioning	90	Q	0	Q	0 7.2
	Facility Lighting	90	*	*	*	* 15.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	89	2	0	2	0 16.2
	Other ^f	90	*	*	0	0 13.0
2819	Industrial Inorganic Chemicals, nec					
	Participation in One or More of the Following Types of Programs	64	247	23	183	40 7.9
	Energy Audits	130	180	1	170	9 11.5
	Direct Electricity Load Control	173	138	10	114	14 9.7
	Special Rate Schedule ^b	221	89	39	36	14 8.5
	Standby Generation Program	273	37	7	30	0 14.1
	Equipment Rebate(s)	277	33	W	W	5 14.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	187	124	W	118	W 10.1
	Direct/Indirect Process Heating	207	104	W	85	W 10.0
	Direct Process Cooling/Refrigeration	268	43	W	37	W 14.7
	Direct Machine Drive ^d	213	98	5	87	5 10.3
	Facility Heating, Ventilation, and Air Conditioning	196	115	W	107	W 12.3
	Facility Lighting	189	122	2	115	5 9.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	289	21	W	16	W 11.0
	Other ^f	306	5	0	5	0 16.4

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
2821	Plastics Materials and Resins						
	Participation in One or More of the Following Types of Programs	105	183	12	61	109	5.3
	Energy Audits	163	125	5	104	16	6.8
	Direct Electricity Load Control	216	72	W	49	W	7.1
	Special Rate Schedule ^b	171	117	76	W	W	6.1
	Standby Generation Program	263	25	W	W	0	9.0
	Equipment Rebate(s)	285	2	2	*	*	10.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	229	58	1	58	0	9.4
	Direct/Indirect Process Heating	236	52	1	51	0	7.2
	Direct Process Cooling/Refrigeration	242	46	*	46	0	7.5
	Direct Machine Drive ^d	190	98	1	97	0	6.9
	Facility Heating, Ventilation, and Air Conditioning	243	45	1	44	0	7.5
	Facility Lighting	217	70	1	W	W	7.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	W	10.6
	Other ^f	262	26	0	26	0	8.3
2822	Synthetic Rubber						
	Participation in One or More of the Following Types of Programs	16	96	1	85	10	14.2
	Energy Audits	19	93	W	85	W	15.1
	Direct Electricity Load Control	W	W	*	W	0	18.0
	Special Rate Schedule ^b	W	W	6	W	*	16.3
	Standby Generation Program	112	*	*	0	0	21.7
	Equipment Rebate(s)	112	0	0	0	0	25.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	109	3	0	3	0	22.1
	Direct/Indirect Process Heating	W	W	*	W	W	17.1
	Direct Process Cooling/Refrigeration	W	W	0	W	0	20.4
	Direct Machine Drive ^d	92	20	W	W	0	15.3
	Facility Heating, Ventilation, and Air Conditioning	98	14	0	14	0	17.2
	Facility Lighting	100	12	W	W	0	16.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	112	*	0	*	0	24.6
	Other ^f	112	*	*	*	0	20.8
2823	Cellulosic Manmade Fibers						
	Participation in One or More of the Following Types of Programs	*	31	0	28	4	28.5
	Energy Audits	16	15	0	15	0	35.1
	Direct Electricity Load Control	4	28	0	28	0	32.1
	Special Rate Schedule ^b	25	6	0	6	0	38.3
	Standby Generation Program	28	4	4	0	0	33.2
	Equipment Rebate(s)	31	0	0	0	0	34.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	10	21	0	21	0	33.0
	Direct/Indirect Process Heating	25	6	0	6	0	38.3
	Direct Process Cooling/Refrigeration	25	6	0	6	0	38.3
	Direct Machine Drive ^d	10	22	0	22	0	33.1
	Facility Heating, Ventilation, and Air Conditioning	21	10	0	10	0	33.4
	Facility Lighting	10	22	0	22	0	33.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	31	0	0	0	0	34.4
	Other ^f	31	0	0	0	0	34.4

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
2824	Organic Fibers, Noncellulosic						
	Participation in One or More of the Following Types of Programs	13	85	1	12	72	4.4
	Energy Audits	45	53	*	W	W	4.3
	Direct Electricity Load Control	55	43	W	33	W	4.2
	Special Rate Schedule ^b	24	74	W	W	42	4.2
	Standby Generation Program	W	W	W	W	0	6.1
	Equipment Rebate(s)	98	*	*	0	0	5.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	70	28	1	27	0	4.1
	Direct/Indirect Process Heating	74	24	1	23	0	4.4
	Direct Process Cooling/Refrigeration	75	24	1	22	1	4.7
	Direct Machine Drive ^d	48	51	1	50	0	4.9
	Facility Heating, Ventilation, and Air Conditioning	52	46	1	46	*	4.4
	Facility Lighting	42	56	W	W	W	4.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	0	6.2
	Other ^f	W	W	0	W	0	6.9
2865	Cyclic Crudes and Intermediates						
	Participation in One or More of the Following Types of Programs	60	99	9	60	31	10.4
	Energy Audits	110	49	Q	47	0	12.1
	Direct Electricity Load Control	131	28	Q	23	1	15.8
	Special Rate Schedule ^b	107	52	29	W	W	13.5
	Standby Generation Program	W	W	W	W	0	18.2
	Equipment Rebate(s)	159	*	*	0	0	13.9
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	134	25	1	24	0	13.8
	Direct/Indirect Process Heating	128	31	0	31	0	13.1
	Direct Process Cooling/Refrigeration	139	20	0	20	0	15.8
	Direct Machine Drive ^d	127	32	W	W	*	13.0
	Facility Heating, Ventilation, and Air Conditioning	154	5	1	4	0	24.8
	Facility Lighting	124	35	1	34	0	15.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	0	20.1
	Other ^f	W	W	0	W	0	19.0
2869	Industrial Organic Chemicals, nec						
	Participation in One or More of the Following Types of Programs	343	848	8	494	345	5.7
	Energy Audits	520	671	3	638	29	5.9
	Direct Electricity Load Control	838	353	1	W	W	9.1
	Special Rate Schedule ^b	776	415	305	74	36	6.3
	Standby Generation Program	1,160	30	W	14	W	8.7
	Equipment Rebate(s)	1,189	2	2	*	*	10.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	815	375	*	W	W	7.2
	Direct/Indirect Process Heating	650	540	*	540	0	6.6
	Direct Process Cooling/Refrigeration	759	432	W	W	*	7.7
	Direct Machine Drive ^d	625	566	1	559	5	6.4
	Facility Heating, Ventilation, and Air Conditioning	966	225	1	224	*	7.6
	Facility Lighting	925	266	8	257	1	7.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	1,046	145	1	144	0	9.6
	Other ^f	1,137	53	0	W	W	8.9

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship	
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5
2873	Nitrogenous Fertilizers					
	Participation in One or More of the Following Types of Programs	123	158	82	64	Q 24.1
	Energy Audits	211	69	1	68	0 28.0
	Direct Electricity Load Control	235	45	22	11	Q 35.1
	Special Rate Schedule ^b	188	93	80	0	Q 26.3
	Standby Generation Program	268	Q	0	0	Q 25.3
	Equipment Rebate(s)	280	0	0	0	0 25.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	241	39	1	38	0 29.9
	Direct/Indirect Process Heating	226	55	0	55	0 25.8
	Direct Process Cooling/Refrigeration	218	62	0	62	0 27.3
	Direct Machine Drive ^d	245	36	1	34	0 31.5
	Facility Heating, Ventilation, and Air Conditioning	268	12	0	12	0 33.6
	Facility Lighting	254	26	1	25	0 30.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	280	0	0	0	0 25.3
	Other ^f	280	0	0	0	0 25.3
2874	Phosphatic Fertilizers					
	Participation in One or More of the Following Types of Programs	9	25	W	W	6 5.3
	Energy Audits	W	W	0	W	0 6.7
	Direct Electricity Load Control	28	6	0	6	0 5.8
	Special Rate Schedule ^b	22	12	10	*	1 4.5
	Standby Generation Program	32	1	0	1	1 4.8
	Equipment Rebate(s)	34	0	0	0	0 14.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	16	18	0	18	0 6.8
	Direct/Indirect Process Heating	28	6	0	6	0 5.8
	Direct Process Cooling/Refrigeration	W	W	0	W	0 6.8
	Direct Machine Drive ^d	22	12	W	W	0 5.1
	Facility Heating, Ventilation, and Air Conditioning	29	5	0	5	0 5.6
	Facility Lighting	23	11	W	W	0 5.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	33	1	0	1	0 6.6
	Other ^f	W	W	W	W	0 5.5
29	PETROLEUM and COAL PRODUCTS					
	Participation in One or More of the Following Types of Programs	736	2,251	190	1,164	897 2.4
	Energy Audits	1,517	1,470	18	1,326	126 3.2
	Direct Electricity Load Control	2,311	675	2	W	W 5.2
	Special Rate Schedule ^b	1,915	1,072	639	274	159 2.6
	Standby Generation Program	2,765	222	W	W	0 4.3
	Equipment Rebate(s)	2,878	109	109	*	0 6.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	1,758	1,228	W	1,141	W 3.1
	Direct/Indirect Process Heating	1,758	1,229	W	1,130	W 3.0
	Direct Process Cooling/Refrigeration	2,557	430	0	429	1 2.9
	Direct Machine Drive ^d	1,899	1,088	W	913	W 2.9
	Facility Heating, Ventilation, and Air Conditioning	2,487	500	Q	440	60 3.2
	Facility Lighting	2,023	964	75	800	90 2.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	2,677	310	*	310	0 3.4
	Other ^f	2,918	69	0	W	W 4.1

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
2911	Petroleum Refining^g						
	Participation in One or More of the Following Types of Programs	678	2,215	183	1,144	888	2.4
	Energy Audits	1,448	1,445	14	1,308	124	2.6
	Direct Electricity Load Control	2,230	663	0	W	W	2.9
	Special Rate Schedule ^b	1,837	1,057	628	271	158	2.4
	Standby Generation Program	2,674	219	W	W	0	4.2
	Equipment Rebate(s)	2,786	107	107	0	0	3.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	1,677	1,216	W	1,130	W	3.0
	Direct/Indirect Process Heating	1,678	1,215	W	1,117	W	2.9
	Direct Process Cooling/Refrigeration	2,464	430	0	429	1	2.9
	Direct Machine Drive ^d	1,818	1,075	W	902	W	2.9
	Facility Heating, Ventilation, and Air Conditioning	2,402	492	0	432	60	3.2
	Facility Lighting	1,937	956	73	794	90	2.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	2,588	305	0	305	0	3.4
	Other ^f	2,824	69	0	W	W	4.1
30	RUBBER and MISC. PLASTICS PRODUCTS						
	Participation in One or More of the Following Types of Programs	107	130	21	48	60	7.1
	Energy Audits	154	83	16	54	13	7.2
	Direct Electricity Load Control	191	46	10	32	3	10.5
	Special Rate Schedule ^b	171	66	48	12	6	6.9
	Standby Generation Program	233	4	1	3	Q	13.1
	Equipment Rebate(s)	223	14	11	2	1	15.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	193	44	3	41	*	11.5
	Direct/Indirect Process Heating	205	33	2	28	Q	11.4
	Direct Process Cooling/Refrigeration	210	27	1	26	1	12.1
	Direct Machine Drive ^d	182	55	7	46	2	10.0
	Facility Heating, Ventilation, and Air Conditioning	181	56	4	48	4	9.4
	Facility Lighting	165	73	9	53	11	8.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	224	13	2	11	*	8.8
	Other ^f	231	6	2	2	2	22.9
3011	Tires and Inner Tubes						
	Participation in One or More of the Following Types of Programs	5	37	2	12	23	4.3
	Energy Audits	10	32	W	23	W	3.5
	Direct Electricity Load Control	26	16	1	14	*	4.1
	Special Rate Schedule ^b	16	25	17	W	W	3.5
	Standby Generation Program	W	W	*	W	0	9.0
	Equipment Rebate(s)	W	W	W	0	0	5.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	14	28	*	28	*	5.5
	Direct/Indirect Process Heating	28	14	*	14	0	4.1
	Direct Process Cooling/Refrigeration	31	11	0	11	0	3.9
	Direct Machine Drive ^d	22	20	*	20	0	6.5
	Facility Heating, Ventilation, and Air Conditioning	20	22	0	W	W	4.5
	Facility Lighting	18	24	0	20	4	3.9
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	33	8	1	7	0	4.3
	Other ^f	41	1	1	0	0	5.3

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
308	Miscellaneous Plastic Products, nec						
	Participation in One or More of the Following Types of Programs	81	71	15	28	27	9.7
	Energy Audits	115	37	10	21	5	12.4
	Direct Electricity Load Control	130	22	7	13	2	15.1
	Special Rate Schedule ^b	120	32	24	5	2	12.6
	Standby Generation Program	151	1	*	*	Q	22.1
	Equipment Rebate(s)	144	8	6	Q	1	16.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	142	10	1	9	0	18.4
	Direct/Indirect Process Heating	137	15	2	12	Q	17.7
	Direct Process Cooling/Refrigeration	138	13	*	13	1	19.5
	Direct Machine Drive ^d	124	28	5	22	2	13.8
	Facility Heating, Ventilation, and Air Conditioning	127	25	2	20	2	15.2
	Facility Lighting	115	37	6	26	5	12.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	149	3	*	3	0	24.8
	Other ^f	147	5	Q	2	2	27.4
31	LEATHER and LEATHER PRODUCTS						
	Participation in One or More of the Following Types of Programs	W	W	1	W	2	22.5
	Energy Audits	7	5	1	4	*	24.9
	Direct Electricity Load Control	10	2	*	2	*	29.2
	Special Rate Schedule ^b	10	2	1	*	1	26.5
	Standby Generation Program	12	*	*	0	0	36.5
	Equipment Rebate(s)	10	2	2	0	*	24.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	11	1	0	1	*	32.2
	Direct/Indirect Process Heating	11	1	0	1	0	27.6
	Direct Process Cooling/Refrigeration	12	*	0	*	0	40.9
	Direct Machine Drive ^d	10	2	*	2	*	33.1
	Facility Heating, Ventilation, and Air Conditioning	11	2	*	1	*	33.5
	Facility Lighting	9	4	1	3	*	26.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	12	*	0	*	0	41.5
	Other ^f	12	*	0	*	*	29.0
32	STONE, CLAY and GLASS PRODUCTS						
	Participation in One or More of the Following Types of Programs	318	576	125	191	260	8.2
	Energy Audits	616	277	68	182	27	8.0
	Direct Electricity Load Control	622	271	54	191	26	10.6
	Special Rate Schedule ^b	523	371	266	50	55	7.9
	Standby Generation Program	857	37	W	W	7	10.8
	Equipment Rebate(s)	829	65	43	4	18	12.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	857	37	14	22	1	12.9
	Direct/Indirect Process Heating	694	199	5	185	10	12.8
	Direct Process Cooling/Refrigeration	855	39	6	29	4	7.1
	Direct Machine Drive ^d	577	316	36	229	51	10.9
	Facility Heating, Ventilation, and Air Conditioning	789	105	12	89	4	9.9
	Facility Lighting	614	280	41	217	22	9.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	793	101	W	W	W	18.0
	Other ^f	881	12	2	10	*	10.7

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	No Energy Management Program	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors
			Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship	Both Types of Sponsorship	
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
3211	Flat Glass						
	Participation in One or More of the Following Types of Programs	W	W	16	16	W	2.9
	Energy Audits	28	20	W	15	W	3.7
	Direct Electricity Load Control	34	14	W	W	0	3.2
	Special Rate Schedule ^b	15	34	20	W	W	3.1
	Standby Generation Program	42	7	W	W	0	4.4
	Equipment Rebate(s)	W	W	W	0	0	4.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	W	W	W	0	4.6
	Direct/Indirect Process Heating	34	15	0	15	0	3.4
	Direct Process Cooling/Refrigeration	W	W	W	0	0	4.2
	Direct Machine Drive ^d	33	16	W	12	W	3.7
	Facility Heating, Ventilation, and Air Conditioning	39	9	W	W	0	4.2
	Facility Lighting	41	8	W	W	0	4.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	0	4.1
	Other ^f	48	1	1	0	0	4.8
3221	Glass Containers						
	Participation in One or More of the Following Types of Programs	23	62	19	15	28	4.9
	Energy Audits	61	24	11	12	1	6.9
	Direct Electricity Load Control	79	6	W	W	0	9.3
	Special Rate Schedule ^b	43	42	41	*	1	7.3
	Standby Generation Program	W	W	0	W	0	9.3
	Equipment Rebate(s)	W	W	W	0	0	9.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	W	W	W	0	11.8
	Direct/Indirect Process Heating	53	33	W	27	W	7.2
	Direct Process Cooling/Refrigeration	W	W	W	W	0	7.3
	Direct Machine Drive ^d	53	32	W	W	0	6.1
	Facility Heating, Ventilation, and Air Conditioning	W	W	W	W	0	10.0
	Facility Lighting	67	18	9	8	1	7.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	W	W	W	11.4
	Other ^f	84	1	1	1	0	11.8
3229	Pressed and Blown Glass, nec.						
	Participation in One or More of the Following Types of Programs	W	34	9	10	15	5.3
	Energy Audits	33	W	9	11	W	5.8
	Direct Electricity Load Control	34	W	W	9	6	6.2
	Special Rate Schedule ^b	30	W	19	W	W	6.0
	Standby Generation Program	W	W	W	W	0	8.0
	Equipment Rebate(s)	W	W	W	W	0	9.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	W	0	W	0	11.4
	Direct/Indirect Process Heating	W	9	*	6	3	7.2
	Direct Process Cooling/Refrigeration	W	5	*	1	4	7.8
	Direct Machine Drive ^d	35	W	W	11	4	6.7
	Facility Heating, Ventilation, and Air Conditioning	44	W	W	6	W	7.0
	Facility Lighting	W	15	1	10	4	6.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	*	0	*	0	11.4
	Other ^f	W	0	0	0	0	7.2

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	No Energy Management Program	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors
			Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship	Both Types of Sponsorship	
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
3241	Cement, Hydraulic						
	Participation in One or More of the Following Types of Programs	86	243	52	48	143	12.0
	Energy Audits	201	128	26	90	12	14.0
	Direct Electricity Load Control	185	144	29	100	15	12.5
	Special Rate Schedule ^b	139	189	138	21	30	12.7
	Standby Generation Program	317	12	0	W	W	19.7
	Equipment Rebate(s)	292	37	26	Q	W	13.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	311	18	W	W	0	18.9
	Direct/Indirect Process Heating	291	38	0	38	0	15.8
	Direct Process Cooling/Refrigeration	326	Q	0	Q	0	12.7
	Direct Machine Drive ^d	175	153	18	104	31	12.3
	Facility Heating, Ventilation, and Air Conditioning	275	53	W	W	0	17.6
	Facility Lighting	200	129	17	101	10	12.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	284	45	0	45	0	20.1
	Other ^f	W	W	0	W	0	21.9
3274	Lime						
	Participation in One or More of the Following Types of Programs	44	Q	3	Q	13	15.5
	Energy Audits	101	16	4	12	0	23.5
	Direct Electricity Load Control	74	Q	W	Q	0	20.2
	Special Rate Schedule ^b	105	12	W	*	W	22.6
	Standby Generation Program	117	0	0	0	0	63.4
	Equipment Rebate(s)	W	W	W	0	W	18.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	117	0	0	0	0	63.4
	Direct/Indirect Process Heating	48	Q	0	Q	W	16.4
	Direct Process Cooling/Refrigeration	117	0	0	0	0	63.4
	Direct Machine Drive ^d	65	Q	0	Q	W	13.9
	Facility Heating, Ventilation, and Air Conditioning	W	W	0	W	0	26.2
	Facility Lighting	66	Q	0	Q	0	27.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	78	Q	0	Q	0	23.5
	Other ^f	117	0	0	0	0	63.4
3296	Mineral Wool						
	Participation in One or More of the Following Types of Programs	15	26	7	8	11	1.0
	Energy Audits	27	14	4	9	1	1.1
	Direct Electricity Load Control	35	6	2	4	0	1.3
	Special Rate Schedule ^b	24	16	11	W	W	1.3
	Standby Generation Program	37	4	0	4	0	2.1
	Equipment Rebate(s)	W	W	W	0	0	1.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	W	W	0	0	1.8
	Direct/Indirect Process Heating	36	4	*	4	0	1.6
	Direct Process Cooling/Refrigeration	40	*	*	0	0	1.8
	Direct Machine Drive ^d	34	7	*	6	0	1.3
	Facility Heating, Ventilation, and Air Conditioning	38	2	0	2	0	1.3
	Facility Lighting	25	15	W	W	*	1.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	40	1	0	1	0	2.1
	Other ^f	39	2	1	1	0	1.9

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
33	PRIMARY METAL INDUSTRIES						
	Participation in One or More of the Following Types of Programs	351	1,941	199	571	1,171	3.9
	Energy Audits	914	1,378	69	1,133	176	4.2
	Direct Electricity Load Control	1,028	1,264	130	846	288	4.7
	Special Rate Schedule ^b	804	1,488	627	308	553	4.2
	Standby Generation Program	1,987	305	W	298	W	9.0
	Equipment Rebate(s)	2,249	43	37	4	Q	9.0
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	1,323	969	W	893	W	6.0
	Direct/Indirect Process Heating	1,018	1,274	64	944	265	5.1
	Direct Process Cooling/Refrigeration	2,018	274	1	273	0	9.5
	Direct Machine Drive ^d	1,474	818	W	633	W	6.0
	Facility Heating, Ventilation, and Air Conditioning	1,514	779	57	714	8	6.4
	Facility Lighting	926	1,366	78	1,124	164	5.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	1,861	431	4	W	W	8.5
	Other ^f	2,205	88	35	52	0	4.6
3312	Blast Furnaces and Steel Mills						
	Participation in One or More of the Following Types of Programs	125	1,444	103	395	946	5.1
	Energy Audits	460	1,109	15	949	144	5.2
	Direct Electricity Load Control	536	1,032	101	669	263	5.4
	Special Rate Schedule ^b	400	1,169	419	229	520	5.1
	Standby Generation Program	1,279	290	0	290	0	8.3
	Equipment Rebate(s)	1,560	8	8	0	0	6.0
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	662	907	W	W	W	6.5
	Direct/Indirect Process Heating	489	1,080	W	782	W	6.1
	Direct Process Cooling/Refrigeration	W	W	0	W	0	8.1
	Direct Machine Drive ^d	893	676	W	510	W	6.9
	Facility Heating, Ventilation, and Air Conditioning	854	715	W	657	W	6.8
	Facility Lighting	392	1,177	W	976	W	5.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	1,172	396	0	W	W	7.8
	Other ^f	W	W	0	W	0	7.5
3313	Electrometallurgical Products						
	Participation in One or More of the Following Types of Programs	W	W	*	4	W	10.1
	Energy Audits	W	W	*	W	0	11.7
	Direct Electricity Load Control	26	5	0	5	0	11.3
	Special Rate Schedule ^b	W	W	3	0	W	10.5
	Standby Generation Program	30	*	0	*	0	14.5
	Equipment Rebate(s)	W	W	*	W	0	13.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	W	0	W	0	15.1
	Direct/Indirect Process Heating	W	W	0	W	0	15.1
	Direct Process Cooling/Refrigeration	31	0	0	0	0	12.7
	Direct Machine Drive ^d	W	W	*	W	0	11.6
	Facility Heating, Ventilation, and Air Conditioning	W	W	*	W	0	12.5
	Facility Lighting	W	W	*	W	0	12.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	0	14.5
	Other ^f	31	0	0	0	0	12.7

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
3321	Gray and Ductile Iron Foundries						
	Participation in One or More of the Following Types of Programs	16	58	11	18	29	7.9
	Energy Audits	31	43	6	34	3	8.1
	Direct Electricity Load Control	37	37	9	27	1	9.1
	Special Rate Schedule ^b	33	41	32	8	2	9.2
	Standby Generation Program	70	4	1	3	0	12.2
	Equipment Rebate(s)	69	5	5	0	0	8.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	73	1	0	1	0	13.5
	Direct/Indirect Process Heating	63	11	1	10	*	14.7
	Direct Process Cooling/Refrigeration	W	W	0	W	0	16.9
	Direct Machine Drive ^d	52	22	2	18	1	9.8
	Facility Heating, Ventilation, and Air Conditioning	60	14	1	13	0	11.7
	Facility Lighting	43	32	W	21	W	9.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	62	12	*	12	0	12.9
	Other ^f	68	6	0	6	0	14.1
3331	Primary Copper						
	Participation in One or More of the Following Types of Programs	6	15	W	*	W	1.0
	Energy Audits	10	11	0	11	0	1.3
	Direct Electricity Load Control	10	12	*	12	0	1.1
	Special Rate Schedule ^b	7	15	10	0	5	1.0
	Standby Generation Program	22	*	*	0	0	1.1
	Equipment Rebate(s)	22	0	0	0	0	1.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	17	5	0	5	0	1.3
	Direct/Indirect Process Heating	21	*	0	*	0	1.3
	Direct Process Cooling/Refrigeration	22	0	0	0	0	1.8
	Direct Machine Drive ^d	22	0	0	0	0	1.8
	Facility Heating, Ventilation, and Air Conditioning	21	1	0	1	0	1.3
	Facility Lighting	W	W	0	W	0	1.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	22	0	0	0	0	1.8
	Other ^f	22	0	0	0	0	1.8
3334	Primary Aluminum						
	Participation in One or More of the Following Types of Programs	W	W	W	94	72	2.9
	Energy Audits	169	84	W	49	W	3.7
	Direct Electricity Load Control	153	99	W	76	W	3.7
	Special Rate Schedule ^b	126	127	83	43	0	3.6
	Standby Generation Program	252	0	0	0	0	3.6
	Equipment Rebate(s)	252	0	0	0	0	3.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	W	0	W	0	4.8
	Direct/Indirect Process Heating	143	110	W	89	W	3.7
	Direct Process Cooling/Refrigeration	W	W	0	W	0	5.4
	Direct Machine Drive ^d	209	43	0	43	0	4.1
	Facility Heating, Ventilation, and Air Conditioning	252	0	0	0	0	3.6
	Facility Lighting	203	49	0	W	W	3.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	252	0	0	0	0	3.6
	Other ^f	196	56	W	W	0	3.5

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship	
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5
3339	Primary Nonferrous Metals, nec					
	Participation in One or More of the Following Types of Programs	26	16	W	11	W 3.6
	Energy Audits	W	W	*	W	* 4.8
	Direct Electricity Load Control	40	2	*	2	* 4.2
	Special Rate Schedule ^b	32	10	W	W	0 4.3
	Standby Generation Program	42	0	0	0	0 5.4
	Equipment Rebate(s)	42	*	*	0	0 16.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	W	W	0	W	0 1.9
	Direct/Indirect Process Heating	38	4	0	4	0 1.9
	Direct Process Cooling/Refrigeration	42	0	0	0	0 5.4
	Direct Machine Drive ^d	41	1	0	1	* 18.7
	Facility Heating, Ventilation, and Air Conditioning	W	W	0	W	0 1.9
	Facility Lighting	W	W	*	W	* 4.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	42	0	0	0	0 5.4
	Other ^f	42	*	0	*	0 3.6
3353	Aluminum Sheet, Plate, and Foil					
	Participation in One or More of the Following Types of Programs	18	42	W	W	26 1.6
	Energy Audits	32	28	W	18	W 1.2
	Direct Electricity Load Control	53	7	W	W	0 1.3
	Special Rate Schedule ^b	36	24	18	W	W 2.3
	Standby Generation Program	W	W	W	0	0 1.4
	Equipment Rebate(s)	W	W	W	W	0 1.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	W	W	0	W	0 1.6
	Direct/Indirect Process Heating	38	22	0	22	* 2.2
	Direct Process Cooling/Refrigeration	60	0	0	0	0 3.6
	Direct Machine Drive ^d	38	22	0	W	W 2.2
	Facility Heating, Ventilation, and Air Conditioning	52	8	0	8	0 5.6
	Facility Lighting	45	15	W	W	* 1.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	0	W	0 1.6
	Other ^f	W	W	0	W	0 1.6
34	FABRICATED METAL PRODUCTS					
	Participation in One or More of the Following Types of Programs	156	148	29	55	65 7.0
	Energy Audits	203	101	29	50	22 7.7
	Direct Electricity Load Control	250	55	15	35	5 9.3
	Special Rate Schedule ^b	231	73	48	13	12 8.3
	Standby Generation Program	296	9	Q	7	Q 14.2
	Equipment Rebate(s)	287	18	15	1	1 15.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:					
	Steam Production ^c	270	34	4	29	2 12.1
	Direct/Indirect Process Heating	268	37	7	29	1 11.4
	Direct Process Cooling/Refrigeration	287	18	2	15	1 16.3
	Direct Machine Drive ^d	251	54	10	40	4 9.7
	Facility Heating, Ventilation, and Air Conditioning	243	62	10	50	3 10.9
	Facility Lighting	214	91	19	59	12 8.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	289	16	3	10	3 14.1
	Other ^f	300	4	*	4	* 17.2

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
35	INDUSTRIAL MACHINERY and EQUIPMENT						
	Participation in One or More of the Following Types of Programs	107	128	25	34	70	7.4
	Energy Audits	149	86	16	58	12	8.2
	Direct Electricity Load Control	176	59	9	41	9	10.1
	Special Rate Schedule ^b	164	71	51	9	11	8.6
	Standby Generation Program	219	16	2	14	*	13.8
	Equipment Rebate(s)	214	21	16	1	4	12.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	200	35	2	29	4	13.9
	Direct/Indirect Process Heating	209	26	1	23	2	14.0
	Direct Process Cooling/Refrigeration	212	23	1	20	3	10.9
	Direct Machine Drive ^d	177	58	6	45	7	10.4
	Facility Heating, Ventilation, and Air Conditioning	157	78	8	64	6	8.9
	Facility Lighting	144	91	19	55	18	8.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	224	11	1	8	2	17.9
	Other ^f	232	3	*	2	*	17.9
357	Computer and Office Equipment						
	Participation in One or More of the Following Types of Programs	5	16	3	3	10	11.0
	Energy Audits	8	13	1	9	3	11.0
	Direct Electricity Load Control	11	10	1	9	*	13.2
	Special Rate Schedule ^b	11	11	6	1	3	12.8
	Standby Generation Program	18	4	1	3	*	20.0
	Equipment Rebate(s)	16	5	3	1	2	17.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	15	6	*	6	*	17.6
	Direct/Indirect Process Heating	17	4	*	4	0	17.4
	Direct Process Cooling/Refrigeration	13	8	*	7	1	14.4
	Direct Machine Drive ^d	12	9	*	6	3	14.4
	Facility Heating, Ventilation, and Air Conditioning	9	12	1	9	2	13.5
	Facility Lighting	8	13	2	7	3	12.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	19	2	0	*	2	20.5
	Other ^f	20	1	0	1	*	23.3
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT						
	Participation in One or More of the Following Types of Programs	64	132	18	43	71	6.4
	Energy Audits	110	87	13	57	16	7.0
	Direct Electricity Load Control	151	45	10	29	5	9.0
	Special Rate Schedule ^b	126	71	41	7	23	8.2
	Standby Generation Program	185	11	2	8	1	12.8
	Equipment Rebate(s)	176	20	15	2	4	12.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	163	33	1	31	1	10.7
	Direct/Indirect Process Heating	168	28	1	23	5	11.9
	Direct Process Cooling/Refrigeration	169	27	3	20	4	10.1
	Direct Machine Drive ^d	141	55	7	44	5	9.7
	Facility Heating, Ventilation, and Air Conditioning	112	84	11	63	10	7.1
	Facility Lighting	104	93	13	69	11	7.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	187	9	1	6	2	14.8
	Other ^f	195	2	1	*	0	17.4

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors	
		No Energy Management Program	Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship		Both Types of Sponsorship
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
37	TRANSPORTATION EQUIPMENT						
	Participation in One or More of the Following Types of Programs	64	268	22	77	169	3.7
	Energy Audits	120	213	21	135	57	3.9
	Direct Electricity Load Control	213	119	15	W	W	4.1
	Special Rate Schedule ^b	158	175	110	31	34	3.7
	Standby Generation Program	313	20	W	14	W	5.2
	Equipment Rebate(s)	283	50	31	W	W	6.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	230	103	2	96	5	5.3
	Direct/Indirect Process Heating	243	90	9	79	2	4.9
	Direct Process Cooling/Refrigeration	267	65	5	60	0	4.9
	Direct Machine Drive ^d	213	119	10	103	6	4.7
	Facility Heating, Ventilation, and Air Conditioning	172	161	10	137	14	4.3
	Facility Lighting	114	219	18	149	52	4.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	283	50	5	41	3	5.2
	Other ^f	319	14	W	W	W	7.1
3711	Motor Vehicles and Car Bodies						
	Participation in One or More of the Following Types of Programs	14	91	3	32	56	4.0
	Energy Audits	30	74	W	46	W	4.2
	Direct Electricity Load Control	66	39	W	26	W	4.0
	Special Rate Schedule ^b	43	62	43	11	8	3.9
	Standby Generation Program	100	5	W	W	0	6.6
	Equipment Rebate(s)	99	6	W	W	0	6.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	65	40	0	W	W	4.4
	Direct/Indirect Process Heating	73	32	W	28	W	4.5
	Direct Process Cooling/Refrigeration	W	W	W	W	0	5.0
	Direct Machine Drive ^d	64	40	W	34	W	4.6
	Facility Heating, Ventilation, and Air Conditioning	58	47	*	W	W	4.8
	Facility Lighting	31	74	W	W	W	4.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	90	15	1	12	1	5.4
	Other ^f	97	7	*	7	0	6.4
3714	Motor Vehicle Parts and Accessories						
	Participation in One or More of the Following Types of Programs	20	80	8	22	49	5.1
	Energy Audits	36	63	7	37	19	5.4
	Direct Electricity Load Control	69	31	3	25	2	6.3
	Special Rate Schedule ^b	46	54	36	12	6	5.6
	Standby Generation Program	93	6	*	W	W	8.4
	Equipment Rebate(s)	90	9	7	*	1	6.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	76	23	1	21	2	8.1
	Direct/Indirect Process Heating	75	24	W	20	W	6.8
	Direct Process Cooling/Refrigeration	84	16	1	15	0	6.9
	Direct Machine Drive ^d	65	35	2	30	2	7.8
	Facility Heating, Ventilation, and Air Conditioning	50	49	5	41	3	5.9
	Facility Lighting	40	59	7	45	8	5.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	87	12	W	9	W	8.0
	Other ^f	W	W	*	1	W	12.2

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	No Energy Management Program	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors
			Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship	Both Types of Sponsorship	
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
38	INSTRUMENTS and RELATED PRODUCTS						
	Participation in One or More of the Following Types of Programs	20	77	10	39	29	11.0
	Energy Audits	32	66	8	45	12	11.2
	Direct Electricity Load Control	54	44	3	37	4	13.3
	Special Rate Schedule ^b	47	50	22	26	2	13.0
	Standby Generation Program	65	32	1	31	*	16.7
	Equipment Rebate(s)	82	15	11	3	1	13.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	59	39	2	35	1	15.8
	Direct/Indirect Process Heating	65	33	1	31	Q	17.3
	Direct Process Cooling/Refrigeration	59	38	1	34	4	15.7
	Direct Machine Drive ^d	51	46	3	39	4	14.0
	Facility Heating, Ventilation, and Air Conditioning	36	62	5	50	7	12.0
	Facility Lighting	31	67	10	49	7	11.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	67	31	2	29	*	19.0
	Other ^f	96	1	*	1	0	17.9
3841	Surgical and Medical Instruments						
	Participation in One or More of the Following Types of Programs	2	4	1	1	2	10.3
	Energy Audits	4	2	1	1	*	12.0
	Direct Electricity Load Control	5	1	*	1	*	13.6
	Special Rate Schedule ^b	5	1	1	*	*	14.8
	Standby Generation Program	6	*	0	*	0	22.3
	Equipment Rebate(s)	5	1	1	0	*	13.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	5	1	*	*	0	16.0
	Direct/Indirect Process Heating	6	*	*	*	0	19.0
	Direct Process Cooling/Refrigeration	5	1	*	1	*	18.3
	Direct Machine Drive ^d	4	2	1	1	*	12.7
	Facility Heating, Ventilation, and Air Conditioning	4	2	*	2	*	12.0
	Facility Lighting	3	3	1	1	*	11.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	6	*	*	*	0	21.0
	Other ^f	6	*	*	*	0	22.3

See footnotes at end of table.

Table A40. Total Inputs of Energy for Heat, Power, and Electricity Generation by Energy Management Program Sponsorship, Industry Group, Selected Industries, and Type of Energy Management Program, 1991: (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	No Energy Management Program	Type of Sponsorship of Management Programs (1989 through 1991)				RSE Row Factors
			Any Type of Sponsorship	Only Utility/Supplier Sponsored Involvement	Only Own or Other Third Party Sponsorship	Both Types of Sponsorship	
RSE Column Factors:		0.6	0.8	1.4	1.0	1.5	
39	MISC. MANUFACTURING INDUSTRIES						
	Participation in One or More of the Following Types of Programs	17	14	3	4	7	11.2
	Energy Audits	22	10	2	W	W	12.3
	Direct Electricity Load Control	27	5	1	3	1	15.2
	Special Rate Schedule ^b	25	6	5	W	W	14.6
	Standby Generation Program	31	*	*	*	0	24.3
	Equipment Rebate(s)	30	2	2	*	*	19.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	29	3	*	2	*	16.1
	Direct/Indirect Process Heating	29	2	*	2	*	14.9
	Direct Process Cooling/Refrigeration	28	4	*	3	*	16.4
	Direct Machine Drive ^d	28	4	1	2	*	16.8
	Facility Heating, Ventilation, and Air Conditioning	23	8	1	6	1	14.0
	Facility Lighting	22	9	3	5	2	12.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	30	2	*	2	*	20.6
	Other ^f	31	1	0	1	0	21.3

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b For example, interruptible or time-of-use rates.

^c For example, boilers, burners, and nozzles.

^d For example, adjustable speed drives, motors, and pumps.

^e For example, electrification of a subset of the manufacturing operation.

^f Included are power factor corrections, improvements in operating procedures, and other energy management programs reported by respondents.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • "Sponsorship" is determined by the respondent.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
20-39 ALL INDUSTRY GROUPS							
Participation in One or More of the Following Types of Programs							
	Programs	10,743	1,150	2,819	5,309	1,464	2.6
	Energy Audits	7,083	665	2,085	3,543	791	2.6
	Direct Electricity Load Control	5,086	664	1,459	2,536	427	3.6
	Special Rate Schedule ^b	6,517	813	1,708	3,225	772	2.8
	Standby Generation Program	1,133	102	426	521	84	5.5
	Equipment Rebate(s)	783	201	216	77	289	4.7
Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:							
	Steam Production ^c	4,757	375	1,403	2,389	590	2.7
	Direct/Indirect Process Heating	5,146	552	1,453	2,458	682	3.4
	Direct Process Cooling/Refrigeration	2,212	167	579	1,193	272	3.8
	Direct Machine Drive ^d	5,354	570	1,465	2,575	744	3.4
	Facility Heating, Ventilation, and Air Conditioning	3,424	388	1,325	1,330	381	3.1
	Facility Lighting	5,405	828	1,788	2,068	721	3.2
Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e							
	Other ^f	1,693	213	541	681	258	6.0
	Other ^f	376	47	105	178	45	4.6
20 FOOD and KINDRED PRODUCTS							
Participation in One or More of the Following Types of Programs							
	Programs	606	59	294	129	124	5.0
	Energy Audits	349	43	165	71	70	6.2
	Direct Electricity Load Control	215	19	104	58	33	7.7
	Special Rate Schedule ^b	299	33	123	69	74	6.5
	Standby Generation Program	61	8	36	11	6	12.8
	Equipment Rebate(s)	113	15	50	8	40	11.6
Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:							
	Steam Production ^c	288	26	163	55	44	7.2
	Direct/Indirect Process Heating	294	17	177	47	53	7.8
	Direct Process Cooling/Refrigeration	167	15	74	40	38	8.2
	Direct Machine Drive ^d	359	30	197	53	80	6.7
	Facility Heating, Ventilation, and Air Conditioning	198	24	94	44	35	7.8
	Facility Lighting	311	40	136	59	76	6.4
Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e							
	Other ^f	58	6	19	12	21	13.5
	Other ^f	11	0	3	4	4	18.4
2011 Meat Packing Plants							
Participation in One or More of the Following Types of Programs							
	Programs	28	*	23	3	2	10.5
	Energy Audits	20	*	16	2	1	12.0
	Direct Electricity Load Control	9	*	7	2	1	14.8
	Special Rate Schedule ^b	18	*	15	1	1	11.9
	Standby Generation Program	*	0	*	0	0	24.0
	Equipment Rebate(s)	4	*	3	1	0	20.1
Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:							
	Steam Production ^c	5	*	5	*	*	15.5
	Direct/Indirect Process Heating	10	*	10	*	*	14.1
	Direct Process Cooling/Refrigeration	13	*	11	1	*	12.9
	Direct Machine Drive ^d	12	*	10	1	*	15.8
	Facility Heating, Ventilation, and Air Conditioning	4	*	3	*	*	19.6
	Facility Lighting	10	*	7	1	1	13.9
Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e							
	Other ^f	2	0	2	0	0	19.2
	Other ^f	1	0	1	0	0	32.5

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
2033	Canned Fruits and Vegetables						
	Participation in One or More of the Following Types of Programs	28	5	6	5	13	11.8
	Energy Audits	15	4	3	2	5	13.7
	Direct Electricity Load Control	8	1	2	1	3	15.7
	Special Rate Schedule ^b	10	1	3	2	4	13.1
	Standby Generation Program	W	*	*	W	*	24.9
	Equipment Rebate(s)	9	1	1	1	6	17.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	14	3	3	1	7	14.6
	Direct/Indirect Process Heating	8	Q	1	*	5	19.8
	Direct Process Cooling/Refrigeration	9	Q	1	4	2	20.0
	Direct Machine Drive ^d	18	3	2	5	8	16.5
	Facility Heating, Ventilation, and Air Conditioning	11	2	2	3	3	15.6
	Facility Lighting	16	4	3	2	8	14.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	4	Q	*	W	*	30.9
	Other ^f	1	0	0	0	1	24.8
2037	Frozen Fruits and Vegetables						
	Participation in One or More of the Following Types of Programs	27	1	2	6	17	16.0
	Energy Audits	16	*	1	4	10	17.1
	Direct Electricity Load Control	8	1	1	4	3	20.9
	Special Rate Schedule ^b	13	1	2	4	6	20.4
	Standby Generation Program	2	0	0	1	1	35.8
	Equipment Rebate(s)	3	*	2	0	1	30.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	13	*	2	2	8	21.4
	Direct/Indirect Process Heating	11	0	2	1	8	23.0
	Direct Process Cooling/Refrigeration	14	*	2	4	8	20.2
	Direct Machine Drive ^d	13	*	2	3	8	20.1
	Facility Heating, Ventilation, and Air Conditioning	8	*	2	2	4	24.3
	Facility Lighting	13	*	2	2	8	20.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	4	*	1	*	3	29.4
	Other ^f	1	0	0	0	1	33.4
2046	Wet Corn Milling						
	Participation in One or More of the Following Types of Programs	126	*	109	W	W	13.9
	Energy Audits	58	0	49	W	W	15.1
	Direct Electricity Load Control	38	0	26	13	0	17.9
	Special Rate Schedule ^b	26	0	18	W	W	18.7
	Standby Generation Program	W	0	W	0	0	27.6
	Equipment Rebate(s)	W	0	W	0	0	19.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	101	*	87	W	W	14.6
	Direct/Indirect Process Heating	117	0	103	W	W	13.1
	Direct Process Cooling/Refrigeration	19	0	W	W	0	19.6
	Direct Machine Drive ^d	93	*	W	W	0	14.6
	Facility Heating, Ventilation, and Air Conditioning	35	0	W	W	*	19.6
	Facility Lighting	45	*	W	W	*	18.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	0	0	0	0	0	NF
	Other ^f	0	0	0	0	0	NF

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
2051	Bread, Cake, and Related Products						
	Participation in One or More of the Following Types of Programs	15	5	3	3	3	12.3
	Energy Audits	11	4	2	2	3	15.0
	Direct Electricity Load Control	4	1	1	1	1	18.4
	Special Rate Schedule ^b	9	2	1	3	2	15.2
	Standby Generation Program	3	1	*	1	Q	29.8
	Equipment Rebate(s)	4	3	*	*	1	29.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	3	1	*	1	1	20.2
	Direct/Indirect Process Heating	2	*	*	*	Q	23.3
	Direct Process Cooling/Refrigeration	4	2	*	1	1	23.2
	Direct Machine Drive ^d	7	3	1	2	2	18.2
	Facility Heating, Ventilation, and Air Conditioning	4	1	*	1	1	21.9
	Facility Lighting	8	3	1	2	1	16.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	3	1	*	*	Q	30.0
	Other ^f	*	0	*	0	0	30.1
2063	Beet Sugar						
	Participation in One or More of the Following Types of Programs	34	0	20	0	14	7.9
	Energy Audits	24	0	W	0	W	8.3
	Direct Electricity Load Control	11	0	W	0	W	11.9
	Special Rate Schedule ^b	6	0	0	0	6	19.4
	Standby Generation Program	W	0	W	0	0	12.0
	Equipment Rebate(s)	1	0	0	0	1	44.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	14	0	W	0	W	10.4
	Direct/Indirect Process Heating	22	0	W	0	W	9.4
	Direct Process Cooling/Refrigeration	W	0	0	0	W	17.2
	Direct Machine Drive ^d	29	0	17	0	12	7.3
	Facility Heating, Ventilation, and Air Conditioning	W	0	W	0	W	11.9
	Facility Lighting	18	0	W	0	W	8.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	0	W	0	W	15.7
	Other ^f	0	0	0	0	0	NF
2075	Soybean Oil Mills						
	Participation in One or More of the Following Types of Programs	29	0	21	7	0	3.5
	Energy Audits	16	0	14	2	0	4.5
	Direct Electricity Load Control	10	0	8	2	0	5.0
	Special Rate Schedule ^b	23	0	18	5	0	3.8
	Standby Generation Program	W	0	W	0	0	8.4
	Equipment Rebate(s)	1	0	1	0	0	8.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	16	0	12	4	0	4.2
	Direct/Indirect Process Heating	18	0	15	3	0	4.5
	Direct Process Cooling/Refrigeration	5	0	5	0	0	6.0
	Direct Machine Drive ^d	17	0	14	3	0	4.2
	Facility Heating, Ventilation, and Air Conditioning	W	0	W	*	0	7.0
	Facility Lighting	10	0	8	2	0	5.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	1	0	1	0	0	7.2
	Other ^f	*	0	*	0	0	10.8

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
2082	Malt Beverages						
	Participation in One or More of the Following Types of Programs	48	8	10	13	15	10.7
	Energy Audits	40	6	8	11	14	11.7
	Direct Electricity Load Control	29	W	8	9	W	15.0
	Special Rate Schedule ^b	34	5	8	6	15	13.1
	Standby Generation Program	W	W	W	0	W	20.9
	Equipment Rebate(s)	19	W	W	W	W	18.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	26	5	9	7	4	11.2
	Direct/Indirect Process Heating	22	5	W	6	W	13.2
	Direct Process Cooling/Refrigeration	29	2	8	5	13	14.5
	Direct Machine Drive ^d	39	W	9	W	15	12.7
	Facility Heating, Ventilation, and Air Conditioning	28	3	5	5	15	14.9
	Facility Lighting	36	5	8	9	14	12.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	0	W	0	13	20.2
	Other ^f	W	0	0	W	W	22.8
21	TOBACCO PRODUCTS						
	Participation in One or More of the Following Types of Programs	W	*	*	W	0	7.3
	Energy Audits	12	*	0	11	0	5.8
	Direct Electricity Load Control	3	0	*	3	0	19.5
	Special Rate Schedule ^b	15	*	0	15	0	7.8
	Standby Generation Program	*	0	0	*	0	8.7
	Equipment Rebate(s)	0	0	0	0	0	NF
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	2	0	*	2	0	5.8
	Direct/Indirect Process Heating	*	0	0	*	0	7.4
	Direct Process Cooling/Refrigeration	*	0	0	*	0	9.9
	Direct Machine Drive ^d	8	0	0	8	0	12.4
	Facility Heating, Ventilation, and Air Conditioning	7	0	*	7	0	7.6
	Facility Lighting	4	0	*	4	0	5.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	*	*	0	*	0	6.6
	Other ^f	*	0	0	*	0	9.9
22	TEXTILE MILL PRODUCTS						
	Participation in One or More of the Following Types of Programs	195	19	2	171	4	11.4
	Energy Audits	130	13	1	114	2	9.8
	Direct Electricity Load Control	62	5	1	55	1	14.9
	Special Rate Schedule ^b	131	8	1	120	2	12.8
	Standby Generation Program	4	*	0	3	1	23.6
	Equipment Rebate(s)	7	3	*	2	1	17.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	63	5	*	56	Q	15.4
	Direct/Indirect Process Heating	40	6	1	33	Q	13.9
	Direct Process Cooling/Refrigeration	27	1	*	25	0	12.8
	Direct Machine Drive ^d	79	10	1	68	*	11.8
	Facility Heating, Ventilation, and Air Conditioning	64	6	1	57	*	17.0
	Facility Lighting	108	10	1	95	1	11.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	8	1	*	7	*	19.1
	Other ^f	5	0	0	5	*	17.1

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
23	APPAREL and OTHER TEXTILE PRODUCTS						
	Participation in One or More of the Following Types of Programs	16	1	3	11	1	23.4
	Energy Audits	10	1	3	6	*	23.5
	Direct Electricity Load Control	6	*	*	6	0	22.9
	Special Rate Schedule ^b	6	*	*	6	*	30.6
	Standby Generation Program	*	0	0	*	0	NF
	Equipment Rebate(s)	1	*	*	*	*	54.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	2	*	0	2	*	39.3
	Direct/Indirect Process Heating	4	0	2	2	0	37.5
	Direct Process Cooling/Refrigeration	1	0	*	1	*	41.4
	Direct Machine Drive ^d	7	0	2	5	0	31.7
	Facility Heating, Ventilation, and Air Conditioning	7	*	3	4	*	28.4
	Facility Lighting	9	1	2	6	*	25.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	1	*	*	*	*	49.8
	Other ^f	0	0	0	0	0	NF
24	LUMBER and WOOD PRODUCTS						
	Participation in One or More of the Following Types of Programs	130	11	24	52	43	22.1
	Energy Audits	66	Q	13	23	25	26.0
	Direct Electricity Load Control	46	0	3	24	18	29.8
	Special Rate Schedule ^b	81	Q	14	40	26	26.4
	Standby Generation Program	17	Q	2	*	14	42.4
	Equipment Rebate(s)	8	Q	W	0	4	34.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	47	Q	Q	7	33	30.8
	Direct/Indirect Process Heating	25	Q	Q	13	7	33.3
	Direct Process Cooling/Refrigeration	6	0	Q	3	0	47.9
	Direct Machine Drive ^d	66	*	16	16	33	27.5
	Facility Heating, Ventilation, and Air Conditioning	26	1	Q	9	Q	38.9
	Facility Lighting	61	3	17	16	25	28.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	6	Q	3	Q	Q	40.0
	Other ^f	11	Q	Q	Q	0	54.3
25	FURNITURE and FIXTURES						
	Participation in One or More of the Following Types of Programs	22	4	9	8	*	19.7
	Energy Audits	12	3	6	3	*	24.8
	Direct Electricity Load Control	9	1	5	3	*	27.0
	Special Rate Schedule ^b	8	1	5	3	0	25.4
	Standby Generation Program	1	*	*	*	0	46.1
	Equipment Rebate(s)	6	Q	4	*	*	37.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	8	Q	5	2	*	29.0
	Direct/Indirect Process Heating	5	*	5	*	0	33.2
	Direct Process Cooling/Refrigeration	4	0	4	Q	0	39.6
	Direct Machine Drive ^d	8	1	5	2	*	28.0
	Facility Heating, Ventilation, and Air Conditioning	11	Q	6	3	*	24.2
	Facility Lighting	12	2	7	3	*	20.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	5	Q	3	*	0	40.0
	Other ^f	Q	0	*	*	0	NF

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
26	PAPER and ALLIED PRODUCTS						
	Participation in One or More of the Following Types of Programs	1,895	219	255	1,147	274	3.7
	Energy Audits	1,230	170	136	791	133	4.6
	Direct Electricity Load Control	1,155	145	121	855	34	4.8
	Special Rate Schedule ^b	1,311	147	150	832	182	4.6
	Standby Generation Program	221	W	47	142	W	8.5
	Equipment Rebate(s)	213	72	66	W	W	6.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	970	122	49	693	106	4.5
	Direct/Indirect Process Heating	802	137	69	496	101	4.4
	Direct Process Cooling/Refrigeration	301	30	29	235	7	8.5
	Direct Machine Drive ^d	1,084	181	148	637	118	4.3
	Facility Heating, Ventilation, and Air Conditioning	580	132	70	361	17	4.6
	Facility Lighting	812	165	140	418	89	5.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	391	56	24	300	12	5.0
	Other ^f	42	1	9	32	0	9.9
2611	Pulp Mills						
	Participation in One or More of the Following Types of Programs	247	11	28	185	22	18.9
	Energy Audits	186	11	28	137	10	21.3
	Direct Electricity Load Control	150	11	15	125	0	24.5
	Special Rate Schedule ^b	193	11	15	156	12	23.1
	Standby Generation Program	43	0	0	36	7	29.9
	Equipment Rebate(s)	20	0	15	0	5	35.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	118	11	0	97	10	21.0
	Direct/Indirect Process Heating	75	11	0	57	7	25.0
	Direct Process Cooling/Refrigeration	34	11	0	17	5	32.1
	Direct Machine Drive ^d	126	11	15	92	8	24.8
	Facility Heating, Ventilation, and Air Conditioning	35	11	0	20	3	32.0
	Facility Lighting	111	11	15	72	14	25.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	34	0	0	34	0	32.2
	Other ^f	0	0	0	0	0	NF
2621	Paper Mills						
	Participation in One or More of the Following Types of Programs	974	182	162	501	130	2.8
	Energy Audits	683	149	73	368	93	3.4
	Direct Electricity Load Control	630	126	72	425	6	3.1
	Special Rate Schedule ^b	667	121	99	343	104	3.4
	Standby Generation Program	131	W	40	66	W	5.6
	Equipment Rebate(s)	156	66	46	W	W	4.9
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	450	104	34	262	50	3.2
	Direct/Indirect Process Heating	435	121	54	184	77	4.0
	Direct Process Cooling/Refrigeration	144	W	W	106	0	4.9
	Direct Machine Drive ^d	582	157	98	251	76	3.5
	Facility Heating, Ventilation, and Air Conditioning	335	118	W	154	W	3.9
	Facility Lighting	437	138	96	141	62	3.9
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	230	54	W	148	W	4.5
	Other ^f	W	0	W	W	0	8.5

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
2631	Paperboard Mills						
	Participation in One or More of the Following Types of Programs	603	9	40	439	115	7.5
	Energy Audits	321	2	18	275	25	9.0
	Direct Electricity Load Control	344	1	23	295	26	8.2
	Special Rate Schedule ^b	407	W	20	318	W	9.3
	Standby Generation Program	45	0	W	W	0	12.5
	Equipment Rebate(s)	29	Q	2	W	W	17.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	386	4	6	332	44	10.4
	Direct/Indirect Process Heating	273	W	3	252	W	11.9
	Direct Process Cooling/Refrigeration	108	1	0	107	0	10.1
	Direct Machine Drive ^d	347	4	23	291	30	9.9
	Facility Heating, Ventilation, and Air Conditioning	190	1	9	180	0	10.8
	Facility Lighting	228	W	15	197	W	10.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	124	Q	3	118	W	11.9
	Other ^f	12	0	W	W	0	16.0
27	PRINTING and PUBLISHING						
	Participation in One or More of the Following Types of Programs	51	10	22	12	6	13.5
	Energy Audits	32	7	15	7	3	16.9
	Direct Electricity Load Control	20	3	9	4	3	22.8
	Special Rate Schedule ^b	17	3	8	5	1	24.3
	Standby Generation Program	3	*	2	2	0	31.0
	Equipment Rebate(s)	9	3	4	*	2	24.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	7	1	4	2	0	24.1
	Direct/Indirect Process Heating	8	1	5	1	*	32.6
	Direct Process Cooling/Refrigeration	9	2	4	2	Q	29.5
	Direct Machine Drive ^d	16	3	10	2	1	24.2
	Facility Heating, Ventilation, and Air Conditioning	22	W	W	5	3	20.1
	Facility Lighting	31	6	16	5	4	16.9
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	2	1	1	*	*	43.2
	Other ^f	1	*	*	0	*	61.4
28	CHEMICALS and ALLIED PRODUCTS						
	Participation in One or More of the Following Types of Programs	2,140	85	290	1,697	68	4.8
	Energy Audits	1,467	60	194	1,185	29	6.2
	Direct Electricity Load Control	985	38	147	767	32	6.5
	Special Rate Schedule ^b	1,204	56	102	998	47	5.5
	Standby Generation Program	170	14	13	134	9	9.9
	Equipment Rebate(s)	67	19	12	W	W	13.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	843	38	157	610	37	6.6
	Direct/Indirect Process Heating	1,015	18	99	862	36	7.1
	Direct Process Cooling/Refrigeration	751	24	93	621	13	8.4
	Direct Machine Drive ^d	1,112	58	115	903	36	5.4
	Facility Heating, Ventilation, and Air Conditioning	614	31	144	413	25	7.7
	Facility Lighting	801	55	152	569	25	6.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	247	11	24	197	15	10.3
	Other ^f	105	8	W	89	W	11.1

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
2812	Alkalies and Chlorine						
	Participation in One or More of the Following Types of Programs	137	0	0	127	11	13.9
	Energy Audits	W	0	0	W	W	18.9
	Direct Electricity Load Control	W	0	0	W	W	18.9
	Special Rate Schedule ^b	134	0	0	W	W	15.0
	Standby Generation Program	W	0	0	0	W	28.0
	Equipment Rebate(s)	W	0	0	0	W	28.0
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	74	0	0	W	W	20.1
	Direct/Indirect Process Heating	W	0	0	W	W	25.4
	Direct Process Cooling/Refrigeration	W	0	0	W	W	27.2
	Direct Machine Drive ^d	59	0	0	W	W	22.5
	Facility Heating, Ventilation, and Air Conditioning	W	0	0	W	W	27.2
	Facility Lighting	W	0	0	W	W	27.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	0	0	0	W	28.0
	Other ^f	W	0	0	0	W	28.0
2813	Industrial Gases						
	Participation in One or More of the Following Types of Programs	33	2	15	10	6	6.7
	Energy Audits	W	W	W	3	W	8.3
	Direct Electricity Load Control	W	W	W	3	W	8.8
	Special Rate Schedule ^b	30	1	13	9	6	7.3
	Standby Generation Program	W	0	W	0	W	18.5
	Equipment Rebate(s)	*	*	0	0	*	16.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	*	2	W	W	15.3
	Direct/Indirect Process Heating	1	*	*	0	*	17.3
	Direct Process Cooling/Refrigeration	W	*	W	W	W	13.3
	Direct Machine Drive ^d	W	W	W	W	*	12.5
	Facility Heating, Ventilation, and Air Conditioning	Q	*	*	0	*	15.3
	Facility Lighting	*	*	*	0	*	28.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	2	0	2	0	0	26.4
	Other ^f	*	0	0	*	0	23.5
2819	Industrial Inorganic Chemicals, nec						
	Participation in One or More of the Following Types of Programs	247	7	63	145	33	11.0
	Energy Audits	180	W	W	111	W	13.5
	Direct Electricity Load Control	138	3	W	58	W	10.9
	Special Rate Schedule ^b	89	4	8	57	21	9.3
	Standby Generation Program	37	1	W	31	W	13.9
	Equipment Rebate(s)	33	W	*	W	5	19.0
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	124	4	W	43	W	15.0
	Direct/Indirect Process Heating	104	W	W	71	24	13.8
	Direct Process Cooling/Refrigeration	43	*	W	37	W	13.5
	Direct Machine Drive ^d	98	3	1	81	12	8.9
	Facility Heating, Ventilation, and Air Conditioning	115	W	W	42	W	13.0
	Facility Lighting	122	W	W	52	W	14.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	21	W	W	8	W	13.8
	Other ^f	5	Q	0	W	0	23.5

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
2821	Plastics Materials and Resins						
	Participation in One or More of the Following Types of Programs	183	12	45	124	1	8.0
	Energy Audits	125	9	34	82	1	7.0
	Direct Electricity Load Control	72	W	W	42	Q	9.0
	Special Rate Schedule ^b	117	11	17	88	1	10.3
	Standby Generation Program	25	W	W	W	*	10.7
	Equipment Rebate(s)	2	1	1	*	Q	21.5
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	58	W	W	33	Q	8.7
	Direct/Indirect Process Heating	52	1	30	21	Q	8.2
	Direct Process Cooling/Refrigeration	46	1	28	16	Q	8.8
	Direct Machine Drive ^d	98	9	39	49	Q	9.1
	Facility Heating, Ventilation, and Air Conditioning	45	W	30	13	Q	8.3
	Facility Lighting	70	3	14	52	1	11.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	W	W	0	13.2
	Other ^f	26	W	0	W	0	11.1
2822	Synthetic Rubber						
	Participation in One or More of the Following Types of Programs	96	W	W	92	*	19.2
	Energy Audits	93	W	W	89	*	19.9
	Direct Electricity Load Control	W	0	*	W	0	23.1
	Special Rate Schedule ^b	W	0	W	W	0	23.9
	Standby Generation Program	*	0	0	*	0	27.2
	Equipment Rebate(s)	0	0	0	0	0	NF
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	3	0	0	3	0	22.3
	Direct/Indirect Process Heating	W	0	*	W	0	23.1
	Direct Process Cooling/Refrigeration	W	0	0	W	0	19.8
	Direct Machine Drive ^d	20	W	0	W	0	14.3
	Facility Heating, Ventilation, and Air Conditioning	14	0	*	14	0	17.0
	Facility Lighting	12	W	W	8	0	17.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	*	0	*	0	0	26.4
	Other ^f	*	0	*	*	0	23.8
2823	Cellulosic Manmade Fibers						
	Participation in One or More of the Following Types of Programs	31	0	0	31	0	23.5
	Energy Audits	15	0	0	15	0	34.7
	Direct Electricity Load Control	28	0	0	28	0	26.0
	Special Rate Schedule ^b	6	0	0	6	0	42.1
	Standby Generation Program	4	0	0	4	0	42.1
	Equipment Rebate(s)	0	0	0	0	0	NF
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	21	0	0	21	0	31.0
	Direct/Indirect Process Heating	6	0	0	6	0	42.1
	Direct Process Cooling/Refrigeration	6	0	0	6	0	42.1
	Direct Machine Drive ^d	22	0	0	22	0	27.2
	Facility Heating, Ventilation, and Air Conditioning	10	0	0	10	0	32.2
	Facility Lighting	22	0	0	22	0	27.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	0	0	0	0	0	NF
	Other ^f	0	0	0	0	0	NF

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
2824	Organic Fibers, Noncellulosic						
	Participation in One or More of the Following Types of Programs	85	*	0	85	0	5.4
	Energy Audits	53	*	0	52	0	3.7
	Direct Electricity Load Control	43	*	0	43	0	3.7
	Special Rate Schedule ^b	74	*	0	74	0	5.4
	Standby Generation Program	W	*	0	W	0	6.7
	Equipment Rebate(s)	*	*	0	0	0	NF
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	28	*	0	28	0	3.7
	Direct/Indirect Process Heating	24	0	0	24	0	3.7
	Direct Process Cooling/Refrigeration	24	0	0	24	0	5.0
	Direct Machine Drive ^d	51	*	0	51	0	3.7
	Facility Heating, Ventilation, and Air Conditioning	46	*	0	46	0	3.7
	Facility Lighting	56	*	0	56	0	3.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	0	0	W	0	7.4
	Other ^f	W	0	0	W	0	8.7
2865	Cyclic Crudes and Intermediates						
	Participation in One or More of the Following Types of Programs	99	6	14	79	0	14.3
	Energy Audits	49	Q	12	34	0	14.1
	Direct Electricity Load Control	28	Q	8	17	0	16.6
	Special Rate Schedule ^b	52	Q	9	40	0	14.7
	Standby Generation Program	W	0	W	W	0	24.3
	Equipment Rebate(s)	*	*	0	0	0	17.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	25	Q	9	13	0	16.1
	Direct/Indirect Process Heating	31	Q	8	21	0	17.0
	Direct Process Cooling/Refrigeration	20	Q	W	W	0	22.5
	Direct Machine Drive ^d	32	5	8	19	0	19.3
	Facility Heating, Ventilation, and Air Conditioning	5	Q	Q	W	0	28.8
	Facility Lighting	35	Q	3	W	0	23.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	0	0	W	0	28.5
	Other ^f	W	0	W	*	0	25.8
2869	Industrial Organic Chemicals, nec						
	Participation in One or More of the Following Types of Programs	848	W	45	775	W	6.1
	Energy Audits	671	19	W	640	W	8.1
	Direct Electricity Load Control	353	15	16	322	0	8.0
	Special Rate Schedule ^b	415	18	19	377	1	7.7
	Standby Generation Program	30	W	1	26	W	12.4
	Equipment Rebate(s)	2	1	*	*	0	10.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	375	W	34	328	W	7.5
	Direct/Indirect Process Heating	540	W	24	504	W	7.9
	Direct Process Cooling/Refrigeration	432	W	8	415	W	10.3
	Direct Machine Drive ^d	566	W	27	521	W	7.1
	Facility Heating, Ventilation, and Air Conditioning	225	9	12	202	1	10.2
	Facility Lighting	266	17	W	231	W	8.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	145	1	2	142	0	11.7
	Other ^f	53	1	1	51	0	10.5

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
2873	Nitrogenous Fertilizers						
	Participation in One or More of the Following Types of Programs	158	0	33	123	1	30.0
	Energy Audits	69	0	33	34	1	34.0
	Direct Electricity Load Control	45	0	7	38	0	43.5
	Special Rate Schedule ^b	93	0	0	93	0	33.4
	Standby Generation Program	Q	0	0	Q	0	NF
	Equipment Rebate(s)	0	0	0	0	0	NF
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	39	0	13	25	1	37.4
	Direct/Indirect Process Heating	55	0	12	43	0	31.4
	Direct Process Cooling/Refrigeration	62	0	28	34	0	35.2
	Direct Machine Drive ^d	36	0	0	34	1	37.6
	Facility Heating, Ventilation, and Air Conditioning	12	0	12	0	0	42.1
	Facility Lighting	26	0	12	12	1	39.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	0	0	0	0	0	NF
	Other ^f	0	0	0	0	0	NF
2874	Phosphatic Fertilizers						
	Participation in One or More of the Following Types of Programs	25	0	*	W	W	3.7
	Energy Audits	W	0	*	W	0	3.8
	Direct Electricity Load Control	6	0	0	6	0	3.7
	Special Rate Schedule ^b	12	0	0	W	W	3.6
	Standby Generation Program	1	0	0	1	0	3.7
	Equipment Rebate(s)	0	0	0	0	0	NF
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	18	0	*	18	0	3.8
	Direct/Indirect Process Heating	6	0	0	6	0	3.7
	Direct Process Cooling/Refrigeration	W	0	0	W	0	5.0
	Direct Machine Drive ^d	12	0	0	W	W	3.6
	Facility Heating, Ventilation, and Air Conditioning	5	0	0	5	0	3.7
	Facility Lighting	11	0	0	11	0	3.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	1	0	0	1	0	5.0
	Other ^f	W	0	0	W	0	5.0
29	PETROLEUM and COAL PRODUCTS						
	Participation in One or More of the Following Types of Programs	2,251	149	374	1,189	539	2.5
	Energy Audits	1,470	70	298	792	309	2.8
	Direct Electricity Load Control	675	W	W	315	156	3.4
	Special Rate Schedule ^b	1,072	141	192	529	210	2.9
	Standby Generation Program	222	W	1	193	W	7.0
	Equipment Rebate(s)	109	Q	W	0	104	4.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	1,228	W	W	677	271	3.2
	Direct/Indirect Process Heating	1,229	W	W	589	369	3.2
	Direct Process Cooling/Refrigeration	430	W	W	W	175	3.2
	Direct Machine Drive ^d	1,088	57	176	536	319	3.2
	Facility Heating, Ventilation, and Air Conditioning	500	W	W	209	185	4.2
	Facility Lighting	964	W	W	462	332	3.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	310	*	45	97	167	4.5
	Other ^f	69	W	W	23	*	5.5

