

International Energy Annual 1997

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Preface

The *International Energy Annual* presents an overview of key international energy trends for production, consumption, imports, and exports of primary energy commodities in over 220 countries, dependencies, and areas of special sovereignty. Also included are population and gross domestic product data, as well as prices for crude oil and petroleum products in selected countries. Renewable energy reported in the *International Energy Annual* includes hydroelectric power and geothermal, solar, and wind electric power. Also included are biomass electric power for Brazil and the United States, and biomass, geothermal, and solar energy produced in the United States and not used for electricity generation.

This report is published to keep the public and other interested parties fully informed of primary energy supplies on a global basis. The data presented have been largely derived from published sources. The data have been converted to units of measurement and thermal values (Appendices E and F) familiar to the American public.

Although the Energy Information Administration (EIA) has mandatory data collection authority for collecting energy information within the United States, it has no authority to require reporting of data from foreign countries. Data for the *International Energy Annual* must be researched and collected from the most authoritative available sources outside EIA. Because EIA does not have access to the statistical surveys in other countries, it is not able to develop error estimates or revision errors such as might be developed in EIA's domestic surveys.

EIA attempts to identify and collect the best data available for foreign countries. The most authoritative sources are usually the official national statistical reports of a country. However, data from official sources are not always available. Therefore, EIA also uses data from reputable secondary sources such as the international organizations—the United Nations, the International Energy Agency, the World Bank, and others. In addition, EIA uses industry reports, academic studies, trade publications, and other sources. Typically these sources are less timely and complete than mandatory survey data for the United States collected by EIA. As a result, it usually takes EIA about two years to prepare complete energy information for all foreign countries.

Many factors beyond EIA's control affect the reliability and integrity of foreign country data. These include a country's level of economic development, commitment to statistical programs, openness with information, and other considerations.

Publication of this report is in keeping with responsibilities given the Energy Information Administration (EIA) in Public Law 95-91/Section 205(a) that states:

The Administrator shall be responsible for carrying out a central, comprehensive, and unified energy data and information program which will collect, evaluate, assemble, analyze, and disseminate data and information....

Electronic Access and Related International (Energy) Web Page

The *International Energy Annual 1997 (IEA97)* is also available on EIA's Internet site at:

<http://www.eia.doe.gov/emeu/iea/contents.html>

The *IEA97* on EIA's Internet site includes text and tables in HTML format and most of the tables are also available there to be downloaded as XLS and WK1 spreadsheets, many with data for all countries for all of the years 1980-1997. The entire *IEA97* publication is also available in PDF format on the EIA FTP site at: **<http://www.eia.doe.gov/pub/pdf/international/021997.pdf>**

The *IEA97* will also be available on the EIA CD-ROM, *Energy InfoDisc*.

Important Note: All of the data contained in the *IEA97*, as well as additional data, forecasts, and reports on international energy, are available on the **International (Energy) Web Page** on EIA's Internet site at: **<http://www.eia.doe.gov/international>** (If you would like to be notified immediately by e-mail of any updates to the annual data, go to **<http://tonto.eia.doe.gov/email/index.htm#om>** and select the first item, Annual International Energy Statistics.)

Contents

	Page
World Energy Overview	vii
1. World Energy Consumption, 1988-1997	
1.1 World Consumption of Primary Energy by Selected Country Groups, 1988-1997	3
1.2 World Petroleum Consumption, 1988-1997	5
1.3 World Dry Natural Gas Consumption, 1988-1997	8
1.4 World Coal Consumption, 1988-1997	11
1.5 World Net Hydroelectric Power Consumption, 1988-1997	14
1.6 World Net Nuclear Electric Power Consumption, 1988-1997	17
1.7 World Net Geothermal, Solar, and Wind Electric Power Consumption, 1988-1997	18
1.8 World Consumption of Primary Energy by Selected Country Groups (Btu), 1988-1997	19
2. World Energy Production, 1988-1997	
2.1 World Production of Primary Energy by Selected Country Groups, 1988-1997	23
2.2 World Crude Oil Production, 1988-1997	25
2.3 World Natural Gas Plant Liquids Production, 1988-1997	27
2.4 World Dry Natural Gas Production, 1988-1997	29
2.5 World Coal Production, 1988-1997	32
2.6 World Net Hydroelectric Power Generation, 1988-1997	34
2.7 World Net Nuclear Electric Power Generation, 1988-1997	37
2.8 World Net Geothermal, Solar, and Wind Electric Power Generation, 1988-1997	38
2.9 World Production of Primary Energy by Selected Country Groups (Btu), 1988-1997	39
3. Petroleum	
3.1 World Petroleum Supply and Disposition, 1996	43
3.2 World Output of Refined Petroleum Products, 1996	46
3.3 World Imports of Refined Petroleum Products, 1996	49
3.4 World Exports of Refined Petroleum Products, 1996	52
3.5 World Apparent Consumption of Refined Petroleum Products, 1996	55
3.6 World Crude Oil Refining Capacity, January 1, 1998	58
4. Natural Gas	
4.1 World Natural Gas Production, 1996	65
4.2 World Dry Natural Gas Supply and Disposition, 1996	67
5. Coal	
5.1 World Coal Production, 1996	73
5.2 World Anthracite Coal Production, 1988-1997	75
5.3 World Bituminous Coal Production, 1988-1997	76
5.4 World Lignite Coal Production, 1988-1997	78
5.5 World Coal Supply and Disposition, 1996	79
6. Electricity	
6.1 World Net Conventional Thermal Electricity Generation, 1988-1997	85
6.2 World Total Net Electricity Consumption, 1988-1997	88
6.3 World Net Electricity Generation by Type, 1996	91
6.4 World Electricity Installed Capacity by Type, January 1, 1997	94

7. Prices

7.1 Selected Crude Oil Prices, 1988-1998	101
7.2 World Survey of Recent Selected Petroleum Product Prices (Including Taxes)	102

8. Energy Reserves

8.1 World Crude Oil and Natural Gas Reserves, January 1, 1998	107
8.2 World Estimated Recoverable Coal	110

Appendices

A. Geographical and Organizational Definitions	115
B. World Population and Gross Domestic Product, 1988-1997	
B1 World Population, 1988-1997	121
B2 World Gross Domestic Product at Market Exchange Rates, 1988-1997	125
C. Conversion Factors and Heat Contents	
C1 General Conversion Factors	131
C2 Barrels of Crude Oil Per Metric Ton, 1988-1997	132
C3 Gross Heat Content of Crude Oil, 1988-1997	134
C4 Gross Heat Content of Natural Gas Plant Liquids, 1988-1997	136
C5 Gross Heat Content of Dry Natural Gas, 1988-1997	138
C6 Gross Heat Content of Coal, 1988-1997	141
C7 Gross Heat Content of Hydroelectric Power, 1988-1997	143
C8 Gross Heat Content of Nuclear Electric Power, 1988-1997	146
C9 Gross Heat Content of Geothermal Electric Power, 1988-1997	147
C10 Gross Heat Content of Solar and Wind Electric Power, 1988-1997	148
D. Oil and Gas Market Chronology: 1997	151
E. World Energy Consumption (Btu), 1988-1997	
E1 World Primary Energy Consumption (Btu), 1988-1997	189
E2 World Petroleum Consumption (Btu), 1988-1997	191
E3 World Dry Natural Gas Consumption (Btu), 1988-1997	194
E4 World Coal Consumption (Btu), 1988-1997	197
E5 World Net Hydroelectric Power Consumption (Btu), 1988-1997	200
E6 World Net Nuclear Electric Power Consumption (Btu), 1988-1997	203
E7 World Net Geothermal, Solar, and Wind Electric Power Consumption (Btu), 1988-1997	204
F. World Energy Production (Btu), 1988-1997	
F1 World Primary Energy Production (Btu), 1988-1997	207
F2 World Crude Oil Production (Btu), 1988-1997	209
F3 World Natural Gas Plant Liquids Production (Btu), 1988-1997	211
F4 World Dry Natural Gas Production (Btu), 1988-1997	213
F5 World Coal Production (Btu), 1988-1997	216
F6 World Net Hydroelectric Power Generation (Btu), 1988-1997	218
F7 World Net Nuclear Electric Power Generation (Btu), 1988-1997	221
F8 World Net Geothermal, Solar, and Wind Electric Power Generation (Btu), 1988-1997	222
G. World Production of Crude Oil, Natural Gas Plant Liquids (NGPL), Other Liquids, and Refinery Processing Gain	
G1 World Production of Crude Oil, NGPL, and Other Liquids, 1988-1997	225
G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1988-1997	227
G3 World Oil Supply from Refinery Processing Gain and Other Liquids, 1996	230
H. World Carbon Dioxide Emissions, 1988-1997	
H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1988-1997	235
H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1988-1997	237
H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1988-1997	240
H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1988-1997	243
Glossary	249

WORLD ENERGY OVERVIEW

The *International Energy Annual* presents information and trends on world energy production and consumption for petroleum, natural gas, coal, and electricity. Production and consumption data are reported in standard units as well as British thermal units (Btu). Trade and reserves are shown for petroleum, natural gas, and coal. Data are provided on crude oil refining capacity and electricity installed capacity by type. Prices are included for selected crude oils and for refined petroleum products in selected countries. Population and Gross Domestic Product data are also provided.

(Note: In the discussion that follows, data for geothermal, solar, and wind electric power, in both kilowatthours and British thermal units (Btu), include biomass electric power for the United States and Brazil. The 1990-1997 data for total production of primary energy also include between 2.1 and 2.4 quadrillion Btu of biomass, geothermal energy, and solar energy produced in the United States and not used for electricity generation.)

World Primary Energy Production Trends

Between 1988 and 1997, the world's total output of primary energy--petroleum, natural gas, coal, and electric power (hydro, nuclear, geothermal, solar, and wind)--increased at an average annual rate of 1.4 percent (Table 2.9). World production increased from 336 quadrillion Btu in 1988 to 381 quadrillion Btu in 1997.

In 1997, petroleum (crude oil and natural gas plant liquids) continued to be the world's most important primary energy source, accounting for 39.5 percent, or 151 quadrillion Btu, of world primary energy production (Table 2.9). Between 1988 and 1997, petroleum production increased by 9.0 million barrels per day, or 14.2 percent, rising from 63.2 to 72.2 million barrels per day (Tables 2.2 and 2.3). The Middle East had the largest production gain, followed by Central and South America, and Western Europe. Their combined gains over the period from 1988 to 1997 were 11.1 million barrels per day. In North America, and in the Eastern Europe and Former U.S.S.R. region, average daily

production fell by 0.4 and 5.4 million barrels per day, respectively.

Coal ranked second as a primary energy source in 1997, accounting for 24.2 percent of world primary energy production (Table 2.9). World coal production totaled 5.22 billion short tons--92 quadrillion Btu--in 1997, but it was down by 0.3 percent from the 1988 level of 5.23 billion short tons (Tables 2.1 and 2.9).

Dry natural gas ranked third as a primary energy source, accounting for 22.1 percent of world primary energy production in 1997 (Table 2.9). Production of dry natural gas was 82 trillion cubic feet, or 84 quadrillion Btu, in 1997 (Tables 2.1 and 2.9). Production increased by 11.9 trillion cubic feet from 69.8 trillion cubic feet in 1988, a gain of 17 percent

Hydro, nuclear, and other (geothermal, solar, and wind) electric power generation ranked fourth, fifth, and sixth, respectively, as primary energy sources in 1997, accounting for 6.9, 6.3, and 0.5 percent, respectively, of world primary energy production (Table 2.9). Together they accounted for a combined total of 4.9 trillion kilowatthours--52 quadrillion Btu--in 1997 (Tables 2.1 and 2.9). Nuclear electric power generation increased significantly between 1988 and 1997, rising from 1.8 trillion kilowatthours to 2.3 trillion kilowatthours, a 26.4-percent increase. Geothermal, solar, and wind electric power generation also increased significantly over the same period, rising from 35 billion kilowatthours to 131 billion kilowatthours, a 276-percent increase. (Note: Part of this increase is a result of a discontinuity in the geothermal, solar, and wind electric power time series for the United States between 1989 and 1990. Beginning in 1990, the generation of biomass, geothermal, solar, and wind electric power by nonutility power producers is included.) Hydroelectric power continued to represent the largest share of primary electric power generation contributing 2.5 trillion kilowatthours in 1997, up 20.4 percent from 2.1 trillion kilowatthours in 1988.

In 1997, the 2.1 quadrillion Btu of biomass, geothermal energy, and solar energy produced in the United States and not used for generating electricity accounted for about 0.6 percent of world primary energy production.

Major Energy Producers and Consumers

In 1997, three countries--the United States, Russia, and China--were the leading producers and consumers of world energy (Tables F1 and E1). These three countries produced 39 percent and consumed 41 percent of the world's total energy.

The United States, Russia, China, Saudi Arabia, and Canada were the world's five largest producers of energy in 1997, supplying 49.3 percent of the world's total energy (Table F1). The next five leading producers of primary energy were the United Kingdom, Iran, Venezuela, Norway, and India, and together they supplied an additional 13 percent of the world's total energy. The United States supplied 72.3 quadrillion Btu of primary energy, significantly more than the 40.9 quadrillion Btu produced by Russia or the 36.2 quadrillion Btu produced by China.

The United States, China, Russia, Japan, and Germany were the world's five largest consumers of primary energy in 1997, accounting for 50.8 percent of world energy consumption (Table E1). They were followed by Canada, India, the United Kingdom, France, and Italy, which together accounted for an additional 13.6 percent of world energy consumption. The United States consumed 94.2 quadrillion Btu, more than two and one-half times as much as the 36.6 quadrillion Btu consumed by China, while Russia consumed 26.6 quadrillion Btu.

Regional Energy Production and Consumption

Comparisons of energy production and consumption by region help to highlight key energy trends since 1988. In North America, the overall production of energy rose by 11.9 quadrillion Btu between 1988 and 1997 (Table F1). The supply of natural gas and coal increased significantly, by 4.4 quadrillion Btu and 2.7 quadrillion Btu, respectively, more than offsetting a 1.9-quadrillion-Btu decrease in crude oil production (Tables F4, F5, and F2). Energy consumption in North America increased by 16.3 quadrillion Btu between 1988 and 1997, the second largest increase for any region (Table E1). The largest North American increases occurred in the consumption of natural gas, 4.9 quadrillion Btu, petroleum, 2.9 quadrillion Btu, and coal, 2.6 quadrillion Btu (Tables E3, E2, and E4).

Overall production of energy in the Central and South America region increased by 8.9 quadrillion Btu between 1988 and 1997, led by increases in crude oil production, 5.3 quadrillion Btu, hydroelectric power generation, 1.7 quadrillion Btu, and natural gas production, 1.2 quadrillion Btu (Tables F1, F2, F6, and F4). Energy consumption in the Central and South America region increased by 5.1 quadrillion Btu over the same period (Table E1). The largest increases occurred in the consumption of petroleum, 2.1 quadrillion Btu, hydroelectric power, 1.7 quadrillion Btu, and natural gas, 1.2 quadrillion Btu (Tables E2, E5, and E3).

Energy production in Western Europe, which had fluctuated in a narrow range between 1988 and 1992, finally began to grow in 1993 (Table F1). In 1997, the level was 4.8 quadrillion Btu higher than in 1988. Gains between 1988 and 1997 were greatest for crude oil, 4.7 quadrillion Btu, natural gas, 3.1 quadrillion Btu, and nuclear electric power generation, 1.8 quadrillion Btu (Tables F2, F4, and F7). These increases more than offset a decrease of 5.0 quadrillion Btu in coal production (Table F5). Western European energy consumption increased by 5.5 quadrillion Btu between 1988 and 1997 (Table E1). The increase was led by natural gas, 4.6 quadrillion Btu, petroleum, 3.2 quadrillion Btu, and nuclear electric power, 1.8 quadrillion Btu, which together more than offset a sharp, 4.1-quadrillion-Btu drop in coal consumption (Tables E3, E2, E6, and E4).

Between 1988 and 1997, both energy production and energy consumption in the Eastern Europe and Former U.S.S.R. region declined by more than 24 quadrillion Btu (Tables F1 and E1). As a result, this was the only region to experience declines in either total energy production or consumption over the period. The 25.2-quadrillion-Btu decline in energy production was concentrated in crude oil, 11.4 quadrillion Btu, coal, 8.7 quadrillion Btu, and natural gas, 4.7 quadrillion Btu (Tables F1, F2, F5, and F4). The 24.2-quadrillion-Btu decline in energy consumption included declines in petroleum, 10.3 quadrillion Btu, coal, 8.2 quadrillion Btu, and natural gas, 5.4 quadrillion Btu (Tables E1, E2, E4, and E3).

Since 1988, energy production in the Middle East increased by 15.9 quadrillion Btu, the second largest increase for any region (Table F1). The increase was concentrated in crude oil, 12.4 quadrillion Btu, and natural gas, 2.9 quadrillion Btu (Tables F2 and F4). The increase in energy consumption in the Middle East between 1988 and 1997 was much smaller, only 4.8 quadrillion Btu (Table E1). The largest consumption increases were in natural gas, 2.5 quadrillion Btu, and petroleum, 2.2 quadrillion Btu (Tables E3 and E2).

Energy production in Africa increased by 6.8 quadrillion Btu between 1988 and 1997, led by increases in the production of crude oil, 4.2 quadrillion Btu, and natural gas, 1.4 quadrillion Btu (Tables F1, F2, and F4). Energy consumption in Africa grew more slowly over the same period, rising by only 2.2 quadrillion Btu, with petroleum consumption accounting for 1.3 quadrillion Btu of the increase and natural gas for 0.6 quadrillion Btu (Tables E1, E2, and E3).

The largest regional increase in primary energy production between 1988 and 1997 occurred in the Far East and Oceania region, where production increased by 22.5 quadrillion Btu (Table F1). 55 percent of this increase, 12.4 quadrillion Btu, was accounted for by coal production, with smaller contributions from natural gas, 4.1 quadrillion Btu, and crude oil, 2.7 quadrillion Btu (Tables F5, F4, and F2). Consumption in this region increased by 33 quadrillion Btu over the same period, also the largest increase for any region (Table E1). 78 percent of this increase occurred in the combined consumption of petroleum, 14.5 quadrillion Btu, and coal, 11.4 quadrillion Btu (Tables E2 and E4). At the same time, natural gas consumption increased by 4.2 quadrillion Btu (Table E3).

Petroleum

Global production of petroleum (crude oil and natural gas plant liquids) increased by 9.0 million barrels per day between 1988 and 1997, an average annual rate of growth of 1.5 percent (Tables 2.2 and 2.3). Saudi Arabia, the United States, and Russia were the three largest producers of petroleum in 1997. Together, they produced 32.8 percent of the world's petroleum. Production from Iran and Venezuela accounted for an additional 10.0 percent.

In 1997, the United States consumed 18.6 million barrels per day of petroleum--almost 26 percent of world consumption (Table 1.2). Japan ranked a distant second in consumption, with 5.7 million barrels per day, followed by China, Germany, and Russia.

Natural Gas

World production of dry natural gas increased by 11.9 trillion cubic feet, or at an average annual rate of 1.8 percent, over the period from 1988 to 1997 (Table 2.4). Russia was the leading producer in 1997 at 20.2 trillion cubic feet, followed by the United States at 18.9 trillion cubic feet. Together these two countries produced 48 percent of the world total. Canada ranked a distant third

in production at 5.9 trillion cubic feet, followed by the United Kingdom and the Netherlands, with 3.2 and 3.0 trillion cubic feet, respectively. These three countries accounted for 15 percent of the world total.

In 1997, the United States, which was the leading consumer of dry natural gas at 22.0 trillion cubic feet, and Russia, which ranked second at 13.4 trillion cubic feet, together accounted for 43 percent of world consumption (Table 1.3). Germany ranked a distant third in consumption, with 3.4 trillion cubic feet, followed by the United Kingdom and Canada, at 3.2 and 3.0 trillion cubic feet, respectively.

Coal

Coal was the only primary energy source to experience a production decline between 1988 and 1997 (Table 2.5). Production decreased by 16 million short tons over the period. China was the leading producer in 1997 at 1.55 billion short tons--equivalent to 26.6 quadrillion Btu (Tables 2.5 and F5). The United States was the second leading producer in 1997 with 1.09 billion short tons--equivalent to 23.2 quadrillion Btu. India ranked a distant third at 329 million short tons--equivalent to 6.0 quadrillion Btu, followed by Australia, at 293 million short tons--equivalent to 5.4 quadrillion Btu, and Russia at 288 million short tons--equivalent to 4.7 quadrillion Btu. Together, these five countries accounted for 68 percent of world coal production in 1997 (Table 2.5).

China was also the largest consumer of coal in 1997, using 1.53 billion short tons, followed by the United States, which consumed 1.03 billion short tons, India, Russia, and Germany (Table 1.4). These five countries together accounted for 66 percent of world coal consumption.