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
2911	Petroleum Refining						
	Participation in One or More of the Following Types of Programs	2,215	143	359	1,179	534	2.4
	Energy Audits	1,445	W	W	787	306	2.8
	Direct Electricity Load Control	663	W	W	310	155	3.4
	Special Rate Schedule ^b	1,057	138	185	526	208	2.8
	Standby Generation Program	219	W	0	191	W	4.9
	Equipment Rebate(s)	107	0	W	0	W	4.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	1,216	W	W	676	269	3.1
	Direct/Indirect Process Heating	1,215	W	W	586	368	3.1
	Direct Process Cooling/Refrigeration	430	W	W	W	175	3.2
	Direct Machine Drive ^d	1,075	W	W	532	317	2.9
	Facility Heating, Ventilation, and Air Conditioning	492	W	W	207	184	4.0
	Facility Lighting	956	W	W	459	330	3.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	305	0	42	96	167	3.9
	Other ^f	69	W	W	23	0	5.5
30	RUBBER and MISC. PLASTICS PRODUCTS						
	Participation in One or More of the Following Types of Programs	130	19	50	52	9	8.3
	Energy Audits	83	10	29	40	4	9.5
	Direct Electricity Load Control	46	6	17	22	1	14.1
	Special Rate Schedule ^b	66	6	20	35	4	9.8
	Standby Generation Program	4	*	3	1	*	17.2
	Equipment Rebate(s)	14	2	7	2	2	19.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	44	5	14	24	2	11.8
	Direct/Indirect Process Heating	33	4	14	13	1	16.2
	Direct Process Cooling/Refrigeration	27	5	8	13	1	15.2
	Direct Machine Drive ^d	55	10	19	23	3	11.0
	Facility Heating, Ventilation, and Air Conditioning	56	8	23	23	2	10.9
	Facility Lighting	73	W	W	29	3	9.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	13	1	6	5	*	13.7
	Other ^f	6	2	3	2	*	24.4
3011	Tires and Inner Tubes						
	Participation in One or More of the Following Types of Programs	37	2	11	24	*	4.2
	Energy Audits	32	1	8	22	*	4.2
	Direct Electricity Load Control	16	W	W	11	0	5.2
	Special Rate Schedule ^b	25	1	6	18	*	5.0
	Standby Generation Program	W	0	W	*	0	15.0
	Equipment Rebate(s)	W	*	W	0	*	7.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	28	1	7	20	*	4.1
	Direct/Indirect Process Heating	14	1	4	9	*	4.5
	Direct Process Cooling/Refrigeration	11	W	W	8	0	4.8
	Direct Machine Drive ^d	20	1	6	13	0	4.0
	Facility Heating, Ventilation, and Air Conditioning	22	1	7	14	0	4.8
	Facility Lighting	24	1	8	14	*	5.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	8	W	W	4	0	5.7
	Other ^f	1	0	0	1	*	7.5

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
308	Miscellaneous Plastic Products, nec						
	Participation in One or More of the Following Types of Programs	71	14	29	21	7	12.0
	Energy Audits	37	6	15	14	3	15.9
	Direct Electricity Load Control	22	2	11	7	1	23.2
	Special Rate Schedule ^b	32	4	11	13	4	15.9
	Standby Generation Program	1	0	*	1	*	52.3
	Equipment Rebate(s)	8	1	3	1	2	28.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	10	3	4	3	Q	25.1
	Direct/Indirect Process Heating	15	3	9	3	Q	26.2
	Direct Process Cooling/Refrigeration	13	3	5	4	1	25.0
	Direct Machine Drive ^d	28	7	9	9	3	17.0
	Facility Heating, Ventilation, and Air Conditioning	25	4	12	8	1	19.1
	Facility Lighting	37	7	14	13	2	15.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	3	*	2	Q	*	45.3
	Other ^f	5	Q	2	Q	0	42.0
31	LEATHER and LEATHER PRODUCTS						
	Participation in One or More of the Following Types of Programs	W	2	3	W	1	26.3
	Energy Audits	5	1	2	Q	*	23.8
	Direct Electricity Load Control	2	1	1	*	1	36.6
	Special Rate Schedule ^b	2	*	1	*	*	31.0
	Standby Generation Program	*	*	0	0	0	48.0
	Equipment Rebate(s)	2	*	1	*	*	35.0
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	1	*	*	0	*	39.5
	Direct/Indirect Process Heating	1	*	*	*	*	33.0
	Direct Process Cooling/Refrigeration	*	*	0	0	0	46.9
	Direct Machine Drive ^d	2	*	1	Q	*	31.0
	Facility Heating, Ventilation, and Air Conditioning	2	*	*	Q	0	34.5
	Facility Lighting	4	1	1	Q	1	29.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	*	0	*	0	0	54.1
	Other ^f	*	0	*	*	*	48.3
32	STONE, CLAY and GLASS PRODUCTS						
	Participation in One or More of the Following Types of Programs	576	119	146	202	109	10.7
	Energy Audits	277	35	78	104	60	9.2
	Direct Electricity Load Control	271	Q	W	97	53	13.9
	Special Rate Schedule ^b	371	58	110	136	68	7.8
	Standby Generation Program	37	*	7	15	15	14.8
	Equipment Rebate(s)	65	24	15	4	23	15.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	37	12	6	10	9	14.7
	Direct/Indirect Process Heating	199	Q	51	61	21	15.1
	Direct Process Cooling/Refrigeration	39	12	7	14	6	7.9
	Direct Machine Drive ^d	316	90	75	82	69	13.8
	Facility Heating, Ventilation, and Air Conditioning	105	11	24	32	37	11.8
	Facility Lighting	280	85	69	65	61	15.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	101	Q	21	19	19	30.1
	Other ^f	12	*	8	W	W	18.5

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
3211	Flat Glass						
	Participation in One or More of the Following Types of Programs	W	W	11	21	6	3.1
	Energy Audits	20	W	6	8	W	4.4
	Direct Electricity Load Control	14	0	W	10	W	4.1
	Special Rate Schedule ^b	34	W	6	21	W	3.7
	Standby Generation Program	7	0	W	W	W	5.7
	Equipment Rebate(s)	W	0	0	0	W	5.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	0	W	0	W	5.5
	Direct/Indirect Process Heating	15	W	W	W	0	4.6
	Direct Process Cooling/Refrigeration	W	0	0	0	W	5.4
	Direct Machine Drive ^d	16	0	W	W	4	4.2
	Facility Heating, Ventilation, and Air Conditioning	9	0	W	W	W	5.5
	Facility Lighting	8	0	W	W	W	5.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	W	W	0	0	5.5
	Other ^f	1	0	0	0	1	6.5
3221	Glass Containers						
	Participation in One or More of the Following Types of Programs	62	15	15	18	14	5.2
	Energy Audits	24	5	W	11	W	7.8
	Direct Electricity Load Control	6	W	W	W	W	14.7
	Special Rate Schedule ^b	42	11	9	11	11	6.2
	Standby Generation Program	W	0	W	0	W	14.4
	Equipment Rebate(s)	W	W	0	0	W	16.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	W	0	W	0	17.3
	Direct/Indirect Process Heating	33	10	8	W	W	6.8
	Direct Process Cooling/Refrigeration	W	W	W	W	W	7.8
	Direct Machine Drive ^d	32	12	W	W	W	6.8
	Facility Heating, Ventilation, and Air Conditioning	W	0	W	W	W	15.2
	Facility Lighting	18	5	4	W	W	9.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	0	W	W	W	16.9
	Other ^f	1	0	1	1	0	18.7
3229	Pressed and Blown Glass, nec.						
	Participation in One or More of the Following Types of Programs	34	9	W	16	W	6.0
	Energy Audits	21	6	W	13	W	7.0
	Direct Electricity Load Control	21	5	4	W	W	7.6
	Special Rate Schedule ^b	25	W	8	9	W	6.6
	Standby Generation Program	W	*	0	W	0	10.5
	Equipment Rebate(s)	W	W	W	0	0	11.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	0	*	W	0	15.1
	Direct/Indirect Process Heating	9	5	*	4	0	8.7
	Direct Process Cooling/Refrigeration	5	W	0	W	0	9.2
	Direct Machine Drive ^d	19	6	W	11	W	7.4
	Facility Heating, Ventilation, and Air Conditioning	11	4	1	5	0	8.5
	Facility Lighting	15	5	3	7	0	7.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	*	0	0	*	0	16.1
	Other ^f	0	0	0	0	0	NF

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
3241	Cement, Hydraulic						
	Participation in One or More of the Following Types of Programs	243	26	65	79	71	12.3
	Energy Audits	128	Q	35	43	45	19.8
	Direct Electricity Load Control	144	15	31	55	42	17.0
	Special Rate Schedule ^b	189	24	57	65	43	13.5
	Standby Generation Program	12	0	0	Q	W	21.0
	Equipment Rebate(s)	37	19	0	Q	15	17.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	18	W	0	Q	W	22.4
	Direct/Indirect Process Heating	38	0	20	9	9	22.7
	Direct Process Cooling/Refrigeration	Q	0	0	Q	0	NF
	Direct Machine Drive ^d	153	24	37	36	56	14.0
	Facility Heating, Ventilation, and Air Conditioning	53	W	W	11	30	22.8
	Facility Lighting	129	21	31	28	49	15.5
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	45	0	14	15	Q	28.7
	Other ^f	W	0	W	0	0	31.3
3274	Lime						
	Participation in One or More of the Following Types of Programs	Q	Q	W	21	W	21.3
	Energy Audits	16	Q	W	W	W	15.8
	Direct Electricity Load Control	Q	Q	0	W	W	17.3
	Special Rate Schedule ^b	12	Q	W	4	0	17.3
	Standby Generation Program	0	0	0	0	0	NF
	Equipment Rebate(s)	W	0	W	0	W	15.3
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	0	0	0	0	0	NF
	Direct/Indirect Process Heating	Q	Q	W	20	0	23.4
	Direct Process Cooling/Refrigeration	0	0	0	0	0	NF
	Direct Machine Drive ^d	Q	Q	W	W	0	14.0
	Facility Heating, Ventilation, and Air Conditioning	W	0	0	W	W	19.8
	Facility Lighting	Q	Q	W	W	0	15.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	Q	Q	0	0	0	NF
	Other ^f	0	0	0	0	0	NF
3296	Mineral Wool						
	Participation in One or More of the Following Types of Programs	26	2	11	9	3	1.3
	Energy Audits	14	W	4	7	W	1.3
	Direct Electricity Load Control	6	*	3	W	W	1.7
	Special Rate Schedule ^b	16	*	8	5	3	1.3
	Standby Generation Program	4	0	0	W	W	2.2
	Equipment Rebate(s)	W	0	W	0	0	2.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	0	W	0	0	2.4
	Direct/Indirect Process Heating	4	1	*	3	*	1.7
	Direct Process Cooling/Refrigeration	*	0	*	0	0	2.4
	Direct Machine Drive ^d	7	1	3	2	1	1.7
	Facility Heating, Ventilation, and Air Conditioning	2	*	*	1	*	1.7
	Facility Lighting	15	2	8	4	1	1.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	1	0	0	1	0	2.5
	Other ^f	2	0	1	1	0	2.3

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
33	PRIMARY METAL INDUSTRIES						
	Participation in One or More of the Following Types of Programs	1,941	277	1,021	446	198	4.1
	Energy Audits	1,378	102	910	279	87	4.3
	Direct Electricity Load Control	1,264	221	733	251	59	4.7
	Special Rate Schedule ^b	1,488	256	792	335	106	4.4
	Standby Generation Program	305	W	291	7	W	9.2
	Equipment Rebate(s)	43	11	19	3	11	14.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	969	22	679	216	53	6.4
	Direct/Indirect Process Heating	1,274	174	721	313	65	5.1
	Direct Process Cooling/Refrigeration	274	W	W	W	3	10.7
	Direct Machine Drive ^d	818	30	561	189	38	5.5
	Facility Heating, Ventilation, and Air Conditioning	779	32	667	72	7	7.5
	Facility Lighting	1,366	230	876	224	37	5.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	431	48	355	25	2	9.9
	Other ^f	88	W	31	W	34	6.3
3312	Blast Furnaces and Steel Mills						
	Participation in One or More of the Following Types of Programs	1,444	231	867	288	58	5.9
	Energy Audits	1,109	74	833	191	10	5.9
	Direct Electricity Load Control	1,032	194	666	161	11	5.8
	Special Rate Schedule ^b	1,169	230	711	216	11	5.7
	Standby Generation Program	290	0	283	W	W	10.8
	Equipment Rebate(s)	8	W	*	0	W	9.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	907	W	666	176	W	6.8
	Direct/Indirect Process Heating	1,080	W	677	W	8	6.3
	Direct Process Cooling/Refrigeration	W	W	W	0	W	10.0
	Direct Machine Drive ^d	676	11	520	134	11	6.7
	Facility Heating, Ventilation, and Air Conditioning	715	W	636	W	W	7.1
	Facility Lighting	1,177	204	794	172	7	6.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	396	W	340	W	0	9.3
	Other ^f	W	W	W	0	0	10.6
3313	Electrometallurgical Products						
	Participation in One or More of the Following Types of Programs	W	*	6	W	0	9.7
	Energy Audits	W	*	W	W	0	13.9
	Direct Electricity Load Control	5	*	5	0	0	10.9
	Special Rate Schedule ^b	W	0	3	W	0	13.0
	Standby Generation Program	*	0	*	0	0	16.8
	Equipment Rebate(s)	W	0	W	0	0	16.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	0	0	W	0	17.3
	Direct/Indirect Process Heating	W	0	W	0	0	16.8
	Direct Process Cooling/Refrigeration	0	0	0	0	0	NF
	Direct Machine Drive ^d	W	*	W	0	0	12.9
	Facility Heating, Ventilation, and Air Conditioning	W	*	W	0	0	14.3
	Facility Lighting	W	*	W	W	0	13.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	0	0	W	0	17.3
	Other ^f	0	0	0	0	0	NF

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
3321	Gray and Ductile Iron Foundries						
	Participation in One or More of the Following Types of Programs	58	2	37	17	1	9.6
	Energy Audits	43	2	29	11	1	11.3
	Direct Electricity Load Control	37	1	26	10	*	13.4
	Special Rate Schedule ^b	41	2	27	12	*	11.7
	Standby Generation Program	4	*	3	1	0	16.0
	Equipment Rebate(s)	5	*	4	0	1	14.8
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	1	*	1	0	0	19.0
	Direct/Indirect Process Heating	11	1	3	W	W	15.7
	Direct Process Cooling/Refrigeration	W	0	*	W	0	31.6
	Direct Machine Drive ^d	22	1	12	8	1	13.8
	Facility Heating, Ventilation, and Air Conditioning	14	1	7	6	0	15.3
	Facility Lighting	32	1	22	8	1	13.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	12	*	W	W	0	23.8
	Other ^f	6	0	W	W	0	19.7
3331	Primary Copper						
	Participation in One or More of the Following Types of Programs	15	*	*	W	W	1.0
	Energy Audits	11	0	*	W	W	1.1
	Direct Electricity Load Control	12	*	0	W	W	1.0
	Special Rate Schedule ^b	15	*	0	W	W	1.0
	Standby Generation Program	*	0	*	0	0	1.2
	Equipment Rebate(s)	0	0	0	0	0	NF
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	5	0	0	0	5	1.1
	Direct/Indirect Process Heating	*	*	0	0	0	1.1
	Direct Process Cooling/Refrigeration	0	0	0	0	0	NF
	Direct Machine Drive ^d	0	0	0	0	0	NF
	Facility Heating, Ventilation, and Air Conditioning	1	0	0	0	1	1.1
	Facility Lighting	W	0	0	0	W	1.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	0	0	0	0	0	NF
	Other ^f	0	0	0	0	0	NF
3334	Primary Aluminum						
	Participation in One or More of the Following Types of Programs	W	W	W	78	96	3.4
	Energy Audits	84	0	0	W	W	3.6
	Direct Electricity Load Control	99	W	0	58	W	3.8
	Special Rate Schedule ^b	127	W	0	W	61	3.6
	Standby Generation Program	0	0	0	0	0	NF
	Equipment Rebate(s)	0	0	0	0	0	NF
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	0	0	W	0	6.2
	Direct/Indirect Process Heating	110	0	W	50	W	4.1
	Direct Process Cooling/Refrigeration	W	0	0	W	0	7.4
	Direct Machine Drive ^d	43	0	0	W	W	4.9
	Facility Heating, Ventilation, and Air Conditioning	0	0	0	0	0	NF
	Facility Lighting	49	0	W	W	W	4.4
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	0	0	0	0	0	NF
	Other ^f	56	0	W	W	33	4.8

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
3339	Primary Nonferrous Metals, nec						
	Participation in One or More of the Following Types of Programs	16	1	W	5	W	3.6
	Energy Audits	W	*	*	W	W	3.6
	Direct Electricity Load Control	2	*	W	0	W	3.8
	Special Rate Schedule ^b	10	*	W	3	W	4.4
	Standby Generation Program	0	0	0	0	0	NF
	Equipment Rebate(s)	*	*	*	0	0	35.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	*	*	W	0	1.1
	Direct/Indirect Process Heating	4	*	*	W	W	1.0
	Direct Process Cooling/Refrigeration	0	0	0	0	0	NF
	Direct Machine Drive ^d	1	*	*	Q	0	12.6
	Facility Heating, Ventilation, and Air Conditioning	W	*	*	W	0	1.1
	Facility Lighting	W	*	1	W	W	2.1
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	0	0	0	0	0	NF
	Other ^f	*	0	0	*	0	NF
3353	Aluminum Sheet, Plate, and Foil						
	Participation in One or More of the Following Types of Programs	42	W	16	15	W	1.6
	Energy Audits	28	W	W	W	W	1.0
	Direct Electricity Load Control	7	W	W	1	0	1.1
	Special Rate Schedule ^b	24	W	4	12	W	1.8
	Standby Generation Program	W	0	0	0	W	1.1
	Equipment Rebate(s)	W	0	W	W	0	1.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	W	0	W	W	0	1.2
	Direct/Indirect Process Heating	22	W	W	W	W	1.9
	Direct Process Cooling/Refrigeration	0	0	0	0	0	NF
	Direct Machine Drive ^d	22	W	W	11	0	2.4
	Facility Heating, Ventilation, and Air Conditioning	8	*	W	Q	0	2.2
	Facility Lighting	15	W	W	2	W	1.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	W	0	0	W	W	1.1
	Other ^f	W	0	W	0	0	1.2
34	FABRICATED METAL PRODUCTS						
	Participation in One or More of the Following Types of Programs	148	31	74	32	11	8.4
	Energy Audits	101	23	51	18	9	9.9
	Direct Electricity Load Control	55	13	29	12	2	13.1
	Special Rate Schedule ^b	73	14	38	16	6	10.9
	Standby Generation Program	9	3	4	2	*	26.8
	Equipment Rebate(s)	18	6	10	*	1	18.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	34	W	W	5	4	14.4
	Direct/Indirect Process Heating	37	W	W	5	2	15.5
	Direct Process Cooling/Refrigeration	18	5	10	3	0	17.7
	Direct Machine Drive ^d	54	14	30	6	3	12.6
	Facility Heating, Ventilation, and Air Conditioning	62	12	36	10	3	12.8
	Facility Lighting	91	21	51	13	5	10.7
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	16	6	7	1	1	22.6
	Other ^f	4	Q	3	1	0	35.4

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
35	INDUSTRIAL MACHINERY and EQUIPMENT						
	Participation in One or More of the Following Types of Programs	128	28	65	26	9	9.3
	Energy Audits	86	19	43	17	8	11.1
	Direct Electricity Load Control	59	14	26	16	4	12.9
	Special Rate Schedule ^b	71	12	38	14	7	10.7
	Standby Generation Program	16	Q	9	2	4	16.0
	Equipment Rebate(s)	21	6	11	1	4	15.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	35	10	17	5	3	17.8
	Direct/Indirect Process Heating	26	5	14	3	3	17.5
	Direct Process Cooling/Refrigeration	23	6	11	3	3	15.2
	Direct Machine Drive ^d	58	11	31	11	5	13.3
	Facility Heating, Ventilation, and Air Conditioning	78	18	38	14	7	11.4
	Facility Lighting	91	23	46	15	7	10.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	11	1	5	3	2	26.8
	Other ^f	3	Q	2	*	*	30.0
357	Computer and Office Equipment						
	Participation in One or More of the Following Types of Programs	16	4	4	3	6	13.4
	Energy Audits	13	3	3	2	5	15.4
	Direct Electricity Load Control	10	3	2	2	3	18.7
	Special Rate Schedule ^b	11	3	1	3	4	16.7
	Standby Generation Program	4	0	0	1	3	26.4
	Equipment Rebate(s)	5	*	1	*	3	21.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	6	2	0	1	3	22.1
	Direct/Indirect Process Heating	4	*	1	1	2	22.8
	Direct Process Cooling/Refrigeration	8	2	1	2	2	20.5
	Direct Machine Drive ^d	9	3	1	2	3	18.4
	Facility Heating, Ventilation, and Air Conditioning	12	3	2	2	5	16.1
	Facility Lighting	13	4	2	2	5	15.0
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	2	*	*	0	2	29.3
	Other ^f	1	*	1	0	*	33.6
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT						
	Participation in One or More of the Following Types of Programs	132	33	39	43	17	7.0
	Energy Audits	87	28	24	24	11	8.1
	Direct Electricity Load Control	45	13	13	12	7	11.1
	Special Rate Schedule ^b	71	22	19	21	8	9.8
	Standby Generation Program	11	2	2	5	2	17.2
	Equipment Rebate(s)	20	9	3	1	6	17.2
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	33	10	13	8	3	11.6
	Direct/Indirect Process Heating	28	7	12	7	4	14.8
	Direct Process Cooling/Refrigeration	27	8	7	8	4	12.6
	Direct Machine Drive ^d	55	21	12	14	9	10.4
	Facility Heating, Ventilation, and Air Conditioning	84	25	23	24	13	8.2
	Facility Lighting	93	27	27	26	12	8.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	9	2	5	Q	1	17.4
	Other ^f	2	1	1	*	*	38.1

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.2	
37	TRANSPORTATION EQUIPMENT						
	Participation in One or More of the Following Types of Programs	268	34	139	59	36	3.7
	Energy Audits	213	29	112	44	29	4.4
	Direct Electricity Load Control	119	18	56	29	16	4.9
	Special Rate Schedule ^b	175	17	91	44	23	4.8
	Standby Generation Program	20	W	11	4	W	7.9
	Equipment Rebate(s)	50	17	7	6	20	7.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	103	17	57	11	18	5.1
	Direct/Indirect Process Heating	90	12	51	11	16	5.4
	Direct Process Cooling/Refrigeration	65	13	27	8	17	6.0
	Direct Machine Drive ^d	119	19	63	13	24	4.8
	Facility Heating, Ventilation, and Air Conditioning	161	21	86	29	25	4.6
	Facility Lighting	219	31	108	47	32	4.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	50	6	20	8	15	6.2
	Other ^f	14	*	13	*	*	14.0
3711	Motor Vehicles and Car Bodies						
	Participation in One or More of the Following Types of Programs	91	W	54	33	W	4.4
	Energy Audits	74	W	45	27	W	5.0
	Direct Electricity Load Control	39	1	26	12	*	5.4
	Special Rate Schedule ^b	62	0	34	27	1	4.7
	Standby Generation Program	5	0	W	W	0	8.7
	Equipment Rebate(s)	6	0	W	W	*	7.9
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	40	0	35	5	0	4.4
	Direct/Indirect Process Heating	32	1	25	6	*	5.7
	Direct Process Cooling/Refrigeration	W	W	W	W	0	6.4
	Direct Machine Drive ^d	40	W	28	W	0	4.4
	Facility Heating, Ventilation, and Air Conditioning	47	0	34	13	*	4.6
	Facility Lighting	74	W	43	28	W	4.8
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	15	W	W	7	0	5.9
	Other ^f	7	0	7	0	*	7.5
3714	Motor Vehicle Parts and Accessories						
	Participation in One or More of the Following Types of Programs	80	7	64	8	1	6.5
	Energy Audits	63	5	52	5	1	6.9
	Direct Electricity Load Control	31	W	21	5	W	8.5
	Special Rate Schedule ^b	54	2	44	6	1	7.0
	Standby Generation Program	6	*	6	*	0	15.4
	Equipment Rebate(s)	9	W	W	*	*	10.1
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	23	W	19	1	W	8.9
	Direct/Indirect Process Heating	24	W	19	W	*	8.0
	Direct Process Cooling/Refrigeration	16	W	W	*	0	11.4
	Direct Machine Drive ^d	35	4	29	1	*	7.9
	Facility Heating, Ventilation, and Air Conditioning	49	4	40	5	*	6.3
	Facility Lighting	59	6	49	4	1	7.3
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	12	W	9	W	*	9.8
	Other ^f	W	*	W	*	*	17.6

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
38	INSTRUMENTS and RELATED PRODUCTS						
	Participation in One or More of the Following Types of Programs	77	44	8	14	12	11.3
	Energy Audits	66	41	5	10	10	13.2
	Direct Electricity Load Control	44	31	3	4	7	15.7
	Special Rate Schedule ^b	50	33	4	6	7	14.2
	Standby Generation Program	32	26	*	2	4	23.4
	Equipment Rebate(s)	15	7	1	1	6	16.7
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	39	31	*	3	5	18.6
	Direct/Indirect Process Heating	33	26	1	2	4	23.6
	Direct Process Cooling/Refrigeration	38	30	1	3	4	20.2
	Direct Machine Drive ^d	46	33	3	4	6	15.4
	Facility Heating, Ventilation, and Air Conditioning	62	38	5	9	9	13.2
	Facility Lighting	67	41	6	8	11	12.2
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	31	26	1	3	*	25.8
	Other ^f	1	1	0	*	1	26.0
3841	Surgical and Medical Instruments						
	Participation in One or More of the Following Types of Programs	4	1	1	1	1	12.1
	Energy Audits	2	1	1	1	*	16.2
	Direct Electricity Load Control	1	*	1	*	*	17.8
	Special Rate Schedule ^b	1	*	*	1	*	17.6
	Standby Generation Program	*	*	*	0	0	29.0
	Equipment Rebate(s)	1	1	*	0	*	17.6
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:						
	Steam Production ^c	1	*	*	*	*	25.5
	Direct/Indirect Process Heating	*	0	*	0	*	25.4
	Direct Process Cooling/Refrigeration	1	*	*	*	*	26.6
	Direct Machine Drive ^d	2	*	*	1	*	16.8
	Facility Heating, Ventilation, and Air Conditioning	2	1	1	1	*	14.2
	Facility Lighting	3	1	1	1	*	14.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	*	0	*	0	0	27.6
	Other ^f	*	*	0	*	0	37.2

See footnotes at end of table.

Table A41. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, and Type of Energy Management Program, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.2	
39	MISC. MANUFACTURING INDUSTRIES						
	Participation in One or More of the Following Types of Programs						
	Energy Audits	14	6	3	4	1	13.7
	Direct Electricity Load Control	10	4	1	4	1	16.6
	Special Rate Schedule ^b	5	2	1	2	*	20.8
	Standby Generation Program	6	3	1	2	1	20.4
	Equipment Rebate(s)	*	*	0	0	*	37.4
	Equipment Installation or Retrofit for the Primary Purpose of Improving Energy Efficiency Affecting:	2	1	*	0	*	23.4
	Steam Production ^c	3	1	1	1	*	27.0
	Direct/Indirect Process Heating	2	1	1	1	*	20.4
	Direct Process Cooling/Refrigeration	4	2	1	1	1	20.4
	Direct Machine Drive ^d	4	2	1	1	*	22.4
	Facility Heating, Ventilation, and Air Conditioning	8	3	2	3	1	16.4
	Facility Lighting	9	5	1	2	1	17.6
	Equipment Installation/Retrofit for the Primary Purpose of Using a Different Energy Source ^e	2	1	0	1	*	27.0
	Other ^f	1	*	*	*	0	36.8

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b For example, interruptible or time-of-use rates.

^c For example, boilers, burners, and nozzles.

^d For example, adjustable speed drives, motors, and pumps.

^e For example, electrification of a subset of the manufacturing operation.

^f Included are power factor corrections, improvements in operating procedures, and other energy management programs reported by respondents.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells. • "Sponsorship" is determined by the respondent.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A42. Total Inputs of Energy for Heat, Power, and Electricity Generation by Employment Size and Presence of General Technologies, 1991
(Estimates in Trillion Btu)

General Technologies	Total	Employment Size ^a						RSE Row Factors
		Under 50	50-99	100-249	250-499	500-999	1,000 and Over	
RSE Column Factors:	0.6	2.1	2.2	1.2	0.7	0.6	0.7	
One or More General Technologies Present	12,510	262	513	1,716	2,192	2,783	5,044	2.9
Computer Control of Building Environment ^b	3,081	48	95	204	454	701	1,579	4.5
Computer Control of Processes or Major Energy-Using Equipment ^c	10,300	122	314	1,191	1,676	2,433	4,564	3.3
Waste Heat Recovery	9,158	95	226	1,012	1,480	2,141	4,204	3.5
Adjustable-Speed Motors	8,623	134	279	1,085	1,502	1,951	3,672	3.3
None Present	2,516	275	263	648	489	363	479	4.8
Total	15,027	537	776	2,365	2,681	3,145	5,524	2.8

^a Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

^b For example, space heating or cooling and lighting.

^c For example, boilers or furnaces.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey", and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A43. Total Inputs of Energy for Heat, Power, and Electricity Generation by Value of Shipments and Presence of General Technologies, 1991
(Estimates in Trillion Btu)

General Technologies	Total	Value of Shipments and Receipts ^a (million dollars)						RSE Row Factors
		Under 20	20-49	50-99	100-249	250-499	500 and Over	
RSE Column Factors:	0.6	2.0	1.3	1.1	1.0	0.9	0.7	
One or More General Technologies Present	12,510	683	1,071	1,117	2,240	2,241	5,158	2.8
Computer Control of Building Environment ^b	3,081	138	151	187	516	630	1,460	3.9
Computer Control of Processes or Major Energy-Using Equipment ^c	10,300	324	695	760	1,896	2,072	4,553	3.2
Waste Heat Recovery	9,158	222	392	571	1,514	1,827	4,633	3.3
Adjustable-Speed Motors	8,623	413	702	801	1,687	1,592	3,428	3.2
None Present	2,516	666	490	268	321	391	380	4.3
Total	15,027	1,349	1,560	1,386	2,561	2,632	5,538	2.7

^a Value of Shipments and Receipts were supplied by the Bureau of the Census. See Appendix B.

^b For example, space heating or cooling and lighting.

^c For example, boilers or furnaces.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey", and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
20-39	ALL INDUSTRY GROUPS						
General Energy-Related Technologies							
	One or More General Technologies Present	12,510	1,282	3,130	6,429	1,669	2.4
	Computer Control of Building Environment ^b	3,081	473	942	1,260	406	3.1
	Computer Control of Processes or Major Energy-Using Equipment ^c	10,300	1,033	2,570	5,463	1,235	2.4
	Waste Heat Recovery	9,158	828	2,219	4,931	1,180	2.6
	Adjustable-Speed Motors	8,623	791	2,356	4,365	1,112	2.6
	None Present	2,516	352	703	1,078	383	4.9
20	FOOD and KINDRED PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	747	63	321	196	167	5.8
	Computer Control of Building Environment ^b	163	15	73	46	29	8.2
	Computer Control of Processes or Major Energy-Using Equipment ^c	501	37	252	103	108	5.3
	Waste Heat Recovery	459	31	230	118	80	8.4
	Adjustable-Speed Motors	593	51	273	137	132	5.1
	None Present	207	16	98	58	35	8.8
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	327	34	143	84	66	6.4
	Infrared Heating	36	3	13	12	7	14.5
	Microwave Drying	18	1	3	9	4	25.0
	Closed-Cycle Heat Pump System Used to Recover Heat	96	11	51	14	20	12.1
	Open-Cycle Heat Pump System Used to Produce steam	27	3	12	4	9	18.8
	Gas-Driven Rotary Engines and/or Turbines	71	5	19	24	22	11.7
	Membrane Separation	117	2	90	15	9	14.6
	Irradiation	3	Q	1	*	1	27.4
	Freeze Concentration	30	2	9	14	5	15.8
	None Present	626	45	276	169	136	7.2
2011	Meat Packing Plants						
General Energy-Related Technologies							
	One or More General Technologies Present	40	1	29	6	4	8.7
	Computer Control of Building Environment ^b	15	W	9	3	W	11.1
	Computer Control of Processes or Major Energy-Using Equipment ^c	34	1	25	5	3	9.6
	Waste Heat Recovery	32	1	24	3	3	9.6
	Adjustable-Speed Motors	34	1	24	5	4	9.4
	None Present	9	*	4	4	1	12.9
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	23	1	15	4	3	10.5
	Infrared Heating	1	*	*	*	*	22.5
	Microwave Drying	0	0	0	0	0	NF
	Closed-Cycle Heat Pump System Used to Recover Heat	7	*	5	*	1	17.4
	Open-Cycle Heat Pump System Used to Produce steam	3	0	2	*	1	18.8
	Gas-Driven Rotary Engines and/or Turbines	4	*	4	*	0	22.2
	Membrane Separation	W	0	W	1	*	15.8
	Irradiation	0	0	0	0	0	NF
	Freeze Concentration	5	0	4	1	*	21.9
	None Present	26	1	18	6	2	9.9

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2033	Canned Fruits and Vegetables						
General Energy-Related Technologies							
One or More General Technologies Present		34	4	7	7	15	11.8
Computer Control of Building Environment ^b		4	*	1	1	1	18.6
Computer Control of Processes or Major Energy-Using Equipment ^c		19	1	3	5	9	11.4
Waste Heat Recovery		20	2	4	6	8	15.7
Adjustable-Speed Motors		27	4	6	6	12	13.3
None Present		11	3	3	*	5	18.8
Industry-Specific Technologies							
One or More Industry-Specific Technologies Present		14	1	2	5	7	15.6
Infrared Heating		3	*	*	0	2	34.5
Microwave Drying		*	0	*	0	0	37.7
Closed-Cycle Heat Pump System Used to Recover Heat		4	1	*	1	2	24.7
Open-Cycle Heat Pump System Used to Produce steam		1	0	0	*	1	21.4
Gas-Driven Rotary Engines and/or Turbines		6	0	0	W	W	22.0
Membrane Separation		6	*	*	W	W	24.0
Irradiation		*	0	0	*	0	NF
Freeze Concentration		1	*	*	*	*	33.6
None Present		30	6	9	2	14	12.9
2037	Frozen Fruits and Vegetables						
General Energy-Related Technologies							
One or More General Technologies Present		33	1	3	8	20	13.2
Computer Control of Building Environment ^b		4	*	*	2	2	28.0
Computer Control of Processes or Major Energy-Using Equipment ^c		20	1	2	4	13	15.4
Waste Heat Recovery		23	*	2	5	15	15.7
Adjustable-Speed Motors		28	1	3	6	18	14.3
None Present		7	*	Q	1	6	23.0
Industry-Specific Technologies							
One or More Industry-Specific Technologies Present		12	1	1	5	5	17.6
Infrared Heating		*	0	*	*	0	41.0
Microwave Drying		0	0	0	0	0	NF
Closed-Cycle Heat Pump System Used to Recover Heat		4	0	0	1	2	21.2
Open-Cycle Heat Pump System Used to Produce steam		1	1	0	0	0	39.3
Gas-Driven Rotary Engines and/or Turbines		4	0	*	2	2	29.0
Membrane Separation		2	0	0	0	2	26.5
Irradiation		0	0	0	0	0	NF
Freeze Concentration		7	1	*	4	1	24.5
None Present		27	*	3	3	21	14.6
2046	Wet Corn Milling						
General Energy-Related Technologies							
One or More General Technologies Present		107	*	89	W	W	12.3
Computer Control of Building Environment ^b		27	0	W	W	0	17.9
Computer Control of Processes or Major Energy-Using Equipment ^c		104	*	88	16	*	14.8
Waste Heat Recovery		105	0	86	W	W	12.5
Adjustable-Speed Motors		106	*	89	16	1	12.9
None Present		33	*	33	0	*	14.1
Industry-Specific Technologies							
One or More Industry-Specific Technologies Present		59	*	44	W	W	16.5
Infrared Heating		*	0	0	0	*	24.4
Microwave Drying		W	0	0	W	0	28.9
Closed-Cycle Heat Pump System Used to Recover Heat		29	0	W	Q	0	22.5
Open-Cycle Heat Pump System Used to Produce steam		*	*	0	0	0	24.5
Gas-Driven Rotary Engines and/or Turbines		14	0	W	W	1	19.3
Membrane Separation		72	0	W	W	0	16.5
Irradiation		0	0	0	0	0	NF
Freeze Concentration		0	0	0	0	0	NF
None Present		81	*	77	W	W	17.2

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
2051	Bread, Cake, and Related Products						
	General Energy-Related Technologies						
	One or More General Technologies Present	19	5	5	5	4	10.8
	Computer Control of Building Environment ^b	4	*	1	2	1	16.6
	Computer Control of Processes or Major Energy-Using Equipment ^c	10	2	3	3	2	13.3
	Waste Heat Recovery	3	2	1	*	Q	24.9
	Adjustable-Speed Motors	17	5	4	5	3	11.8
	None Present	13	2	3	6	2	13.2
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	8	2	2	2	2	12.3
	Infrared Heating	1	0	1	*	*	28.4
	Microwave Drying	0	0	0	0	0	NF
	Closed-Cycle Heat Pump System Used to Recover Heat	1	*	*	*	*	25.1
	Open-Cycle Heat Pump System Used to Produce steam	1	*	*	*	*	33.2
	Gas-Driven Rotary Engines and/or Turbines	2	1	1	0	0	16.0
	Membrane Separation	*	0	*	*	0	28.4
	Irradiation	0	0	0	0	0	NF
	Freeze Concentration	*	*	*	*	*	25.1
	None Present	24	5	7	9	4	10.4
2063	Beet Sugar						
	General Energy-Related Technologies						
	One or More General Technologies Present	57	0	W	W	W	8.1
	Computer Control of Building Environment ^b	0	0	0	0	0	NF
	Computer Control of Processes or Major Energy-Using Equipment ^c	51	0	W	W	24	8.1
	Waste Heat Recovery	21	0	W	0	W	11.2
	Adjustable-Speed Motors	46	0	W	W	26	8.4
	None Present	10	0	W	0	W	9.7
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	W	0	W	0	W	15.3
	Infrared Heating	W	0	W	0	0	19.4
	Microwave Drying	0	0	0	0	0	NF
	Closed-Cycle Heat Pump System Used to Recover Heat	W	0	0	0	W	17.0
	Open-Cycle Heat Pump System Used to Produce steam	0	0	0	0	0	NF
	Gas-Driven Rotary Engines and/or Turbines	0	0	0	0	0	NF
	Membrane Separation	W	0	W	0	W	11.4
	Irradiation	0	0	0	0	0	NF
	Freeze Concentration	0	0	0	0	0	NF
	None Present	W	0	W	W	W	7.7
2075	Soybean Oil Mills						
	General Energy-Related Technologies						
	One or More General Technologies Present	42	0	31	11	0	3.1
	Computer Control of Building Environment ^b	*	0	*	0	0	10.9
	Computer Control of Processes or Major Energy-Using Equipment ^c	31	0	23	8	0	3.9
	Waste Heat Recovery	36	0	27	9	0	3.5
	Adjustable-Speed Motors	30	0	25	5	0	3.9
	None Present	8	0	4	4	0	5.8
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	10	0	9	1	0	5.1
	Infrared Heating	W	0	W	0	0	9.7
	Microwave Drying	0	0	0	0	0	NF
	Closed-Cycle Heat Pump System Used to Recover Heat	3	0	2	1	0	6.6
	Open-Cycle Heat Pump System Used to Produce steam	1	0	1	*	0	8.5
	Gas-Driven Rotary Engines and/or Turbines	W	0	W	1	0	7.0
	Membrane Separation	1	0	0	1	0	11.3
	Irradiation	0	0	0	0	0	NF
	Freeze Concentration	0	0	0	0	0	NF
	None Present	40	0	27	13	0	3.1

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2082	Malt Beverages						
General Energy-Related Technologies							
	One or More General Technologies Present	50	8	11	14	17	10.6
	Computer Control of Building Environment ^b	29	W	W	4	W	16.1
	Computer Control of Processes or Major Energy-Using Equipment ^c	35	7	10	12	6	10.2
	Waste Heat Recovery	27	7	10	6	4	11.5
	Adjustable-Speed Motors	50	8	11	14	17	10.6
	None Present	0	0	0	0	0	NF
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	35	W	W	7	W	13.5
	Infrared Heating	1	1	0	0	*	20.4
	Microwave Drying	0	0	0	0	0	NF
	Closed-Cycle Heat Pump System Used to Recover Heat	W	0	W	0	W	19.7
	Open-Cycle Heat Pump System Used to Produce steam	W	0	W	0	W	22.3
	Gas-Driven Rotary Engines and/or Turbines	16	1	0	W	W	19.5
	Membrane Separation	0	0	0	0	0	NF
	Irradiation	1	0	0	0	1	24.4
	Freeze Concentration	1	0	0	1	0	28.9
	None Present	15	W	W	7	W	12.5
21	TOBACCO PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	13	*	*	13	0	9.3
	Computer Control of Building Environment ^b	10	0	*	10	0	5.9
	Computer Control of Processes or Major Energy-Using Equipment ^c	12	*	*	11	0	6.0
	Waste Heat Recovery	W	0	0	W	0	6.3
	Adjustable-Speed Motors	13	*	*	13	0	9.3
	None Present	11	0	0	11	0	11.3
22	TEXTILE MILL PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	184	16	3	163	2	9.1
	Computer Control of Building Environment ^b	59	2	*	56	1	13.9
	Computer Control of Processes or Major Energy-Using Equipment ^c	92	5	1	85	*	12.0
	Waste Heat Recovery	104	11	2	90	1	11.1
	Adjustable-Speed Motors	138	13	2	122	2	9.3
	None Present	89	11	3	72	3	15.0
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	185	16	2	163	5	10.2
	Open-End Spinning	59	1	*	58	1	11.4
	Water-Jet Weaving	3	0	0	3	0	18.8
	Projectile Weaving	45	3	Q	41	*	11.8
	Wet-on-Wet Dyeing and Finishing	100	12	1	83	3	13.4
	Indirect Steam Heating of Dye	96	11	1	81	3	12.9
	Dye Bath Reuse	36	3	0	32	2	15.1
	Foam Dyeing	7	*	0	6	0	22.0
	Foam Printing	3	*	*	3	0	18.5
	Foam Finishing	15	4	*	11	0	13.1
	Low-Add-On Finishing	37	5	*	32	*	13.0
	None Present	88	12	3	73	1	14.1
23	APPAREL and OTHER TEXTILE PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	20	2	4	13	1	18.6
	Computer Control of Building Environment ^b	9	1	2	5	*	27.5
	Computer Control of Processes or Major Energy-Using Equipment ^c	4	*	1	3	*	32.0
	Waste Heat Recovery	7	*	*	6	0	25.0
	Adjustable-Speed Motors	11	1	3	7	*	22.5
	None Present	24	3	2	18	1	17.3

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
24	LUMBER and WOOD PRODUCTS						
	General Energy-Related Technologies						
	One or More General Technologies Present	297	5	44	155	93	16.9
	Computer Control of Building Environment ^b	33	2	3	Q	Q	42.7
	Computer Control of Processes or Major Energy-Using Equipment ^c	232	4	25	133	70	20.8
	Waste Heat Recovery	76	2	19	28	26	22.5
	Adjustable-Speed Motors	217	5	36	102	75	17.6
	None Present	126	11	13	48	54	23.8
25	FURNITURE and FIXTURES						
	General Energy-Related Technologies						
	One or More General Technologies Present	32	2	12	17	1	17.0
	Computer Control of Building Environment ^b	12	1	8	3	1	22.7
	Computer Control of Processes or Major Energy-Using Equipment ^c	13	2	7	4	*	26.2
	Waste Heat Recovery	12	1	6	5	*	25.1
	Adjustable-Speed Motors	23	2	9	12	*	18.9
	None Present	35	5	Q	14	2	27.5
26	PAPER and ALLIED PRODUCTS						
	General Energy-Related Technologies						
	One or More General Technologies Present	2,240	259	301	1,323	358	3.9
	Computer Control of Building Environment ^b	412	52	71	249	40	5.9
	Computer Control of Processes or Major Energy-Using Equipment ^c	2,037	232	255	1,258	293	3.7
	Waste Heat Recovery	1,837	197	222	1,098	320	4.1
	Adjustable-Speed Motors	1,992	220	253	1,170	349	3.9
	None Present	232	27	54	120	31	6.5
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	2,005	188	224	1,248	344	4.0
	Continuous Digesters	1,232	114	69	848	200	5.1
	Displacement Bleaching Process	350	60	39	214	37	7.8
	Top-Wire (Hybrid) Paper Forming	1,004	111	94	700	99	4.7
	Extended Nip Press	557	60	30	390	77	5.0
	Higher Nip Pressures	747	81	97	476	93	4.5
	Extended Deliquification Displacement Heating Processes	225	20	3	173	29	8.0
	Multi-Effect Falling-Film Evaporators for Black Liquor Evaporation and Concentration	1,192	113	80	838	162	5.1
	Vapor Recompression Evaporation of Black Liquor	217	28	0	77	112	7.8
	Waste-Heat Recovery Technologies in Lime Kilns	579	W	W	329	136	5.7
	Improved Filtration Techniques Allowing Flexibility in the Selection of Fuel Other Than Natural Gas and Distillate Fuel Oil for Lime Calcination	218	W	0	W	0	6.3
	None Present	468	98	130	194	45	4.6

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
2611	Pulp Mills						
	General Energy-Related Technologies						
	One or More General Technologies Present	288	12	28	207	41	17.5
	Computer Control of Building Environment ^b	34	11	0	16	7	30.6
	Computer Control of Processes or Major Energy-Using Equipment ^c	270	12	28	207	23	18.5
	Waste Heat Recovery	270	11	28	206	25	18.4
	Adjustable-Speed Motors	254	12	15	187	41	19.0
	None Present	12	0	*	12	0	39.5
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	279	11	28	204	36	17.8
	Continuous Digesters	142	11	28	86	17	22.9
	Displacement Bleaching Process	76	11	W	42	W	26.0
	Top-Wire (Hybrid) Paper Forming	66	11	W	40	0	29.8
	Extended Nip Press	21	0	0	W	W	36.7
	Higher Nip Pressures	49	0	0	46	3	28.2
	Extended Deliquification Displacement Heating Processes	26	0	0	26	0	35.1
	Multi-Effect Falling-Film Evaporators for Black Liquor Evaporation and Concentration	199	11	28	142	18	20.1
	Vapor Recompression Evaporation of Black Liquor	26	0	0	19	7	33.8
	Waste-Heat Recovery Technologies in Lime Kilns	45	W	0	W	0	29.5
	Improved Filtration Techniques Allowing Flexibility in the Selection of Fuel Other Than Natural Gas and Distillate Fuel Oil for Lime Calcination	11	0	0	11	0	45.2
	None Present	21	Q	*	15	5	34.8
2621	Paper Mills						
	General Energy-Related Technologies						
	One or More General Technologies Present	1,097	W	184	W	137	3.0
	Computer Control of Building Environment ^b	251	W	53	152	W	4.5
	Computer Control of Processes or Major Energy-Using Equipment ^c	1,001	202	168	522	110	3.2
	Waste Heat Recovery	937	169	153	485	130	3.6
	Adjustable-Speed Motors	981	183	168	499	131	3.4
	None Present	107	W	25	W	24	7.0
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	975	170	146	513	145	3.1
	Continuous Digesters	576	103	15	365	93	3.5
	Displacement Bleaching Process	218	W	W	117	W	4.6
	Top-Wire (Hybrid) Paper Forming	604	98	67	367	72	4.6
	Extended Nip Press	240	57	W	W	W	5.2
	Higher Nip Pressures	361	76	67	162	56	4.1
	Extended Deliquification Displacement Heating Processes	142	19	3	90	29	7.4
	Multi-Effect Falling-Film Evaporators for Black Liquor Evaporation and Concentration	606	102	38	378	88	3.8
	Vapor Recompression Evaporation of Black Liquor	65	28	0	22	14	4.9
	Waste-Heat Recovery Technologies in Lime Kilns	327	77	W	149	W	4.3
	Improved Filtration Techniques Allowing Flexibility in the Selection of Fuel Other Than Natural Gas and Distillate Fuel Oil for Lime Calcination	119	W	0	W	0	5.4
	None Present	229	58	62	93	16	4.9

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2631	Paperboard Mills						
General Energy-Related Technologies							
	One or More General Technologies Present	760	11	58	523	168	6.2
	Computer Control of Building Environment ^b	101	0	W	72	W	11.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	718	8	43	513	154	6.9
	Waste Heat Recovery	591	5	25	399	161	7.2
	Adjustable-Speed Motors	678	7	46	459	165	7.2
	None Present	72	5	13	53	2	13.2
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	741	6	48	526	161	7.2
	Continuous Digesters	514	0	26	397	90	6.0
	Displacement Bleaching Process	54	0	0	54	0	12.6
	Top-Wire (Hybrid) Paper Forming	326	W	W	289	25	9.1
	Extended Nip Press	295	W	W	252	32	8.2
	Higher Nip Pressures	336	4	30	268	34	9.4
	Extended Deliquification Displacement Heating Processes	57	1	0	56	0	11.1
	Multi-Effect Falling-Film Evaporators for Black Liquor Evaporation and Concentration	388	0	14	318	56	7.1
	Vapor Recompression Evaporation of Black Liquor	126	0	0	35	91	12.0
	Waste-Heat Recovery Technologies in Lime Kilns	207	0	0	W	W	9.7
	Improved Filtration Techniques Allowing Flexibility in the Selection of Fuel Other Than Natural Gas and Distillate Fuel Oil for Lime Calcination	89	0	0	89	0	11.3
	None Present	91	10	22	50	9	8.8
27	PRINTING and PUBLISHING						
General Energy-Related Technologies							
	One or More General Technologies Present	65	11	29	16	9	12.9
	Computer Control of Building Environment ^b	39	9	14	10	5	16.6
	Computer Control of Processes or Major Energy-Using Equipment ^c	25	5	13	5	3	16.4
	Waste Heat Recovery	12	2	6	3	2	22.0
	Adjustable-Speed Motors	42	6	22	9	5	14.1
	None Present	43	11	14	12	6	16.3
28	CHEMICALS and ALLIED PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	2,602	105	351	2,020	126	5.1
	Computer Control of Building Environment ^b	544	42	126	340	36	6.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	2,128	81	224	1,715	107	5.0
	Waste Heat Recovery	2,169	67	282	1,721	99	6.0
	Adjustable-Speed Motors	1,768	82	242	1,397	47	5.0
	None Present	438	30	47	348	13	8.7
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	1,893	60	248	1,498	86	6.6
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	5	0	W	W	*	13.5
	Processing Residuals as Alternative Feedstocks	900	9	59	780	51	8.5
	Biomass Materials Used as Alternative Feedstocks	34	Q	13	Q	0	29.1
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	16	0	W	9	W	15.3
	Direct Microbial	60	0	12	48	*	11.6
	Bioprocessing	376	Q	W	W	0	11.3
	Gasification of Biomass Feedstocks	W	Q	*	W	0	18.3
	Fast Pyrolysis of Biomass Feedstocks	8	8	*	*	0	20.1
	Immobilized Enzyme Processes	*	0	*	0	*	21.3
	Innovative Catalytic Processes	531	8	19	464	41	13.7
	Recycling of Materials	1,381	59	199	1,087	36	5.9
	Hydrolysis of Biomass Materials	Q	0	Q	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	W	0	1	W	0	14.4
	Fermentation	25	*	20	5	0	12.1
	Fractionation of Biomass	*	0	*	0	*	21.3
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	635	0	43	583	9	11.4
	None Present	1,147	75	150	870	53	5.6

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2812	Alkalies and Chlorine						
General Energy-Related Technologies							
	One or More General Technologies Present	137	*	0	124	12	14.7
	Computer Control of Building Environment ^b	W	0	0	W	W	22.2
	Computer Control of Processes or Major Energy-Using Equipment ^c	121	0	0	112	9	14.6
	Waste Heat Recovery	103	0	0	W	W	17.0
	Adjustable-Speed Motors	107	*	0	102	5	17.0
	None Present	W	0	W	W	0	27.6
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	86	0	*	W	W	20.6
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	0	0	0	0	0	NF
	Processing Residuals as Alternative Feedstocks	W	0	0	W	W	25.1
	Biomass Materials Used as Alternative Feedstocks	0	0	0	0	0	NF
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	0	0	0	0	0	NF
	Direct Microbial	0	0	0	0	0	NF
	Bioprocessing	W	0	0	W	0	32.6
	Gasification of Biomass Feedstocks	0	0	0	0	0	NF
	Fast Pyrolysis of Biomass Feedstocks	0	0	0	0	0	NF
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	0	0	0	0	0	NF
	Recycling of Materials	W	0	*	W	1	23.0
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	0	0	0	0	0	NF
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	0	0	0	0	0	NF
	None Present	75	*	1	67	7	17.4
2813	Industrial Gases						
General Energy-Related Technologies							
	One or More General Technologies Present	W	4	13	W	14	7.2
	Computer Control of Building Environment ^b	W	1	1	W	W	10.1
	Computer Control of Processes or Major Energy-Using Equipment ^c	63	W	W	32	14	7.2
	Waste Heat Recovery	21	0	W	W	W	14.0
	Adjustable-Speed Motors	W	0	*	W	1	18.0
	None Present	W	1	5	W	2	9.5
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	W	1	1	W	W	9.5
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	0	0	0	0	0	NF
	Processing Residuals as Alternative Feedstocks	*	0	0	*	0	23.8
	Biomass Materials Used as Alternative Feedstocks	0	0	0	0	0	NF
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	0	0	0	0	0	NF
	Direct Microbial	0	0	0	0	0	NF
	Bioprocessing	0	0	0	0	0	NF
	Gasification of Biomass Feedstocks	0	0	0	0	0	NF
	Fast Pyrolysis of Biomass Feedstocks	0	0	0	0	0	NF
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	0	0	0	0	0	NF
	Recycling of Materials	W	1	1	W	W	9.5
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	0	0	0	0	0	NF
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	0	0	0	0	0	NF
	None Present	W	4	17	W	W	6.8

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2819	Industrial Inorganic Chemicals, nec						
General Energy-Related Technologies							
	One or More General Technologies Present	242	8	66	131	36	9.9
	Computer Control of Building Environment ^b	106	3	W	W	23	11.5
	Computer Control of Processes or Major Energy-Using Equipment ^c	167	5	9	122	31	9.6
	Waste Heat Recovery	194	7	62	93	32	11.1
	Adjustable-Speed Motors	151	5	11	112	23	8.0
	None Present	69	2	4	58	5	13.6
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	149	1	W	57	W	10.1
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	1	0	*	1	*	15.9
	Processing Residuals as Alternative Feedstocks	26	*	W	16	W	11.9
	Biomass Materials Used as Alternative Feedstocks	*	0	*	0	0	21.9
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	6	0	*	W	W	16.8
	Direct Microbial	*	0	*	0	0	21.9
	Bioprocessing	W	0	W	W	0	20.3
	Gasification of Biomass Feedstocks	*	0	*	0	0	21.9
	Fast Pyrolysis of Biomass Feedstocks	*	0	*	0	0	21.9
	Immobilized Enzyme Processes	*	0	*	0	*	21.3
	Innovative Catalytic Processes	7	0	*	5	1	12.9
	Recycling of Materials	130	1	W	49	W	11.0
	Hydrolysis of Biomass Materials	*	0	*	0	0	21.9
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	*	0	*	0	0	21.9
	Fermentation	*	0	*	0	0	21.9
	Fractionation of Biomass	*	0	*	0	*	21.3
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	W	0	*	W	0	20.7
	None Present	161	8	W	132	W	8.8
2821	Plastics Materials and Resins						
General Energy-Related Technologies							
	One or More General Technologies Present	264	16	53	194	2	7.4
	Computer Control of Building Environment ^b	90	W	W	67	*	7.7
	Computer Control of Processes or Major Energy-Using Equipment ^c	222	12	51	157	Q	5.7
	Waste Heat Recovery	206	10	41	155	1	6.0
	Adjustable-Speed Motors	174	13	50	110	1	7.7
	None Present	23	4	6	13	1	9.3
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	198	11	44	143	1	5.8
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	*	0	*	*	0	19.4
	Processing Residuals as Alternative Feedstocks	48	1	W	W	0	10.1
	Biomass Materials Used as Alternative Feedstocks	1	0	0	1	0	17.6
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	W	0	0	W	0	17.6
	Direct Microbial	19	0	2	16	*	11.5
	Bioprocessing	W	*	0	W	0	15.0
	Gasification of Biomass Feedstocks	W	0	0	W	0	17.6
	Fast Pyrolysis of Biomass Feedstocks	1	1	0	0	0	14.9
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	9	W	1	W	*	11.3
	Recycling of Materials	116	11	23	83	1	6.6
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	W	0	0	W	0	17.6
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	W	0	W	W	0	12.7
	None Present	89	9	15	64	2	8.0

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2822	Synthetic Rubber						
General Energy-Related Technologies							
	One or More General Technologies Present	W	W	W	W	*	13.9
	Computer Control of Building Environment ^b	W	0	0	W	0	21.3
	Computer Control of Processes or Major Energy-Using Equipment ^c	39	W	W	33	0	13.6
	Waste Heat Recovery	29	W	W	21	0	15.2
	Adjustable-Speed Motors	36	W	W	28	*	14.6
	None Present	W	*	*	W	0	21.2
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	103	W	W	96	0	19.4
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	0	0	0	0	0	NF
	Processing Residuals as Alternative Feedstocks	W	0	0	W	0	20.1
	Biomass Materials Used as Alternative Feedstocks	0	0	0	0	0	NF
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	0	0	0	0	0	NF
	Direct Microbial	0	0	0	0	0	NF
	Bioprocessing	W	0	0	W	0	26.4
	Gasification of Biomass Feedstocks	0	0	0	0	0	NF
	Fast Pyrolysis of Biomass Feedstocks	0	0	0	0	0	NF
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	W	0	0	W	0	27.6
	Recycling of Materials	28	W	W	21	0	15.5
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	0	0	0	0	0	NF
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	0	0	0	0	0	NF
	None Present	10	*	W	W	*	14.3
2823	Cellulosic Manmade Fibers						
General Energy-Related Technologies							
	One or More General Technologies Present	31	0	0	31	0	23.8
	Computer Control of Building Environment ^b	16	0	0	16	0	31.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	31	0	0	31	0	23.8
	Waste Heat Recovery	28	0	0	28	0	26.4
	Adjustable-Speed Motors	31	0	0	31	0	23.8
	None Present	*	0	0	*	0	42.7
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	16	0	0	16	0	31.4
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	0	0	0	0	0	NF
	Processing Residuals as Alternative Feedstocks	6	0	0	6	0	42.7
	Biomass Materials Used as Alternative Feedstocks	0	0	0	0	0	NF
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	0	0	0	0	0	NF
	Direct Microbial	0	0	0	0	0	NF
	Bioprocessing	0	0	0	0	0	NF
	Gasification of Biomass Feedstocks	0	0	0	0	0	NF
	Fast Pyrolysis of Biomass Feedstocks	0	0	0	0	0	NF
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	0	0	0	0	0	NF
	Recycling of Materials	10	0	0	10	0	42.7
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	0	0	0	0	0	NF
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	0	0	0	0	0	NF
	None Present	15	0	0	15	0	35.1

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2824	Organic Fibers, Noncellulosic						
General Energy-Related Technologies							
	One or More General Technologies Present	84	*	0	84	0	4.3
	Computer Control of Building Environment ^b	25	0	0	25	0	6.3
	Computer Control of Processes or Major Energy-Using Equipment ^c	82	0	0	82	0	3.8
	Waste Heat Recovery	65	0	0	65	0	3.8
	Adjustable-Speed Motors	69	*	0	69	0	4.3
	None Present	14	*	0	14	0	7.8
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	55	*	0	55	0	3.8
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	0	0	0	0	0	NF
	Processing Residuals as Alternative Feedstocks	17	0	0	17	0	6.3
	Biomass Materials Used as Alternative Feedstocks	0	0	0	0	0	NF
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	1	0	0	1	0	8.8
	Direct Microbial	6	0	0	6	0	8.8
	Bioprocessing	W	0	0	W	0	8.8
	Gasification of Biomass Feedstocks	0	0	0	0	0	NF
	Fast Pyrolysis of Biomass Feedstocks	0	0	0	0	0	NF
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	0	0	0	0	0	NF
	Recycling of Materials	41	*	0	41	0	3.8
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	W	0	0	W	0	8.8
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	0	0	0	0	0	NF
	None Present	43	*	0	43	0	6.8
2865	Cyclic Crudes and Intermediates						
General Energy-Related Technologies							
	One or More General Technologies Present	134	11	16	107	*	11.9
	Computer Control of Building Environment ^b	48	W	W	35	0	14.2
	Computer Control of Processes or Major Energy-Using Equipment ^c	115	6	15	94	0	13.5
	Waste Heat Recovery	121	6	14	102	0	14.0
	Adjustable-Speed Motors	51	5	14	32	*	12.1
	None Present	25	1	6	18	*	19.6
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	98	1	14	83	*	11.8
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	W	0	0	W	0	20.1
	Processing Residuals as Alternative Feedstocks	50	0	1	48	0	17.4
	Biomass Materials Used as Alternative Feedstocks	0	0	0	0	0	NF
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	W	0	W	0	0	28.0
	Direct Microbial	13	0	9	3	0	20.1
	Bioprocessing	W	0	0	W	0	21.3
	Gasification of Biomass Feedstocks	0	0	0	0	0	NF
	Fast Pyrolysis of Biomass Feedstocks	*	0	0	*	0	28.9
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	W	0	W	W	0	24.9
	Recycling of Materials	77	1	14	63	*	12.7
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	0	0	0	0	0	NF
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	W	0	W	W	0	25.4
	None Present	62	12	7	42	*	13.2

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2869	Industrial Organic Chemicals, nec						
General Energy-Related Technologies							
	One or More General Technologies Present	1,095	W	63	998	W	5.7
	Computer Control of Building Environment ^b	149	W	2	136	W	8.1
	Computer Control of Processes or Major Energy-Using Equipment ^c	914	W	57	826	W	5.7
	Waste Heat Recovery	1,007	W	55	925	W	6.2
	Adjustable-Speed Motors	836	W	48	759	W	6.3
	None Present	95	W	9	78	Q	9.7
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	877	25	43	806	3	6.9
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	0	0	0	0	0	NF
	Processing Residuals as Alternative Feedstocks	620	8	21	590	0	7.5
	Biomass Materials Used as Alternative Feedstocks	30	0	12	Q	0	33.0
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	0	0	0	0	0	NF
	Direct Microbial	22	0	*	22	*	13.1
	Bioprocessing	175	*	W	W	0	11.5
	Gasification of Biomass Feedstocks	*	0	0	*	0	12.6
	Fast Pyrolysis of Biomass Feedstocks	W	W	0	0	0	14.9
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	434	1	*	433	0	10.2
	Recycling of Materials	710	25	33	648	3	6.9
	Hydrolysis of Biomass Materials	Q	0	Q	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	W	0	1	W	0	16.0
	Fermentation	17	*	13	4	0	12.3
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	537	0	W	W	0	9.3
	None Present	313	13	28	270	1	7.0
2873	Nitrogenous Fertilizers						
General Energy-Related Technologies							
	One or More General Technologies Present	251	*	46	163	42	25.7
	Computer Control of Building Environment ^b	2	0	0	1	*	58.3
	Computer Control of Processes or Major Energy-Using Equipment ^c	181	0	13	127	41	27.3
	Waste Heat Recovery	228	*	45	141	42	26.4
	Adjustable-Speed Motors	101	0	40	57	4	28.1
	None Present	30	*	*	29	1	37.0
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	162	*	31	89	41	29.7
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	0	0	0	0	0	NF
	Processing Residuals as Alternative Feedstocks	92	0	0	53	39	31.1
	Biomass Materials Used as Alternative Feedstocks	0	0	0	0	0	NF
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	0	0	0	0	0	NF
	Direct Microbial	0	0	0	0	0	NF
	Bioprocessing	0	0	0	0	0	NF
	Gasification of Biomass Feedstocks	0	0	0	0	0	NF
	Fast Pyrolysis of Biomass Feedstocks	0	0	0	0	0	NF
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	49	0	6	Q	39	40.6
	Recycling of Materials	78	*	21	53	4	34.9
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	0	0	0	0	0	NF
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	14	0	5	0	9	46.4
	None Present	118	*	14	102	1	29.3

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
2874	Phosphatic Fertilizers						
General Energy-Related Technologies							
	One or More General Technologies Present	31	0	*	26	Q	5.6
	Computer Control of Building Environment ^b	0	0	0	0	0	NF
	Computer Control of Processes or Major Energy-Using Equipment ^c	26	0	0	W	W	3.5
	Waste Heat Recovery	30	0	*	26	Q	5.6
	Adjustable-Speed Motors	19	0	0	14	Q	8.1
	None Present	3	0	0	3	*	3.5
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	19	0	*	19	0	3.9
	Replacement of Electrically Heated Platens in the Thermoset Molding Process with a Gas-Fired Central Thermal Fluid System	0	0	0	0	0	NF
	Processing Residuals as Alternative Feedstocks	1	0	0	1	0	5.0
	Biomass Materials Used as Alternative Feedstocks	0	0	0	0	0	NF
	Bioprocessing of Petroleum, Natural Gas, Coal or Other Fossil-Based Feedstocks	0	0	0	0	0	NF
	Direct Microbial	0	0	0	0	0	NF
	Bioprocessing	0	0	0	0	0	NF
	Gasification of Biomass Feedstocks	0	0	0	0	0	NF
	Fast Pyrolysis of Biomass Feedstocks	0	0	0	0	0	NF
	Immobilized Enzyme Processes	0	0	0	0	0	NF
	Innovative Catalytic Processes	0	0	0	0	0	NF
	Recycling of Materials	8	0	*	8	0	3.9
	Hydrolysis of Biomass Materials	0	0	0	0	0	NF
	Enhanced Bioprocessing with Genetically Engineered Feedstocks or Organisms	0	0	0	0	0	NF
	Fermentation	0	0	0	0	0	NF
	Fractionation of Biomass	0	0	0	0	0	NF
	Distillation Process Improvements	0	0	0	0	0	NF
	Hydrocarbon Cracking Enhancements	W	0	0	W	0	5.0
	None Present	14	0	0	10	5	14.7
29	PETROLEUM and COAL PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	2,703	196	456	1,534	518	2.4
	Computer Control of Building Environment ^b	651	W	187	273	W	3.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	2,306	169	415	1,377	343	2.7
	Waste Heat Recovery	2,435	133	396	1,412	494	2.4
	Adjustable-Speed Motors	1,295	9	260	763	264	3.4
	None Present	284	42	46	92	104	5.8
2911	Petroleum Refining^f						
General Energy-Related Technologies							
	One or More General Technologies Present	2,636	W	W	1,521	509	2.2
	Computer Control of Building Environment ^b	642	W	182	270	W	3.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	2,271	165	404	1,368	335	2.6
	Waste Heat Recovery	2,398	109	388	1,407	493	2.5
	Adjustable-Speed Motors	1,267	W	W	752	261	3.1
	None Present	257	W	W	87	101	5.2
30	RUBBER and MISC. PLASTICS PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	161	21	59	71	10	8.0
	Computer Control of Building Environment ^b	45	7	20	16	3	12.0
	Computer Control of Processes or Major Energy-Using Equipment ^c	90	10	30	45	6	9.9
	Waste Heat Recovery	64	5	22	33	5	12.0
	Adjustable-Speed Motors	117	15	41	52	8	9.0
	None Present	76	16	34	17	9	12.2