Hydroelectric Power

The generation of hydroelectric power increased by 430 billion kilowatthours between 1988 and 1997, or at an average annual rate of 2.1 percent (Table 2.6). The United States, Canada, Brazil, China, and Russia, were the five largest producers of hydroelectric power in 1997. Their combined hydroelectric power generation accounted for 51 percent of the world total. The United States led the world with 356 billion kilowatthours or 3.7 quadrillion Btu (Tables 2.6 and F6). Canada was a close second with 348 billion kilowatthours or 3.6 quadrillion Btu. Brazil ranked third with 276 billion kilowatthours or 2.9 quadrillion Btu. China was fourth with 175 billion kilowatthours or 1.8 quadrillion Btu, followed by Russia with 151 billion kilowatthours or 1.6 quadrillion Btu.

Nuclear Electric Power

The generation of nuclear electric power increased by 473 billion kilowatthours between 1988 and 1997, or at an average annual rate of 2.6 percent (Table 2.7). The United States led the world in nuclear electric power generation in 1997 with 629 billion kilowatthours or 6.7 quadrillion Btu (Tables 2.7 and F7). France was second with 374 billion kilowatthours or 3.9 quadrillion Btu and Japan ranked third with 306 billion kilowatthours or 3.1 quadrillion Btu. In 1997, these three countries generated 58 percent of the world's nuclear electric power (Table 2.7).

Geothermal, Solar, and Wind Electric Power

The generation of geothermal, solar, and wind electric power increased by 96 billion kilowatthours between 1988 and 1997, or at an average annual rate of 16 percent (Table 2.8). (Note: Part of this increase is a result of a discontinuity in the geothermal, solar, and wind electric power time series for the United States between 1989 and 1990. Beginning in 1990, the generation of biomass, geothermal, solar, and wind electric power by nonutility power producers is included.) The United States led the world in geothermal, solar, and wind electric power generation in 1997 with 86.8 billion kilowatthours. Brazil was second with 9.4 billion kilowatthours, followed by the Philippines with 5.9 billion kilowatthours, Mexico with 5.2 billion kilowatthours, and Italy with 4.5 billion kilowatthours. These five countries accounted for 85 percent of the world geothermal, solar, and wind electric power generation in 1997.

Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels

Total world carbon dioxide emissions from the consumption of petroleum, natural gas, and coal, and the flaring of natural gas increased from 5.808 billion metric tons of carbon in 1988 to 6.232 billion metric tons in 1997, or by 7.3 percent (Table H1). (**Note: Carbon dioxide emissions are measured here in metric tons of carbon. Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667.** One ton

of carbon equals 3.667 tons of carbon dioxide gas.) The United States, China, Russia, Japan, and India were the world's five largest sources of carbon dioxide emissions from the consumption and flaring of fossil fuels in 1997, producing 52 percent of the world total. The next five leading producers of carbon dioxide emissions from the consumption and flaring of fossil fuels were Germany, the United Kingdom, Canada, South Korea (listed as Korea, South in Table H1) and Italy, and together they produced an additional 12 percent of the world total. In 1997, total United States carbon dioxide emissions from the consumption and flaring of fossil fuels were 1.488 billion metric tons of carbon, about one and four-fifths as much as the 822 million metric tons produced by China, while Russia produced 422 million metric tons.

In 1997, the consumption of petroleum was the world's primary source of carbon dioxide emissions from the consumption and flaring of fossil fuels, accounting for more than 42 percent of the total (Tables H2 and H1). Between 1988 and 1997 emissions from the consumption of petroleum increased by 197 million metric tons, or 8 percent, rising from 2.446 to 2.643 billion metric tons. The United States was the largest producer of carbon dioxide from the consumption of petroleum in 1997 and accounted for 24 percent of the world total. Japan was the second largest producer, followed by China, Russia, and Germany, and together these four countries accounted for an additional 21 percent.

Coal ranked second as a source of carbon dioxide emissions from the consumption and flaring of fossil fuels in 1997, accounting for more than 37 percent of the total (Tables H4 and H1). World carbon dioxide emissions from the consumption of coal totaled 2.330 billion metric tons of carbon in 1997, up 1.7 percent from the 1988 level of 2.291 billion metric tons. China and the United States were the two largest producers of carbon dioxide from the consumption of coal in 1997 and together they accounted for 51 percent of the world total. India, Russia, and Germany accounted for an additional 15 percent.

Carbon dioxide emissions from the consumption and flaring of natural gas accounted for the remaining 20 percent of carbon dioxide emissions from the consumption and flaring of fossil fuels in 1997 (Tables H3 and H1). Emissions from the consumption and flaring of natural gas increased from 1.071 billion metric tons of carbon in 1988 to 1.259 billion metric tons in 1997, or by 18 percent. The United States and Russia were the two largest producers of carbon dioxide from the consumption and flaring of natural gas in 1997 and together they accounted for 42 percent of the world total. The United Kingdom, Canada, and Germany accounted for an additional 11 percent.

Section 1

World Energy Consumption, 1988-1997

Table 1.1 World Consumption of Primary Energy by Selected Country Groups, 1988 - 1997

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Petroleum (thousand barrels per day)										
World Total.....	64,819	65,917	65,977	66,567	66,736	66,988	68,302	69,888	71,322	73,008
OECD. ²	40,238	40,881	40,917	41,400	42,414	42,983	44,170	44,951	46,074	46,672
Non OECD.....	24,581	25,036	25,059	25,167	24,321	24,006	24,132	24,937	25,248	26,336
Other Groups:.....										
OECD Europe.....	13,291	13,359	13,368	13,827	14,073	14,140	14,226	14,756	14,964	15,145
OPEC ³	4,034	4,210	4,391	4,480	4,633	4,909	5,051	5,227	5,282	5,439
EU. ⁴	11,841	11,928	11,957	12,443	12,631	12,481	12,577	13,052	13,129	13,270
IEA ⁵	37,595	38,041	37,922	38,216	38,926	39,118	40,043	40,708	41,566	41,987
Natural Gas (trillion cubic feet)										
World Total.....	69.57	72.52	72.96	74.52	74.45	76.69	76.37	78.24	82.07	81.64
OECD. ²	34.24	35.87	35.88	37.23	37.91	39.65	40.55	42.67	45.02	44.98
Non OECD.....	35.33	36.65	37.08	37.30	36.53	37.04	35.82	35.58	37.06	36.67
Other Groups:.....										
OECD Europe.....	10.52	11.06	11.08	11.92	11.77	12.76	12.79	13.81	15.22	15.08
OPEC ³	5.15	5.56	5.48	5.58	6.09	6.43	6.88	7.31	7.97	8.37
EU. ⁴	9.49	9.91	10.00	10.85	10.70	11.39	11.44	12.26	13.47	13.33
IEA ⁵	32.77	34.37	34.41	35.72	36.38	37.87	38.69	40.62	42.66	42.49
Coal (million short tons)										
World Total.....	5,283	5,278	5,258	5,004	5,000	4,982	5,070	5,134	5,240	5,269
OECD. ²	2,469	2,490	2,415	2,296	2,243	2,290	2,292	2,282	2,322	2,382
Non OECD.....	2,814	2,788	2,843	2,708	2,757	2,692	2,778	2,853	2,918	2,888
Other Groups:.....										
OECD Europe.....	1,243	1,254	1,181	1,060	983	995	975	939	922	934
OPEC ³	8	10	8	8	10	13	15	15	21	19
EU. ⁴	909	925	894	770	705	654	634	604	577	581
IEA ⁵	2,156	2,193	2,162	2,040	2,000	1,976	1,976	1,968	1,993	2,043
Hydroelectric Power (billion kilowatthours)										
World Total.....	2,138.1	2,096.2	2,179.0	2,228.3	2,234.6	2,368.3	2,387.8	2,514.6	2,543.9	2,557.7
OECD. ²	1,199.8	1,144.1	1,183.3	1,205.6	1,197.9	1,270.3	1,226.4	1,311.2	1,353.8	1,358.7
Non OECD.....	938.4	952.2	995.7	1,022.7	1,036.7	1,098.0	1,161.4	1,203.4	1,190.1	1,199.0
Other Groups:.....										
OECD Europe.....	487.2	421.0	437.3	435.4	463.6	482.2	482.8	488.0	468.8	476.2
OPEC ³	53.4	54.4	57.9	67.4	75.6	75.1	75.5	79.5	77.6	80.2
EU. ⁴	306.9	248.5	257.3	264.4	281.5	285.7	293.6	287.3	287.2	284.5
IEA ⁵	1,166.9	1,107.2	1,146.4	1,171.4	1,159.4	1,229.0	1,192.8	1,268.1	1,306.9	1,317.0
Nuclear Electric Power (billion kilowatthours)										
World Total.....	1,794.8	1,843.4	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,267.8
OECD. ²	1,499.8	1,540.1	1,607.6	1,694.1	1,718.5	1,795.1	1,855.1	1,928.2	1,979.3	1,957.5
Non OECD.....	295.1	303.3	297.6	297.9	293.3	282.7	266.2	277.8	307.2	310.3
Other Groups:.....										
OECD Europe.....	682.9	715.9	716.1	740.4	753.6	797.9	796.8	813.5	851.6	860.9
OPEC ³	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU. ⁴	648.8	681.3	680.7	705.7	718.1	750.7	748.0	764.9	802.1	811.2
IEA ⁵	1,462.0	1,495.1	1,554.5	1,636.5	1,661.1	1,723.2	1,783.1	1,844.9	1,889.4	1,861.9

See footnotes at end of table.

Table 1.1 World Consumption of Primary Energy by Selected Country Groups, 1988 - 1997 (Continued)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Geothermal, Solar, and Wind Electric Power (billion kilowatthours)⁶										
World Total.....	34.8	35.1	89.7	97.9	106.3	110.7	114.6	115.2	120.6	130.8
OECD ²	23.3	23.5	77.3	84.9	92.1	95.6	98.1	97.6	101.2	109.7
Non OECD.....	11.5	11.6	12.4	13.1	14.2	15.1	16.5	17.6	19.4	21.1
Other Groups:.....										
OECD Europe.....	4.1	4.3	4.7	4.9	5.9	6.9	7.3	8.5	9.8	12.1
OPEC ³	1.0	1.0	1.1	1.0	1.0	1.0	1.5	2.1	2.5	2.9
EU ⁴	3.8	4.0	4.3	4.6	5.6	6.6	7.0	8.1	9.3	11.6
IEA ⁵	18.4	18.5	72.1	79.5	86.4	89.8	92.5	91.9	95.4	104.1

¹ Preliminary.

² The Organization for Economic Cooperation and Development (OECD) includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, South, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.). Refer to Appendix A for a listing of OECD Europe.

³ The Organization of Petroleum Exporting Countries (OPEC) includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁴ European Union (EU) includes Austria, Belgium, Denmark (including data for Faroe Islands), Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

⁵ International Energy Agency (IEA) includes Australia, Austria, Belgium, Canada, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.).

⁶ Includes the consumption of biomass electric power for the United States and Brazil.

Notes: For consistency data reflect 1997 membership (as of December 31, 1997) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Table 1.2 World Petroleum Consumption, 1988 - 1997
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	1,693	1,733	1,690	1,622	1,643	1,688	1,727	1,755	1,797	1,857
Mexico.....	1,550	1,640	1,679	1,695	1,723	1,710	1,795	1,724	1,763	1,860
United States.....	17,283	17,325	16,988	16,714	17,033	17,237	17,718	17,725	18,309	18,620
Other.....	7	8	6	6	5	4	4	4	4	5
Total.....	20,532	20,706	20,364	20,036	20,404	20,639	21,245	21,208	21,873	22,342
Central & South America										
Argentina.....	475	434	413	424	445	468	478	474	479	485
Bolivia.....	23	24	25	26	26	27	30	33	35	36
Brazil.....	1,300	1,317	1,339	1,346	1,369	1,429	1,511	1,596	1,718	1,790
Chile.....	111	126	134	144	151	168	179	197	217	225
Colombia.....	198	209	197	205	230	240	244	251	278	285
Costa Rica.....	18	20	19	20	25	27	28	31	30	32
Cuba.....	221	225	220	204	180	179	183	187	192	198
Dominican Republic.....	58	58	64	62	64	59	68	72	78	80
Ecuador.....	93	90	97	104	119	112	120	123	138	142
El Salvador.....	16	16	16	19	22	22	25	31	30	30
Guatemala.....	25	26	27	26	31	34	38	41	44	45
Honduras.....	13	16	18	17	18	18	20	23	25	26
Jamaica.....	38	43	46	47	51	52	55	60	62	64
Netherlands Antilles.....	65	69	67	64	63	63	66	69	69	70
Panama.....	26	24	27	33	41	40	44	43	47	48
Peru.....	141	121	121	113	119	126	132	143	153	155
Puerto Rico.....	147	143	140	176	152	159	167	164	152	160
Trinidad and Tobago.....	18	21	20	21	22	21	24	22	20	22
Uruguay.....	33	32	31	30	32	35	33	31	34	36
Venezuela.....	397	388	396	405	414	427	440	448	444	450
Virgin Islands, U.S.....	39	60	55	56	51	58	60	74	83	100
Other.....	106	116	118	113	115	124	129	142	136	142
Total.....	3,565	3,576	3,591	3,654	3,740	3,888	4,075	4,256	4,466	4,621
Western Europe										
Austria.....	212	213	217	235	228	231	235	234	232	243
Belgium.....	469	461	461	499	511	499	510	499	564	591
Denmark.....	205	195	191	194	193	198	210	225	238	235
Finland.....	228	226	225	227	222	212	220	175	193	221
France.....	1,797	1,857	1,818	1,935	1,926	1,875	1,833	1,896	1,935	1,955
Germany.....	--	--	--	2,828	2,843	2,900	2,879	2,875	2,911	2,903
Germany, East.....	322	300	282	--	--	--	--	--	--	--
Germany, West.....	2,422	2,280	2,382	--	--	--	--	--	--	--
Greece.....	285	291	315	320	331	339	349	350	368	374
Ireland.....	78	82	92	99	104	104	113	126	126	133
Italy.....	1,836	1,930	1,872	1,863	1,937	1,852	1,841	2,048	2,058	2,045
Luxembourg.....	28	30	33	39	39	39	39	37	38	40
Netherlands.....	716	709	735	756	766	760	760	790	771	808
Norway.....	187	193	191	184	183	186	183	196	216	227
Portugal.....	206	249	250	253	277	268	270	290	277	299
Spain.....	980	1,030	1,011	1,072	1,109	1,056	1,127	1,256	1,175	1,295
Sweden.....	359	336	321	323	342	332	353	406	398	328
Switzerland.....	261	260	274	284	287	277	281	257	275	284
Turkey.....	447	440	476	468	492	564	540	601	633	634
United Kingdom.....	1,697	1,738	1,752	1,801	1,803	1,815	1,837	1,845	1,845	1,799
Former Yugoslavia.....	316	310	317	251	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	35	23	20	19	18	20
Croatia.....	--	--	--	--	65	63	79	88	78	81
Macedonia, TFYR.....	--	--	--	--	19	21	18	18	29	31
Serbia and Montenegro.....	--	--	--	--	56	33	32	27	49	52
Slovenia.....	--	--	--	--	35	41	42	47	54	57
Other.....	31	29	32	31	38	41	42	42	43	46
Total.....	13,084	13,159	13,246	13,660	13,841	13,731	13,815	14,347	14,525	14,702

See footnotes at end of table.

Table 1.2 World Petroleum Consumption, 1988 - 1997 (Continued)
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	32	27	20	18	21	17	13	15	12	13
Bulgaria.....	277	235	193	121	130	117	126	131	119	116
Former Czechoslovakia.....	312	315	281	232	213	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	147	152	158	182	177
Slovakia.....	--	--	--	--	--	61	63	65	66	68
Hungary.....	193	181	179	161	171	166	168	160	148	155
Poland.....	350	346	278	275	297	304	309	318	365	380
Romania.....	330	345	382	277	250	248	221	244	257	265
Former U.S.S.R.....	8,890	8,740	8,392	8,350	--	--	--	--	--	--
Armenia.....	--	--	--	--	32	16	17	11	11	12
Azerbaijan.....	--	--	--	--	203	194	187	179	134	158
Belarus.....	--	--	--	--	375	289	241	228	206	200
Estonia.....	--	--	--	--	25	28	25	26	26	27
Georgia.....	--	--	--	--	27	16	15	17	18	25
Kazakhstan.....	--	--	--	--	404	341	304	281	256	270
Kyrgyzstan.....	--	--	--	--	33	19	8	12	12	13
Latvia.....	--	--	--	--	52	41	40	42	47	40
Lithuania.....	--	--	--	--	84	76	78	73	68	70
Moldova.....	--	--	--	--	57	40	22	22	17	18
Russia.....	--	--	--	--	4,423	3,750	3,179	2,976	2,619	2,790
Tajikistan.....	--	--	--	--	20	17	7	10	27	28
Turkmenistan.....	--	--	--	--	76	66	63	64	62	56
Ukraine.....	--	--	--	--	813	570	495	484	388	410
Uzbekistan.....	--	--	--	--	190	177	168	180	139	145
Total.....	10,383	10,190	9,725	9,434	7,894	6,701	5,901	5,696	5,178	5,436
Middle East										
Bahrain.....	20	23	20	21	21	20	21	21	19	20
Cyprus.....	25	30	32	32	38	38	43	43	42	45
Iran.....	870	965	1,003	1,075	1,083	1,108	1,130	1,140	1,119	1,135
Iraq.....	320	350	400	263	341	409	457	474	469	490
Israel.....	157	163	165	173	201	198	200	210	214	220
Jordan.....	62	62	66	63	73	72	82	85	92	95
Kuwait.....	120	125	85	45	79	111	132	140	139	143
Lebanon.....	43	35	33	53	55	67	76	82	85	84
Oman.....	26	32	39	39	40	39	40	42	47	48
Qatar.....	28	35	37	43	42	40	40	42	40	44
Saudi Arabia.....	990	950	977	1,019	1,039	1,088	1,109	1,168	1,197	1,225
Syria.....	192	198	205	178	185	209	224	226	229	233
United Arab Emirates.....	237	242	243	302	305	310	318	316	306	312
Yemen.....	64	74	76	78	83	69	66	68	68	69
Total.....	3,154	3,283	3,380	3,384	3,585	3,778	3,938	4,059	4,066	4,163

See footnotes at end of table.