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
3011	Tires and Inner Tubes						
General Energy-Related Technologies							
	One or More General Technologies Present	35	1	9	24	*	3.6
	Computer Control of Building Environment ^b	13	W	W	7	*	4.9
	Computer Control of Processes or Major Energy-Using Equipment ^c	25	1	5	19	*	4.5
	Waste Heat Recovery	23	1	7	16	0	3.7
	Adjustable-Speed Motors	24	1	8	14	*	4.0
	None Present	6	*	3	3	*	9.2
308	Miscellaneous Plastic Products, nec						
General Energy-Related Technologies							
	One or More General Technologies Present	97	17	37	36	7	11.2
	Computer Control of Building Environment ^b	21	5	9	6	1	21.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	52	8	20	20	4	14.4
	Waste Heat Recovery	32	4	12	13	3	20.0
	Adjustable-Speed Motors	74	12	25	31	6	12.9
	None Present	55	11	25	11	7	14.8
31	LEATHER and LEATHER PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	6	3	2	1	*	27.3
	Computer Control of Building Environment ^b	1	*	*	*	*	20.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	3	1	1	Q	*	35.4
	Waste Heat Recovery	2	Q	*	Q	0	51.7
	Adjustable-Speed Motors	4	2	1	1	*	33.5
	None Present	6	1	2	1	Q	22.7
32	STONE, CLAY and GLASS PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	644	107	187	248	102	6.6
	Computer Control of Building Environment ^b	69	15	28	23	4	10.0
	Computer Control of Processes or Major Energy-Using Equipment ^c	497	82	162	175	77	6.2
	Waste Heat Recovery	257	39	91	87	41	7.9
	Adjustable-Speed Motors	454	68	139	170	78	6.8
	None Present	250	Q	66	75	35	13.8
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	561	80	180	199	103	6.4
	Oxygen Enriched Combustion Air	67	13	25	25	5	6.1
	Forehearth Designed for Independently Applied Heating and Cooling Operations and Minimal Energy Use	138	32	38	47	21	4.3
	Forehearth Designed to Eliminate Side to Middle Temperature Gradients with Improved Temperature Stability	114	23	32	42	17	4.6
	Batch Preheaters	7	1	3	2	1	20.4
	Cogeneration System Which Uses Waste Heat Rejected in Furnace Exhaust to Generate Steam in Waste Heat Boilers	8	0	3	4	1	15.2
	Advanced Glass Refiner	60	19	W	18	W	6.4
	High-Efficiency Classifiers in Closed-Circuit Grinding Plants	154	14	43	37	60	15.7
	Improved Grinding Media and Linings, Wear-Resistant Materials such as High Chrome Alloys, and Classifying Liners	270	32	86	84	68	10.9
	Waste Heat Drying	136	14	38	51	33	11.4
	Dry-Suspension Preheater Kilns	116	14	34	32	36	15.1
	Dry-Precalciner Kilns	86	0	19	31	35	13.5
	Kiln Combustion System Improvement such as Semi-Direct/Indirect Coal Firing, Optimal Oxygen Levels and Advanced Burners Matched to the Kiln/Cooler Design Flame Control	217	22	83	68	44	12.2
	Controlled Particle Size Cement	189	16	53	53	67	13.0
	None Present	333	102	73	124	34	12.7

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
3211	Flat Glass						
	General Energy-Related Technologies						
	One or More General Technologies Present	W	W	13	W	W	3.1
	Computer Control of Building Environment ^b	W	0	1	W	1	4.8
	Computer Control of Processes or Major Energy-Using Equipment ^c	41	W	13	19	W	3.1
	Waste Heat Recovery	13	0	5	W	W	4.4
	Adjustable-Speed Motors	23	W	8	10	W	4.1
	None Present	W	0	0	W	W	5.3
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	23	W	6	14	W	4.2
	Oxygen Enriched Combustion Air	12	0	1	9	1	4.8
	Forehearth Designed for Independently Applied Heating and Cooling Operations and Minimal Energy Use	1	0	*	1	0	7.0
	Forehearth Designed to Eliminate Side to Middle Temperature Gradients with Improved Temperature Stability	9	0	W	W	0	5.5
	Batch Preheaters	1	1	0	0	0	6.4
	Cogeneration System Which Uses Waste Heat Rejected in Furnace Exhaust to Generate Steam in Waste Heat Boilers	0	0	0	0	0	NF
	Advanced Glass Refiner	7	W	W	1	0	5.5
	High-Efficiency Classifiers in Closed-Circuit Grinding Plants	0	0	0	0	0	NF
	Improved Grinding Media and Linings, Wear-Resistant Materials such as High Chrome Alloys, and Classifying Liners	0	0	0	0	0	NF
	Waste Heat Drying	0	0	0	0	0	NF
	Dry-Suspension Preheater Kilns	0	0	0	0	0	NF
	Dry-Precalciner Kilns	0	0	0	0	0	NF
	Kiln Combustion System Improvement such as Semi-Direct/Indirect Coal Firing, Optimal Oxygen Levels and Advanced Burners Matched to the Kiln/Cooler Design Flame Control	0	0	0	0	0	NF
	Controlled Particle Size Cement	0	0	0	0	0	NF
	None Present	26	W	6	9	W	3.8
3221	Glass Containers						
	General Energy-Related Technologies						
	One or More General Technologies Present	78	19	20	W	W	5.0
	Computer Control of Building Environment ^b	W	1	1	W	0	15.0
	Computer Control of Processes or Major Energy-Using Equipment ^c	75	19	18	23	14	5.0
	Waste Heat Recovery	28	W	W	9	10	7.7
	Adjustable-Speed Motors	58	15	12	19	13	5.7
	None Present	7	0	1	W	W	13.0
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	80	18	20	24	18	5.0
	Oxygen Enriched Combustion Air	12	W	7	*	W	11.6
	Forehearth Designed for Independently Applied Heating and Cooling Operations and Minimal Energy Use	80	18	20	24	18	5.0
	Forehearth Designed to Eliminate Side to Middle Temperature Gradients with Improved Temperature Stability	61	11	14	22	15	5.7
	Batch Preheaters	W	0	W	1	0	18.2
	Cogeneration System Which Uses Waste Heat Rejected in Furnace Exhaust to Generate Steam in Waste Heat Boilers	0	0	0	0	0	NF
	Advanced Glass Refiner	37	12	W	12	W	6.6
	High-Efficiency Classifiers in Closed-Circuit Grinding Plants	0	0	0	0	0	NF
	Improved Grinding Media and Linings, Wear-Resistant Materials such as High Chrome Alloys, and Classifying Liners	0	0	0	0	0	NF
	Waste Heat Drying	0	0	0	0	0	NF
	Dry-Suspension Preheater Kilns	0	0	0	0	0	NF
	Dry-Precalciner Kilns	0	0	0	0	0	NF
	Kiln Combustion System Improvement such as Semi-Direct/Indirect Coal Firing, Optimal Oxygen Levels and Advanced Burners Matched to the Kiln/Cooler Design Flame Control	0	0	0	0	0	NF
	Controlled Particle Size Cement	0	0	0	0	0	NF
	None Present	5	1	0	4	0	12.6

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
3229	Pressed and Blown Glass, nec.						
	General Energy-Related Technologies						
	One or More General Technologies Present	W	W	10	23	*	6.2
	Computer Control of Building Environment ^b	11	W	1	W	0	10.6
	Computer Control of Processes or Major Energy-Using Equipment ^c	41	11	9	21	0	5.5
	Waste Heat Recovery	15	4	3	7	0	9.7
	Adjustable-Speed Motors	27	9	8	9	*	6.6
	None Present	W	W	4	1	1	11.2
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	W	13	W	21	1	6.0
	Oxygen Enriched Combustion Air	19	5	4	10	*	6.9
	Forehearth Designed for Independently Applied Heating and Cooling Operations and Minimal Energy Use	38	12	7	18	1	6.4
	Forehearth Designed to Eliminate Side to Middle Temperature Gradients with Improved Temperature Stability	28	12	5	11	1	6.9
	Batch Preheaters	0	0	0	0	0	NF
	Cogeneration System Which Uses Waste Heat Rejected in Furnace Exhaust to Generate Steam in Waste Heat Boilers	5	0	W	W	0	12.4
	Advanced Glass Refiner	8	W	W	*	0	11.2
	High-Efficiency Classifiers in Closed-Circuit Grinding Plants	0	0	0	0	0	NF
	Improved Grinding Media and Linings, Wear-Resistant Materials such as High Chrome Alloys, and Classifying Liners	0	0	0	0	0	NF
	Waste Heat Drying	0	0	0	0	0	NF
	Dry-Suspension Preheater Kilns	0	0	0	0	0	NF
	Dry-Precalciner Kilns	0	0	0	0	0	NF
	Kiln Combustion System Improvement such as Semi-Direct/Indirect Coal Firing, Optimal Oxygen Levels and Advanced Burners Matched to the Kiln/Cooler Design Flame Control	0	0	0	0	0	NF
	Controlled Particle Size Cement	0	0	0	0	0	NF
	None Present	W	2	W	3	*	14.0
3241	Cement, Hydraulic						
	General Energy-Related Technologies						
	One or More General Technologies Present	241	34	60	85	61	12.0
	Computer Control of Building Environment ^b	17	W	W	8	Q	24.2
	Computer Control of Processes or Major Energy-Using Equipment ^c	186	22	60	61	43	12.1
	Waste Heat Recovery	100	13	42	25	20	15.5
	Adjustable-Speed Motors	175	23	48	56	47	12.2
	None Present	88	20	28	24	16	20.6
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	268	37	W	80	W	11.0
	Oxygen Enriched Combustion Air	0	0	0	0	0	NF
	Forehearth Designed for Independently Applied Heating and Cooling Operations and Minimal Energy Use	0	0	0	0	0	NF
	Forehearth Designed to Eliminate Side to Middle Temperature Gradients with Improved Temperature Stability	0	0	0	0	0	NF
	Batch Preheaters	0	0	0	0	0	NF
	Cogeneration System Which Uses Waste Heat Rejected in Furnace Exhaust to Generate Steam in Waste Heat Boilers	0	0	0	0	0	NF
	Advanced Glass Refiner	0	0	0	0	0	NF
	High-Efficiency Classifiers in Closed-Circuit Grinding Plants	142	14	32	36	59	16.7
	Improved Grinding Media and Linings, Wear-Resistant Materials such as High Chrome Alloys, and Classifying Liners	237	30	70	73	64	12.0
	Waste Heat Drying	99	12	26	30	30	13.6
	Dry-Suspension Preheater Kilns	104	13	29	26	35	16.3
	Dry-Precalciner Kilns	67	0	9	24	34	17.7
	Kiln Combustion System Improvement such as Semi-Direct/Indirect Coal Firing, Optimal Oxygen Levels and Advanced Burners Matched to the Kiln/Cooler Design Flame Control	142	18	43	39	43	15.6
	Controlled Particle Size Cement	181	16	46	52	67	13.6
	None Present	61	17	W	29	W	22.2

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
3274	Lime						
	General Energy-Related Technologies						
	One or More General Technologies Present	61	W	27	31	W	18.5
	Computer Control of Building Environment ^b	W	1	W	0	0	15.2
	Computer Control of Processes or Major Energy-Using Equipment ^c	43	W	26	15	W	17.9
	Waste Heat Recovery	19	0	W	W	0	20.1
	Adjustable-Speed Motors	46	0	W	W	1	24.4
	None Present	Q	Q	8	5	0	28.8
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	51	Q	31	17	W	17.6
	Oxygen Enriched Combustion Air	0	0	0	0	0	NF
	Forehearth Designed for Independently Applied Heating and Cooling Operations and Minimal Energy Use	0	0	0	0	0	NF
	Forehearth Designed to Eliminate Side to Middle Temperature Gradients with Improved Temperature Stability	0	0	0	0	0	NF
	Batch Preheaters	0	0	0	0	0	NF
	Cogeneration System Which Uses Waste Heat Rejected in Furnace Exhaust to Generate Steam in Waste Heat Boilers	0	0	0	0	0	NF
	Advanced Glass Refiner	Q	0	Q	0	0	NF
	High-Efficiency Classifiers in Closed-Circuit Grinding Plants	W	0	W	0	0	28.0
	Improved Grinding Media and Linings, Wear-Resistant Materials such as High Chrome Alloys, and Classifying Liners	6	Q	W	0	0	30.8
	Waste Heat Drying	W	0	W	0	0	28.0
	Dry-Suspension Preheater Kilns	10	0	W	W	1	19.0
	Dry-Precalciner Kilns	W	0	W	W	0	17.0
	Kiln Combustion System Improvement such as Semi-Direct/Indirect Coal Firing, Optimal Oxygen Levels and Advanced Burners Matched to the Kiln/Cooler Design Flame Control	44	Q	28	14	0	19.7
	Controlled Particle Size Cement	W	0	W	0	0	28.0
	None Present	Q	Q	3	20	W	29.6
3296	Mineral Wool						
	General Energy-Related Technologies						
	One or More General Technologies Present	34	4	W	W	3	1.1
	Computer Control of Building Environment ^b	W	0	W	*	0	2.3
	Computer Control of Processes or Major Energy-Using Equipment ^c	26	W	12	8	W	1.3
	Waste Heat Recovery	17	3	W	W	W	1.7
	Adjustable-Speed Motors	28	W	14	10	W	1.3
	None Present	6	*	W	W	*	1.7
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	24	W	13	7	W	1.3
	Oxygen Enriched Combustion Air	16	2	9	4	1	1.7
	Forehearth Designed for Independently Applied Heating and Cooling Operations and Minimal Energy Use	13	W	7	3	W	1.5
	Forehearth Designed to Eliminate Side to Middle Temperature Gradients with Improved Temperature Stability	11	1	7	2	0	1.8
	Batch Preheaters	0	0	0	0	0	NF
	Cogeneration System Which Uses Waste Heat Rejected in Furnace Exhaust to Generate Steam in Waste Heat Boilers	*	0	*	0	0	2.4
	Advanced Glass Refiner	W	0	*	W	0	2.3
	High-Efficiency Classifiers in Closed-Circuit Grinding Plants	0	0	0	0	0	NF
	Improved Grinding Media and Linings, Wear-Resistant Materials such as High Chrome Alloys, and Classifying Liners	W	0	W	0	0	2.4
	Waste Heat Drying	0	0	0	0	0	NF
	Dry-Suspension Preheater Kilns	0	0	0	0	0	NF
	Dry-Precalciner Kilns	0	0	0	0	0	NF
	Kiln Combustion System Improvement such as Semi-Direct/Indirect Coal Firing, Optimal Oxygen Levels and Advanced Burners Matched to the Kiln/Cooler Design Flame Control	0	0	0	0	0	NF
	Controlled Particle Size Cement	0	0	0	0	0	NF
	None Present	17	W	4	9	W	1.3

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
33	PRIMARY METAL INDUSTRIES						
	General Energy-Related Technologies						
	One or More General Technologies Present	1,989	323	1,025	464	177	4.1
	Computer Control of Building Environment ^b	557	158	208	112	78	7.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	1,884	301	978	443	162	4.3
	Waste Heat Recovery	1,433	266	828	260	79	5.7
	Adjustable-Speed Motors	1,415	196	854	282	82	5.0
	None Present	303	34	143	79	47	5.9
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	1,580	256	921	322	80	5.1
	Dry Quenching During the Coking Process	W	0	0	W	*	13.9
	External Desulfurization of the Charge for Ironmaking	710	W	514	W	1	9.0
	Hydrocarbon Injection to Maintain Blast Furnace Temperatures	1,142	W	756	191	W	7.1
	Direct Reduction Ironmaking - Sponge Iron Produced Directly from Iron Ore	W	0	W	W	0	14.4
	Continuous Casting	1,168	32	874	249	14	5.6
	Thin Slab/Strip Casting	W	0	W	W	0	11.4
	Waste Heat Boilers/Heat Exchangers in Combination with Reheat Furnaces	926	W	661	130	W	6.5
	Evaporative Cooling of Skid Rails	W	W	0	3	0	11.2
	Electric Induction Reheat Furnaces	78	W	W	55	*	8.1
	Hot Changing - Moving Steel Directly from the Caster to the Reheat Furnaces	986	43	792	145	6	6.6
	Direct Rolling Required no Reheating	196	47	W	W	W	8.3
	Plasmasmelt Smelting of Partially Reduced Iron Powder with Pulverized Coal	0	0	0	0	0	NF
	Cold Bonding (COBO) Pelletizing Technique	0	0	0	0	0	NF
	Preheating Combustion Air	1,283	226	799	242	17	5.7
	Preheating Raw Materials	444	4	364	72	4	6.9
	Top Gas Pressure Recovery from the Blast Furnace	287	W	176	W	0	9.2
	Slab Heat Recovery	255	0	254	1	0	11.0
	Continuous Annealing	983	177	625	W	W	6.9
	Continuous Cold Rolling	618	W	316	W	W	8.6
	Bottom Tap Vessels	257	W	218	30	W	9.0
	Injection Steelmaking	330	W	210	W	W	9.8
	Electroslag Remelting	7	6	1	*	0	5.9
	Vacuum Arc Remelting	W	8	W	1	0	8.7
	Oxygen Injection to Blast Furnace	1,023	W	763	162	W	7.0
	Coal Injection to Blast Furnace	W	W	1	W	0	17.0
	Steel Ladle Metallurgy with Reheat Furnace	867	W	716	140	W	6.5
	None Present	713	101	247	221	144	3.7

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
3312	Blast Furnaces and Steel Mills						
General Energy-Related Technologies							
	One or More General Technologies Present	1,408	254	821	276	57	6.1
	Computer Control of Building Environment ^b	408	W	W	W	W	9.8
	Computer Control of Processes or Major Energy-Using Equipment ^c	1,385	247	809	274	55	6.1
	Waste Heat Recovery	1,251	233	762	W	W	6.5
	Adjustable-Speed Motors	1,045	154	726	157	9	6.8
	None Present	160	15	96	41	8	6.7
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	1,491	W	886	293	W	5.4
	Dry Quenching During the Coking Process	W	0	0	W	*	13.9
	External Desulfurization of the Charge for Ironmaking	685	W	499	W	0	8.4
	Hydrocarbon Injection to Maintain Blast Furnace Temperatures	1,142	W	756	190	W	7.1
	Direct Reduction Ironmaking - Sponge Iron Produced Directly from Iron Ore	W	0	W	W	0	14.4
	Continuous Casting	1,152	31	866	242	12	5.7
	Thin Slab/Strip Casting	W	0	W	0	0	15.8
	Waste Heat Boilers/Heat Exchangers in Combination with Reheat Furnaces	902	W	658	121	W	6.9
	Evaporative Cooling of Skid Rails	W	W	0	3	0	11.2
	Electric Induction Reheat Furnaces	55	W	9	W	0	10.0
	Hot Changing - Moving Steel Directly from the Caster to the Reheat Furnaces	985	43	791	144	6	6.6
	Direct Rolling Required no Reheating	193	47	W	1	W	10.1
	Plasmasmelt Smelting of Partially Reduced Iron Powder with Pulverized Coal	0	0	0	0	0	NF
	Cold Bonding (COBO) Pelletizing Technique	0	0	0	0	0	NF
	Preheating Combustion Air	1,238	223	778	230	7	5.8
	Preheating Raw Materials	410	W	W	W	1	9.6
	Top Gas Pressure Recovery from the Blast Furnace	283	W	176	W	0	9.5
	Slab Heat Recovery	255	0	254	1	0	11.0
	Continuous Annealing	968	174	621	W	W	7.2
	Continuous Cold Rolling	614	W	314	W	W	8.8
	Bottom Tap Vessels	243	W	213	23	W	9.1
	Injection Steelmaking	330	W	210	W	W	9.8
	Electroslag Remelting	7	6	1	0	0	10.3
	Vacuum Arc Remelting	W	7	W	W	0	9.9
	Oxygen Injection to Blast Furnace	997	W	752	154	W	7.2
	Coal Injection to Blast Furnace	W	W	0	W	0	12.9
	Steel Ladle Metallurgy with Reheat Furnace	867	W	716	140	W	6.5
	None Present	77	W	31	24	W	10.2

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
3313	Electrometallurgical Products						
	General Energy-Related Technologies						
	One or More General Technologies Present	W	W	19	W	0	10.9
	Computer Control of Building Environment ^b	0	0	0	0	0	NF
	Computer Control of Processes or Major Energy-Using Equipment ^c	29	W	19	W	0	11.2
	Waste Heat Recovery	W	0	W	0	0	17.0
	Adjustable-Speed Motors	W	*	W	0	0	13.3
	None Present	W	*	0	W	0	14.7
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	1	0	1	0	0	17.0
	Dry Quenching During the Coking Process	0	0	0	0	0	NF
	External Desulfurization of the Charge for Ironmaking	0	0	0	0	0	NF
	Hydrocarbon Injection to Maintain Blast Furnace Temperatures	0	0	0	0	0	NF
	Direct Reduction Ironmaking - Sponge Iron Produced Directly from Iron Ore	0	0	0	0	0	NF
	Continuous Casting	0	0	0	0	0	NF
	Thin Slab/Strip Casting	1	0	1	0	0	17.0
	Waste Heat Boilers/Heat Exchangers in Combination with Reheat Furnaces	0	0	0	0	0	NF
	Evaporative Cooling of Skid Rails	0	0	0	0	0	NF
	Electric Induction Reheat Furnaces	0	0	0	0	0	NF
	Hot Changing - Moving Steel Directly from the Caster to the Reheat Furnaces	0	0	0	0	0	NF
	Direct Rolling Required no Reheating	1	0	1	0	0	17.0
	Plasmasmelt Smelting of Partially Reduced Iron Powder with Pulverized Coal	0	0	0	0	0	NF
	Cold Bonding (COBO) Pelletizing Technique	0	0	0	0	0	NF
	Preheating Combustion Air	0	0	0	0	0	NF
	Preheating Raw Materials	1	0	1	0	0	17.0
	Top Gas Pressure Recovery from the Blast Furnace	0	0	0	0	0	NF
	Slab Heat Recovery	0	0	0	0	0	NF
	Continuous Annealing	1	0	1	0	0	17.0
	Continuous Cold Rolling	1	0	1	0	0	17.0
	Bottom Tap Vessels	0	0	0	0	0	NF
	Injection Steelmaking	0	0	0	0	0	NF
	Electroslag Remelting	0	0	0	0	0	NF
	Vacuum Arc Remelting	0	0	0	0	0	NF
	Oxygen Injection to Blast Furnace	0	0	0	0	0	NF
	Coal Injection to Blast Furnace	0	0	0	0	0	NF
	Steel Ladle Metallurgy with Reheat Furnace	0	0	0	0	0	NF
	None Present	30	W	18	W	0	10.4

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
3321	Gray and Ductile Iron Foundries						
	General Energy-Related Technologies						
	One or More General Technologies Present	55	4	34	15	2	11.2
	Computer Control of Building Environment ^b	11	*	10	*	0	19.8
	Computer Control of Processes or Major Energy-Using Equipment ^c	48	3	28	15	Q	9.7
	Waste Heat Recovery	19	2	10	6	1	11.5
	Adjustable-Speed Motors	24	3	13	7	1	10.2
	None Present	19	2	11	6	*	14.7
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	55	4	29	18	2	11.1
	Dry Quenching During the Coking Process	0	0	0	0	0	NF
	External Desulfurization of the Charge for Ironmaking	26	3	15	8	1	12.2
	Hydrocarbon Injection to Maintain Blast Furnace Temperatures	1	0	0	1	0	27.6
	Direct Reduction Ironmaking - Sponge Iron Produced Directly from Iron Ore	0	0	0	0	0	NF
	Continuous Casting	8	1	4	1	Q	23.0
	Thin Slab/Strip Casting	*	0	0	*	0	NF
	Waste Heat Boilers/Heat Exchangers in Combination with Reheat Furnaces	8	1	W	W	1	17.3
	Evaporative Cooling of Skid Rails	0	0	0	0	0	NF
	Electric Induction Reheat Furnaces	23	*	10	13	*	12.5
	Hot Changing - Moving Steel Directly from the Caster to the Reheat Furnaces	1	0	1	1	0	23.2
	Direct Rolling Required no Reheating	0	0	0	0	0	NF
	Plasmasmelt Smelting of Partially Reduced Iron Powder with Pulverized Coal	0	0	0	0	0	NF
	Cold Bonding (COBO) Pelletizing Technique	0	0	0	0	0	NF
	Preheating Combustion Air	35	2	20	11	Q	10.1
	Preheating Raw Materials	25	1	14	9	1	15.6
	Top Gas Pressure Recovery from the Blast Furnace	1	0	1	1	0	23.2
	Slab Heat Recovery	0	0	0	0	0	NF
	Continuous Annealing	14	2	3	8	1	12.7
	Continuous Cold Rolling	1	0	1	0	0	26.7
	Bottom Tap Vessels	10	0	2	7	Q	18.9
	Injection Steelmaking	0	0	0	0	0	NF
	Electroslag Remelting	0	0	0	0	0	NF
	Vacuum Arc Remelting	0	0	0	0	0	NF
	Oxygen Injection to Blast Furnace	19	2	7	9	Q	12.8
	Coal Injection to Blast Furnace	2	0	1	1	0	33.2
	Steel Ladle Metallurgy with Reheat Furnace	*	*	0	0	0	NF
	None Present	20	1	16	3	*	14.0

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
3331	Primary Copper						
	General Energy-Related Technologies						
	One or More General Technologies Present	W	*	0	W	W	1.0
	Computer Control of Building Environment ^b	W	0	0	W	0	1.3
	Computer Control of Processes or Major Energy-Using Equipment ^c	21	*	0	W	W	1.0
	Waste Heat Recovery	12	*	0	W	W	1.0
	Adjustable-Speed Motors	16	*	0	W	W	1.0
	None Present	W	0	*	*	W	1.1
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	W	*	0	W	W	1.0
	Dry Quenching During the Coking Process	0	0	0	0	0	NF
	External Desulfurization of the Charge for Ironmaking	0	0	0	0	0	NF
	Hydrocarbon Injection to Maintain Blast Furnace Temperatures	0	0	0	0	0	NF
	Direct Reduction Ironmaking - Sponge Iron Produced Directly from Iron Ore	0	0	0	0	0	NF
	Continuous Casting	W	*	0	W	*	1.0
	Thin Slab/Strip Casting	0	0	0	0	0	NF
	Waste Heat Boilers/Heat Exchangers in Combination with Reheat Furnaces	14	0	0	W	W	1.1
	Evaporative Cooling of Skid Rails	0	0	0	0	0	NF
	Electric Induction Reheat Furnaces	0	0	0	0	0	NF
	Hot Changing - Moving Steel Directly from the Caster to the Reheat Furnaces	0	0	0	0	0	NF
	Direct Rolling Required no Reheating	0	0	0	0	0	NF
	Plasmasmelt Smelting of Partially Reduced Iron Powder with Pulverized Coal	0	0	0	0	0	NF
	Cold Bonding (COBO) Pelletizing Technique	0	0	0	0	0	NF
	Preheating Combustion Air	W	0	0	*	W	1.1
	Preheating Raw Materials	W	0	0	W	0	1.3
	Top Gas Pressure Recovery from the Blast Furnace	W	0	0	W	0	1.3
	Slab Heat Recovery	0	0	0	0	0	NF
	Continuous Annealing	0	0	0	0	0	NF
	Continuous Cold Rolling	0	0	0	0	0	NF
	Bottom Tap Vessels	0	0	0	0	0	NF
	Injection Steelmaking	0	0	0	0	0	NF
	Electroslag Remelting	0	0	0	0	0	NF
	Vacuum Arc Remelting	0	0	0	0	0	NF
	Oxygen Injection to Blast Furnace	1	0	0	0	1	1.1
	Coal Injection to Blast Furnace	0	0	0	0	0	NF
	Steel Ladle Metallurgy with Reheat Furnace	0	0	0	0	0	NF
	None Present	W	*	*	*	W	1.0

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
3334	Primary Aluminum						
	General Energy-Related Technologies						
	One or More General Technologies Present	215	W	47	W	W	3.1
	Computer Control of Building Environment ^b	85	W	0	47	W	3.8
	Computer Control of Processes or Major Energy-Using Equipment ^c	215	W	W	84	68	3.1
	Waste Heat Recovery	55	W	W	W	W	4.8
	Adjustable-Speed Motors	120	W	W	53	42	4.2
	None Present	37	0	*	W	W	5.2
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	0	0	0	0	0	NF
	Dry Quenching During the Coking Process	0	0	0	0	0	NF
	External Desulfurization of the Charge for Ironmaking	0	0	0	0	0	NF
	Hydrocarbon Injection to Maintain Blast Furnace Temperatures	0	0	0	0	0	NF
	Direct Reduction Ironmaking - Sponge Iron Produced Directly from Iron Ore	0	0	0	0	0	NF
	Continuous Casting	0	0	0	0	0	NF
	Thin Slab/Strip Casting	0	0	0	0	0	NF
	Waste Heat Boilers/Heat Exchangers in Combination with Reheat Furnaces	0	0	0	0	0	NF
	Evaporative Cooling of Skid Rails	0	0	0	0	0	NF
	Electric Induction Reheat Furnaces	0	0	0	0	0	NF
	Hot Changing - Moving Steel Directly from the Caster to the Reheat Furnaces	0	0	0	0	0	NF
	Direct Rolling Required no Reheating	0	0	0	0	0	NF
	Plasmasmelt Smelting of Partially Reduced Iron Powder with Pulverized Coal	0	0	0	0	0	NF
	Cold Bonding (COBO) Pelletizing Technique	0	0	0	0	0	NF
	Preheating Combustion Air	0	0	0	0	0	NF
	Preheating Raw Materials	0	0	0	0	0	NF
	Top Gas Pressure Recovery from the Blast Furnace	0	0	0	0	0	NF
	Slab Heat Recovery	0	0	0	0	0	NF
	Continuous Annealing	0	0	0	0	0	NF
	Continuous Cold Rolling	0	0	0	0	0	NF
	Bottom Tap Vessels	0	0	0	0	0	NF
	Injection Steelmaking	0	0	0	0	0	NF
	Electroslag Remelting	0	0	0	0	0	NF
	Vacuum Arc Remelting	0	0	0	0	0	NF
	Oxygen Injection to Blast Furnace	0	0	0	0	0	NF
	Coal Injection to Blast Furnace	0	0	0	0	0	NF
	Steel Ladle Metallurgy with Reheat Furnace	0	0	0	0	0	NF
	None Present	252	W	47	W	96	3.1

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
3339	Primary Nonferrous Metals, nec						
	General Energy-Related Technologies						
	One or More General Technologies Present	36	W	7	W	W	1.8
	Computer Control of Building Environment ^b	W	W	0	0	*	1.0
	Computer Control of Processes or Major Energy-Using Equipment ^c	21	W	4	5	W	2.3
	Waste Heat Recovery	13	0	W	W	W	1.1
	Adjustable-Speed Motors	26	W	6	8	W	1.9
	None Present	6	*	*	W	W	5.5
	Industry-Specific Technologies						
	One or More Industry-Specific Technologies Present	14	*	W	W	W	1.0
	Dry Quenching During the Coking Process	0	0	0	0	0	NF
	External Desulfurization of the Charge for Ironmaking	*	*	0	0	0	1.1
	Hydrocarbon Injection to Maintain Blast Furnace Temperatures	0	0	0	0	0	NF
	Direct Reduction Ironmaking - Sponge Iron Produced Directly from Iron Ore	0	0	0	0	0	NF
	Continuous Casting	W	0	W	W	0	1.2
	Thin Slab/Strip Casting	W	0	W	W	0	1.2
	Waste Heat Boilers/Heat Exchangers in Combination with Reheat Furnaces	W	0	1	W	0	1.2
	Evaporative Cooling of Skid Rails	0	0	0	0	0	NF
	Electric Induction Reheat Furnaces	*	0	0	0	*	1.1
	Hot Changing - Moving Steel Directly from the Caster to the Reheat Furnaces	0	0	0	0	0	NF
	Direct Rolling Required no Reheating	W	0	0	W	0	1.3
	Plasmasmelt Smelting of Partially Reduced Iron Powder with Pulverized Coal	0	0	0	0	0	NF
	Cold Bonding (COBO) Pelletizing Technique	0	0	0	0	0	NF
	Preheating Combustion Air	W	0	1	*	W	1.1
	Preheating Raw Materials	W	0	1	*	W	1.1
	Top Gas Pressure Recovery from the Blast Furnace	0	0	0	0	0	NF
	Slab Heat Recovery	0	0	0	0	0	NF
	Continuous Annealing	0	0	0	0	0	NF
	Continuous Cold Rolling	W	0	0	W	0	1.3
	Bottom Tap Vessels	W	0	W	0	0	1.2
	Injection Steelmaking	0	0	0	0	0	NF
	Electroslag Remelting	*	0	0	*	0	1.3
	Vacuum Arc Remelting	1	*	0	*	0	1.1
	Oxygen Injection to Blast Furnace	W	0	W	0	1	1.1
	Coal Injection to Blast Furnace	0	0	0	0	0	NF
	Steel Ladle Metallurgy with Reheat Furnace	0	0	0	0	0	NF
	None Present	28	W	W	W	W	2.4

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
RSE Column Factors:		0.7	1.3	1.0	0.9	1.3	
3353	Aluminum Sheet, Plate, and Foil						
General Energy-Related Technologies							
	One or More General Technologies Present	58	W	24	23	W	1.5
	Computer Control of Building Environment ^b	7	W	W	W	0	1.1
	Computer Control of Processes or Major Energy-Using Equipment ^c	57	W	24	22	W	1.0
	Waste Heat Recovery	24	W	W	10	1	1.8
	Adjustable-Speed Motors	50	W	23	18	W	1.5
	None Present	2	0	*	2	0	2.2
Industry-Specific Technologies							
	One or More Industry-Specific Technologies Present	0	0	0	0	0	NF
	Dry Quenching During the Coking Process	0	0	0	0	0	NF
	External Desulfurization of the Charge for Ironmaking	0	0	0	0	0	NF
	Hydrocarbon Injection to Maintain Blast Furnace Temperatures	0	0	0	0	0	NF
	Direct Reduction Ironmaking - Sponge Iron Produced Directly from Iron Ore	0	0	0	0	0	NF
	Continuous Casting	0	0	0	0	0	NF
	Thin Slab/Strip Casting	0	0	0	0	0	NF
	Waste Heat Boilers/Heat Exchangers in Combination with Reheat Furnaces	0	0	0	0	0	NF
	Evaporative Cooling of Skid Rails	0	0	0	0	0	NF
	Electric Induction Reheat Furnaces	0	0	0	0	0	NF
	Hot Changing - Moving Steel Directly from the Caster to the Reheat Furnaces	0	0	0	0	0	NF
	Direct Rolling Required no Reheating	0	0	0	0	0	NF
	Plasmasmelt Smelting of Partially Reduced Iron Powder with Pulverized Coal	0	0	0	0	0	NF
	Cold Bonding (COBO) Pelletizing Technique	0	0	0	0	0	NF
	Preheating Combustion Air	0	0	0	0	0	NF
	Preheating Raw Materials	0	0	0	0	0	NF
	Top Gas Pressure Recovery from the Blast Furnace	0	0	0	0	0	NF
	Slab Heat Recovery	0	0	0	0	0	NF
	Continuous Annealing	0	0	0	0	0	NF
	Continuous Cold Rolling	0	0	0	0	0	NF
	Bottom Tap Vessels	0	0	0	0	0	NF
	Injection Steelmaking	0	0	0	0	0	NF
	Electroslag Remelting	0	0	0	0	0	NF
	Vacuum Arc Remelting	0	0	0	0	0	NF
	Oxygen Injection to Blast Furnace	0	0	0	0	0	NF
	Coal Injection to Blast Furnace	0	0	0	0	0	NF
	Steel Ladle Metallurgy with Reheat Furnace	0	0	0	0	0	NF
	None Present	60	W	24	25	W	1.4
34	FABRICATED METAL PRODUCTS						
General Energy-Related Technologies							
	One or More General Technologies Present	180	35	82	47	16	8.5
	Computer Control of Building Environment ^b	51	13	23	11	4	12.6
	Computer Control of Processes or Major Energy-Using Equipment ^c	90	18	46	19	8	9.9
	Waste Heat Recovery	52	13	29	8	3	14.3
	Adjustable-Speed Motors	113	21	53	30	10	10.7
	None Present	125	22	57	34	13	10.2
35	INDUSTRIAL MACHINERY and EQUIPMENT						
General Energy-Related Technologies							
	One or More General Technologies Present	140	26	74	28	11	8.3
	Computer Control of Building Environment ^b	95	17	52	16	10	9.3
	Computer Control of Processes or Major Energy-Using Equipment ^c	77	12	45	13	7	10.9
	Waste Heat Recovery	39	7	24	4	3	13.8
	Adjustable-Speed Motors	82	14	46	15	7	10.9
	None Present	95	15	41	29	10	12.3

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
357	Computer and Office Equipment						
	General Energy-Related Technologies						
	One or More General Technologies Present	17	4	4	3	7	12.7
	Computer Control of Building Environment ^b	16	4	3	3	6	12.8
	Computer Control of Processes or Major Energy-Using Equipment ^c	10	3	1	2	4	16.8
	Waste Heat Recovery	6	2	1	1	3	21.7
	Adjustable-Speed Motors	11	3	3	2	4	16.9
	None Present	4	1	1	1	2	18.0
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT						
	General Energy-Related Technologies						
	One or More General Technologies Present	138	33	41	43	22	6.9
	Computer Control of Building Environment ^b	82	W	27	23	W	8.2
	Computer Control of Processes or Major Energy-Using Equipment ^c	77	16	20	29	11	8.6
	Waste Heat Recovery	53	12	20	17	4	11.1
	Adjustable-Speed Motors	95	23	30	27	15	8.6
	None Present	58	10	17	24	7	12.2
37	TRANSPORTATION EQUIPMENT						
	General Energy-Related Technologies						
	One or More General Technologies Present	252	26	127	60	40	4.2
	Computer Control of Building Environment ^b	173	15	93	35	30	4.6
	Computer Control of Processes or Major Energy-Using Equipment ^c	171	20	90	32	28	4.7
	Waste Heat Recovery	97	11	39	28	18	5.7
	Adjustable-Speed Motors	182	23	85	46	28	4.7
	None Present	81	11	44	18	7	7.1
3711	Motor Vehicles and Car Bodies						
	General Energy-Related Technologies						
	One or More General Technologies Present	W	W	W	33	1	4.4
	Computer Control of Building Environment ^b	55	1	38	16	*	4.8
	Computer Control of Processes or Major Energy-Using Equipment ^c	59	W	37	18	W	4.0
	Waste Heat Recovery	39	1	16	21	1	6.2
	Adjustable-Speed Motors	71	W	35	32	W	4.5
	None Present	W	*	W	3	1	6.8
3714	Motor Vehicle Parts and Accessories						
	General Energy-Related Technologies						
	One or More General Technologies Present	72	4	57	9	2	7.5
	Computer Control of Building Environment ^b	42	2	34	6	*	8.2
	Computer Control of Processes or Major Energy-Using Equipment ^c	45	2	37	5	1	8.5
	Waste Heat Recovery	22	W	16	W	*	10.5
	Adjustable-Speed Motors	46	4	35	5	2	8.0
	None Present	27	4	19	4	1	9.3
38	INSTRUMENTS and RELATED PRODUCTS						
	General Energy-Related Technologies						
	One or More General Technologies Present	80	45	9	13	14	11.3
	Computer Control of Building Environment ^b	71	42	7	9	13	12.3
	Computer Control of Processes or Major Energy-Using Equipment ^c	55	35	4	8	8	13.8
	Waste Heat Recovery	37	29	*	3	4	21.4
	Adjustable-Speed Motors	57	38	4	6	9	14.3
	None Present	18	7	2	5	3	17.9
3841	Surgical and Medical Instruments						
	General Energy-Related Technologies						
	One or More General Technologies Present	4	1	1	1	1	10.9
	Computer Control of Building Environment ^b	3	1	1	1	*	11.4
	Computer Control of Processes or Major Energy-Using Equipment ^c	2	*	1	1	*	19.0
	Waste Heat Recovery	1	*	*	*	*	21.7
	Adjustable-Speed Motors	2	*	1	1	*	14.2
	None Present	2	1	*	*	1	16.4

See footnotes at end of table.

Table A44. Total Inputs of Energy for Heat, Power, and Electricity Generation by Census Region, Industry Group, Selected Industries, Presence of General Technologies, and Industry-Specific Technologies for Selected Industries, 1991 (Continued)
(Estimates in Trillion Btu)

SIC Code ^a	Industry Groups and Industry	Total	Census Region				RSE Row Factors
			Northeast	Midwest	South	West	
	RSE Column Factors:	0.7	1.3	1.0	0.9	1.3	
39	MISC. MANUFACTURING INDUSTRIES						
	General Energy-Related Technologies						
	One or More General Technologies Present	16	6	4	5	1	13.9
	Computer Control of Building Environment ^b	6	2	2	2	*	17.8
	Computer Control of Processes or Major Energy-Using Equipment ^c	7	3	1	2	*	17.6
	Waste Heat Recovery	W	1	2	W	*	27.3
	Adjustable-Speed Motors	9	3	2	2	1	15.1
	None Present	15	5	5	4	1	17.1

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b For example, space heating or cooling and lighting.

^c For example, boilers or furnaces.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A45. Total Inputs of Energy for Heat, Power, and Electricity Generation by Enclosed Floorspace, Percent Conditioned Floorspace, and Presence of Computer Controls for Building Environment, 1991
(Estimates in Trillion Btu)

Enclosed Floorspace and Percent Conditioned Floorspace	Total	Presence of Computer Controls for Building Environment		RSE Row Factors
		Present	Not Present	
RSE Column Factors:	0.8	1.3	0.9	
ALL SQUARE FEET CATEGORIES				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	15,027	3,061	11,945	2.0
100 Percent	W	W	W	2.6
About 75 Percent	W	W	W	2.3
About 50 Percent	W	W	1,307	3.8
About 25 Percent	3,451	484	2,967	3.3
None	871	29	841	9.4
Don't Know	1,967	278	1,689	3.6
Not Reported	366	41	325	5.6
25,000 OR LESS SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	424	54	370	6.7
100 Percent	144	27	117	9.6
About 75 Percent	61	9	52	12.3
About 50 Percent	28	W	W	12.8
About 25 Percent	71	W	W	13.6
None	56	*	56	16.2
Don't Know	58	Q	53	9.2
Not Reported	5	Q	4	40.0
25,001-100,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	1,440	188	1,252	3.3
100 Percent	445	126	319	5.3
About 75 Percent	350	16	333	8.1
About 50 Percent	217	18	199	8.6
About 25 Percent	273	18	254	7.8
None	99	8	91	10.9
Don't Know	47	Q	46	11.6
Not Reported	10	1	10	26.3
100,001-200,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	1,890	330	1,560	3.6
100 Percent	497	147	350	4.3
About 75 Percent	570	133	438	3.8
About 50 Percent	151	9	142	10.7
About 25 Percent	346	27	319	6.7
None	233	Q	220	11.0
Don't Know	70	1	68	14.6
Not Reported	22	0	22	32.5

See footnotes at end of table.

Table A45. Total Inputs of Energy for Heat, Power, and Electricity Generation by Enclosed Floorspace, Percent Conditioned Floorspace, and Presence of Computer Controls for Building Environment, 1991 (Continued)
(Estimates in Trillion Btu)

Enclosed Floorspace and Percent Conditioned Floorspace	Total	Presence of Computer Controls for Building Environment		RSE Row Factors
		Present	Not Present	
RSE Column Factors:	0.8	1.3	0.9	
200,001-500,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	2,967	557	2,410	3.0
100 Percent	674	200	474	4.3
About 75 Percent	920	223	697	3.3
About 50 Percent	367	41	326	5.2
About 25 Percent	718	86	632	6.1
None	166	W	W	21.4
Don't Know	88	W	W	7.0
Not Reported	34	*	34	16.0
500,001-750,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	1,589	339	1,250	4.3
100 Percent	459	158	301	5.3
About 75 Percent	435	80	354	3.6
About 50 Percent	131	20	112	7.5
About 25 Percent	371	77	295	11.5
None	110	W	W	9.0
Don't Know	79	W	W	5.8
Not Reported	4	0	4	38.3
750,001-1,000,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	865	162	702	3.6
100 Percent	190	81	109	4.9
About 75 Percent	174	27	147	4.6
About 50 Percent	101	22	79	7.3
About 25 Percent	320	13	307	7.3
None	W	W	W	14.7
Don't Know	34	*	34	9.3
Not Reported	W	W	W	12.4
1,000,001-5,000,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	2,721	761	1,960	2.6
100 Percent	540	261	279	2.6
About 75 Percent	621	152	469	3.6
About 50 Percent	333	177	157	7.2
About 25 Percent	762	167	595	3.9
None	101	W	W	8.3
Don't Know	340	1	339	9.4
Not Reported	24	W	W	10.5

See footnotes at end of table.

Table A45. Total Inputs of Energy for Heat, Power, and Electricity Generation by Enclosed Floorspace, Percent Conditioned Floorspace, and Presence of Computer Controls for Building Environment, 1991 (Continued)
(Estimates in Trillion Btu)

Enclosed Floorspace and Percent Conditioned Floorspace	Total	Presence of Computer Controls for Building Environment		RSE Row Factors
		Present	Not Present	
RSE Column Factors:	0.8	1.3	0.9	
5,000,001-10,000,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	472	159	313	6.2
100 Percent	79	37	41	7.0
About 75 Percent	130	20	110	12.2
About 50 Percent	77	W	W	10.9
About 25 Percent	180	W	W	9.9
None	0	0	0	0.0
Don't Know	6	W	W	14.0
Not Reported	0	0	0	0.0
10,000,001-25,000,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	482	W	W	8.0
100 Percent	38	31	7	14.0
About 75 Percent	W	W	W	15.5
About 50 Percent	W	0	W	13.9
About 25 Percent	W	0	W	11.6
None	0	0	0	0.0
Don't Know	W	W	W	11.3
Not Reported	*	0	*	25.5
OVER 25,000,000 SQUARE FEET OF FLOORSPACE				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	371	W	W	8.6
100 Percent	W	W	0	12.3
About 75 Percent	0	0	0	0.0
About 50 Percent	0	0	0	0.0
About 25 Percent	W	0	W	10.4
None	W	0	W	15.1
Don't Know	W	0	W	15.1
Not Reported	0	0	0	0.0
DON'T KNOW				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	1,481	287	1,195	3.6
100 Percent	98	13	85	4.6
About 75 Percent	53	18	36	11.9
About 50 Percent	108	W	W	5.4
About 25 Percent	47	14	32	11.3
None	W	0	W	12.8
Don't Know	1,134	214	920	4.2
Not Reported	W	W	W	8.5

See footnotes at end of table.

Table A45. Total Inputs of Energy for Heat, Power, and Electricity Generation by Enclosed Floorspace, Percent Conditioned Floorspace, and Presence of Computer Controls for Building Environment, 1991 (Continued)
(Estimates in Trillion Btu)

Enclosed Floorspace and Percent Conditioned Floorspace	Total	Presence of Computer Controls for Building Environment		RSE Row Factors
		Present	Not Present	
RSE Column Factors:	0.8	1.3	0.9	
NOT REPORTED				
Approximate Conditioned Floorspace (Percent Heated or Cooled)				
Total	323	38	285	6.6
100 Percent	16	W	W	11.8
About 75 Percent	22	17	5	16.1
About 50 Percent	7	0	7	20.9
About 25 Percent	31	W	W	15.9
None	7	0	7	20.9
Don't Know	12	0	12	40.6
Not Reported	229	7	222	9.6

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: •To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • The estimates presented in this table are for the total consumption of energy for the production of heat and power, regardless of where the energy was produced. Specifically, the estimates include the quantities of energy that were originally produced offsite and purchased by or transferred to the establishment, plus those that were produced onsite from other energy or input materials not classified as energy, or were extracted from captive (onsite) mines or wells.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A46. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Electricity		Steam		Natural Gas			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Total United States									
	RSE Column Factors:	0.5	2.0	1.5	1.3	0.7	0.9	0.8	
20	Food and Kindred Products	W	11	35	30	803	W	371	7.7
2011	Meat Packing Plants	158	Q	W	*	43	16	16	9.2
2033	Canned Fruits and Vegetables	99	*	0	0	46	18	39	13.2
2037	Frozen Fruits and Vegetables	W	W	0	W	46	10	8	18.8
2046	Wet Corn Milling	W	W	W	W	W	W	52	14.4
2051	Bread, Cake, and Related Products	W	W	*	0	64	8	9	15.2
2063	Beet Sugar	19	0	0	0	W	W	15	12.7
2075	Soybean Oil Mills	W	0	W	W	15	13	26	4.4
2082	Malt Beverages	124	0	W	0	W	W	31	12.9
21	Tobacco Products	73	0	*	0	11	W	W	14.8
22	Textile Mill Products	W	W	9	22	248	43	41	10.7
23	Apparel and Other Textile Products	378	3	*	0	61	W	W	23.6
24	Lumber and Wood Products	W	Q	Q	19	79	29	18	24.2
25	Furniture and Fixtures	320	Q	*	0	57	4	8	17.8
26	Paper and Allied Products	2,639	16	25	34	557	W	421	5.1
2611	Pulp Mills	W	W	0	Q	44	W	W	21.1
2621	Paper Mills	W	W	7	28	216	114	237	4.2
2631	Paperboard Mills	W	W	18	W	132	W	134	7.5
27	Printing and Publishing	1,041	Q	6	W	138	13	22	18.9
28	Chemicals and Allied Products	4,222	258	90	204	1,113	1,606	1,124	6.1
2812	Alkalies and Chlorine	W	W	0	W	W	W	W	18.6
2813	Industrial Gases	W	0	0	*	W	W	W	14.7
2819	Industrial Inorganic Chemicals, nec	W	W	0	8	114	122	W	9.9
2821	Plastics Materials and Resins	W	12	15	32	88	204	100	5.9
2822	Synthetic Rubber	W	W	W	23	W	102	10	14.2
2823	Cellulosic Manmade Fibers	W	0	0	0	W	0	0	40.0
2824	Organic Fibers, Noncellulosic	W	W	*	1	34	W	W	5.0
2865	Cyclic Crudes and Intermediates	W	W	W	21	106	38	40	12.7
2869	Industrial Organic Chemicals, nec	641	18	45	85	W	638	327	5.7
2873	Nitrogenous Fertilizers	95	5	Q	Q	221	338	317	24.8
2874	Phosphatic Fertilizers	98	0	0	0	15	W	W	10.1
29	Petroleum and Coal Products	W	W	W	48	433	803	270	3.4
2911	Petroleum Refining	W	W	W	47	342	791	240	3.0
30	Rubber and Misc. Plastics Products	1,953	Q	Q	7	212	19	70	9.8
3011	Tires and Inner Tubes	W	0	0	W	37	3	9	4.7
308	Miscellaneous Plastic Products, nec	1,528	Q	Q	W	125	11	44	15.8
31	Leather and Leather Products	W	W	0	*	10	1	4	27.9
32	Stone, Clay and Glass Products	W	W	Q	W	470	140	351	7.8
3211	Flat Glass	68	0	W	W	43	W	W	3.9
3221	Glass Containers	197	0	0	0	59	20	89	6.1
3229	Pressed and Blown Glass, nec	W	W	0	*	70	W	29	7.1
3241	Cement, Hydraulic	406	0	0	0	33	17	22	22.3
3274	Lime	59	0	0	0	W	7	W	27.7
3296	Mineral Wool	W	0	0	0	W	W	34	1.4
33	Primary Metal Industries	W	W	W	8	664	209	881	5.3
3312	Blast Furnaces and Steel Mills	W	W	W	W	261	100	586	6.2
3313	Electrometallurgical Products	W	W	W	W	W	*	W	10.0
3321	Gray and Ductile Iron Foundries	W	*	0	W	49	5	26	11.7
3331	Primary Copper	W	0	0	0	W	W	W	1.4
3334	Primary Aluminum	W	0	0	0	27	13	14	4.1
3339	Primary Nonferrous Metals, nec	110	0	0	*	10	9	18	3.2
3353	Aluminum Sheet, Plate, and Foil	W	0	W	0	27	13	65	2.1
34	Fabricated Metal Products	W	W	W	W	408	60	122	14.0
35	Industrial Machinery and Equipment	1,817	*	W	W	282	23	72	15.1
357	Computer and Office Equipment	255	*	*	W	16	W	W	18.8
36	Electronic and Other Electric Equipment	W	W	W	*	188	25	50	12.3
37	Transportation Equipment	1,906	36	6	10	193	44	159	5.5
3711	Motor Vehicles and Car Bodies	W	W	5	W	37	21	64	4.6
3714	Motor Vehicle Parts and Accessories	W	Q	W	W	51	18	58	7.9
38	Instruments and Related Products	W	*	*	*	62	12	16	15.9
3841	Surgical and Medical Instruments	75	*	*	0	7	*	1	16.8
39	Misc. Manufacturing Industries	246	0	*	*	48	3	6	20.3
	Total	31,636	461	267	390	6,037	3,507	4,013	3.4

See footnotes at end of table.

Table A46. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Electricity		Steam		Natural Gas			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Northeast Census Region									
RSE Column Factors:		0.6	1.6	1.2	1.2	0.8	1.0	0.9	
20	Food and Kindred Products	391	Q	W	Q	87	22	34	17.4
2011	Meat Packing Plants	8	0	0	0	W	0	W	25.2
2033	Canned Fruits and Vegetables	22	0	0	0	W	W	Q	23.0
2037	Frozen Fruits and Vegetables	W	0	0	*	*	0	*	35.3
2046	Wet Corn Milling	1	0	0	0	*	0	0	36.9
2051	Bread, Cake, and Related Products	W	Q	0	0	11	2	W	21.7
2063	Beet Sugar	0	0	0	0	0	0	0	NF
2075	Soybean Oil Mills	0	0	0	0	0	0	0	NF
2082	Malt Beverages	33	0	0	0	Q	W	W	17.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	26.4
22	Textile Mill Products	W	W	Q	10	36	4	3	23.1
23	Apparel and Other Textile Products	49	*	*	0	10	0	Q	31.5
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	40.9
25	Furniture and Fixtures	W	Q	0	0	6	Q	1	31.0
26	Paper and Allied Products	W	W	6	W	W	W	45	10.7
2611	Pulp Mills	W	Q	0	Q	0	0	0	57.8
2621	Paper Mills	W	W	W	8	21	*	35	6.1
2631	Paperboard Mills	W	0	W	*	11	W	W	20.4
27	Printing and Publishing	254	Q	Q	0	38	W	W	29.7
28	Chemicals and Allied Products	W	8	W	39	102	21	71	10.7
2812	Alkalies and Chlorine	*	0	0	0	0	*	0	32.3
2813	Industrial Gases	W	0	0	0	W	0	0	14.3
2819	Industrial Inorganic Chemicals, nec	W	0	0	*	11	1	6	25.6
2821	Plastics Materials and Resins	W	*	W	W	10	3	12	10.5
2822	Synthetic Rubber	W	0	0	W	W	*	W	24.7
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	6	0	0	0	*	*	0	17.1
2865	Cyclic Crudes and Intermediates	W	W	0	W	W	W	W	21.2
2869	Industrial Organic Chemicals, nec	W	W	W	W	20	W	W	12.3
2873	Nitrogenous Fertilizers	W	W	0	*	*	0	W	46.7
2874	Phosphatic Fertilizers	0	0	0	0	0	0	0	NF
29	Petroleum and Coal Products	168	Q	W	*	23	W	W	10.4
2911	Petroleum Refining	122	0	W	0	W	19	W	5.3
30	Rubber and Misc. Plastics Products	410	0	Q	*	W	2	W	24.0
3011	Tires and Inner Tubes	5	0	0	0	3	0	*	10.0
308	Miscellaneous Plastic Products, nec	363	0	Q	*	22	W	W	27.9
31	Leather and Leather Products	18	0	0	0	3	*	0	28.7
32	Stone, Clay and Glass Products	W	W	0	*	77	25	77	13.2
3211	Flat Glass	W	0	0	0	0	W	W	5.5
3221	Glass Containers	47	0	0	0	11	W	W	10.2
3229	Pressed and Blown Glass, nec	W	W	0	*	21	W	4	8.7
3241	Cement, Hydraulic	70	0	0	0	*	*	0	26.7
3274	Lime	Q	0	0	0	0	Q	0	NF
3296	Mineral Wool	W	0	0	0	W	*	5	2.5
33	Primary Metal Industries	W	W	0	1	184	32	107	8.4
3312	Blast Furnaces and Steel Mills	366	0	0	*	104	11	71	7.1
3313	Electrometallurgical Products	W	W	0	*	*	0	0	12.0
3321	Gray and Ductile Iron Foundries	25	0	0	0	W	W	Q	20.1
3331	Primary Copper	W	0	0	0	*	0	*	1.3
3334	Primary Aluminum	W	0	0	0	W	0	0	6.5
3339	Primary Nonferrous Metals, nec	6	0	0	0	*	W	W	3.9
3353	Aluminum Sheet, Plate, and Foil	27	0	0	0	W	0	W	2.4
34	Fabricated Metal Products	381	0	*	W	85	12	31	18.5
35	Industrial Machinery and Equipment	W	0	0	W	46	5	16	21.4
357	Computer and Office Equipment	57	0	0	W	4	*	W	24.8
36	Electronic and Other Electric Equipment	450	0	W	0	43	2	12	19.7
37	Transportation Equipment	W	W	0	W	20	W	W	11.1
3711	Motor Vehicles and Car Bodies	W	0	0	0	W	0	W	9.6
3714	Motor Vehicle Parts and Accessories	63	0	0	W	W	W	8	12.9
38	Instruments and Related Products	W	*	0	*	22	6	W	18.2
3841	Surgical and Medical Instruments	25	*	0	0	2	*	*	21.9
39	Misc. Manufacturing Industries	94	0	0	*	W	Q	W	21.8
	Total	5,447	55	W	70	902	172	477	6.6

See footnotes at end of table.

Table A46. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Electricity		Steam		Natural Gas			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Midwest Census Region									
	RSE Column Factors:	0.5	1.6	1.3	1.4	0.8	0.9	0.8	
20	Food and Kindred Products	W	5	30	4	280	W	176	10.8
2011	Meat Packing Plants	93	0	W	0	30	10	11	10.5
2033	Canned Fruits and Vegetables	22	0	0	0	13	5	5	18.0
2037	Frozen Fruits and Vegetables	W	0	0	0	3	*	3	39.9
2046	Wet Corn Milling	W	0	W	0	W	W	W	15.0
2051	Bread, Cake, and Related Products	W	W	*	0	14	4	W	17.3
2063	Beet Sugar	W	0	0	0	W	W	W	13.5
2075	Soybean Oil Mills	W	0	W	0	W	W	18	4.7
2082	Malt Beverages	21	0	W	0	2	W	W	20.9
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	12.4
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	34.7
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	35.6
24	Lumber and Wood Products	164	0	W	0	33	Q	Q	31.2
25	Furniture and Fixtures	W	W	0	0	W	2	6	23.7
26	Paper and Allied Products	W	W	W	W	130	40	121	8.7
2611	Pulp Mills	W	0	0	0	W	0	W	45.5
2621	Paper Mills	W	W	W	W	W	W	83	7.1
2631	Paperboard Mills	84	0	W	0	16	W	W	14.8
27	Printing and Publishing	299	0	3	W	52	6	13	21.8
28	Chemicals and Allied Products	W	W	W	31	152	137	194	10.7
2812	Alkalies and Chlorine	W	0	0	0	0	0	W	36.7
2813	Industrial Gases	W	0	0	*	W	0	W	16.0
2819	Industrial Inorganic Chemicals, nec	W	W	0	*	14	8	W	12.8
2821	Plastics Materials and Resins	W	W	9	W	16	3	32	7.9
2822	Synthetic Rubber	8	0	0	0	1	0	W	21.3
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	34	0	0	Q	W	W	20	18.2
2869	Industrial Organic Chemicals, nec	53	W	W	W	33	W	17	10.3
2873	Nitrogenous Fertilizers	W	Q	0	Q	W	W	W	46.2
2874	Phosphatic Fertilizers	*	0	0	0	*	0	*	5.7
29	Petroleum and Coal Products	W	*	Q	W	60	W	W	7.0
2911	Petroleum Refining	243	*	0	W	W	94	W	3.9
30	Rubber and Misc. Plastics Products	735	Q	0	0	80	9	37	15.4
3011	Tires and Inner Tubes	W	0	0	0	W	W	W	5.5
308	Miscellaneous Plastic Products, nec	NA	NA	NA	NA	NA	NA	NA	21.4
31	Leather and Leather Products	W	W	0	*	3	*	W	27.4
32	Stone, Clay and Glass Products	W	0	Q	*	121	37	120	9.7
3211	Flat Glass	W	0	W	0	11	0	14	5.0
3221	Glass Containers	39	0	0	0	W	W	25	9.8
3229	Pressed and Blown Glass, nec	28	0	0	0	16	W	W	9.2
3241	Cement, Hydraulic	96	0	0	0	6	Q	W	24.5
3274	Lime	19	0	0	0	W	W	*	28.5
3296	Mineral Wool	47	0	0	0	12	W	13	1.9
33	Primary Metal Industries	W	W	W	W	W	71	554	7.6
3312	Blast Furnaces and Steel Mills	W	W	W	W	W	W	409	7.4
3313	Electrometallurgical Products	W	W	W	W	W	0	2	10.7
3321	Gray and Ductile Iron Foundries	215	*	0	W	W	W	24	13.3
3331	Primary Copper	*	0	0	0	*	0	0	1.5
3334	Primary Aluminum	W	0	0	0	W	0	W	7.0
3339	Primary Nonferrous Metals, nec	26	0	0	*	W	W	3	2.4
3353	Aluminum Sheet, Plate, and Foil	W	0	W	0	W	W	17	1.5
34	Fabricated Metal Products	763	Q	W	W	142	W	W	15.0
35	Industrial Machinery and Equipment	W	*	W	0	125	12	50	15.4
357	Computer and Office Equipment	38	*	*	0	4	Q	*	27.5
36	Electronic and Other Electric Equipment	350	*	W	*	53	7	28	15.9
37	Transportation Equipment	W	W	W	5	79	33	98	6.8
3711	Motor Vehicles and Car Bodies	W	W	W	W	20	W	W	5.4
3714	Motor Vehicle Parts and Accessories	W	Q	W	W	25	15	46	9.3
38	Instruments and Related Products	99	0	*	0	11	Q	W	26.9
3841	Surgical and Medical Instruments	13	0	*	0	2	*	0	18.6
39	Misc. Manufacturing Industries	59	0	*	0	W	2	W	23.2
	Total	9,048	87	97	56	1,575	572	1,510	4.8

See footnotes at end of table.

Table A46. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Electricity		Steam		Natural Gas			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
South Census Region									
RSE Column Factors:		0.5	1.9	1.5	1.1	0.7	0.9	1.0	
20	Food and Kindred Products	W	Q	W	W	244	68	56	12.9
2011	Meat Packing Plants	W	Q	0	*	9	W	W	16.8
2033	Canned Fruits and Vegetables	12	0	0	0	W	W	1	29.7
2037	Frozen Fruits and Vegetables	31	0	0	0	13	W	W	26.8
2046	Wet Corn Milling	31	0	0	0	W	*	W	26.2
2051	Bread, Cake, and Related Products	45	0	0	0	25	1	1	21.6
2063	Beet Sugar	*	0	0	0	W	0	0	26.9
2075	Soybean Oil Mills	23	0	0	W	W	W	8	6.2
2082	Malt Beverages	41	0	0	0	7	W	W	17.1
21	Tobacco Products	72	0	*	0	10	W	W	14.6
22	Textile Mill Products	W	W	5	12	191	37	32	9.2
23	Apparel and Other Textile Products	255	2	0	0	40	W	W	26.2
24	Lumber and Wood Products	W	0	Q	Q	21	15	7	31.9
25	Furniture and Fixtures	160	0	*	0	W	Q	1	21.8
26	Paper and Allied Products	1,039	0	W	W	282	W	90	6.8
2611	Pulp Mills	68	0	0	0	30	W	W	26.9
2621	Paper Mills	W	0	0	W	116	95	31	6.9
2631	Paperboard Mills	268	0	W	*	86	72	W	9.8
27	Printing and Publishing	284	0	*	0	27	Q	W	22.5
28	Chemicals and Allied Products	W	W	54	130	726	1,441	775	6.8
2812	Alkalies and Chlorine	W	W	0	W	W	W	W	19.5
2813	Industrial Gases	W	0	0	0	W	W	W	15.7
2819	Industrial Inorganic Chemicals, nec	231	W	0	W	78	111	W	11.2
2821	Plastics Materials and Resins	W	W	W	15	54	199	55	7.4
2822	Synthetic Rubber	W	W	W	W	W	101	W	14.8
2823	Cellulosic Manmade Fibers	W	0	0	0	W	0	0	38.5
2824	Organic Fibers, Noncellulosic	W	W	*	1	33	W	W	5.0
2865	Cyclic Crudes and Intermediates	W	W	W	16	81	W	W	15.0
2869	Industrial Organic Chemicals, nec	W	W	W	46	W	W	297	6.3
2873	Nitrogenous Fertilizers	68	0	Q	0	W	W	251	31.5
2874	Phosphatic Fertilizers	W	0	0	0	W	W	W	3.7
29	Petroleum and Coal Products	W	W	W	W	198	629	115	4.9
2911	Petroleum Refining	556	0	W	W	172	627	112	3.7
30	Rubber and Misc. Plastics Products	599	0	0	6	76	8	21	14.0
3011	Tires and Inner Tubes	121	0	0	W	W	W	W	5.1
308	Miscellaneous Plastic Products, nec	389	0	0	W	33	5	13	24.5
31	Leather and Leather Products	17	0	0	0	W	*	0	30.3
32	Stone, Clay and Glass Products	W	W	0	0	203	56	104	8.7
3211	Flat Glass	31	0	0	0	W	W	18	5.1
3221	Glass Containers	54	0	0	0	29	W	W	9.2
3229	Pressed and Blown Glass, nec	60	0	0	0	33	W	W	9.9
3241	Cement, Hydraulic	130	0	0	0	14	Q	13	24.1
3274	Lime	18	0	0	0	4	W	W	23.0
3296	Mineral Wool	W	0	0	0	10	W	W	2.2
33	Primary Metal Industries	W	W	0	0	217	W	148	6.9
3312	Blast Furnaces and Steel Mills	W	W	0	0	95	W	81	7.9
3313	Electrometallurgical Products	W	0	0	0	0	*	W	15.7
3321	Gray and Ductile Iron Foundries	W	0	0	0	W	*	1	19.7
3331	Primary Copper	9	0	0	0	W	0	W	1.4
3334	Primary Aluminum	W	0	0	0	11	W	W	5.1
3339	Primary Nonferrous Metals, nec	52	0	0	0	W	W	W	4.8
3353	Aluminum Sheet, Plate, and Foil	W	0	0	0	W	W	27	3.7
34	Fabricated Metal Products	W	Q	0	Q	124	13	13	22.9
35	Industrial Machinery and Equipment	447	0	0	0	82	W	W	22.5
357	Computer and Office Equipment	38	0	0	0	2	0	1	20.2
36	Electronic and Other Electric Equipment	504	0	0	0	59	14	8	14.5
37	Transportation Equipment	W	W	W	0	52	8	25	7.8
3711	Motor Vehicles and Car Bodies	103	0	W	0	14	W	W	5.9
3714	Motor Vehicle Parts and Accessories	93	0	0	0	W	W	1	11.3
38	Instruments and Related Products	169	0	0	0	12	5	1	21.5
3841	Surgical and Medical Instruments	18	0	0	0	1	*	*	23.7
39	Misc. Manufacturing Industries	65	0	0	0	W	Q	*	24.4
	Total	W	W	112	171	2,599	2,553	1,412	4.6

See footnotes at end of table.