Table 1.2 World Petroleum Consumption, 1988 - 1997 (Continued)
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Africa										
Algeria.....	172	182	194	208	214	222	230	228	220	230
Angola.....	25	25	24	25	26	25	25	27	25	26
Cameroon.....	20	24	24	25	25	21	24	25	23	23
Congo (Brazzaville).....	6	7	7	6	6	6	7	7	7	7
Congo (Kinshasa).....	23	22	20	22	24	25	26	20	25	26
Cote d'Ivoire (Ivory Coast).....	37	40	38	39	40	45	55	52	58	60
Egypt.....	437	443	465	456	444	450	448	458	501	525
Ethiopia.....	18	20	20	16	23	22	14	15	12	14
Gabon.....	12	16	15	16	16	15	18	19	21	22
Ghana.....	21	24	20	20	22	23	26	27	27	28
Kenya.....	38	42	42	37	41	42	44	46	48	50
Libya.....	142	147	155	166	145	160	166	172	177	180
Morocco.....	99	111	117	117	130	135	148	142	137	140
Nigeria.....	234	244	251	259	265	271	252	284	286	290
Senegal.....	16	17	17	16	19	19	23	25	25	26
South Africa.....	342	348	375	403	412	402	410	459	428	466
Sudan.....	30	28	25	36	33	32	28	26	26	27
Tunisia.....	61	64	63	68	71	74	75	70	73	75
Zimbabwe.....	17	19	21	23	21	22	23	25	28	28
Other.....	155	164	182	172	192	195	204	209	211	212
Total.....	1,905	1,985	2,076	2,131	2,169	2,207	2,243	2,336	2,359	2,455
Far East & Oceania										
Australia.....	652	687	711	706	712	756	790	834	801	819
Bangladesh.....	36	38	36	38	37	40	46	51	52	53
Brunei.....	6	7	7	10	7	9	11	11	13	13
Burma.....	17	17	15	16	16	17	19	18	20	20
China.....	2,275	2,380	2,296	2,499	2,662	2,959	3,141	3,323	3,520	3,790
Guam.....	6	5	13	14	15	23	30	26	22	21
Hong Kong.....	121	124	127	133	152	158	180	186	183	170
India.....	1,084	1,150	1,168	1,190	1,275	1,311	1,413	1,575	1,681	1,800
Indonesia.....	524	583	651	695	707	765	778	814	886	940
Japan.....	4,752	4,983	5,140	5,284	5,446	5,401	5,674	5,711	5,867	5,711
Korea, North.....	65	64	73	76	74	72	70	63	48	45
Korea, South.....	731	843	1,025	1,202	1,456	1,690	1,856	2,027	2,183	2,250
Malaysia.....	202	220	266	282	302	336	378	399	435	450
Mongolia.....	17	17	16	15	13	13	13	11	12	12
New Zealand.....	95	103	109	105	111	123	128	154	134	128
Pakistan.....	194	206	220	221	227	256	282	298	327	340
Papua New Guinea.....	15	15	16	15	15	15	15	15	15	16
Philippines.....	196	229	236	235	260	285	303	328	346	350
Singapore.....	304	329	363	389	420	469	503	512	541	550
Sri Lanka.....	34	31	35	34	37	41	45	48	53	55
Taiwan.....	483	521	542	545	557	616	659	737	780	820
Thailand.....	283	349	407	437	476	545	603	679	749	740
Vietnam.....	40	46	53	56	61	77	85	94	116	125
Other.....	66	70	71	71	66	67	68	69	72	70
Total.....	12,196	13,017	13,595	14,269	15,103	16,044	17,085	17,985	18,855	19,289
World Total.....	64,819	65,917	65,977	66,567	66,736	66,988	68,302	69,888	71,322	73,008

¹ Preliminary.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table 1.3 World Dry Natural Gas Consumption, 1988 - 1997
(Billion Cubic Feet)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	2,331	2,498	2,378	2,400	2,596	2,713	2,823	2,867	2,993	2,959
Mexico.....	926	943	946	994	1,015	936	953	994	1,122	1,198
United States.....	18,030	18,801	18,716	19,035	19,544	20,279	20,708	21,581	21,967	21,972
Total.....	21,287	22,242	22,040	22,429	23,155	23,928	24,484	25,442	26,081	26,129
Central & South America										
Argentina.....	713	801	717	781	787	833	856	953	1,010	1,014
Barbados.....	1	1	1	1	1	1	1	1	1	1
Bolivia.....	19	26	30	26	32	30	35	43	37	45
Brazil.....	97	123	97	119	130	146	152	159	178	195
Chile.....	35	57	66	52	54	62	69	67	64	95
Colombia.....	146	146	151	155	151	157	162	161	167	212
Cuba.....	1	1	1	1	1	1	1	1	2	2
Ecuador.....	3	3	4	3	4	4	4	4	4	4
Peru.....	44	41	19	18	18	34	35	33	34	34
Trinidad and Tobago.....	154	162	177	201	194	218	250	268	303	328
Venezuela.....	656	769	761	793	763	815	876	890	961	999
Total.....	1,870	2,129	2,024	2,151	2,136	2,301	2,440	2,581	2,761	2,930
Western Europe										
Austria.....	183	195	215	228	224	244	242	262	281	273
Belgium.....	337	375	341	362	374	392	401	443	493	468
Denmark.....	56	68	73	82	86	103	110	126	147	154
Finland.....	58	78	95	100	104	108	119	123	129	127
France.....	961	991	1,022	1,143	1,139	1,172	1,134	1,183	1,314	1,287
Germany.....	--	--	--	2,883	2,858	3,042	3,088	3,364	3,563	3,388
Germany, East.....	602	588	357	--	--	--	--	--	--	--
Germany, West.....	2,114	2,247	2,312	--	--	--	--	--	--	--
Greece.....	4	4	5	4	4	2	1	1	1	6
Ireland.....	71	80	83	84	83	94	96	102	114	118
Italy.....	1,460	1,578	1,672	1,773	1,757	1,801	1,748	1,921	1,984	2,044
Luxembourg.....	15	17	17	18	19	24	20	22	25	25
Netherlands.....	1,513	1,550	1,538	1,715	1,669	1,696	1,648	1,694	1,874	1,763
Norway.....	71	73	80	78	131	90	93	101	102	108
Portugal.....	0	0	0	0	0	0	0	0	0	3
Spain.....	129	172	192	216	228	238	265	298	334	428
Sweden.....	13	18	23	23	26	30	28	28	32	33
Switzerland.....	63	69	66	75	78	82	81	89	97	93
Turkey.....	43	114	122	150	159	184	193	249	290	346
United Kingdom.....	1,972	1,951	2,059	2,218	2,127	2,440	2,542	2,690	3,182	3,216
Former Yugoslavia.....	258	287	248	247	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	18	13	15	87	5	5
Croatia.....	--	--	--	--	96	104	91	82	88	97
Macedonia, TFYR.....	--	--	--	--	9	10	0	0	0	0
Serbia and Montenegro.....	--	--	--	--	72	34	58	39	112	134
Slovenia.....	--	--	--	--	24	30	29	35	45	32
Total.....	9,923	10,455	10,520	11,398	11,285	11,934	12,002	12,938	14,213	14,151

See footnotes at end of table.

Table 1.3 World Dry Natural Gas Consumption, 1988 - 1997 (Continued)
(Billion Cubic Feet)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	25	25	9	5	4	1	1	1	1	1
Bulgaria.....	221	223	241	200	186	172	168	208	219	174
Former Czechoslovakia.....	416	451	532	504	411	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	257	238	285	328	330
Slovakia.....	--	--	--	--	--	175	205	273	265	254
Hungary.....	407	428	396	391	349	376	356	407	453	431
Poland.....	447	465	413	379	357	383	382	426	477	438
Romania.....	1,306	1,384	1,261	1,040	936	908	851	901	894	713
Former U.S.S.R.....	24,092	24,529	24,961	25,014	--	--	--	--	--	--
Armenia.....	--	--	--	--	66	49	57	57	64	46
Azerbaijan.....	--	--	--	--	523	388	332	318	328	323
Belarus.....	--	--	--	--	646	600	498	452	494	533
Estonia.....	--	--	--	--	53	21	23	26	29	37
Georgia.....	--	--	--	--	177	85	57	74	64	67
Kazakhstan.....	--	--	--	--	710	523	530	397	510	494
Kyrgyzstan.....	--	--	--	--	85	79	64	31	64	64
Latvia.....	--	--	--	--	57	28	25	39	35	46
Lithuania.....	--	--	--	--	141	85	81	99	92	102
Moldova.....	--	--	--	--	78	64	49	49	71	85
Russia.....	--	--	--	--	16,482	16,185	15,214	14,507	14,504	13,434
Tajikistan.....	--	--	--	--	67	49	57	29	43	40
Turkmenistan.....	--	--	--	--	141	145	148	170	170	162
Ukraine.....	--	--	--	--	3,503	3,871	3,327	2,970	2,935	2,797
Uzbekistan.....	--	--	--	--	1,095	1,541	1,229	1,349	1,434	1,455
Total.....	26,914	27,505	27,813	27,533	26,064	25,986	23,889	23,067	23,473	22,028
Middle East										
Bahrain.....	182	186	205	233	188	234	229	229	232	232
Iran.....	706	784	837	811	883	938	1,123	1,243	1,416	1,600
Iraq.....	88	88	77	39	101	90	112	112	114	128
Israel.....	1	1	1	1	1	1	1	1	1	1
Jordan.....	0	3	5	5	5	7	10	10	10	10
Kuwait.....	351	415	256	18	93	191	211	211	328	330
Oman.....	73	99	99	124	117	140	147	130	128	132
Qatar.....	207	215	276	328	401	477	477	477	484	531
Saudi Arabia.....	1,028	1,052	1,077	1,130	1,201	1,268	1,331	1,343	1,460	1,533
Syria.....	18	35	103	124	127	131	134	104	142	145
United Arab Emirates.....	621	702	663	790	902	798	765	875	959	1,018
Total.....	3,276	3,581	3,599	3,603	4,018	4,274	4,540	4,735	5,274	5,660
Africa										
Algeria.....	712	660	681	775	730	655	690	742	762	735
Angola.....	18	15	19	20	20	20	18	20	20	20
Congo (Brazzaville).....	0	0	0	0	0	0	0	0	0	0
Cote d'Ivoire (Ivory Coast).....	0	0	0	0	0	0	0	1	19	24
Egypt.....	244	273	286	321	349	399	423	439	473	477
Gabon.....	4	3	3	4	4	4	4	4	4	4
Libya.....	157	165	175	175	174	168	173	171	184	193
Morocco.....	2	2	2	1	1	1	1	1	1	1
Nigeria.....	133	166	131	168	173	178	161	183	193	194
Senegal.....	0	0	0	0	0	1	1	2	2	2
South Africa.....	0	0	0	0	1	64	69	69	65	65
Tunisia.....	39	55	54	41	31	53	69	58	67	128
Total.....	1,309	1,340	1,351	1,505	1,483	1,542	1,610	1,689	1,790	1,844

See footnotes at end of table.

Table 1.3 World Dry Natural Gas Consumption, 1988 - 1997 (Continued)
(Billion Cubic Feet)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	70	68	67	11	11	11	11	7	8	8
Australia.....	555	570	625	584	603	630	647	706	703	704
Bangladesh.....	150	164	162	173	206	216	235	260	269	269
Brunei.....	48	57	46	15	35	29	25	34	28	33
Burma.....	37	38	38	36	36	39	51	58	57	50
China.....	503	505	508	526	533	558	589	601	663	749
Hong Kong.....	0	0	0	0	0	0	0	0	8	0
India.....	310	315	399	449	477	532	594	628	696	830
Indonesia.....	492	546	547	557	673	850	965	1,061	1,108	1,113
Japan.....	1,618	1,731	1,851	1,976	2,023	1,949	2,180	2,207	2,390	2,340
Korea, South.....	94	94	116	133	162	205	279	337	432	525
Malaysia.....	289	297	315	383	388	458	482	485	563	593
New Zealand.....	166	172	170	183	197	175	171	162	188	199
Pakistan.....	445	475	482	534	551	583	627	646	696	699
Papua New Guinea.....	0	0	0	0	2	3	2	4	5	4
Philippines.....	0	0	0	0	0	0	0	(s)	(s)	(s)
Singapore.....	0	0	0	0	39	53	53	53	53	53
Taiwan.....	24	50	80	105	115	111	141	151	157	179
Thailand.....	193	182	208	236	249	310	342	368	428	523
Vietnam.....	1	1	1	2	7	9	9	25	29	29
Total.....	4,995	5,267	5,615	5,904	6,307	6,720	7,400	7,792	8,481	8,901
World Total.....	69,573	72,518	72,961	74,523	74,447	76,686	76,365	78,244	82,073	81,643

¹ Preliminary.

-- Not applicable.

(s) = Value less than 500 million cubic feet.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 4.

Table 1.4 World Coal Consumption, 1988 - 1997
(Million Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	60.19	60.12	54.95	55.66	56.76	54.19	57.96	58.76	58.81	61.75
Mexico.....	8.09	8.92	8.72	8.36	9.23	10.02	10.81	13.03	11.61	12.00
United States.2.....	885.24	890.92	895.67	887.98	908.75	944.78	952.41	963.11	1,005.56	1,027.86
Total.....	953.51	959.97	959.34	952.00	974.74	1,008.98	1,021.19	1,034.89	1,075.98	1,101.61
Central & South America										
Argentina.....	1.82	1.81	1.36	1.34	1.71	1.12	1.84	1.85	1.72	0.95
Brazil.....	19.20	19.31	16.97	19.58	18.76	18.98	18.93	19.62	20.77	20.76
Chile.....	2.88	3.86	4.19	3.34	3.00	2.92	3.58	3.89	5.47	6.09
Colombia.....	5.56	5.17	3.04	9.47	8.20	6.33	6.07	3.44	9.74	5.03
Costa Rica.....	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Cuba.....	0.20	0.25	0.22	0.17	0.21	0.20	0.20	0.21	0.21	0.22
Dominican Republic.....	0.11	0.01	0.01	0.06	0.15	0.13	0.11	0.12	0.14	0.15
Haiti.....	0.03	0.01	0.01	0.03	0.03	0.01	0.00	0.00	0.00	0.00
Jamaica.....	0.00	0.04	0.06	0.02	0.07	0.08	0.06	0.06	0.07	0.07
Panama.....	0.03	0.01	0.04	0.05	0.08	0.06	0.06	0.04	0.11	0.05
Paraguay.....	(s)	0.02	0.04	0.05	0.07	0.06	0.06	0.06	0.06	0.06
Peru.....	0.37	0.32	0.22	0.41	0.56	0.67	0.77	0.85	0.50	0.53
Puerto Rico.....	0.39	0.33	0.23	0.21	0.17	0.18	0.18	0.18	0.19	0.19
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.42	0.69	0.42	0.67	0.75	0.43	0.51	0.72	0.70	0.67
Virgin Islands, U.S.....	0.00	0.00	0.08	0.14	0.23	0.25	0.27	0.28	0.28	0.28
Other.....	(s)	(s)	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	31.04	31.83	26.89	35.54	33.99	31.42	32.65	31.32	39.96	35.06
Western Europe										
Austria.....	7.56	7.39	8.45	7.77	7.01	6.14	5.53	6.47	5.95	5.94
Belgium.....	13.96	16.23	18.17	16.91	15.77	13.82	15.05	14.66	14.05	13.21
Denmark.....	12.43	10.09	11.19	14.95	12.22	13.16	14.47	12.08	12.10	17.29
Finland.....	7.28	7.19	6.86	6.98	6.08	7.20	8.68	7.51	6.78	8.77
France.....	24.95	33.45	35.85	36.81	32.62	25.67	25.08	25.65	25.34	22.71
Germany.....	--	--	--	406.17	359.06	334.98	314.28	296.64	279.00	277.33
Germany, East.....	348.64	340.32	315.20	--	--	--	--	--	--	--
Germany, West.....	212.85	212.88	212.42	--	--	--	--	--	--	--
Greece.....	56.22	58.64	58.95	58.55	62.20	62.47	65.58	64.49	70.00	68.98
Iceland.....	0.10	0.11	0.10	0.11	0.07	0.07	0.11	0.09	0.11	0.09
Ireland.....	3.63	3.64	3.66	3.58	3.25	3.26	3.03	3.02	3.09	3.10
Italy.....	23.37	23.09	24.77	23.41	20.37	17.73	18.71	20.20	19.30	16.88
Luxembourg.....	1.76	1.80	1.82	1.68	1.62	1.67	1.45	0.82	0.77	0.49
Malta.....	0.27	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.34	0.35
Netherlands.....	12.77	12.82	14.94	13.61	13.36	13.79	15.12	14.85	14.88	20.15
Norway.....	1.61	1.59	1.41	1.28	1.25	1.39	1.61	1.68	1.65	1.61
Portugal.....	3.71	4.53	4.84	4.83	5.13	5.49	5.81	6.41	6.00	5.59
Spain.....	52.25	61.90	52.58	52.23	51.61	48.73	47.30	47.73	46.26	38.62
Sweden.....	4.94	4.75	4.46	4.18	3.87	3.96	3.09	4.20	3.23	4.34
Switzerland.....	0.55	0.57	0.53	0.46	0.32	0.26	0.28	0.31	0.11	0.08
Turkey.....	50.82	60.20	59.98	63.55	64.66	60.46	65.57	67.14	66.76	69.80
United Kingdom.....	122.84	125.93	119.38	118.03	110.74	96.01	90.45	78.97	70.17	77.83
Former Yugoslavia.....	84.51	85.31	83.16	81.07	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	6.92	5.54	3.24	3.13	1.81	1.69
Croatia.....	--	--	--	--	0.51	0.69	0.45	0.16	0.32	0.49
Macedonia, TFYR.....	--	--	--	--	7.08	7.62	7.98	8.20	8.04	7.32
Serbia and Montenegro.....	--	--	--	--	47.06	41.21	40.91	44.83	43.09	40.39
Slovenia.....	--	--	--	--	6.51	6.18	5.59	5.84	5.80	5.67
Total.....	1,047.03	1,072.75	1,039.05	916.48	839.64	777.82	759.70	735.39	704.93	708.72

See footnotes at end of table.

Table 1.4 World Coal Consumption, 1988 - 1997 (Continued)
(Million Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	2.79	2.46	2.34	1.31	0.37	0.20	0.19	0.13	0.11	0.10
Bulgaria.....	44.87	45.55	41.63	36.65	37.49	35.96	34.44	33.35	34.30	31.46
Former Czechoslovakia.....	136.98	129.97	119.08	110.84	101.36	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	65.77	71.85	67.25	67.40	67.19
Slovakia.....	--	--	--	--	--	14.12	12.94	12.66	12.16	9.84
Hungary.....	26.98	24.96	22.95	22.64	20.12	19.44	18.04	17.15	18.62	19.08
Poland.....	253.41	242.35	202.44	202.06	192.11	193.61	184.10	181.56	190.57	194.88
Romania.....	76.17	77.72	52.68	43.32	47.65	47.84	49.99	48.43	55.72	45.70
Former U.S.S.R.....	821.18	777.31	848.47	672.44	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.16	(s)	0.04	(s)	0.01	(s)
Azerbaijan.....	--	--	--	--	0.03	0.01	0.01	0.01	0.01	0.01
Belarus.....	--	--	--	--	2.05	1.77	1.32	1.24	1.22	1.01
Estonia.....	--	--	--	--	2.08	1.83	2.02	2.40	1.67	2.41
Georgia.....	--	--	--	--	0.48	0.35	0.30	0.28	0.20	0.17
Kazakhstan.....	--	--	--	--	94.16	87.16	93.29	78.46	62.14	61.59
Kyrgyzstan.....	--	--	--	--	4.41	3.97	3.42	3.19	2.70	2.28
Latvia.....	--	--	--	--	0.74	0.67	0.47	0.29	0.33	0.28
Lithuania.....	--	--	--	--	0.72	0.73	0.53	0.41	0.37	0.36
Moldova.....	--	--	--	--	2.96	2.57	2.52	1.50	1.30	1.20
Russia.....	--	--	--	--	400.40	361.09	323.42	298.94	301.79	284.24
Tajikistan.....	--	--	--	--	0.30	0.20	0.23	0.10	0.14	0.12
Turkmenistan.....	--	--	--	--	0.55	0.44	0.44	0.22	0.11	0.06
Ukraine.....	--	--	--	--	153.77	132.56	107.33	107.97	92.37	94.29
Uzbekistan.....	--	--	--	--	6.55	4.78	8.26	6.70	6.27	5.19
Total.....	1,362.39	1,300.33	1,289.58	1,089.26	1,068.45	975.07	915.16	862.23	849.52	821.45
Middle East										
Cyprus.....	0.10	0.08	0.12	0.02	0.03	0.03	0.03	0.02	0.02	0.02
Iran.....	1.61	1.63	1.78	1.72	1.45	1.35	1.76	1.61	1.61	1.71
Israel.....	3.59	3.83	4.08	4.46	5.45	6.23	6.64	7.73	8.61	9.43
Lebanon.....	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.21	0.23	0.24
Other.....	(s)	(s)	(s)	0.01	(s)	(s)	(s)	0.01	0.01	(s)
Total.....	5.30	5.54	5.99	6.21	6.94	7.75	8.56	9.57	10.47	11.40
Africa										
Algeria.....	1.22	1.23	1.25	1.25	1.35	1.48	1.41	1.35	1.32	1.35
Botswana.....	0.67	0.74	0.90	0.90	1.00	0.99	0.93	0.91	0.85	0.85
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.32	0.28	0.24	0.25	0.26	0.26	0.27	0.27	0.27	0.26
Egypt.....	1.23	1.37	1.60	1.29	1.25	1.63	1.72	1.18	1.74	2.01
Ghana.....	(s)	(s)	(s)	0.09	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.13	0.15	0.17	0.15	0.18	0.15	0.12	0.10	0.11	0.11
Libya.....	(s)	(s)	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01
Madagascar.....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Malawi.....	0.05	0.05	0.06	0.07	0.07	0.07	0.08	0.08	0.08	0.08
Mauritania.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Mauritius.....	0.05	0.08	0.08	0.07	0.07	0.06	0.04	0.07	0.07	0.07
Morocco.....	1.84	1.99	1.95	2.25	1.93	2.21	2.42	2.60	2.59	2.63
Mozambique.....	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.06	0.07	0.07
Niger.....	0.17	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Nigeria.....	0.07	0.06	0.05	0.12	0.10	0.05	0.06	0.06	0.06	0.06
South Africa.....	151.32	140.49	139.08	143.64	149.07	152.79	160.47	162.27	164.69	169.59
Swaziland.....	0.18	0.18	0.18	0.14	0.11	0.06	0.20	0.19	0.14	0.06
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Tunisia.....	0.14	0.14	0.12	0.12	0.13	0.13	0.12	0.11	0.11	0.11
Zambia.....	0.68	0.43	0.41	0.41	0.43	0.44	0.41	0.39	0.38	0.38
Zimbabwe.....	5.57	5.66	6.05	5.76	6.09	5.66	6.00	6.13	5.83	5.85
Total.....	163.73	153.13	152.44	156.81	162.32	166.27	174.56	176.01	178.55	183.72

See footnotes at end of table.