Table A46. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Electricity		Steam		Natural Gas			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
West Census Region									
RSE Column Factors:		0.5	1.6	3.0	0.8	0.7	1.0	0.8	
20	Food and Kindred Products	W	W	0	17	192	47	104	15.5
2011	Meat Packing Plants	W	W	0	0	W	W	W	19.1
2033	Canned Fruits and Vegetables	43	*	0	0	17	3	28	14.4
2037	Frozen Fruits and Vegetables	W	W	0	W	29	W	W	24.9
2046	Wet Corn Milling	W	W	0	W	W	0	W	24.6
2051	Bread, Cake, and Related Products	28	0	0	0	15	2	*	31.5
2063	Beet Sugar	W	0	0	0	W	W	W	16.7
2075	Soybean Oil Mills	0	0	0	0	0	0	0	NF
2082	Malt Beverages	29	0	0	0	W	W	W	20.4
21	Tobacco Products	0	0	0	0	0	0	0	NF
22	Textile Mill Products	20	0	0	0	16	0	3	37.8
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	42.3
24	Lumber and Wood Products	W	Q	0	17	17	W	W	37.4
25	Furniture and Fixtures	31	0	0	0	6	0	0	40.6
26	Paper and Allied Products	W	W	W	W	W	W	166	11.6
2611	Pulp Mills	W	W	0	0	W	W	W	34.7
2621	Paper Mills	230	0	0	17	W	W	88	8.4
2631	Paperboard Mills	W	W	W	W	19	0	72	11.8
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	36.7
28	Chemicals and Allied Products	W	W	0	4	133	7	84	19.9
2812	Alkalies and Chlorine	W	0	0	*	W	0	W	29.7
2813	Industrial Gases	89	0	0	0	*	0	W	15.1
2819	Industrial Inorganic Chemicals, nec	109	*	0	W	10	Q	W	14.7
2821	Plastics Materials and Resins	14	0	0	*	Q	*	Q	24.9
2822	Synthetic Rubber	*	0	0	0	*	0	0	36.8
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	NF
2824	Organic Fibers, Noncellulosic	0	0	0	0	0	0	0	NF
2865	Cyclic Crudes and Intermediates	W	0	0	W	*	0	0	33.5
2869	Industrial Organic Chemicals, nec	7	0	0	*	W	0	W	24.6
2873	Nitrogenous Fertilizers	W	W	0	*	W	W	W	48.7
2874	Phosphatic Fertilizers	W	0	0	0	W	0	0	57.4
29	Petroleum and Coal Products	364	W	0	W	152	54	96	5.8
2911	Petroleum Refining	W	W	0	W	129	51	83	4.4
30	Rubber and Misc. Plastics Products	209	0	0	*	W	Q	W	21.2
3011	Tires and Inner Tubes	W	0	0	*	W	0	0	10.1
308	Miscellaneous Plastic Products, nec	187	0	0	0	18	Q	W	36.2
31	Leather and Leather Products	4	0	0	0	Q	0	W	49.0
32	Stone, Clay and Glass Products	W	W	0	W	69	22	50	14.1
3211	Flat Glass	10	0	0	W	W	W	W	6.6
3221	Glass Containers	56	0	0	0	W	W	20	12.6
3229	Pressed and Blown Glass, nec	W	0	0	0	*	W	0	17.9
3241	Cement, Hydraulic	109	0	0	0	13	Q	W	38.7
3274	Lime	W	0	0	0	*	W	*	28.6
3296	Mineral Wool	20	0	0	0	W	W	W	2.8
33	Primary Metal Industries	W	W	0	W	W	W	71	11.3
3312	Blast Furnaces and Steel Mills	89	0	0	0	W	W	25	10.5
3313	Electrometallurgical Products	0	0	0	0	0	0	0	NF
3321	Gray and Ductile Iron Foundries	7	0	0	0	W	0	*	41.8
3331	Primary Copper	W	0	0	0	W	W	W	1.4
3334	Primary Aluminum	515	0	0	0	5	W	W	5.5
3339	Primary Nonferrous Metals, nec	28	0	0	0	W	*	W	1.4
3353	Aluminum Sheet, Plate, and Foil	W	0	0	0	0	0	W	1.6
34	Fabricated Metal Products	216	0	0	0	57	W	W	24.2
35	Industrial Machinery and Equipment	266	0	0	0	30	W	W	38.6
357	Computer and Office Equipment	122	0	0	0	6	W	W	22.8
36	Electronic and Other Electric Equipment	W	Q	Q	0	33	1	2	25.0

See footnotes at end of table.

Table A46. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Million Dollars)

SIC Code ^a	Industry Groups and Industry	Electricity		Steam		Natural Gas			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
West Census Region									
	RSE Column Factors:	0.5	1.6	3.0	0.8	0.7	1.0	0.8	
37	Transportation Equipment	W	W	0	W	42	W	W	19.3
3711	Motor Vehicles and Car Bodies	W	0	0	0	W	0	W	10.0
3714	Motor Vehicle Parts and Accessories	20	0	0	0	5	0	2	26.1
38	Instruments and Related Products	209	0	*	0	17	W	W	19.1
3841	Surgical and Medical Instruments	18	0	0	0	2	*	0	28.1
39	Misc. Manufacturing Industries	28	0	*	0	W	*	*	32.6
	Total	W	W	W	94	961	210	615	7.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b A "Utility" is a company that produces and/or delivers electricity and/or natural gas, and is legally obligated to provide service to the public within its franchise area.

^c Includes independent power producers, small power producers, and cogenerators not located at the establishment site.

^d Other suppliers of natural gas include such sources as brokers and producers.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level tables.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A47. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991
(Estimates in Dollars per Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Total United States									
RSE Column Factors:		0.6	1.2	1.0	0.9	0.8	3.2	0.6	
20	Food and Kindred Products	0.054	0.056	3.544	3.567	2.988	2.479	2.565	4.0
2011	Meat Packing Plants	0.047	W	W	W	2.598	2.202	2.193	2.2
2033	Canned Fruits and Vegetables	0.070	W	--	--	3.110	2.666	2.883	4.7
2037	Frozen Fruits and Vegetables	W	W	--	W	2.632	2.305	2.465	5.2
2046	Wet Corn Milling	0.036	W	W	W	2.492	W	2.281	3.4
2051	Bread, Cake, and Related Products	W	W	W	--	3.798	3.063	3.283	5.4
2063	Beet Sugar	0.046	--	--	--	W	2.079	2.680	3.6
2075	Soybean Oil Mills	0.041	--	W	W	2.230	2.007	2.237	1.6
2082	Malt Beverages	0.052	--	W	--	W	W	2.628	3.0
21	Tobacco Products	0.050	--	W	--	3.661	W	W	5.5
22	Textile Mill Products	0.047	W	4.415	4.634	3.340	2.922	2.572	4.6
23	Apparel and Other Textile Products	0.067	0.070	W	--	4.074	W	W	7.4
24	Lumber and Wood Products	W	W	W	2.124	3.593	2.731	2.815	6.7
25	Furniture and Fixtures	0.066	W	W	--	4.014	3.242	2.762	7.2
26	Paper and Allied Products	0.042	0.047	3.042	3.219	2.516	2.027	2.401	3.0
2611	Pulp Mills	W	W	--	W	2.480	W	W	4.8
2621	Paper Mills	0.037	W	2.740	3.665	2.161	2.023	2.471	1.9
2631	Paperboard Mills	0.039	W	3.141	W	2.275	1.900	2.207	3.5
27	Printing and Publishing	0.067	W	6.356	W	3.972	3.177	2.856	7.7
28	Chemicals and Allied Products	0.035	0.021	3.017	2.700	2.088	1.732	1.873	2.8
2812	Alkalies and Chlorine	0.025	W	--	W	W	W	W	2.9
2813	Industrial Gases	0.034	--	--	W	1.814	W	W	4.5
2819	Industrial Inorganic Chemicals, nec	0.025	W	--	4.219	2.319	2.136	2.400	3.1
2821	Plastics Materials and Resins	0.040	0.039	3.805	3.494	2.413	1.705	1.910	2.9
2822	Synthetic Rubber	0.042	W	W	2.950	1.801	1.469	3.296	3.5
2823	Cellulosic Manmade Fibers	W	--	--	--	W	--	--	5.0
2824	Organic Fibers, Noncellulosic	0.041	W	W	5.986	2.521	W	W	2.3
2865	Cyclic Crudes and Intermediates	0.042	W	W	3.115	2.006	1.983	2.660	4.1
2869	Industrial Organic Chemicals, nec	0.036	0.028	2.907	2.590	2.092	1.699	1.756	2.6
2873	Nitrogenous Fertilizers	0.036	0.019	W	W	1.520	1.688	1.634	5.9
2874	Phosphatic Fertilizers	0.041	--	--	--	2.059	1.754	W	2.7
29	Petroleum and Coal Products	0.043	W	W	3.298	2.541	1.788	2.181	2.2
2911	Petroleum Refining	0.041	W	W	3.245	2.429	1.777	2.120	1.5
30	Rubber and Misc. Plastics Products	0.058	W	W	4.598	3.508	3.082	2.627	5.4
3011	Tires and Inner Tubes	0.043	--	--	W	2.475	2.331	2.110	1.9
308	Miscellaneous Plastic Products, nec	0.060	W	W	W	3.922	3.341	2.689	6.1
31	Leather and Leather Products	W	W	--	W	3.087	Q	2.588	5.3
32	Stone, Clay and Glass Products	W	W	W	W	2.772	2.358	2.514	5.5
3211	Flat Glass	0.045	--	W	W	2.720	W	2.432	1.4
3221	Glass Containers	0.048	--	--	--	2.571	2.374	2.521	3.0
3229	Pressed and Blown Glass, nec	0.043	W	--	W	2.575	2.781	3.047	3.3
3241	Cement, Hydraulic	0.043	--	--	--	2.019	1.714	1.805	5.9
3274	Lime	0.044	--	--	--	2.514	2.107	W	5.8
3296	Mineral Wool	0.044	--	--	--	2.664	W	2.408	1.0
33	Primary Metal Industries	0.035	W	3.059	4.321	3.071	2.424	2.372	2.1
3312	Blast Furnaces and Steel Mills	0.041	W	W	W	2.729	2.317	2.301	1.5
3313	Electrometallurgical Products	0.025	W	W	W	W	W	W	3.7
3321	Gray and Ductile Iron Foundries	0.051	W	--	W	2.966	3.267	2.649	3.5
3331	Primary Copper	0.048	--	--	--	W	W	1.847	NF
3334	Primary Aluminum	0.021	--	--	--	2.879	2.273	2.640	1.4
3339	Primary Nonferrous Metals, nec	0.029	--	--	W	2.648	2.149	2.078	3.7
3353	Aluminum Sheet, Plate, and Foil	0.041	--	W	--	2.992	1.940	2.558	1.9
34	Fabricated Metal Products	W	W	W	W	3.844	2.970	2.805	6.6
35	Industrial Machinery and Equipment	0.062	W	W	W	3.767	3.117	3.020	3.7
357	Computer and Office Equipment	0.058	W	W	W	3.913	W	W	3.5
36	Electronic and Other Electric Equipment	W	W	W	W	3.739	2.752	2.847	4.8
37	Transportation Equipment	0.055	0.068	3.677	2.930	3.670	2.767	2.854	4.0
3711	Motor Vehicles and Car Bodies	0.050	W	3.396	W	3.434	2.756	2.689	1.8
3714	Motor Vehicle Parts and Accessories	0.054	W	W	W	3.557	2.770	2.958	3.6
38	Instruments and Related Products	0.064	W	W	W	3.919	3.323	3.007	4.5
3841	Surgical and Medical Instruments	0.064	W	W	--	4.643	3.027	3.460	5.7
39	Misc. Manufacturing Industries	0.067	--	W	W	4.157	3.896	3.119	4.8
	Total	0.046	0.029	3.165	2.912	2.851	1.917	2.272	2.5

See footnotes at end of table.

Table A47. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Dollars per Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Northeast Census Region									
	RSE Column Factor:	0.9	0.7	0.8	0.6	0.9	4.4	0.8	
20	Food and Kindred Products	0.072	W	W	W	3.745	3.372	3.149	8.5
2011	Meat Packing Plants	0.060	--	--	--	W	--	W	4.6
2033	Canned Fruits and Vegetables	0.074	--	--	--	3.700	3.918	3.753	5.5
2037	Frozen Fruits and Vegetables	W	--	--	W	3.225	--	W	4.3
2046	Wet Corn Milling	0.058	--	--	--	W	--	--	2.7
2051	Bread, Cake, and Related Products	0.080	W	--	--	3.543	3.251	W	4.3
2063	Beet Sugar	--	--	--	--	--	--	--	NF
2075	Soybean Oil Mills	--	--	--	--	--	--	--	NF
2082	Malt Beverages	0.063	--	--	--	W	W	W	4.3
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	10.4
22	Textile Mill Products	W	W	3.864	5.060	4.505	3.045	3.167	9.5
23	Apparel and Other Textile Products	0.098	W	W	--	4.765	--	W	4.3
24	Lumber and Wood Products	NA	NA	NA	NA	NA	NA	NA	8.5
25	Furniture and Fixtures	W	W	--	--	4.659	W	3.637	5.3
26	Paper and Allied Products	0.064	W	4.083	2.446	W	W	3.001	4.0
2611	Pulp Mills	W	W	--	W	--	--	--	1.2
2621	Paper Mills	0.060	W	3.495	2.825	3.130	W	2.917	1.9
2631	Paperboard Mills	0.068	--	W	W	2.730	2.882	W	4.3
27	Printing and Publishing	0.083	W	8.938	--	4.809	W	W	7.8
28	Chemicals and Allied Products	0.052	0.056	W	6.053	3.566	2.998	3.211	3.7
2812	Alkalies and Chlorine	W	--	--	--	--	W	--	2.6
2813	Industrial Gases	0.039	--	--	--	W	--	--	2.7
2819	Industrial Inorganic Chemicals, nec	0.062	--	--	W	3.829	3.645	2.702	4.6
2821	Plastics Materials and Resins	0.059	W	W	3.901	3.401	3.043	3.297	2.5
2822	Synthetic Rubber	W	--	--	W	W	W	W	2.3
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	0.063	--	--	--	W	W	--	5.8
2865	Cyclic Crudes and Intermediates	0.064	W	--	W	W	2.993	W	4.9
2869	Industrial Organic Chemicals, nec	0.029	W	W	W	3.486	3.688	3.065	2.0
2873	Nitrogenous Fertilizers	W	W	--	W	W	--	W	3.0
2874	Phosphatic Fertilizers	--	--	--	--	--	--	--	NF
29	Petroleum and Coal Products	0.055	W	W	W	3.387	W	W	2.9
2911	Petroleum Refining	0.049	--	W	--	2.907	2.735	W	1.3
30	Rubber and Misc. Plastics Products	0.075	--	W	W	4.655	3.688	3.517	6.8
3011	Tires and Inner Tubes	0.040	--	--	--	3.294	--	W	3.3
308	Miscellaneous Plastic Products, nec	0.076	--	W	W	4.881	W	W	7.5
31	Leather and Leather Products	0.087	--	--	--	4.974	Q	--	4.4
32	Stone, Clay and Glass Products	W	W	--	W	3.344	3.097	2.994	5.4
3211	Flat Glass	W	--	--	--	--	W	W	1.3
3221	Glass Containers	0.057	--	--	--	3.647	W	2.997	2.5
3229	Pressed and Blown Glass, nec	0.054	W	--	W	2.596	3.247	2.968	2.4
3241	Cement, Hydraulic	0.052	--	--	--	W	W	--	3.1
3274	Lime	0.039	--	--	--	--	Q	--	5.7
3296	Mineral Wool	0.058	--	--	--	4.658	W	2.519	0.9
33	Primary Metal Industries	0.045	W	--	5.251	3.255	3.376	2.982	3.2
3312	Blast Furnaces and Steel Mills	0.045	--	--	W	2.850	3.158	2.890	2.0
3313	Electrometallurgical Products	W	W	--	W	4.536	--	--	3.1
3321	Gray and Ductile Iron Foundries	0.071	--	--	--	3.832	W	3.440	6.1
3331	Primary Copper	W	--	--	--	W	--	W	NF
3334	Primary Aluminum	W	--	--	--	W	--	--	1.1
3339	Primary Nonferrous Metals, nec	0.055	--	--	--	W	W	W	2.1
3353	Aluminum Sheet, Plate, and Foil	0.060	--	--	--	W	--	W	1.6
34	Fabricated Metal Products	0.075	--	W	W	4.388	4.771	3.124	5.3
35	Industrial Machinery and Equipment	0.078	--	--	W	4.957	4.188	3.331	4.4
357	Computer and Office Equipment	0.070	--	--	W	4.186	W	W	3.1
36	Electronic and Other Electric Equipment	0.069	--	W	--	4.475	3.072	3.388	4.5
37	Transportation Equipment	0.073	W	--	W	3.804	W	W	3.5
3711	Motor Vehicles and Car Bodies	W	--	--	--	W	--	W	1.5
3714	Motor Vehicle Parts and Accessories	0.071	--	--	W	4.020	W	3.834	2.8
38	Instruments and Related Products	0.078	W	--	W	4.099	3.342	3.730	4.6
3841	Surgical and Medical Instruments	0.077	W	--	--	5.622	W	W	5.2
39	Misc. Manufacturing Industries	0.079	--	--	W	4.265	Q	W	3.5
	Total	0.064	0.079	W	4.736	3.798	3.317	3.070	4.1

See footnotes at end of table.

Table A47. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Dollars per Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Midwest Census Region									
	RSE Column Factors:	0.7	1.0	0.8	0.8	0.8	3.6	0.7	
20	Food and Kindred Products	0.047	0.065	3.970	3.137	2.623	2.336	2.422	4.7
2011	Meat Packing Plants	0.045	--	W	--	2.380	2.250	2.254	2.8
2033	Canned Fruits and Vegetables	0.059	--	--	--	2.847	2.627	2.479	4.6
2037	Frozen Fruits and Vegetables	W	--	--	--	2.686	W	2.624	7.3
2046	Wet Corn Milling	0.036	--	W	--	W	W	2.269	3.3
2051	Bread, Cake, and Related Products	0.055	W	W	--	3.625	2.984	2.870	4.8
2063	Beet Sugar	W	--	--	--	W	W	W	2.3
2075	Soybean Oil Mills	0.040	--	W	--	W	W	2.328	1.9
2082	Malt Beverages	0.045	--	W	--	2.660	W	W	4.1
21	Tobacco Products	NA	NA	NA	NA	NA	NA	NA	1.4
22	Textile Mill Products	NA	NA	NA	NA	NA	NA	NA	3.8
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	8.6
24	Lumber and Wood Products	0.058	--	W	--	3.910	Q	W	9.1
25	Furniture and Fixtures	W	W	--	--	3.640	3.006	2.586	5.6
26	Paper and Allied Products	0.042	W	2.919	W	2.808	2.520	2.431	2.7
2611	Pulp Mills	W	--	--	--	W	--	W	2.1
2621	Paper Mills	0.037	W	W	W	2.482	2.506	2.424	1.7
2631	Paperboard Mills	0.041	--	W	--	2.480	2.406	2.199	3.5
27	Printing and Publishing	0.057	--	5.349	W	3.559	2.443	2.608	8.8
28	Chemicals and Allied Products	0.031	W	3.249	3.518	2.486	1.891	2.177	4.8
2812	Alkalies and Chlorine	W	--	--	--	--	--	W	1.4
2813	Industrial Gases	W	--	--	W	W	--	W	3.3
2819	Industrial Inorganic Chemicals, nec	W	W	--	W	2.601	2.308	2.525	2.4
2821	Plastics Materials and Resins	0.042	W	3.594	3.298	2.600	2.990	1.950	2.8
2822	Synthetic Rubber	0.035	--	--	--	2.613	--	W	2.6
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	--	--	--	--	--	--	--	NF
2865	Cyclic Crudes and Intermediates	0.045	--	--	W	2.576	W	2.570	4.4
2869	Industrial Organic Chemicals, nec	0.047	W	W	W	2.331	W	2.507	3.7
2873	Nitrogenous Fertilizers	W	W	--	W	W	W	W	4.0
2874	Phosphatic Fertilizers	W	--	--	--	W	--	W	1.4
29	Petroleum and Coal Products	0.042	W	W	W	2.818	W	W	2.7
2911	Petroleum Refining	0.039	W	--	W	2.643	1.940	2.217	1.4
30	Rubber and Misc. Plastics Products	0.056	W	--	--	3.280	3.016	2.729	5.3
3011	Tires and Inner Tubes	0.043	--	--	--	2.283	W	W	1.6
308	Miscellaneous Plastic Products, nec	NA	NA	NA	NA	NA	NA	NA	7.3
31	Leather and Leather Products	W	W	--	W	4.039	Q	W	4.7
32	Stone, Clay and Glass Products	0.047	--	W	W	2.925	2.575	2.435	3.5
3211	Flat Glass	0.049	--	W	--	2.382	--	2.132	1.3
3221	Glass Containers	0.045	--	--	--	3.656	W	2.063	3.4
3229	Pressed and Blown Glass, nec	0.046	--	--	--	2.919	W	3.405	2.4
3241	Cement, Hydraulic	0.043	--	--	--	2.328	Q	W	5.9
3274	Lime	0.051	--	--	--	2.542	W	W	5.0
3296	Mineral Wool	0.037	--	--	--	2.831	W	2.297	1.1
33	Primary Metal Industries	0.041	--	3.059	4.593	3.113	2.325	2.291	2.1
3312	Blast Furnaces and Steel Mills	0.043	W	W	W	2.823	2.136	2.231	1.4
3313	Electrometallurgical Products	0.027	W	W	W	W	--	2.789	2.4
3321	Gray and Ductile Iron Foundries	0.050	W	--	W	3.092	3.583	2.620	3.9
3331	Primary Copper	W	--	--	--	W	--	--	NF
3334	Primary Aluminum	W	--	--	--	W	--	W	1.3
3339	Primary Nonferrous Metals, nec	0.035	--	--	W	W	2.447	2.318	2.1
3353	Aluminum Sheet, Plate, and Foil	0.043	--	W	--	W	W	2.172	1.8
34	Fabricated Metal Products	0.060	W	W	W	3.492	2.667	2.632	7.7
35	Industrial Machinery and Equipment	0.056	W	W	--	3.531	2.678	2.965	4.8
357	Computer and Office Equipment	0.048	W	W	--	3.117	Q	W	5.0
36	Electronic and Other Electric Equipment	0.050	W	W	W	3.402	2.744	2.825	3.7
37	Transportation Equipment	0.052	W	W	1.962	3.542	2.700	2.751	4.2
3711	Motor Vehicles and Car Bodies	0.051	W	W	W	3.524	2.665	2.559	1.6
3714	Motor Vehicle Parts and Accessories	0.053	W	W	W	3.606	2.728	2.839	4.0
38	Instruments and Related Products	0.055	--	W	--	3.503	Q	2.706	6.5
3841	Surgical and Medical Instruments	0.049	--	W	--	4.051	Q	--	4.1
39	Misc. Manufacturing Industries	0.063	--	W	--	W	3.860	W	7.0
	Total	0.046	0.051	3.696	2.835	3.026	2.223	2.398	3.2

See footnotes at end of table.

Table A47. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Dollars per Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
South Census Region									
	RSE Column Factors:	0.7	0.8	0.6	0.9	0.9	4.4	0.9	
20	Food and Kindred Products	0.052	W	W	W	3.126	2.341	2.365	2.9
2011	Meat Packing Plants	0.051	W	--	W	3.711	1.977	1.884	3.5
2033	Canned Fruits and Vegetables	0.061	--	--	--	3.055	W	2.555	5.8
2037	Frozen Fruits and Vegetables	0.056	--	--	--	3.425	W	W	3.8
2046	Wet Corn Milling	0.038	--	--	--	W	Q	W	1.9
2051	Bread, Cake, and Related Products	0.053	--	--	--	3.788	3.227	3.104	4.5
2063	Beet Sugar	W	--	--	--	W	--	--	1.1
2075	Soybean Oil Mills	0.043	--	--	W	W	W	2.062	1.4
2082	Malt Beverages	0.048	--	--	--	2.440	W	1.791	4.4
21	Tobacco Products	0.049	--	W	--	3.676	W	W	3.9
22	Textile Mill Products	0.045	W	4.862	4.343	3.121	2.913	2.480	4.1
23	Apparel and Other Textile Products	0.062	0.069	--	--	3.865	W	W	7.5
24	Lumber and Wood Products	0.052	--	W	W	3.280	2.898	2.295	5.0
25	Furniture and Fixtures	0.062	--	W	--	4.181	Q	3.045	4.4
26	Paper and Allied Products	0.038	--	W	W	2.243	1.891	2.074	2.2
2611	Pulp Mills	0.048	--	--	--	2.429	W	W	3.7
2621	Paper Mills	0.034	--	--	W	1.930	2.026	2.029	1.9
2631	Paperboard Mills	0.039	--	W	W	2.167	1.767	1.975	2.5
27	Printing and Publishing	0.059	--	W	--	3.516	Q	W	4.4
28	Chemicals and Allied Products	0.036	0.020	2.944	2.196	1.994	1.705	1.720	2.6
2812	Alkalies and Chlorine	W	W	--	W	W	W	W	2.1
2813	Industrial Gases	0.032	--	--	--	W	W	W	3.3
2819	Industrial Inorganic Chemicals, nec	0.036	W	--	W	2.100	2.106	2.050	3.2
2821	Plastics Materials and Resins	0.036	W	W	3.383	2.097	1.684	1.736	2.6
2822	Synthetic Rubber	0.041	W	W	2.906	1.709	1.464	W	3.6
2823	Cellulosic Manmade Fibers	W	--	--	--	W	--	--	4.3
2824	Organic Fibers, Noncellulosic	0.040	W	W	5.986	2.513	W	W	1.9
2865	Cyclic Crudes and Intermediates	0.039	W	W	2.639	1.823	W	W	2.9
2869	Industrial Organic Chemicals, nec	0.036	W	3.114	1.847	1.944	1.690	1.699	2.8
2873	Nitrogenous Fertilizers	0.036	--	W	--	W	W	1.620	4.3
2874	Phosphatic Fertilizers	W	--	--	--	3.176	1.754	W	1.1
29	Petroleum and Coal Products	0.037	W	W	2.401	1.907	1.702	1.818	2.2
2911	Petroleum Refining	0.037	--	W	2.301	1.838	1.701	1.811	1.3
30	Rubber and Misc. Plastics Products	0.049	--	--	4.789	3.232	2.880	2.324	4.3
3011	Tires and Inner Tubes	0.042	--	--	W	2.450	W	2.242	1.7
308	Miscellaneous Plastic Products, nec	0.050	--	--	W	3.765	3.424	2.248	4.9
31	Leather and Leather Products	0.067	--	--	--	W	W	--	6.8
32	Stone, Clay and Glass Products	0.044	W	--	--	2.489	2.066	2.224	2.8
3211	Flat Glass	0.039	--	--	--	2.650	W	2.269	1.3
3221	Glass Containers	0.043	--	--	--	2.022	W	2.349	3.1
3229	Pressed and Blown Glass, nec	0.038	--	--	--	2.470	W	2.621	2.4
3241	Cement, Hydraulic	0.037	--	--	--	1.750	Q	1.615	2.4
3274	Lime	0.045	--	--	--	2.408	W	W	3.8
3296	Mineral Wool	0.043	--	--	--	2.231	W	W	1.0
33	Primary Metal Industries	0.032	W	--	--	2.807	2.141	2.462	2.2
3312	Blast Furnaces and Steel Mills	0.037	W	--	--	2.570	2.085	2.400	1.7
3313	Electrometallurgical Products	0.023	--	--	--	--	W	W	3.0
3321	Gray and Ductile Iron Foundries	0.048	--	--	--	2.705	W	2.591	4.2
3331	Primary Copper	0.044	--	--	--	W	--	W	NF
3334	Primary Aluminum	0.023	--	--	--	2.775	W	2.953	2.1
3339	Primary Nonferrous Metals, nec	0.030	--	--	--	W	2.006	W	6.4
3353	Aluminum Sheet, Plate, and Foil	0.039	--	--	--	3.120	2.055	2.633	2.8
34	Fabricated Metal Products	W	W	--	W	3.730	2.507	3.168	4.4
35	Industrial Machinery and Equipment	0.055	--	--	--	3.563	W	W	6.2
357	Computer and Office Equipment	0.047	--	--	--	4.138	--	2.849	4.4
36	Electronic and Other Electric Equipment	0.047	--	--	--	3.377	2.690	2.325	4.2
37	Transportation Equipment	0.049	W	W	--	3.432	3.003	2.815	2.7
3711	Motor Vehicles and Car Bodies	0.043	--	W	--	3.231	W	W	2.1
3714	Motor Vehicle Parts and Accessories	0.048	--	--	--	3.250	W	3.011	3.0
38	Instruments and Related Products	0.052	--	--	--	3.383	3.169	2.226	5.4
3841	Surgical and Medical Instruments	0.054	--	--	--	4.170	2.977	W	3.7
39	Misc. Manufacturing Industries	0.056	--	--	--	3.480	Q	W	6.1
	Total	0.042	0.020	2.790	2.380	2.490	1.776	1.919	2.2

See footnotes at end of table.

Table A47. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Dollars per Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
West Census Region									
	RSE Column Factors:	0.9	0.8	0.4	0.8	1.0	4.6	0.8	
20	Food and Kindred Products	W	W	--	3.860	3.165	2.643	2.800	5.5
2011	Meat Packing Plants	0.042	W	--	--	W	W	W	4.1
2033	Canned Fruits and Vegetables	0.079	W	--	--	3.116	2.967	2.862	3.7
2037	Frozen Fruits and Vegetables	W	W	--	W	2.382	W	W	4.8
2046	Wet Corn Milling	W	W	--	W	W	--	W	1.8
2051	Bread, Cake, and Related Products	0.071	--	--	--	4.220	3.037	2.741	6.7
2063	Beet Sugar	0.042	--	--	--	W	W	W	3.4
2075	Soybean Oil Mills	--	--	--	--	--	--	--	NF
2082	Malt Beverages	0.057	--	--	--	W	W	2.933	2.7
21	Tobacco Products	--	--	--	--	--	--	--	NF
22	Textile Mill Products	0.072	--	--	--	4.479	--	3.136	5.2
23	Apparel and Other Textile Products	NA	NA	NA	NA	NA	NA	NA	10.0
24	Lumber and Wood Products	0.045	W	--	2.079	3.282	W	W	8.5
25	Furniture and Fixtures	0.102	--	--	--	4.629	--	--	9.4
26	Paper and Allied Products	W	W	W	3.576	W	W	2.456	2.6
2611	Pulp Mills	W	W	--	--	W	W	W	4.0
2621	Paper Mills	0.028	--	--	4.059	2.245	W	2.561	2.1
2631	Paperboard Mills	0.033	W	W	2.364	2.425	--	2.325	3.0
27	Printing and Publishing	NA	NA	NA	NA	NA	NA	NA	8.9
28	Chemicals and Allied Products	W	W	--	3.655	1.682	2.776	2.183	6.9
2812	Alkalies and Chlorine	0.022	--	--	W	W	--	W	2.1
2813	Industrial Gases	0.035	--	--	--	W	--	W	3.5
2819	Industrial Inorganic Chemicals, nec	0.025	0.089	--	W	2.910	Q	W	3.1
2821	Plastics Materials and Resins	0.076	--	--	W	5.197	W	1.904	5.8
2822	Synthetic Rubber	W	--	--	--	W	--	--	NF
2823	Cellulosic Manmade Fibers	--	--	--	--	--	--	--	NF
2824	Organic Fibers, Noncellulosic	--	--	--	--	--	--	--	NF
2865	Cyclic Crudes and Intermediates	W	--	--	W	W	--	--	9.1
2869	Industrial Organic Chemicals, nec	0.054	--	--	W	W	--	W	5.6
2873	Nitrogenous Fertilizers	W	W	--	W	W	W	W	3.6
2874	Phosphatic Fertilizers	W	--	--	--	W	--	--	3.4
29	Petroleum and Coal Products	0.052	W	--	W	3.955	2.491	2.649	2.0
2911	Petroleum Refining	0.050	W	--	W	4.011	2.431	2.602	1.6
30	Rubber and Misc. Plastics Products	0.073	--	--	W	4.215	Q	2.376	4.9
3011	Tires and Inner Tubes	W	--	--	W	W	--	--	1.4
308	Miscellaneous Plastic Products, nec	0.073	--	--	--	4.593	Q	W	6.7
31	Leather and Leather Products	0.061	--	--	--	W	--	W	7.8
32	Stone, Clay and Glass Products	0.055	W	--	W	2.929	2.251	2.811	3.6
3211	Flat Glass	0.068	--	--	W	3.386	W	W	1.2
3221	Glass Containers	0.050	--	--	--	W	W	2.850	2.7
3229	Pressed and Blown Glass, nec	W	--	--	--	W	W	--	2.5
3241	Cement, Hydraulic	0.046	--	--	--	2.259	Q	W	8.3
3274	Lime	W	--	--	--	W	W	W	4.1
3296	Mineral Wool	0.062	--	--	--	W	W	3.303	0.9
33	Primary Metal Industries	0.025	W	--	W	3.492	2.643	2.132	2.1
3312	Blast Furnaces and Steel Mills	0.035	--	--	--	W	W	1.909	2.2
3313	Electrometallurgical Products	--	--	--	--	--	--	--	NF
3321	Gray and Ductile Iron Foundries	0.074	--	--	--	3.094	--	W	11.2
3331	Primary Copper	0.048	--	--	--	W	W	W	NF
3334	Primary Aluminum	0.020	--	--	--	2.463	2.178	W	1.3
3339	Primary Nonferrous Metals, nec	0.022	--	--	--	W	W	W	NF
3353	Aluminum Sheet, Plate, and Foil	W	--	--	--	--	--	W	NF
34	Fabricated Metal Products	0.074	--	--	--	4.430	3.664	2.909	6.1
35	Industrial Machinery and Equipment	0.074	--	--	--	4.042	W	W	7.9
357	Computer and Office Equipment	0.063	--	--	--	4.458	W	W	3.4
36	Electronic and Other Electric Equipment	W	W	W	--	4.320	3.092	2.927	6.0

See footnotes at end of table.

Table A47. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, Industry Group, and Selected Industries, 1991 (Continued)
(Estimates in Dollars per Physical Units)

SIC Code ^a	Industry Groups and Industry	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
		Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
West Census Region									
	RSE Column Factors:	0.9	0.8	0.4	0.8	1.0	4.6	0.8	
37	Transportation Equipment	W	W	--	W	4.255	W	W	5.9
3711	Motor Vehicles and Car Bodies	0.062	--	--	--	W	--	W	2.3
3714	Motor Vehicle Parts and Accessories	0.081	--	--	--	4.036	--	2.921	6.8
38	Instruments and Related Products	0.066	--	W	--	4.531	W	W	4.1
3841	Surgical and Medical Instruments	0.080	--	--	--	4.714	W	--	5.6
39	Misc. Manufacturing Industries	0.074	--	W	--	W	Q	W	4.0
	Total	0.045	0.045	W	3.366	3.045	2.539	2.499	5.4

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b A "Utility" is a company that produces and/or delivers electricity and/or natural gas, and is legally obligated to provide service to the public within its franchise area.

^c Includes independent power producers, small power producers, and cogenerators not located at the establishment site.

^d Other suppliers of natural gas include such sources as brokers and producers.

NF=No applicable RSE row/column factor.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

NA=Not available. Data are included in higher level totals.

-- Estimation of average price is not applicable.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A48. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991
(Estimates in Million Dollars)

Economic Characteristics ^a	Electricity		Steam		Natural Gas			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Total United States								
RSE Column Factors:	0.4	2.7	1.5	1.3	0.6	1.0	0.8	
Value of Shipments and Receipts (million dollars)								
Under 20	7,020	24	11	21	1,502	209	295	10.6
20-49	5,591	40	16	47	1,100	276	497	9.0
50-99	4,379	26	20	54	878	253	W	7.5
100-249	5,660	33	52	114	1,142	553	769	6.8
250-499	W	W	62	52	655	770	W	5.7
500 and Over	W	W	107	102	762	1,446	1,243	3.4
Total	31,636	461	267	390	6,037	3,507	4,013	3.4
Employment Size								
Under 50	W	W	8	9	650	109	W	15.3
50-99	W	W	8	44	679	139	271	11.2
100-249	6,453	26	35	84	1,504	522	690	7.9
250-499	5,895	29	64	50	1,112	695	709	6.2
500-999	5,971	74	63	117	1,079	697	831	4.4
1,000 and Over	7,712	295	89	86	1,013	1,345	W	3.7
Total	31,636	461	267	390	6,037	3,507	4,013	3.4
Northeast Census Region								
RSE Column Factors:	0.4	2.2	1.8	1.5	0.6	1.0	0.7	
Value of Shipments and Receipts (million dollars)								
Under 20	W	W	Q	11	286	W	W	19.7
20-49	1,039	Q	5	6	172	W	W	14.0
50-99	754	2	6	W	135	22	91	11.5
100-249	W	W	W	35	141	48	87	7.8
250-499	558	0	W	10	79	5	72	11.8
500 and Over	W	W	W	W	90	25	106	8.3
Total	5,447	55	W	70	902	172	477	6.6
Employment Size								
Under 50	616	Q	0	Q	132	17	17	27.8
50-99	W	W	Q	9	106	19	35	20.3
100-249	1,094	Q	8	6	192	32	59	15.6
250-499	920	Q	W	2	163	45	88	9.8
500-999	W	W	W	42	118	37	129	6.7
1,000 and Over	W	W	W	W	193	22	150	8.1
Total	5,447	55	W	70	902	172	477	6.6

See footnotes at end of table.

Table A48. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Dollars)

Economic Characteristics ^a	Electricity		Steam		Natural Gas			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Midwest Census Region								
RSE Column Factors:	0.4	2.7	1.5	2.0	0.6	0.9	0.6	
Value of Shipments and Receipts (million dollars)								
Under 20	W	W	Q	5	506	77	133	16.7
20-49	1,507	3	W	9	336	87	211	14.9
50-99	1,204	11	13	W	209	106	W	11.6
100-249	1,307	6	34	11	197	95	241	6.7
250-499	1,032	0	W	W	W	W	W	8.3
500 and Over	W	W	W	W	W	W	522	5.8
Total	9,048	87	97	56	1,575	572	1,510	4.8
Employment Size								
Under 50	W	Q	Q	Q	241	58	61	21.5
50-99	844	4	W	W	206	37	86	15.8
100-249	W	W	20	7	404	118	232	11.6
250-499	W	W	16	8	273	W	277	8.0
500-999	1,287	Q	30	W	192	94	220	7.2
1,000 and Over	W	W	W	23	259	W	634	5.1
Total	9,048	87	97	56	1,575	572	1,510	4.8
South Census Region								
RSE Column Factors:	0.4	2.5	1.4	0.9	0.6	1.2	1.2	
Value of Shipments and Receipts (million dollars)								
Under 20	2,312	2	Q	W	460	W	65	12.5
20-49	2,231	20	W	21	436	122	152	11.2
50-99	1,741	5	*	W	393	107	172	10.7
100-249	W	W	W	50	594	365	292	9.6
250-499	W	W	42	27	W	W	212	7.0
500 and Over	W	W	53	47	W	W	519	5.0
Total	W	W	112	171	2,599	2,553	1,412	4.6
Employment Size								
Under 50	W	W	7	1	165	W	W	17.6
50-99	895	10	W	17	256	W	W	11.9
100-249	W	W	W	56	605	336	225	11.3
250-499	W	W	W	15	532	495	230	8.0
500-999	2,665	17	W	51	569	483	292	5.3
1,000 and Over	W	W	W	30	473	1,146	470	5.0
Total	W	W	112	171	2,599	2,553	1,412	4.6

See footnotes at end of table.

Table A48. Total Expenditures for Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Million Dollars)

Economic Characteristics ^a	Electricity		Steam		Natural Gas			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
West Census Region								
RSE Column Factors:	0.4	1.4	3.7	1.3	0.6	0.9	0.6	
Value of Shipments and Receipts (million dollars)								
Under 20	1,198	*	0	Q	250	W	W	17.6
20-49	813	Q	W	11	156	W	W	16.2
50-99	680	7	Q	19	141	18	152	14.1
100-249	1,089	Q	*	18	209	45	150	15.5
250-499	W	W	0	W	64	33	107	9.4
500 and Over	W	W	0	32	140	56	96	5.4
Total	W	W	W	94	961	210	615	7.7
Employment Size								
Under 50	571	*	0	W	113	W	W	25.0
50-99	W	W	0	W	111	W	W	17.4
100-249	W	Q	W	15	303	36	175	15.8
250-499	864	Q	Q	26	144	W	115	10.3
500-999	W	W	*	W	200	84	189	10.1
1,000 and Over	W	W	0	W	88	W	W	6.9
Total	W	W	W	94	961	210	615	7.7

^a Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

^b A "Utility" is a company that produces and/or delivers electricity and/or natural gas, and is legally obligated to provide service to the public within its franchise area.

^c Includes independent power producers, small power producers, and cogenerators not located at the establishment site.

^d Other suppliers of natural gas include such sources as brokers and producers.

* Estimate less than 0.5. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A49. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991
(Estimates in Dollars per Physical Units)

Economic Characteristics ^a	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Total United States								
RSE Column Factors:	0.4	1.9	1.0	1.2	0.6	2.9	0.7	
Value of Shipments and Receipts (million dollars)								
Under 20	0.065	0.075	3.764	4.933	3.715	2.868	2.707	5.6
20-49	0.053	0.035	2.939	3.120	3.204	2.270	2.361	5.6
50-99	0.048	0.034	3.797	4.179	2.945	2.306	2.397	4.8
100-249	0.039	0.055	3.834	2.624	2.376	1.981	2.317	4.5
250-499	0.037	W	2.987	2.728	2.298	1.771	2.185	2.5
500 and Over	0.040	0.050	2.913	2.604	2.486	1.783	2.117	2.6
Total	0.046	0.029	3.165	2.912	2.851	1.917	2.272	2.5
Employment Size								
Under 50	0.066	W	3.145	5.910	3.757	2.600	2.108	7.0
50-99	0.059	W	2.930	3.897	3.066	2.403	2.250	6.2
100-249	0.051	0.025	4.197	2.476	2.743	1.974	2.311	5.2
250-499	0.046	0.048	2.830	3.680	2.975	1.890	2.373	4.3
500-999	0.039	0.046	3.066	2.583	2.669	2.025	2.298	3.4
1,000 and Over	0.041	0.024	3.230	3.029	2.554	1.787	2.214	2.7
Total	0.046	0.029	3.165	2.912	2.851	1.917	2.272	2.5
Northeast Census Region								
RSE Column Factors:	0.5	1.7	1.2	1.1	0.6	2.9	0.5	
Value of Shipments and Receipts (million dollars)								
Under 20	0.081	W	4.831	5.981	4.644	3.996	3.265	7.9
20-49	0.071	0.093	3.285	2.373	4.032	3.386	3.275	7.2
50-99	0.068	0.049	4.407	4.420	3.806	3.384	3.137	4.7
100-249	0.053	0.065	W	5.971	3.381	3.070	3.004	3.4
250-499	W	--	W	3.860	3.273	3.609	3.060	3.1
500 and Over	0.056	W	W	4.221	2.798	2.825	2.873	2.7
Total	0.064	0.079	3.273	4.736	3.798	3.317	3.070	4.1
Employment Size								
Under 50	0.084	0.101	--	W	4.776	4.379	3.054	8.7
50-99	0.079	0.071	W	3.709	4.351	3.474	3.399	5.8
100-249	0.072	0.049	5.080	3.112	4.149	3.343	3.146	7.6
250-499	0.066	0.115	3.846	4.186	3.688	3.233	3.212	5.5
500-999	0.049	W	W	5.445	3.780	3.214	3.010	2.7
1,000 and Over	0.058	W	W	4.248	3.001	2.937	2.951	3.2
Total	0.064	0.079	3.273	4.736	3.798	3.317	3.070	4.1

See footnotes at end of table.

Table A49. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Dollars per Physical Units)

Economic Characteristics ^a	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
Midwest Census Region								
RSE Column Factors:	0.5	1.3	1.2	1.8	0.6	2.7	0.5	
Value of Shipments and Receipts (million dollars)								
Under 20	0.064	W	3.004	5.394	3.501	2.761	2.711	6.5
20-49	0.053	0.043	W	4.012	2.960	2.310	2.474	6.4
50-99	0.047	0.047	3.787	4.468	2.972	2.148	2.320	4.4
100-249	0.044	0.059	3.307	1.695	2.902	2.360	2.611	4.0
250-499	W	--	W	W	2.583	1.848	2.333	3.7
500 and Over	W	W	4.484	2.610	2.674	2.131	2.273	3.5
Total	0.046	0.051	3.696	2.835	3.026	2.223	2.398	3.2
Employment Size								
Under 50	0.065	W	W	6.021	3.511	2.247	2.391	10.2
50-99	0.059	0.042	W	W	3.008	2.563	2.583	5.9
100-249	W	W	3.681	3.807	3.014	2.202	2.463	5.9
250-499	W	W	3.021	5.762	2.899	2.158	2.423	3.2
500-999	0.044	0.053	3.520	W	3.064	2.193	2.397	3.9
1,000 and Over	0.038	W	4.785	2.216	2.800	2.230	2.344	4.0
Total	0.046	0.051	3.696	2.835	3.026	2.223	2.398	3.2
South Census Region								
RSE Column Factors:	0.4	1.1	1.0	1.0	0.7	3.9	0.8	
Value of Shipments and Receipts (million dollars)								
Under 20	0.057	0.054	2.724	W	3.480	2.447	2.377	6.0
20-49	0.046	0.023	W	3.016	2.996	2.023	1.919	6.3
50-99	0.043	0.046	W	W	2.655	2.247	2.043	4.9
100-249	0.037	W	W	2.263	2.263	1.793	2.004	3.9
250-499	0.036	W	2.671	2.272	2.028	1.734	1.883	2.4
500 and Over	0.037	W	2.623	1.962	1.999	1.717	1.810	2.6
Total	0.042	0.020	2.790	2.380	2.490	1.776	1.919	2.2
Employment Size								
Under 50	0.054	W	3.135	2.933	3.363	W	W	6.6
50-99	0.051	0.049	W	3.849	2.656	W	W	4.8
100-249	0.044	W	W	2.146	2.508	1.804	1.937	5.7
250-499	W	W	W	3.969	2.787	1.758	2.017	3.2
500-999	0.038	0.032	2.349	1.954	2.229	1.863	1.949	3.6
1,000 and Over	0.039	W	W	2.786	2.238	1.718	1.903	2.0
Total	0.042	0.020	2.790	2.380	2.490	1.776	1.919	2.2

See footnotes at end of table.

Table A49. Average Prices of Purchased Electricity, Steam, and Natural Gas by Type of Supplier, Census Region, and Economic Characteristics of the Establishment, 1991 (Continued)
(Estimates in Dollars per Physical Units)

Economic Characteristics ^a	Electricity (Million kWh)		Steam (Billion Btu)		Natural Gas (1000 cu ft)			RSE Row Factors
	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Nonutility Supplier ^c	Utility Supplier ^b	Transmission Pipelines	Other Supplier ^d	
West Census Region								
RSE Column Factors:	0.6	1.7	0.6	1.5	0.9	2.5	0.6	
Value of Shipments and Receipts (million dollars)								
Under 20	0.073	0.043	--	W	3.787	3.317	2.708	7.7
20-49	0.057	W	W	3.353	3.750	2.462	2.609	6.0
50-99	0.046	0.020	W	4.494	3.186	2.888	2.670	4.6
100-249	0.031	0.052	W	2.008	1.931	2.300	2.292	6.8
250-499	W	W	--	W	2.672	2.423	2.208	3.2
500 and Over	0.055	W	--	4.498	4.498	2.506	2.845	1.6
Total	0.045	0.045	W	3.366	3.045	2.539	2.499	5.4
Employment Size								
Under 50	0.078	W	--	W	4.047	W	2.737	6.8
50-99	0.061	W	--	W	3.443	W	W	7.5
100-249	0.052	W	W	3.731	2.390	2.399	2.505	7.8
250-499	0.042	0.028	W	3.163	3.235	2.110	2.647	5.0
500-999	0.031	W	W	W	3.630	2.698	2.463	4.4
1,000 and Over	0.044	W	--	W	3.092	2.438	2.354	2.4
Total	0.045	0.045	W	3.366	3.045	2.539	2.499	5.4

^a Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

^b A "Utility" is a company that produces and/or delivers electricity and/or natural gas, and is legally obligated to provide service to the public within its franchise area.

^c Includes independent power producers, small power producers, and cogenerators not located at the establishment site.

^d Other suppliers of natural gas include such sources as brokers and producers.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

-- Estimation of average price is not applicable.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
20-39	ALL INDUSTRY GROUPS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	244.3	5.4	2.8	W	13.2	6.2
	20-49	531.0	8.3	3.7	0.6	10.3	6.3
	50-99	702.8	9.2	4.2	4.6	12.3	5.0
	100-249	1,365.5	13.0	6.1	16.4	10.0	4.4
	250-499	2,680.8	20.3	9.4	24.5	12.8	3.9
	500 and Over	2,702.9	16.5	7.1	31.0	6.8	2.8
	Total	979.6	12.0	5.5	19.1	10.0	2.2
20	FOOD and KINDRED PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	445.3	8.8	3.2	0.0	12.3	11.1
	20-49	445.5	6.2	2.0	0.1	14.5	12.7
	50-99	618.8	6.9	2.5	0.0	9.3	7.5
	100-249	802.6	5.6	2.2	*	W	14.8
	250-499	1,480.5	6.9	2.9	0.2	W	8.6
	500 and Over	1,187.6	5.3	2.2	0.8	W	9.4
	Total	704.0	6.3	2.4	W	8.7	6.1
2011	Meat Packing Plants						
	Value of Shipments and Receipts (million dollars)						
	Under 20	212.0	6.7	1.6	0.0	18.7	14.0
	20-49	350.4	8.6	1.2	0.0	W	12.6
	50-99	340.7	7.6	1.2	0.0	W	6.7
	100-249	467.8	8.3	1.0	0.0	3.1	6.9
	250-499	478.3	8.4	1.1	1.4	12.0	6.1
	500 and Over	438.1	8.2	0.9	W	5.7	7.0
	Total	418.5	8.1	1.0	W	7.9	4.8
2033	Canned Fruits and Vegetables						
	Value of Shipments and Receipts (million dollars)						
	Under 20	689.1	11.1	4.2	0.0	7.2	19.9
	20-49	655.0	10.1	3.8	0.0	4.1	10.1
	50-99	552.3	5.7	2.5	0.0	9.9	8.3
	100-249	792.9	5.5	2.6	0.0	8.1	6.7
	250-499	W	W	W	0.0	W	11.0
	500 and Over	W	W	W	0.0	W	2.7
	Total	702.5	6.7	2.9	0.0	7.1	5.9
2037	Frozen Fruits and Vegetables						
	Value of Shipments and Receipts (million dollars)						
	Under 20	439.8	9.7	4.3	0.0	Q	29.1
	20-49	506.9	7.8	3.3	0.0	8.0	21.1
	50-99	854.9	15.0	5.3	0.0	14.8	8.5
	100-249	1,179.9	14.9	5.6	0.6	3.3	10.3
	250-499	881.3	10.8	2.7	0.0	1.0	4.2
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	795.3	12.8	4.9	0.2	9.6	11.7

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
2046	Wet Corn Milling						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	0.0	W	11.5
	20-49	W	W	W	0.0	W	21.7
	50-99	W	W	W	0.0	W	5.0
	100-249	11,854.7	43.0	18.7	0.0	0.1	6.1
	250-499	12,325.9	37.9	19.3	W	0.8	8.7
	500 and Over	W	W	W	0.0	W	8.9
	Total	15,301.7	43.0	20.2	W	0.7	7.1
2051	Bread, Cake, and Related Products						
	Value of Shipments and Receipts (million dollars)						
	Under 20	233.7	5.3	2.9	0.0	3.1	12.8
	20-49	244.6	3.5	2.1	0.0	3.3	6.9
	50-99	239.3	2.5	1.6	0.0	2.4	6.1
	100-249	208.1	1.7	1.2	0.0	4.5	5.7
	250-499	W	W	W	0.0	W	2.5
	500 and Over	W	W	W	0.0	W	3.2
	Total	230.7	3.2	2.0	0.0	3.3	5.5
2063	Beet Sugar						
	Value of Shipments and Receipts (million dollars)						
	Under 20	0.0	0.0	0.0	0.0	0.0	NF
	20-49	8,096.2	98.9	33.2	0.0	W	4.9
	50-99	8,962.3	81.7	27.2	0.0	3.2	3.7
	100-249	9,350.4	77.7	28.7	0.0	W	4.5
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	8,855.0	83.7	28.7	0.0	W	3.1
2075	Soybean Oil Mills						
	Value of Shipments and Receipts (million dollars)						
	Under 20	2,560.1	41.8	9.7	0.0	*	26.2
	20-49	2,781.1	13.3	4.9	0.0	0.0	4.8
	50-99	W	W	W	0.0	W	2.9
	100-249	7,894.3	48.6	4.7	0.0	W	2.5
	250-499	8,593.2	44.3	5.1	0.0	W	3.2
	500 and Over	W	W	W	W	W	0.9
	Total	7,865.1	42.6	5.1	W	1.8	2.7
2082	Malt Beverages						
	Value of Shipments and Receipts (million dollars)						
	Under 20	461.5	7.2	3.0	0.0	0.0	16.4
	20-49	W	W	W	0.0	0.0	18.4
	50-99	1,281.0	8.5	3.9	0.0	W	7.3
	100-249	1,267.0	8.9	3.5	0.0	W	5.2
	250-499	1,407.6	4.7	2.5	0.0	W	5.6
	500 and Over	1,627.0	5.0	3.0	W	W	6.5
	Total	1,511.2	5.3	3.0	W	13.0	6.3

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
21	TOBACCO PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	226.2	4.0	2.3	0.0	W	19.6
	20-49	696.6	7.4	3.8	0.0	2.0	29.8
	50-99	347.3	2.7	1.2	0.0	W	13.0
	100-249	W	W	W	0.0	W	4.9
	250-499	W	W	W	0.0	W	3.3
	500 and Over	538.1	0.6	0.5	0.0	W	3.4
	Total	629.2	1.0	0.8	0.0	26.1	5.8
22	TEXTILE MILL PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	283.4	8.7	4.1	0.0	22.9	13.0
	20-49	454.8	11.3	4.8	0.0	24.6	5.3
	50-99	559.6	11.3	4.4	0.0	13.3	5.0
	100-249	W	W	W	0.0	W	5.7
	250-499	853.2	14.8	5.5	0.0	7.3	14.2
	500 and Over	W	W	W	0.0	W	7.9
	Total	459.4	10.6	4.3	0.0	17.2	4.7
23	APPAREL and OTHER TEXTILE PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	39.3	1.6	0.9	0.0	Q	12.5
	20-49	47.7	1.2	0.6	0.0	7.5	16.8
	50-99	80.7	1.3	0.6	0.0	4.3	17.9
	100-249	125.2	1.6	0.7	0.0	30.8	30.2
	250-499	73.8	0.6	0.3	0.0	86.9	21.7
	500 and Over	331.8	Q	Q	0.0	3.5	12.2
	Total	49.7	1.4	0.7	0.0	14.6	11.5
24	LUMBER and WOOD PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	465.2	13.8	5.3	0.0	39.5	17.4
	20-49	1,428.1	23.4	8.7	0.0	34.8	15.5
	50-99	1,243.6	23.5	9.0	0.0	50.2	22.7
	100-249	1,235.0	21.9	6.5	0.0	43.9	25.5
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	284.3	2.3	1.0	0.0	5.0	6.4
	Total	791.0	18.2	6.8	0.0	39.2	10.6
25	FURNITURE and FIXTURES						
	Value of Shipments and Receipts (million dollars)						
	Under 20	165.7	4.1	2.0	0.0	19.1	33.1
	20-49	139.2	3.2	1.6	0.0	11.5	14.7
	50-99	173.8	3.9	2.0	0.0	1.7	16.9
	100-249	149.3	2.1	1.0	0.0	8.0	18.5
	250-499	96.0	1.1	0.6	0.0	3.0	16.5
	500 and Over	277.2	3.7	2.4	0.0	1.2	3.0
	Total	159.0	3.5	1.8	0.0	11.3	17.2

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
26	PAPER and ALLIED PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	443.6	8.4	3.7	0.0	22.2	13.2
	20-49	679.8	9.9	3.8	0.0	19.8	9.3
	50-99	2,927.4	33.0	14.2	17.0	20.2	10.9
	100-249	9,468.0	75.2	35.0	38.2	33.8	4.3
	250-499	12,181.4	79.3	39.5	41.3	W	3.4
	500 and Over	5,900.1	21.0	12.7	32.8	W	5.9
	Total	4,234.5	43.9	20.1	34.7	30.2	3.6
2611	Pulp Mills						
	Value of Shipments and Receipts (million dollars)						
	Under 20	0.0	0.0	0.0	0.0	0.0	NF
	20-49	4,725.7	25.5	10.8	0.0	1.9	23.2
	50-99	15,957.9	172.7	54.3	62.7	50.6	9.6
	100-249	21,823.3	140.5	63.0	58.3	85.8	5.5
	250-499	21,254.2	108.9	58.8	61.0	158.9	5.6
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	20,034.8	127.0	58.0	59.3	89.9	4.6
2621	Paper Mills						
	Value of Shipments and Receipts (million dollars)						
	Under 20	3,489.0	46.4	19.3	0.0	W	14.3
	20-49	2,818.2	32.9	14.5	0.0	84.6	8.3
	50-99	5,691.5	56.5	24.3	10.0	W	6.2
	100-249	8,669.1	71.9	32.8	22.0	28.8	2.4
	250-499	11,994.8	95.6	45.2	36.4	W	2.0
	500 and Over	11,611.3	73.4	41.7	40.3	W	2.4
	Total	9,433.1	78.7	36.7	29.4	W	2.3
2631	Paperboard Mills						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	0.0	W	13.0
	20-49	6,641.8	57.8	30.4	0.0	17.3	5.6
	50-99	11,172.7	76.8	39.7	5.7	W	5.4
	100-249	21,884.3	152.9	68.8	48.4	29.6	3.6
	250-499	23,318.1	129.3	62.7	45.7	W	2.7
	500 and Over	W	W	W	W	W	NF
	Total	17,291.7	116.8	56.6	39.1	W	2.9
27	PRINTING and PUBLISHING						
	Value of Shipments and Receipts (million dollars)						
	Under 20	60.8	1.3	0.8	0.0	1.8	13.7
	20-49	100.6	1.4	0.9	0.0	6.8	14.1
	50-99	108.3	1.1	0.7	0.0	Q	25.5
	100-249	139.4	1.5	1.0	0.8	7.0	15.5
	250-499	68.4	0.5	0.4	0.0	W	19.0
	500 and Over	53.0	0.5	0.4	0.0	W	12.3
	Total	82.6	1.2	0.8	0.1	4.4	11.6

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
28	CHEMICALS and ALLIED PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	1,100.1	11.5	5.3	W	6.3	15.7
	20-49	3,454.2	26.6	11.4	1.2	W	18.1
	50-99	3,568.4	25.2	11.4	1.8	7.7	12.9
	100-249	4,064.3	22.2	11.3	4.4	W	9.9
	250-499	5,815.1	27.5	13.9	6.4	4.4	8.7
	500 and Over	5,670.1	17.9	11.0	19.2	1.9	6.5
	Total	4,205.7	21.0	11.1	9.9	3.6	5.0
2812	Alkalies and Chlorine						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	0.0	0.0	8.6
	20-49	20,003.5	157.6	57.9	0.0	W	15.6
	50-99	17,223.2	88.1	41.6	0.0	W	7.8
	100-249	W	W	W	0.0	W	9.7
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	W	W	W	0.0	W	2.5
	Total	26,321.3	129.0	66.0	0.0	W	5.9
2813	Industrial Gases						
	Value of Shipments and Receipts (million dollars)						
	Under 20	5,310.2	39.4	24.5	0.0	Q	11.1
	20-49	24,315.7	44.5	30.9	0.0	0.0	5.2
	50-99	26,119.6	87.6	48.9	W	0.0	8.7
	100-249	55,761.1	68.9	51.3	0.0	W	6.5
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	11,072.8	51.0	33.1	W	0.2	14.8
2819	Industrial Inorganic Chemicals, nec						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	*	W	15.2
	20-49	4,349.5	32.5	14.8	W	W	7.2
	50-99	3,334.4	24.3	12.3	0.0	W	6.1
	100-249	8,143.2	41.9	23.5	W	W	8.6
	250-499	9,827.6	67.2	36.4	W	0.9	9.6
	500 and Over	W	W	W	0.0	W	15.5
	Total	4,144.4	30.4	18.5	1.2	5.0	7.0
2821	Plastics Materials and Resins						
	Value of Shipments and Receipts (million dollars)						
	Under 20	1,066.4	12.8	4.6	0.0	Q	18.4
	20-49	1,626.2	12.5	4.0	W	W	9.1
	50-99	2,409.7	15.1	5.9	W	11.0	8.7
	100-249	4,328.1	25.7	7.8	W	9.6	4.8
	250-499	8,577.3	41.4	15.5	8.2	W	5.8
	500 and Over	6,497.1	23.0	11.0	W	W	6.5
	Total	4,797.3	26.0	9.8	6.8	3.7	4.6

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
2822	Synthetic Rubber						
	Value of Shipments and Receipts (million dollars)						
	Under 20	1,518.9	26.0	6.2	0.0	*	20.4
	20-49	1,682.0	15.3	5.7	0.0	W	12.1
	50-99	4,090.2	26.9	10.8	0.0	W	7.6
	100-249	3,320.8	27.9	12.5	0.0	W	7.0
	250-499	18,099.4	85.7	41.6	0.0	W	15.9
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	10,047.4	60.5	27.3	0.0	1.2	13.4
2823	Cellulosic Manmade Fibers						
	Value of Shipments and Receipts (million dollars)						
	Under 20	341.1	5.7	1.6	0.0	0.0	23.4
	20-49	0.0	0.0	0.0	0.0	0.0	NF
	50-99	2,362.4	82.7	49.2	0.0	79.5	4.0
	100-249	5,319.5	W	69.9	0.0	W	4.0
	250-499	5,110.1	40.4	25.4	0.0	1.3	2.2
	500 and Over	1,211.4	17.3	7.8	0.0	14.9	5.7
	Total	2,869.3	44.4	20.8	0.0	W	16.2
2824	Organic Fibers, Noncellulosic						
	Value of Shipments and Receipts (million dollars)						
	Under 20	475.3	Q	3.9	0.0	Q	44.3
	20-49	563.1	9.8	5.5	0.0	W	2.8
	50-99	1,172.8	13.6	5.8	0.0	W	3.1
	100-249	W	W	W	0.0	W	2.6
	250-499	2,547.8	23.2	10.8	0.0	8.0	2.6
	500 and Over	W	W	W	W	W	3.2
	Total	2,143.3	16.2	9.0	1.0	W	3.4
2865	Cyclic Crudes and Intermediates						
	Value of Shipments and Receipts (million dollars)						
	Under 20	1,453.7	12.7	5.7	W	Q	29.9
	20-49	W	W	W	0.0	W	9.9
	50-99	3,680.9	27.9	11.5	W	W	8.6
	100-249	3,510.1	28.3	10.3	0.0	16.8	8.0
	250-499	16,280.6	51.9	17.2	W	W	8.8
	500 and Over	W	W	W	W	W	8.9
	Total	7,348.4	43.9	15.6	W	9.3	7.4
2869	Industrial Organic Chemicals, nec						
	Value of Shipments and Receipts (million dollars)						
	Under 20	2,489.9	27.3	12.2	W	9.3	20.0
	20-49	4,414.5	28.2	13.1	W	Q	42.5
	50-99	3,143.9	17.2	7.3	W	14.4	4.6
	100-249	9,356.0	44.5	20.0	14.0	W	4.2
	250-499	10,590.6	48.2	19.7	17.9	W	5.3
	500 and Over	19,805.2	65.5	27.8	24.6	W	3.6
	Total	11,886.6	52.2	22.3	20.9	2.1	4.1

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
2873	Nitrogenous Fertilizers						
	Value of Shipments and Receipts (million dollars)						
	Under 20	973.9	12.0	3.9	0.0	Q	29.0
	20-49	39,593.0	255.7	98.2	1.1	0.1	23.9
	50-99	43,614.8	209.7	89.9	0.6	*	17.3
	100-249	59,577.3	283.6	102.3	0.7	*	21.4
	250-499	124,935.2	207.7	109.2	0.0	*	4.8
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	43,985.2	229.2	91.0	0.7	0.1	12.6
2874	Phosphatic Fertilizers						
	Value of Shipments and Receipts (million dollars)						
	Under 20	1,525.6	22.6	7.9	0.0	13.4	14.4
	20-49	W	W	W	0.0	W	1.6
	50-99	2,917.1	46.6	7.2	0.0	Q	19.2
	100-249	W	W	W	0.0	W	3.2
	250-499	4,534.3	30.2	9.5	0.0	W	2.7
	500 and Over	W	W	W	0.0	W	2.2
	Total	3,396.7	25.4	7.0	0.0	12.9	5.5
29	PETROLEUM and COAL PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	3,078.8	32.6	11.5	W	W	17.8
	20-49	1,820.8	16.7	4.5	W	53.7	29.8
	50-99	5,470.8	37.4	10.4	5.3	W	16.1
	100-249	14,572.2	63.6	13.0	37.2	W	7.7
	250-499	30,983.5	135.7	17.6	55.1	W	1.6
	500 and Over	42,403.1	148.9	20.3	43.7	W	1.4
	Total	25,608.9	120.5	18.6	42.8	12.9	3.1
2911	Petroleum Refining						
	Value of Shipments and Receipts (million dollars)						
	Under 20	26,582.5	647.7	98.8	W	W	16.7
	20-49	28,571.9	129.7	28.5	W	158.3	24.5
	50-99	7,731.8	57.2	9.2	19.9	W	3.1
	100-249	20,313.9	107.7	17.5	37.8	W	2.3
	250-499	30,983.5	135.7	17.6	55.1	W	1.6
	500 and Over	42,403.1	148.9	20.3	43.7	W	1.4
	Total	39,377.8	146.0	20.0	44.1	9.3	1.4
30	RUBBER and MISC. PLASTICS PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	204.6	4.2	2.1	0.0	6.3	8.5
	20-49	286.4	4.3	2.1	0.1	14.6	12.0
	50-99	321.8	5.0	2.4	*	W	12.6
	100-249	679.6	7.4	3.8	W	W	9.5
	250-499	W	W	W	W	W	4.2
	500 and Over	W	W	W	0.0	W	1.7
	Total	294.2	4.8	2.4	0.1	11.3	6.6

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
3011	Tires and Inner Tubes						
	Value of Shipments and Receipts (million dollars)						
	Under 20	322.3	Q	3.8	0.0	0.0	42.5
	20-49	571.7	10.8	5.4	0.0	W	7.0
	50-99	W	W	W	0.0	W	2.9
	100-249	671.0	8.4	4.4	0.0	W	2.6
	250-499	662.6	6.0	3.4	W	W	3.0
	500 and Over	W	W	W	0.0	W	1.7
	Total	658.3	6.4	3.6	W	16.9	3.1
308	Miscellaneous Plastic Products, nec						
	Value of Shipments and Receipts (million dollars)						
	Under 20	185.5	3.8	1.9	0.0	4.7	9.9
	20-49	274.9	4.0	1.9	W	12.2	15.2
	50-99	304.3	4.7	2.2	*	W	17.0
	100-249	817.3	7.5	4.0	W	W	13.9
	250-499	238.3	2.1	1.4	0.0	0.5	13.3
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	252.5	4.3	2.1	0.1	W	9.0
31	LEATHER and LEATHER PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	93.8	3.1	1.5	0.0	Q	35.8
	20-49	130.3	3.0	1.5	0.0	19.0	22.6
	50-99	212.6	3.0	1.2	0.0	264.7	23.6
	100-249	209.1	2.8	1.1	0.0	108.9	17.3
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	125.5	3.0	1.4	0.0	51.7	17.4
32	STONE, CLAY and GLASS PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	981.2	18.6	9.7	0.0	15.7	15.9
	20-49	4,818.1	62.8	33.3	W	5.7	11.9
	50-99	2,993.4	33.9	19.4	0.0	W	4.8
	100-249	2,042.8	21.4	12.7	0.0	0.5	4.0
	250-499	W	W	W	0.0	W	11.9
	500 and Over	W	W	W	0.0	W	2.6
	Total	2,051.2	30.5	16.6	W	7.3	9.0
3211	Flat Glass						
	Value of Shipments and Receipts (million dollars)						
	Under 20	723.9	18.0	7.2	0.0	0.0	9.1
	20-49	4,269.9	54.1	31.7	0.0	0.1	2.2
	50-99	4,470.3	42.0	25.5	0.0	W	3.4
	100-249	3,605.3	34.8	21.1	0.0	W	2.5
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	3,934.5	40.1	24.0	0.0	W	2.5

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
3221	Glass Containers						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	0.0	0.0	5.9
	20-49	W	W	W	0.0	*	3.4
	50-99	2,709.3	32.3	17.6	0.0	W	3.0
	100-249	W	W	W	0.0	W	5.7
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	2,549.9	32.6	17.8	0.0	2.7	2.8
3229	Pressed and Blown Glass, nec.						
	Value of Shipments and Receipts (million dollars)						
	Under 20	632.6	14.3	8.7	0.0	Q	33.9
	20-49	1,685.7	19.2	13.7	0.0	W	5.4
	50-99	W	W	W	0.0	W	3.5
	100-249	2,152.3	26.3	16.1	0.0	0.7	3.4
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	W	W	W	0.0	W	6.0
3241	Cement, Hydraulic						
	Value of Shipments and Receipts (million dollars)						
	Under 20	11,578.2	146.0	74.3	0.0	3.7	19.7
	20-49	20,365.2	181.5	89.8	0.0	W	6.3
	50-99	27,077.4	139.5	83.4	0.0	W	5.7
	100-249	0.0	0.0	0.0	0.0	0.0	NF
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	20,082.6	169.3	87.2	0.0	11.3	5.6
3274	Lime						
	Value of Shipments and Receipts (million dollars)						
	Under 20	16,353.3	231.6	115.3	0.0	W	13.5
	20-49	W	W	W	0.0	37.8	8.4
	50-99	W	W	W	0.0	W	18.4
	100-249	0.0	0.0	0.0	0.0	0.0	NF
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	17,432.6	228.7	119.3	0.0	W	10.0
3296	Mineral Wool						
	Value of Shipments and Receipts (million dollars)						
	Under 20	2,533.0	34.5	19.4	0.0	0.4	5.9
	20-49	2,409.6	30.1	15.7	0.0	W	1.1
	50-99	2,661.5	28.5	16.2	0.0	W	1.1
	100-249	W	W	W	0.0	W	1.3
	250-499	W	W	W	0.0	W	1.4
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	2,619.8	26.3	15.5	0.0	W	1.5

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
33	PRIMARY METAL INDUSTRIES						
	Value of Shipments and Receipts (million dollars)						
	Under 20	581.3	12.8	5.9	*	W	13.6
	20-49	983.3	16.7	6.1	W	W	11.5
	50-99	1,636.5	23.5	7.9	13.5	2.4	8.7
	100-249	3,531.5	48.2	14.3	5.6	1.8	7.0
	250-499	5,155.5	63.1	19.8	12.2	3.3	4.4
	500 and Over	10,264.8	99.2	34.2	27.8	12.1	3.1
	Total	3,526.9	50.5	17.6	18.7	6.4	3.7
3312	Blast Furnaces and Steel Mills						
	Value of Shipments and Receipts (million dollars)						
	Under 20	771.2	12.1	5.0	0.0	W	33.2
	20-49	4,659.3	78.9	27.0	W	W	13.9
	50-99	5,641.4	76.1	23.2	35.1	W	5.8
	100-249	4,609.2	74.6	20.9	13.8	W	4.0
	250-499	6,306.0	85.0	27.0	21.8	W	4.2
	500 and Over	11,909.7	125.6	49.7	29.8	W	2.6
	Total	8,953.8	108.1	38.6	27.2	9.2	2.3
3313	Electrometallurgical Products						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	0.0	W	7.2
	20-49	7,149.9	120.5	32.6	0.0	17.5	5.8
	50-99	W	W	W	0.0	W	6.3
	100-249	W	W	W	0.0	W	12.2
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	8,194.4	104.2	37.4	0.0	9.9	6.2
3321	Gray and Ductile Iron Foundries						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	0.0	Q	9.4
	20-49	959.7	18.8	10.1	0.0	W	4.8
	50-99	1,313.5	20.4	10.5	0.0	2.7	4.0
	100-249	1,217.1	25.1	12.8	0.0	W	6.5
	250-499	W	W	W	0.0	W	4.8
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	1,033.2	20.4	10.6	0.0	3.0	5.3
3331	Primary Copper						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	0.0	W	NF
	20-49	0.0	0.0	0.0	0.0	0.0	NF
	50-99	W	W	W	0.0	W	NF
	100-249	W	W	W	0.0	W	NF
	250-499	5,121.3	17.1	6.8	W	W	1.0
	500 and Over	W	W	W	0.0	W	NF
	Total	4,840.7	22.9	5.5	W	W	1.0

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
3334	Primary Aluminum						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	Q	W	0.0	0.0	3.6
	20-49	W	W	W	0.0	0.0	2.0
	50-99	0.0	0.0	0.0	0.0	0.0	NF
	100-249	12,787.4	162.2	46.1	0.0	1.5	1.5
	250-499	W	W	W	0.0	W	1.6
	500 and Over	W	W	W	0.0	W	2.1
	Total	12,816.0	155.0	41.1	0.0	3.5	1.5
3339	Primary Nonferrous Metals, nec						
	Value of Shipments and Receipts (million dollars)						
	Under 20	W	W	W	0.0	4.5	9.6
	20-49	2,723.8	25.9	10.8	0.0	W	9.7
	50-99	5,860.1	82.5	25.5	0.0	2.9	NF
	100-249	4,523.3	61.4	17.2	W	1.2	NF
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500 and Over	W	W	W	0.0	W	NF
	Total	4,239.7	45.6	12.0	W	1.9	2.6
3353	Aluminum Sheet, Plate, and Foil						
	Value of Shipments and Receipts (million dollars)						
	Under 20	Q	Q	Q	0.0	0.0	NF
	20-49	1,112.6	35.2	5.7	0.0	2.2	NF
	50-99	1,907.7	20.4	5.4	0.0	0.7	NF
	100-249	2,920.7	44.7	7.4	0.0	0.3	NF
	250-499	2,471.5	33.2	7.1	0.0	W	NF
	500 and Over	2,554.3	19.0	4.9	0.0	W	NF
	Total	2,450.2	23.8	5.7	0.0	0.9	2.2
34	FABRICATED METAL PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	175.8	3.8	2.0	0.0	7.7	9.0
	20-49	252.1	3.9	1.8	0.0	2.7	8.6
	50-99	323.2	4.5	2.1	0.0	2.0	10.6
	100-249	459.3	5.5	2.5	0.0	W	8.8
	250-499	293.1	4.3	1.8	0.0	6.1	10.6
	500 and Over	259.0	2.2	1.4	0.0	W	11.3
	Total	236.6	4.1	2.0	0.0	5.1	5.4
35	INDUSTRIAL MACHINERY and EQUIPMENT						
	Value of Shipments and Receipts (million dollars)						
	Under 20	97.3	1.9	1.1	0.0	5.5	9.3
	20-49	134.7	2.1	1.1	0.0	W	12.7
	50-99	173.6	2.6	1.2	0.0	6.6	11.8
	100-249	193.9	2.4	1.1	0.0	9.3	8.2
	250-499	254.3	2.4	1.0	0.0	9.0	8.1
	500 and Over	201.9	1.5	0.7	0.0	W	8.3
	Total	143.4	2.0	1.0	0.0	6.7	5.1

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
357	Computer and Office Equipment						
	Value of Shipments and Receipts (million dollars)						
	Under 20	77.0	1.5	0.8	0.0	11.1	18.5
	20-49	78.9	1.0	0.6	0.0	Q	26.9
	50-99	87.7	1.4	0.6	0.0	1.3	11.5
	100-249	82.6	1.1	0.5	0.0	1.0	12.6
	250-499	128.5	0.8	0.3	0.0	4.2	11.4
	500 and Over	86.0	0.6	0.3	0.0	2.3	10.9
	Total	86.2	0.8	0.4	0.0	2.9	7.8
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT						
	Value of Shipments and Receipts (million dollars)						
	Under 20	93.3	1.9	1.1	0.0	3.2	18.2
	20-49	128.4	2.1	1.0	0.0	8.2	17.8
	50-99	198.4	2.6	1.4	0.0	7.7	9.8
	100-249	197.2	1.9	1.1	0.0	6.5	10.6
	250-499	194.4	1.8	0.9	0.0	2.7	9.9
	500 and Over	208.9	1.6	0.8	0.0	20.7	8.5
	Total	158.9	1.9	1.0	0.0	8.0	6.3
37	TRANSPORTATION EQUIPMENT						
	Value of Shipments and Receipts (million dollars)						
	Under 20	122.9	2.6	1.2	0.0	9.0	15.5
	20-49	181.8	3.3	1.4	0.0	W	13.8
	50-99	204.0	3.2	1.5	W	W	11.6
	100-249	213.2	2.6	1.2	0.0	W	7.4
	250-499	242.6	2.9	1.3	0.0	4.0	4.6
	500 and Over	245.1	2.1	0.8	W	20.7	4.0
	Total	222.9	2.3	1.0	W	14.2	3.7
3711	Motor Vehicles and Car Bodies						
	Value of Shipments and Receipts (million dollars)						
	Under 20	54.7	1.2	0.5	0.0	W	13.0
	20-49	134.0	2.8	0.8	0.0	16.9	5.0
	50-99	199.3	8.8	0.7	0.0	W	4.1
	100-249	134.3	1.3	0.4	0.0	W	3.7
	250-499	166.4	2.4	0.5	0.0	9.4	3.0
	500 and Over	523.7	2.3	0.8	W	6.3	3.2
	Total	494.0	2.3	0.8	W	6.5	3.1
3714	Motor Vehicle Parts and Accessories						
	Value of Shipments and Receipts (million dollars)						
	Under 20	180.5	3.8	1.7	0.0	0.8	18.0
	20-49	220.3	4.1	1.6	0.0	W	18.1
	50-99	276.9	4.5	1.9	W	0.6	11.6
	100-249	354.3	4.0	1.7	0.0	0.3	7.0
	250-499	380.8	4.5	1.9	0.0	W	5.7
	500 and Over	365.2	4.7	1.7	0.0	W	4.1
	Total	311.2	4.4	1.8	W	2.4	5.9

See footnotes at end of table.