Table 1.4 World Coal Consumption, 1988 - 1997 (Continued)
(Million Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.15	0.14	0.12	0.10	0.01	0.01	0.01	0.01	(s)	(s)
Australia.....	95.83	104.34	105.09	107.94	113.51	109.25	110.36	113.20	117.53	135.39
Bangladesh.....	0.22	0.06	0.62	0.20	0.19	0.07	0.00	0.00	0.00	0.00
Bhutan.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03
Burma.....	0.07	0.10	0.09	0.10	0.09	0.09	0.09	0.10	0.10	0.10
China.....	1,097.73	1,113.36	1,124.12	1,164.88	1,199.48	1,275.60	1,389.84	1,489.39	1,514.12	1,531.63
Fiji.....	0.01	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Hong Kong.....	10.80	11.63	10.53	9.27	11.54	13.33	9.60	10.33	8.24	7.07
India.....	215.09	226.03	241.80	252.17	273.67	286.12	303.14	311.53	352.01	342.45
Indonesia.....	4.88	6.10	4.41	4.66	6.53	9.51	11.56	11.66	16.93	15.48
Japan.....	122.58	122.69	125.10	128.24	126.33	128.81	133.43	140.05	145.26	143.43
Korea, North.....	68.78	71.76	73.97	75.32	76.45	80.19	80.14	80.46	81.04	69.89
Korea, South.....	51.36	45.93	41.88	45.42	41.82	44.53	48.70	51.26	58.95	64.74
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.00	0.00	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	0.68	2.09	2.50	2.55	2.76	2.25	2.62	2.56	2.83	3.06
Mongolia.....	9.03	8.11	7.44	6.03	5.20	4.97	4.58	4.49	4.67	4.47
Nepal.....	0.11	0.10	0.03	0.09	0.12	0.08	0.14	0.14	0.07	0.06
New Caledonia.....	0.19	0.23	0.18	0.19	0.19	0.19	0.18	0.18	0.19	0.19
New Zealand.....	2.42	2.65	2.51	2.46	2.91	2.69	2.60	2.89	1.44	2.07
Pakistan.....	3.91	3.87	4.25	4.25	4.57	4.48	4.75	4.53	5.20	5.21
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	2.93	2.39	2.73	3.03	3.00	3.05	2.97	3.03	3.07	3.17
Singapore.....	0.02	0.02	0.04	0.02	0.03	0.03	0.05	0.05	0.04	(s)
Sri Lanka.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Taiwan.....	18.58	19.60	18.88	20.62	24.12	26.65	28.14	28.83	33.35	42.80
Thailand.....	8.36	9.98	14.11	16.63	17.73	18.54	20.51	23.05	28.14	28.35
Vietnam.....	5.81	3.57	4.60	3.78	3.79	4.39	4.35	6.97	7.52	7.63
Total.....	1,719.58	1,754.80	1,785.06	1,848.00	1,914.09	2,014.89	2,157.80	2,284.75	2,380.75	2,407.25
World Total.....	5,282.57	5,278.35	5,258.34	5,004.29	5,000.16	4,982.20	5,069.61	5,134.17	5,240.16	5,269.21

¹ Preliminary.

² United States apparent coal consumption is calculated as: production+imports-exports-stock builds. Coal consumption by independent power producers is included beginning in 1992. The Monthly Energy Review uses a different methodology for deriving coal consumption and does not include coal consumption by independent power producers.

--= Not applicable.

(s) = Value less than 5 thousand short tons.

Notes: Sum of components may not equal total due to independent rounding.

See Glossary for definition of apparent coal consumption.

Sources: See sources at the end of Section 5.

Table 1.5 World Net Hydroelectric Power Consumption, 1988 - 1997
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	303.5	287.6	293.9	305.3	313.2	320.3	326.4	332.0	352.4	348.4
Mexico.....	21.0	24.4	23.2	21.6	25.9	26.0	19.8	27.3	31.1	26.2
United States.2.....	257.8	279.2	296.8	302.9	272.7	301.2	284.6	334.2	375.5	377.3
Total.....	582.3	591.2	613.9	629.8	611.8	647.5	630.9	693.5	759.1	751.8
Central & South America										
Argentina.....	21.8	15.2	20.3	19.1	23.2	28.9	33.3	33.4	28.6	27.8
Bolivia.....	1.2	1.2	1.2	1.4	1.3	1.4	1.4	1.4	1.5	1.4
Brazil.....	197.1	202.6	204.6	215.6	221.1	232.7	240.3	251.4	263.1	276.3
Chile.....	11.4	9.5	11.9	13.0	16.6	17.0	16.8	18.2	16.7	18.2
Colombia.....	24.3	26.4	27.2	27.2	22.2	27.7	32.0	33.9	34.3	30.9
Costa Rica.....	3.0	3.3	3.5	3.6	3.5	3.9	3.5	3.6	3.6	3.6
Dominican Republic.....	0.8	0.6	0.4	0.6	2.2	1.8	1.9	2.0	1.8	1.9
Ecuador.....	4.7	4.9	4.9	5.0	4.9	5.8	6.3	6.7	7.4	7.2
El Salvador.....	1.3	1.4	1.7	1.3	1.4	1.5	1.1	1.5	1.9	2.0
Guatemala.....	1.8	2.1	2.1	2.1	2.1	1.9	2.0	2.4	2.3	2.1
Haiti.....	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3
Honduras.....	1.7	1.8	2.1	2.1	2.1	2.2	2.3	2.1	2.1	1.9
Jamaica.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Nicaragua.....	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
Panama.....	2.2	2.2	2.2	2.0	1.9	2.3	2.4	2.4	3.0	3.6
Paraguay.....	19.9	24.2	26.9	29.1	26.8	31.1	36.0	41.7	47.6	50.7
Peru.....	10.3	10.3	10.4	11.4	9.7	11.7	12.6	13.6	13.2	13.1
Puerto Rico.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Suriname.....	0.5	1.1	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3
Uruguay.....	5.4	3.9	6.9	6.1	7.8	7.2	7.4	5.8	6.1	6.4
Venezuela.....	33.9	34.3	36.6	44.0	46.6	47.0	50.9	55.0	53.0	56.7
Other.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Total.....	342.6	346.3	365.2	385.8	395.8	426.4	452.4	477.4	488.8	506.4
Western Europe										
Austria.....	35.2	34.6	31.2	31.1	34.5	36.3	35.3	36.7	33.9	35.9
Belgium.....	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3
Finland.....	13.2	12.9	10.8	13.1	15.0	13.3	11.7	12.8	11.7	11.7
France.....	74.0	45.7	52.8	56.3	67.2	63.1	76.5	70.6	64.5	61.3
Germany.....	--	--	--	14.7	17.2	17.7	19.7	21.6	21.7	19.6
Germany, East.....	1.7	1.6	1.4	--	--	--	--	--	--	--
Germany, West.....	18.1	16.5	15.8	--	--	--	--	--	--	--
Greece.....	2.4	1.9	1.8	3.1	2.2	2.3	2.6	3.5	4.3	3.8
Iceland.....	4.2	4.2	4.2	4.2	4.3	4.4	4.5	4.6	4.7	5.1
Ireland.....	0.9	0.7	0.7	0.7	0.8	0.8	0.9	0.7	0.7	0.7
Italy.....	40.2	33.6	31.3	41.8	41.8	41.0	44.2	37.4	41.6	41.7
Luxembourg.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Norway.....	107.9	117.4	119.9	109.0	115.5	118.0	110.4	120.1	102.6	108.7
Portugal.....	12.0	5.7	9.1	9.0	4.6	8.5	10.6	8.3	14.6	13.0
Spain.....	34.8	19.0	25.2	27.0	18.7	24.1	27.9	22.9	39.4	24.2
Sweden.....	69.0	70.9	71.8	62.6	73.6	73.9	58.5	67.4	50.9	67.9
Switzerland.....	35.4	29.5	29.5	31.8	32.4	35.4	38.7	34.8	28.1	33.3
Turkey.....	28.4	17.6	22.9	22.5	26.3	33.6	30.3	35.2	40.1	39.4
United Kingdom.....	4.9	4.7	5.1	4.5	5.3	4.2	5.0	4.8	3.3	4.1
Former Yugoslavia.....	25.6	23.3	19.6	18.9	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	3.0	2.0	1.2	1.4	1.4	1.5
Croatia.....	--	--	--	--	4.3	4.3	4.9	5.2	6.5	7.2
Macedonia, TFYR.....	--	--	--	--	0.8	0.5	0.7	0.8	0.8	0.9
Serbia and Montenegro.....	--	--	--	--	11.2	10.0	11.0	11.1	11.4	12.4
Slovenia.....	--	--	--	--	3.4	3.0	3.4	3.2	3.6	3.9
Other.....	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total.....	508.5	440.4	453.4	450.8	482.6	497.0	498.6	503.7	486.5	496.7

See footnotes at end of table.

Table 1.5 World Net Hydroelectric Power Consumption, 1988 - 1997 (Continued)
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	3.7	3.8	2.8	3.5	3.2	3.3	3.7	4.2	5.5	5.2
Bulgaria.....	2.6	2.7	1.9	2.4	2.0	1.9	1.5	2.3	2.4	2.5
Former Czechoslovakia.....	4.4	4.2	3.9	3.1	3.6	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	1.4	1.4	2.0	1.9	1.4
Slovakia.....	--	--	--	--	--	3.9	4.6	5.2	5.4	4.6
Hungary.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Poland.....	4.2	3.7	3.3	3.4	3.5	3.5	3.7	3.8	3.9	3.6
Romania.....	13.5	12.5	10.9	14.1	11.6	12.6	12.9	16.5	15.6	15.2
Former U.S.S.R.....	228.5	221.0	230.7	232.7	--	--	--	--	--	--
Armenia.....	--	--	--	--	3.0	4.2	3.5	1.9	1.6	1.5
Azerbaijan.....	--	--	--	--	1.7	2.4	1.8	1.5	1.5	1.5
Georgia.....	--	--	--	--	6.5	7.0	4.7	5.3	6.1	6.0
Kazakhstan.....	--	--	--	--	6.8	7.6	9.1	8.2	7.3	6.7
Kyrgyzstan.....	--	--	--	--	9.2	9.0	11.6	11.0	12.1	13.0
Latvia.....	--	--	--	--	2.5	2.8	3.3	2.9	1.8	2.0
Lithuania.....	--	--	--	--	0.3	0.4	0.4	0.4	0.3	0.3
Moldova.....	--	--	--	--	0.3	0.4	0.3	0.3	0.4	0.4
Russia.....	--	--	--	--	170.9	172.1	174.2	174.5	153.1	150.5
Tajikistan.....	--	--	--	--	15.8	16.9	16.5	14.5	14.7	13.7
Ukraine.....	--	--	--	--	8.0	11.1	12.2	12.3	11.4	12.4
Uzbekistan.....	--	--	--	--	6.2	7.3	7.1	6.1	6.5	6.8
Other.....	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	257.0	248.1	253.6	259.3	255.3	267.9	272.7	273.1	251.6	247.7
Middle East										
Iran.....	6.4	6.6	6.0	7.0	9.4	9.7	7.4	7.5	7.5	7.6
Iraq.....	0.7	0.6	0.6	0.3	0.7	0.6	0.6	0.6	0.6	0.6
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lebanon.....	0.6	0.5	0.3	0.5	0.5	0.9	1.0	0.7	0.8	0.9
Syria.....	4.8	4.7	5.6	6.2	7.3	6.6	6.7	6.9	6.9	7.0
Total.....	12.5	12.4	12.5	14.0	18.0	17.9	15.7	15.7	15.9	16.1
Africa										
Algeria.....	0.2	0.3	0.1	0.3	0.2	0.3	0.2	0.2	0.1	0.2
Angola.....	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4
Cameroon.....	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7
Congo (Brazzaville).....	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5
Congo (Kinshasa).....	5.2	6.8	5.6	5.2	6.0	5.7	5.4	5.9	6.1	6.3
Cote d'Ivoire (Ivory Coast).....	1.2	1.6	1.3	1.2	1.0	1.1	1.1	1.1	1.1	1.1
Egypt.....	7.8	7.9	9.9	8.5	8.5	10.4	10.6	10.9	11.0	11.8
Ethiopia.....	1.0	1.0	1.1	1.1	1.1	1.3	1.4	1.4	1.5	1.6
Gabon.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Ghana.....	4.8	5.2	5.7	6.0	6.0	6.1	6.1	6.1	5.9	5.8
Kenya.....	2.3	2.4	2.5	2.7	2.8	3.0	3.0	2.9	3.0	3.1
Madagascar.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5
Malawi.....	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9
Mali.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Morocco.....	0.9	1.1	1.2	1.2	1.0	0.4	0.8	0.6	0.8	0.8
Nigeria.....	4.0	4.1	4.3	5.9	6.0	5.5	5.5	5.4	5.4	5.3
Reunion.....	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
South Africa.....	3.2	2.8	1.0	2.0	0.8	0.1	1.1	0.5	1.3	2.1
Sudan.....	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Tanzania.....	1.2	1.4	1.4	1.6	1.6	1.6	1.5	1.5	1.5	1.5
Uganda.....	0.6	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Zambia.....	8.3	6.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
Zimbabwe.....	2.7	2.7	3.5	3.2	3.2	1.7	2.4	2.4	2.3	2.2
Other.....	1.3	1.3	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3
Total.....	51.7	53.5	55.2	56.5	55.5	54.7	56.5	56.7	57.8	59.6

See footnotes at end of table.

Table 1.5 World Net Hydroelectric Power Consumption, 1988 - 1997 (Continued)
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.7	0.8	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.3
Australia.....	13.4	14.3	14.0	15.7	15.2	16.5	16.2	15.7	15.2	16.5
Bangladesh.....	0.7	0.9	0.9	0.8	0.8	0.6	0.8	0.4	0.7	0.8
Bhutan.....	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.8
Burma.....	0.9	1.1	1.2	1.2	1.5	1.7	1.6	1.6	1.6	1.6
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	108.0	117.2	125.1	123.8	130.2	149.2	165.1	184.9	181.3	175.0
Fiji.....	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
French Polynesia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
India.....	57.3	61.5	70.9	72.0	69.2	69.8	81.9	72.0	68.4	65.0
Indonesia.....	8.3	8.5	10.1	10.0	12.6	12.0	11.1	10.8	11.0	9.9
Japan.....	89.9	90.8	88.4	96.5	81.7	94.6	66.6	81.3	79.7	85.9
Korea, North.....	31.2	31.4	31.4	31.4	23.8	23.8	23.3	22.8	22.3	22.4
Korea, South.....	3.5	4.5	6.3	5.0	4.8	5.9	4.1	5.4	5.1	5.3
Laos.....	0.5	0.7	0.8	0.9	0.9	0.9	1.1	1.0	1.2	1.2
Malaysia.....	5.6	5.2	3.9	4.4	4.3	4.9	6.5	6.1	5.1	4.5
Nepal.....	0.6	0.5	0.7	0.9	0.9	0.8	0.9	0.9	1.1	1.3
New Caledonia.....	0.5	0.5	0.5	0.3	0.3	0.3	0.4	0.4	0.5	0.5
New Zealand.....	23.1	21.9	23.1	22.9	20.4	23.1	25.6	27.0	25.5	22.6
Pakistan.....	16.5	16.8	16.8	18.1	18.5	20.9	19.2	22.6	23.0	23.2
Papua New Guinea.....	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Philippines.....	6.2	6.4	6.0	6.0	6.1	6.2	6.4	6.5	6.6	6.8
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	2.6	2.8	3.1	3.1	2.9	3.8	4.0	4.5	3.2	2.8
Taiwan.....	6.1	6.7	8.2	5.5	8.3	6.8	8.8	8.8	8.9	9.1
Thailand.....	3.7	5.5	4.9	4.5	4.2	3.7	4.5	6.6	7.3	7.5
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	1.8	3.8	5.3	5.6	5.8	8.2	9.8	12.0	13.3	14.0
Total.....	383.6	404.3	425.1	432.0	415.5	456.7	461.0	494.5	484.3	479.3
World Total.....	2,138.1	2,096.2	2,179.0	2,228.3	2,234.6	2,368.3	2,387.8	2,514.6	2,543.9	2,557.7

¹ Preliminary.

² Includes hydroelectric pumped storage. There is a discontinuity in this time series between 1989 and 1990. Before 1990, it includes all net imports of electricity. From 1990, it includes only the portion of net imports of electricity that is derived from hydroelectric power. In addition, beginning in 1990, expanded coverage of the use of hydroelectric power by nonutility power producers is included.

--= Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Consumption does not account for thermal equivalent conversion losses.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Sources: See sources at the end of Section 6.

Table 1.6 World Net Nuclear Electric Power Consumption, 1988 - 1997
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	78.2	75.4	69.2	80.7	76.6	90.1	102.4	93.0	88.1	77.9
Mexico.....	0.0	0.0	2.8	4.0	3.7	4.7	4.0	8.0	7.5	9.9
United States.....	527.0	529.4	577.0	612.6	618.8	610.4	640.5	673.4	674.7	629.4
Total.....	605.1	604.7	649.0	697.4	699.1	705.1	747.0	774.4	770.3	717.2
Central & South America										
Argentina.....	4.8	4.8	7.0	7.7	6.7	7.3	7.8	7.1	6.9	7.5
Brazil.....	0.3	1.5	1.9	1.4	1.7	0.4	0.1	2.4	2.3	3.0
Total.....	5.2	6.3	9.0	9.1	8.4	7.7	7.9	9.5	9.2	10.5
Western Europe										
Belgium.....	40.9	39.1	40.6	40.7	41.3	39.8	38.6	39.3	41.2	45.0
Finland.....	18.4	18.0	18.3	18.5	18.3	18.9	18.5	18.3	18.5	19.0
France.....	260.3	288.7	298.4	314.8	321.5	349.8	342.0	358.4	377.5	374.3
Germany.....	--	--	--	140.1	150.9	145.8	143.2	145.4	152.0	161.9
Germany, East.....	11.1	11.1	5.3	--	--	--	--	--	--	--
Germany, West.....	145.1	140.4	139.8	--	--	--	--	--	--	--
Netherlands.....	3.5	3.8	3.3	3.2	3.6	3.8	3.8	3.8	4.0	2.3
Spain.....	48.3	53.7	51.6	52.8	53.0	53.3	52.5	52.7	53.5	52.5
Sweden.....	65.6	62.8	64.8	72.9	60.4	58.3	69.5	66.4	69.6	66.7
Switzerland.....	21.5	21.5	22.4	21.7	22.3	22.2	23.1	23.7	23.9	24.0
United Kingdom.....	55.6	63.6	58.7	62.8	69.1	81.0	80.0	80.6	85.8	89.3
Former Yugoslavia.....	3.9	4.5	4.4	4.2	--	--	--	--	--	--
Slovenia.....	--	--	--	--	3.8	3.8	4.3	4.5	4.4	4.8
Total.....	674.2	707.3	707.5	731.6	744.1	776.6	775.4	793.0	830.3	840.0
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	15.1	14.6	13.5	12.4	11.0	13.3	14.6	16.4	17.8	16.4
Former Czechoslovakia.....	21.9	23.2	23.4	22.5	23.3	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	12.0	12.3	11.6	12.2	12.5
Slovakia.....	--	--	--	--	--	11.6	11.5	10.9	11.3	11.2
Hungary.....	12.7	13.1	13.0	13.0	13.3	13.1	13.3	13.3	13.5	13.3
Romania.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.1
Former U.S.S.R.....	203.7	212.7	201.3	201.5	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.0	0.0	0.0	0.0	2.1	1.4
Kazakhstan.....	--	--	--	--	0.5	0.4	0.4	0.1	0.1	0.3
Lithuania.....	--	--	--	--	13.9	12.3	7.3	10.6	12.7	10.9
Russia.....	--	--	--	--	113.6	113.2	92.9	94.3	103.3	104.5
Ukraine.....	--	--	--	--	70.1	71.4	65.4	67.0	76.0	75.4
Total.....	253.4	263.5	251.3	249.5	245.6	247.3	217.7	224.3	249.8	251.1
Africa										
South Africa.....	10.5	11.1	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6
Total.....	10.5	11.1	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6
Far East & Oceania										
China.....	0.0	0.0	0.0	0.0	0.5	2.5	13.5	12.4	13.6	11.4
India.....	5.2	3.8	5.6	5.2	6.0	5.9	4.7	6.5	7.4	10.5
Japan.....	173.9	174.5	192.2	202.8	212.1	236.8	255.7	276.7	287.1	306.1
Korea, South.....	37.8	45.0	50.2	53.5	53.7	55.2	55.7	63.7	70.2	73.2
Pakistan.....	0.2	0.1	0.4	0.4	0.5	0.4	0.6	0.5	0.3	0.4
Taiwan.....	29.4	27.1	31.6	33.5	32.5	33.0	33.5	33.9	36.3	34.8
Total.....	246.5	250.5	279.9	295.4	305.3	333.8	363.6	393.6	415.0	436.4
World Total.....	1,794.8	1,843.4	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,267.8

¹ Preliminary.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Consumption does not account for thermal equivalent conversion losses.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

No consumption is reported for Middle East.

Sources: See sources at the end of Section 6.