Table A50. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Industry Group, Selected Industries, and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.8	1.3	1.7	
38	INSTRUMENTS and RELATED PRODUCTS						
	Value of Shipments and Receipts (million dollars)						
	Under 20	60.7	1.0	0.7	0.0	W	22.1
	20-49	66.3	1.0	0.6	0.0	W	17.3
	50-99	87.8	1.2	0.7	0.0	23.7	13.7
	100-249	103.6	1.1	0.7	0.0	W	10.3
	250-499	128.3	1.0	0.7	0.0	W	11.4
	500 and Over	220.9	1.6	1.1	0.0	W	15.1
	Total	116.5	1.2	0.8	0.0	W	8.4
3841	Surgical and Medical Instruments						
	Value of Shipments and Receipts (million dollars)						
	Under 20	64.6	1.2	0.7	0.0	20.0	16.8
	20-49	83.1	1.3	0.8	0.0	19.6	8.9
	50-99	77.7	1.0	0.7	0.0	8.6	9.5
	100-249	80.4	0.7	0.5	0.0	7.3	14.0
	250-499	155.8	0.4	0.4	0.0	0.0	17.1
	500 and Over	56.0	0.2	0.2	0.0	0.0	9.2
	Total	77.0	0.9	0.6	0.0	12.8	7.3
39	MISC. MANUFACTURING INDUSTRIES						
	Value of Shipments and Receipts (million dollars)						
	Under 20	70.6	1.7	0.9	0.0	W	11.8
	20-49	118.7	1.8	1.0	0.0	W	17.2
	50-99	206.6	2.3	1.2	0.0	W	13.4
	100-249	159.0	1.5	0.8	0.0	14.0	12.2
	250-499	282.9	2.3	1.4	0.0	6.3	17.7
	500 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	108.3	1.8	1.0	0.0	W	7.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b Value of Shipments and Receipts were supplied by the Bureau of the Census. See Appendix B.

^c "Major Byproduct" fuels include coke oven gas and blast furnace gas (produced primarily in the blast furnace industry, SIC 3312); still gas (produced primarily in petroleum refineries, SIC 2911); and pulping liquor (produced primarily in pulp and paper mills, SIC 2611 and 2621).

^d "Fuel Oil" includes distillate and residual fuel oils.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • Operating ratios were calculated using the input energy estimates reported in Table A4.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
20-39	ALL INDUSTRY GROUPS						
	Employment Size						
	Under 50	273.2	4.9	2.3	3.2	W	7.3
	50-99	494.5	7.8	3.4	2.4	12.5	7.8
	100-249	782.5	11.0	4.8	5.9	10.4	5.0
	250-499	977.6	12.9	5.9	19.7	9.3	3.9
	500-999	1,393.2	15.7	7.4	24.0	9.1	3.3
	1,000 and Over	1,459.8	13.1	6.2	25.5	W	2.6
	Total	979.6	12.0	5.5	19.1	10.0	2.2
20	FOOD and KINDRED PRODUCTS						
	Employment Size						
	Under 50	699.9	9.0	2.3	0.0	10.8	15.1
	50-99	735.4	5.9	1.8	0.0	W	13.7
	100-249	774.0	6.6	2.5	0.1	7.4	12.9
	250-499	847.4	7.2	3.2	W	8.0	10.7
	500-999	592.8	5.5	2.5	0.2	W	7.9
	1,000 and Over	531.0	5.2	1.9	0.7	8.5	7.0
	Total	704.0	6.3	2.4	W	8.7	6.1
2011	Meat Packing Plants						
	Employment Size						
	Under 50	169.4	3.9	0.6	0.0	Q	17.6
	50-99	249.2	6.1	0.9	0.0	W	15.4
	100-249	368.1	8.7	0.7	0.0	5.7	9.0
	250-499	412.8	7.4	1.0	0.0	W	5.4
	500-999	513.3	11.2	1.5	W	W	8.4
	1,000 and Over	437.6	7.9	1.0	2.6	8.3	5.9
	Total	418.5	8.1	1.0	W	7.9	4.8
2033	Canned Fruits and Vegetables						
	Employment Size						
	Under 50	820.2	6.5	3.3	0.0	Q	38.6
	50-99	667.3	11.2	3.4	0.0	W	14.3
	100-249	701.6	8.2	3.4	0.0	4.8	10.8
	250-499	606.8	5.8	2.5	0.0	9.8	7.6
	500-999	766.7	5.1	2.8	0.0	8.9	8.1
	1,000 and Over	892.7	8.1	2.9	0.0	W	7.9
	Total	702.5	6.7	2.9	0.0	7.1	5.9
2037	Frozen Fruits and Vegetables						
	Employment Size						
	Under 50	Q	Q	Q	0.0	0.0	40.2
	50-99	762.6	Q	4.1	0.0	Q	41.7
	100-249	655.2	11.8	3.7	0.0	15.1	15.8
	250-499	803.1	14.7	4.8	0.0	13.5	13.0
	500-999	928.3	13.4	6.2	0.7	4.3	11.1
	1,000 and Over	801.8	14.5	5.7	0.0	0.2	12.0
	Total	795.3	12.8	4.9	0.2	9.6	11.7
2046	Wet Corn Milling						
	Employment Size						
	Under 50	W	W	W	0.0	0.0	12.5
	50-99	W	W	W	0.0	W	18.1
	100-249	27,943.7	44.8	19.9	0.0	*	9.6
	250-499	18,316.7	39.7	19.1	0.0	W	7.4
	500-999	9,842.6	49.6	25.4	W	0.1	9.5
	1,000 and Over	W	W	W	0.0	0.0	3.5
	Total	15,301.7	43.0	20.2	W	0.7	7.1

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
2051	Bread, Cake, and Related Products						
	Employment Size						
	Under 50	177.3	3.8	2.2	0.0	0.0	21.7
	50-99	343.6	5.8	3.3	0.0	Q	15.7
	100-249	268.8	3.7	2.2	0.0	2.7	11.9
	250-499	236.5	3.0	1.9	0.0	5.3	4.5
	500-999	183.1	2.5	1.6	0.0	W	6.3
	1,000 and Over	149.7	1.7	1.2	0.0	W	7.1
	Total	230.7	3.2	2.0	0.0	3.3	5.5
2063	Beet Sugar						
	Employment Size						
	Under 50	0.0	0.0	0.0	0.0	0.0	NF
	50-99	W	W	W	0.0	W	6.3
	100-249	8,939.4	87.3	29.8	0.0	4.1	3.8
	250-499	W	W	W	0.0	W	4.0
	500-999	0.0	0.0	0.0	0.0	0.0	NF
	1,000 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	8,855.0	83.7	28.7	0.0	W	3.1
2075	Soybean Oil Mills						
	Employment Size						
	Under 50	8,405.5	50.8	4.6	0.0	W	4.1
	50-99	8,821.1	37.8	4.2	0.0	W	2.8
	100-249	7,834.3	38.2	6.3	0.0	W	2.9
	250-499	6,772.1	49.5	6.5	W	W	3.4
	500-999	0.0	0.0	0.0	0.0	0.0	NF
	1,000 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	7,865.1	42.6	5.1	W	1.8	2.7
2082	Malt Beverages						
	Employment Size						
	Under 50	441.7	7.0	2.8	0.0	0.0	15.4
	50-99	W	W	W	0.0	0.0	7.7
	100-249	W	W	W	0.0	W	3.9
	250-499	W	W	W	0.0	W	6.4
	500-999	1,484.5	5.2	2.8	0.0	W	4.8
	1,000 and Over	1,589.6	5.1	3.1	W	W	7.6
	Total	1,511.2	5.3	3.0	W	13.0	6.3
21	TOBACCO PRODUCTS						
	Employment Size						
	Under 50	Q	Q	Q	0.0	0.0	43.7
	50-99	749.4	5.2	0.9	0.0	W	3.7
	100-249	588.4	6.8	3.2	0.0	W	28.2
	250-499	382.6	1.4	0.8	0.0	W	9.2
	500-999	1,331.2	6.1	3.0	0.0	W	5.1
	1,000 and Over	538.1	0.6	0.5	0.0	W	3.4
	Total	629.2	1.0	0.8	0.0	26.1	5.8
22	TEXTILE MILL PRODUCTS						
	Employment Size						
	Under 50	188.7	5.4	2.2	0.0	Q	28.9
	50-99	314.0	8.1	3.5	0.0	25.7	20.0
	100-249	434.9	9.1	3.8	0.0	22.4	11.2
	250-499	448.4	11.1	4.5	0.0	18.8	6.7
	500-999	565.9	12.4	4.7	0.0	12.0	6.2
	1,000 and Over	461.6	10.5	4.6	0.0	9.8	6.2
	Total	459.4	10.6	4.3	0.0	17.2	4.7

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
23	APPAREL and OTHER TEXTILE PRODUCTS						
	Employment Size						
	Under 50	32.0	0.9	0.5	0.0	Q	27.6
	50-99	54.0	2.1	1.2	0.0	Q	31.8
	100-249	39.2	1.2	0.7	0.0	9.9	15.6
	250-499	43.5	1.3	0.6	0.0	6.7	17.4
	500-999	60.0	1.4	0.8	0.0	3.8	18.7
	1,000 and Over	145.1	3.1	1.8	0.0	9.9	18.5
	Total	49.7	1.4	0.7	0.0	14.6	11.5
24	LUMBER and WOOD PRODUCTS						
	Employment Size						
	Under 50	182.1	5.2	1.9	0.0	57.7	21.0
	50-99	1,220.6	31.1	11.4	0.0	58.5	26.7
	100-249	991.2	19.6	7.5	0.0	30.2	15.8
	250-499	1,378.2	30.8	11.6	0.0	52.3	16.6
	500-999	947.3	18.9	7.9	0.0	11.5	32.8
	1,000 and Over	160.7	2.9	1.2	0.0	3.4	18.8
	Total	791.0	18.2	6.8	0.0	39.2	10.6
25	FURNITURE and FIXTURES						
	Employment Size						
	Under 50	Q	Q	Q	0.0	Q	NF
	50-99	Q	Q	Q	0.0	Q	NF
	100-249	108.4	2.3	1.2	0.0	Q	18.2
	250-499	140.7	3.1	1.6	0.0	8.6	16.0
	500-999	169.1	3.6	1.8	0.0	6.4	15.8
	1,000 and Over	179.7	3.7	2.0	0.0	6.7	15.4
	Total	159.0	3.5	1.8	0.0	11.3	17.2
26	PAPER and ALLIED PRODUCTS						
	Employment Size						
	Under 50	256.5	4.2	1.8	0.0	9.9	20.4
	50-99	772.5	12.6	5.0	0.0	19.8	16.3
	100-249	1,084.8	15.1	6.0	7.1	13.2	11.0
	250-499	3,990.8	43.1	19.7	27.4	W	8.4
	500-999	8,860.1	62.7	30.6	39.5	W	4.0
	1,000 and Over	9,604.8	69.4	36.3	41.5	W	3.6
	Total	4,234.5	43.9	20.1	34.7	30.2	3.6
2611	Pulp Mills						
	Employment Size						
	Under 50	1,866.1	5.1	3.2	0.0	1.4	1.0
	50-99	4,661.7	28.6	13.0	0.0	0.0	1.3
	100-249	17,566.7	130.8	42.8	65.9	5.5	11.3
	250-499	19,593.3	169.6	60.5	63.2	146.0	6.6
	500-999	21,357.4	127.0	62.3	59.0	59.1	5.8
	1,000 and Over	19,751.1	99.3	56.1	52.5	208.8	8.4
	Total	20,034.8	127.0	58.0	59.3	89.9	4.6
2621	Paper Mills						
	Employment Size						
	Under 50	8,918.1	225.5	49.5	0.0	W	5.3
	50-99	4,055.1	43.0	16.7	0.0	W	16.9
	100-249	6,288.3	49.7	21.7	W	14.5	8.0
	250-499	6,119.0	44.4	21.1	7.8	27.7	4.1
	500-999	9,547.2	82.5	35.2	23.7	26.0	2.5
	1,000 and Over	11,147.6	95.6	47.7	38.7	W	1.7
	Total	9,433.1	78.7	36.7	29.4	W	2.3

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
2631	Paperboard Mills						
	Employment Size						
	Under 50	W	W	W	0.0	W	8.5
	50-99	W	W	W	0.0	W	10.8
	100-249	8,603.0	65.3	33.7	W	15.7	7.4
	250-499	16,662.8	104.2	50.4	28.0	25.5	3.4
	500-999	23,337.8	143.6	65.9	47.9	W	2.6
	1,000 and Over	19,253.5	138.6	69.4	52.8	W	5.8
	Total	17,291.7	116.8	56.6	39.1	W	2.9
27	PRINTING and PUBLISHING						
	Employment Size						
	Under 50	60.0	1.0	0.6	0.0	Q	23.7
	50-99	63.4	1.2	0.7	0.0	Q	17.4
	100-249	104.4	1.5	0.9	0.0	Q	12.5
	250-499	97.3	1.4	1.0	W	W	21.2
	500-999	100.4	1.3	0.9	0.0	W	17.8
	1,000 and Over	78.9	1.0	0.7	0.3	W	13.7
	Total	82.6	1.2	0.8	0.1	4.4	11.6
28	CHEMICALS and ALLIED PRODUCTS						
	Employment Size						
	Under 50	2,195.2	14.9	6.8	W	W	19.8
	50-99	3,150.4	18.7	8.3	4.9	4.2	18.8
	100-249	5,075.0	28.0	12.4	2.9	W	11.1
	250-499	5,013.0	21.6	11.0	12.1	W	9.7
	500-999	5,652.9	20.4	11.4	14.6	W	10.3
	1,000 and Over	3,654.9	19.7	12.1	11.2	3.9	6.2
	Total	4,205.7	21.0	11.1	9.9	3.6	5.0
2812	Alkalies and Chlorine						
	Employment Size						
	Under 50	W	W	W	0.0	0.0	4.9
	50-99	16,131.7	64.1	28.5	0.0	W	18.1
	100-249	28,655.0	126.0	56.7	0.0	W	11.3
	250-499	W	W	W	0.0	W	5.6
	500-999	W	W	W	0.0	W	7.6
	1,000 and Over	W	W	W	0.0	W	2.6
	Total	26,321.3	129.0	66.0	0.0	W	5.9
2813	Industrial Gases						
	Employment Size						
	Under 50	9,033.7	39.6	25.6	0.0	Q	10.5
	50-99	9,316.5	52.2	35.0	0.0	0.0	11.8
	100-249	W	W	W	0.0	W	10.5
	250-499	W	W	W	W	0.0	2.6
	500-999	0.0	0.0	0.0	0.0	0.0	NF
	1,000 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	11,072.8	51.0	33.1	W	0.2	14.8
2819	Industrial Inorganic Chemicals, nec						
	Employment Size						
	Under 50	3,565.8	24.1	9.9	*	3.7	16.1
	50-99	3,141.5	24.2	10.0	0.0	W	10.7
	100-249	4,611.3	27.8	12.7	W	17.7	8.7
	250-499	7,163.3	43.8	25.6	W	W	7.6
	500-999	8,680.9	71.7	34.1	W	W	8.7
	1,000 and Over	2,917.5	22.7	18.8	0.0	W	11.7
	Total	4,144.4	30.4	18.5	1.2	5.0	7.0

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
2821	Plastics Materials and Resins						
	Employment Size						
	Under 50	1,319.7	12.1	3.7	W	Q	21.5
	50-99	2,386.0	12.7	4.2	W	10.6	6.6
	100-249	3,361.3	17.4	5.4	0.8	W	6.9
	250-499	8,943.2	48.6	16.7	W	W	6.0
	500-999	6,024.6	30.8	12.8	2.0	W	4.8
	1,000 and Over	3,577.7	18.8	9.8	W	W	6.0
	Total	4,797.3	26.0	9.8	6.8	3.7	4.6
2822	Synthetic Rubber						
	Employment Size						
	Under 50	W	W	W	0.0	W	10.2
	50-99	1,052.6	8.2	2.6	0.0	W	10.1
	100-249	3,087.3	19.8	7.8	0.0	W	10.0
	250-499	W	W	W	0.0	W	6.6
	500-999	4,486.4	25.5	12.1	0.0	0.7	7.4
	1,000 and Over	W	W	W	0.0	W	17.6
	Total	10,047.4	60.5	27.3	0.0	1.2	13.4
2823	Cellulosic Manmade Fibers						
	Employment Size						
	Under 50	0.0	0.0	0.0	0.0	0.0	NF
	50-99	341.1	5.7	1.6	0.0	0.0	24.1
	100-249	0.0	0.0	0.0	0.0	0.0	NF
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500-999	0.0	0.0	0.0	0.0	0.0	NF
	1,000 and Over	2,883.8	44.6	21.0	0.0	W	16.2
	Total	2,869.3	44.4	20.8	0.0	W	16.2
2824	Organic Fibers, Noncellulosic						
	Employment Size						
	Under 50	Q	Q	Q	0.0	13.5	3.7
	50-99	W	W	W	0.0	0.0	6.1
	100-249	623.5	11.3	5.2	0.0	W	12.6
	250-499	2,281.3	21.2	9.0	0.0	W	3.5
	500-999	1,377.8	11.9	6.2	0.0	W	2.9
	1,000 and Over	2,342.8	16.5	9.5	W	W	3.0
	Total	2,143.3	16.2	9.0	1.0	W	3.4
2865	Cyclic Crudes and Intermediates						
	Employment Size						
	Under 50	W	W	W	W	Q	24.1
	50-99	6,631.3	38.3	11.6	W	W	13.8
	100-249	5,722.6	34.0	13.0	0.0	5.5	9.6
	250-499	4,856.5	31.4	11.7	W	W	8.7
	500-999	12,735.8	68.1	22.7	W	W	8.6
	1,000 and Over	W	W	W	0.0	W	20.1
	Total	7,348.4	43.9	15.6	W	9.3	7.4
2869	Industrial Organic Chemicals, nec						
	Employment Size						
	Under 50	3,910.5	23.4	10.0	W	W	18.4
	50-99	5,866.3	31.7	13.7	W	W	39.2
	100-249	7,236.5	32.0	14.5	W	W	5.9
	250-499	14,973.2	58.8	23.6	24.9	W	4.4
	500-999	15,452.3	59.3	24.5	25.5	W	5.2
	1,000 and Over	13,409.6	60.6	26.4	19.1	W	4.5
	Total	11,886.6	52.2	22.3	20.9	2.1	4.1

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
2873	Nitrogenous Fertilizers						
	Employment Size						
	Under 50	40,343.8	187.9	64.2	2.6	*	24.6
	50-99	27,465.0	175.4	70.3	0.0	0.1	22.4
	100-249	67,395.9	285.9	108.9	0.7	*	14.6
	250-499	26,185.6	206.7	87.1	0.0	*	28.6
	500-999	16,595.5	104.3	70.1	0.0	0.2	3.2
	1,000 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	43,985.2	229.2	91.0	0.7	0.1	12.6
2874	Phosphatic Fertilizers						
	Employment Size						
	Under 50	1,067.3	6.8	2.7	0.0	W	1.9
	50-99	2,125.3	19.8	2.4	0.0	9.3	7.8
	100-249	W	W	W	0.0	Q	39.9
	250-499	8,275.7	39.4	13.2	0.0	W	2.7
	500-999	W	W	W	0.0	W	1.8
	1,000 and Over	1,967.9	13.3	5.3	0.0	W	2.6
	Total	3,396.7	25.4	7.0	0.0	12.9	5.5
29	PETROLEUM and COAL PRODUCTS						
	Employment Size						
	Under 50	3,707.2	29.6	7.8	W	W	19.2
	50-99	5,732.4	33.0	9.2	18.8	55.5	18.3
	100-249	11,577.4	74.1	13.6	37.0	74.3	7.8
	250-499	39,711.7	157.2	19.2	48.2	W	1.8
	500-999	34,061.1	131.2	18.4	44.2	W	1.9
	1,000 and Over	43,413.9	159.9	23.0	43.0	W	1.5
	Total	25,608.9	120.5	18.6	42.8	12.9	3.1
2911	Petroleum Refining						
	Employment Size						
	Under 50	25,239.7	166.6	21.9	W	W	9.5
	50-99	28,796.5	83.4	17.8	22.7	W	12.4
	100-249	29,281.7	108.3	15.1	42.1	W	1.6
	250-499	43,536.0	163.3	19.4	48.2	W	1.4
	500-999	36,062.6	133.7	18.5	44.3	15.8	1.6
	1,000 and Over	43,413.9	159.9	23.0	43.0	W	1.5
	Total	39,377.8	146.0	20.0	44.1	9.3	1.4
30	RUBBER and MISC. PLASTICS PRODUCTS						
	Employment Size						
	Under 50	217.7	3.8	1.7	0.0	6.1	15.7
	50-99	206.0	3.6	1.8	0.0	7.9	12.9
	100-249	271.7	4.4	2.2	*	7.1	11.6
	250-499	307.7	5.5	2.8	0.1	16.2	12.4
	500-999	377.8	6.1	3.1	W	9.8	11.1
	1,000 and Over	485.7	5.6	3.1	W	16.6	6.8
	Total	294.2	4.8	2.4	0.1	11.3	6.6
3011	Tires and Inner Tubes						
	Employment Size						
	Under 50	479.1	Q	9.1	0.0	0.0	12.9
	50-99	W	W	W	0.0	W	3.1
	100-249	535.2	5.5	2.3	0.0	Q	9.1
	250-499	W	W	W	0.0	W	2.7
	500-999	W	W	W	0.0	W	3.4
	1,000 and Over	657.7	6.0	3.5	W	W	2.1
	Total	658.3	6.4	3.6	W	16.9	3.1

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
308	Miscellaneous Plastic Products, nec						
	Employment Size						
	Under 50	191.8	3.4	1.5	0.0	Q	15.1
	50-99	197.7	3.5	1.7	0.0	W	13.8
	100-249	262.7	4.2	2.0	*	W	14.9
	250-499	293.3	5.2	2.6	W	W	15.8
	500-999	372.8	5.9	2.9	W	W	14.5
	1,000 and Over	171.1	2.5	1.5	0.0	Q	33.1
	Total	252.5	4.3	2.1	0.1	W	9.0
31	LEATHER and LEATHER PRODUCTS						
	Employment Size						
	Under 50	69.1	2.1	0.8	0.0	Q	41.6
	50-99	Q	5.2	2.1	0.0	Q	61.2
	100-249	175.6	4.9	2.2	0.0	W	22.9
	250-499	64.7	1.5	0.8	0.0	Q	21.8
	500-999	130.2	2.8	1.2	0.0	W	17.5
	1,000 and Over	104.9	1.5	0.7	0.0	Q	23.6
	Total	125.5	3.0	1.4	0.0	51.7	17.4
32	STONE, CLAY and GLASS PRODUCTS						
	Employment Size						
	Under 50	429.2	7.4	3.6	0.0	44.3	19.0
	50-99	1,637.2	32.1	16.3	0.0	9.4	12.9
	100-249	4,336.8	60.6	32.5	W	W	14.4
	250-499	2,055.7	25.9	15.4	0.0	3.1	5.3
	500-999	1,976.9	27.4	16.3	0.0	W	6.0
	1,000 and Over	1,353.5	14.9	9.6	0.0	W	6.5
	Total	2,051.2	30.5	16.6	W	7.3	9.0
3211	Flat Glass						
	Employment Size						
	Under 50	W	W	W	0.0	0.0	4.1
	50-99	W	W	W	0.0	0.0	18.3
	100-249	W	W	W	0.0	W	2.8
	250-499	3,627.3	36.1	23.0	0.0	0.1	3.4
	500-999	4,834.2	47.5	27.5	0.0	0.2	1.8
	1,000 and Over	W	W	W	0.0	*	1.4
	Total	3,934.5	40.1	24.0	0.0	W	2.5
3221	Glass Containers						
	Employment Size						
	Under 50	0.0	0.0	0.0	0.0	0.0	NF
	50-99	0.0	0.0	0.0	0.0	0.0	NF
	100-249	2,604.0	28.2	16.2	0.0	W	4.3
	250-499	2,736.5	30.6	17.4	0.0	W	3.0
	500-999	2,589.3	38.6	19.3	0.0	W	4.4
	1,000 and Over	1,573.0	31.2	15.8	0.0	W	6.0
	Total	2,549.9	32.6	17.8	0.0	2.7	2.8
3229	Pressed and Blown Glass, nec.						
	Employment Size						
	Under 50	107.0	1.6	1.0	0.0	0.0	25.6
	50-99	Q	Q	Q	0.0	Q	NF
	100-249	1,767.0	18.0	11.6	0.0	*	14.5
	250-499	W	W	W	0.0	W	4.2
	500-999	1,722.7	24.9	16.1	0.0	W	3.2
	1,000 and Over	2,084.6	26.4	16.2	0.0	0.9	4.2
	Total	W	W	W	0.0	W	6.0

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
3241	Cement, Hydraulic						
	Employment Size						
	Under 50	375.4	2.6	1.7	0.0	Q	34.1
	50-99	20,288.0	137.5	70.3	0.0	2.1	13.4
	100-249	21,001.0	184.2	92.8	0.0	13.9	5.2
	250-499	22,270.9	206.9	116.1	0.0	16.5	7.7
	500-999	0.0	0.0	0.0	0.0	0.0	NF
	1,000 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	20,082.6	169.3	87.2	0.0	11.3	5.6
3274	Lime						
	Employment Size						
	Under 50	Q	W	W	0.0	W	31.4
	50-99	19,965.8	233.7	111.7	0.0	W	9.2
	100-249	16,657.3	228.3	122.2	0.0	27.5	7.1
	250-499	0.0	0.0	0.0	0.0	0.0	NF
	500-999	W	W	W	0.0	W	20.1
	1,000 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	17,432.6	228.7	119.3	0.0	W	10.0
3296	Mineral Wool						
	Employment Size						
	Under 50	W	W	W	0.0	W	17.4
	50-99	3,039.6	24.4	10.9	0.0	0.5	1.1
	100-249	2,991.7	32.6	18.7	0.0	W	1.1
	250-499	2,576.0	25.5	15.3	0.0	W	1.1
	500-999	2,512.3	32.4	17.7	0.0	W	1.1
	1,000 and Over	W	W	W	0.0	W	1.4
	Total	2,619.8	26.3	15.5	0.0	W	1.5
33	PRIMARY METAL INDUSTRIES						
	Employment Size						
	Under 50	606.8	12.3	5.0	0.0	W	22.5
	50-99	719.2	12.6	4.2	0.0	W	16.1
	100-249	1,080.2	16.9	5.7	W	W	11.5
	250-499	1,617.1	24.4	8.4	10.3	1.8	6.6
	500-999	3,545.9	43.5	13.9	W	2.7	7.0
	1,000 and Over	7,597.2	96.5	35.4	25.1	W	2.9
	Total	3,526.9	50.5	17.6	18.7	6.4	3.7
3312	Blast Furnaces and Steel Mills						
	Employment Size						
	Under 50	896.2	10.5	3.9	0.0	W	15.6
	50-99	771.2	8.3	2.6	0.0	3.0	13.3
	100-249	5,081.9	44.9	15.7	W	0.7	11.9
	250-499	5,072.3	65.8	20.0	25.9	2.0	4.4
	500-999	4,585.1	48.2	15.2	W	W	4.3
	1,000 and Over	10,338.5	129.3	48.2	28.4	W	2.5
	Total	8,953.8	108.1	38.6	27.2	9.2	2.3
3313	Electrometallurgical Products						
	Employment Size						
	Under 50	0.0	0.0	0.0	0.0	0.0	NF
	50-99	W	W	W	0.0	W	7.2
	100-249	6,948.0	93.8	26.3	0.0	16.9	5.5
	250-499	W	W	W	0.0	W	5.2
	500-999	W	W	W	0.0	W	12.2
	1,000 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	8,194.4	104.2	37.4	0.0	9.9	6.2

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
3321	Gray and Ductile Iron Foundries						
	Employment Size						
	Under 50	576.1	14.3	8.0	0.0	Q	25.6
	50-99	644.6	14.9	8.3	0.0	Q	15.9
	100-249	W	W	W	0.0	W	9.2
	250-499	W	W	W	0.0	W	3.8
	500-999	1,025.1	20.6	10.5	0.0	2.9	4.9
	1,000 and Over	1,378.8	27.1	13.7	0.0	W	5.1
	Total	1,033.2	20.4	10.6	0.0	3.0	5.3
3331	Primary Copper						
	Employment Size						
	Under 50	W	W	W	0.0	W	NF
	50-99	0.0	0.0	0.0	0.0	0.0	NF
	100-249	W	W	W	0.0	W	NF
	250-499	W	W	W	0.0	2.2	1.0
	500-999	6,062.6	30.2	7.7	W	W	1.0
	1,000 and Over	0.0	0.0	0.0	0.0	0.0	NF
	Total	4,840.7	22.9	5.5	W	W	1.0
3334	Primary Aluminum						
	Employment Size						
	Under 50	W	W	W	0.0	0.0	8.0
	50-99	W	W	W	0.0	0.0	4.3
	100-249	W	W	W	0.0	0.0	2.0
	250-499	W	W	W	0.0	W	1.6
	500-999	13,272.0	161.2	43.2	0.0	W	1.5
	1,000 and Over	W	W	W	0.0	W	2.0
	Total	12,816.0	155.0	41.1	0.0	3.5	1.5
3339	Primary Nonferrous Metals, nec						
	Employment Size						
	Under 50	1,578.5	18.4	3.1	0.0	1.5	27.6
	50-99	W	W	W	0.0	W	6.3
	100-249	3,170.0	35.3	9.7	0.0	W	5.3
	250-499	3,631.1	45.7	12.3	0.0	W	NF
	500-999	8,424.6	69.8	12.9	0.0	W	NF
	1,000 and Over	W	W	W	W	0.0	NF
	Total	4,239.7	45.6	12.0	W	1.9	2.6
3353	Aluminum Sheet, Plate, and Foil						
	Employment Size						
	Under 50	92.7	1.1	0.3	0.0	0.0	16.7
	50-99	1,297.4	14.0	4.7	0.0	0.0	43.2
	100-249	2,750.4	30.2	5.7	0.0	W	NF
	250-499	1,885.5	31.6	6.2	0.0	0.4	NF
	500-999	3,055.9	25.5	6.1	0.0	0.5	NF
	1,000 and Over	2,409.6	22.6	5.6	0.0	W	NF
	Total	2,450.2	23.8	5.7	0.0	0.9	2.2
34	FABRICATED METAL PRODUCTS						
	Employment Size						
	Under 50	157.4	3.4	1.7	0.0	5.7	12.8
	50-99	206.4	3.8	1.8	0.0	W	13.4
	100-249	302.0	4.6	2.1	0.0	5.1	10.7
	250-499	221.3	3.7	1.9	0.0	W	11.1
	500-999	226.6	3.8	2.0	0.0	W	11.0
	1,000 and Over	328.7	4.8	2.5	0.0	W	6.8
	Total	236.6	4.1	2.0	0.0	5.1	5.4

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
	RSE Column Factors:	0.8	0.8	0.7	1.1	1.7	
35	INDUSTRIAL MACHINERY and EQUIPMENT						
	Employment Size						
	Under 50	94.8	1.9	1.1	0.0	6.1	14.9
	50-99	91.6	1.5	0.9	0.0	4.6	14.9
	100-249	113.5	1.8	0.9	0.0	4.9	12.4
	250-499	167.3	2.6	1.2	0.0	3.1	12.8
	500-999	172.7	2.5	1.2	0.0	10.3	8.5
	1,000 and Over	201.5	1.9	0.9	0.0	8.4	6.6
	Total	143.4	2.0	1.0	0.0	6.7	5.1
357	Computer and Office Equipment						
	Employment Size						
	Under 50	136.4	2.6	1.4	0.0	*	29.3
	50-99	71.5	0.5	0.3	0.0	13.8	25.7
	100-249	93.6	0.9	0.5	0.0	Q	26.1
	250-499	67.8	1.1	0.4	0.0	Q	14.6
	500-999	93.9	1.2	0.5	0.0	3.3	7.9
	1,000 and Over	85.5	0.7	0.3	0.0	1.9	9.6
	Total	86.2	0.8	0.4	0.0	2.9	7.8
36	ELECTRONIC and OTHER ELECTRIC EQUIPMENT						
	Employment Size						
	Under 50	84.8	1.2	0.8	0.0	Q	31.5
	50-99	87.8	1.6	1.0	0.0	Q	24.5
	100-249	97.8	1.5	0.7	0.0	Q	22.4
	250-499	190.9	2.3	1.3	0.0	7.5	14.4
	500-999	183.6	2.4	1.2	0.0	7.0	9.0
	1,000 and Over	193.1	1.9	1.0	0.0	11.4	5.9
	Total	158.9	1.9	1.0	0.0	8.0	6.3
37	TRANSPORTATION EQUIPMENT						
	Employment Size						
	Under 50	109.8	2.0	1.0	0.0	Q	29.1
	50-99	133.6	2.3	1.0	0.0	Q	24.4
	100-249	135.5	2.4	1.0	0.0	11.0	16.1
	250-499	228.1	3.8	1.6	W	3.7	13.6
	500-999	212.6	2.6	1.2	0.0	3.2	8.2
	1,000 and Over	239.0	2.2	0.9	W	17.9	3.4
	Total	222.9	2.3	1.0	W	14.2	3.7
3711	Motor Vehicles and Car Bodies						
	Employment Size						
	Under 50	42.3	0.9	0.4	0.0	W	25.0
	50-99	58.3	1.0	0.3	0.0	0.0	12.1
	100-249	144.8	3.1	0.5	0.0	61.6	6.1
	250-499	163.9	3.2	0.9	0.0	W	4.9
	500-999	242.4	1.1	0.4	0.0	W	3.3
	1,000 and Over	511.0	2.4	0.8	W	6.5	3.4
	Total	494.0	2.3	0.8	W	6.5	3.1
3714	Motor Vehicle Parts and Accessories						
	Employment Size						
	Under 50	217.2	3.5	1.4	0.0	Q	32.3
	50-99	181.9	3.0	1.3	0.0	0.0	25.5
	100-249	200.1	3.5	1.2	0.0	W	18.7
	250-499	301.1	4.5	1.9	W	W	12.8
	500-999	276.1	3.9	1.8	0.0	Q	6.5
	1,000 and Over	363.5	4.7	1.8	0.0	W	3.7
	Total	311.2	4.4	1.8	W	2.4	5.9

See footnotes at end of table.

Table A51. Selected Energy Operating Ratios for Total Energy Consumption for Heat, Power, and Electricity Generation by Census Region and Economic Characteristics of the Establishment, 1991 (Continued)

SIC Code ^a	Economic Characteristics ^b	Consumption per Employee (million Btu)	Consumption per Dollar of Value Added (thousand Btu)	Consumption per Dollar of Value of Shipments (thousand Btu)	Major Byproducts ^c as a Percent of Consumption (percent)	Fuel Oil ^d as a Percent of Natural Gas (percent)	RSE Row Factors
RSE Column Factors:		0.8	0.8	0.7	1.1	1.7	
38	INSTRUMENTS and RELATED PRODUCTS						
	Employment Size						
	Under 50	114.0	1.5	1.0	0.0	Q	34.1
	50-99	76.5	1.0	0.6	0.0	*	38.9
	100-249	53.8	0.8	0.5	0.0	8.1	20.5
	250-499	81.1	0.9	0.6	0.0	W	16.9
	500-999	113.3	1.2	0.8	0.0	20.7	9.8
	1,000 and Over	149.6	1.4	1.0	0.0	W	11.3
	Total	116.5	1.2	0.8	0.0	W	8.4
3841	Surgical and Medical Instruments						
	Employment Size						
	Under 50	104.6	1.9	1.1	0.0	Q	50.4
	50-99	50.1	0.6	0.4	0.0	0.0	21.7
	100-249	63.6	0.9	0.6	0.0	9.2	13.5
	250-499	101.6	1.3	0.8	0.0	26.5	9.7
	500-999	80.9	0.8	0.6	0.0	13.1	10.8
	1,000 and Over	62.5	0.6	0.5	0.0	0.8	14.3
	Total	77.0	0.9	0.6	0.0	12.8	7.3
39	MISC. MANUFACTURING INDUSTRIES						
	Employment Size						
	Under 50	60.4	1.5	0.8	0.0	Q	17.2
	50-99	67.1	1.7	0.8	0.0	16.8	22.0
	100-249	85.6	1.5	0.8	0.0	5.8	14.9
	250-499	175.4	2.5	1.3	0.0	11.9	14.4
	500-999	163.0	1.8	1.1	0.0	14.2	11.1
	1,000 and Over	201.2	2.1	1.2	0.0	W	16.8
	Total	108.3	1.8	1.0	0.0	W	7.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

^c "Major Byproduct" fuels include coke oven gas and blast furnace gas (produced primarily in the blast furnace industry, SIC 3312); still gas (produced primarily in petroleum refineries, SIC 2911); and pulping liquor (produced primarily in pulp and paper mills, SIC 2611 and 2621).

^d "Fuel Oil" includes distillate and residual fuel oils.

NF=No applicable RSE row/column factor.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding. • Operating ratios were calculated using the input energy estimates reported in Table A4.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey," and Bureau of the Census, Industry Division, data files for the "1991 Annual Survey of Manufactures."

Table A52. Nonswitchable Minimum Requirements and Maximum Consumption Potential by Census Region, 1991
(Estimates in Physical Units)

Type of Energy	Actual Consumption	Minimum Consumption ^a	Maximum Consumption ^b	RSE Row Factors
RSE Column Factors:	1.0	1.2	0.8	
Total United States				
Electricity Receipts ^c (million kilowatthours)	718,480	701,478	766,887	2.0
Natural Gas (billion cubic feet)	5,345	3,485	5,887	2.0
Distillate Fuel Oil (thousand barrels)	23,885	19,113	201,081	3.7
Residual Fuel Oil (thousand barrels)	65,837	36,488	201,921	2.6
Coal (thousand short tons)	53,035	29,425	58,996	4.8
LPG (thousand barrels)	27,970	14,689	236,983	2.9
Northeast Census Region				
Electricity Receipts ^c (million kilowatthours)	87,851	85,980	92,709	3.0
Natural Gas (billion cubic feet)	446	240	519	3.0
Distillate Fuel Oil (thousand barrels)	7,805	6,109	30,640	7.1
Residual Fuel Oil (thousand barrels)	29,245	17,562	47,504	3.6
Coal (thousand short tons)	7,420	5,258	7,685	25.7
LPG (thousand barrels)	W	2,235	22,767	8.3
Midwest Census Region				
Electricity Receipts ^c (million kilowatthours)	207,104	202,036	220,317	3.0
Natural Gas (billion cubic feet)	1,363	839	1,542	2.3
Distillate Fuel Oil (thousand barrels)	3,885	3,305	59,433	7.1
Residual Fuel Oil (thousand barrels)	8,134	3,504	39,914	4.7
Coal (thousand short tons)	18,828	10,643	21,332	3.3
LPG (thousand barrels)	3,877	2,274	59,563	5.8
South Census Region				
Electricity Receipts ^c (million kilowatthours)	305,128	297,691	328,832	2.0
Natural Gas (billion cubic feet)	2,896	2,053	3,095	2.3
Distillate Fuel Oil (thousand barrels)	8,014	6,371	80,904	5.0
Residual Fuel Oil (thousand barrels)	23,114	13,511	86,548	4.2
Coal (thousand short tons)	22,514	12,155	25,094	3.3
LPG (thousand barrels)	W	4,019	105,597	4.2
West Census Region				
Electricity Receipts ^c (million kilowatthours)	118,398	115,771	125,029	2.0
Natural Gas (billion cubic feet)	640	353	730	4.3
Distillate Fuel Oil (thousand barrels)	4,180	3,328	30,104	6.3
Residual Fuel Oil (thousand barrels)	5,344	1,911	27,956	5.4
Coal (thousand short tons)	4,274	1,370	4,884	13.2
LPG (thousand barrels)	13,345	6,161	49,056	3.0

^a Minimum consumption represents actual 1991 consumption decreased by the quantity of the designated type of energy that would no longer have been required if all ascertained switching from that type of energy had occurred. The minimum value includes the quantity of 1991 consumption for which switching capability was not ascertained.

^b Maximum consumption represents actual 1991 consumption increased by the quantity of the designated type of energy that would have been required if all ascertained switching into that type of energy had occurred. This value assumes that all indicated substitutions were possible simultaneously and the substitutable amount consists of the sum of all possible switches to the designated type of energy. The estimate assumes that 1991 output remained constant.

^c "Electricity Receipts" represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. "Electricity Receipts" has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A53. Capability to Switch from Electricity to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991
(Estimates in Million Kilowatthours)

SIC Code ^a	Industry Groups and Industry	Electricity Receipts			Alternative Types of Energy ^b							RSE Row Factors
		Total Receipts ^c	Switchable	Not Switchable	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^d	
RSE Column Factors:		0.4	0.9	0.4	1.0	1.2	1.2	1.2	2.1	1.6	1.5	
20	Food and Kindred Products	50,518	1,305	45,174	325	378	193	244	15	183	Q	12.7
2011	Meat Packing Plants	3,410	64	3,051	W	W	0	0	0	0	0	16.1
2033	Canned Fruits and Vegetables	1,415	14	1,316	0	1	0	Q	0	0	0	20.5
2037	Frozen Fruits and Vegetables	3,097	102	2,798	99	85	67	0	0	69	0	25.4
2046	Wet Corn Milling	4,143	W	W	0	0	0	W	0	0	0	20.3
2051	Bread, Cake and Related Products	2,240	53	1,971	27	Q	*	0	0	22	0	21.6
2063	Beet Sugar	407	0	390	0	0	0	0	0	0	0	13.9
2075	Soybean Oil Mills	1,632	34	1,527	W	W	W	W	0	W	0	5.9
2082	Malt Beverages	2,371	67	2,287	W	W	W	W	0	0	0	17.0
21	Tobacco Manufactures	1,468	W	1,452	W	0	0	W	0	0	0	8.9
22	Textile Mill Products	29,522	266	28,232	0	Q	0	Q	0	0	0	11.9
23	Apparel and Other Textile Products	5,645	187	4,730	Q	Q	0	Q	0	0	0	29.0
24	Lumber and Wood Products	19,575	348	17,791	74	Q	*	0	0	Q	31	29.2
25	Furniture and Fixtures	4,916	122	4,452	Q	21	0	0	0	20	Q	25.0
26	Paper and Allied Products	65,052	3,181	59,815	1,406	576	649	859	128	47	230	9.3
2611	Pulp Mills	2,877	60	2,817	60	3	60	0	0	0	0	31.8
2621	Paper Mills	36,317	1,766	33,741	457	236	155	357	W	0	W	4.3
2631	Paperboard Mills	12,611	899	11,582	647	W	393	327	0	0	W	10.1
27	Printing and Publishing	15,629	728	13,064	341	187	Q	0	Q	Q	Q	25.8
28	Chemicals and Allied Products	139,059	2,377	130,168	1,414	532	156	322	0	225	259	8.2
2812	Alkalies and Chlorine	12,629	0	11,569	0	0	0	0	0	0	0	23.6
2813	Industrial Gases	17,894	260	17,220	W	0	0	0	0	0	0	11.0
2819	Industrial Inorganic Chemicals, nec	38,176	92	37,303	61	23	W	W	0	W	5	13.4
2821	Plastics Materials and Resins	15,027	283	13,373	W	141	0	0	0	W	W	8.9
2822	Synthetic Rubber	1,946	W	1,896	0	W	0	0	0	0	0	18.7
2823	Cellulosic Manmade Fibers	W	23	W	0	1	0	23	0	0	0	39.1
2824	Organic Fibers, Noncellulosic	6,976	W	6,418	0	W	W	0	0	0	0	6.8
2865	Cyclic Crudes and Intermediates	4,432	91	4,262	W	W	0	0	0	0	W	18.8
2869	Industrial Organic Chemicals, nec	20,143	1,058	18,375	698	242	W	W	0	W	W	7.4
2873	Nitrogenous Fertilizers	2,918	83	2,807	83	0	0	0	0	0	0	35.4
2874	Phosphatic Fertilizers	2,419	W	W	0	W	0	0	0	W	0	7.5
29	Petroleum and Coal Products	33,480	1,437	31,336	1,130	451	576	W	0	563	241	3.6
2911	Petroleum Refining	31,562	1,360	29,664	1,122	376	574	W	0	556	233	3.0
30	Rubber and Misc. Plastics Products	33,913	877	30,592	106	164	27	28	0	73	77	21.5
3011	Tires and Inner Tubes	4,037	53	3,876	0	W	0	W	0	0	0	6.4
308	Miscellaneous Plastic Products, nec	25,597	669	22,954	64	79	Q	Q	0	Q	Q	26.7
31	Leather and Leather Products	795	W	W	Q	0	0	0	0	0	0	25.7
32	Stone, Clay and Glass Products	30,885	568	28,665	161	273	37	97	W	96	67	12.3
3211	Flat Glass	1,512	W	1,485	0	W	0	0	0	0	W	5.3
3221	Glass Containers	4,098	142	3,634	50	90	W	0	0	W	0	9.5
3229	Pressed and Blown Glass, nec	2,862	118	2,578	58	73	W	0	0	W	W	8.4
3241	Cement, Hydraulic	9,490	10	9,288	*	10	*	*	*	*	0	27.5
3274	Lime	1,324	W	1,243	0	0	0	W	W	0	0	35.1
3296	Mineral Wool	2,821	W	2,560	0	W	W	0	0	0	0	2.2
33	Primary Metal Industries	147,078	2,111	139,395	1,898	254	1,650	*	W	Q	182	9.4
3312	Blast Furnaces and Steel Mills	39,480	1,716	36,545	1,708	W	1,640	0	0	W	W	7.4
3313	Electrometallurgical Products	3,796	W	W	0	W	0	0	0	0	0	14.9
3321	Gray and Ductile Iron Foundries	6,414	63	6,148	Q	Q	Q	*	W	Q	11	17.1
3331	Primary Copper	1,246	W	929	W	0	0	0	0	0	W	1.4
3334	Primary Aluminum	67,707	W	66,272	0	W	0	0	0	0	0	5.6
3339	Primary Nonferrous Metals, nec	3,784	1	3,469	*	*	*	0	0	*	*	1.5
3353	Aluminum Sheet, Plate, and Foil	4,261	1	4,064	1	0	0	0	0	0	0	1.7
34	Fabricated Metal Products	29,830	623	26,132	207	195	26	Q	7	52	86	23.0
35	Industrial Machinery and Equipment	29,658	876	25,615	231	174	Q	W	*	177	Q	18.7
357	Computer and Office Equipment	4,398	75	3,713	29	29	24	0	*	11	*	17.3
36	Electronic and Other Electric Equipment	30,046	840	26,318	165	227	62	Q	0	69	13	20.1
37	Transportation Equipment	35,401	493	32,696	148	209	Q	0	0	39	*	11.9
3711	Motor Vehicles and Car Bodies	8,285	W	7,603	0	W	W	0	0	0	0	6.7
3714	Motor Vehicle Parts and Accessories	10,918	203	9,891	30	73	*	0	0	Q	*	11.5
38	Instruments and Related Products	12,349	506	10,704	31	54	114	W	0	14	43	20.3
3841	Surgical and Medical Instruments	1,161	2	1,000	*	1	*	0	0	*	*	23.5
39	Misc. Manufacturing Industries	3,661	122	3,216	Q	13	0	Q	0	Q	Q	24.1
	Total	718,480	17,003	660,279	7,730	3,827	3,604	1,738	255	1,648	1,455	5.7

See footnotes at end of table.

Table A53. Capability to Switch from Electricity to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991 (Continued)
(Estimates in Million Kilowatthours)

Selected Characteristics	Electricity Receipts			Alternative Types of Energy ^b							RSE Row Factors
	Total Receipts ^c	Switchable	Not Switchable	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^d	
RSE Column Factors:	0.3	0.8	0.3	0.9	1.2	1.1	1.6	3.6	1.4	1.7	
Census Region											
Northeast	87,851	1,871	79,702	447	321	408	216	Q	219	342	12.5
Midwest	207,104	5,068	191,373	2,279	1,421	1,291	605	Q	447	260	9.1
South	305,128	7,436	282,152	3,738	1,260	1,484	820	165	505	435	7.2
West	118,398	2,628	107,052	1,266	824	421	97	*	478	418	10.0
Total	718,480	17,003	660,279	7,730	3,827	3,604	1,738	255	1,648	1,455	5.7
Value of Shipments and Receipts^e (million dollars)											
Under 20	110,811	3,008	95,098	600	654	147	84	Q	425	332	17.3
20-49	109,423	2,407	98,977	479	521	45	154	54	130	337	14.0
50-99	93,766	1,700	85,511	509	513	213	104	W	193	131	11.7
100-249	148,565	2,793	138,126	1,398	781	325	421	113	168	227	9.2
250-499	118,855	2,375	113,597	853	397	552	486	W	164	270	6.9
500 and Over	137,060	4,720	128,971	3,891	961	2,322	489	15	569	158	5.3
Total	718,480	17,003	660,279	7,730	3,827	3,604	1,738	255	1,648	1,455	5.7
Employment Size^e											
Under 50	47,182	1,168	40,297	302	265	116	Q	Q	260	138	22.0
50-99	48,502	1,043	43,440	344	215	48	Q	0	138	45	19.5
100-249	128,926	2,910	113,966	794	728	123	113	Q	286	517	12.3
250-499	129,141	2,896	118,305	1,023	627	468	174	60	417	278	8.4
500-999	155,927	3,010	147,267	1,523	895	653	647	Q	161	323	6.2
1,000 and Over	208,803	5,975	197,004	3,744	1,096	2,196	704	W	388	153	7.0
Total	718,480	17,003	660,279	7,730	3,827	3,604	1,738	255	1,648	1,455	5.7

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Alternative Types of Energy" consist of those energy sources that could have been substituted for electricity receipts during 1991. The quantities are expressed in millions of kilowatthours, and therefore represent the quantity of electricity that could have been displaced by the given alternative type of energy.

^c "Total Receipts" represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. "Electricity Receipts" has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^d "Other" includes all other types of energy not already identified that respondents indicated could have been consumed in place of electricity.

^e Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A54. Capability to Switch from Natural Gas to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991
(Estimates in Billion Cubic Feet)

SIC Code ^a	Industry Groups and Industry	Natural Gas			Alternative Types of Energy ^b							RSE Row Factors
		Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Distillate Fuel Oil	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^e	
RSE Column Factors:		0.5	0.6	0.7	1.6	0.8	0.8	1.3	2.2	0.9	1.5	
20	Food and Kindred Products	497	261	206	17	128	92	16	W	73	10	7.1
2011	Meat Packing Plants	31	18	11	*	10	4	1	0	6	*	10.4
2033	Canned Fruits and Vegetables	35	19	14	W	8	8	*	0	3	1	13.8
2037	Frozen Fruits and Vegetables	25	11	12	1	6	5	*	0	2	1	17.2
2046	Wet Corn Milling	51	27	24	W	18	5	W	W	4	*	13.8
2051	Bread, Cake and Related Products	22	8	12	1	2	*	0	0	5	*	14.9
2063	Beet Sugar	18	8	10	*	1	7	1	*	*	*	12.5
2075	Soybean Oil Mills	24	17	6	*	12	6	1	0	3	0	4.5
2082	Malt Beverages	22	18	4	1	5	16	2	0	W	W	12.6
21	Tobacco Manufactures	4	3	1	0	1	2	*	0	*	0	18.2
22	Textile Mill Products	105	72	24	1	28	32	7	*	21	3	8.9
23	Apparel and Other Textile Products	18	5	11	*	2	2	*	*	1	*	24.3
24	Lumber and Wood Products	39	14	18	2	5	2	*	0	7	1	24.1
25	Furniture and Fixtures	18	5	10	1	1	1	*	0	3	*	21.4
26	Paper and Allied Products	532	273	246	20	91	159	21	1	23	14	5.8
2611	Pulp Mills	32	12	19	1	5	7	0	0	3	*	21.6
2621	Paper Mills	252	123	126	16	48	59	13	1	5	8	6.0
2631	Paperboard Mills	180	111	67	3	20	86	8	0	8	5	7.6
27	Printing and Publishing	47	11	28	1	5	3	*	*	5	*	19.1
28	Chemicals and Allied Products	1,620	331	1,267	31	143	98	20	W	88	30	5.8
2812	Alkalies and Chlorine	W	3	W	0	*	3	0	0	0	0	25.0
2813	Industrial Gases	24	3	20	W	0	0	0	0	*	1	14.7
2819	Industrial Inorganic Chemicals, nec	136	26	107	3	15	2	1	0	7	2	9.3
2821	Plastics Materials and Resins	146	27	116	*	10	9	1	0	10	1	8.7
2822	Synthetic Rubber	43	7	36	0	3	3	*	0	1	1	18.2
2823	Cellulosic Manmade Fibers	W	1	W	0	1	0	0	0	*	0	44.7
2824	Organic Fibers, Noncellulosic	W	18	W	1	5	13	1	0	1	0	5.6
2865	Cyclic Crudes and Intermediates	94	26	67	*	15	15	1	0	1	2	13.9
2869	Industrial Organic Chemicals, nec	625	139	482	23	44	21	W	W	52	16	6.8
2873	Nitrogenous Fertilizers	258	4	254	0	1	1	0	0	2	0	39.9
2874	Phosphatic Fertilizers	18	2	16	*	2	1	0	0	1	*	4.6
29	Petroleum and Coal Products	813	270	536	11	92	74	W	*	195	9	4.7
2911	Petroleum Refining	769	249	516	10	74	71	W	0	190	8	3.1
30	Rubber and Misc. Plastics Products	93	51	32	2	29	24	1	*	9	1	10.5
3011	Tires and Inner Tubes	21	18	2	*	10	15	1	0	1	*	4.3
308	Miscellaneous Plastic Products, nec	51	23	22	2	13	7	*	*	6	*	18.0
31	Leather and Leather Products	5	2	3	*	1	1	0	0	*	*	34.9
32	Stone, Clay and Glass Products	369	194	162	1	92	24	25	5	77	13	7.2
3211	Flat Glass	40	20	20	0	W	0	0	0	W	W	3.7
3221	Glass Containers	67	42	24	*	18	7	0	0	24	1	6.7
3229	Pressed and Blown Glass, nec	W	15	W	*	7	W	0	0	7	1	6.9
3241	Cement, Hydraulic	38	32	6	*	6	2	22	5	2	3	20.8
3274	Lime	8	3	5	0	2	1	1	*	*	1	16.9
3296	Mineral Wool	28	12	14	0	3	2	0	0	10	*	1.5
33	Primary Metal Industries	666	187	460	8	56	69	W	30	66	2	5.7
3312	Blast Furnaces and Steel Mills	387	99	285	W	21	56	W	30	12	2	5.5
3313	Electrometallurgical Products	1	1	1	*	*	0	0	0	*	0	13.4
3321	Gray and Ductile Iron Foundries	28	8	18	*	3	1	0	0	5	*	13.0
3331	Primary Copper	15	7	7	0	W	W	*	0	W	0	1.3
3334	Primary Aluminum	20	10	10	0	3	2	0	0	8	0	3.6
3339	Primary Nonferrous Metals, nec	16	7	8	*	6	*	0	0	1	*	2.9
3353	Aluminum Sheet, Plate, and Foil	41	8	33	*	2	*	0	0	6	0	1.6
34	Fabricated Metal Products	169	48	106	5	14	7	2	Q	26	5	12.7
35	Industrial Machinery and Equipment	106	33	60	3	13	8	1	*	13	2	13.4
357	Computer and Office Equipment	5	2	2	*	1	1	0	0	*	*	17.7
36	Electronic and Other Electric Equipment	76	36	35	2	15	9	1	*	16	2	11.9
37	Transportation Equipment	129	50	74	2	18	13	5	*	17	4	6.1
3711	Motor Vehicles and Car Bodies	44	16	27	*	3	2	W	0	9	1	4.7
3714	Motor Vehicle Parts and Accessories	40	15	24	1	5	4	1	0	6	1	7.3
38	Instruments and Related Products	25	10	11	1	7	3	*	0	1	1	14.5
3841	Surgical and Medical Instruments	2	*	1	*	*	*	0	0	*	*	20.8
39	Misc. Manufacturing Industries	14	4	8	*	2	1	*	0	2	*	18.2
	Total	5,345	1,860	3,299	109	745	625	107	55	645	98	2.9

See footnotes at end of table.

Table A54. Capability to Switch from Natural Gas to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991 (Continued)
(Estimates in Billion Cubic Feet)

Selected Characteristics	Natural Gas			Alternative Types of Energy ^b							RSE Row Factors
	Total Consumed ^d	Switchable	Not Switchable	Electricity Receipts ^d	Distillate Fuel Oil	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^e	
RSE Column Factors:	0.5	0.5	0.7	1.7	0.7	0.7	1.7	2.7	0.7	1.6	
Census Region											
Northeast	446	206	211	5	95	88	3	*	49	13	6.1
Midwest	1,363	525	780	30	226	167	48	45	172	21	4.6
South	2,896	843	1,984	57	313	264	43	8	310	51	4.0
West	640	287	323	17	111	107	13	3	114	14	7.1
Total	5,345	1,860	3,299	109	745	625	107	55	645	98	2.9
Value of Shipments and Receipts^f (million dollars)											
Under 20	587	180	313	17	87	41	9	3	69	11	10.1
20-49	610	249	324	9	121	61	27	7	79	16	7.6
50-99	624	284	318	11	130	85	10	W	98	12	6.9
100-249	968	365	578	22	151	128	14	*	109	22	4.6
250-499	837	272	560	13	104	136	20	W	62	10	4.7
500 and Over	1,720	510	1,205	37	151	174	28	37	229	27	3.7
Total	5,345	1,860	3,299	109	745	625	107	55	645	98	2.9
Employment Size^f											
Under 50	W	67	W	8	39	17	1	*	24	3	15.2
50-99	349	119	200	7	64	36	10	W	33	5	11.6
100-249	968	335	580	21	165	80	30	13	107	28	7.2
250-499	972	396	549	28	159	126	20	W	157	17	5.0
500-999	1,040	431	592	10	160	152	16	3	165	30	4.5
1,000 and Over	W	513	W	36	158	215	30	31	159	16	3.4
Total	5,345	1,860	3,299	109	745	625	107	55	645	98	2.9

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Alternative Types of Energy" consist of those energy sources that could have been substituted for natural gas during 1991. The quantities are expressed in billions of cubic feet, and therefore represent the quantity of natural gas that could have been displaced by the given alternative type of energy.

^c "Total Consumed" represents those quantities of natural gas that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^d "Electricity Receipts" represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. "Electricity Receipts" has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^e "Other" includes all other types of energy not already identified that respondents indicated could have been consumed in place of natural gas.

^f Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A55. Capability to Switch from Distillate Fuel Oil to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Distillate Fuel Oil			Alternative Types of Energy ^b							RSE Row Factors
		Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^e	
RSE Column Factors:		0.7	0.9	0.7	1.1	0.9	1.2	0.9	1.6	1.1	1.2	
20	Food and Kindred Products	2,966	662	1,822	Q	569	Q	*	*	109	40	20.3
2011	Meat Packing Plants	252	18	101	*	15	1	0	0	0	0	17.3
2033	Canned Fruits and Vegetables	131	Q	89	0	8	2	0	0	*	Q	22.0
2037	Frozen Fruits and Vegetables	76	40	33	2	8	0	0	0	24	0	30.5
2046	Wet Corn Milling	30	1	W	1	*	0	0	0	*	0	24.1
2051	Bread, Cake and Related Products	131	36	85	*	36	0	0	0	9	0	31.8
2063	Beet Sugar	30	2	26	0	0	0	*	0	*	*	11.7
2075	Soybean Oil Mills	31	22	7	0	22	W	0	0	W	W	7.0
2082	Malt Beverages	58	W	W	*	W	0	0	0	*	W	20.3
21	Tobacco Manufactures	40	W	W	0	W	0	0	0	*	0	7.6
22	Textile Mill Products	1,064	245	477	27	207	Q	9	0	37	Q	26.2
23	Apparel and Other Textile Products	142	Q	W	Q	7	Q	Q	Q	Q	Q	38.9
24	Lumber and Wood Products	2,373	140	1,466	Q	Q	Q	0	Q	Q	31	24.9
25	Furniture and Fixtures	162	Q	138	0	Q	*	0	0	1	Q	35.3
26	Paper and Allied Products	1,566	383	1,065	29	245	129	63	W	47	Q	13.2
2611	Pulp Mills	155	38	113	0	37	1	0	0	0	0	25.9
2621	Paper Mills	W	190	W	27	74	90	53	W	W	W	6.2
2631	Paperboard Mills	207	27	171	0	11	5	W	0	W	*	9.9
27	Printing and Publishing	312	125	137	Q	121	26	0	0	Q	*	41.4
28	Chemicals and Allied Products	2,083	488	1,313	13	331	112	9	0	169	Q	16.5
2812	Alkalies and Chlorine	43	W	W	0	W	0	0	0	0	0	24.4
2813	Industrial Gases	7	0	7	0	0	0	0	0	0	0	68.9
2819	Industrial Inorganic Chemicals, nec	456	62	295	*	48	W	0	0	3	1	14.9
2821	Plastics Materials and Resins	231	90	131	*	81	8	0	0	W	0	15.4
2822	Synthetic Rubber	18	W	13	0	*	*	0	0	W	0	19.5
2823	Cellulosic Manmade Fibers	21	1	20	0	0	0	1	0	0	0	34.0
2824	Organic Fibers, Noncellulosic	53	13	38	0	13	1	W	0	0	0	5.2
2865	Cyclic Crudes and Intermediates	136	73	Q	1	71	W	0	0	3	*	22.4
2869	Industrial Organic Chemicals, nec	439	40	359	8	23	17	0	0	17	Q	24.1
2873	Nitrogenous Fertilizers	26	2	15	*	1	0	0	0	Q	Q	36.2
2874	Phosphatic Fertilizers	150	20	107	*	W	0	0	0	20	*	3.3
29	Petroleum and Coal Products	3,599	1,325	1,465	W	700	138	W	0	96	118	17.0
2911	Petroleum Refining	1,525	961	546	W	403	114	W	0	72	W	6.6
30	Rubber and Misc. Plastics Products	508	148	295	10	123	62	13	Q	27	13	27.6
3011	Tires and Inner Tubes	68	62	6	W	W	W	W	0	0	0	7.3
308	Miscellaneous Plastic Products, nec	W	35	190	Q	27	13	Q	Q	13	Q	37.8
31	Leather and Leather Products	220	7	193	Q	Q	0	*	0	0	Q	48.6
32	Stone, Clay and Glass Products	3,312	289	2,640	16	113	Q	Q	*	67	46	20.0
3211	Flat Glass	12	W	W	0	W	0	0	0	0	0	5.4
3221	Glass Containers	23	17	5	1	17	1	0	0	W	0	13.0
3229	Pressed and Blown Glass, nec	38	W	W	W	W	*	0	0	W	0	12.5
3241	Cement, Hydraulic	616	84	510	W	9	Q	Q	0	W	W	18.0
3274	Lime	240	*	219	0	*	0	0	0	0	0	38.0
3296	Mineral Wool	12	*	12	0	*	0	0	0	*	0	2.4
33	Primary Metal Industries	1,806	303	1,267	Q	246	30	0	0	66	W	8.4
3312	Blast Furnaces and Steel Mills	901	83	740	*	36	W	0	0	W	W	9.2
3313	Electrometallurgical Products	20	0	17	0	0	0	0	0	0	0	10.2
3321	Gray and Ductile Iron Foundries	144	8	128	*	7	0	0	0	1	1	26.0
3331	Primary Copper	W	W	25	1	W	W	0	0	W	0	1.1
3334	Primary Aluminum	127	0	123	0	0	0	0	0	0	0	5.8
3339	Primary Nonferrous Metals, nec	53	*	43	0	*	0	0	0	*	0	1.9
3353	Aluminum Sheet, Plate, and Foil	67	W	55	0	W	0	0	0	1	0	1.2
34	Fabricated Metal Products	994	188	632	Q	151	28	*	*	Q	Q	31.8
35	Industrial Machinery and Equipment	718	43	535	Q	22	2	0	Q	Q	Q	24.1
357	Computer and Office Equipment	16	6	6	1	6	*	0	0	1	*	32.0
36	Electronic and Other Electric Equipment	416	138	183	19	132	*	0	0	18	*	24.4
37	Transportation Equipment	1,214	132	893	29	93	60	6	0	7	2	14.1
3711	Motor Vehicles and Car Bodies	65	3	50	*	3	*	0	0	*	1	6.7
3714	Motor Vehicle Parts and Accessories	104	W	41	Q	W	W	Q	0	1	1	17.1
38	Instruments and Related Products	W	73	134	Q	60	28	Q	0	32	9	31.7
3841	Surgical and Medical Instruments	30	1	22	*	*	0	*	0	*	0	32.1
39	Misc. Manufacturing Industries	W	30	63	Q	27	2	0	0	13	Q	28.3
	Total	23,885	4,772	14,821	327	3,186	903	159	19	824	406	10.5

See footnotes at end of table.

Table A55. Capability to Switch from Distillate Fuel Oil to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991 (Continued)
(Estimates in Thousand Barrels)

Selected Characteristics	Distillate Fuel Oil			Alternative Types of Energy ^b							RSE Row Factors
	Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Residual Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^e	
RSE Column Factors:	0.5	0.6	0.5	1.8	0.8	1.2	0.9	2.2	1.3	1.5	
Census Region											
Northeast	7,805	1,696	4,444	185	1,414	353	17	Q	313	120	23.0
Midwest	3,885	581	2,538	31	356	110	43	W	109	90	11.9
South	8,014	1,644	5,019	94	813	325	88	*	329	63	11.6
West	4,180	852	2,820	17	602	115	12	Q	74	133	16.2
Total	23,885	4,772	14,821	327	3,186	903	159	19	824	406	10.5
Value of Shipments and Receipts^f (million dollars)											
Under 20	9,290	1,188	5,440	Q	828	354	Q	Q	257	131	26.2
20-49	4,536	872	3,186	35	650	162	25	Q	178	86	18.0
50-99	2,366	591	1,464	79	419	96	W	Q	125	30	13.8
100-249	2,269	486	1,504	16	441	104	54	*	63	23	10.0
250-499	2,317	597	1,450	54	379	111	27	W	47	W	7.3
500 and Over	3,107	1,038	1,776	39	469	77	W	0	154	W	8.6
Total	23,885	4,772	14,821	327	3,186	903	159	19	824	406	10.5
Employment Size^f											
Under 50	5,352	642	3,235	Q	426	158	Q	0	120	59	34.0
50-99	3,395	657	2,117	Q	427	211	Q	0	104	W	20.8
100-249	5,062	872	3,185	15	653	177	W	Q	212	124	18.4
250-499	3,137	821	1,976	65	708	131	18	14	129	38	17.6
500-999	2,664	797	1,530	108	584	54	34	W	161	W	11.8
1,000 and Over	4,276	983	2,776	40	388	172	55	*	97	33	7.7
Total	23,885	4,772	14,821	327	3,186	903	159	19	824	406	10.5

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Alternative Types of Energy" consist of those energy sources that could have been substituted for distillate fuel oil during 1991. The quantities are expressed in thousands of barrels, and therefore represent the quantity of distillate fuel oil that could have been displaced by the given alternative type of energy.

^c "Total Consumed" represents those quantities of distillate fuel oil that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^d "Electricity Receipts" represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. "Electricity Receipts" has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^e "Other" includes all other types of energy not already identified that respondents indicated could have been consumed in place of distillate fuel oil.

^f Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A56. Capability to Switch from Residual Fuel Oil to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	Residual Fuel Oil			Alternative Types of Energy ^b							RSE Row Factors
		Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Distillate Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^e	
RSE Column Factors:		0.7	0.7	0.9	1.3	0.7	1.0	1.3	1.3	1.2	1.2	
20	Food and Kindred Products	4,317	2,138	1,477	Q	1,583	996	Q	W	321	209	17.1
2011	Meat Packing Plants	170	169	*	*	164	92	*	0	W	W	21.8
2033	Canned Fruits and Vegetables	290	177	114	0	166	50	0	0	W	0	16.6
2037	Frozen Fruits and Vegetables	321	93	201	3	23	Q	3	0	Q	36	31.6
2046	Wet Corn Milling	29	26	0	W	26	0	W	W	W	0	18.4
2051	Bread, Cake and Related Products	*	*	0	0	*	0	0	0	0	0	35.5
2063	Beet Sugar	W	W	W	0	W	0	0	0	0	0	15.6
2075	Soybean Oil Mills	42	19	W	0	18	W	*	0	W	0	7.5
2082	Malt Beverages	419	53	W	0	50	W	*	0	0	1	18.3
21	Tobacco Manufactures	135	75	59	0	W	W	W	0	0	0	6.6
22	Textile Mill Products	1,966	1,021	737	1	716	369	117	W	192	2	13.0
23	Apparel and Other Textile Products	Q	73	Q	0	73	46	27	27	27	44	39.7
24	Lumber and Wood Products	333	157	91	0	157	100	0	0	Q	0	38.8
25	Furniture and Fixtures	184	51	Q	0	Q	26	0	0	Q	Q	50.6
26	Paper and Allied Products	24,883	7,778	16,492	270	3,809	3,627	810	W	260	238	8.2
2611	Pulp Mills	4,500	1,179	2,880	24	808	596	0	0	15	115	23.5
2621	Paper Mills	13,455	3,640	9,775	W	1,542	1,760	W	W	W	18	5.5
2631	Paperboard Mills	W	2,737	W	W	1,298	1,181	W	0	Q	97	10.6
27	Printing and Publishing	50	31	Q	0	31	0	0	0	0	0	32.2
28	Chemicals and Allied Products	7,573	2,546	4,914	W	1,909	536	311	50	321	225	7.6
2812	Alkalies and Chlorine	W	W	0	0	W	0	0	0	0	0	36.9
2813	Industrial Gases	0	0	0	0	0	0	0	0	0	0	0.0
2819	Industrial Inorganic Chemicals, nec	691	339	351	0	322	95	W	0	W	W	13.0
2821	Plastics Materials and Resins	668	167	500	W	158	19	0	W	W	W	9.5
2822	Synthetic Rubber	64	64	0	0	64	W	0	0	W	0	23.2
2823	Cellulosic Manmade Fibers	0	0	0	0	0	0	0	0	0	0	0.0
2824	Organic Fibers, Noncellulosic	W	447	W	W	163	67	W	0	W	0	4.6
2865	Cyclic Crudes and Intermediates	1,299	W	W	0	453	118	W	W	W	W	16.2
2869	Industrial Organic Chemicals, nec	1,747	396	1,332	W	279	71	0	0	W	41	9.1
2873	Nitrogenous Fertilizers	0	0	0	0	0	0	0	0	0	0	0.0
2874	Phosphatic Fertilizers	250	W	W	0	W	W	W	W	W	0	3.9
29	Petroleum and Coal Products	13,862	8,883	4,724	222	6,201	2,844	183	W	3,876	1,228	5.2
2911	Petroleum Refining	10,292	6,175	3,861	221	4,259	2,725	183	0	3,875	1,166	5.2
30	Rubber and Misc. Plastics Products	1,253	1,005	219	W	829	316	46	0	90	97	14.3
3011	Tires and Inner Tubes	506	W	W	W	455	63	0	0	W	0	7.3
308	Miscellaneous Plastic Products, nec	413	273	122	0	252	46	Q	0	0	97	27.5
31	Leather and Leather Products	225	138	85	2	66	72	0	0	0	0	39.7
32	Stone, Clay and Glass Products	1,345	896	447	20	809	65	95	W	124	W	16.0
3211	Flat Glass	W	0	W	0	0	0	0	0	0	0	7.6
3221	Glass Containers	276	276	*	*	276	W	0	0	0	0	14.0
3229	Pressed and Blown Glass, nec	81	W	Q	0	W	0	0	0	W	W	18.3
3241	Cement, Hydraulic	138	89	49	W	11	0	67	0	0	0	26.3
3274	Lime	W	W	0	0	W	W	W	W	0	0	24.5
3296	Mineral Wool	W	W	0	0	W	0	0	0	0	0	2.8
33	Primary Metal Industries	5,285	2,572	2,624	W	1,703	180	W	W	W	W	8.9
3312	Blast Furnaces and Steel Mills	4,986	2,455	2,531	W	1,586	W	W	W	W	W	9.4
3313	Electrometallurgical Products	0	0	0	0	0	0	0	0	0	0	0.0
3321	Gray and Ductile Iron Foundries	4	W	Q	0	W	0	0	0	0	0	34.2
3331	Primary Copper	W	W	0	0	W	W	0	0	0	W	1.2
3334	Primary Aluminum	*	*	*	0	*	*	0	0	0	0	7.6
3339	Primary Nonferrous Metals, nec	1	1	0	0	1	0	0	0	0	0	1.4
3353	Aluminum Sheet, Plate, and Foil	0	0	0	0	0	0	0	0	0	0	0.0
34	Fabricated Metal Products	501	205	175	W	195	W	0	0	Q	0	32.8
35	Industrial Machinery and Equipment	490	191	218	0	148	60	0	0	0	0	27.8
357	Computer and Office Equipment	11	6	Q	0	6	0	0	0	0	0	37.8
36	Electronic and Other Electric Equipment	612	368	183	0	326	63	16	Q	30	0	24.3
37	Transportation Equipment	1,865	728	978	29	636	56	W	0	58	Q	16.5
3711	Motor Vehicles and Car Bodies	408	W	W	W	81	*	0	0	W	0	6.6
3714	Motor Vehicle Parts and Accessories	60	W	W	0	W	W	W	0	W	0	15.0
38	Instruments and Related Products	536	404	101	W	144	285	W	0	Q	10	22.3
3841	Surgical and Medical Instruments	9	9	0	0	0	9	0	0	0	9	40.6
39	Misc. Manufacturing Industries	115	89	18	0	88	44	10	0	10	0	26.5
	Total	65,837	29,349	33,913	1,267	19,511	9,716	2,565	1,756	5,625	2,227	4.3

See footnotes at end of table.

Table A56. Capability to Switch from Residual Fuel Oil to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991 (Continued)
(Estimates in Thousand Barrels)

Selected Characteristics	Residual Fuel Oil			Alternative Types of Energy ^b							RSE Row Factors
	Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Distillate Fuel Oil	Coal	LPG	Coal Coke and Breeze	Other ^e	
RSE Column Factors:	0.6	0.6	0.9	1.7	0.7	1.0	1.6	1.5	0.9	1.3	
Census Region											
Northeast	29,245	11,683	16,692	397	8,103	2,689	W	W	2,574	1,106	6.4
Midwest	8,134	4,630	2,923	W	3,694	1,144	W	W	1,039	249	6.9
South	23,114	9,603	12,408	632	5,747	3,853	1,547	280	896	446	7.2
West	5,344	3,432	1,890	W	1,968	2,030	22	W	1,115	426	7.5
Total	65,837	29,349	33,913	1,267	19,511	9,716	2,565	1,756	5,625	2,227	4.3
Value of Shipments and Receipts^f (million dollars)											
Under 20	4,049	1,994	1,531	Q	1,398	1,021	W	W	468	Q	20.7
20-49	6,055	2,420	3,181	28	1,749	830	323	80	340	292	16.4
50-99	10,337	5,030	4,935	20	3,483	1,014	W	W	305	116	9.1
100-249	13,803	5,862	7,349	28	3,519	2,752	636	29	619	404	8.7
250-499	15,370	5,681	9,665	403	3,506	2,232	487	W	1,222	388	4.9
500 and Over	16,223	8,363	7,252	621	5,855	1,867	991	W	2,671	931	4.8
Total	65,837	29,349	33,913	1,267	19,511	9,716	2,565	1,756	5,625	2,227	4.3
Employment Size^f											
Under 50	960	589	167	Q	320	376	0	0	191	Q	37.7
50-99	3,986	1,731	1,994	16	1,316	644	190	W	436	35	24.7
100-249	11,764	6,333	4,749	W	4,488	1,904	293	W	1,162	464	5.8
250-499	11,882	5,768	5,271	151	3,274	2,594	497	75	869	385	7.7
500-999	13,051	5,997	6,898	58	4,032	2,246	86	W	1,535	1,094	6.5
1,000 and Over	24,193	8,930	14,834	824	6,082	1,952	1,498	W	1,433	187	4.9
Total	65,837	29,349	33,913	1,267	19,511	9,716	2,565	1,756	5,625	2,227	4.3

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Alternative Types of Energy" consist of those energy sources that could have been substituted for residual fuel oil during 1991. The quantities are expressed in thousands of barrels, and therefore represent the quantity of residual fuel oil that could have been displaced by the given alternative type of energy.

^c "Total Consumed" represents those quantities of residual fuel oil that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^d "Electricity Receipts" represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. "Electricity Receipts" has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^e "Other" includes all other types of energy not already identified that respondents indicated could have been consumed in place of residual fuel oil.

^f Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A57. Capability to Switch from Coal to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991
(Estimates in Thousand Short Tons)

SIC Code ^a	Industry Groups and Industry	Coal			Alternative Types of Energy ^b						RSE Row Factors
		Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	LPG	Other ^e	
	RSE Column Factors:	0.8	0.8	0.9	1.1	0.9	1.1	1.0	1.2	1.4	
20	Food and Kindred Products	6,913	3,728	2,882	576	2,683	2,066	642	W	*	10.3
2011	Meat Packing Plants	27	W	W	1	W	0	0	1	0	25.5
2033	Canned Fruits and Vegetables	Q	0	Q	0	0	0	0	0	0	0.0
2037	Frozen Fruits and Vegetables	0	0	0	0	0	0	0	0	0	0.0
2046	Wet Corn Milling	3,051	2,145	810	W	1,871	W	0	0	*	14.1
2051	Bread, Cake and Related Products	0	0	0	0	0	0	0	0	0	0.0
2063	Beet Sugar	1,901	W	1,394	W	W	W	0	W	0	10.2
2075	Soybean Oil Mills	592	241	351	W	149	136	0	0	0	5.7
2082	Malt Beverages	706	681	18	W	W	W	W	0	0	18.2
21	Tobacco Manufactures	692	242	W	W	W	W	W	0	0	6.7
22	Textile Mill Products	1,362	827	445	Q	684	408	310	125	W	11.0
23	Apparel and Other Textile Products	88	W	80	0	0	0	W	0	0	35.6
24	Lumber and Wood Products	92	8	83	0	0	0	*	0	8	36.8
25	Furniture and Fixtures	157	Q	54	0	Q	Q	Q	Q	Q	34.9
26	Paper and Allied Products	13,252	6,148	6,844	701	2,734	2,027	3,207	215	429	4.2
2611	Pulp Mills	331	171	161	10	15	62	171	*	18	30.3
2621	Paper Mills	8,634	3,929	4,562	583	2,041	1,522	1,739	0	W	3.0
2631	Paperboard Mills	W	1,938	W	W	636	425	1,289	215	170	7.5
27	Printing and Publishing	0	0	0	0	0	0	0	0	0	0.0
28	Chemicals and Allied Products	11,345	3,702	7,176	213	2,590	1,825	1,380	749	W	6.0
2812	Alkalies and Chlorine	W	W	W	0	W	0	0	0	0	29.3
2813	Industrial Gases	0	0	0	0	0	0	0	0	0	0.0
2819	Industrial Inorganic Chemicals, nec	743	113	408	W	79	54	W	W	W	11.5
2821	Plastics Materials and Resins	1,074	354	719	0	313	0	185	0	0	8.2
2822	Synthetic Rubber	W	W	1	0	W	W	0	0	0	22.7
2823	Cellulosic Manmade Fibers	1,202	0	1,202	0	0	0	0	0	0	23.2
2824	Organic Fibers, Noncellulosic	1,558	W	759	W	W	W	W	0	0	4.3
2865	Cyclic Crudes and Intermediates	W	41	W	0	W	W	0	0	W	18.1
2869	Industrial Organic Chemicals, nec	3,819	1,758	2,048	66	1,591	1,115	W	737	0	8.0
2873	Nitrogenous Fertilizers	0	0	0	0	0	0	0	0	0	0.0
2874	Phosphatic Fertilizers	W	W	0	0	0	W	W	0	0	6.7
29	Petroleum and Coal Products	W	W	W	W	97	88	124	W	0	8.7
2911	Petroleum Refining	134	116	17	1	91	88	98	W	0	11.5
30	Rubber and Misc. Plastics Products	295	128	130	0	102	37	35	0	Q	15.9
3011	Tires and Inner Tubes	75	W	W	0	23	W	W	0	1	5.9
308	Miscellaneous Plastic Products, nec	130	75	33	0	W	0	26	0	Q	29.6
31	Leather and Leather Products	Q	0	Q	0	0	0	0	0	0	0.0
32	Stone, Clay and Glass Products	13,127	6,129	6,767	0	5,276	1,241	1,786	671	822	12.2
3211	Flat Glass	*	0	*	0	0	0	0	0	0	7.3
3221	Glass Containers	0	0	0	0	0	0	0	0	0	0.0
3229	Pressed and Blown Glass, nec	0	0	0	0	0	0	0	0	0	0.0
3241	Cement, Hydraulic	8,736	4,631	4,016	0	3,871	1,085	1,679	569	775	11.0
3274	Lime	3,926	1,359	Q	0	1,359	128	W	W	W	20.2
3296	Mineral Wool	*	0	*	0	0	0	0	0	0	2.4
33	Primary Metal Industries	2,054	1,236	790	W	W	10	W	0	W	8.1
3312	Blast Furnaces and Steel Mills	1,075	W	W	W	W	8	W	0	W	12.0
3313	Electrometallurgical Products	W	0	W	0	0	0	0	0	0	13.4
3321	Gray and Ductile Iron Foundries	5	4	1	0	0	0	0	0	W	22.4
3331	Primary Copper	W	0	0	0	0	0	0	0	0	1.3
3334	Primary Aluminum	0	0	0	0	0	0	0	0	0	0.0
3339	Primary Nonferrous Metals, nec	W	W	W	W	0	0	0	0	0	1.1
3353	Aluminum Sheet, Plate, and Foil	W	W	0	0	W	0	0	0	0	1.2
34	Fabricated Metal Products	245	54	189	W	51	46	W	0	0	22.9
35	Industrial Machinery and Equipment	480	178	302	0	178	W	W	W	0	18.7
357	Computer and Office Equipment	0	0	0	0	0	0	0	0	0	0.0
36	Electronic and Other Electric Equipment	W	37	W	0	15	3	4	0	0	25.1
37	Transportation Equipment	1,464	277	1,074	Q	239	36	W	W	W	7.6
3711	Motor Vehicles and Car Bodies	W	W	330	0	W	0	0	W	W	6.4
3714	Motor Vehicle Parts and Accessories	W	W	W	Q	W	13	W	W	W	10.1
38	Instruments and Related Products	W	W	W	W	0	W	W	0	0	29.0
3841	Surgical and Medical Instruments	0	0	0	0	0	0	0	0	0	0.0
39	Misc. Manufacturing Industries	32	32	0	0	32	Q	22	20	0	35.6
	Total	53,035	23,610	27,779	1,821	15,656	8,129	8,352	2,003	1,456	5.1

See footnotes at end of table.

Table A57. Capability to Switch from Coal to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991 (Continued)
(Estimates in Thousand Short Tons)

Selected Characteristics	Coal			Alternative Types of Energy ^b						RSE Row Factors
	Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	LPG	Other ^e	
RSE Column Factors:	0.7	0.8	0.9	1.0	0.9	1.0	0.9	1.4	1.7	
Census Region										
Northeast	7,420	2,162	5,007	W	572	629	886	W	0	14.7
Midwest	18,828	8,185	10,119	564	6,597	3,398	909	691	554	7.0
South	22,514	10,359	11,402	759	6,328	3,245	5,341	1,164	871	4.9
West	4,274	2,904	1,251	W	2,160	859	1,216	W	30	14.6
Total	53,035	23,610	27,779	1,821	15,656	8,129	8,352	2,003	1,456	5.1
Value of Shipments and Receipts^f (million dollars)										
Under 20	4,709	1,497	Q	Q	1,250	495	181	185	172	18.8
20-49	9,384	4,177	4,712	W	3,478	970	1,453	632	679	11.0
50-99	5,398	2,302	2,938	31	1,597	533	872	W	W	8.9
100-249	11,587	4,962	6,371	564	3,197	2,065	1,538	788	141	4.9
250-499	10,593	5,356	4,987	584	2,802	1,627	2,591	W	W	5.5
500 and Over	11,365	5,316	5,736	598	3,332	2,438	1,717	307	W	8.1
Total	53,035	23,610	27,779	1,821	15,656	8,129	8,352	2,003	1,456	5.1
Employment Size^g										
Under 50	467	Q	126	0	Q	0	Q	0	0	52.2
50-99	2,454	1,222	1,113	W	933	451	153	Q	157	23.3
100-249	14,468	5,587	8,249	W	4,627	2,303	1,347	653	809	11.2
250-499	7,707	4,283	3,197	W	3,358	1,715	1,696	330	18	7.5
500-999	9,250	4,403	4,742	550	2,305	1,382	1,376	391	150	5.8
1,000 and Over	18,689	7,789	10,351	666	4,107	2,277	3,768	548	322	5.0
Total	53,035	23,610	27,779	1,821	15,656	8,129	8,352	2,003	1,456	5.1

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Alternative Types of Energy" consist of those energy sources that could have been substituted for coal during 1991. The quantities are expressed in thousands of short tons, and therefore represent the quantity of coal that could have been displaced by the given alternative type of energy.

^c "Total Consumed" represents those quantities of coal that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^d "Electricity Receipts" represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. "Electricity Receipts" has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^e "Other" includes all other types of energy not already identified that respondents indicated could have been consumed in place of coal.

^f Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q=Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Table A58. Capability to Switch from LPG to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991
(Estimates in Thousand Barrels)

SIC Code ^a	Industry Groups and Industry	LPG			Alternative Types of Energy ^b							RSE Row Factors
		Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	Coal	Coal Coke and Breeze	Other ^e	
RSE Column Factors:		0.6	0.8	0.7	1.2	0.9	1.1	1.0	1.3	1.7	1.2	
20	Food and Kindred Products	1,429	404	745	31	214	233	140	*	0	W	19.8
2011	Meat Packing Plants	157	124	25	*	103	122	102	0	0	W	28.9
2033	Canned Fruits and Vegetables	124	15	89	W	10	W	0	0	0	2	19.1
2037	Frozen Fruits and Vegetables	41	15	18	1	1	11	1	0	0	2	26.8
2046	Wet Corn Milling	1	1	*	1	*	*	0	0	0	0	32.4
2051	Bread, Cake and Related Products	23	13	8	*	9	1	*	0	0	W	24.5
2063	Beet Sugar	5	1	4	0	1	0	0	*	0	0	10.9
2075	Soybean Oil Mills	5	W	W	*	W	W	W	0	0	W	7.9
2082	Malt Beverages	8	1	7	*	0	0	0	0	0	1	17.5
21	Tobacco Manufactures	23	W	W	0	W	0	0	0	0	W	8.2
22	Textile Mill Products	629	139	452	12	110	38	4	*	W	12	21.8
23	Apparel and Other Textile Products	158	43	81	Q	Q	Q	Q	Q	0	Q	44.1
24	Lumber and Wood Products	1,000	170	759	Q	44	88	Q	0	0	41	28.3
25	Furniture and Fixtures	255	72	150	Q	12	Q	Q	0	0	Q	29.2
26	Paper and Allied Products	W	307	W	64	129	95	14	0	0	27	15.6
2611	Pulp Mills	141	74	63	0	74	2	2	0	0	0	34.6
2621	Paper Mills	613	104	491	W	11	W	0	0	0	W	6.6
2631	Paperboard Mills	93	11	72	0	7	0	0	0	0	3	12.8
27	Printing and Publishing	179	18	137	4	14	1	*	0	0	Q	25.0
28	Chemicals and Allied Products	1,263	971	235	5	931	12	3	W	0	10	11.5
2812	Alkalies and Chlorine	2	0	1	0	0	0	0	0	0	0	28.6
2813	Industrial Gases	Q	0	Q	0	0	0	0	0	0	0	0.0
2819	Industrial Inorganic Chemicals, nec	75	45	27	Q	42	5	*	0	0	Q	19.6
2821	Plastics Materials and Resins	54	17	35	1	15	1	1	0	0	1	9.3
2822	Synthetic Rubber	10	*	7	0	0	0	0	0	0	*	16.9
2823	Cellulosic Manmade Fibers	1	*	1	0	0	*	0	0	0	0	37.4
2824	Organic Fibers, Noncellulosic	38	4	34	0	W	*	W	0	0	0	6.6
2865	Cyclic Crudes and Intermediates	79	W	W	*	W	*	0	0	0	0	20.2
2869	Industrial Organic Chemicals, nec	825	789	23	W	788	*	*	W	0	W	11.6
2873	Nitrogenous Fertilizers	43	42	1	0	42	0	0	0	0	0	60.4
2874	Phosphatic Fertilizers	1	*	1	*	*	0	0	0	0	0	4.0
29	Petroleum and Coal Products	16,528	10,119	6,139	272	9,260	1,712	1,929	0	0	W	4.7
2911	Petroleum Refining	15,889	9,790	6,099	272	9,260	1,383	1,912	0	0	W	3.7
30	Rubber and Misc. Plastics Products	786	63	678	22	14	26	Q	Q	Q	15	29.7
3011	Tires and Inner Tubes	79	10	68	1	*	*	0	0	0	*	7.0
308	Miscellaneous Plastic Products, nec	396	40	320	19	11	14	Q	Q	Q	9	29.7
31	Leather and Leather Products	44	2	35	*	1	*	*	0	0	*	38.0
32	Stone, Clay and Glass Products	577	130	384	15	90	62	W	0	0	9	15.8
3211	Flat Glass	40	W	W	1	W	W	0	0	0	*	7.0
3221	Glass Containers	82	23	54	1	20	W	*	0	0	1	11.5
3229	Pressed and Blown Glass, nec	31	6	22	*	6	0	W	0	0	0	12.6
3241	Cement, Hydraulic	12	5	7	1	4	*	0	0	0	1	19.7
3274	Lime	Q	*	Q	*	0	*	0	0	0	0	21.4
3296	Mineral Wool	41	14	27	W	12	5	0	0	0	*	1.8
33	Primary Metal Industries	888	299	519	34	209	47	21	*	0	21	22.0
3312	Blast Furnaces and Steel Mills	74	13	43	*	11	1	W	0	0	1	8.0
3313	Electrometallurgical Products	W	1	W	0	1	0	0	0	0	0	18.5
3321	Gray and Ductile Iron Foundries	105	9	86	0	5	0	0	*	0	2	30.7
3331	Primary Copper	3	1	1	0	1	0	0	0	0	0	1.4
3334	Primary Aluminum	42	10	29	0	10	W	0	0	0	0	4.7
3339	Primary Nonferrous Metals, nec	19	1	16	0	*	1	0	0	0	0	2.0
3353	Aluminum Sheet, Plate, and Foil	62	21	41	0	W	W	0	0	0	*	1.2
34	Fabricated Metal Products	1,122	213	725	31	123	Q	3	*	W	Q	25.5
35	Industrial Machinery and Equipment	651	127	431	22	72	8	2	0	0	17	31.3
357	Computer and Office Equipment	4	Q	1	Q	Q	*	*	0	0	*	32.5
36	Electronic and Other Electric Equipment	396	78	262	15	56	8	0	0	0	4	22.9
37	Transportation Equipment	526	110	375	31	76	33	4	Q	0	7	16.3
3711	Motor Vehicles and Car Bodies	59	23	30	1	21	0	Q	0	0	*	6.5
3714	Motor Vehicle Parts and Accessories	168	57	102	25	34	28	0	Q	0	4	17.7
38	Instruments and Related Products	Q	W	Q	*	2	*	Q	*	0	*	24.9
3841	Surgical and Medical Instruments	8	1	6	*	1	0	0	0	0	0	31.2
39	Misc. Manufacturing Industries	W	10	W	*	7	1	0	0	0	*	30.1
	Total	27,970	13,281	13,158	637	11,405	2,454	2,135	30	6	1,539	6.2

See footnotes at end of table.

Table A58. Capability to Switch from LPG to Alternative Energy Sources by Industry Group, Selected Industries, and Selected Characteristics, 1991 (Continued)
(Estimates in Thousand Barrels)

Selected Characteristics	LPG			Alternative Types of Energy ^b							RES Row Factors
	Total Consumed ^c	Switchable	Not Switchable	Electricity Receipts ^d	Natural Gas	Distillate Fuel Oil	Residual Fuel Oil	Coal	Coal Coke and Breeze	Other ^e	
RSE Column Factors:	0.5	0.6	0.6	1.1	0.6	1.1	0.7	2.6	3.5	1.4	
Census Region											
Northeast	W	1,183	1,872	78	483	778	356	*	0	32	18.8
Midwest	3,877	1,603	2,041	270	1,198	660	773	Q	W	102	9.4
South	W	3,312	3,263	139	2,908	426	212	27	W	1,345	9.6
West	13,345	7,183	5,982	149	6,816	590	795	Q	Q	60	6.5
Total	27,970	13,281	13,158	637	11,405	2,454	2,135	30	6	1,539	6.2
Value of Shipments and Receipts^f (million dollars)											
Under 20	4,090	1,097	2,140	241	421	629	142	Q	0	88	22.9
20-49	2,708	584	1,861	104	293	179	W	Q	Q	90	22.4
50-99	1,894	613	1,121	30	497	249	W	*	0	W	9.9
100-249	2,342	946	1,241	52	762	149	2	*	W	30	12.4
250-499	2,063	1,004	1,016	103	814	341	671	*	*	W	7.9
500 and Over	14,872	9,037	5,779	107	8,618	907	1,100	W	*	W	5.3
Total	27,970	13,281	13,158	637	11,405	2,454	2,135	30	6	1,539	6.2
Employment Size^f											
Under 50	1,748	671	639	177	202	475	110	Q	0	47	29.0
50-99	1,657	543	903	50	349	267	205	0	0	35	20.7
100-249	7,290	2,142	4,734	129	1,764	276	332	Q	0	W	9.5
250-499	4,211	1,839	2,184	202	1,472	823	821	Q	Q	W	6.8
500-999	6,860	3,747	2,950	42	3,344	590	W	*	W	102	9.0
1,000 and Over	6,205	4,339	1,749	37	4,275	22	W	W	W	W	7.5
Total	27,970	13,281	13,158	637	11,405	2,454	2,135	30	6	1,539	6.2

^a See Appendices B and F for descriptions of the Standard Industrial Classification system.

^b "Alternative Types of Energy" consist of those energy sources that could have been substituted for LPG during 1991. The quantities are expressed in thousands of barrels, and therefore represent the quantity of LPG that could have been displaced by the given alternative type of energy.

^c "Total Consumed" represents those quantities of LPG that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^d "Electricity Receipts" represents those quantities of electricity generated off the manufacturing establishment site and available at the site for consumption. It includes those quantities for which payment was made, quantities transferred in, quantities purchased and paid for by a central purchasing entity, and quantities for which payment was made in kind. It does not include electricity generated onsite. "Electricity Receipts" has not been adjusted to account for any quantities that might have been resold or transferred out. The estimates include those quantities that were ascertained switchable or not switchable, plus an additional quantity for which the switching status was not ascertained.

^e "Other" includes all other types of energy not already identified that respondents indicated could have been consumed in place of LPG.

^f Value of Shipments and Receipts and Employment Size categories were supplied by the Bureau of the Census. See Appendix B.

* Estimate less than 0.5. Data are included in higher level totals.

W=Withheld to avoid disclosing data for individual establishments. Data are included in higher level totals.

Q= Withheld because Relative Standard Error is greater than 50 percent. Data are included in higher level totals.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-846, "1991 Manufacturing Energy Consumption Survey."

Appendix B

Survey Design, Implementation, and Estimates

Appendix B

Survey Design, Implementation, and Estimates

Introduction

The 1991 Manufacturing Energy Consumption Survey (MECS) has been designed by the Energy Information Administration (EIA) to provide information related to energy consumption in the manufacturing sector of the U.S. economy. It is the third such survey to be completed. The MECS is an ongoing survey that is conducted every 3 years. Beginning in 1994, the MECS will be conducted every 2 years to determine the trends in manufacturing energy use more accurately.

The basic unit of data collection for this survey is the manufacturing establishment. A nationally representative sample of these establishments supplied the information through mailed questionnaires. The Industry Division of the Bureau of the Census, in consultation with EIA, selected the MECS sample, conducted fieldwork, and processed the data.

This appendix presents a summary of the design and implementation procedures for the survey, highlights differences between reporting periods, and describes the types of estimates included in this report. For more detailed design, methodology, and background information refer to the EIA publication *Manufacturing Energy Consumption Survey: Methodological Report*, DOE/EIA-0514 (Washington, DC, 1988).

Description of the Manufacturing Sector

The manufacturing sector consists of all manufacturing establishments in the 50 States and the District of Columbia. The working definition of a manufacturing establishment is the definition stated in the Office of Management and Budget's Standard Industrial Classification (SIC) Manual:

[Manufacturing establishments are] ... engaged in the mechanical or chemical transformation of materials or substances into new products. These establishments are usually described as plants, factories, or mills and characteristically use power driven machines and materials handling equipment. Establishments engaged in assembling component parts of manufactured products are also considered manufacturing if the new product is neither a structure nor other fixed improvement. Also included is the blending of materials such as lubricating oil, plastics, resins, or liquors.²⁰

Overview of Changes from the 1988 Survey

Sample Design. The designed sample size was increased from approximately 12,000 establishments to 16,000. Sample cases were not automatically retained from the previous survey cycle; the sample was selected directly from the 1991 Annual Survey of Manufactures (ASM) file.

Coverage. New frame updating procedures instituted by the Bureau of the Census allowed for consistent coverage of the manufacturing sector mail surveys. For that reason, the coverage in the 1991 MECS is 98 percent of the manufacturing population as measured in total payroll. The sampling process itself provided that level of coverage, and no special adjustments were used to increase it. The 1988 survey covered 100 percent of the population but special adjustments to the survey estimates were required to achieve complete coverage. Therefore, many of the potential sources of bias that pertained to the 1988 survey estimates are not relevant to the 1991 survey. *Because of the difference in coverage between the two years, care must be exercised when comparing absolute quantities. Small differences might be correctly attributable to coverage rather than real change.*

Industry Estimates. The increase in sample size allowed for separate estimates for 42 industries and industry groups in addition to the 20 larger major groups. In 1988, there were only 10 industries for which separate estimates were publishable beyond the 20 major groups.

(Continued on Next Page)

²⁰Office of Management and Budget, *Standard Industrial Classification Manual, 1987* (Washington, DC, 1987), p. 67.

The SIC Manual contains a hierarchical classification system that groups establishments according to their primary economic activities. This system divides the manufacturing sector (referred to as "manufacturing division" in the SIC Manual) into 20 major industrial groups that are relatively homogeneous with respect to primary output. Each of these major industrial groups is assigned a two-digit code. The two-digit codes for the manufacturing sector range from SIC 20, Food and Kindred Products, through SIC 39, Miscellaneous Manufacturing Industries. Each major group is subdivided into three-digit groups, which are further divided into four-digit industries. For example, SIC 20 includes SIC 201, Meat Products, which, in turn, is subdivided into SIC 2011, Meat Packing Plants; SIC 2012, Sausages and Other Prepared Meat Products; SIC 2016, Poultry Dressing Plants; and SIC 2017, Poultry and Egg Processing.

The SIC category is the single most important classification variable in the MECS data system, both for selecting the MECS sample and analyzing the MECS data. The categories of primary interest for the MECS are the 20 major industrial groups (SIC 20 through 39) and the 42 three- and four-digit industries that consumed the most energy, demonstrated high growth, or had a special programmatic interest. A description of these 20 major industrial groups and 42 industry groups and industries appears in Appendix G of this report.

The 1988 and 1991 MECS used the SIC classification system presented in the 1987 edition of SIC manual. The 1985 MECS was based on the 1972 SIC Manual. For the most part, the revisions were minor and had a negligible effect on the MECS estimates. However, there were some revisions that would affect comparisons between 1985 and subsequent years. Among the more significant revisions was the one concerning the way certain petrochemical plants were classified for the 1988 and 1991 MECS, as opposed to the 1985 MECS. If the primary product of a petrochemical plant in 1985 was an LPG, it was classified in SIC 2911, Petroleum Refining, regardless of how the LPG was produced. For the later survey years, the establishment was classified in SIC 2911 only if the LPG was produced by a refinery process. If the LPG was produced by a chemical process, the establishment was classified in organic chemicals (SIC 2865 or 2869). Thus, when comparing the estimates for SIC's 2911, 2865, and 2869 between 1985 and later MECS reports, the reader is cautioned to take the classification differences into account.²¹

Additional Data Items for Improved Estimation. EIA has recognized a potential for overestimating energy source quantities in industries that produce and sell energy sources. This will occur when an establishment in such an industry uses an energy source as an input to a process (i.e., feedstock), produces another energy source as a result of that process, and then sells or transfers the produced energy source to another establishment. The quantity of the receipt in the second establishment would duplicate the feedstock use in the first. Part of the solution has been to estimate consumption in petroleum refineries differently from other industries (see section entitled "Feedstocks and Offsite-Produced Fuel at Petroleum Refineries" in this appendix). To correct the problem for other industries, the MECS now collects shipments offsite of energy sources produced onsite (see "Development of the Data File" in this appendix).

A second problem arose in estimating consumption specifically for liquefied petroleum gases (LPG) and petroleum coke. There are different types of those energy sources and one type may be used in the production of another. The collection of just the broad categories hindered the proper identification and estimation of the internal consumption-production flow. To address this problem, the MECS now collects three categories of petroleum coke and four categories of LPG.

New Data Collection Sections. The survey forms were expanded to include sections on end-use energy consumption, estimated square footage of building floorspace, energy management activities (including utility/supplier demand-side management), and energy-saving technologies.

Discontinued Data Items. Two data items concerning onsite electricity generation were discontinued. These were interconnection status with an electric utility and whether the establishment was a Qualifying Facility under the Public Utility Regulatory Policies Act of 1978. These items were no longer required because they are collected as part of a new survey, Form EIA-867, "Annual Nonutility Power Producer Report." Within the fuel-switching section, the data items concerning time required to make a switch were discontinued. The MECS estimates of fuel-switching capability are limited to a 30-day window for eligibility. The additional respondent burden necessary to further categorize this time was not justified by user interest.

²¹An effort was made to account for the SIC revisions by reclassifying the 1988 MECS estimates according to the 1972 SIC codes. The revised consumption estimates were used to form energy efficiency change estimates. See Energy Information Administration, *Manufacturing Energy Consumption Survey: Changes in Energy Intensity in the Manufacturing Sector, 1980-1988*, DOE/EIA-0552(80-88) (Washington, DC, 1991). For future publications of this kind, the 1985 MECS estimates will be reclassified according to the 1987 SIC codes.

The Sampling Frame and Its Relationship to the Manufacturing Sector

As mentioned in the Introduction to this appendix, the Census Bureau serves as the collecting and compiling agent for the MECS. A major responsibility of the Industry Division of the Census Bureau is to conduct the Census of Manufactures (CM) and the Annual Survey of Manufactures (ASM).

Census of Manufactures

The CM is conducted for years ending in "2" or "7" (for example, 1987), and obtains economic data for the complete universe of approximately 350,000 manufacturing establishments in the United States. For the purposes of data collection, the CM universe is divided into two major subsets as follows.

- 1. Small Single-Establishment Companies Not Sent a Report Form.** Generally, companies with less than five employees are excused from filing a CM report. Those with 5 through 20 employees are excused or sent a report form based on the magnitude of their annual payroll and shipments data. Approximately 125,000 establishments are excused due to this criterion.
- 2. Establishments Sent a Report Form.** All companies with 20 or more employees are mailed a CM report form.

Annual Survey of Manufactures

The ASM is conducted during non-CM years to provide estimates of economic characteristics for the universe of manufacturing establishments. As with the CM, the ASM contains two components. The first component is the mail portion, a probability sample of manufacturing establishments selected from the list of establishments that are sent the CM report form (see above). Those establishments are weighted so that they represent the mail portion of the CM universe. The second component of the ASM is the nonmail portion of the CM. These small establishments are not sent an ASM questionnaire, but their contribution to economic statistics is estimated based on selected information obtained annually from other Federal agencies.

The 1991 MECS sample was drawn directly from the 1987 CM with appropriate updates. That approach made the coverage equivalent to the 1991 ASM mail file.²²

Coverage Differences Between MECS 1985, 1988, and 1991

Due to differences among the 1985, 1988, and 1991 survey designs, the coverage of manufacturing establishments varied slightly from survey to survey. Therefore, comparisons of estimates produced from the surveys and analysis of trends must be done with caution.

The 1991 MECS covers 98 percent of the manufacturing sector as measured by total payroll. The two percent of the payroll not covered is known to be represented by a population of relatively small but numerous manufacturing establishments. When taken as a whole, they account for roughly two percent of a number of different economic measures, including energy consumption. The cost and difficulty of accurately surveying this population necessitated the decision to exclude it from the estimates presented in this report.

²²Establishments that were first eligible for the MECS in calendar year 1991 were not mailed a questionnaire. Rather, their contribution was accounted for in the nonresponse adjustment. See section entitled "Estimation Process" in this appendix.

The 1988 MECS estimates covered the entire manufacturing sector. The small establishments excluded from the 1991 survey were "included" by means of a population adjustment factor. That adjustment factor was necessitated because of normal degradation of the sample coupled with the desire to retain the active portion of the 1985 sample, rather than entirely reselect the sample. This method meant that establishments had to be classified according to very specific definitions. For example, establishments that ceased operation since 1985 had to be distinguished from those that merely underwent a change of ownership. To counteract the operational errors that might have occurred while maintaining a sample built in this way, a ratio adjustment to the 1987 CM was chosen. That adjustment by necessity also included the portion of the manufacturing sector that was not originally intended for estimation, the two percent of certain economic measures represented by the smallest establishments.²³ The 1991 survey did not use an adjustment factor because: (1) there was no readily available population adjustment for 1991 estimates, and (2) the relative simplicity of the sample design yielded fewer operational errors.

The 1985 estimates excluded the smallest establishments from coverage. This would tend to make 1985 coverage comparable with 1991. Due to Census updating procedures that were in place during the 1985 survey, the coverage might have been somewhat less than the 98 percent of the 1991 survey, but exact estimates of coverage are difficult to estimate. Therefore, caution must be exercised by readers who wish to compare 1985, 1988, and 1991 estimates.²⁴

Sample Design

Sample Size

The designed size of the MECS sample was set at 16,000. Previous data have shown that this size sample optimally allocated to the various strata would lead to estimates having desired sampling error. The targeted sampling errors in terms of relative standard errors (RSE) for previous MECS samples were:

- No more than two percent for total energy consumption in energy-intensive SIC major groups or specific industries;
- No more than five percent for total energy consumption in the other SIC groups; and
- No more than ten percent for the four major fuel categories (electricity, natural gas, coal, and the aggregate of all remaining energy sources) in any SIC that contributes more than one percent of the total national consumption of that fuel.

The 1991 MECS sample was designed using the experience of the 1985 and 1988 sample designs and estimated sampling errors for those surveys. That experience and knowledge of the current ASM populations allowed the sample sizes to be allocated so that the RSE targets could be met for 1991.²⁵

²³For a more detailed explanation of the population adjustment factor, see Appendix A, Energy Information Administration, *Manufacturing Energy Consumption Survey: Consumption of Energy, 1988*, DOE/EIA-0512(88), op. cit.

²⁴Comparisons among the survey years can be more appropriately made using internal ratios (e.g., quantity of offsite-produced energy per value of shipments) because the coverage differences will appear affect both energy consumption and value of shipments equivalently in a given year. Indeed, for that reason the adjustment factor in the 1988 survey was not a factor in comparing energy intensity change estimates. See Energy Information Administration, *Manufacturing Energy Consumption Survey: Changes in Energy Intensity in the Manufacturing Sector, 1980-1988*, DOE/EIA-0552 (80-88).

²⁵The RSE targets were not input directly into formulas and algorithms usually used in allocating sample cases according to probability-proportional-to-size sampling. Sample was allocated according to what was expected to achieve the specified targets. If tests on achieved RSE's of correlated ASM measures were not obtained, samples would have been re-allocated. This proved unnecessary.

The major purpose of increasing the sample size was to be able to produce separate energy estimates for more industries than before. The previous two surveys published estimates for the 20 major groups that comprise manufacturing and 10 four-digit industries. Those 10 four-digit industries were the most energy-consuming in manufacturing. The 1991 MECS has 40 four-digit industries, 2 three-digit industry groups, and 20 major groups. The industry additions come from three groups: (1) industries not in the top 10, but with high energy consumption; (2) certain high-growth industries such as computers and medical instruments; and (3) industries for which there are identifiable policy interests or conservation opportunities.

The increase in sample size also allowed for greater reliability of existing estimates, especially among the major groups (two-digit SIC's). For example, SIC 20 in the current sample design includes eight four-digit industries for which estimates were publishable. Previously, in the 1985 and 1988 designs, no four-digit industries in SIC 20 were published separately. The addition of the eight industries in 1991 yielded greater reliability of the SIC 20 major group estimates by having more sample cases in the publishable four-digit industries that comprise SIC 20. Thus, overall reliability in SIC 20 was improved without adding sample cases for that express purpose.

Sampling Methodology

The selection of the MECS sample was a two-stage selection process, with the first stage being the selection of the ASM mail sample from the CM frame. The second stage was the subselection of the MECS sample from the ASM mail sample. Thus, a MECS sample establishment is selected conditionally upon it having been selected into the ASM mail sample, which means that its probability of selection from the ASM sample is conditional. Therefore, the overall probability of selection into the MECS sample is represented by the product of this conditional probability and its ASM selection probability.

The probabilities for selection into the MECS sample are proportional to an energy measure of size (MOS). Calculations of the MOS are different from previous years, although closely related. Actually, two MOS's were computed for each establishment. The first was based on the 1990 ASM purchased electricity quantity. The other was based on the ASM cost of purchased fuels (excluding electricity). The probability of selection would be the maximum of the two probabilities computed using the two different MOS's.

The energy MOS for the 1985 and 1988 surveys was formed by taking a previous total Btu measure per cost of fuels and electric energy at the establishment updated by multiplying that ratio by a more current measure of average cost of fuels and electric energy. If the establishment had come into existence since the time of the last energy data available, industry averages would be employed for the ratio of Btu to cost of fuels. Neither MOS in the 1991 MECS is as highly correlated with energy consumption as the MOS used in the 1985 and 1988 sample designs. However, one advantage of the 1991 method is the fact that ASM data are used directly. Thus, each establishment has its own MOS and industry averages are no longer needed.²⁶

The MECS sample for the 42 separately published three- and four-digit industries included 100 percent of the corresponding ASM mail sample, with four exceptions. This was done to maximize reliability (i.e., minimize the standard errors) for those important energy-intensive and growth industries. However, four of those industries had such a large ASM sample it was impractical to include all of the establishments. Those industries were SIC 2051, "Bread, Cake, and Related Products"; SIC 2813, "Industrial Gases"; SIC 308, "Miscellaneous Plastic Products, not otherwise classified"; and SIC 3714, "Motor Vehicles Parts and Accessories." The number of cases included in the MECS sample was large enough to ensure sampling errors of less than 5 percent as measured on certain ASM variables.²⁷

²⁶By using two different probabilities of selection, the expected sample size would be larger than would be expected by using only one. The sample allocations for each stratum were adjusted as necessary to stay close to the EIA targeted sample sizes.

²⁷The MECS sample design was tested using 1990 ASM data. After the sample was selected, relative standard errors (RSE's) were computed with the MECS sample using energy related measures such as cost of fuels and purchased electricity quantity.

The remaining establishments were sampled from the 20 two-digit groups in a pattern designed to keep sampling errors within pre-established bounds for estimates of total consumption and consumption of four major types of energy: electricity, natural gas, coal, and the aggregate of all other types. The procedure for subselecting ASM sample establishments into the MECS sample were such that their overall probabilities of selection for the MECS were proportional to an estimated energy MOS. The overall probabilities for selection of the MECS sample establishments ranged from 0.002 to 1.000.

The total sample size actually selected was 16,054. Of these 305 establishments were determined to be out-of-scope or no longer in business prior to the MECS mailing, leaving a mail sample of 15,749. At the final closing, 14,299 questionnaires were received, a response rate of 91 percent.

Fieldwork, Editing, and Quality Control

The 1991 MECS continued the method that was started with the 1988 survey of using customized questionnaires for specific industries. The three questionnaires were:

- **Form EIA-846(A).**—This questionnaire was sent to the majority of the sample and collected the basic consumption, expenditure, fuel-switching, end-use, and technology information.
- **Form EIA-846(B).**—This questionnaire was sent exclusively to establishments in the Petroleum Refining Industry (SIC 2911). The design of the questionnaire took advantage of the fact that other EIA surveys collect certain consumption and expenditure data from the refinery population. Thus, the EIA-846(B) did not require respondents to report on particular data items.
- **Form EIA-846(C).**—This questionnaire was sent to producers of Chemicals and Allied Products (SIC 28), producers of Petroleum and Coal Products other than Petroleum Refining (SIC 29 excluding SIC 2911), Lumber and Wood Products (SIC 24), Paper and Allied Products (SIC 26), and selected Primary Metals Industries (in SIC 33). It is similar to the EIA-846(A) except that it collects additional information on shipments of energy sources produced onsite and a different set of specific technologies related to energy efficiency.

The questionnaires were mailed to the in-scope MECS sample establishments in two groups. The first group consisted of those companies that only have establishments receiving the EIA-846(A). They were mailed the questionnaires on February 24, 1992. All other companies were mailed the questionnaires on March 17, 1992.²⁸ Returned questionnaires were subjected to initial screening procedures for completeness, and incomplete forms or responses with obvious inconsistencies were set aside for review by industry specialists. Valid returned questionnaires were forwarded directly to check-in and then to data entry.

All forms that were incomplete or failed the initial screening procedures were carefully reviewed by the industry specialists from the Census Bureau and EIA. These specialists retrieved missing data and verified questionable items by telephone contact with the individual who completed the questionnaire. Once the forms were completed and verified, they were forwarded to check-in and to data entry.

The resulting MECS data file was then subjected to a series of computer edits. Those edits included consistency checks among data items from different parts of the MECS and between the MECS and the 1991 ASM, as well as checks for outliers in the distribution of individual variables. Records with failed edits were reviewed and followed up by industry specialists.

²⁸The MECS sample is selected according to establishment characteristics. However, the central administrative offices of multi-establishment companies were the addressees of the questionnaires and were responsible for distributing them to their establishments.

Development of the Data File

The estimates in this report were developed from a data file consisting of both directly reported values and more complex items derived from a combination of directly reported values. Reported values consist of responses to the 1991 MECS questionnaires (Appendix F). Those values were supplemented by estimates of energy consumption for nonfuel purposes and offsite-produced fuel consumption at petroleum refineries from another EIA questionnaire.²⁹ Additionally, the responses to the questionnaire for each responding establishment were supplemented by the following economic data:

- Value of shipments and receipts
- Value added by manufacturing
- Total employment.

These economic data were not collected by the 1991 MECS but were provided by the Census Bureau by linking the 1991 ASM economic data and MECS energy data at the establishment level.

The reported energy values were used to construct several derived values, which, in turn, were used to prepare the estimates appearing in selected tables in this report (See "Survey Estimates" section in this appendix.) These derived values are defined as follows:

- 1. Energy produced offsite and consumed as a fuel.** This derived value represents onsite consumption of fuels that were originally produced offsite. That is, they arrived at the establishment as the result of a purchase, or were transferred to the establishment from outside sources. As such, this derived value is equivalent to "consumption of purchased" fuels as reported by the Census Bureau for the years 1974-1981. The Census Bureau defines "purchased" fuels to include those actually purchased plus those transferred in from other establishments.³⁰
- 2. Energy produced offsite and consumed for nonfuel purposes.** This derived value also represents energy that was originally produced offsite. This energy was used at the establishment site as raw material inputs and feedstocks.
- 3. Energy produced onsite from nonenergy inputs and consumed onsite as a fuel.** This derived value covers materials such as wood chips, bark, and wood waste, and pulping liquor. These fuels are produced primarily in pulp and paper mills as a byproduct of wood used in the pulping process. Wood for pulping is not classified as energy in the MECS, and, therefore, would not have been included as an input. This derived value also covers waste materials, biomass, and hydrogen that was produced from the electrolysis of brine. Energy sources such as petroleum and coal that were consumed as fuel and originated onsite from captive mines or wells (an unusual occurrence) are included here also.
- 4. Energy produced onsite from nonenergy inputs and consumed for nonfuel purposes.** Most onsite-produced energy that is used for nonfuel purposes is derived from other types of energy. The major exception is hydrogen that is produced from the electrolysis of brine. Hydrogen produced in this manner and used for nonfuel purposes is the major occurrence of this derived value. Energy sources such as petroleum and coal that were consumed as a nonfuel and originated onsite from captive mines or wells are included here also.
- 5. Energy produced onsite from energy inputs and consumed as a fuel.** This derived value covers a wide range of fuels consumed onsite that are produced onsite as direct products or byproducts of other types of energy.

²⁹The calculations for these quantities are discussed in the sections of this appendix titled, "Consumption for Nonfuel Purposes at Refineries" and "Offsite-Produced Fuel Use at Refineries."

³⁰U.S. Department of Commerce, Bureau of the Census, *Annual Survey (Census) of Manufactures*, "Fuels and Electric Energy Consumed," 1974-1982 (Washington, DC).

6. Energy produced onsite from energy inputs and consumed onsite for nonfuel purposes. This derived value includes all petrochemical feedstocks and other raw material inputs that were produced onsite from existing energy or from other onsite-produced energy.

7. Energy produced onsite from energy inputs and shipped to other establishments. This derived value is new to the 1991 MECS. Data are now collected for certain industries that produce and sell energy sources to other establishments. Most notably, these industries include *Blast Furnaces and Steel Mills* (SIC 3312) and various industries in *Chemicals and Allied Products* (SIC 28). If an establishment converts an energy source into a fuel and then ships it offsite to another establishment, the total Btu quantity among the producing and receiving establishments would be duplicative and thus overstated. By deducting this derived value from the producing establishments, the amount consumed at the receiving establishments would not be duplicative.

The first four of those derived values represent an addition to the energy consumed onsite, and are described in this publication as primary consumption (that is, either they were produced offsite or were produced onsite from nonenergy inputs). The fifth derived value described above does not represent an addition because it was produced onsite from energy that is already reported as input. Such energy represents duplicate counting of the input energy content. It is, however, a useful measure of onsite-produced fuel consumption and is not duplicative with respect to an estimate of total fuel consumption. The sixth derived value is duplicative with respect to the consumption of energy for nonfuel purposes, and, therefore, was not used to prepare estimates. It was included only for computational purposes and completeness. The seventh derived value appears as a special table in this appendix and is used to adjust primary consumption. The adjustment was excluded from the detailed statistical tables (e.g., Table A1) so that continuity would be maintained with previous estimates of primary consumption.

Assumptions Underlying Derived Values

Two basic assumptions are necessary to produce the derived values from the data reported on the MECS questionnaire. First, it is assumed that any energy produced onsite is disposed of as it is produced. That is, it is burned as a fuel and/or consumed as an input or feedstock; any excess is flared, dumped, transferred-out, sold, or is placed into inventory. For the purpose of computing the derived values, a quantity of an energy source produced onsite and placed into inventory *during the previous year* is not considered onsite production in the reporting year. A corollary of this assumption is that any energy source that was consumed onsite and originated offsite was acquired only if there was not sufficient onsite production to meet the establishment's needs of the energy source in the current year. Second, it is assumed that the priority use of onsite production is first as a shipment (if applicable), then as an input or feedstock, and last as a fuel. These assumptions are believed to reflect the energy use patterns at the vast majority of, but not all, establishments. The assumptions do provide a consistent method of determining an establishment's nonduplicative total energy consumption and its reliance on outside providers to supply it.

The Estimation Process

Estimates in this report represented 98 percent of the of manufacturing payroll and shipments in the CM universe. Coverage was equivalent to the 1991 ASM mail file. The two percent not covered are the smallest manufacturing establishments that were not sent an ASM form. ASM imputes those establishments' data for publications by using industry averages. As discussed previously, the MECS no longer covers the small establishments either directly or through a ratio adjustment.

Population representation is accomplished by weighting the data from the establishment records in the consumption data file. Weighting is the process of multiplying the reported or derived values by a case-specific constant designed to inflate the data from each sample case to that portion of the population that it represents. The first, basic component in the MECS weights is the sampling weight. The sampling weight for a MECS sample case is the reciprocal of its overall probability of selection into the ASM and subsequent selection for the MECS.

The second component of the MECS weights is an adjustment for nonresponse. Adjustment factors to account for nonresponse were calculated by using the known energy measures of size of the respondents and the total sample. Because an establishment is selected into the MECS sample with a probability proportional to the establishment's energy measure of size, that measure can be viewed as an establishment's estimated contribution to energy consumption in 1991. A separate adjustment factor was computed for each of the 62 sampling strata³¹ and took the form:

$$a_s = \frac{\sum_j^{Sample} MOS_{s,j}}{\sum_i^{Resp} MOS_{s,i}}, \quad (1)$$

where $MOS_{s,j}$ is the measure of size for MECS sample establishment j in stratum s , and $MOS_{s,i}$ is the measure of size for MECS respondent i in stratum s .³² The adjustment factor was then multiplied by the sampling weight to produce the final MECS weight.

Feedstocks and Offsite-Produced Fuel at Petroleum Refineries

The basic function of a petroleum refinery (SIC 2911) is to manufacture a wide variety of petroleum products from crude oil and other liquid hydrocarbon inputs. Those products can be grouped into three classes of use. The largest portion of refinery output is in the form of fuels that are ultimately consumed strictly for their energy content (e.g., motor gasoline, kerosene, and diesel oil). Many refinery products, however, are consumed, not for their energy content, but for their chemical properties. This class of energy products is generally known as petrochemical feedstocks. Finally, a third class of products consists of finished materials that are consumed for specific physical properties, rather than for their energy content or chemical properties. Those finished materials include asphalt, lubricants, waxes, and solvents, and are referred to as nonenergy products.³³

The MECS was specifically designed to collect information on the consumption of energy for heat, power, and electricity generation, and as petrochemical feedstocks and other raw material inputs. The consumption of energy was reported directly by the establishments in the MECS sample, and the estimates in this report reflect that consumption. For most industries, the end result of energy inputs is manufactured products that are not considered energy products. However, fuels and some petrochemical feedstocks produced from refinery inputs are treated as energy products by their subsequent users³⁴, and are reported not only in other manufacturing industries, but also in EIA surveys of consumption in other end-use sectors (residential households, residential vehicles, and commercial buildings). In that sense, refineries do not "use up" the majority of their inputs. They merely convert them from one form of energy (for example, crude oil) to another more usable form (for example, motor gasoline). Therefore, classifying refinery inputs that go into fuels and certain petrochemical feedstocks as refinery consumption would have resulted in massive double counting of total energy consumption, both within the manufacturing sector, and across other energy-consuming sectors in the U.S. economy.

³¹For the 1985 MECS, adjustment cells were defined by cross-classifying sampling stratum with levels of employment size category. Employment size proved not to be worthwhile in using as an adjustment factor and was discontinued in later surveys.

³²Although there were two measures of size used, it was necessary to select only one measure to form the nonresponse adjustment. The measure chosen was one that combined the two: it was the 1991 ASM cost of combustible fuels plus the cost of electricity.

³³Certain petroleum products can be classified according to the end user of the product. For example, propane might be a fuel or a feedstock depending on the needs of the receiving establishment.

³⁴Whether a respondent reports a petrochemical feedstock as an energy source receipt often depends on the type of feedstock received. If the feedstock received is commonly used as a fuel, such as distillate fuel oil or ethane, then it is assumed that respondents will report it as an energy source receipt. If the refinery product received for petrochemical feedstock use is not normally considered a fuel, the assumption is made that respondents would not report it as an energy source receipt.

The third class of refinery products, nonenergy products, must be treated differently. The creation of those products by the refinery also requires energy inputs, primarily crude oil. The products are combustible and have a known heat content expressed in British thermal units (Btu). Asphalt, for example, contains 6.636 million Btu per 42-gallon barrel. However, the products are not recognized as energy by their subsequent consumers, and no provision was made for collecting data on their consumption from the MECS respondents. Therefore, the transformation of energy inputs to nonenergy products must be counted as refinery consumption, or it will never be accounted for anywhere in EIA's consumption surveys.

One characteristic of petroleum refineries is that, except for losses caused by spills, contamination, etc., the Btu content of the energy inputs exactly equals the Btu content of the outputs. Therefore, one only needs to know the quantities of those nonenergy products that were shipped by a refinery in order to know the quantity of energy inputs that was used to produce them. EIA produces such information for all refinery products from the "Monthly Refinery Report," Form EIA-810. This form collects information on the monthly shipments from the universe of refineries in the United States. These data were the basis for estimating the input energy requirements for the nonenergy products.

The shipment quantities of the nonenergy products and certain classifications of petrochemical feedstocks, as reported on the "Monthly Refinery Report," were converted to Btu and summed to produce a monthly refinery total. Those totals were then summed across refineries and months to produce the total Btu value of refinery shipments of nonenergy products for 1991. That total was used to represent the total Btu value of the inputs used to produce the nonenergy products, and was inserted directly into the appropriate tables of this report to represent nonfuel consumption in refineries. (See "Survey Estimates" in this appendix.) Because the individual energy inputs corresponding to these shipments were not identified, the Btu value was entered in the "other" column.

The "Monthly Refinery Report" covers only the refinery part of an establishment while the MECS Forms EIA-846(A) through (C) cover energy use at the entire site, as defined by the Bureau of the Census. This difference affects MECS estimation only for cases in which a MECS report reflects energy use at both a refinery and a co-located petrochemical plant. For these cases, establishment nonfuel use is not completely estimated by shipments of refinery nonenergy products as measured by the EIA-810. The format of the MECS refining report, Form EIA-846(B) (see Appendix F), allows respondents to report energy-related data from a petrochemical plant co-located with the refinery. Form EIA-846(B) collected nonfuel use at and shipments of energy sources from the co-located petrochemical plant (Columns 9 and 10 of Section II). The total Btu of the consumption as a nonfuel minus the petrochemical plant shipments of energy sources is added across energy sources and establishments to the previously discussed refinery shipments of nonenergy sources. Note that for the petrochemical plant, estimation of nonfuel use is measured directly, as the majority of that usage does not appear in products that will later be converted to fuel use by other manufacturing plants. The additional nonfuel use estimated for the adjoining petrochemical plants proved to be small relative to the refinery usage because the majority of petrochemical plants report separately on the MECS. Because the resulting quantities was unreliable³⁵ and quite small compared to refinery shipments of nonenergy sources, they were excluded from the total refinery nonfuel estimates.

The EIA-810 data are also used to calculate the offsite-produced fuel use at the refinery establishment. (See "Derived Values" in this appendix.) Because Version A of Section II of Form EIA-846(B) collects only total fuel use of petroleum products (regardless of their origin), it was necessary to use the EIA-810 data to calculate the offsite-produced fuel ratio for those products. Estimation of the ratio utilized the same assumptions described in the section on "Assumptions Underlying Derived Values" except that EIA-810 data were used instead. This ratio is then applied to the MECS estimated value of total fuel.³⁶ The estimator takes the form:

$$O_{p,MECS} = \left(\frac{O_{p,EIA-810}}{F_{p,EIA-810}} \right) \cdot F_{p,MECS} \quad (2)$$

³⁵Examination of the MECS refinery reports showed evidence that reporting for the adjoining petrochemical operations in the last two columns caused considerable respondent confusion.

³⁶The MECS value for total fuel would also include the amount used at the adjoining petrochemical plant if one were present. Using a ratio based on refinery-only data from the EIA-810 on that portion of the establishment is a source of error. However, refinery fuel use will usually dominate the petrochemical fuel use especially for petroleum products.

where $O_{p,MECS}$ is the MECS estimate of the amount of petroleum product p produced offsite and consumed as a fuel, $O_{p,EIA-810}$ is the EIA-810 estimate of the amount of petroleum product p produced offsite and consumed as a fuel, $F_{p,MECS}$ is the MECS estimate of total fuel use of petroleum product p , and $F_{p,EIA-810}$ is the EIA-810 estimate of the total fuel use of petroleum product p .