Table 1.7 World Net Geothermal, Solar, and Wind Electric Power Consumption, 1988 - 1997
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1	0.1	0.1
Mexico.....	4.7	4.7	4.9	5.2	5.5	5.6	5.3	5.4	5.4	5.2
United States. ²	12.0	11.3	63.9	71.0	76.8	79.3	81.3	78.6	80.3	86.8
Total.....	16.7	16.0	68.8	76.2	82.4	85.0	86.7	84.1	85.9	92.1
Central & South America										
Brazil..... ³	4.8	4.4	4.9	5.3	6.6	6.7	7.2	7.4	8.5	9.4
Costa Rica.....	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.5
El Salvador.....	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Nicaragua.....	0.2	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
Total.....	5.4	5.2	5.7	6.1	7.4	7.6	8.4	8.8	9.9	11.0
Western Europe										
Denmark.....	0.3	0.4	0.6	0.7	0.9	1.0	1.1	1.1	1.2	1.8
France.....	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Germany.....	--	--	--	0.2	0.3	0.6	0.9	1.4	1.9	2.9
Germany, West.....	(s)	(s)	(s)	--	--	--	--	--	--	--
Greece.....	(s)	0.0	(s)	0.0	(s)	(s)	(s)	(s)	(s)	(s)
Iceland.....	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4
Ireland.....	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	2.9	3.0	3.1	3.0	3.6	3.8	3.6	3.6	3.9	4.5
Netherlands.....	(s)	(s)	(s)	0.1	0.1	0.2	0.2	0.5	0.6	0.6
Norway.....	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)
Portugal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1
Spain.....	0.0	0.0	(s)	(s)	(s)	0.1	0.2	0.3	0.4	0.4
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1	0.2
Turkey.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
United Kingdom.....	(s)	(s)	(s)	(s)	(s)	0.2	0.3	0.4	0.5	0.5
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4.1	4.3	4.7	4.9	5.9	6.9	7.3	8.5	9.7	12.1
Eastern Europe & Former U.S.S.R.										
Poland.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(s)	(s)	(s)
Romania.....	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Former U.S.S.R.....	0.0	(s)	(s)	(s)	--	--	--	--	--	--
Russia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Middle East										
Jordan.....	0.0	(s)	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0
Total.....	0.0	(s)	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0
Africa										
Ethiopia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Kenya.....	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4
Total.....	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.5
Far East & Oceania										
Australia.....	0.0	0.0	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)
India.....	(s)	(s)	(s)	(s)	(s)	0.1	0.2	0.1	0.1	0.2
Indonesia.....	1.0	1.0	1.1	1.0	1.0	1.0	1.5	2.1	2.5	2.9
Japan.....	1.3	1.3	1.7	1.7	1.7	1.7	2.0	3.0	3.5	3.7
New Zealand.....	1.2	1.8	2.1	2.1	2.2	2.1	2.1	1.9	2.0	1.8
Philippines.....	4.6	5.1	5.2	5.5	5.4	5.5	5.6	5.7	5.8	5.9
Vietnam.....	0.2	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6
Total.....	8.3	9.1	10.0	10.3	10.3	10.9	11.9	13.5	14.6	15.1
World Total.....	34.8	35.1	89.7	97.9	106.3	110.7	114.6	115.2	120.6	130.8

¹ Preliminary.

² Includes the consumption of biomass electric power. There is a discontinuity in this time series between 1989 and 1990; beginning in 1990, consumption of biomass, geothermal, solar, and wind electric power generated by nonutility power producers is included.

³ Data are for consumption of biomass electric power.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Consumption does not account for thermal equivalent conversion losses.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Sources: See sources at the end of Section 6.

Table 1.8 World Consumption of Primary Energy by Selected Country Groups (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Petroleum										
World Total	132.96	134.82	134.87	136.11	136.59	136.59	139.14	142.44	145.36	148.71
OECD ²	81.61	82.63	82.70	83.63	85.70	86.56	88.93	90.43	92.70	93.79
Non OECD.....	51.35	52.19	52.17	52.48	50.89	50.03	50.21	52.01	52.66	54.92
Other Groups:.....										
OECD Europe.....	27.58	27.66	27.66	28.66	29.16	29.21	29.36	30.45	30.86	31.22
OPEC ³	8.38	8.74	9.11	9.31	9.55	10.09	10.30	10.87	11.01	11.34
EU, ⁴	24.58	24.71	24.75	25.80	26.18	25.79	25.96	26.95	27.11	27.39
IEA ⁵	76.04	76.76	76.50	77.05	78.53	78.61	80.44	81.71	83.41	84.13
Natural Gas										
World Total	71.24	74.31	75.10	76.21	76.33	78.47	78.31	80.20	84.13	83.86
OECD ²	34.54	36.23	36.58	37.88	38.70	40.28	41.31	43.40	45.83	45.88
Non OECD.....	36.70	38.08	38.52	38.33	37.63	38.19	37.01	36.80	38.31	37.98
Other Groups:.....										
OECD Europe.....	9.97	10.51	10.85	11.64	11.57	12.44	12.48	13.49	14.92	14.87
OPEC ³	5.62	6.06	5.98	6.10	6.63	6.99	7.49	7.95	8.62	9.04
EU, ⁴	8.97	9.39	9.80	10.59	10.53	11.14	11.21	12.02	13.27	13.20
IEA ⁵	33.01	34.67	35.04	36.30	37.10	38.47	39.43	41.33	43.41	43.30
Coal										
World Total	90.63	90.30	90.45	87.16	88.08	88.15	89.32	89.83	91.78	92.76
OECD ²	42.55	42.76	41.87	40.76	39.79	41.63	41.57	40.83	41.61	42.95
Non OECD.....	48.08	47.54	48.58	46.40	48.30	46.52	47.75	49.00	50.18	49.81
Other Groups:.....										
OECD Europe.....	17.11	17.23	16.27	15.31	13.84	14.99	14.56	13.43	13.15	13.62
OPEC ³	0.20	0.23	0.19	0.21	0.25	0.32	0.38	0.39	0.50	0.47
EU, ⁴	12.29	12.62	12.38	11.32	10.01	9.71	9.36	8.96	8.31	8.60
IEA ⁵	37.51	37.97	37.90	36.72	35.84	36.05	35.96	35.82	36.16	37.27
Hydroelectric Power										
World Total	22.24	21.83	22.69	23.18	23.22	24.60	24.81	26.12	26.43	26.57
OECD ²	12.48	11.93	12.33	12.55	12.44	13.18	12.73	13.60	14.06	14.11
Non OECD.....	9.76	9.90	10.35	10.64	10.78	11.42	12.08	12.51	12.38	12.47
Other Groups:.....										
OECD Europe.....	5.09	4.40	4.57	4.53	4.82	5.02	5.02	5.07	4.88	4.95
OPEC ³	0.55	0.57	0.60	0.70	0.79	0.78	0.79	0.83	0.81	0.83
EU, ⁴	3.22	2.61	2.70	2.75	2.93	2.97	3.05	2.99	2.99	2.96
IEA ⁵	12.14	11.55	11.95	12.19	12.04	12.75	12.38	13.16	13.57	13.67
Nuclear Electric Power										
World Total	19.30	19.81	20.37	21.29	21.36	22.07	22.50	23.35	24.17	23.97
OECD ²	15.96	16.38	16.99	17.93	18.15	18.99	19.61	20.35	20.84	20.59
Non OECD.....	3.34	3.44	3.38	3.36	3.21	3.08	2.89	3.01	3.33	3.37
Other Groups:.....										
OECD Europe.....	7.15	7.50	7.53	7.76	7.91	8.42	8.40	8.56	8.96	9.07
OPEC ³	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU, ⁴	6.78	7.12	7.14	7.40	7.55	7.91	7.87	8.04	8.43	8.53
IEA ⁵	15.57	15.91	16.46	17.35	17.57	18.24	18.87	19.49	19.92	19.61

See footnotes at end of table.

Table 1.8 World Consumption of Primary Energy by Selected Country Groups (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Geothermal, Solar, and Wind Electric Power ⁶										
World Total	0.66	0.66	1.31	1.40	1.49	1.55	1.60	1.60	1.68	1.81
OECD ²	0.47	0.46	1.10	1.18	1.26	1.31	1.33	1.31	1.37	1.47
Non OECD.....	0.19	0.20	0.21	0.22	0.23	0.24	0.27	0.29	0.32	0.34
Other Groups:.....										
OECD Europe.....	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.13	0.14	0.17
OPEC ³	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.05	0.06
EU, ⁴	0.07	0.07	0.08	0.08	0.09	0.11	0.11	0.12	0.14	0.16
IEA ⁵	0.36	0.36	0.99	1.07	1.14	1.18	1.21	1.19	1.24	1.35
Total Energy ⁷										
World Total	336.70	341.63	346.85	347.26	349.04	353.36	357.60	365.49	375.56	379.53
OECD ²	187.54	190.52	193.80	195.99	198.05	203.92	207.45	211.90	218.46	220.71
Non OECD.....	149.16	151.11	153.05	151.28	150.99	149.44	150.16	153.59	157.10	158.82
Other Groups:.....										
OECD Europe.....	67.25	67.63	67.13	68.13	67.45	70.23	69.97	71.16	72.97	73.96
OPEC ³	14.77	15.61	15.90	16.33	17.23	18.19	18.98	20.07	20.99	21.75
EU, ⁴	56.17	56.80	57.10	58.10	57.48	57.86	57.75	59.26	60.22	60.93
IEA ⁵	174.53	177.33	181.09	182.78	184.29	187.34	190.29	194.70	199.81	201.27

¹ Preliminary.

² The Organization for Economic Cooperation and Development (OECD) includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, South, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.). Refer to Appendix A for a listing of OECD Europe.

³ The Organization of Petroleum Exporting Countries (OPEC) includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁴ European Union (EU) includes Austria, Belgium, Denmark (including data for Faroe Islands), Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

⁵ International Energy Agency (IEA) includes Australia, Austria, Belgium, Canada, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.).

⁶ Includes the consumption of biomass electric power for the United States and Brazil.

⁷ Total primary energy consumption, as reported here, includes all of the fuel types reported in this table. It also includes for the United States, beginning in 1990: (1) the consumption of biomass, geothermal energy, and solar energy not used for electricity generation; (2) electricity imports from Mexico that are derived from geothermal energy; and (3) net imports of electricity derived from nonrenewable sources. It has also been adjusted to include total electricity imports and to exclude total electricity exports for all countries, except the United States. This adjustment is necessary because the consumption data for electric power by type, as reported in this table, are not adjusted for electricity imports and exports, except for hydroelectric power in the United States. As a result of these adjustments, total primary energy consumption reported in this table might not be equal to sum of the individual fuel types reported in this table.

(s) = Value less than 5 trillion Btu.

Notes: For consistency data reflect 1997 membership (as of December 31, 1997) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Section 2

World Energy Production, 1988-1997

Table 2.1 World Production of Primary Energy by Selected Country Groups, 1988 - 1997

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Petroleum (thousand barrels per day)²										
World Total.....	64,705	65,892	66,754	66,632	66,961	67,348	68,228	69,837	71,394	74,343
OECD ³	20,727	20,019	20,142	20,710	21,060	21,206	21,875	22,328	23,070	23,378
Non OECD.....	43,978	45,873	46,611	45,922	45,901	46,143	46,353	47,509	48,324	50,965
Other Groups:.....										
OECD Europe.....	4,553	4,480	4,645	4,874	5,272	5,486	6,214	6,630	7,050	7,033
OPEC ⁴	21,465	23,323	24,536	24,625	25,818	26,610	27,031	27,566	28,018	29,990
EU, ⁵	3,196	2,734	2,725	2,744	2,806	2,900	3,453	3,597	3,681	3,616
IEA ⁶	17,810	17,081	17,128	17,539	17,902	18,035	18,690	19,225	19,751	19,927
Natural Gas (trillion cubic feet)										
World Total.....	69.81	72.25	73.61	74.81	74.87	76.30	76.80	77.92	81.66	81.71
OECD ³	29.78	30.47	31.03	31.77	32.49	33.60	34.82	35.42	37.33	37.41
Non OECD.....	40.03	41.78	42.58	43.04	42.38	42.70	41.98	42.50	44.33	44.30
Other Groups:.....										
OECD Europe.....	7.38	7.62	7.46	8.07	8.11	8.59	8.65	8.97	10.35	10.15
OPEC ⁴	6.99	7.65	7.73	8.20	8.64	9.01	9.44	10.08	10.93	11.77
EU, ⁵	5.90	6.12	6.17	6.77	6.75	7.24	7.26	7.54	8.54	8.20
IEA ⁶	28.65	29.35	29.95	30.69	31.42	32.52	33.73	34.30	36.05	36.04
Coal (million short tons)										
World Total.....	5,234	5,321	5,353	5,029	5,026	4,906	5,018	5,134	5,208	5,218
OECD ³	2,425	2,457	2,418	2,257	2,200	2,166	2,224	2,217	2,251	2,275
Non OECD.....	2,810	2,864	2,935	2,772	2,827	2,740	2,794	2,917	2,956	2,943
Other Groups:.....										
OECD Europe.....	1,149	1,135	1,046	910	848	867	832	808	805	782
OPEC ⁴	7	13	13	18	29	36	41	52	61	68
EU, ⁵	788	780	737	609	555	501	454	433	428	410
IEA ⁶	2,096	2,151	2,153	2,001	1,960	1,852	1,904	1,902	1,937	1,968
Hydroelectric Power (billion kilowatthours)										
World Total.....	2,106.4	2,085.3	2,170.2	2,209.0	2,210.8	2,343.5	2,360.0	2,488.7	2,512.7	2,536.3
OECD ³	1,168.0	1,133.1	1,174.5	1,186.3	1,174.1	1,245.5	1,198.6	1,285.3	1,322.6	1,337.3
Non OECD.....	938.4	952.2	995.7	1,022.7	1,036.7	1,098.0	1,161.4	1,203.4	1,190.1	1,199.0
Other Groups:.....										
OECD Europe.....	487.2	421.0	437.3	435.4	463.6	482.2	482.8	488.0	468.8	476.2
OPEC ⁴	53.4	54.4	57.9	67.4	75.6	75.1	75.5	79.5	77.6	80.2
EU, ⁵	306.9	248.5	257.3	264.4	281.5	285.7	293.6	287.3	287.2	284.5
IEA ⁶	1,135.2	1,096.3	1,137.5	1,152.1	1,135.6	1,204.3	1,165.0	1,242.2	1,275.7	1,295.6
Nuclear Electric Power (billion kilowatthours)										
World Total.....	1,794.8	1,843.4	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,267.8
OECD ³	1,499.8	1,540.1	1,607.6	1,694.1	1,718.5	1,795.1	1,855.1	1,928.2	1,979.3	1,957.5
Non OECD.....	295.1	303.3	297.6	297.9	293.3	282.7	266.2	277.8	307.2	310.3
Other Groups:.....										
OECD Europe.....	682.9	715.9	716.1	740.4	753.6	797.9	796.8	813.5	851.6	860.9
OPEC ⁴	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU, ⁵	648.8	681.3	680.7	705.7	718.1	750.7	748.0	764.9	802.1	811.2
IEA ⁶	1,462.0	1,495.1	1,554.5	1,636.5	1,661.1	1,723.2	1,783.1	1,844.9	1,889.4	1,861.9

See footnotes at end of table.

Table 2.1 World Production of Primary Energy by Selected Country Groups, 1988 - 1997 (Continued)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Geothermal, Solar, and Wind Electric Power (billion kilowatthours)⁷										
World Total	34.8	35.1	89.7	97.9	106.3	110.7	114.6	115.2	120.6	130.8
OECD ³	23.3	23.5	77.3	84.9	92.1	95.6	98.1	97.6	101.2	109.7
Non OECD.....	11.5	11.6	12.4	13.1	14.2	15.1	16.5	17.6	19.4	21.1
Other Groups:.....										
OECD Europe.....	4.1	4.3	4.7	4.9	5.9	6.9	7.3	8.5	9.8	12.1
OPEC ⁴	1.0	1.0	1.1	1.0	1.0	1.0	1.5	2.1	2.5	2.9
EU, ⁵	3.8	4.0	4.3	4.6	5.6	6.6	7.0	8.1	9.3	11.6
IEA ⁶	18.4	18.5	72.1	79.5	86.4	89.8	92.5	91.9	95.4	104.1

¹ Preliminary.

² Data include the production of crude oil, natural gas plant liquids, refinery gain, and other liquid fuels.

³ The Organization for Economic Cooperation and Development (OECD) includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, South, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.). Refer to Appendix A for a listing of OECD Europe.

⁴ The Organization of Petroleum Exporting Countries (OPEC) includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁵ European Union (EU) includes Austria, Belgium, Denmark (including data for Faroe Islands), Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

⁶ International Energy Agency (IEA) includes Australia, Austria, Belgium, Canada, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.).

⁷ Includes biomass electric power generation for United States and Brazil.

Notes: For consistency data reflect 1997 membership (as of December 31, 1997) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Table 2.2 World Crude Oil Production, 1988 - 1997
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada ²	1,616	1,560	1,553	1,548	1,605	1,679	1,746	1,805	1,837	1,922
Mexico.....	2,512	2,520	2,553	2,680	2,669	2,673	2,685	2,618	2,855	3,023
United States.....	8,140	7,613	7,355	7,417	7,171	6,847	6,662	6,560	6,465	6,452
Total.....	12,268	11,693	11,461	11,644	11,446	11,199	11,093	10,982	11,156	11,396
Central & South America										
Argentina.....	449	460	483	485	553	594	650	715	756	834
Bolivia.....	19	20	21	21	21	22	23	28	30	35
Brazil.....	554	596	631	630	626	643	671	695	795	841
Chile.....	24	22	20	17	15	14	12	11	9	7
Colombia.....	378	403	440	419	433	456	450	585	623	652
Cuba.....	15	15	14	14	16	20	24	26	30	30
Ecuador.....	302	279	285	299	321	344	365	392	396	388
Peru.....	141	130	129	115	116	126	128	130	120	118
Trinidad and Tobago.....	157	154	150	151	137	135	132	131	130	124
Venezuela.....	1,903	1,907	2,137	2,375	2,371	2,450	2,588	2,750	2,938	3,315
Other.....	7	9	9	9	11	13	16	18	21	21
Total.....	3,950	3,995	4,318	4,535	4,621	4,817	5,059	5,481	5,848	6,367
Western Europe										
Austria.....	23	23	22	26	23	22	21	23	21	19
Denmark.....	99	117	121	143	163	174	185	186	208	230
France.....	67	65	61	59	58	55	56	50	43	36
Germany.....	--	--	--	71	63	61	58	59	60	56
Germany, East.....	1	1	1	--	--	--	--	--	--	--
Germany, West.....	78	75	71	--	--	--	--	--	--	--
Greece.....	21	17	15	16	13	11	10	9	8	9
Italy.....	90	82	87	80	83	83	86	93	101	112
Netherlands.....	77	64	70	74	53	50	78	66	56	53
Norway.....	1,158	1,554	1,704	1,890	2,229	2,350	2,521	2,768	3,104	3,143
Spain.....	30	21	16	22	22	18	17	13	11	8
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkey.....	50	56	73	88	84	76	72	67	67	68
United Kingdom.....	2,232	1,802	1,820	1,797	1,825	1,915	2,375	2,489	2,568	2,518
Former Yugoslavia.....	75	70	64	60	--	--	--	--	--	--
Croatia.....	--	--	--	--	36	36	39	32	30	29
Serbia and Montenegro.....	--	--	--	--	23	23	24	22	22	20
Slovenia.....	--	--	--	--	0	(s)	(s)	(s)	(s)	(s)
Total.....	4,001	3,947	4,125	4,326	4,676	4,873	5,543	5,878	6,299	6,300
Eastern Europe & Former U.S.S.R.										
Albania.....	44	47	30	19	11	11	12	10	10	9
Bulgaria.....	4	5	4	1	1	1	1	1	1	1
Former Czechoslovakia.....	3	3	2	3	2	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	2	2	3	4	3
Slovakia.....	--	--	--	--	--	1	1	1	2	2
Hungary.....	39	36	40	34	33	34	39	35	32	35
Poland.....	3	3	2	3	3	5	5	5	5	6
Romania.....	193	180	163	140	136	133	138	135	135	134
Former U.S.S.R.....	12,053	11,715	10,975	9,992	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	213	200	184	175	176	173
Belarus.....	--	--	--	--	40	40	40	38	36	36
Georgia.....	--	--	--	--	3	2	2	1	1	3
Kazakhstan.....	--	--	--	--	444	408	352	362	403	466
Kyrgyzstan.....	--	--	--	--	2	2	2	2	2	2
Lithuania.....	--	--	--	--	0	2	3	3	3	4
Russia.....	--	--	--	--	7,632	6,730	6,135	5,995	5,850	5,920
Tajikistan.....	--	--	--	--	1	1	(s)	1	(s)	1
Turkmenistan.....	--	--	--	--	98	79	77	70	76	103
Ukraine.....	--	--	--	--	72	66	64	65	66	58
Uzbekistan.....	--	--	--	--	36	47	75	115	115	112
Total.....	12,339	11,989	11,216	10,191	8,727	7,764	7,131	7,017	6,917	7,067

See footnotes at end of table.