Estimates of the contribution to fuel consumption of offsite-produced nonpetroleum products are calculated directly from MECS data, using the same method employed in other SIC's.

Shipments of Energy Sources Produced Onsite

Manufacturers who produce energy sources do so not only for their own consumption but often sell or transfer the products to other establishments. The most notable example in manufacturing is petroleum refineries. Energy consumption for those establishments is estimated using a special method as has been explained in an earlier section. The principal products of petroleum refineries are energy sources. Primary consumption in petroleum refineries, by virtue of the special method already described, does not need to account for outgoing energy products since it excludes incoming energy sources used for raw materials. Yet there are other types of manufacturers that produce and sell energy sources as secondary products. If the energy content of the sold energy source materials from these are counted at the producing establishment, there would be double counting when the energy source is counted at the receiving establishment. Primary consumption, as currently defined, avoids double counting of *intra*-establishment use of an energy source which results from an onsite transformation from another energy source. However, it may include double counting of *inter*-establishment use of such transformed energy sources. The 1991 MECS can further adjust primary consumption by deducting the amount of sold energy sources that were produced onsite.

The example that has the greatest effect on total energy consumption is coal to make coke. A steel mill processes coal to make coke for later use in the steel making process. Primary consumption counts the quantity of coal as the original nonfuel input. Any onsite consumption of coke is not included in primary consumption as it duplicates the coal use. If the steel mill sells and ships some of the coke to another establishment, it will show up as a shipment of an offsite-produced energy source in the second establishment and will be included in primary consumption. That would result in double counting. The double counting can be eliminated by subtracting the energy equivalent of coke shipments from primary consumption.

Table B1. presents these shipment adjustments by SIC. The total shipments adjustment is 560.1 trillion Btu. That means a better estimate of total primary consumption is 19,797 trillion Btu. However, if the purpose is to be comparable with previous years, the original estimate of 20,257 trillion Btu should be used.

Table B1. Total Shipments of Energy Sources Produced Onsite from the Nonfuel Use of Other Energy Sources, by Industry Group and Selected Industries, 1991
(Estimates in Trillion Btu)

SIC Code	Industry Groups and Industry	Quantity Shipped
		Total United States
28	Chemicals and Allied Products	233
2813	Industrial Gases	W
2821	Plastic Materials and Resins	3
2824	Organic Fibers Noncellulosic	W
2865	Cyclic Crudes and Intermediates	W
2869	Industrial Inorganic Materials	221
29	Petroleum and Coal Products (excluding Refining)	79
3312	Blast Furnaces and Steel Mills	248
	Total	560

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, 1991 Manufacturing Energy Consumption Survey.

Concept of Fuel-Switching Capability

EIA continues to employ the concept of fuel-switching that was developed prior to the 1985 survey. After extensive consultation with potential data users and data providers for the 1985 survey, EIA developed a tightly-specified concept of fuel-switching capability based on the following set of principles:

- Switching data would cover consumption of energy for heat, power, and onsite electricity generation only. Switching of energy consumed as feedstock or raw material inputs would not be considered.
- Switching data would focus on capability (what could be done) rather than actual performance (what was, or is being done) or future possibilities (what might be possible).
- Switching capability would be collected for a closed historical reference period, rather than the present, or some future reference period.
- Switching capability would be collected for the one-year reference period used for MECS consumption data, to tie in with the consumption data and avoid seasonal bias.
- The survey would measure short-term response capability; that is, actions that could have taken place within 30 days of a decision to switch.
- Switching capability would reflect the total flexibility provided by an establishment's equipment configuration. Both multiple-fired equipment and redundant or backup equipment could contribute to capability.
- The survey would measure in-place capability; that is, capability provided by equipment that was already installed, or was available at the establishment for installation during the reference period. Major modifications to the design capabilities of equipment and major capital expenditures were not to be considered in assessing capability.
- Switching capability would be valid only if, following the switch from one type of energy to another, the establishment would have been able to maintain its actual production schedule during the reference period.
- Switching capability provided by an establishment's equipment configuration could be limited or negated by legal or practical constraints such as binding supply contracts, interruptible service, environmental regulations, or unavailability of supply or delivery systems for a potential alternative.
- Economic considerations were *not* to be considered a practical constraint in evaluating switching capability. The survey was designed to measure potential response to changes in economics or supply patterns.

The MECS obtained fuel-switching data by asking respondents to determine the amounts of 1991 input energy consumption of six major types of energy that could have been switched to one or more alternatives in accordance with the previously listed principles. The six types of energy were purchased electricity, natural gas, distillate oil, residual oil, coal (excluding coke),³⁷ and LPG. Respondents were directed to provide the quantities of switchable consumption by subtracting the quantities that were not switchable from the quantities that were actually consumed during 1991. Such an approach is clear and saves burden because it starts with a previously-reported quantity and allows the respondent to subtract quantities known to be nonswitchable because of any one of the various conditions discussed above. The alternative would be to force the respondent to add up quantities for all energy uses for which all aspects of the concept are satisfied. Once the total switchable quantities had been determined, the remaining task was to determine how much of each switchable quantity could have been replaced by specific alternatives.

³⁷The exclusion of coke from the coal was a change from previous MECS years. It was excluded because coke was found to be virtually nonswitchable in its most common use, the production of steel.

How To Measure Discretionary Fuel Use

One of the more interesting summary statistics that can be developed from the estimates of actual consumption, minimum consumption, and maximum consumption is the **discretionary-use rate**. The discretionary use rate is a measure, in percent, of the extent to which manufacturers elected to consume discretionary quantities of a given energy source.

The discretionary-use rate is calculated as:

$$USE = \frac{ACT - MIN}{MAX - MIN} \times 100 \quad (3)$$

where USE is the discretionary use rate of a given energy source,

ACT is the actual consumption of that energy source,

MIN is the minimum consumption, which would have been achieved if all ascertained switching *from* that type of energy had occurred.

and MAX is the maximum consumption, which would have been achieved if all ascertained switching *into* that type of energy had occurred.

Thus, the discretionary-use rate is a measure of the depth, in percent, into the discretionary range of consumption to which manufacturers chose to go, given their fuel-switching capabilities and production levels of 1991.

If manufacturers had chosen to minimize their consumption of a given energy source by using alternative energy sources whenever possible, then $ACT = MIN$, and the discretionary-use rate would be 0 percent. At the other extreme, if manufacturers had chosen to maximize the consumption of a given energy source by using that energy source whenever possible, then $ACT = MAX$, and the discretionary-use rate would be 100 percent.

Note that $(ACT - MIN)$ is equivalent to the "switchable" amount of the given energy source that was consumed, that is, the amount of the energy source that was consumed even though it could have been switched to another energy source.

Survey Estimates Presented in Appendix A

Except for some estimates of energy consumption for nonfuel purposes at petroleum refineries, all energy consumption and energy-related statistics produced from MECS data are calculated by inflating the data collected from the responding establishments with the adjusted sampling weights. These weights establish the relationship between the responding establishments and the manufacturing population as defined for the MECS. Two types of statistics are shown in this report: aggregates (for example, total natural gas consumption in the hydraulic cement industry), and ratios (for example, the amount of fuel consumed per dollar of value added in the manufacturing sector). These statistics are based on the originally reported values, or the derived values discussed earlier, and appear in Tables A1 through A58.

Primary Consumption for All Purposes

Tables A1 and A9 present estimates of the total primary consumption of energy for all purposes by the manufacturing sector. This measure is intended to represent total demand for energy by manufactures.³⁸ Except for petroleum refineries, the estimates in Tables A1 and A9 are based on the following derived values:

³⁸Note that the word "primary" in the MECS usage refers to the first use of energy at a manufacturing site. It has nothing to do with accounting for energy losses in generating and transmitting electricity. That usage is embodied in the term "primary energy," commonly used in EIA to indicate energy measures that take such losses into account. All energy estimates in MECS that include electricity consumption use its end-use conversion value, 3412 Btu per kWh.

- Energy produced offsite and consumed as a fuel
- Energy produced offsite and consumed for nonfuel purposes
- Energy produced onsite from nonenergy inputs and consumed as a fuel
- Energy produced onsite from nonenergy inputs and consumed for nonfuel purposes.

They also include estimates of net electricity and steam consumption; that is, purchases plus transfers in and generation from noncombustible renewable resources, minus quantities sold and transferred out. Primary consumption excludes quantities of energy that were produced from other energy inputs and, therefore, avoids intra-establishment double-counting.

The estimates shown in the petroleum refinery row of Table A1 are conceptually different from the estimates in the other rows of that table. For all industries except petroleum refineries, each cell represents the total primary consumption of energy for all purposes. In the petroleum refinery row, the cell entries for "net electricity" through "coke and breeze" represent only the quantities of given type of energy that was consumed as a fuel. The "other" cell of the petroleum refinery row includes other energy that was consumed as a fuel plus the quantity of energy (mostly crude oil) that was consumed for the production of nonenergy products, as estimated by the Btu value of the shipments. Note that although the estimates shown in the refinery row are computed differently, the total Btu does represent a nonduplicative measure of primary consumption. (For more information, refer to "Feedstocks and Offsite-Produce Fuel at Petroleum Refineries" in this appendix.)

Table A9 shows primary consumption for all purposes by economic characteristics of the establishment. In that table, the cell in the row entitled "not ascertainable" and the column labeled "other" contains the total quantity of energy consumed for the production of nonenergy products by refineries. The quantities of energy consumed for the production of heat and power in refineries are included throughout the remainder of the table, depending on the value of shipments or employment size of the responding establishment.

Primary Consumption for Nonfuel Purposes

Tables A3 and A11 present the total primary consumption of combustible energy for nonfuel purposes. These tables are based upon aggregates of the derived values of energy produced offsite plus those produced onsite from nonenergy inputs, and consumed onsite for nonfuel purposes. Tables A3 and A11 present the nonfuel primary consumption component of Tables A1 and A9. The entry in the "other" column of the petroleum refinery row of Table 2 represents the total inputs (mostly crude oil) for the production of nonenergy products. The other cells in the petroleum refinery row contain zeros because refinery inputs are available in aggregate form only.

Except for petroleum refineries (see "Feedstocks and Offsite-Produce Fuel at Petroleum Refineries" in this appendix), the estimates in Tables A3 and A11 are based on the following derived values:

- Energy produced offsite and consumed for nonfuel purposes
- Energy produced onsite from nonenergy inputs and consumed for nonfuel purposes.

Input Energy for Heat, Power, and Electricity Generation

Tables A4 and A12 present estimates of input energy for the production of heat, power, and electricity generation. For combustible energy, the estimates are based upon the reported MECS questionnaire responses to "Quantity consumed onsite as a fuel" (see Appendix F). That reported value is exactly equal to the sum of the following derived values:

- Energy produced offsite and consumed as a fuel
- Energy produced onsite from nonenergy inputs and consumed as a fuel
- Energy produced onsite from energy products and consumed as a fuel.

Thus, the estimates of combustible energy in Tables A4 and A12 represent total consumption as a fuel, regardless of where the energy was produced.

The consumption estimates for fuel use are not duplicative. There is clearly no duplication for quantities that were produced offsite as well as for those produced onsite from nonenergy sources. Quantities produced onsite from other energy inputs result from consumption of an energy source as a feedstock or raw material input. They do not result from the consumption of an energy as a fuel.

Examples of energy produced onsite from other energy sources include,

- Coke oven gas produced as a byproduct of the destructive distillation of coal to produce coke
- Petroleum coke produced in refineries as a result of the high temperature treatment of petroleum fractions
- Still gas produced in refineries as a result of distillation, cracking, reforming, and other processes.

From those examples, it is clear that the input energy was not consumed as a fuel and would not have been included elsewhere in Tables A4 and A12.

The estimates of electricity and steam (note that steam is included in the "other" energy category) must conform to the same criteria as combustible energy. That is, they must represent inputs to produce heat and power, and to generate electricity that do not duplicate energy content represented elsewhere in Tables A4 and A12.

In the case of electricity, the quantities generated onsite by conventional generation or cogeneration must be excluded because the input fuels to produce the electricity (coal, for example) are already counted elsewhere in the table. Thus, the nonduplicative measure of electricity input for Tables A4 and A12 is the same net electricity estimate that appeared in Tables A1 and A9. The same rationale applies to steam. Onsite production is excluded because the input fuel would be counted elsewhere. Thus, the allocation of energy to the various sources shown in Tables A4 and A12 is consistent with a concept of "first use" of energy for heat, power, and electricity generation.

Other Topics

Tables A5 and A13 present the total consumption of offsite-produced energy sources as a fuel. As noted, these estimates are approximately definitionally equivalent to the Census Bureau's "purchased" fuels.

The estimates in Tables A5 and A13 are based on the derived value, energy produced offsite and consumed onsite as a fuel.

Tables A2 and A10 present consumption estimates of selected petroleum products expressed in barrels per day rather than in barrels. Included are three estimates of consumption that have been described previously: (1) primary consumption (Table A1), (2) total input energy (Table A4), and (3) consumption for nonfuel purposes (Table A3). These estimates are presented for the convenience of the data user and were derived simply by taking the annual consumption estimate and dividing by 365.

Table A6 presents quantities of total inputs of byproduct and "other" energy sources used for heat, power, and electricity generation. These estimates are components of the estimates of combustible energy sources found in the last column of Tables A4 and A12. Net steam (see explanation for Tables A4 and A12) is not included in Table A6 but is included in the "Other" column in Tables A4 and A12.

Tables A7 and A14 present total shell storage capacity of residual oil, distillate oil and motor gasoline. Shell storage capacity includes all onsite capacity, including that which is dedicated or leased for storage of energy owned by other establishments.

Tables A8 and A15 present estimates of several energy-related operating ratios. These estimates are computed from energy data reported by the MECS responding establishments and economic data reported on the ASM for the same establishments. The consumption values used in the formation of these ratios appear in Tables A4 and A12. It is not possible to exactly reconstruct the 1991 ASM estimates of economic variables by dividing MECS consumption by corresponding ratios of consumption per economic unit. Due to different purposes of the MECS and ASM, the size and weighting scheme of the MECS and ASM samples are different. Therefore, a MECS estimate for an economic variable would be expected to be slightly different due to sampling error, especially for the entries representing a relatively small number of establishments.

Tables A16 and A19 present components of electricity demand. These quantities are calculated directly from responses to the MECS questionnaire. Note that the quantity "net demand for electricity" is not equivalent to "net electricity" shown in Tables A1, A4, A9, and A12. The latter quantity excludes onsite generation by combustible energy sources.

Tables A17 and A20 present components of onsite electricity generation. These components are cogeneration, generation using renewable energy sources, and conventional generation using combustible energy sources. These data are weighted totals of reported responses.

Tables A18 and A21 present quantities of electricity sold to utility and nonutility purchasers. These data are weighted totals of reported responses.

Tables A22 through A29 present purchases, expenditures, and average prices for energy sources. The purchased quantities shown in Tables A22 and A26 are *not* values of consumption. These data are the amounts actually purchased in the open market regardless of their later disposition. Quantities received through transfers or from a central purchasing office are excluded. The prices shown in Tables A25 and A29 are the results of simple division of the expenditures presented in Tables A25 and A28 by the purchased quantities in Tables A22 and A26. Prices are shown in both dollars per physical unit and dollars per million Btu. Both the expenditures and quantities purchased were values estimated directly from responses to the MECS questionnaires.

Tables A23, A27, and A46 through A49 present purchases, expenditure, and price tables for electricity, natural gas, and steam. These tables break down the gross purchases for these energy sources by the type of supplier. Electricity and steam suppliers are either utilities or nonutilities. The classifications of the natural gas suppliers are utilities, transmission pipelines, and other suppliers.

The increase in sample size yielded other benefits besides increases in separately publishable SIC's and data reliability. There are now enough sample cases to support two-way categorizations of data that were not possible previously. Tables A30 through A32 present three different measures of energy consumption by SIC *and* value of shipments category. Tables A33 through A35 present the same consumption measures by SIC and categories of total employment.

Tables A36 through A39 are presentations of results from questionnaire items new to the 1991 survey. Respondents were asked to assign their total input energy consumption of selected major energy sources to various end uses in the establishment. The energy consumption measures used as a baseline for each combustible energy source are found in Tables A4 and A12. They are shown in Tables A36 through A39 as the line item, "Total Inputs." Electricity end-use data were collected on the MECS questionnaire as net demand for electricity (purchases plus transfers in plus onsite generation minus sales and transfers out). Those estimates first appear in Tables A16 and A19 and were collected for end-use data because quantities of net demand represent the actual amount available for use at the establishment. Tables 38 and 39 show the results using that measure of electricity consumption.

Net demand for electricity duplicates the fuel consumption of combustible energy sources used in the process of electricity generation. Tables A36 and A37 show the end-use estimates using the concept of net electricity. Net electricity, the concept used in conjunction with "Primary Consumption" and "Total Inputs of Energy For Heat Power and Electricity Generation" is defined as the sum of purchases and transfers in plus onsite generation from noncombustible renewable resources minus sales and transfers out. Unlike net demand for electricity, net electricity excludes onsite generation of electricity from combustible energy sources. Thus, it does not double-count the energy content of combustible energy sources used to generate electricity. End-use consumption in terms of net electricity was calculated by forming ratios of net demand for electricity for each end-use to total net demand for electricity at the establishment, and multiplying those ratios by the quantity of net electricity at the establishment.

The total inputs row in tables A36 and A37 include a category "Other" to show how much of the total input energy is not accounted for by major energy sources. For some SIC's it is a substantial amount. For example, coal coke and refinery off-gas are significant contributors to boiler fuel and process heat. Data are not available to break down the "other" category by end-use. Further, steam (the major output from boilers) is excluded from these tables. Consequently, total input energy for any end-use category other than boiler fuel would be underestimated by the amount of steam that contributes to that end-use.³⁹ Therefore, summing consumption over the end-use categories for which data are available would give a misleading indication of the energy actually used.

For any individual energy source, the estimates in the end-use categories represent direct use. When electricity is considered independently of the combustible energy sources, the more meaningful amount would be in terms of net demand (Tables A38 and A39) rather than net electricity (Tables A36 and A37).

Tables A40 and A41 present estimates of participation by establishments in energy management activities. Total input energy is the measure of interest. If an establishment indicates participation in an activity, its energy consumption is counted in the appropriate category. If not, it is counted in "None Identified."⁴⁰ Table 40 also shows subcategories of participation: utility/supplier sponsorship (often referred to as Demand-Side Management), own or third-party sponsorship, or a mixture of both.

Tables A42 through A44 present estimates of total input energy consumption broken down by SIC, establishment size, and presence of selected energy-saving technologies. These technologies are known to save energy but may not have been installed for that purpose.

Tables A45 presents estimates of total input energy consumption by floorspace square-footage category, percent of heated and/or cooled space, and presence or absence of computer controls for building environment. All three of these items are new to the 1991 MECS.

Tables A50 and A51 are new to the 1991 MECS. They present the operating ratios shown in Tables A8 and A15 but broken down further into both SIC and category of value of shipments (Table A50) or category of total employment (Table A51). These tables are now possible due the increased MECS sample size.

Table A52 presents estimates of nonswitchable minimum requirements and the maximum consumption potential of the different types of energy covered specifically by the fuel-switching section of the MECS. An estimate of the actual consumption of each type of energy is provided as a reference point. That consumption estimate represents the quantity that was consumed onsite for the production of heat, power, and the generation of electricity in 1991. The estimates are identical to the ones found in Table 4, except for estimates of electricity. For fuel-switching, the electricity quantity considered is electricity receipts found in Table 5. (The reasons for using electricity receipts are described below in the discussion of Tables A53 through A58.)

³⁹In the case of cogeneration, the underestimation could be expressed in terms of an unknown amount of steam and electricity.

⁴⁰The MECS sampling method efficiently estimates energy consumption but not establishment counts. Therefore, energy consumption was chosen as the measure of participation rather than number of participating establishments.

One of the purposes of Table A52 is to provide an estimate of the smallest possible quantity of a given type of energy that would have been required in 1991 (keeping production constant), if all possible ascertained switching away from that type of energy had taken place. The quantities given in the minimum consumption column of Table A52 are likely to be higher than the true minimum energy requirements because they include the quantity of 1991 consumption for which switching capability was not ascertained. Some unknown proportion of this latter quantity could likely have been replaced.

Table A52 also provides estimates of the maximum energy consumption that would have been possible if all ascertained switching to that type of energy had occurred. The estimates assume that all indicated substitutions were simultaneously possible and the substitutable amount consists of the sum of all possible switches to the designated type of energy. An assumption of this kind is necessary because there is no specified limit to a respondent's ability to switch *into* an energy source. Note that there is a given limit to a respondent's ability to switch *out of* an energy source provided by the third row of the fuel-switching section of the MECS questionnaire (see Appendix F, Manufacturing Energy Consumption Survey Forms).

Tables A53 through A58 present estimates of the capability of substituting specific alternative types of energy for those actually consumed, holding production constant. Each table contains information for the specific type of energy that was actually consumed for the production of heat, power, and generated electricity in 1991. It should be noted that the first column of Table A53 refers to "total receipts" of electricity, while the first column of Tables A54 through A58 refers to "total consumed" natural gas, distillate fuel oil, residual fuel oil, coal, and LPG, respectively.

Thus, the quantities of electricity generated onsite are excluded as are the quantities of electricity leaving the establishment site. When considering fuel-switching capabilities, total electricity receipts is a more meaningful quantity than total electricity consumption. A respondent who has onsite generation of electricity has, more than likely, used an additional amount of a combustible energy source to operate the generator. It is a valid question to ask, "How much of that self-generation is replaceable by electricity receipts?" However, it is more reasonable and of greater interest to collect the fuel-switching data for the fuel used to generate the electricity by asking respondents to show the quantity of electricity receipts that could replace the combustible fuel.

In Tables A53 through A58, the estimates provided in each column under "alternative types of energy" should be considered independently because respondents were instructed to enter the maximum amount of the quantity of the energy actually consumed which could have been replaced by a given alternative. For example, Table A53 shows that for Paper and Allied Products (SIC 26), a total of 3,181 million kilowatthours (kWh) of electricity receipts was switchable. Natural gas could have replaced 1,406 million kWh of that quantity. The other replacement quantities were distillate fuel oil, 576 million kWh; residual fuel oil, 649 million kWh; coal 859 million kWh; LPG, 128 million kWh; coal coke and breeze, 47 million kWh; and other fuels, 230 million kWh. Because each value represents the maximum quantity of electricity receipts that could have been replaced, their sum exceeds the total quantity of electricity that was ascertained as switchable. That difference indicates that some establishments had more than one type of energy that could have been substituted for electricity usage during 1991.

The Heat Content of Energy Sources

Many of the estimates of individual energy sources in this report are presented in physical units (kilowatthours, barrels, and short tons). Row totals and combinations of types of energy are presented in Btu. Tables A1 through A5 are presented in physical units and Btu in Parts 1 and 2, respectively.

A Btu is the quantity of heat required to raise the temperature of 1 pound of water by 1 degree Fahrenheit. Thus, converting physical units of a given type of energy to Btu is a means of expressing the heat content of that energy source. All Btu quantities are in terms of higher heating value, with no regard for efficiency of use. Because no energy consumption process is 100 percent efficient (although some are considerably more energy efficient than others), Btu figures must be considered as the maximum available heat content. The following table presents the Btu conversion factors of major types of energy.

Table B2. Conversion of Physical Units to British Thermal Units

Type of Energy	British Thermal Units (thousands)
Electric Energy (1,000 kilowatthours)	3,412
Residual Fuel Oil (42 gallon barrel)	6,287
Distillate Fuel Oil (42 gallon barrel)	5,825
Natural Gas (1,000 cubic feet)	1,030
Liquefied Petroleum Gas (42 gallon barrel)	3,614
Coke and Breeze (short ton)	24,800
Coal Used as Fuel (short ton)	22,276
Coal Used for Coking (short ton)	26,800

Source: Energy Information Administration, *Monthly Energy Review* (August 1992), pp. 147-151.

Revisions to 1988 MECS Estimates

An error was discovered after the 1988 MECS data were published. The nonenergy source shipments at petroleum refineries (see "Feedstocks and Offsite-Produced Fuel at Petroleum Refineries" in this appendix) was miscalculated and, as a result, overestimated. The following corrections should be made to the relevant 1988 MECS tables:

Table B3. Revisions to 1988 MECS Tables
(Estimates in Trillion Btu)

1988 MECS Publication Table 1 (Parts 1 and 2)

SIC Code	Industry Groups and Industry	As Published		Revised	
		Total	Other	Total	Other
Northeast					
2911	Petroleum Refining	583	W	546	W
29	Petroleum and Coal Products	598	523	560	485
	Total	2,301	675	2,263	637
Midwest					
2911	Petroleum Refining	948	W	894	W
29	Petroleum and Coal Products	976	827	923	773
	Total	4,778	1,011	4,724	958
South					
2911	Petroleum Refining	3,657	3,069	3,381	2,793
29	Petroleum and Coal Products	3,703	3,090	3,427	2,813
	Total	10,839	4,622	10,563	4,345
West					
2911	Petroleum Refining	1,121	W	1,073	W
29	Petroleum and Coal Products	1,134	953	1,086	905
	Total	2,616	1,373	2,568	1,325
United States					
2911	Petroleum Refining	6,310	5,364	5,893	4,947
29	Petroleum and Coal Products	6,411	5,393	5,995	4,976
	Total	20,534	7,682	20,118	7,265

Table B3. Revisions to 1988 MECS Tables (Continued)

1988 MECS Publication Table 2 (Parts 1 or 2)

SIC Code	Industry Groups and Industry	As Published		Revised	
		Total	Other	Total	Other
Northeast					
2911	Petroleum Refining	367	367	329	329
29	Petroleum and Coal Products	368	Q	330	Q
	Total	699	W	661	W
Midwest					
2911	Petroleum Refining	482	482	429	429
29	Petroleum and Coal Products	486	Q	432	Q
	Total	1,163	W	1,109	W
South					
2911	Petroleum Refining	2,005	2,005	1,729	1,729
29	Petroleum and Coal Products	Q	Q	Q	Q
	Total	3,779	W	3,503	W
West					
2911	Petroleum Refining	403	403	355	355
29	Petroleum and Coal Products	410	W	361	W
	Total	491	W	443	W
United States					
2911	Petroleum Refining	3,258	3,258	2,841	2,841
29	Petroleum and Coal Products	3,290	3,285	2,874	2,868
	Total	6,132	3,531	5,716	3,114

**1988 MECS Publication Table 7
(Primary Consumption by Economic Characteristic)**

Characteristic	As Published		Revised	
	Total	Other	Total	Other
Not Ascertained	3,258	3,258	2,841	2841
Total	20,534	7,682	20,118	7265

**1988 MECS Publication Table 8
(Primary Consumption for Nonfuel Use by Economic Characteristic)**

Characteristic	As Published		Revised	
	Total	Other	Total	Other
Not Ascertained	3,258	3,258	2,841	2,841
Total	6,132	3,531	5,716	3,114

Appendix C

Quality of the Data

Appendix C

Quality of the Data

Introduction

All data collection activities and the population estimates produced from them are subject to a variety of errors. These errors may be broadly classified under two general types, sampling and nonsampling errors.

Sampling errors are defined as the variability in a survey estimator that arises because data used to estimate population values are collected from a sample of units rather than completely enumerating the entire population. Each possible sample produces different estimates of population values, depending on the set of respondents that are selected. Consider, for example, a sample of two units from a population comprised of three units. In this example, there exists three possible sample sets of respondents, each of which produces different estimate of the population total. The difference between the estimate calculated from one of the samples and the population total is referred to as the sampling error. Nonsampling errors, on the other hand, occur in any data collection activity, whether a sample survey or a complete enumeration of the population. Nonsampling errors may be associated with any part of a survey process except sampling and can include both random and systematic (biasing) errors. Commonly recognized sources of nonsampling error include undercoverage, random and systematic response errors, unit and item nonresponse, data processing errors, and tabulation errors. This appendix describes the effect of both sampling and nonsampling errors on data from the MECS. In addition, the measure for sampling errors of the population estimates are given. More details are presented in the methodological report for the MECS.⁴¹

Sampling Error

The estimated values appearing in this report were developed from a sample of the universe of manufacturing establishments and, as a result, will differ from true population values that would be obtained from a complete enumeration of the manufacturing universe. This is because the MECS sample is only one of a very large number of samples that could have been selected under the same sampling specifications. Each possible sample would yield its own unique estimates of the true population values, with the differences attributable to the particular set of establishments selected into each sample.

One measure of variability due to sampling is the square root of the average of the squared differences between the estimates that would be produced by all possible samples and the mean value of those estimates. This type of measure is commonly known as sampling error. Estimates of the magnitude of these sampling errors based on data from a single sample are provided by a statistic known as the standard error of an estimate. Standard errors for MECS estimates are directly computed from the reported data using the formula:

$$S_{\hat{Y}} = \sqrt{\sum_{i=1}^n y_i^2 (W_i)(W_i - 1)}, \quad (4)$$

where $\hat{Y} = \sum(y_i W_i)$ is the MECS survey estimator, y_i is the reported value of characteristic Y for the i^{th} MECS sample establishment, W_i is the final adjusted weight used to inflate the sample data to population estimates, and n is the number of MECS respondents. Justification for this formula is found in the MECS methodological report.

Estimates of standard errors have been computed from the MECS sample data for the estimated aggregate values and selected ratios appearing in this report. In the 1985 and 1988 MECS reports, measures of precision were presented separately in the form of relative standard errors (RSE), that is, the standard error divided by the estimated value to which it refers. In this report, computed RSE's for Table 1 through Table 52 are approximated in a two-factor model and are imbedded into each table as "row and column factors."

⁴¹Energy Information Administration, *Manufacturing Energy Consumption Survey: Methodological Report, 1985*. Although this report describes data quality in the 1985 MECS, much of the discussion still holds for the 1991 MECS.

Sampling Error from Generalized Variances

The RSE's computed using standard errors from Equation (3) may be efficiently modeled by a Generalized Variance procedure, which has been successfully used in several complex sample surveys conducted by EIA. This procedure provides a comprehensive means of reporting generalized relative standard errors, which minimizes the publishing space required to present standard errors, and eases reader's use of precision measures. Actual RSE's (by Equation 3) are used for statistical tests and confidence intervals presented in the text, and for determining if a population estimate is too imprecise to publish (RSE greater than 50 percent).

The estimator used to approximate RSE's is based on a two-factor model. This model-based estimator is given as

$$R\hat{S}E_{i,j} = R_i \cdot C_j, \quad (5)$$

where R_i is the row factor for the i^{th} row and C_j is the column factor for the j^{th} column used to compute the generalized RSE of the sample estimate at the intersection of the i^{th} row and j^{th} column. Since RSE's calculated by this Generalized Variance technique are approximates, confidence intervals and statistical tests of significance must also be regarded as only approximate. See Figure C1 for a specific example of computing an approximate RSE.

Derivation of Row and Column Factors

Row and column factors are derived by an analysis of variance procedure with the table of RSE's. Although analysis of variance is used to derive row and column effects from which row and column factors are computed, this Generalized Variance procedure can not be considered an analysis of variance because the primary concern here is to determine model fit rather than to analyze the effects of row and column variables on the RSE's. The two-way model is fit separately for each log transformed RSE table and is consistent for every table in this report. Because of this consistency over all tables, the model can be written in general format as

$$\log(RSE_{i,j}) = m + r_i + c_j + e_{i,j}, \quad (6)$$

where m is the grand mean of $\log(RSE_{i,j})$ of a "balanced" table composed of I non-zero rows and J non-zero columns, r_i is the effect of the i^{th} row, c_j is the effect of the j^{th} row, and $e_{i,j}$ is the error term. Model parameters are fit by the standard formulas for Ordinary Least Squares given by Cochran and Cox.⁴² For a given table of $\log(RSE)$ estimates, point estimators of model parameters are given as

$$\begin{aligned} \hat{m} &= \frac{\sum_{i=1}^I \sum_{j=1}^J \log(RSE_{i,j})}{I \cdot J} = \overline{\log(RSE_{.,.})} \\ \hat{r}_i &= \frac{\sum_{j=1}^J \log(RSE_{i,j})}{J} - \hat{m} = \overline{\log(RSE_{i,.})} - \hat{m} \\ \hat{c}_j &= \frac{\sum_{i=1}^I \log(RSE_{i,j})}{I} - \hat{m} = \overline{\log(RSE_{.,j})} - \hat{m}. \end{aligned} \quad (7)$$

⁴²Cochran, William G., and Cox, Gertrude M. (1957), *Experimental Design* (2nd ed.), New York: John Wiley & Sons, Inc.

Figure C1. Calculation of Generalized Relative Standard Error (RSE)

Table 1. Total Primary Consumption, 1991

SIC Code	Industry Groups and Industry	Total (trillion Btu)	Net Electricity (million kWh)	Residual Fuel Oil (1000 bbls)	Distillate Fuel Oil (1000 bbls)	Natural Gas (billion cu ft)	LPG (1000 bbls)	Coal (1000 short tons)	Coke and Breeze (1000 short tons)	Other (trillion Btu)	RSE Row Factor
RSE Column Factors:		0.6	0.6	1.3	1.3	0.7	1.1	1.2	1.5	1.1	
Total United States											
20	Food and Kindred Products	956	49,536	4,317	2,968	W	1,433	6,913	W	W	7.2
2011	Meat Packing Plants	49	3,410	170	252	31	157	27	0	2	9.9
2033	Canned Fruits and Vegetables	44	1,375	290	131	35	126	Q	0	*	10.4
2037	Frozen Fruits and Vegetables	40	3,071	321	76	25	41	0	0	1	14.9
2046	Wet Corn Milling	140	4,054	29	31	51	1	3,051	W	W	11.8
2051	Bread, Cake, and Related Products	32	2,240	*	131	23	23	0	0	*	12.4
2063	Beet Sugar	67	386	W	30	18	5	1,901	W	*	5.4
2075	Soybean Oil Mills	51	1,616	42	31	25	5	592	0	7	3.5
2082	Malt Beverages	50	2,328	419	58	22	8	706	0	1	10.8
21	Tobacco Products	24	1,002	135	40	4	23	692	0	*	6.6
22	Textile Mill Products	274	29,532	1,966	1,064	105	629	1,362	0	13	7.0
23	Apparel and Other Textile Products	44	5,645	Q	142	18	159	88	0	1	17.9
24	Lumber and Wood Products	451	17,878	333	2,753	39	1,009	92	0	325	14.3
25	Furniture and Fixtures	68	4,915	184	163	18	255	157	0	26	20.1
26	Paper and Allied Products	2,506	58,896	24,883	1,593	W	1,379	13,252	W	W	4.2
2611	Pulp Mills	300	2,537	4,500	162	32	141	331	0	221	14.2
2621	Paper Mills	1,211	32,735	13,455	W	252	616	8,634	W	555	3.0
2631	Paperboard Mills	859	10,396	W	W	W	W	W	0	505	4.5
27	Printing and Publishing	108	15,629	50	318	47	181	0	0	4	12.6
28	Chemicals and Allied Products	5,486	129,093	W	2,412	2,163	W	W	423	1,019	6.1
2812	Alkalies and Chlorine	160	10,718	W	43	W	2	W	0	21	15.6
2813	Industrial Gases	W	17,854	0	7	W	W	0	0	3	13.8
2819	Industrial Inorganic Chemicals, nec	325	37,077	W	W	W	75	W	362	17	8.5
2821	Plastics Materials and Resins	636	14,780	668	192	210	W	1,074	0	W	6.4
2822	Synthetic Rubber	119	1,794	64	19	W	4,084	W	0	W	14.1
2823	Cellulosic Manmade Fibers	31	W	0	21	W	1	1,202	0	*	25.3
2824	Organic Fibers, Noncellulosic	W	6,976	W	53	W	W	W	0	1	4.0
2865	Cyclic Crudes and Intermediates	251	4,423	1,153	96	102	20,942	W	0	W	12.1
2869	Industrial Organic Chemicals, nec	2,705	15,104	1,747	502	W	W	3,819	0	784	7.0
2873	Nitrogenous Fertilizers	568	2,911	0	26	539	166	0	0	2	23.1
2874	Phosphatic Fertilizers	65	1,886	250	W	W	1	W	0	W	4.9

RSE Column (Natural Gas)
= 0.7
RSE Row (Chemicals and Allied Products)
= 6.1
Approximate RSE (Chemicals and Allied Products, Natural Gas)
= 6.1 · 0.7
= 4.3 percent
Approximate Standard Error (Chemicals and Allied Products, Natural Gas)
= (0.043) · (2,163) = 93 billion cu. ft.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, 1991 Manufacturing Energy Consumption Survey.

The row and column factors are then computed by back-transforming the estimated model parameters; that is, by taking the \log^{-1} of the model effects. This transformation yields

$$R_i = \log^{-1}(\hat{m} + \hat{r}_i) = \log^{-1}(\overline{\log(RSE_{i,\cdot})}) \quad (8)$$

$$C_j = \log^{-1}(\hat{c}_j) = \log^{-1}(\overline{\log(RSE_{\cdot,j})} - \overline{\log(RSE)})$$

For ease of presentation, the row factor includes the grand mean, m . Because of this factoring, the row factor for the i^{th} row can alternately be expressed as the geometric mean of i^{th} row:

$$R_i = \left(\prod_{j=1}^J RSE_{i,j} \right)^{\frac{1}{J}} \quad (9)$$

And, column factors, C_j , for a given table have a geometric mean equal to 1.0.

Since the MECS report presents a variety of energy-related estimates that are unique to certain industries, measures of the precision of population estimates are sometimes equal to zero or withheld from publication. When an RSE table contains a zero or withheld RSE, the table of RSE's is considered for generalization purposes to be "unbalanced". When the condition of an "unbalanced" table arises, substitute RSE estimates are inserted for these missing elements of the RSE table. Substitution of missing RSE's elements is based on an iterative procedure developed by Cochran and Cox.⁴³ A detailed description of the automated procedure used to produce the row and column factors appearing in this report can be found in Gargiullo and Goldberg.⁴⁴

Sampling Error of Proportions

The estimates in this report can be used to produce proportion statistics based on the ratio of various estimates reported in the tables. Proportions are not given in the "Detailed Statistics Tables" but can be used to clarify the analysis. A proportion is the statistic of the form

$$\hat{P} = \frac{\hat{Y}}{\hat{X}}, \quad (10)$$

where \hat{Y} and \hat{X} are survey-based estimates of aggregate parameters Y and X , respectively, and characteristic X "encompasses" characteristic Y ($Y \subset X$). That is, each population element (and, thus, each sample case) that contributes to Y also contributes to X , and the value of X for each element is greater than or equal to the value of Y .

From standard errors given by Equation (3) that are then generalized by Equation (4), the approximate RSE's of aggregate statistics can be used to produce an upper-bound on the approximate errors for proportions. The straightforward additive error formula shown in Equation (3) gives rise to a similarly straightforward upper-bound approximation to the error of an estimated proportion. The approximation can be expressed in terms of the generalized RSE's of the aggregate statistics entering into the proportion as

$$R\hat{S}E(\hat{P}) \leq \sqrt{[R\hat{S}E^2(\hat{Y}) \cdot (1 - 2 \cdot \hat{P})] + R\hat{S}E^2(\hat{X})}. \quad (11)$$

Justification for this formula is found in the MECS methodological report.

⁴³Ibid.

⁴⁴Gargiullo, P.M., and Goldberg, M.L. "A Modified Table Producing Language (TPL) for Producing Tables of Survey Statistics with Variances" *Proceedings of the Bureau of the Census Fifth Annual Research Conference*. (1989.)

Nonsampling Errors and Bias

Nonsampling errors that affect MECS sample units can be divided into four major categories:

- Operational errors, including editing, coding, and tabulation errors.
- Errors of measurement, including a lack of precision by the respondent, failure of the respondent to understand instructions, etc..
- Errors of estimation, including the assumptions underlying the derived values.
- Errors of nonobservation, including nonresponse and noncoverage.

These errors are collectively referred to as nonsampling errors because they are not related to the sampling process, and, thus, would be equally likely to occur in a complete census or a sample survey.

It is felt that operational errors are not a major concern for the estimates included in this report. The quality control procedures that were employed for check-in, editing, coding and keying the returned questionnaires (Appendix B) are standard procedures that are in place at the Bureau of the Census and have withstood the test of time. Data tabulations were independently verified by comparing marginal totals in tables generated from files supplied to EIA with corresponding totals generated directly from microdata files maintained at the Census Bureau.

Errors of measurement are a concern in any data collection activity. The survey results for the MECS were subjected to extensive computer editing procedures which were specifically designed to detect errors of measurement. Responses that failed these tests for reasonableness and consistency were recalled by analysts familiar with manufacturing processes and energy use. Major errors, including omissions and misreporting by orders of magnitude, were corrected. No editing procedure is capable of identifying all measurement errors, however, and some small errors will remain. To the extent that these errors are due to random, rather than systematic misjudgments, they are compensating in the aggregate totals presented in this report, and it is believed that there are few large systematic biases that result from them.

Errors of estimation of energy consumption could have resulted from the assumptions that underlie the derived values (see Appendix B), and the estimates of the consumption of onsite- and offsite-produced fuels and raw material inputs could be biased as a result of such errors. For example, the derivation logic makes the assumption that energy produced onsite at a manufacturing establishment is considered first as a shipped product, second as a feedstock, and lastly as a fuel. If that logic does not hold, derived estimate values will be misapportioned. However, considering the mechanisms required to produce energy onsite, it is highly probable that this logic accurately represents manufactures. These nonsampling errors, if present, are relevant only for tables in this report that are based on derived values. Estimates based upon reported values would not be subject to this potential source of bias.

Errors of estimation of energy consumption based on fuel-switching data could have resulted from the assumptions that underlie the formation of the maximum consumption estimates. Implicit in these estimates is the assumption that all potential switches at an establishment can be made simultaneously. For example, if a respondent indicates that natural gas could substitute for both distillate fuel oil and coal, the two quantities are summed together (after converting to like units) to contribute to the maximum consumption of natural gas. To the extent that one or more substitutions are constrained by the performance of another, the published maximum consumption quantities presented in Table A52 would overestimate the "true" value.

Finally, several potential sources of nonsampling error and bias result from errors of nonobservation. As described in Appendix B, the 1991 MECS represents, in terms of sampling coverage, the mail frame of the 1991 ASM or 98 percent of the manufacturing universe. Even though the MECS is a legislatively mandated survey and sampled establishments are given sufficient opportunity and time to respond, nonresponse occurs in the MECS and is accounted for in a nonresponse adjustment of sampling weights presented in Appendix B. Clearly, had these adjustments not been performed, the estimates produced from only the responding establishments would not have been representative of the target universe for the MECS. Such estimates would have been biased. Adjusting the sampling weights to reflect the target universe is an attempt to mitigate the potential effects of such a bias.

Adjustment factors are calculated for each of the 62 published strata to account for the variation of nonresponse between strata. Each stratum represents a relatively homogeneous subgrouping of establishments with respect to primary product output and level of fuel consumption. It is theorized that the MECS sampling procedure - selecting establishments based upon their relative amount of purchased electricity or fuel expenditures - would be reflected in adjustment factors using total energy costs (sum of fuel and electricity expenditures) as the control variable rather than using either purchased electricity or fuel expenditures.

Implicit in that procedure is the assumption that primary product output and level of fuel consumption are highly correlated with energy expenditure patterns, so that the establishments within a stratum would also be homogeneous with respect to the quantities, types, and shares of energy consumed as fuels and for nonfuel purposes. Also, the weight adjustment method assumes that the relationship between survey variables of interest and the control variable used for constructing the adjusted sample weight is the same for the population covered by MECS respondents within an adjustment stratum as it is for the rest of the population within that stratum.

To the extent that the nonresponding establishments within the adjustment stratum share the energy expenditure patterns of the responding establishments within the strata, the resulting adjustments to the MECS estimates will tend to be minimally biased. If, on the other hand, the energy expenditure patterns of the responding and nonresponding establishments differ substantially, the resulting adjustments are potentially biased, and the overall estimates may not accurately represent the originally targeted MECS universe.

More detailed information on sources of nonsampling error in the MECS can be found in the methodological report.

Appendix D

Comparability of MECS Estimates with Other Series

Appendix D

Comparability of MECS Estimates with Other Series

The Energy Information Administration (EIA) collects data from two distinct sources that, in their entirety, provide a comprehensive picture of energy production, marketing, and consumption in the United States.⁴⁵ One set of surveys is directed to the suppliers and marketers of specific fuels (including electricity). The second group of surveys collects comprehensive energy consumption and related data directly from end-use consumers.

Because there is a seeming correspondence between energy supplied and energy consumed, it is tempting to compare or merge their results. However, there are important differences between the supplier and end-user surveys that need to be taken into account in doing such comparisons or other analyses. This appendix discusses the relationship of the supplier surveys and the Manufacturing Energy Consumption Survey (MECS).

An Overview of EIA Surveys

The End-User Surveys

The overall purpose of the end-user surveys is to provide comprehensive baseline data on energy consumption and related characteristics for major sectors of the U.S. economy. Accordingly, the end-user surveys are conducted for the manufacturing sector, commercial buildings, residential households, and residential transportation. These surveys collect data directly from samples of the energy-consuming units comprising those sectors. The results of these end-user surveys are available in a variety of EIA publications (see Appendix I). The end-user surveys are:

- **Form EIA-457A/G, Residential Energy Consumption Survey (RECS)**—The RECS collects information on energy consumption, energy expenditures, and housing and demographic characteristics for residential households in the United States. The survey is conducted triennially using a complex area sample of residential housing units.
- **Form EIA-846A/D, Manufacturing Energy Consumption Survey (MECS)**—The MECS collects information on energy consumption, end-uses of energy, fuel-switching capabilities, energy management activities, and technology penetration for manufacturing establishments in the United States. The survey was conducted triennially beginning in 1985, and will become a biennial survey beginning with data year 1994. The MECS uses complex list sampling techniques to develop its sample of manufacturing establishments.
- **Form EIA-871A/H, Commercial Buildings Energy Consumption Survey (CBECS)**—The CBECS provides comprehensive information on the consumption of energy, energy expenditures, and energy-consuming characteristics of the commercial buildings in the United States. The survey is conducted triennially using a complex area sample of commercial buildings.
- **Form EIA-876A/E, Residential Transportation Energy Consumption Survey (RTECS)**—The RTECS collects information on the number and types of vehicles per household, annual vehicle miles traveled, Vehicle Identification Number (VIN), and vehicle characteristics. Fuel consumption, expenditures, and fuel efficiency are estimated using data from the Environmental Protection Agency, Bureau of Labor Statistics, and Lundberg Survey, Inc. The survey is conducted triennially, as a companion survey to the RECS.

⁴⁵Descriptions of all EIA data collection activities are included in Energy Information Administration, *Directory of Energy Data Collection Forms*, DOE/EIA-0449(90) (Washington, DC, January 1991).

The Supplier Surveys

The EIA conducts numerous supplier surveys. The overall purpose of these surveys is to measure the quantity of a specific fuel produced and/or supplied to the market, along with other information related to the fuel's production and supply. The results of these surveys are published in several EIA reports.⁴⁶ Among the supplier surveys⁴⁷ are:

- **Form EIA-3, Quarterly Coal Consumption Report, Manufacturing Plants**—This form collects information about coal consumption, stocks, and receipts (quantity and price) directly from manufacturing establishments and could be classified as an end-user survey. Because it collects information only on coal consumption and does not collect characteristics data, it is typically viewed as a supplier survey.
- **Form EIA-5, Quarterly Coke Plant Report**—This form provides information on the production, transfers, consumption, sales, and stocks of coal, coke, and breeze. Respondents include all establishments operating coke plants.
- **Form EIA-6, Coal Distribution Report**—Form EIA-6 surveys all U.S. companies (producers and/or distributors) that own or purchase and distribute more than 50,000 short tons of coal annually. Quarterly data are collected on coal production and purchases, distribution by consumer category, and method of transportation. At present, there are approximately 1,300 respondents to the EIA-6. The data are collected on a quarterly basis.
- **Form EIA-176, Annual Report of Natural and Supplemental Gas Supply and Disposition**—Form EIA-176 provides annual data on the consumption of natural gas as reported by natural gas and synthetic gas producers, processors, distributors, and pipeline operators. Data are collected on the consumption, disposition, movement, and supply of natural and synthetic gas.
- **Form EIA-810, Monthly Refinery Report**—Form EIA-810 provides information regarding the balance between supply (beginning stocks, receipts, and production) and disposition (input, shipments, fuel use and losses, and ending stocks) of refined petroleum products. Data are provided by all refineries and blending plants.
- **Form EIA-821, Annual Fuel Oil and Kerosene Sales Report**—Form EIA-821 provides annual data on the sales by petroleum distributors of distillate and residual fuel oil and kerosene to end-use sectors and State of destination. The survey is sent to a sample of fuel oil dealers in the 50 States and the District of Columbia.
- **Form EIA-861, Annual Electric Utility Report**—Form EIA-861 is used to survey all electric utilities in the United States. The survey collects annual data on power production and sales of electricity from approximately 3,250 electric utilities.
- **Form EIA-867, Annual Nonutility Power Producer Report**—Form EIA-867 collects annual data from nonutility power producers who own or plan to install electric generation equipment with a total capacity of five megawatts or more at an existing or proposed site. This survey collects information from the nonutility power producer on electricity generation, installed capacity, and energy consumption devoted to power production.

⁴⁶For a complete list of publications see Energy Information Administration, *EIA Publications Directory 1992*, DOE/EIA-0149(92) (Washington, DC, June 1993).

⁴⁷In order to be consistent with the 1991 MECS, the descriptions of the supplier surveys are of the 1991 versions.

Combined Results of the Supplier Surveys

In addition to supporting fuel-specific publications of EIA, the results of the supplier surveys are combined to produce estimates of total energy consumption by consuming sector. The consuming sectors consist of the commercial, residential, industrial, transportation, and electric utilities sectors. The resulting combined estimates are published by EIA in the *Monthly Energy Review* (MER), the *State Energy Data Report* (SEDR), and the *Annual Energy Review* (AER). Table D1 presents the 1991 combined industrial estimates as they appear in the MER and SEDR.

Table D1. Combined Industrial Energy Consumption Estimates and Sources of Information, 1991

Description of Energy Source	Combined Estimates (Trillion British Thermal Units)		Relevant Supplier Surveys, Publications, and Notes
	SEDR	MER	
Coal	2,600.4	2,601	Form EIA-3, "Quarterly Coal Consumption Report, Manufacturing Plants"; Form-EIA-5, "Quarterly Coke Plant Report"; Form EIA-6, "Coal Distribution Report"
Bituminous Coal and Lignite ..	2,592.3	NP	
Anthracite	8.1	NP	
Natural Gas	8,657.1	8,641	Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"
Petroleum	8,057.7	8,057	<i>Petroleum Supply Annual 1991</i> , DOE/EIA-0340
Asphalt and Road Oil	1,076.5	NP	<i>Petroleum Supply Annual 1991</i> , DOE/EIA-0340
Distillate Fuel Oil	1,139.2	NP	<i>Fuel Oil and Kerosene Sales, 1991</i> , DOE/EIA-0535(91)
Kerosene	11.4	NP	<i>Fuel Oil and Kerosene Sales, 1991</i> , DOE/EIA-0535(91)
LPG	1,749.2	NP	American Petroleum Institute, <i>1991 Sales of Natural Gas Liquids and Liquefied Refinery Gases</i>
Lubricants	166.7	NP	Bureau of the Census, <i>Current Industrial Reports</i> , "Sales of Lubricating and industrial Oils and Greases, 1977"
Motor Gasoline	193.3	NP	Federal Highway Administration, <i>Highway Statistics</i>
Residual Fuel Oil	335.9	NP	<i>Fuel Oil and Kerosene Sales, 1991</i> , DOE/EIA-0535(91)
Other	3,385.5	NP	<i>Petroleum Supply Annual 1991</i> , DOE/EIA-0340
Industrial Hydropower	32.7	33	Estimates of hydroelectric power represent the average generation over the 6-year period of 1974-1979, the last period for which data are available.
Net Imports of Coal Coke	8.9	9	Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."
Electricity	3,229.7	3,230	Form EIA-861, "Annual Electric Utility Report"
Net Energy	22,586.6	22,570	Total estimated end-use energy consumption.
Electrical System Energy Losses	7,014.1	7,022	Electrical system energy losses represent the amount of energy lost during generation, transmission, and distribution of electricity. These losses are calculated as the difference between the total heat content of energy input at electric utilities and the total heat content of electricity sold to end-use consumers.
Total Consumption	29,600.7	29,592	Total consumption including electrical system energy losses.

NP=Not published. Estimate is included in higher-level totals.

Note: Slight differences between the SEDR and MER estimates are attributable to rounding differences and to the fact that the SEDR Btu estimates are developed from State-level Btu conversion factors while MER Btu estimates are developed from national-level Btu conversion factors.

Sources: Energy Information Administration, *State Energy Data Report 1991*, DOE/EIA-0214(91) (Washington, DC, May 1993), Table 15 and Appendices A and C, and *Monthly Energy Review September 1993*, DOE/EIA-0035(93/09) (Washington, DC, September 1993), Table 2.4 and pp. 40-45.

Defining the Industrial Sector

In general, the "industrial sector" is defined as consisting of manufacturing, mining, construction, agriculture, fisheries, and forestry. The approximate SIC equivalent of the industrial sector includes major group codes 01 through 39.⁴⁸ There are a few definitional irregularities, however, that preclude a perfect mapping of the supplier surveys to that range of SIC codes. As pointed out in the MER,

although end-use allocations are made according to [the sector definitions] as closely as possible, some data are collected by using different classifications. For example, data on agricultural use of natural gas are collected and reported in the commercial sector rather than the industrial sector. Since agricultural use of natural gas cannot be identified separately, it is included in the commercial sector....[rather than the industrial sector.]⁴⁹

The allocations to the industrial sector will be discussed in more detail in the subsequent sections on individual energy sources.

Comparing the MECS and Industrial Sector Estimates

The MECS produces four separate estimates of manufacturing energy consumption, which are: (1) Total Primary Consumption of Energy for All Purposes (Table A1), (2) Total Primary Consumption of Energy for Nonfuel Purposes (Table A3), (3) Total Inputs of Energy for Heat, Power, and Electricity Generation (Table A4), and (4) Total Consumption of Offsite-Produced Energy for Heat, Power, and Electricity Generation (Table A5). The differences among those estimates are discussed in detail elsewhere in Appendix B of this report.

The combined estimates for the industrial sector published in SEDR are conceptually similar to the MECS estimates of Total Primary Consumption of Energy For All Purposes, because both series measure energy consumption as a fuel and as a raw material or feedstock. Table D2 presents a comparison of those MECS estimates and the combined industrial estimates appearing in SEDR.

Coal Consumption

The 1991 estimate of coal consumption from the MECS is 2,006 trillion British thermal units (Btu) (Table A1, Part 2) and the combined estimate published in SEDR for the industrial sector is 2,600 trillion Btu (Table D1). It is tempting to attribute that difference to the disparate coverage of the manufacturing and industrial sectors and to conclude that the difference of approximately 594 trillion Btu is due to additional consumption in the construction, mining, agriculture, forestry, and fisheries sectors. That interpretation is only partially correct, however.

Table D2 shows that the SEDR estimate of coal consumption consists of two basic components—coal consumption by coke plants, 907 trillion Btu and coal consumption by other industrial, 1,694 trillion Btu. The consumption by coke plants can be further disaggregated into consumption by furnace coke plants, 787 trillion Btu, and consumption by merchant coke plants, 120 trillion Btu.⁵⁰

The inclusion of merchant coke plants represents a major departure from the MECS. A merchant coke plant is one whose coke is produced for sale on the commercial market. According to the SIC Manual, these coke plants are classified in SIC 4925, "Mixed, Manufactured, or Liquefied Petroleum Gas Production and/or Distribution." They are classified in that industry because they produce coke oven gas as a primary product and coke as a byproduct. Since the MECS covers only the manufacturing sector (SIC 20 - 39), the merchant coke plants are excluded from the estimates of coal consumption. Deducting the quantity of coal consumed by those plants from the SEDR estimate

⁴⁸See Office of Management and Budget, *Standard Industrial Classification Manual 1987*, (Washington, DC, 1987).

⁴⁹Energy Information Administration, *Monthly Energy Review September 1993*, p. 40.

⁵⁰Energy Information Administration, *Quarterly Coal Report October-December 1992*, DOE/EIA-0121(92/4Q), (Washington, DC, May 1993), Table 48. Short tons converted to British thermal units using standard EIA conversion rates.

Table D2. A Comparison of the Components of MECS and SEDR Estimates of Energy Consumption
(Trillion British Thermal Units)

1991 Manufacturing Energy Consumption Survey Total Primary Consumption of Energy for All Purposes		1991 State Energy Data Report Industrial Sector Energy Consumption Estimates	
Energy Source Description	Estimate	Energy Source Description	Estimate
Coal	2,006	Coal	2,600.4
		<i>Coke Plants</i>	907.3
		<i>Other Industrial</i>	1,693.2
Natural Gas	6,095	Natural Gas	8,657.1
		<i>Industrial</i>	7,470.6
		<i>Lease and Plant Fuel</i>	1,186.5
Net Electricity	2,370	Electricity	3,229.7
<i>Purchased Electricity</i>	2,380	<i>Electricity Sales</i>	3,229.7
<i>Transfers In</i>	71		
<i>Generation from Nonrenewable Combustible Resources</i>	15		
<i>Electricity Sales/Transfers Out</i>	- 96		
Coke and Breeze	308	Net Imports of Coal Coke	8.9
		<i>Coke Imports</i>	27.3
		<i>Coke Exports</i>	18.4
Residual Fuel Oil	454	Residual Fuel Oil	335.9
Distillate Fuel Oil	146	Distillate Fuel Oil	1,139.2
Liquefied Petroleum Gases	1,574	Liquefied Petroleum Gases	1,749.2
Other	7,304	Asphalt and Road Oil	1,076.5
<i>Asphalt and Road Oil</i>	1,078	Lubricants	166.7
<i>Lubricants</i>	380	Kerosene	11.4
<i>Kerosene</i>	48	Finished Motor Gas	193.3
<i>Finished Motor Gas</i>	81	Other Petroleum	3,385.5
		<i>Naphtha < 401 Degrees</i>	298.9
<i>Naphtha < 401 Degrees</i>	299	<i>Other Oils ≥ 401 Degrees</i>	827.3
<i>Other Oils ≥ 401 Degrees</i>	795	<i>Special Naphthas</i>	88.0
<i>Special Naphthas</i>	134	<i>Waxes</i>	35.1
<i>Waxes</i>	41	<i>Miscellaneous Fuel & Nonfuel Products</i>	152.6
<i>Miscellaneous Nonfuel Products</i>	141	<i>Crude Oil</i>	38.9
<i>Crude Oil</i>	0	<i>Pentanes Plus</i>	294.0
<i>Pentanes Plus</i>	--	<i>Unfinished Oils</i>	- 450.2
<i>Unfinished Oils</i>	--	<i>Motor Gas Blending Compounds</i>	- 25.9
<i>Motor Gas Blending Compounds</i>	--	<i>Aviation Gas Blending Compounds</i>	- 0.1
<i>Aviation Gas Blending Compounds</i>	--	<i>Petroleum Coke</i>	700.3
<i>Petroleum Coke</i>	617	<i>Still Gas</i>	1,426.6
<i>Still Gas/Waste Gas</i>	1,399	<i>Pulping Liquor</i>	--
<i>Pulping Liquor</i>	857	<i>Wood Chips, Bark, Wood Waste</i>	--
<i>Wood Chips, Bark, Wood Waste</i>	666	<i>Net Steam/Hot Water</i>	--
<i>Net Steam/Hot Water</i>	239	<i>Miscellaneous</i>	--
<i>Miscellaneous</i>	529		
Total	20,257	Net Energy¹	22,553.9
		Electrical System Energy Losses	7,014.1
		Total¹	29,568.0

¹Excludes Industrial Hydropower.

--=Not applicable. Energy source is not included in series.

Note: Totals may not equal sum of components due to independent rounding.

Sources: The MECS estimates of major energy sources (boldface) are from Table A1 of this report. The components of the MECS estimates (italics) are from Tables A6, A16, and unpublished sources. The SEDR estimates of major energy sources (boldface) are from Energy Information Administration, *State Energy Data Report 1991*, DOE/EIA-0214(91) (Washington, DC, May 1993), Table 15. The components are from *Quarterly Coal Report October-December 1992*, DOE/EIA-0121(92/4Q) (Washington, DC, October 1992), Tables 2, 48, and 49; *Natural Gas Annual 1991*, DOE/EIA-0131(91) (Washington, DC, October 1992), Tables 16 and 17; and *Petroleum Supply Annual, Volume 1*, DOE/EIA-0340(92)/1 (Washington, DC, May 1993), Table 2. Where necessary, physical units were converted to British thermal units using the thermal conversion factors in Energy Information Administration, *Monthly Energy Review September 1993*, DOE/EIA-0035(93/09) (Washington, DC, September 1993), Appendix B.

yields 2,480 trillion Btu. The SEDR estimate of coal consumption by other industrial plants, 1,694 trillion Btu, can also be further disaggregated. Of that total quantity, 1,494 trillion Btu was consumed by manufacturing plants⁵¹ and 199 trillion Btu by the nonmanufacturing portion of the industrial sector. The nonmanufacturing portion of the industrial sector is, of course, excluded from the MECS estimate. Subtracting that quantity from the adjusted SEDR estimate results in 2,281 trillion Btu.

The remaining difference between the MECS and SEDR estimates of coal consumption (275 trillion Btu) can be accounted for by two factors. First, Form EIA-3, "Quarterly Coal Consumption Report, Manufacturing Plants," collects coal consumption information from coal gasification plants and classifies those plants in SIC 29, "Petroleum and Coal Products." The coal gasification plants are excluded from the MECS sample.⁵² Second, Form EIA-3 collects coal consumption information from electricity generating plants that are owned by manufacturing companies but are not co-located with a manufacturing establishment. Those generating facilities are defined as being a part of the manufacturing sector by Form EIA-3, but are excluded from the MECS because, according to the SIC Manual, they should be classified in SIC 4911, "Electric Services." For reasons of confidentiality, the exact values included in the SEDR estimates of coal consumption for the coal gasification plants and electricity generating plants not co-located with a manufacturing establishment cannot be shown. Suffice it to say, however, that the total of these values account for virtually all of the remaining difference of 275 trillion Btu between the MECS estimate and the adjusted SEDR estimate.

Natural Gas

The 1991 estimates for natural gas consumption for the MECS and the combined industrial estimates published in SEDR are, respectively, 6,095 and 8,657 trillion Btu. Since the SEDR estimates of natural gas come directly from estimates produced from Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Distribution," most of that discrepancy can be accounted for by the differences in the coverage of the industrial sector as defined for the EIA-176 and manufacturing sector as defined for the MECS.

- Both the 1988 and 1991 MECS samples excluded very small establishments. While it was possible to adjust the 1988 MECS estimates for that exclusion, such a procedure was not feasible for the 1991 MECS (see Appendix B). However, the 1988 adjustments indicate that the excluded small establishments would account for roughly 200 trillion Btu of natural gas consumption that was excluded from the 1991 MECS. Deducting that quantity from the SEDR estimate leaves 8,457 trillion Btu.
- The estimates of the industrial consumption included in SEDR include lease and plant fuel. Lease and plant fuel is defined as "Natural gas used in well, field, and lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors) and as fuel in natural gas processing plants."⁵³ The SIC Manual classifies those establishments in the mining sector and, as a result, they are excluded from the MECS. Lease and plant fuel consumption accounted for 1,187 trillion Btu in 1991 (Table D2), and is self-provided (i.e., not purchased). The SEDR estimate, excluding lease and plant fuel, is 7,271 trillion Btu.
- The SEDR estimate of industrial natural gas consumption also includes purchased natural gas by the mining sector. The *1987 Census of Mineral Industries*⁵⁴ indicates that the mining sector consumed 459 trillion Btu of purchased natural gas. As noted, the mining sector is excluded from the MECS. Excluding purchased natural gas by the mining sector from the SEDR estimate results in 6,812 trillion Btu.

⁵¹Energy Information Administration, *Quarterly Coal Report October - December 1992*, Table 50.

⁵²There is some question about the appropriate SIC code for coal gasification plants. According to the SIC Manual, coal gasification plants located at the mine site should be classified in SIC 1311, crude petroleum and natural gas. There is no SIC code for coal gasification plants located at sites other than the mine site. The most logical classification for such plants would be SIC 2999, products of petroleum and coal, not elsewhere classified, although a case could be made for classifying them in SIC 4925, mixed, manufactured, or liquefied petroleum gas production and/or distribution.

⁵³Energy Information Administration, *Natural Gas Annual 1991*, DOE/EIA-0131(91) (Washington, DC, October 1992), p. 250.

⁵⁴U.S. Bureau of the Census, *1987 Census of Mineral Industries, Fuels and Electric Energy Consumed*, MIC87-S-2, (Washington, D.C., December 1990), Table 2. The *Census of Mineral Industries* is conducted only every five years. The estimates for 1992 are not yet available.

The remaining difference of 717 trillion Btu between the MECS and the adjusted SEDR estimate of industrial natural gas consumption is more difficult to explain. The difference cannot be attributed to the agriculture, forestry, and fishing division (SIC 01 through 09) because those industries are excluded from both the MECS and the SEDR estimates of natural gas consumption. Specifically,

Industrial consumers are establishments engaged in a process which creates or changes raw or unfinished materials into another form or product. Generation of electricity, other than by electric utilities, is included. In general, industrial establishments would be those in Standard Industrial Classification major group codes 10 through 39.⁵⁵

The SEDR estimate of industrial natural gas consumption does include the construction industries (SIC 15 through 17), and these estimates are excluded from the MECS. The Bureau of the Census estimates that, in 1987, the total cost of natural gas and manufactured gas for the construction division was only \$303.5 million,⁵⁶ or the equivalent of approximately 100 trillion Btu. Excluding the construction industries from the SEDR estimates leaves 6,712 trillion Btu.

Finally, as noted in the above definition, the SEDR estimate (as taken from Form EIA-176) also includes the natural gas consumed in the generation of electricity by generating facilities *other than electric utilities*. Some of those generating facilities are co-located with manufacturing plants, others are owned by manufacturing operations, but not co-located with manufacturing plants, and still others are totally independent of manufacturing. In general, these generating facilities are known as nonutility power producers (NPP), and EIA collects electricity generation and related information from them using Form EIA-867, "Annual Nonutility Power Producer Report."

Many of the NPP's use natural gas as an input fuel to generate electricity. According to the results of the EIA-867, all NPP's generated 131 billion kWh⁵⁷ of electricity using 1,617 trillion Btu of natural gas as an input fuel⁵⁸ in 1991, for an efficiency rate of 28 percent.⁵⁹ All of that natural gas consumption would be included in the SEDR estimate of industrial natural gas consumption. However, the MECS includes only the natural gas consumed by those NPP's co-located with manufacturing plants. Thus, to check the comparability of the MECS and SEDR estimates of natural gas consumption, it is necessary to deduct from the SEDR estimate the quantity of natural gas consumed as a generating fuel by independent NPP's and those NPP's owned by manufacturers but not co-located with a manufacturing plant.

In 1991, manufacturers generated 125,584 million kWh of electricity from nonrenewable energy sources (Table A16). The MECS does not provide information on the quantities of input fuels consumed to generate that electricity, so it cannot be determined precisely how much of the natural gas-produced electricity reported for NPP's originated in the manufacturing sector. However, some speculation is possible.

Manufacturers consumed 3,311 trillion Btu of selected energy sources as a boiler fuel in 1991, of which 2,098 trillion Btu (63 percent) was natural gas (Table A36, Part 2). Clearly, not all of that boiler output was used to generate electricity. However, if electricity was generated in proportion to the quantities of boiler fuel, then natural gas would have accounted for 63 percent of the electricity generated, or approximately 79,800 million kWh (272 trillion Btu). That quantity of electricity would have required 982 trillion Btu of natural gas as an input fuel (assuming an efficiency rate of 28 percent). Thus, of the 1,617 trillion Btu of natural gas input for nonutility power generation reported by the EIA-867 and captured in the SEDR, 982 trillion would be accounted for by facilities covered by the MECS. The remaining 635 trillion Btu would have been consumed in facilities outside the scope of the MECS. Deducting that amount from the adjusted SEDR estimate of 6,712 trillion Btu yields 6,077 trillion Btu of natural gas, an estimate that is quite close to the MECS estimate of 6,095 trillion Btu.

⁵⁵Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," p. 7.

⁵⁶U.S. Bureau of the Census, *1987 Census of Construction Industries*.

⁵⁷Energy Information Administration, *Electric Power Annual 1991*, DOE/EIA-0348(91), (Washington, DC, February 1993), Table 70.

⁵⁸Unpublished 1991 estimate of natural gas consumption obtained by telephone from EIA's Office of Coal, Nuclear, Electric and Alternate Fuels.

⁵⁹In a perfect world, the heating value of the quantity of energy consumed to generate electricity would exactly equal the heating value of the quantity of electricity produced. Such a relationship would be 100 percent efficient. In fact, however, electricity generation is not 100 percent efficient. For example, in 1991, electric utilities consumed 29.70 quadrillion Btu of input fuels to produce 10.14 quadrillion Btu of electricity. The difference of 19.56 quadrillion Btu represents the conversion loss due to the inefficiencies inherent in the generation process. Thus, the efficiency rate for utilities is approximately 35 percent. See Energy Information Administration, *Annual energy Review 1991*, DOE/EIA-0384(91), (Washington, DC, June 1992). p. 207.

Net Electricity

The MECS provides an estimate of "net electricity," defined as the sum of purchases (2,380 trillion Btu), transfers in (71 trillion Btu), and generation from noncombustible renewable resources (15 trillion Btu), minus quantities of electricity sold or transferred out (96 trillion Btu). Thus, the MECS estimate of net electricity is 2,370 trillion Btu (Table D2).⁶⁰

The combined estimate of industrial electricity consumption published in SEDR is based on industrial sales data as reported on Form EIA-861, "Annual Electric Utility Report." The SEDR estimate is 3,230 trillion Btu. Assuming that sales by utilities equal consumption by customers, the appropriate MECS measure for comparative purposes is purchased electricity, 2,380 trillion Btu (Table A22, converted to British thermal units). Thus, the initial difference between the two estimates of purchased electricity is 850 trillion Btu.

Most of that difference can be explained by the differences in the definitions of the manufacturing and industrial sectors. Specifically, the estimate included in SEDR represents electricity sales to SIC 01 through 39, while the MECS estimate of purchased electricity is for SIC 20 through 39 only.

- The agriculture, forestry, and fishing division is represented by SIC's 01 through 09. Energy consumption estimates are not available for the entire division, but the U.S. Department of Agriculture does collect farm expenditure data for electricity. For 1991, total expenditures for electricity for agricultural production (SIC's 01 and 02) were \$2,567 million,⁶¹ or roughly 190 trillion Btu.⁶² Deducting that quantity from the SEDR estimate yields 3,040 trillion Btu of electricity.
- The mining division is represented by SIC's 10 through 14. According to the *1987 Census of Mineral Industries*, the mining division purchased 68,176 million kWh (233 trillion Btu) of electricity in 1987, the latest year for which data are available. Subtracting that quantity from the SEDR estimate of electricity results in 2,807 trillion Btu of electricity.
- The construction division is represented by SIC's 15 through 17. According to the *1987 Census of Construction Industries*, total expenditures for electricity were \$1,089 million,⁶³ or approximately 80 trillion Btu. Deducting that quantity from the SEDR estimate yields 2,727 trillion Btu.

Thus, the final difference between the MECS estimate of 2,380 trillion Btu of electricity consumption and the adjusted SEDR estimate of 2,727 trillion Btu is 347 trillion Btu. It is reasonable to hypothesize that most of that remaining difference could be accounted for by: (1) the remaining SIC's in the agriculture, forestry and fishing division for which estimates are not available, and (2) increased consumption in the mining and construction divisions between 1987 and 1991. Moreover, the estimates of electricity sales to the industrial sector do not strictly follow SIC classification criteria. The instructions for Form EIA-861 provide the following definition of the industrial sector:

The industrial sector is generally defined as manufacturing, construction, mining, agriculture, fishing, and forestry establishments, Standard Industrial Classification (SIC) codes 01-39. [For the purpose of reporting, the] utility may classify industrial service using the SIC codes or based on demand or annual usage exceeding some specified limit. The limit may be set by the utility based on the rate schedule of the utility.⁶⁴

⁶⁰The MECS uses "net electricity" as a measure of electricity consumption in order to avoid double counting. See Appendix X.

⁶¹Unpublished estimate obtained by telephone from U.S. Department of Agriculture, National Agricultural Statistics Service, Agricultural Statistics Board.

⁶²Conversion based on \$13.486 per million Btu. See Table A25.

⁶³Cost information obtained by telephone.

⁶⁴Form EIA-861, "Annual Electric Utility Report for the Reporting Period 1991," p. xi.

This situation is potentially troublesome when making comparisons between the MECS and SEDR industrial estimates of electricity. The extent to which the respondents to Form EIA-861 classify their industrial customers based on SIC codes or their industrial rate schedules is unknown. Moreover, because the industrial rate schedule may be established by the utility, the criteria are likely to be inconsistent from utility to utility. Therefore, a customer receiving an industrial rate from a utility does not guarantee that the customer is, in fact, an industrial facility. Many commercial buildings are sufficiently large to qualify for an industrial rate, and, conversely, many small industrial facilities, while not large enough to qualify for an industrial rate, would qualify for a commercial rate. Unfortunately, there is no way to quantify the impact of these alternative methods of classifying industrial customers.

Coke and Breeze

Coke and breeze are produced by heating bituminous coal in the absence of air. That process drives off the volatile constituents of the coal and produces a porous residue consisting of carbon and mineral ash, known as coal coke. Breeze is the residue from the fine screenings of coke. Coke and breeze are used primarily as a fuel in blast furnaces.

The MECS reports that 308 trillion Btu of coke and breeze was consumed by manufacturers during 1991. The SEDR combined estimate for the industrial sector reports that the net imports of coal coke (imports minus exports) was 8.9 trillion Btu.

Both of these estimates represent attempts to avoid double counting energy sources. The MECS estimates of the primary consumption of energy and the SEDR industrial estimates include the quantity of bituminous coal used to produce the coke and breeze. Therefore, including both the coal consumed as a raw material to produce coke and the resulting coke and breeze would result in double counting. Accordingly, the SEDR industrial estimates include only net imports of coal coke.

The MECS approach also attempts to avoid the double counting that would result from including coke and breeze and the bituminous coal used to produce them. The MECS consumption estimate of 308 trillion Btu of coke and breeze excludes the quantities of those energy sources that were produced and consumed on the establishment site, and, therefore, the estimates are free of *intraestablishment* double counting.⁶⁵ However, the MECS estimate still *includes* all offsite-produced (purchased and transferred in) coke and breeze, whether produced domestically or imported. Because of these different approaches, the MECS and SEDR estimates of the consumption of coke and breeze are totally incomparable.

The MECS estimate of coke and breeze consumption can be verified by reference to other EIA series. The *Quarterly Coal Report* includes estimates of the quantity of coke and breeze sold by coke plants. In 1991, total commercial sales of coke and breeze were 9,503 thousand short tons.⁶⁶ Coke and breeze are heavy-duty energy sources, and would thus be expected to be consumed primarily within the industrial sector, by manufacturers. The MECS reports the quantity of coke and breeze that was purchased by manufacturers. In 1991, those total purchases were 9,340 thousand short tons (Table A22), a value that is quite close to the sales estimate.

Residual Fuel Oil

The MECS estimate of the primary consumption of residual fuel oil for 1991 is 454 trillion Btu. The estimate appearing in SEDR for the industrial sector is 335.9 trillion Btu. The difference in these two is not only substantial, it is in the opposite direction from what would be expected. The reason for that difference is not understood.

⁶⁵For more details on removing *interestablishment* duplication from the estimates in Table A1, see Appendix B.

⁶⁶Energy Information Administration, *Quarterly Coal Report, January - March 1991, April - June 1991, July - September 1991, October - December 1991*, Table A6.

Distillate Fuel Oil

The MECS estimate of the primary consumption of distillate fuel oil for 1991 is 146 trillion Btu. The estimate for the industrial sector published in SEDR was 1,139 trillion Btu. It is reasonable to attribute the difference between the estimates (993 trillion Btu) to the additional consumption in the construction, mining, agriculture, forestry, and fisheries sectors. For example, agricultural production (SIC's 01 and 02) accounted for approximately 400 trillion Btu of diesel fuel in 1991⁶⁷, and the mining division (SIC's 10 - 14) accounted for approximately 170 trillion Btu in 1987⁶⁸. Accounting for these sectors reduces the difference between the estimates to 423 trillion Btu. The remaining discrepancy could be accounted for by the construction sector, the remainder of the agricultural sector, and growth in the mining sector between 1987 and 1991.

Liquefied Petroleum Gases (LPG)

The 1991 MECS estimate of the primary consumption of LPG was 1,574 trillion Btu. The estimate published in SEDR was 1,749 trillion Btu. In the case of LPG, the difference of approximately 175 trillion Btu reasonably may be attributed to additional consumption in the construction, mining, agriculture, forestry, and fisheries sectors.

Nonenergy Products

The MECS estimates of primary consumption include an estimate of the quantity of energy consumed to produce nonenergy products at refineries. Those products are asphalt and road oil, lubricants, naphtha < 401 degrees, other oils ≥ 401 degrees, special naphthas, waxes, and miscellaneous nonfuel products. (See Appendix B for a discussion of the rationale for including estimates of nonenergy products in the MECS.) The total energy consumption to produce those products included the MECS in 1991 was 2,868 trillion Btu. That estimate was taken from an annual summary of shipments data adjusted for inventory change as reported by petroleum refineries on Form EIA-810, "Monthly Refinery Report." The estimate appearing in SEDR for these products is 2,640 trillion Btu, or 222 trillion Btu less than the MECS estimate. That estimate is taken directly from *Petroleum Supply Annual 1991*.

The difference in the estimates is attributable to slightly different estimating approaches between the MECS and those employed to derive the estimate that appears in the *Petroleum Supply Annual*. Specifically, the MECS estimate, as noted, represents sales of the products adjusted for inventory change. These estimates are derived to show only the quantities of the nonenergy products produced and shipped from petroleum refineries. The estimates in the *Petroleum Supply Annual*, however, are specifically designed to estimate the quantities of these products supplied to the market, regardless of their origin. Thus, the estimates are derived as refinery production, plus imports, minus stock change, minus exports. Except for net imports, the estimates of nonenergy products reported in the *Petroleum Supply Annual* and those included in the MECS are comparable.

Kerosene

The MECS estimate of the primary consumption of kerosene is 48 trillion Btu, and the estimate published in SEDR is 11.4 trillion Btu. Reasons for this difference are unknown.

Finished Motor Gasoline

The MECS estimate of the primary consumption of finished motor gasoline is 81 trillion Btu and the estimate published in SEDR is 193 trillion Btu. That substantial difference may be attributable to the additional consumption in the construction, mining, agriculture, forestry, and fisheries sectors, which are excluded from the MECS estimates.

⁶⁷Unpublished estimate obtained by telephone from U.S. Department of Agriculture, National Agricultural Statistics Service, Agricultural Statistics Board.

⁶⁸U.S. Bureau of the Census, *Census of Mineral Industries, Fuels and Electric Energy Consumed*, Table 2.

Crude Oil

Crude oil inputs to refineries are excluded from the MECS except when that crude oil is consumed as a fuel. In general, the consumption of crude oil as a fuel is an extremely rare occurrence, and the MECS sample was too small to provide a reliable estimate. Accordingly, the MECS estimate of the primary consumption of crude oil is given as zero. The 1991 estimate appearing in SEDR for crude oil is 39 trillion Btu. Therefore, the two series are not comparable, but the difference is so small that it is inconsequential.

Pentanes Plus, Unfinished Oils, Gasoline Blending Compounds

In general, the MECS excludes all inputs to the refinery process in order to avoid double counting. Pentanes plus, unfinished oils, and motor gas/aviation gas blending compounds are among those inputs that are excluded. The estimates appearing in SEDR are taken directly from the *Petroleum Supply Annual*, which is specifically designed to reflect petroleum balance. Unfinished oils and blending compounds appear as negatives in the estimates included in SEDR because these products "... have entered the primary supply channels with their production not having been reported [elsewhere]."⁶⁹

Petroleum Coke and Still Gas/Waste Gas

The MECS estimates of the primary consumption of petroleum coke and still gas/waste gas for 1991 were 617 and 1,399 trillion Btu, respectively. The estimates appearing in SEDR for these energy sources were 700 and 1,427 trillion Btu. Thus, the MECS and SEDR estimates of these energy sources are quite close and judged to be comparable.

Pulping Liquor; Wood Chips, Bark, Wood Waste; Net Steam and Hot Water; and Miscellaneous Energy Sources

All of these energy sources are included in the MECS, but excluded from the industrial estimates appearing in SEDR. In the MECS, these energy sources account for 2,291 trillion Btu. These estimates are excluded from the SEDR because of a lack of consistent historical data.

Electrical System Energy Losses

The heat content of a kilowatthour of electricity, regardless of the generation process, is 3,412 Btu. That quantity represents the amount of *useful* energy contained in a kilowatthour of electricity, and is used as a conversion factor to produce the MECS estimates of end-user consumption.

Electricity production, on the other hand, is typically measured as the heat value of the energy sources that were consumed by utilities to produce electricity. On the average, fossil-fueled generating plants require about 10,352 Btu of energy to produce one kilowatthour of electricity. Nuclear steam generating plants require 10,760 Btu per kilowatthour, and geothermal generating plants require 20,997 Btu per kilowatthour.⁷⁰ These values vary from one utility to another.

Electrical system energy losses include all losses incurred in the generation, transmission, and distribution of electricity, including plant use and unaccounted for quantities. These losses are estimated in SEDR as the difference between the total of all energy input at electric utilities and the total electricity sold to end users.⁷¹

⁶⁹Energy Information Administration, *Petroleum Supply Annual 1991 Volume 1*, DOE/EIA-0340(91)1 (Washington, DC, June 1992), p. 140.

⁷⁰Energy Information Administration, *State Energy Data Report 1991*, Appendix D, p. 475.

⁷¹Energy Information Administration, *State Energy Data Report 1991*, Appendix A, p. 396.

The 1991 industrial estimates, as reported in SEDR, include electrical system energy losses of 7,014 trillion Btu. End-use consumption for the industrial sector was estimated as 3,230 trillion Btu. Thus, electric utilities consumed 10,244 (7,014 + 3,230) trillion Btu of energy to produce the 3,230 trillion Btu of electricity consumed by the industrial sector.

The MECS does not include, nor does it require an estimate of electrical system energy losses because it is designed to produce estimates of end-use consumption. However, electrical system energy losses that would be associated with manufacturing end-use consumption can easily be estimated for the MECS by multiplying the end-use consumption of purchased electricity (in Btu) by 2.0023, i.e., $(10,244 - 3,412) / 3,412 = 2.0023$. Thus, electrical system energy losses associated with the consumption of purchased electricity by the manufacturing sector would be 4,765 trillion Btu, i.e., $2.0023 \times 2,380 = 4,765$.

A Final Observation

This appendix has shown that many of the substantial differences between the MECS estimates of the primary consumption of energy and the combined estimates resulting from the supplier surveys can be reconciled by carefully reviewing the coverage and definitions of the data series involved. It should be emphasized that the differences are not an indication of the relative strengths or weaknesses of either series. Rather, the differences in the estimates simply reflect the differences in the *intents* of the end-user surveys and the supplier surveys. The overall purpose of the end-user surveys is to provide baseline energy consumption and related characteristics data for various groups of end users (manufacturers, residential housing and transportation, and commercial buildings). The overall purpose of the supplier surveys, on the other hand, is to provide baseline data on the production and supply of various fuels. To reiterate, data users should be extremely wary of attempting to compare or combine the results of the end-user and supplier surveys without careful attention to the origins and purposes of the different estimates.

Appendix E

MECS Estimates by International Standard Industrial Codes

Appendix E

MECS Estimates by International Standard Industrial Codes

The consumer demand for MECS estimates published on an alternate classification system resulted in a study on the capability of the 1991 MECS sample to produce reliable energy estimates based on the International Standard Industrial Coding system (ISIC).⁷²

In some respects, the ISIC and SIC systems classifications are similar. Each divides the manufacturing sector by economic activities. The ISIC system has 9 major groups (two-digit) that are composed from 70 industries (four-digit), while the SIC system that has been traditionally used by EIA has 20 major groups (two-digit) and over 400 industries (four-digit). The matching, at the four-digit level, of these ISIC and SIC activities enables the MECS to produce ISIC based estimates of energy consumption.

The ability to publish ISIC tables is defined by two factors: the industries publishable under the sample design of the MECS and the disclosure patterns of the current MECS tables. ISIC based energy estimates are primarily restricted for publication to those SIC estimates that are explicitly planned for under the MECS sampling plan. The ISIC system, for example, excludes SIC 2411 (Logging) from the manufacturing sector. As a result of that exclusion, the 1991 MECS estimate of consumption in the manufacturing sector must exclude SIC 2411. However, the MECS was not designed to reliably produce an independent estimate for SIC 2411, rather SIC 2411 was grouped within the major group SIC 24 (Lumber and Wood Products). Specifically, the 1991 MECS was designed to provide precise energy related estimates for 62 categories of Standard Industrial Codes (SIC):

- forty selected industries (4-digit);
- two industry groups (3-digit); and,
- twenty major industry groups (2-digit) of the manufacturing division.⁷³

To the extent that these SIC groupings match the ISIC system at the two-digit level, the MECS estimates have been tabulated on the ISIC system (See Table E1). In order for a ISIC estimate to be presented, each ISIC estimate must be comprised of a minimum proportion of the SIC estimates that were explicitly designed for the MECS, as measured by energy consumed for purposes of Heat, Power, and Electricity Generation (Table A4). That minimum proportion was 90 percent for the 1991 MECS; however, most ISIC estimates exceeded that proportion. For example, ISIC major group 31 (Food Processing, Beverages, and Tobacco) is 100 percent comprised by combining SIC 20 (Food and Kindred Products) and SIC 21 (Tobacco Products).

Disclosure analysis represents a secondary problem in developing ISIC based energy estimates. That analysis is based on a disclosure study and is mandatory under the confidentiality legislation of Title 13. Withheld estimates are a major concern when ISIC estimates are produced for public review.⁷⁴ Due to the ISIC exclusion of SIC 2411, for example, the ISIC manufacturing total has been withheld for confidentiality purposes.

⁷²Since Version 3 of the International Standard Industrial Classification system was incomplete at the time of this study, Version 2 was provided by the U.S. Bureau of the Census. Taylor Murphy, industry analyst at the Bureau of the Census, acted as the liaison for EIA.

⁷³For additional information on the sample design for the 1991 MECS, see the *Energy Information Administration* report "Development of the 1991 Manufacturing Energy Consumption Survey", DOE/EIA - 0555(92)/2.

⁷⁴"Withheld estimates" pertain to disclosures and to estimates that do not meet EIA publication standards. Disclosure will be conducted at the primary and secondary levels of the MECS.

Table E1. Manufacturing Consumption of Energy for Purposes of Heat, Power, and Electricity Generation by International Standard Industrial Codes, 1991

ISIC Code	International Industry Groups	Total (trillion Btu)
31	Food Processing, Beverages, and Tobacco	978
32	Textile and Leather	335
33	Wood and Wood Products, other than Pulp and Paper	465
34	Pulp, Paper, and Printing	2,573
35	Chemical, including Petrochemical	6,276
36	Non-Metallic Mineral Products	899
37	Iron, Steel, and Non-Ferrous Metal	2,282
38	Machinery	W
39	Miscellaneous Manufacturing Industries	W
	Total	W

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use and Integrated Statistics Division, 1991 Manufacturing Energy Consumption Survey.

W=Withheld to avoid disclosing data for individual establishments or due to lack of industry-level representation in sample design.

Appendix F

Manufacturing Energy Consumption Survey Forms

**1991 Manufacturing Energy Consumption
Survey**

Form EIA-846A

**1991 Manufacturing Energy Consumption Survey
Form EIA-846A (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846A (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846A (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846A (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846A (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846A (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846A (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846B**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846B (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846B (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846B (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846B (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846B (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846B (Continued)**

**1991 Manufacturing Energy Consumption
Survey Form EIA-846B (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846C**

**1991 Manufacturing Energy Consumption
Survey Form EIA-846C (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846C (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846C (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846C (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846C (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846C (Continued)**

**1991 Manufacturing Energy Consumption Survey
Form EIA-846C (Continued)**

Appendix G

Descriptions of Major Industrial Groups and Selected Industries

Appendix G

Descriptions of Major Industrial Groups and Selected Industries

This appendix contains descriptions of industrial groups and selected industries taken from the *Standard Industrial Classification Manual, 1987* (SIC).⁷⁵ This appendix includes descriptions of the 30 groups that comprise the strata of the Manufacturing Energy Consumption Survey. These are the 20 major industrial groups (two-digit SIC) and the 10 major energy-consuming industries (four-digit SIC). The Standard Industrial Classification system is described in Appendix B.

SIC 20—Food and Kindred Products: This major group includes establishments manufacturing foods and beverages for human consumption and certain related products such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls.

SIC 2011—Meat Packing Plants: Establishments primarily engaged in the slaughtering, for their own account or on a contract basis for the trade, of cattle, hogs, sheep, lambs, and calves for meat to be sold or to be used on the same premises in canning, cooking, curing, and freezing, and in making sausage, lard, and other products.

SIC 2033—Canned Fruits and Vegetables: Establishments primarily engaged in canning fruits, vegetables, and fruit and vegetable juices; and in manufacturing catsup and similar tomato sauces or natural and imitation preserves, jams, and jellies.

SIC 2037—Frozen Fruits and Vegetables: Establishments primarily engaged in freezing fruits, fruit juices, and vegetables. These establishments also produce important byproducts such as fresh or dried citrus pulp.

SIC 2046—Wet Corn Milling: Establishments primarily engaged in milling corn or sorghum grain (milo) by the wet process, and producing starch, syrup, oil, sugar, and byproducts such as gluten feed and meal. Also included in this industry are establishments primarily engaged in manufacturing starch from other vegetable sources (e.g., potatoes, wheat).

SIC 2051—Bread, Cake and Related Products: Establishments primarily engaged in manufacturing fresh or frozen bread and bread-type rolls and fresh cakes, pies, pastries and other similar "perishable" bakery products.

SIC 2062—Cane Sugar Refining: Establishments primarily engaged in refining purchased raw cane sugar and sugar syrup.

SIC 2063—Beet Sugar: Establishments primarily engaged in manufacturing sugar from sugar beets.

SIC 2075—Soybean Oil Mills: Establishments primarily engaged in manufacturing soybean oil, cake, and meal, and soybean protein isolates and concentrates or in processing purchased soybean oil other than into edible cooking oils.

SIC 21—Tobacco Products: This major group includes establishments engaged in manufacturing cigarettes, cigars, smoking and chewing tobacco, snuff, and reconstituted tobacco and in stemming and redrying tobacco.

SIC 22—Textile Mill Products: This major group includes establishments engaged in performing any of the following operations: (1) preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage; (2) manufacturing broadwoven fabrics, narrow woven fabrics, knit fabrics, and carpets and rugs from yarn; (3) dyeing and finishing fiber, yarn, fabrics, and knit apparel; (4) coating, waterproofing, or otherwise treating fabrics; (5) the integrated manufacture of knit apparel and other finished articles from yarn; and (6) the manufacture of felt goods, lace goods, nonwoven fabrics, and miscellaneous textiles.

⁷⁵Executive Office of the President, Office of Management and Budget, *Standard Industrial Classification Manual, 1987*, pp. 67-263.

SIC 23—Apparel and Other Textile Products: This major group, known as the cutting-up and needle trades, includes establishments producing clothing and fabricating products by cutting and sewing purchased woven or knit textile fabrics and related materials, such as leather, rubberized fabrics, plastics, and furs.

SIC 24—Lumber and Wood Products: This major group includes establishments engaged in cutting timber and pulpwood; merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in manufacturing finished articles made entirely or mainly of wood or related materials.

SIC 25—Furniture and Fixtures: This major group includes establishments engaged in manufacturing household, office, public building, and restaurant furniture; and office and store fixtures.

SIC 26—Paper and Allied Products: This major group includes establishments primarily engaged in the manufacture of pulps from wood and other cellulose fibers, and from rags; the manufacture of paper and paper board; and the manufacture of paper and paperboard into converted products, such as paper coated off the paper machine, paper bags, paper boxes, and envelopes.

SIC 2611—Pulp Mills: Establishments primarily engaged in manufacturing pulp from wood or from other materials, such as rags, linters, wastepaper, and straw.

SIC 2621—Paper Mills: Establishments primarily engaged in manufacturing paper from wood pulp and other fiber pulp, and which may also manufacture converted paper products.

SIC 2631—Paperboard Mills: Establishments primarily engaged in manufacturing paperboard, including paperboard coated on the paperboard machine, from wood pulp and other fiber pulp.

SIC 27—Printing and Publishing: This major group includes establishments engaged in printing by one or more common processes, such as letterpress, lithography (including offset), gravure, or screen; and those establishments which perform services for the printing trade, such as bookbinding and platemaking.

SIC 28—Chemicals and Allied Products: This major group includes establishments producing basic chemicals, and establishments manufacturing products by predominantly chemical processes. Establishments classified in this major group manufacture three general classes of products: (1) basic chemicals, such as acids, alkalies, salts, and organic chemicals; (2) chemical products to be used in further manufacture, such as synthetic fibers, plastics materials, dry colors, and pigments; and (3) finished chemical products to be used for ultimate consumption, such as drugs, cosmetics, and soaps; or to be used as materials or supplies in other industries, such as paints, fertilizers, and explosives.

SIC 2812—Alkalies and Chlorine: Establishments primarily engaged in manufacturing alkalies and chlorine.

SIC 2813—Industrial Gases: Establishments primarily engaged in manufacturing industrial gases (including organic) for sale in compressed, liquid, and solid forms.

SIC 2819—Industrial Inorganic Chemicals, Not Elsewhere Classified: Establishments primarily engaged in manufacturing industrial organic chemicals, excluding alkalies and chlorine, industrial gases, and inorganic pigments.

SIC 2821—Plastics Materials and Resins: Establishments primarily engaged in manufacturing synthetic resins, plastics materials, and nonvulcanizable elastomers.

SIC 2822—Synthetic Rubber: Establishments primarily engaged in manufacturing synthetic rubber by polymerization or copolymerization. An elastomer for the purpose of this classification is a rubber-like material capable of vulcanization, such as copolymers of butadiene and styrene, or butadiene and acrylonitrile, polybutadienes, chloroprene rubbers, and isobutylene-isoprene copolymers.

SIC 2823—Cellulosic Manmade Fibers: Establishments primarily engaged in manufacturing cellulosic fibers (including cellulose acetate and regenerated cellulose such as rayon by the viscose or cuprammonium process) in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on spindles, looms, knitting machines, or other textile processing equipment.

SIC 2824—Organic Fibers, Noncellulosic: Establishments primarily engaged in manufacturing manmade organic fibers, except cellulosic (including those of regenerated proteins, and of polymers or copolymers of such components as vinyl chloride, vinylidene chloride, linear esters, vinyl alcohols, acrylonitrile, ethylenes, amides, and related polymeric materials), in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on spindles, looms, knitting machines, or other textile processing equipment.

SIC 2865—Cyclic Crudes and Intermediates: Establishments primarily engaged in manufacturing cyclic organic crudes and intermediates, and organic dyes and pigments. Important products of this industry include: (1) aromatic chemicals, such as benzene, toluene, mixed xylenes naphthalene; (2) synthetic organic dyes; and (3) synthetic organic pigments.

SIC 2869—Industrial Organic Chemicals, Not Elsewhere Classified: Establishments primarily engaged in manufacturing industrial organic chemicals, excluding gum and wood chemicals, and cyclic organic crudes and intermediates, and organic dyes and pigments.

SIC 2873—Nitrogenous Fertilizers: Establishments primarily engaged in manufacturing nitrogenous fertilizer materials or mixed fertilizers from nitrogenous materials produced in the same establishment.

SIC 2874—Phosphatic Fertilizers: Establishments primarily engaged in manufacturing phosphatic fertilizer materials, or mixed fertilizers from phosphatic materials produced in the same establishment.

SIC 29—Petroleum Refining and Related Industries: This major group includes establishments primarily engaged in petroleum refining, manufacturing paving and roofing materials, and compounding lubricating oils and greases from purchased materials.

SIC 2911—Petroleum Refining: Establishments primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, and lubricants, through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking or other processes.

SIC 30—Rubber and Miscellaneous Plastics Products: This major group includes establishments manufacturing products, not elsewhere classified, from plastics, resins, and from natural, synthetic, or reclaimed rubber, gutta percha, balata, or gutta siak.

SIC 3011—Tires and Inner Tubes: Establishments primarily engaged in manufacturing pneumatic casings, inner tubes, and solid and cushion tires for all types of vehicles, airplanes, farm equipment, and children's vehicles; tiring; camelback; and tire repair and retreading materials.

SIC 308—Miscellaneous Plastics Products Not Elsewhere Classified: Establishments primarily engaged in manufacturing (1) unsupported plastics film and sheet from purchased resins or from resins produced in the same plant; (2) unsupported plastics profiles, rods, tubes, and other shapes; (3) laminated plastics plate, sheet, profiles, rods, and tubes; (4) plastics pipe; (5) Plastics bottles; (6) custom compounding of purchased plastics resins; (7) plastics plumbing fixtures; and (8) plastics products not elsewhere classified.

SIC 31—Leather and Leather Products: This major group includes establishments engaged in tanning, currying, and finishing hides and skins, leather converters, and establishments manufacturing finished leather and artificial leather products and some similar products made of other materials.

SIC 32—Stone, Clay, Glass, and Concrete Products: This major group includes establishments manufacturing flat glass and other glass products, cement, structural clay products, pottery, concrete and gypsum products, cut stone, abrasive and asbestos products, and other products from materials taken principally from the earth in the form of stone, clay, and sand.

SIC 3211—Flat Glass: Establishments primarily engaged in manufacturing flat glass. This industry also produces laminated glass, but establishments primarily engaged in manufacturing laminated glass from purchased flat glass are not included.

SIC 3221—Glass Containers: Establishments primarily engaged in manufacturing glass containers for commercial packing and bottling, and for home canning.

SIC 3229—Pressed and Blown Glass and Glassware, Not Elsewhere Classified: Establishments primarily engaged in manufacturing glass and glassware, not elsewhere classified, pressed, blown, or shaped from glass produced in the same establishment. Establishments primarily engaged in manufacturing textile glass fibers are also included in this industry. Establishments primarily engaged in the production of pressed lenses for vehicular lighting, beacons, and lanterns are also included in this industry.

SIC 3241—Cement, Hydraulic: Establishments primarily engaged in manufacturing hydraulic cement, including portland, natural, masonry, and pozzolana cements.

SIC 3274—Lime: Establishments primarily engaged in manufacturing quicklime, hydrated lime, and "dead-burned" dolomite from limestone, dolomite shells, or other substances.

SIC 3296—Mineral Wool: Establishments primarily engaged in manufacturing mineral wool and mineral wool insulation products made of such siliceous materials as rock, slag and glass, or combinations thereof.

SIC 33—Primary Metal Industries: This major group includes establishments engaged in smelting and refining ferrous and nonferrous metals from ore, pig, or scrap; in rolling, drawing, and alloying metals; in manufacturing castings and other basic metal products; and in manufacturing nails, spikes, and insulated wire and cable.

SIC 3312—Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills: Establishments primarily engaged in manufacturing hot metal, pig iron, and silvery pig iron from iron ore and iron and steel scrap; converting pig iron, scrap iron, and scrap steel into steel; and in hot-rolling iron and steel into basic shapes, such as plates, sheets, strips, rods, bars, and tubing.

SIC 3313—Electrometallurgical Products: Establishments primarily engaged in manufacturing ferrous and nonferrous metal additive alloys by electrometallurgical or metallothermic processes, including high percentage ferroalloys and high percentage nonferrous additive alloys.

SIC 3321—Gray and Ductile Iron Foundries: Establishments primarily engaged in manufacturing gray and ductile iron castings, including cast iron pressure and soil pipes and fittings.

SIC 3331—Primary Copper: Establishments primarily engaged in smelting copper from the ore, and in refining copper by electrolytic or other processes.

SIC 3334—Primary Production of Aluminum: Establishments primarily engaged in producing aluminum from alumina and in refining aluminum by any process.

SIC 3339—Primary Nonferrous Metals, Not Elsewhere Classified: Establishments primarily engaged in smelting and refining nonferrous metals, except copper and aluminum.

SIC 3353—Aluminum Sheet, Plate, and Foil: Establishments primarily engaged in flat rolling aluminum and aluminum-base alloy basic shapes, such as sheet, plate, an foil, including establishments producing welded tube.

SIC 34—Fabricated Metal Products: This major group includes establishments engaged in fabricating ferrous and nonferrous metal products such as metal cans, tinware, handtools, cutlery, general hardware, nonelectric heating apparatus, fabricated structural metal products, metal forgings, metal stampings, ordnance (except vehicles and guided missiles), and a variety of metal and wire products, not elsewhere classified.

SIC 35—Industrial Machinery and Equipment: This major group includes establishments engaged in manufacturing industrial and commercial machinery and equipment and computers.

SIC 357—Computer and Office Equipment: Establishments primarily engaged in manufacturing electronic computers; computer storage devices; computer terminals; point-of-sale devices; funds transfer devices and other calculating and accounting machines; and office machines and devices not elsewhere classified, including typewriters and word processing equipment.

SIC 36—Electronic and Other Electric Equipment: This major group includes establishments engaged in manufacturing machinery, apparatus, and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy.

SIC 37—Transportation Equipment: This major group includes establishments engaged in manufacturing equipment for transportation of passengers and cargo by land, air, and water.

SIC 3711—Motor Vehicles and Car Bodies: Establishments primarily engaged in manufacturing or assembling complete passenger automobiles, trucks, commercial cars and buses, and special purpose motor vehicles which are for highway use. This industry also includes establishments primarily engaged in manufacturing chassis and passenger car bodies.

SIC 3714—Motor Vehicle Parts and Accessories: Establishments primarily engaged in manufacturing motor vehicle parts and accessories, but not engaged in manufacturing complete motor vehicles or passenger car bodies.

SIC 38—Instruments and Related Products: This major group includes establishments engaged in manufacturing instruments (including professional and scientific) for measuring, testing, analyzing, and controlling, and their associated sensors and accessories; optical instruments and lenses; surveying and drafting instruments; hydrological, hydrographic, meteorological, and geophysical equipment; search, detection, navigation, and guidance systems and equipment; surgical, medical, and dental instruments, equipment and supplies; ophthalmic goods; photographic equipment and supplies; and watches and clocks.

SIC 39—Miscellaneous Manufacturing Industries: This major group includes establishments primarily engaged in manufacturing products not classified in any other major group.

Appendix H
Map of U.S.
Census Regions

Appendix H

Map of U.S. Census Regions

Appendix I

Metric Conversion Factors

Appendix I

Metric Conversion Factors

Data in the Energy Information Administration publications are expressed in units, such as British thermal units, barrels, cubic feet, and short tons, that historically have been used in the United States. However, because U.S. activities involve foreign nations, most of which use metric units of measure, the United States is committed to making the transition to the metric system. The metric conversion factors presented in Table I1 can be used to calculate the metric-unit equivalents of values expressed in U.S. units. For example, 500 short tons are the equivalent of 453.6 metric tons (500 short tons x 0.9071847 metric tons/short tons=453.6 metric tons).

Table I1. Metric Conversion Factors

Type of Unit	U.S. Unit	Conversion Factor	Metric Unit
Mass	Short Tons	X 0.9071847	= Metric Tons (t)
	Short Tons Uranium Oxide (U ₃ O ₈)	X 0.769	= Metric Tons Uranium (U)
	Short Tons Uranium Fluoride (UF ₆)	X 0.613	= Metric Tons Uranium (U)
	Long Tons	X 1.016	= Metric Tons(t)
	Pounds(lb)	X 0.45359237 ^a	= Kilograms(kg)
	Pounds Uranium Oxide(lb U ₃ O ₈)	X 0.384645 ^b	= Kilograms (Kg)
Volume	Ounces, Avoirdupois(oz)	X 28.34952	= Grams(g)
	Barrels of Oil(bbl)	X 0.1589873	= Cubic Meters (m ³)
	Cubic Yards(yd ³)	X 0.765555	= Cubic Meters (m ³)
	Cubic Feet(ft ³)	X 0.02831685	= Cubic Meters (m ³)
	U.S. Gallons(gal)	X 3.785412	= Liter (L)
	Ounces, Fluid(fl oz)	X 29.57353	= Milliliters (ml)
	Cubic Inches(in ³)	X 16.38706	= Milliliters (ml)
Length	Miles (mi)	X 1.609344 ^a	= Kilometers (km)
	Yards (yd)	X 0.9144 ^a	= Meters (m)
	Feet (ft)	X 0.3048 ^a	= Meters (m)
	Inches (in)	X 2.54 ^a	= Centimeters (cm)
Area	Acres	X 0.40469	= Hectares (ha)
	Square Miles (mi ²)	X 2,589988	= Square Kilometers (km ²)
	Square Yards (yd ²)	X 0.836127 4	= Square Meters (m ²)
	Square Feet (ft ²)	X 0.092903 04 ^a	= Square Meters (m ²)
	Square Inches (in ²)	X 6.45616 ^a	= Square Centimeters (cm ²)
Temperature	Degrees Fahrenheit (°F)	X 5/9 (after subtracting 32) ^a	= Degrees Celsius (°C)
Energy	British thermal units (Btu)	X 1,055.056	= Joules (J)
	Calories (cal)	X 4.1868	= Joules (J)
	Kilowatthours (kWh)	X 3.6	= Megajoules (MJ)

^aExact Conversion.

^bCalculated by the Energy Information Administration.

^cTo convert degrees Celsius (°C) to degrees Fahrenheit (°F) multiply by 9/5, then add 32.

Sources: •General Services Administration, Federal Standard 376B, *Preferred Metric Units for General Use by the Federal Government* (Washington, DC, January 27, 1993), pp. 9-11, 13, and 16. •National Institute of Standards and Technology, *Special Publications* 330, 811, and 814. •American National Standards Institute/Institute of Electrical and Electronic Engineers, ANS/IEEE Std.268-1982, pp 28 and 29. •Energy Information Administration/*Monthly Energy Review August 1993*, Appendix B, pp 161.

Appendix J
Related EIA
Publications on
Energy Consumption

Appendix J

Related EIA Publications on Energy Consumption

For information about how to obtain these publications, see the inside cover of this report. Please note that the prices quoted here are subject to change.

In addition to the reports listed below, public use data tapes and data diskettes for the residential, residential transportation, and commercial sectors are available from the National Technical Information Service (NTIS). To obtain information on how to order the tapes/diskettes, you may call NTIS at 703-487-4807, FAX number 703-321-8547. Data diskettes can also be obtained from the Office of Scientific and Technical Information (OSTI). For OSTI ordering information, call 615-576-8401.

Industrial Sector

"Energy Preview: Manufacturing Energy Consumption Survey Preliminary Estimates, 1991," *Monthly Energy Review*, September 1993, DOE/EIA-0035(93/01).

"Energy Efficiency in the Manufacturing Sector," *Monthly Energy Review* (Article), p.1, December 1992.

Manufacturing Energy Consumption Survey: Changes in Energy Intensity in the Manufacturing Sector 1980-1988, December 1991, DOE/EIA-0552(80-88). GPO Stock No. 061-003-00734-1, \$4.75.

Manufacturing Energy Consumption Survey: Manufacturing Fuel-Switching Capability 1988; September 1991, DOE/EIA-0515(88), GPO Stock No. 061-003-00720-1, \$9.00.

Manufacturing Energy Consumption Survey: Consumption of Energy, 1988; May 1991, DOE/EIA-0512(88), GPO Stock No. 061-003-00703-8, \$11.00.

Manufacturing Energy Consumption Survey: Energy Efficiency in Manufacturing, 1985; January 1990, DOE/EIA-0516(85), GPO Stock No. 061-003-00650-7, \$4.25.

Manufacturing Energy Consumption Survey: Fuel-Switching Capability, 1985; December 1988, DOE/EIA-0515(85), GPO Stock No. 061-003-00601-9, \$3.50.

Manufacturing Energy Consumption Survey: Methodological Report, 1985; November 1988, DOE/EIA-0514(85), GPO Stock No. 061-003-00595-1, \$6.00.

Manufacturing Energy Consumption Survey: Consumption of Energy, 1985; November 1988, DOE/EIA-0512(85), GPO Stock No. 061-003-00594-2, \$6.00.

"Manufacturing Sector Energy Consumption 1985 Provisional Estimates," *Monthly Energy Review* (Article), pp. vii-x, January 1987, DOE/EIA-0035(-87/01).

Report on the 1980 Manufacturing Industries' Energy Consumption Study and Survey of Large Combustors; February 1983, DOE/EIA-0358, GPO Stock No. 061-003-00293-5, \$5.00.

Industrial Energy Consumption, Survey of Large Combustors: Report on Alternate Fuel-Burning-Capabilities of Large Boilers in 1979; February 1982, DOE/EIA-0304, GPO Stock No. 061-003-0233-1, \$2.50.

Methodological Report of the 1980 Manufacturing Industries Survey of Large Combustors (EIA-463); March 1982, DOE/EIA-0306 (no GPO Stock No.).

Other Publications on the Industry Sector

Energy Consumption Series--*Derived Annual Estimates of Manufacturing Energy Consumption 1974-1988*, August 1992, DOE/EIA-0555(92)/3, GPO Stock No. 061-003-00766-0, \$7.00.

Energy Consumption Series--*Development of the 1991 Manufacturing Energy Consumption Survey*, May 1992, DOE/EIA-0555(92)/2, GPO Stock No. 061-003-00757-1, \$5.50.

Commercial Sector

Note: The name of the Nonresidential Buildings Energy Consumption Survey was changed to the Commercial Buildings Energy Consumption Survey, beginning with the 1989 survey. The survey name was also dropped from the report title at that time and subsequently.

Characteristics of Buildings

Commercial Buildings Characteristics 1992; April 1994, DOE/EIA-0246(92), GPO Stock No. 061-003-00850-0, \$28.00.

"Commercial Buildings Characteristics 1992," *Monthly Energy Review*, January 1994, DOE/EIA-0035(94/01).

Commercial Buildings Characteristics 1989; June 1991, DOE/EIA-0246(89), GPO Stock No. 061-003-00699-0, \$18.00.

Nonresidential Buildings Energy Consumption Survey: Characteristics of Commercial Buildings, 1986; September 1988, DOE/EIA-0246(86), GPO Stock No. 061-003-00580-2, \$16.00.

Nonresidential Buildings Energy Consumption Survey: Characteristics of Commercial Buildings, 1983; July 1985, DOE/EIA-0246(83), GPO Stock No. 061-003-00439-3, \$7.50.

Nonresidential Buildings Energy Consumption Survey: Characteristics of Commercial Buildings, 1983; A Supplemental Reference, DOE/EIA-M008, \$22.95. Available from the NTIS, Order No. DE-85015581.

Nonresidential Buildings Energy Consumption Survey: Fuel Characteristics and Conservation Practices; June 1981, DOE/EIA-0278, GPO Stock No. 061-003-00200-5, \$9.00.

Nonresidential Buildings Energy Consumption Survey: Building Characteristics; March 1981, DOE/EIA--0246, GPO Stock No. 061-003-00171-8, \$6.50.

Consumption and Expenditures

Commercial Buildings Consumption and Expenditures 1989; April 1992, DOE/EIA-0318(89), GPO Stock No. 061-003-00753-8, \$25.00.

Nonresidential Buildings Energy Consumption Survey: Commercial Buildings Consumption and Expenditures 1986; May 1989, DOE/EIA-0318(86), GPO Stock No. 061-003-00613-2, \$19.00.

Nonresidential Buildings Energy Consumption Survey: Commercial Buildings, Consumption and Expenditures 1983; September 1986, DOE/EIA-0318(83), GPO Stock No. 061-003-00496-2, \$13.00.

Nonresidential Buildings Energy Consumption Survey: 1979 Consumption and Expenditures, Part 1: Natural Gas and Electricity; March 1983, DOE/EIA-0318/1, GPO Stock No. 061-003-00298-6, \$9.50.

Nonresidential Buildings Energy Consumption Survey: 1979 Consumption and Expenditures, Part 2: Steam, Coal, Fuel Oil, LPG, and Total Fuels; December 1983, DOE/EIA-0318(79)/2, GPO Stock No. 061--003-00366-4, \$6.00.

Other Publications on the Commercial Sector

"Assessment of Energy Use in Multibuilding Facilities," *Monthly Energy Review*, December 1993, DOE/EIA-0035(93/12).

Energy Consumption Series--*Assessment of Energy Use in Multibuilding Facilities*, August 1993, DOE/EIA-0555(93)/1, GPO Stock No. 061-003-00817-8, \$7.50.

Energy Consumption Series--*User-Needs Study for the 1992 Commercial Buildings Energy Consumption Survey*, September 1992, DOE/EIA-0555(92)/4, GPO Stock No. 061-003-00770-8, \$8.50.

Energy Consumption Series--*Lighting in Commercial Buildings*; March 1992, DOE/EIA-0555(92)/1, GPO Stock No. 061-003-00749-0, \$6.50.

Residential Sector

Housing Characteristics

Note: The survey name was dropped from the beginning of the report title starting with the 1987 data reports.

Housing Characteristics 1990; May 1992, DOE/EIA-0314(90), GPO Stock No. 061-003-00754-6, \$23.00.

Housing Characteristics 1987; May 1989, DOE/EIA-0314(87), GPO Stock No. 061-003-00619-1, \$13.00.

Residential Energy Consumption Survey: Housing Characteristics 1984; October 1986, DOE/EIA-0314(-84), GPO Stock No. 061-003-00499-7, \$12.00.

Residential Energy Consumption Survey: Housing Characteristics, 1982; August 1984, DOE/EIA-0314(82), GPO Stock No. 061-003-00393-1, \$7.00.

Residential Energy Consumption Survey Housing Characteristics, 1981; August 1983, DOE/EIA-0314(81), GPO Stock No. 061-003-00330-3, \$6.50.

Residential Energy Consumption Survey: Housing Characteristics, 1980; June 1982, DOE/EIA-0314, GPO Stock No. 061-003-00256-1, \$11.00.

Residential Energy Consumption Survey: Characteristics of the Housing Stock and Households, 1978; February 1980, DOE/EIA-0207/2, GPO Stock No. 061-003-00093-2, \$4.25.

Residential Energy Consumption Survey: Conservation; February 1980, DOE/EIA-0207/3, GPO Stock No. 061-003-00087-8, \$6.00.

Preliminary Conservation Tables from the National Interim Energy Consumption Survey; August 1979, DOE/EIA-0193/P (no GPO Stock No.).

Characteristics of the Housing Stock and Households: Preliminary Findings from the National Interim Energy Consumption Survey; October 1979, DOE-EIA-0199/P (no GPO Stock No. available).

Consumption and Expenditures

Note: The survey name was dropped from the beginning of the report title starting with the 1987 data reports. The titles were changed to *Household Energy Consumption and Expenditures 1987, Part 1: National* and *Part 2: Regional*.

"Household Energy Consumption and Expenditures 1990," *Monthly Energy Review*, August 1993, DOE/EIA-0035(93/08).

Household Energy Consumption and Expenditures 1990; February 1993, DOE/EIA-0321/1(90), GPO Stock No. 061-003-00795-3, \$22.00.

Household Energy Consumption and Expenditures 1990; DOE/EIA-0321/2(90), GPO Stock No. 061-003-00796-1, \$21.00.

Household Energy Consumption and Expenditures 1987, Part 1: National Data; October 1989, DOE/EIA-0321/1(87), GPO Stock No. 061-003-00635-3, \$15.00. Note: Energy end-use data are included in this report.

Household Energy Consumption and Expenditures 1987, Part 2: Regional Data; DOE/EIA-0321/2(87) (no GPO Stock No. available), \$16.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1984 Through March 1985, Part 1: National Data; March 1987, DOE/EIA-0321/1(84), GPO Stock No. 061-003-00519-5, \$9.50.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1984 Through March 1985, Part 2: Regional Data; May 1987, DOE/EIA-0321/2(84), GPO Stock No. 061-003-00528-4, \$17.00. Note: Energy end-use data are included in this report.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1982 Through March 1983, Part 1: National Data; November 1984, DOE/EIA-0321/1(82), GPO Stock No. 061-003-00411-3, \$7.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1982 Through March 1983, Part 2: Regional Data; December 1984, DOE/EIA-0321/2(82), GPO Stock No. 061-003-00414-8, \$9.50.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1981 Through March 1982, Part 1: National Data; September 1983, DOE/EIA-0321/1(81), GPO Stock No. 061-003-00340-1, \$6.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1981 Through March 1982, Part 2: Regional Data; October 1983, DOE/EIA-0321/2(81), GPO Stock No. 061-003-00357-5, \$8.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1980 Through March 1981, Part 1: National Data; September 1982, DOE/EIA-0321/1(80), GPO Stock No. 061-003-00278-1, \$7.50.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1980 Through March 1981, Part 2: Regional Data; June 1983, DOE/EIA-0321/2(80), GPO Stock No. 061-003-00319-2, \$7.00.

Residential Energy Consumption Survey: 1979-1980 Consumption and Expenditures, Part 1: National Data (Including Conservation); April 1981, DOE/EIA-0262/1, GPO Stock No. 061-003-00191-2, \$6.50.

Residential Energy Consumption Survey: 1979-1980 Consumption and Expenditures, Part II: Regional Data; May 1981, DOE/EIA-0262/2, GPO Stock No. 061-003-00189-1, \$8.50.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1978 Through March 1979; July 1980, DOE/EIA-0207/5, GPO Stock No. 061-003-00131-9, \$7.50.

Single-Family Households: Fuel Oil Inventories and Expenditures: National Interim Energy Consumption Survey; December 1979, DOE/EIA-0207/1, GPO Stock No. 061-003-00075-4, \$3.50.

Other Publications on the Residential Sector

Energy Consumption Series--*User-Needs Study of the 1993 Residential Energy Consumption Survey*, September 1993, DOE/EIA-0555(93)/2, GPO 061-003-00819-4, \$13.00.

"End-Use Consumption of Residential Energy" *Monthly Energy Review* (Article), pp. vii-xiv, July 1987, DOE/EIA-0035(87/07).

Residential Energy Consumption Survey: Trends in Consumption and Expenditures 1978-1984 June 1987, DOE/EIA-0482, GPO Stock No. 061-003-00535-7, \$12.00.

Residential Conservation Measures; July 1986, SR/EEUD/86/01 (no GPO Stock No.).

An Economic Evaluation of Energy Conservation and Renewable Energy Tax Credits; October 1985, Service Report (no GPO Stock No.).

Residential Energy Consumption and Expenditures by End Use for 1978, 1980, and 1981; December 1984, DOE/EIA-0458, GPO Stock No. 061-003-00415-6, \$4.50.

Weatherization Program Evaluation, SR-EEUD-84-1; August 1984 (available from the Office of the Assistant Secretary for Conservation and Renewable Energy, Department of Energy).

Residential Energy Consumption Survey: Regression Analysis of Energy Consumption by End Use; October 1983, DOE/EIA-0431, GPO Stock No. 061-00300-347-8, \$5.00.

National Interim Energy Consumption Survey: Exploring the Variability In Energy Consumption; July 1981, DOE/EIA-0272, GPO Stock No. 061-003-00205-6, \$5.00.

National Interim Energy Consumption Survey: Exploring the Variability in Energy Consumption--A Supplement; October 1981, DOE/EIA-0272/S, GPO Stock No. 061-003-00217-0, \$4.50.

Energy Use by U.S. Households; November 1980, DOE/EIA-0248 (brochure, no GPO Stock No.).

Residential Transportation Sector

Note: The survey name was dropped from the beginning of the report title starting with the 1988 data report, and the report title changed to *Household Vehicles Energy Consumption 1988*.

Household Vehicles Energy Consumption 1991; December 1993, DOE/EIA-0464(91), GPO Stock No. 061-003-00652-3, \$14.00.

"Energy Preview: Residential Transportation Energy Consumption Survey Preliminary Estimates, 1991," *Monthly Energy Review*, January 1993, DOE/EIA-0035(93/01).

Household Vehicles Energy Consumption 1988; February 1990, DOE/EIA-0464(88), GPO Stock No. 061-003-00652-3, \$11.00.

Residential Transportation Energy Consumption Survey: Consumption Patterns of Household Vehicles 1985; April 1987, DOE/EIA-0464(85), GPO Stock No. 061-003-00521-7, \$8.50.

Residential Transportation Energy Consumption Survey: Consumption Patterns of Household Vehicles, 1983; January 1985, DOE/EIA-0464(83), GPO Stock No. 061-003-00420-2, \$4.50.

Residential Energy Consumption Survey: Consumption Patterns of Household Vehicles, Supplement: January 1981 to September 1981; February 1983, DOE/EIA-0328, GPO Stock No. 061-003-00297-8, \$4.75.

Residential Energy Consumption Survey: Consumption Patterns of Household Vehicles, June 1979 to December 1980; April 1982, DOE/EIA-0319 (no GPO Stock No.).

Cross-Sector

Energy Consumption by End-Use Sector: A Comparison of Measures by Consumption and Supply Surveys; April 6, 1990, DOE/EIA-0533 (no GPO Stock No. available), \$2.50.

Natural Gas: Use and Expenditures; April 1983, DOE/EIA-0382, GPO Stock No. 061-003-00307-9, \$5.50.

Public Use Tapes

Note: All tapes are available through the NTIS.

Residential and Residential Transportation Sectors

Residential Energy Consumption Survey: 1987 and Residential Transportation Energy Consumption Survey, 1988, Order No. PB90-501461, \$220.

Residential Energy Consumption Survey: 1984 and Residential Transportation Energy Consumption Survey, 1985; Order No. PB87-186540, \$220.

Residential Energy Consumption Survey: 1982 and Residential Transportation Energy Consumption Survey, 1983; Order No. PB85-221760, \$220.

Residential Energy Consumption Survey: Consumption and Expenditures, 1980-1981; Monthly Billing Data; Order No. PB84-166230, \$220.

Residential Energy Consumption Survey: Housing Characteristics, 1981; Consumption and Expenditures, 1981-1982; Monthly Billing Data; Order No. PB84-1-20476, \$220.

Residential Energy Consumption Survey: Housing Characteristics, Annualized Consumption and Expenditures, 1980-1981; Order No. PB83-199554, \$220.

Residential Energy Consumption Survey: Household Transportation Panel Monthly Gas Purchases and Vehicle and Household Characteristics, 6/79-9/81; Order No. PB84-162452, \$220.

Residential Energy Consumption Survey: Household Screener Survey, 1979-1980; Order No. PB82-114877, \$220.

Residential Energy Consumption Survey: Household Monthly Energy Consumption and Expenditures, 1978-1979; Order No. PB82-114901, \$220.

National Interim Energy Consumption Survey (Residential), 1978; Order No. PB81-108714, \$220.

Commercial Sector

Nonresidential Buildings Energy Consumption Survey: 1986 Data; Order No. PB90-500034, \$220.

Nonresidential Buildings Energy Consumption Survey: 1979 and 1983 Data; Order No. PB88-245162, \$220.

Public Use Diskettes

Note: Diskettes are available through the OSTI and NTIS.

Commercial Buildings Consumption and Expenditures, 1992 Data, OSTI - ASCII or dBASE format, order by title, \$10 per diskette or \$40.00 set of four. NTIS-ASCII or dBASE format, order by title, call for prices.

Commercial Buildings Characteristics 1992 Data, OSTI - ASCII or dBASE format, order by title, \$10 per diskette or \$40.00 set of four. NTIS - ASCII or dBASE format, order No. PB-94-504305, call for prices.

Residential Energy Consumption Survey 1987 Data, OSTI - ASCII or dBASE format, order by title, \$10 per diskette, \$40 set of four. NTIS - ASCII format: Order No. PB-91-505115, \$130, and dBASE format: Order No. PB-91-505107, \$130.

Commercial Buildings Energy Consumption Survey 1989 data, OSTI - ASCII format, order by title, \$10 per diskette, \$40 set of four. NTIS - ASCII format: Order No. PB92-504232, \$140.

Nonresidential Buildings Energy Consumption Survey 1986 Data, **NTIS** - ASCII format: Order No. PB91-506808, \$130.

Residential Transportation Energy Consumption Survey 1988 Data, **OTSI** - ASCII or dBASE format, order by title, \$10 per diskette, \$40 set of four.

NTIS - ASCII format: Order No. PB91-507269, dBASE format: Order No. PB91-507277, \$50 each.

Commercial End-Use Intensities (Energy Consumption Series); planned for October 1994.

Measuring Energy Efficiency in the U.S. Economy (Energy Consumption Series); planned for January 1995.

Buildings and Energy in the 1980's (Energy Consumption Series); planned for December 1994.

Commercial Buildings Energy Consumption and Expenditures 1992; planned for early 1995.

Housing Characteristics 1993; planned for early 1995.

Planned Publications

Sample Design for the Residential Energy Consumption Survey (Energy Consumption Series); planned for September 1994.

Note: The Energy Information Administration also publishes annually the *State Energy Data Report, Consumption Estimates*, DOE/EIA-0214 and the *State Energy Price and Expenditures Report*, DOE/EIA-0376; and the *Monthly Energy Review*, DOE/EIA-0035. These reports contain annual and monthly consumption information derived from EIA supply surveys.

Glossary

Anthracite: A hard, black, lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter. It is often referred to as hard coal.

Barrel: A volumetric unit of measure equivalent to 42 U.S. gallons.

Biomass: Organic (animal waste), nonfossil plant material constituting an exploitable energy source.

Bituminous Coal: A soft coal (the most common solid fossil fuel), which is high in carbonaceous matter, with a volatility greater than anthracite.

Blast Furnace: A shaft furnace in which solid fuel is burned with an air blast to smelt ore in a continuous operation.

Blast Furnace Gas: The waste combustible gas generated in a blast furnace when iron ore is being reduced with coke to metallic iron. It is commonly used as a fuel within the steel works.

Breeze: The residue from the fine screenings of crushed coke.

British Thermal Unit (Btu): The amount of energy required to raise the temperature of one pound of water one degree Fahrenheit.

Butane (C₄H₁₀): A normally gaseous, paraffinic hydrocarbon extracted from natural gas or refinery gas streams. It includes isobutane (a branch-chain configuration) and isobutane (a straight-chain configuration). It is used primarily for blending into high-octane gasoline, for residential and commercial heating, and for industrial uses, especially the manufacture of chemicals and rubber.

Butylene (C₄H₈): A normally gaseous, olefinic hydrocarbon recovered from the refinery processes, and converted to alkylate, a high-octane gasoline blending component.

Byproduct: A secondary or additional product resulting from the feedstock use of energy or the processing of nonenergy materials. For example, the more common byproducts of coke ovens are coal gas, tar, and a mixture of benzene, toluene, and xylenes (BTX).

Census Region: A geographic area defined by the Bureau of the Census, consisting of various States selected according to population size and physical location. The States are grouped into four regions:

1. Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
2. South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
3. Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.
4. West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Coal Coke: The strong, porous residue, consisting of carbon and mineral ash, which is formed when the volatile constituents of bituminous coal are driven off by heat in the absence of or with a limited supply of air. Coal coke is used primarily in blast furnaces.

Cogeneration: The production of electrical energy and another form of useful energy (such as heat or steam) through the sequential use of energy.

Coke Oven Gas: The mixture of permanent gases produced by the carbonization of coal in a coke oven at temperatures in excess of 1,000 degrees Celsius.

Consumption: The use of energy as a source of heat or power, or as an input to the manufacturing process.

Conversion Factor: A number that translates units of one system into corresponding values of another system. Conversion factors are used to translate physical units of measure for various energy sources into their Btu equivalents.

Crude Oil: A mixture of hydrocarbons that exists in a liquid state in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Crude oil is reported as liquid equivalents at the surface (excluding basic sediment and water), measured in terms of stock tank barrels of 42 U.S. gallons at atmospheric pressure, and corrected to 60 degrees Fahrenheit.

Distillate Fuel Oil: A general classification for light fuel oils distilled during the refining process. The classification includes products known as Nos. 1, 2, and 4 fuel oils; and Nos. 1, 2, and 4 diesel fuels. Distillate fuel oil is used primarily for space heating, on-and-off highway engine fuel, and electric power generation.

Embodied Energy for Electricity: See **Primary Energy**.

Energy: The capacity for doing work as measured in the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy).

Energy Source: A substance such as natural gas, coal, or electricity that supplies heat or power.

Establishment: As defined by the *1987 Standard Industrial Classification Manual*, "...an economic unit, generally at a single physical location, where business is conducted or where services or industrial operations are performed." (See **Manufacturing Establishment**).

Ethane (C₂H₆): A colorless, odorless, gaseous hydrocarbon extracted from natural gas or refinery gas streams. Ethane is used primarily as a petrochemical feedstock for the production of chemicals and plastic materials.

Ethylene (C₂H₄): A colorless, flammable, gaseous olefinic hydrocarbon recovered from natural gas and petroleum. Ethylene is used primarily as a petrochemical feedstock for numerous chemical applications and the production of consumer goods.

Expenditures: Funds spent for energy purchased and paid for, or delivered to a manufacturer during a calendar year. For the purposes of the MECS, the expenditure dollar includes State and local taxes and delivery charges.

Fossil Fuel: Any naturally occurring organic fuel, such as coal, crude oil, and natural gas.

Fuel: Any substance that can be burned to produce heat.

Fuel Use (of Energy): Use of energy in the production of heat, steam, power, or the generation of electricity.

Generation: The process of producing steam or electrical energy by transforming other forms of energy.

Geothermal Energy: Hot water or steam, extracted from reservoirs in the earth's crust, which is generally supplied to steam turbines that drive generators to produce electricity.

Hydroelectric Power: Electricity generated by a turbine driven by falling water.

Hydrogen (H₂): A colorless, odorless, highly flammable gaseous element; the lightest of all gases and the most abundant element in the universe.

Industrial Sector: A subdivision of U.S. economic activity defined by the Energy Information Administration to include manufacturing, construction, mining, agriculture, fishing, and forestry establishments.

Kilowatthour (kWh): A unit of work or energy, measured as 1,000 watts (1 kilowatt) of power expended for 1 hour. Once generated, one kWh is equivalent to 3,412 Btu.

Liquefied Petroleum Gases (LPG): Ethane, ethylene, propane, propylene, normal butane, butylene, ethane-propane mixtures, propane-butane mixtures, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw natural gas plant liquids.

Lease Condensate: A natural gas liquid recovered from gas well gas (associated and nonassociated) in lease separators or field facilities. Lease condensate consists primarily of pentanes and heavier hydrocarbons. Volumes are reported in terms of barrels of 42 U.S. gallons, at atmospheric pressure, and corrected to 60 degrees Fahrenheit.

Lease Separator: A facility located at the surface for the purposes of (1) separating casinghead gas from produced crude oil and water at the temperature and pressure conditions of the separator; and (2) separating gas from that portion of associated gas and nonassociated gas which liquefies at temperature and pressure conditions of the separator.

Lignite: A brownish-black coal of low rank with a high percentage of inherent moisture and volatile matter content. It is also referred to as brown coal.

Manufacturing Division: One of 10 fields of economic activity defined by the *Standard Industrial Classification Manual*. The manufacturing division includes all establishments engaged in the mechanical or chemical transformation of materials or substances into new products. Other divisions of the U.S. economy are agriculture, forestry, fishing, hunting, and trapping; mining; construction; transportation, communications, electric, gas, and sanitary services; wholesale trade; retail trade; finance, insurance, and real estate; personal, business, professional, repair, recreation, and other services; and public administration. The establishments in the manufacturing division constitute the universe for the MECS.

Manufacturing Establishment: An economic unit at a single physical location where mechanical or chemical transformation of materials or substances into new products are performed. These operations are generally conducted in facilities described as plants, factories, or mills, and characteristically use power-driven machines and materials-handling equipment. In addition, the assembly of components of manufactured products is considered manufacturing, as in the blending of materials such as lubricating oils, plastics, resins, or liquors. (See **Establishment**).

Motor Gasoline: A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, obtained by blending appropriate refinery streams to form a fuel suitable for use in spark-ignition engines. Motor gasoline includes both leaded and unleaded grades of finished motor gasoline, blending components, and gasohol.

Natural Gas: A mixture of hydrocarbon compounds and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with oil in natural underground reservoirs at reservoir conditions. Natural gas may be subclassified as:

1. **Associated Gas:** Free natural gas, commonly known as gas-cap gas, which overlies and is in contact with crude oil in the reservoir.
2. **Dissolved Gas:** Natural gas which is in solution with crude oil in the reservoir at reservoir conditions.
3. **Nonassociated Gas:** Free natural gas not in contact with crude oil in the reservoir.

All natural gas volumes are reported in cubic feet at a pressure base of 14.73 psia, at 60 degrees Fahrenheit.

Nonfuel Use (of Energy): Use of energy as a feedstock or raw material input.

Petroleum Coke: A solid residue, high in carbon content and low in hydrogen, which is the final product of thermal decomposition in the condensation process in cracking crude oil. Petroleum coke can yield almost pure carbon or artificial graphite suitable for the production of carbon or graphite electrodes, structural graphite, motor brushes, dry cells, and similar products.

Petrochemical Feedstock: Chemical feedstocks derived from petroleum, and used principally for the manufacture of chemicals, synthetic rubber, and a variety of plastics.

Plant: Commonly used as a synonym for an establishment. However, the term can also be used to refer to a particular process within an establishment.

Primary Energy: All energy consumed by end users, excluding electricity but including the energy consumed at electric utilities to generate electricity.

Propane (C₃H₈): A colorless, gaseous hydrocarbon extracted from natural gas or refinery gas streams. It is used primarily for residential and commercial heating and cooling, and also as a fuel for transportation. Industrial applications include use as a petrochemical feedstock.

Propylene (C₃H₆): A gaseous hydrocarbon recovered from refinery processes. Propylene is used primarily as a petrochemical feedstock.

Pulping Liquor (Black Liquor): The alkaline spent liquor removed from the digesters in the process of chemically pulping wood. After evaporation, the liquor is burned as a fuel in a recovery furnace that permits the recovery of certain basic chemicals.

Quadrillion Btu: Equivalent to 10¹⁵ Btu.

Refinery: A plant, device, or process which heats crude oil so that it separates into chemical components, which are then distilled off as more usable substances.

Relative Standard Error (RSE): A percentage measure of the precision of a survey statistic. The RSE is defined as the standard error of a survey estimate divided by the survey estimate and multiplied by 100. The standard error is the square root of the variance.

Residual Fuel Oil: The general classification for the heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations. The classification includes No. 5 (light and heavy), No. 6 (including heavy-grade, so called Bunker C oil), and Navy Special fuel oil.

Roundwood: Wood cut specifically for use as a fuel.

Short Ton: A unit of weight equal to 2,000 pounds.

Solar Energy: The radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity.

Standard Industrial Classification (SIC): A classification scheme developed by the Office of Management and Budget, which categorizes establishments into groups with similar economic activities.

Still Gas (Refinery Gas): Any form or mixture of gas produced in refineries by distillation, cracking, reforming, and other processes, the principal constituents of which are methane, hydrogen, ethane, ethylene, propane, propylene, butanes, butylene, etc. Still gas is used as a petrochemical feedstock and as a fuel in refineries.

Storage Capacity: For the purposes of the MECS, storage capacity includes any volumetric capacity (including tank tops and tank bottoms) that is on the establishment site even it is dedicated or leased for the storage of an energy source by other establishments.

Subbituminous Coal: A dull, black coal of intermediate rank between lignite and bituminous coal. Subbituminous coal, like bituminous coal, is used as a fuel.

Turbine: A machine for generating rotary mechanical power from an energy stream (such as water, steam, or hot gas). Turbines convert kinetic energy to mechanical energy through the principles of impulse and reaction, or a mixture of the two.

Waste Materials: Otherwise discarded combustible materials which, when burned, produce energy for such purposes as space heating and electric power generation. The size of the waste may be reduced by shredders, grinders, or hammermills. Noncombustible materials, if any, may be removed. The waste may be dried and then burned, either alone or in combination with fossil fuels.

Waste Oils and Tar: Petroleum-based materials that are worthless for any purpose other than fuel use.

Wind Energy: Energy present in wind motion that can be converted to mechanical energy for driving pumps, mills, and electric power generators. Wind pushes against sails, vanes, or blades radiating from a central rotating shaft.

Wood Waste: Wood byproducts used as a fuel. Included are limb wood, wood chips, bark, sawdust, forest residues, charcoal, and pulp waste.