Table 2.2 World Crude Oil Production, 1988 - 1997 (Continued)
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Bahrain.....	43	43	42	38	37	41	41	41	35	40
Iran.....	2,240	2,810	3,088	3,312	3,429	3,540	3,618	3,643	3,686	3,664
Iraq.....	2,685	2,897	2,040	305	425	512	553	560	579	1,155
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	1	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,492	1,783	1,175	190	1,058	1,852	2,025	2,057	2,062	2,083
Oman.....	617	641	685	700	740	776	810	851	883	904
Qatar.....	346	380	406	395	423	413	415	442	510	649
Saudi Arabia.....	5,086	5,064	6,410	8,115	8,332	8,198	8,120	8,231	8,218	8,562
Syria.....	265	340	388	492	481	554	560	575	582	561
United Arab Emirates.....	1,565	1,860	2,117	2,386	2,266	2,159	2,193	2,233	2,278	2,316
Yemen.....	173	194	193	197	182	220	335	345	340	385
Total.....	14,513	16,013	16,545	16,130	17,373	18,265	18,669	18,979	19,174	20,320
Africa										
Algeria.....	1,040	1,095	1,175	1,230	1,214	1,162	1,180	1,202	1,242	1,277
Angola.....	452	455	475	500	526	509	536	646	709	714
Benin.....	5	4	4	4	6	6	6	3	2	3
Cameroon.....	163	170	161	153	140	127	108	111	108	124
Congo (Brazzaville).....	144	164	165	156	174	181	180	188	201	261
Congo (Kinshasa).....	30	28	29	28	26	25	26	30	30	28
Cote d'Ivoire (Ivory Coast).....	12	2	2	2	2	1	7	8	16	19
Egypt.....	848	865	873	874	881	890	896	920	922	856
Equatorial Guinea.....	0	0	0	(s)	2	5	5	5	17	52
Gabon.....	159	208	270	294	298	313	329	365	368	370
Ghana.....	0	0	0	0	1	2	1	4	6	5
Libya.....	1,175	1,150	1,375	1,483	1,433	1,361	1,378	1,390	1,401	1,446
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	1,450	1,716	1,810	1,892	1,943	1,960	1,931	1,993	2,001	2,332
Sudan.....	0	0	0	0	(s)	(s)	(s)	(s)	2	5
Tunisia.....	103	105	93	104	109	98	92	89	87	90
Total.....	5,581	5,962	6,432	6,721	6,755	6,638	6,674	6,954	7,112	7,584
Far East & Oceania										
Australia.....	538	490	575	545	535	503	536	562	570	588
Bangladesh.....	1	1	1	1	1	1	1	1	1	2
Brunei.....	137	132	150	161	165	165	167	163	155	175
Burma.....	13	15	13	15	14	14	14	10	8	10
China.....	2,730	2,757	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200
India.....	635	700	660	615	561	534	590	703	651	675
Indonesia.....	1,342	1,409	1,462	1,592	1,504	1,511	1,510	1,503	1,547	1,520
Japan.....	12	11	11	15	17	12	11	11	12	10
Malaysia.....	540	585	619	646	653	640	645	682	695	746
New Zealand.....	33	38	40	41	38	41	39	32	37	58
Pakistan.....	45	48	62	62	61	60	55	57	55	57
Papua New Guinea.....	0	0	0	(s)	53	126	110	100	103	80
Philippines.....	6	5	5	3	8	9	6	3	2	1
Taiwan.....	2	2	3	2	2	1	1	1	1	1
Thailand.....	36	40	44	46	51	52	56	51	61	72
Vietnam.....	15	32	50	80	106	120	141	173	175	191
Total.....	6,085	6,264	6,468	6,660	6,615	6,680	6,822	7,043	7,205	7,385
World Total.....	58,737	59,863	60,566	60,207	60,213	60,236	60,991	62,335	63,711	66,420

¹ Preliminary.

² Includes oil processed from Athabasca Tar Sands.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Notes: Sum of components may not equal total due to independent rounding. Crude oil includes lease condensate.

Sources: See sources at the end of Section 3.

Table 2.3 World Natural Gas Plant Liquids Production, 1988 - 1997
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	381	410	426	431	460	506	529	581	596	636
Mexico.....	370	384	428	457	454	459	461	447	423	388
United States.....	1,625	1,546	1,559	1,659	1,697	1,736	1,727	1,762	1,830	1,817
Total.....	2,376	2,340	2,413	2,548	2,611	2,701	2,717	2,789	2,849	2,841
Central & South America										
Argentina.....	35	27	27	30	30	35	44	42	44	48
Bolivia.....	5	5	5	5	7	7	7	6	7	8
Brazil.....	25	22	20	22	25	25	35	40	35	30
Chile.....	10	10	12	11	11	12	12	13	12	7
Colombia.....	4	8	8	6	6	5	5	8	8	9
Cuba.....	2	2	2	2	2	2	2	2	2	3
Ecuador.....	2	2	2	2	3	9	9	9	9	5
Peru.....	1	(s)	1	1	1	1	1	1	1	1
Trinidad and Tobago.....	0	0	0	3	5	(s)	(s)	(s)	(s)	(s)
Venezuela.....	98	108	114	117	113	143	146	149	150	162
Total.....	182	184	191	199	203	239	262	270	268	273
Western Europe										
Austria.....	1	1	1	1	1	1	1	1	1	1
France.....	12	12	11	10	13	13	13	12	12	10
Greece.....	2	2	2	1	1	1	1	1	1	1
Italy.....	1	1	1	1	1	1	1	1	1	1
Netherlands.....	11	13	14	10	13	16	25	21	25	24
Norway.....	75	74	78	94	95	100	103	137	138	139
Spain.....	7	9	11	11	9	6	4	4	4	4
United Kingdom.....	159	140	108	141	160	169	218	267	259	233
Former Yugoslavia.....	11	8	10	8	--	--	--	--	--	--
Croatia.....	--	--	--	--	6	7	7	8	6	7
Total.....	279	260	236	277	299	313	373	450	447	419
Eastern Europe & Former U.S.S.R.										
Former Czechoslovakia.....	(s)	(s)	(s)	(s)	(s)	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	(s)	(s)	(s)	(s)	(s)
Hungary.....	23	15	15	13	13	11	11	11	10	15
Poland.....	1	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Romania.....	13	13	8	8	7	4	4	6	7	6
Former U.S.S.R.....	450	425	425	420	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	9	8	8	7	6	7
Kazakhstan.....	--	--	--	--	86	82	63	52	54	55
Kyrgyzstan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	--	230	220	200	180	185	195
Tajikistan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	--	12	11	8	11	12	17
Ukraine.....	--	--	--	--	23	21	21	20	15	26
Uzbekistan.....	--	--	--	--	30	38	40	45	50	45
Total.....	487	453	448	441	411	395	355	332	339	367
Middle East										
Bahrain.....	9	8	5	5	7	12	13	10	10	11
Iran.....	20	27	35	50	50	55	55	60	60	70
Iraq.....	20	54	30	0	(s)	15	20	25	20	20
Kuwait.....	100	105	65	0	34	53	85	95	85	115
Oman.....	6	10	10	8	6	5	6	10	10	6
Qatar.....	30	24	40	50	55	55	50	55	50	70
Saudi Arabia.....	499	503	620	680	713	704	698	701	697	712
Syria.....	1	2	2	2	2	8	8	9	8	10
United Arab Emirates.....	130	130	135	146	144	146	150	160	160	160
Total.....	815	863	942	941	1,011	1,053	1,085	1,125	1,100	1,174

See footnotes at end of table.

Table 2.3 World Natural Gas Plant Liquids Production, 1988 - 1997 (Continued)
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Africa										
Algeria.....	120	130	130	140	140	145	140	145	150	160
Egypt.....	35	45	40	45	45	55	58	60	65	71
Libya.....	30	35	35	40	40	41	41	40	49	60
South Africa.....	0	0	0	0	2	11	11	11	11	11
Tunisia.....	5	5	5	5	5	4	4	1	1	1
Total.....	190	215	210	230	232	256	254	257	276	303
Far East & Oceania ²										
Australia.....	67	65	63	61	56	55	56	52	62	71
Bangladesh.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	11	10	10	10	12	13	13	13	11	15
Burma.....	1	1	1	1	1	(s)	(s)	(s)	(s)	(s)
India.....	9	10	10	10	28	30	45	47	80	85
Indonesia.....	30	72	77	76	75	78	80	76	80	85
Japan.....	(s)	(s)	(s)	(s)	(s)	4	4	4	4	5
Malaysia.....	11	11	12	12	13	17	17	20	20	50
New Zealand.....	4	4	4	5	5	5	5	5	5	7
Pakistan.....	(s)	(s)	(s)	2	3	2	3	5	3	3
Taiwan.....	2	2	1	1	1	1	1	1	1	1
Thailand.....	16	11	13	13	14	15	22	37	35	50
Total.....	152	187	192	192	208	221	246	261	301	372
World Total.....	4,481	4,502	4,632	4,827	4,974	5,180	5,292	5,485	5,580	5,750

¹ Preliminary.

² Does not include China for which data are unavailable.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table 2.4 World Dry Natural Gas Production, 1988 - 1997
(Trillion Cubic Feet)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	3.57	3.80	3.85	4.06	4.52	4.91	5.26	5.64	5.78	5.85
Mexico.....	0.92	0.93	0.94	0.94	0.92	0.90	0.91	0.94	1.10	1.19
United States.....	17.10	17.31	17.81	17.70	17.84	18.10	18.82	18.60	18.79	18.90
Total.....	21.60	22.03	22.60	22.69	23.28	23.90	25.00	25.18	25.67	25.94
Central & South America										
Argentina.....	0.63	0.72	0.63	0.70	0.71	0.76	0.79	0.88	0.94	0.97
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.10	0.11	0.11	0.10	0.11	0.10	0.10	0.11	0.11	0.11
Brazil.....	0.10	0.12	0.10	0.12	0.13	0.15	0.15	0.16	0.18	0.19
Chile.....	0.04	0.06	0.07	0.05	0.06	0.06	0.07	0.07	0.06	0.08
Colombia.....	0.15	0.15	0.15	0.16	0.15	0.16	0.16	0.16	0.17	0.21
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ecuador.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Peru.....	0.04	0.04	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
Trinidad and Tobago.....	0.15	0.16	0.18	0.20	0.19	0.22	0.25	0.27	0.30	0.33
Venezuela.....	0.66	0.77	0.76	0.79	0.76	0.81	0.88	0.89	0.96	1.00
Total.....	1.87	2.13	2.01	2.15	2.14	2.30	2.44	2.58	2.76	2.93
Western Europe										
Austria.....	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	(s)	0.00
Denmark.....	0.09	0.11	0.11	0.14	0.15	0.16	0.17	0.19	0.23	0.28
France.....	0.11	0.11	0.10	0.11	0.11	0.12	0.12	0.12	0.10	0.09
Germany.....	--	--	--	0.67	0.68	0.68	0.67	0.71	0.79	0.78
Germany, East.....	0.31	0.28	0.14	--	--	--	--	--	--	--
Germany, West.....	0.59	0.58	0.58	--	--	--	--	--	--	--
Greece.....	(s)	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.07	0.08	0.08	0.08	0.08	0.09	0.10	0.10	0.09	0.08
Italy.....	0.59	0.60	0.61	0.61	0.64	0.69	0.73	0.72	0.71	0.68
Netherlands.....	2.45	2.67	2.69	3.04	3.06	3.11	2.95	2.97	3.37	2.99
Norway.....	1.05	1.09	0.98	0.97	1.04	0.97	1.04	1.08	1.45	1.60
Spain.....	0.03	0.06	0.05	0.05	0.04	0.02	0.01	0.01	0.02	0.01
Switzerland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00
Turkey.....	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
United Kingdom.....	1.62	1.58	1.75	2.01	1.93	2.31	2.47	2.67	3.18	3.24
Former Yugoslavia.....	0.11	0.10	0.09	0.09	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	(s)	0.00	0.00	0.03	0.00	0.00
Croatia.....	--	--	--	--	0.06	0.07	0.06	0.07	0.06	0.06
Serbia and Montenegro.....	--	--	--	--	0.03	0.03	0.03	0.03	0.03	0.03
Slovenia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	7.07	7.32	7.24	7.83	7.89	8.32	8.40	8.75	10.08	9.90

See footnotes at end of table.

Table 2.4 World Dry Natural Gas Production, 1988 - 1997 (Continued)
(Trillion Cubic Feet)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.02	0.02	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	(s)	(s)	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.03	0.03	0.03	0.02	0.01	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	0.01	0.01	0.01	0.01	(s)
Slovakia.....	--	--	--	--	--	0.01	0.01	0.01	0.01	0.01
Hungary.....	0.22	0.22	0.17	0.18	0.18	0.19	0.17	0.17	0.16	0.15
Poland.....	0.20	0.19	0.14	0.15	0.14	0.18	0.16	0.17	0.18	0.18
Romania.....	1.28	1.13	1.00	0.88	0.78	0.75	0.69	0.68	0.63	0.54
Former U.S.S.R.....	27.19	28.11	28.78	28.62	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	0.28	0.24	0.23	0.23	0.24	0.21
Belarus.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Georgia.....	--	--	--	--	(s)	0.00	0.00	0.00	0.00	0.00
Kazakhstan.....	--	--	--	--	0.29	0.24	0.16	0.17	0.15	0.22
Kyrgyzstan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	--	22.62	21.81	21.45	21.01	21.23	20.17
Tajikistan.....	--	--	--	--	(s)	0.00	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	--	2.02	2.29	1.26	1.14	1.31	0.90
Ukraine.....	--	--	--	--	0.74	0.68	0.64	0.62	0.64	0.62
Uzbekistan.....	--	--	--	--	1.51	1.59	1.67	1.70	1.70	1.74
Total.....	28.95	29.70	30.13	29.85	28.58	27.99	26.47	25.93	26.28	24.75
Middle East										
Bahrain.....	0.18	0.19	0.21	0.23	0.19	0.23	0.23	0.23	0.23	0.23
Iran.....	0.71	0.78	0.84	0.92	0.88	0.96	1.12	1.25	1.42	1.60
Iraq.....	0.20	0.22	0.15	0.04	0.10	0.09	0.11	0.11	0.11	0.13
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	0.00	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.23	0.29	0.19	0.02	0.09	0.19	0.21	0.21	0.33	0.33
Oman.....	0.07	0.10	0.10	0.12	0.12	0.14	0.15	0.15	0.15	0.15
Qatar.....	0.21	0.22	0.28	0.33	0.40	0.48	0.48	0.48	0.48	0.63
Saudi Arabia.....	1.03	1.05	1.08	1.13	1.20	1.27	1.33	1.34	1.46	1.53
Syria.....	0.02	0.04	0.10	0.12	0.13	0.13	0.13	0.10	0.14	0.14
United Arab Emirates.....	0.66	0.81	0.78	0.92	1.02	0.94	0.91	1.11	1.19	1.27
Total.....	3.31	3.69	3.72	3.84	4.14	4.43	4.69	4.99	5.53	6.03
Africa										
Algeria.....	1.63	1.71	1.79	1.93	1.97	1.90	1.81	2.05	2.19	2.47
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Congo (Brazzaville).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.02
Egypt.....	0.24	0.27	0.29	0.32	0.35	0.40	0.42	0.44	0.47	0.48
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.19	0.21	0.22	0.23	0.24	0.22	0.23	0.22	0.23	0.23
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	0.13	0.17	0.13	0.17	0.17	0.18	0.16	0.18	0.19	0.19
Senegal.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	0.00	0.00	(s)	0.06	0.07	0.07	0.07	0.07
Tunisia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.10
Total.....	2.24	2.39	2.46	2.69	2.77	2.81	2.72	3.01	3.23	3.59

See footnotes at end of table.

Table 2.4 World Dry Natural Gas Production, 1988 - 1997 (Continued)
(Trillion Cubic Feet)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.11	0.10	0.10	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.56	0.57	0.72	0.75	0.82	0.86	0.92	1.03	1.05	1.04
Bangladesh.....	0.15	0.16	0.16	0.17	0.21	0.22	0.23	0.26	0.27	0.27
Brunei.....	0.30	0.31	0.32	0.28	0.29	0.29	0.30	0.33	0.33	0.32
Burma.....	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.05
China.....	0.49	0.51	0.51	0.53	0.53	0.56	0.59	0.60	0.67	0.75
India.....	0.31	0.32	0.40	0.45	0.48	0.53	0.59	0.63	0.70	0.83
Indonesia.....	1.34	1.42	1.53	1.72	1.79	1.97	2.21	2.24	2.35	2.37
Japan.....	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Malaysia.....	0.58	0.61	0.65	0.75	0.80	0.88	0.92	1.02	1.23	1.36
New Zealand.....	0.17	0.17	0.17	0.19	0.20	0.18	0.17	0.16	0.19	0.20
Pakistan.....	0.44	0.47	0.48	0.53	0.55	0.58	0.63	0.65	0.70	0.70
Papua New Guinea.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)
Taiwan.....	0.02	0.05	0.08	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Thailand.....	0.19	0.18	0.21	0.24	0.25	0.31	0.34	0.37	0.43	0.52
Vietnam.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.03
Total.....	4.78	4.98	5.44	5.76	6.07	6.55	7.09	7.49	8.11	8.57
World Total.....	69.81	72.25	73.61	74.81	74.87	76.30	76.80	77.92	81.66	81.71

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 billion cubic feet.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 4.

Table 2.5 World Coal Production, 1988 - 1997
(Million Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	77.87	77.73	75.35	78.41	72.32	76.09	80.27	82.71	83.57	86.74
Mexico.....	7.90	8.49	8.59	7.82	7.24	7.84	9.81	9.80	10.10	10.30
United States.....	950.26	980.73	1,029.08	995.98	997.54	945.42	1,033.50	1,032.97	1,063.86	1,089.93
Total.....	1,036.04	1,066.95	1,113.01	1,082.21	1,077.11	1,029.35	1,123.59	1,125.48	1,157.52	1,186.97
Central & South America										
Argentina.....	0.56	0.57	0.30	0.32	0.22	0.19	0.38	0.34	0.34	0.35
Brazil.....	8.08	7.35	5.07	5.72	5.22	5.07	4.91	4.58	4.23	4.87
Chile.....	2.16	2.19	2.45	2.48	1.86	1.54	1.35	1.15	1.23	1.21
Colombia.....	16.61	20.21	22.56	26.01	26.21	23.39	24.98	28.37	33.14	35.93
Peru.....	0.16	0.16	0.14	0.08	0.18	0.13	0.10	0.16	0.07	0.08
Venezuela.....	1.18	2.35	2.41	2.82	3.39	4.29	5.23	5.11	3.84	6.12
Total.....	28.75	32.83	32.93	37.43	37.07	34.61	36.95	39.72	42.85	48.56
Western Europe										
Austria.....	2.35	2.28	2.70	2.29	1.95	1.86	1.26	1.43	1.22	1.21
Belgium.....	3.54	2.80	2.69	2.32	1.32	1.07	0.83	0.70	0.63	0.44
France.....	16.03	15.94	15.47	14.45	13.26	11.95	10.48	9.24	9.34	7.64
Germany.....	--	--	--	388.37	346.09	315.23	291.78	273.27	264.99	251.74
Germany, East.....	342.06	331.86	308.65	--	--	--	--	--	--	--
Germany, West.....	209.85	208.86	205.06	--	--	--	--	--	--	--
Greece.....	53.27	57.17	57.21	58.09	60.68	60.44	62.55	63.64	65.90	66.23
Ireland.....	0.05	0.05	0.03	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	1.15	1.18	1.12	1.06	0.91	0.69	0.30	0.42	0.33	0.23
Norway.....	0.29	0.40	0.33	0.36	0.40	0.30	0.33	0.32	0.25	0.27
Portugal.....	0.25	0.28	0.31	0.30	0.24	0.22	0.16	0.16	0.00	0.00
Spain.....	45.07	48.43	39.63	37.00	36.90	34.81	32.67	31.28	30.08	29.17
Sweden.....	0.03	0.02	0.01	0.03	0.04	(s)	(s)	0.00	0.00	0.00
Turkey.....	43.20	57.57	52.28	50.83	56.69	53.53	59.93	60.63	62.08	62.36
United Kingdom.....	114.75	111.44	104.05	104.63	93.58	75.18	53.92	52.48	55.33	53.51
Former Yugoslavia.....	80.00	82.23	83.61	78.04	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	6.92	5.54	3.24	3.13	1.81	1.69
Croatia.....	--	--	--	--	0.00	0.13	0.11	0.09	0.07	0.05
Macedonia, TFYR.....	--	--	--	--	7.14	7.63	7.56	7.99	7.88	7.17
Serbia and Montenegro.....	--	--	--	--	46.64	40.65	40.30	44.10	42.36	39.78
Slovenia.....	--	--	--	--	6.12	5.64	5.35	5.38	5.26	5.18
Total.....	911.89	920.53	873.15	737.77	678.89	614.89	570.77	554.28	547.53	526.68
Eastern Europe & Former U.S.S.R.										
Albania.....	2.41	2.42	2.28	1.20	0.40	0.24	0.19	0.13	0.11	0.10
Bulgaria.....	37.64	37.81	34.92	31.36	33.44	32.00	31.73	31.19	31.78	28.66
Former Czechoslovakia.....	138.31	131.86	117.49	109.27	101.90	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	77.17	82.14	78.60	76.75	71.67
Slovakia.....	--	--	--	--	--	3.57	3.26	2.94	2.80	2.62
Hungary.....	23.01	22.08	19.38	18.71	17.45	16.10	15.54	15.20	16.60	17.24
Poland.....	293.77	274.97	237.35	231.25	218.78	218.44	220.34	220.17	221.50	220.45
Romania.....	64.81	66.40	42.80	35.72	42.18	42.80	45.33	43.92	50.58	41.17
Former U.S.S.R.....	851.31	816.07	881.84	701.66	--	--	--	--	--	--
Georgia.....	--	--	--	--	0.22	0.13	0.04	0.04	0.02	0.02
Kazakhstan.....	--	--	--	--	139.49	123.32	119.93	91.32	84.43	79.62
Kyrgyzstan.....	--	--	--	--	3.53	3.09	2.65	1.76	1.47	1.68
Moldova.....	--	--	--	--	0.29	0.20	0.12	0.04	0.04	0.04
Russia.....	--	--	--	--	405.85	364.03	320.34	310.03	304.07	287.56
Tajikistan.....	--	--	--	--	0.29	0.20	0.12	0.04	0.03	0.03
Ukraine.....	--	--	--	--	146.75	127.70	104.61	92.98	82.45	86.52
Uzbekistan.....	--	--	--	--	5.19	4.19	4.18	3.40	3.13	3.54
Total.....	1,411.25	1,351.60	1,336.04	1,129.16	1,115.75	1,013.17	950.53	891.74	875.75	840.92

See footnotes at end of table.

Table 2.5 World Coal Production, 1988 - 1997 (Continued)
(Million Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Iran.....	1.39	1.32	1.21	1.09	1.07	1.07	1.43	1.25	1.25	1.32
Total.....	1.39	1.32	1.21	1.09	1.07	1.07	1.43	1.25	1.25	1.32
Africa										
Algeria.....	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Botswana.....	0.67	0.70	0.88	0.88	0.99	0.98	0.92	0.90	0.84	0.84
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.17	0.12	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.10
Egypt.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.39
Malawi.....	0.03	0.04	0.04	0.06	0.05	0.06	0.06	0.06	0.06	0.06
Morocco.....	0.70	0.56	0.58	0.61	0.63	0.67	0.69	0.72	0.56	0.57
Mozambique.....	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04
Niger.....	0.17	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Nigeria.....	0.09	0.09	0.08	0.15	0.10	0.05	0.06	0.06	0.06	0.06
South Africa.....	199.92	194.47	193.18	196.43	202.88	207.47	215.84	227.31	227.48	242.59
Swaziland.....	0.18	0.18	0.18	0.14	0.11	0.06	0.20	0.19	0.14	0.06
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Zambia.....	0.69	0.44	0.42	0.42	0.44	0.44	0.42	0.40	0.39	0.39
Zimbabwe.....	5.58	5.63	6.07	6.19	6.12	5.83	6.03	6.09	5.78	5.79
Total.....	208.27	202.48	201.76	205.22	211.66	215.90	224.58	236.09	235.78	251.11
Far East & Oceania										
Afghanistan.....	0.15	0.14	0.12	0.10	0.01	0.01	0.01	0.01	(s)	(s)
Australia.....	196.44	216.13	225.78	235.93	248.96	247.58	248.46	266.55	272.26	292.82
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.08	0.08
China.....	1,080.12	1,161.95	1,190.36	1,198.66	1,228.58	1,303.53	1,403.50	1,536.97	1,539.60	1,553.45
India.....	214.51	221.44	233.39	252.74	270.25	281.23	291.41	301.30	339.58	329.49
Indonesia.....	4.64	9.25	8.84	14.08	24.22	30.39	34.19	45.66	55.48	60.41
Japan.....	13.78	12.55	11.33	9.59	8.64	7.95	8.07	7.12	7.34	4.84
Korea, North.....	66.14	69.11	71.32	72.75	73.85	77.71	77.71	78.07	78.66	67.63
Korea, South.....	26.78	22.91	18.98	16.60	13.19	10.41	8.20	6.31	5.46	4.97
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Malaysia.....	0.10	0.12	0.12	0.20	0.19	0.42	0.15	0.12	0.09	0.12
Mongolia.....	9.48	8.86	7.99	6.08	5.43	5.14	4.75	4.67	4.87	4.63
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Zealand.....	2.82	3.18	2.95	3.09	3.44	3.59	3.46	3.64	3.65	3.40
Pakistan.....	3.01	2.89	3.03	3.18	3.39	3.39	3.54	3.32	4.01	4.12
Philippines.....	1.48	1.36	1.37	1.39	1.83	1.75	1.60	1.46	1.24	1.27
Taiwan.....	1.35	0.86	0.52	0.44	0.37	0.36	0.31	0.26	0.16	0.11
Thailand.....	8.02	9.82	13.71	16.22	16.93	17.14	18.84	20.31	23.68	24.29
Vietnam.....	7.67	4.22	5.10	4.77	5.28	6.50	6.27	9.20	10.83	11.11
Total.....	1,636.57	1,744.90	1,795.02	1,835.93	1,904.67	1,997.19	2,110.58	2,285.06	2,347.01	2,362.78
World Total.....	5,234.16	5,320.60	5,353.14	5,028.80	5,026.22	4,906.18	5,018.43	5,133.61	5,207.69	5,218.35

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 thousand short tons.

Notes: Sum of components may not equal total due to independent rounding.

Coal includes anthracite, subanthracite, bituminous, subbituminous, lignite, and brown coal.

Sources: See sources at the end of Section 5.

Table 2.6 World Net Hydroelectric Power Generation, 1988 - 1997
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	303.5	287.6	293.9	305.3	313.2	320.3	326.4	332.0	352.4	348.4
Mexico.....	21.0	24.4	23.2	21.6	25.9	26.0	19.8	27.3	31.1	26.2
United States.2.....	226.1	268.2	288.0	283.6	248.9	276.5	256.8	308.3	344.4	355.9
Total.....	550.5	580.2	605.1	610.5	588.0	622.8	603.1	667.6	727.9	730.4
Central & South America										
Argentina.....	21.8	15.2	20.3	19.1	23.2	28.9	33.3	33.4	28.6	27.8
Bolivia.....	1.2	1.2	1.2	1.4	1.3	1.4	1.4	1.4	1.5	1.4
Brazil.....	197.1	202.6	204.6	215.6	221.1	232.7	240.3	251.4	263.1	276.3
Chile.....	11.4	9.5	11.9	13.0	16.6	17.0	16.8	18.2	16.7	18.2
Colombia.....	24.3	26.4	27.2	27.2	22.2	27.7	32.0	33.9	34.3	30.9
Costa Rica.....	3.0	3.3	3.5	3.6	3.5	3.9	3.5	3.6	3.6	3.6
Dominican Republic.....	0.8	0.6	0.4	0.6	2.2	1.8	1.9	2.0	1.8	1.9
Ecuador.....	4.7	4.9	4.9	5.0	4.9	5.8	6.3	6.7	7.4	7.2
El Salvador.....	1.3	1.4	1.7	1.3	1.4	1.5	1.1	1.5	1.9	2.0
Guatemala.....	1.8	2.1	2.1	2.1	2.1	1.9	2.0	2.4	2.3	2.1
Haiti.....	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.3
Honduras.....	1.7	1.8	2.1	2.1	2.1	2.2	2.3	2.1	2.1	1.9
Jamaica.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Nicaragua.....	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4
Panama.....	2.2	2.2	2.2	2.0	1.9	2.3	2.4	2.4	3.0	3.6
Paraguay.....	19.9	24.2	26.9	29.1	26.8	31.1	36.0	41.7	47.6	50.7
Peru.....	10.3	10.3	10.4	11.4	9.7	11.7	12.6	13.6	13.2	13.1
Puerto Rico.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Suriname.....	0.5	1.1	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3
Uruguay.....	5.4	3.9	6.9	6.1	7.8	7.2	7.4	5.8	6.1	6.4
Venezuela.....	33.9	34.3	36.6	44.0	46.6	47.0	50.9	55.0	53.0	56.7
Other.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Total.....	342.6	346.3	365.2	385.8	395.8	426.4	452.4	477.4	488.8	506.4
Western Europe										
Austria.....	35.2	34.6	31.2	31.1	34.5	36.3	35.3	36.7	33.9	35.9
Belgium.....	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3
Finland.....	13.2	12.9	10.8	13.1	15.0	13.3	11.7	12.8	11.7	11.7
France.....	74.0	45.7	52.8	56.3	67.2	63.1	76.5	70.6	64.5	61.3
Germany.....	--	--	--	14.7	17.2	17.7	19.7	21.6	21.7	19.6
Germany, East.....	1.7	1.6	1.4	--	--	--	--	--	--	--
Germany, West.....	18.1	16.5	15.8	--	--	--	--	--	--	--
Greece.....	2.4	1.9	1.8	3.1	2.2	2.3	2.6	3.5	4.3	3.8
Iceland.....	4.2	4.2	4.2	4.2	4.3	4.4	4.5	4.6	4.7	5.1
Ireland.....	0.9	0.7	0.7	0.7	0.8	0.8	0.9	0.7	0.7	0.7
Italy.....	40.2	33.6	31.3	41.8	41.8	41.0	44.2	37.4	41.6	41.7
Luxembourg.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Norway.....	107.9	117.4	119.9	109.0	115.5	118.0	110.4	120.1	102.6	108.7
Portugal.....	12.0	5.7	9.1	9.0	4.6	8.5	10.6	8.3	14.6	13.0
Spain.....	34.8	19.0	25.2	27.0	18.7	24.1	27.9	22.9	39.4	24.2
Sweden.....	69.0	70.9	71.8	62.6	73.6	73.9	58.5	67.4	50.9	67.9
Switzerland.....	35.4	29.5	29.5	31.8	32.4	35.4	38.7	34.8	28.1	33.3
Turkey.....	28.4	17.6	22.9	22.5	26.3	33.6	30.3	35.2	40.1	39.4
United Kingdom.....	4.9	4.7	5.1	4.5	5.3	4.2	5.0	4.8	3.3	4.1
Former Yugoslavia.....	25.6	23.3	19.6	18.9	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	3.0	2.0	1.2	1.4	1.4	1.5
Croatia.....	--	--	--	--	4.3	4.3	4.9	5.2	6.5	7.2
Macedonia, TFYR.....	--	--	--	--	0.8	0.5	0.7	0.8	0.8	0.9
Serbia and Montenegro.....	--	--	--	--	11.2	10.0	11.0	11.1	11.4	12.4
Slovenia.....	--	--	--	--	3.4	3.0	3.4	3.2	3.6	3.9
Other.....	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total.....	508.5	440.4	453.4	450.8	482.6	497.0	498.6	503.7	486.5	496.7

See footnotes at end of table.

Table 2.6 World Net Hydroelectric Power Generation, 1988 - 1997 (Continued)
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	3.7	3.8	2.8	3.5	3.2	3.3	3.7	4.2	5.5	5.2
Bulgaria.....	2.6	2.7	1.9	2.4	2.0	1.9	1.5	2.3	2.4	2.5
Former Czechoslovakia.....	4.4	4.2	3.9	3.1	3.6	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	1.4	1.4	2.0	1.9	1.4
Slovakia.....	--	--	--	--	--	3.9	4.6	5.2	5.4	4.6
Hungary.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Poland.....	4.2	3.7	3.3	3.4	3.5	3.5	3.7	3.8	3.9	3.6
Romania.....	13.5	12.5	10.9	14.1	11.6	12.6	12.9	16.5	15.6	15.2
Former U.S.S.R.....	228.5	221.0	230.7	232.7	--	--	--	--	--	--
Armenia.....	--	--	--	--	3.0	4.2	3.5	1.9	1.6	1.5
Azerbaijan.....	--	--	--	--	1.7	2.4	1.8	1.5	1.5	1.5
Georgia.....	--	--	--	--	6.5	7.0	4.7	5.3	6.1	6.0
Kazakhstan.....	--	--	--	--	6.8	7.6	9.1	8.2	7.3	6.7
Kyrgyzstan.....	--	--	--	--	9.2	9.0	11.6	11.0	12.1	13.0
Latvia.....	--	--	--	--	2.5	2.8	3.3	2.9	1.8	2.0
Lithuania.....	--	--	--	--	0.3	0.4	0.4	0.4	0.3	0.3
Moldova.....	--	--	--	--	0.3	0.4	0.3	0.3	0.4	0.4
Russia.....	--	--	--	--	170.9	172.1	174.2	174.5	153.1	150.5
Tajikistan.....	--	--	--	--	15.8	16.9	16.5	14.5	14.7	13.7
Ukraine.....	--	--	--	--	8.0	11.1	12.2	12.3	11.4	12.4
Uzbekistan.....	--	--	--	--	6.2	7.3	7.1	6.1	6.5	6.8
Other.....	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	257.0	248.1	253.6	259.3	255.3	267.9	272.7	273.1	251.6	247.7
Middle East										
Iran.....	6.4	6.6	6.0	7.0	9.4	9.7	7.4	7.5	7.5	7.6
Iraq.....	0.7	0.6	0.6	0.3	0.7	0.6	0.6	0.6	0.6	0.6
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lebanon.....	0.6	0.5	0.3	0.5	0.5	0.9	1.0	0.7	0.8	0.9
Syria.....	4.8	4.7	5.6	6.2	7.3	6.6	6.7	6.9	6.9	7.0
Total.....	12.5	12.4	12.5	14.0	18.0	17.9	15.7	15.7	15.9	16.1
Africa										
Algeria.....	0.2	0.3	0.1	0.3	0.2	0.3	0.2	0.2	0.1	0.2
Angola.....	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4
Cameroon.....	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7
Congo (Brazzaville).....	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5
Congo (Kinshasa).....	5.2	6.8	5.6	5.2	6.0	5.7	5.4	5.9	6.1	6.3
Cote d'Ivoire (Ivory Coast).....	1.2	1.6	1.3	1.2	1.0	1.1	1.1	1.1	1.1	1.1
Egypt.....	7.8	7.9	9.9	8.5	8.5	10.4	10.6	10.9	11.0	11.8
Ethiopia.....	1.0	1.0	1.1	1.1	1.1	1.3	1.4	1.4	1.5	1.6
Gabon.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Ghana.....	4.8	5.2	5.7	6.0	6.0	6.1	6.1	6.1	5.9	5.8
Kenya.....	2.3	2.4	2.5	2.7	2.8	3.0	3.0	2.9	3.0	3.1
Madagascar.....	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5
Malawi.....	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9
Mali.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Morocco.....	0.9	1.1	1.2	1.2	1.0	0.4	0.8	0.6	0.8	0.8
Nigeria.....	4.0	4.1	4.3	5.9	6.0	5.5	5.5	5.4	5.4	5.3
Reunion.....	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
South Africa.....	3.2	2.8	1.0	2.0	0.8	0.1	1.1	0.5	1.3	2.1
Sudan.....	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Tanzania.....	1.2	1.4	1.4	1.6	1.6	1.6	1.5	1.5	1.5	1.5
Uganda.....	0.6	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Zambia.....	8.3	6.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
Zimbabwe.....	2.7	2.7	3.5	3.2	3.2	1.7	2.4	2.4	2.3	2.2
Other.....	1.3	1.3	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3
Total.....	51.7	53.5	55.2	56.5	55.5	54.7	56.5	56.7	57.8	59.6

See footnotes at end of table.

Table 2.6 World Net Hydroelectric Power Generation, 1988 - 1997 (Continued)
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.7	0.8	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.3
Australia.....	13.4	14.3	14.0	15.7	15.2	16.5	16.2	15.7	15.2	16.5
Bangladesh.....	0.7	0.9	0.9	0.8	0.8	0.6	0.8	0.4	0.7	0.8
Bhutan.....	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.8
Burma.....	0.9	1.1	1.2	1.2	1.5	1.7	1.6	1.6	1.6	1.6
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	108.0	117.2	125.1	123.8	130.2	149.2	165.1	184.9	181.3	175.0
Fiji.....	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
French Polynesia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
India.....	57.3	61.5	70.9	72.0	69.2	69.8	81.9	72.0	68.4	65.0
Indonesia.....	8.3	8.5	10.1	10.0	12.6	12.0	11.1	10.8	11.0	9.9
Japan.....	89.9	90.8	88.4	96.5	81.7	94.6	66.6	81.3	79.7	85.9
Korea, North.....	31.2	31.4	31.4	31.4	23.8	23.8	23.3	22.8	22.3	22.4
Korea, South.....	3.5	4.5	6.3	5.0	4.8	5.9	4.1	5.4	5.1	5.3
Laos.....	0.5	0.7	0.8	0.9	0.9	0.9	1.1	1.0	1.2	1.2
Malaysia.....	5.6	5.2	3.9	4.4	4.3	4.9	6.5	6.1	5.1	4.5
Nepal.....	0.6	0.5	0.7	0.9	0.9	0.8	0.9	0.9	1.1	1.3
New Caledonia.....	0.5	0.5	0.5	0.3	0.3	0.3	0.4	0.4	0.5	0.5
New Zealand.....	23.1	21.9	23.1	22.9	20.4	23.1	25.6	27.0	25.5	22.6
Pakistan.....	16.5	16.8	16.8	18.1	18.5	20.9	19.2	22.6	23.0	23.2
Papua New Guinea.....	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Philippines.....	6.2	6.4	6.0	6.0	6.1	6.2	6.4	6.5	6.6	6.8
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	2.6	2.8	3.1	3.1	2.9	3.8	4.0	4.5	3.2	2.8
Taiwan.....	6.1	6.7	8.2	5.5	8.3	6.8	8.8	8.8	8.9	9.1
Thailand.....	3.7	5.5	4.9	4.5	4.2	3.7	4.5	6.6	7.3	7.5
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	1.8	3.8	5.3	5.6	5.8	8.2	9.8	12.0	13.3	14.0
Total.....	383.6	404.3	425.1	432.0	415.5	456.7	461.0	494.5	484.3	479.3
World Total.....	2,106.4	2,085.3	2,170.2	2,209.0	2,210.8	2,343.5	2,360.0	2,488.7	2,512.7	2,536.3

¹ Preliminary.

² Includes hydroelectric pumped storage. There is a discontinuity in this time series between 1989 and 1990; beginning in 1990, expanded coverage of generation of hydroelectric power by nonutility power producers is included.

--= Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit and excludes generation from pumped storage.

Sources: See sources at the end of Section 6.

Table 2.7 World Net Nuclear Electric Power Generation, 1988 - 1997
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	78.2	75.4	69.2	80.7	76.6	90.1	102.4	93.0	88.1	77.9
Mexico.....	0.0	0.0	2.8	4.0	3.7	4.7	4.0	8.0	7.5	9.9
United States.....	527.0	529.4	577.0	612.6	618.8	610.4	640.5	673.4	674.7	629.4
Total.....	605.1	604.7	649.0	697.4	699.1	705.1	747.0	774.4	770.3	717.2
Central & South America										
Argentina.....	4.8	4.8	7.0	7.7	6.7	7.3	7.8	7.1	6.9	7.5
Brazil.....	0.3	1.5	1.9	1.4	1.7	0.4	0.1	2.4	2.3	3.0
Total.....	5.2	6.3	9.0	9.1	8.4	7.7	7.9	9.5	9.2	10.5
Western Europe										
Belgium.....	40.9	39.1	40.6	40.7	41.3	39.8	38.6	39.3	41.2	45.0
Finland.....	18.4	18.0	18.3	18.5	18.3	18.9	18.5	18.3	18.5	19.0
France.....	260.3	288.7	298.4	314.8	321.5	349.8	342.0	358.4	377.5	374.3
Germany.....	--	--	--	140.1	150.9	145.8	143.2	145.4	152.0	161.9
Germany, East.....	11.1	11.1	5.3	--	--	--	--	--	--	--
Germany, West.....	145.1	140.4	139.8	--	--	--	--	--	--	--
Netherlands.....	3.5	3.8	3.3	3.2	3.6	3.8	3.8	3.8	4.0	2.3
Spain.....	48.3	53.7	51.6	52.8	53.0	53.3	52.5	52.7	53.5	52.5
Sweden.....	65.6	62.8	64.8	72.9	60.4	58.3	69.5	66.4	69.6	66.7
Switzerland.....	21.5	21.5	22.4	21.7	22.3	22.2	23.1	23.7	23.9	24.0
United Kingdom.....	55.6	63.6	58.7	62.8	69.1	81.0	80.0	80.6	85.8	89.3
Former Yugoslavia.....	3.9	4.5	4.4	4.2	--	--	--	--	--	--
Slovenia.....	--	--	--	--	3.8	3.8	4.3	4.5	4.4	4.8
Total.....	674.2	707.3	707.5	731.6	744.1	776.6	775.4	793.0	830.3	840.0
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	15.1	14.6	13.5	12.4	11.0	13.3	14.6	16.4	17.8	16.4
Former Czechoslovakia.....	21.9	23.2	23.4	22.5	23.3	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	12.0	12.3	11.6	12.2	12.5
Slovakia.....	--	--	--	--	--	11.6	11.5	10.9	11.3	11.2
Hungary.....	12.7	13.1	13.0	13.0	13.3	13.1	13.3	13.3	13.5	13.3
Romania.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.1
Former U.S.S.R.....	203.7	212.7	201.3	201.5	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.0	0.0	0.0	0.0	2.1	1.4
Kazakhstan.....	--	--	--	--	0.5	0.4	0.4	0.1	0.1	0.3
Lithuania.....	--	--	--	--	13.9	12.3	7.3	10.6	12.7	10.9
Russia.....	--	--	--	--	113.6	113.2	92.9	94.3	103.3	104.5
Ukraine.....	--	--	--	--	70.1	71.4	65.4	67.0	76.0	75.4
Total.....	253.4	263.5	251.3	249.5	245.6	247.3	217.7	224.3	249.8	251.1
Africa										
South Africa.....	10.5	11.1	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6
Total.....	10.5	11.1	8.4	9.1	9.3	7.3	9.7	11.3	11.8	12.6
Far East & Oceania										
China.....	0.0	0.0	0.0	0.0	0.5	2.5	13.5	12.4	13.6	11.4
India.....	5.2	3.8	5.6	5.2	6.0	5.9	4.7	6.5	7.4	10.5
Japan.....	173.9	174.5	192.2	202.8	212.1	236.8	255.7	276.7	287.1	306.1
Korea, South.....	37.8	45.0	50.2	53.5	53.7	55.2	55.7	63.7	70.2	73.2
Pakistan.....	0.2	0.1	0.4	0.4	0.5	0.4	0.6	0.5	0.3	0.4
Taiwan.....	29.4	27.1	31.6	33.5	32.5	33.0	33.5	33.9	36.3	34.8
Total.....	246.5	250.5	279.9	295.4	305.3	333.8	363.6	393.6	415.0	436.4
World Total.....	1,794.8	1,843.4	1,905.1	1,992.0	2,011.8	2,077.8	2,121.3	2,206.0	2,286.4	2,267.8

¹ Preliminary.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit.

No generation is reported for Middle East.

Sources: See sources at the end of Section 6.

Table 2.8 World Net Geothermal, Solar, and Wind Electric Power Generation, 1988 - 1997
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1	0.1	0.1
Mexico.....	4.7	4.7	4.9	5.2	5.5	5.6	5.3	5.4	5.4	5.2
United States. ²	12.0	11.3	63.9	71.0	76.8	79.3	81.3	78.6	80.3	86.8
Total.....	16.7	16.0	68.8	76.2	82.4	85.0	86.7	84.1	85.9	92.1
Central & South America										
Brazil..... ³	4.8	4.4	4.9	5.3	6.6	6.7	7.2	7.4	8.5	9.4
Costa Rica.....	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.5
El Salvador.....	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Nicaragua.....	0.2	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
Total.....	5.4	5.2	5.7	6.1	7.4	7.6	8.4	8.8	9.9	11.0
Western Europe										
Denmark.....	0.3	0.4	0.6	0.7	0.9	1.0	1.1	1.1	1.2	1.8
France.....	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Germany.....	--	--	--	0.2	0.3	0.6	0.9	1.4	1.9	2.9
Germany, West.....	(s)	(s)	(s)	--	--	--	--	--	--	--
Greece.....	(s)	0.0	(s)	0.0	(s)	(s)	(s)	(s)	(s)	(s)
Iceland.....	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.4
Ireland.....	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	2.9	3.0	3.1	3.0	3.6	3.8	3.6	3.6	3.9	4.5
Netherlands.....	(s)	(s)	(s)	0.1	0.1	0.2	0.2	0.5	0.6	0.6
Norway.....	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)
Portugal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1
Spain.....	0.0	0.0	(s)	(s)	(s)	0.1	0.2	0.3	0.4	0.4
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1	0.2
Turkey.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
United Kingdom.....	(s)	(s)	(s)	(s)	(s)	0.2	0.3	0.4	0.5	0.5
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4.1	4.3	4.7	4.9	5.9	6.9	7.3	8.5	9.7	12.1
Eastern Europe & Former U.S.S.R.										
Poland.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(s)	(s)	(s)
Romania.....	(s)	(s)	(s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Former U.S.S.R.....	0.0	(s)	(s)	(s)	--	--	--	--	--	--
Russia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Middle East										
Jordan.....	0.0	(s)	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0
Total.....	0.0	(s)	(s)	(s)	(s)	(s)	0.0	0.0	0.0	0.0
Africa										
Ethiopia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Kenya.....	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4
Total.....	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.5
Far East & Oceania										
Australia.....	0.0	0.0	0.0	0.0	0.0	0.0	(s)	(s)	(s)	(s)
India.....	(s)	(s)	(s)	(s)	(s)	0.1	0.2	0.1	0.1	0.2
Indonesia.....	1.0	1.0	1.1	1.0	1.0	1.0	1.5	2.1	2.5	2.9
Japan.....	1.3	1.3	1.7	1.7	1.7	1.7	2.0	3.0	3.5	3.7
New Zealand.....	1.2	1.8	2.1	2.1	2.2	2.1	2.1	1.9	2.0	1.8
Philippines.....	4.6	5.1	5.2	5.5	5.4	5.5	5.6	5.7	5.8	5.9
Vietnam.....	0.2	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6
Total.....	8.3	9.1	10.0	10.3	10.3	10.9	11.9	13.5	14.6	15.1
World Total.....	34.8	35.1	89.7	97.9	106.3	110.7	114.6	115.2	120.6	130.8

¹ Preliminary.

² Includes biomass electric power generation. There is a discontinuity in this time series between 1989 and 1990; beginning in 1990, generation of biomass, geothermal, solar, and wind electric power by nonutility power producers is included.

³ Data are for biomass electric power generation.

-- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit.

Sources: See sources at the end of Section 6.

Table 2.9 World Production of Primary Energy by Selected Country Groups (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Petroleum²										
World Total.....	132.57	134.66	136.35	135.90	136.50	136.52	138.30	141.47	144.94	150.62
OECD ³	39.71	38.07	38.20	39.20	39.70	39.57	40.94	41.66	43.15	43.60
Non OECD.....	92.86	96.58	98.15	96.70	96.81	96.95	97.36	99.81	101.79	107.02
Other Groups:.....										
OECD Europe.....	8.86	8.65	9.00	9.47	10.26	10.67	12.18	13.00	13.91	13.84
OPEC ⁴	45.36	49.14	51.71	51.95	54.64	56.17	57.07	58.21	59.35	63.37
EU ⁵	6.11	5.11	5.10	5.15	5.23	5.41	6.56	6.85	7.05	6.90
IEA ⁶	33.68	32.03	32.03	32.71	33.22	33.09	34.42	35.31	36.28	36.43
Natural Gas										
World Total.....	71.91	74.47	76.10	76.72	76.94	78.35	79.10	80.27	84.06	84.26
OECD ³	30.12	30.84	31.63	32.22	33.05	34.10	35.52	36.08	38.05	38.18
Non OECD.....	41.79	43.63	44.47	44.50	43.89	44.26	43.58	44.18	46.01	46.08
Other Groups:.....										
OECD Europe.....	7.05	7.29	7.32	7.79	7.91	8.36	8.48	8.83	10.24	10.08
OPEC ⁴	7.71	8.43	8.52	9.05	9.52	9.92	10.38	11.09	11.89	12.80
EU ⁵	5.50	5.71	5.95	6.42	6.47	6.96	7.01	7.32	8.32	8.03
IEA ⁶	28.92	29.66	30.47	31.06	31.91	32.97	34.38	34.92	36.69	36.72
Coal										
World Total.....	89.58	91.02	92.27	87.67	88.41	86.31	88.48	90.14	91.54	92.20
OECD ³	41.68	42.13	42.01	39.97	39.13	38.68	40.26	39.59	40.49	41.12
Non OECD.....	47.90	48.90	50.26	47.70	49.28	47.63	48.22	50.55	51.05	51.08
Other Groups:.....										
OECD Europe.....	14.87	14.43	13.11	11.78	10.94	11.78	11.28	10.30	10.43	10.13
OPEC ⁴	0.18	0.32	0.31	0.44	0.70	0.87	1.00	1.31	1.48	1.65
EU ⁵	9.45	9.26	8.71	7.55	6.72	6.01	5.33	5.05	4.97	4.75
IEA ⁶	36.30	37.16	37.79	35.96	35.25	33.25	34.69	34.70	35.41	36.14
Hydroelectric Power										
World Total.....	21.92	21.72	22.59	22.98	22.98	24.35	24.52	25.85	26.11	26.35
OECD ³	12.16	11.82	12.24	12.34	12.20	12.93	12.44	13.34	13.73	13.89
Non OECD.....	9.76	9.90	10.35	10.64	10.78	11.42	12.08	12.51	12.38	12.47
Other Groups:.....										
OECD Europe.....	5.09	4.40	4.57	4.53	4.82	5.02	5.02	5.07	4.88	4.95
OPEC ⁴	0.55	0.57	0.60	0.70	0.79	0.78	0.79	0.83	0.81	0.83
EU ⁵	3.22	2.61	2.70	2.75	2.93	2.97	3.05	2.99	2.99	2.96
IEA ⁶	11.82	11.44	11.85	11.99	11.80	12.50	12.09	12.89	13.25	13.45
Nuclear Electric Power										
World Total.....	19.30	19.81	20.37	21.29	21.36	22.07	22.50	23.35	24.17	23.97
OECD ³	15.96	16.38	16.99	17.93	18.15	18.99	19.61	20.35	20.84	20.59
Non OECD.....	3.34	3.44	3.38	3.36	3.21	3.08	2.89	3.01	3.33	3.37
Other Groups:.....										
OECD Europe.....	7.15	7.50	7.53	7.76	7.91	8.42	8.40	8.56	8.96	9.07
OPEC ⁴	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU ⁵	6.78	7.12	7.14	7.40	7.55	7.91	7.87	8.04	8.43	8.53
IEA ⁶	15.57	15.91	16.46	17.35	17.57	18.24	18.87	19.49	19.92	19.61

See footnotes at end of table.

Table 2.9 World Production of Primary Energy by Selected Country Groups (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Geothermal, Solar, and Wind Electric Power ⁷										
World Total	0.66	0.66	1.31	1.40	1.49	1.55	1.60	1.60	1.68	1.81
OECD ³	0.47	0.46	1.10	1.18	1.26	1.31	1.33	1.31	1.37	1.47
Non OECD.....	0.19	0.20	0.21	0.22	0.23	0.24	0.27	0.29	0.32	0.34
Other Groups:.....										
OECD Europe.....	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.13	0.14	0.17
OPEC ⁴	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.05	0.06
EU, ⁵	0.07	0.07	0.08	0.08	0.09	0.11	0.11	0.12	0.14	0.16
IEA ⁶	0.36	0.36	0.99	1.07	1.14	1.18	1.21	1.19	1.24	1.35
Total Energy ⁸										
World Total	335.93	342.34	351.22	348.13	349.96	351.42	356.79	364.99	374.89	381.34
OECD ³	140.09	139.70	144.40	145.02	145.77	147.84	152.40	154.64	160.02	160.98
Non OECD.....	195.84	202.65	206.82	203.12	204.19	203.58	204.39	210.35	214.87	220.36
Other Groups:.....										
OECD Europe.....	43.09	42.36	41.61	41.42	41.94	44.35	45.46	45.89	48.56	48.25
OPEC ⁴	53.83	58.47	61.17	62.18	65.67	67.77	69.26	71.47	73.58	78.72
EU, ⁵	31.13	29.89	29.68	29.36	28.99	29.37	29.93	30.36	31.88	31.32
IEA ⁶	126.65	126.55	131.83	132.31	133.17	133.49	137.96	140.81	145.19	145.84

¹ Preliminary.

² Data include the production of crude oil and natural gas plant liquids.

³ The Organization for Economic Cooperation and Development (OECD) includes Australia, Austria, Belgium, Canada, Czech Republic, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, South, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.). Refer to Appendix A for a listing of OECD Europe.

⁴ The Organization of Petroleum Exporting Countries (OPEC) includes Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁵ European Union (EU) includes Austria, Belgium, Denmark (including data for Faroe Islands), Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and United Kingdom.

⁶ International Energy Agency (IEA) includes Australia, Austria, Belgium, Canada, Denmark (including data for Faroe Islands and Greenland), Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States (including data for Guam, Hawaiian Trade Zone, Puerto Rico, and Virgin Islands, U.S.).

⁷ Includes biomass electric power generation for United States and Brazil.

⁸ Total primary energy production, as reported here, includes all of the fuel types reported in this table. It also includes for the United States, beginning in 1990, the production of biomass, geothermal energy, and solar energy not used for electricity generation. As a result, total primary energy production might not be equal to sum of the individual fuel types reported in this table.

Notes: For consistency data reflect 1997 membership (as of December 31, 1997) for all years. The country groups OECD, OECD Europe, EU, and IEA include unified Germany. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Section 3

Petroleum

Table 3.1 World Petroleum Supply and Disposition, 1996
(Thousand Barrels per Day)

Region Country	Primary Supply			Disposition			Bunkers	
	Oil Production ¹	Crude Oil Imports	Total Imports of Refined Petroleum Products	Crude Oil Exports	Total Exports of Refined Petroleum Products	Apparent Consumption ² (Including Bunkers)	Residual Fuel Oil	Distillate Fuel Oil and Other Products
North America								
Canada.....	2,494	700	150	986	667	1,797	10	2
Mexico.....	3,306	0	177	1,544	96	1,763	1	12
United States.....	9,445	7,508	1,971	110	871	18,309	378	142
Other.....	0	0	4	0	0	4	0	(s)
Total.....	15,245	8,208	2,302	2,640	1,634	21,873	389	156
Central & South America								
Argentina.....	805	15	36	324	67	479	7	4
Bahamas, The.....	0	0	55	0	39	17	3	1
Bolivia.....	37	0	3	0	5	35	0	0
Brazil.....	1,014	560	269	2	79	1,718	20	22
Chile.....	22	160	46	0	1	217	5	0
Colombia.....	633	0	24	324	65	278	1	3
Costa Rica.....	0	12	22	0	4	30	1	(s)
Cuba.....	32	103	69	0	4	192	0	1
Dominican Republic.....	1	41	34	0	0	78	0	0
Ecuador.....	406	0	18	241	38	138	8	2
El Salvador.....	0	15	17	0	2	30	0	0
Guatemala.....	13	15	29	13	0	44	0	0
Honduras.....	0	0	25	0	0	25	0	0
Jamaica.....	0	21	42	0	1	62	0	1
Netherlands Antilles.....	6	266	32	10	227	69	28	6
Nicaragua.....	0	12	7	0	(s)	19	0	0
Panama.....	1	51	15	10	9	47	14	7
Paraguay.....	0	3	16	0	(s)	19	0	(s)
Peru.....	123	56	29	37	18	153	(s)	1
Puerto Rico.....	0	59	99	0	12	152	2	1
Trinidad and Tobago.....	133	41	4	67	89	20	2	3
Uruguay.....	0	33	12	0	11	34	4	5
Venezuela.....	3,105	0	11	1,976	669	444	14	13
Virgin Islands, U.S.....	(s)	405	12	0	330	83	1	2
Other.....	8	19	65	8	4	81	(s)	14
Total.....	6,339	1,887	991	3,012	1,675	4,466	110	88
Western Europe								
Austria.....	24	156	81	1	23	232	0	0
Belgium.....	12	652	347	0	426	564	70	14
Bosnia and Herzegovina.....	0	0	18	0	0	18	0	0
Croatia.....	36	82	8	6	39	78	(s)	2
Denmark.....	212	117	116	110	95	238	15	14
Finland.....	0	186	93	0	99	193	4	2
France.....	98	1,708	414	(s)	384	1,935	43	7
Germany.....	134	2,136	981	35	289	2,911	25	14
Greece.....	12	354	93	5	92	368	42	16
Iceland.....	0	0	15	0	0	16	0	0
Ireland.....	1	46	93	0	16	126	(s)	(s)
Italy.....	166	1,514	654	2	376	2,058	32	13
Luxembourg.....	0	0	39	0	0	38	0	0
Macedonia, TFYR.....	0	16	14	0	1	29	0	0
Netherlands.....	115	1,157	835	15	1,213	771	168	45
Norway.....	3,245	24	67	2,963	278	216	6	6
Portugal.....	2	232	89	0	47	277	4	3
Serbia and Montenegro.....	22	26	4	0	0	49	0	1
Slovenia.....	(s)	9	48	0	1	54	0	0
Spain.....	28	1,095	255	0	167	1,175	63	24
Sweden.....	4	402	195	0	192	398	16	4
Switzerland.....	1	110	162	0	13	275	0	(s)
Turkey.....	71	454	176	0	31	633	1	2
United Kingdom.....	2,872	886	349	1,453	621	1,845	26	24
Other.....	0	0	27	0	(s)	27	14	4
Total.....	7,056	11,363	5,173	4,590	4,402	14,525	528	196

See footnotes at end of table.

Table 3.1 World Petroleum Supply and Disposition, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Primary Supply			Disposition			Bunkers	
	Oil Production ¹	Crude Oil Imports	Total Imports of Refined Petroleum Products	Crude Oil Exports	Total Exports of Refined Petroleum Products	Apparent ² Consumption (Including Bunkers)	Residual Fuel Oil	Distillate Fuel Oil and Other Products
Eastern Europe & Former U.S.S.R.								
Albania.....	10	(s)	2	0	0	12	0	0
Bulgaria.....	1	137	9	0	33	119	3	1
Czech Republic.....	4	150	42	2	22	182	0	2
Hungary.....	42	110	31	(s)	40	148	0	4
Poland.....	5	297	85	(s)	23	365	4	11
Romania.....	142	143	60	0	80	257	0	0
Slovakia.....	2	105	1	0	38	66	0	0
Armenia.....	0	0	11	0	0	11	0	0
Azerbaijan.....	182	0	2	0	51	134	0	11
Belarus.....	36	210	6	6	49	206	0	0
Estonia.....	0	0	33	0	6	26	1	1
Georgia.....	1	7	10	0	0	18	0	0
Kazakhstan.....	457	65	40	255	41	256	0	8
Kyrgyzstan.....	2	0	12	2	0	12	0	0
Latvia.....	0	0	49	0	2	47	0	0
Lithuania.....	3	83	28	0	49	68	0	0
Moldova.....	0	0	17	0	0	17	0	0
Russia.....	6,035	155	79	2,519	1,122	2,619	230	0
Tajikistan.....	1	0	27	(s)	0	27	0	0
Turkmenistan.....	88	2	1	0	27	62	0	0
Ukraine.....	81	182	127	0	6	388	0	14
Uzbekistan.....	165	(s)	1	15	5	139	0	0
Total.....	7,256	1,645	672	2,799	1,597	5,178	238	53
Middle East								
Bahrain.....	46	225	0	0	253	19	1	2
Cyprus.....	0	15	27	0	0	42	1	6
Iran.....	3,758	0	98	2,630	97	1,119	8	2
Iraq.....	600	0	0	88	21	469	0	0
Israel.....	(s)	204	44	0	38	214	1	9
Jordan.....	(s)	65	23	0	(s)	92	0	6
Kuwait.....	2,151	0	(s)	1,258	714	139	3	9
Lebanon.....	0	0	85	0	0	85	0	4
Oman.....	893	0	3	813	34	47	3	3
Qatar.....	561	0	0	417	81	40	0	2
Saudi Arabia.....	8,930	0	4	6,659	985	1,197	100	152
Syria.....	590	0	12	331	31	229	0	2
United Arab Emirates.....	2,441	0	227	2,043	221	306	171	4
Yemen.....	340	30	4	305	4	68	1	2
Total.....	20,310	539	528	14,545	2,479	4,066	289	203

See footnotes at end of table.

Table 3.1 World Petroleum Supply and Disposition, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Primary Supply			Disposition			Bunkers	
	Oil Production ¹	Crude Oil Imports	Total Imports of Refined Petroleum Products	Crude Oil Exports	Total Exports of Refined Petroleum Products	Apparent ² Consumption (Including Bunkers)	Residual Fuel Oil	Distillate Fuel Oil and Other Products
Africa								
Algeria.....	1,393	0	3	783	401	220	2	8
Angola.....	709	0	(s)	683	3	25	8	8
Cameroon.....	108	0	4	90	(s)	23	0	(s)
Congo (Brazzaville).....	201	0	(s)	189	5	7	(s)	0
Congo (Kinshasa).....	30	2	14	22	(s)	25	(s)	2
Cote d'Ivoire (Ivory Coast)...	17	41	8	0	6	58	0	2
Egypt.....	988	0	3	355	111	501	29	11
Ethiopia.....	0	0	12	0	0	12	0	(s)
Gabon.....	369	0	2	349	1	21	1	2
Ghana.....	6	20	5	0	3	27	0	1
Kenya.....	1	36	17	0	8	48	1	(s)
Libya.....	1,450	0	1	1,119	147	177	2	3
Morocco.....	1	115	25	0	8	137	0	2
Nigeria.....	2,006	0	49	1,699	14	286	5	10
Senegal.....	0	17	8	0	1	25	1	4
South Africa.....	195	266	21	0	67	428	49	7
Sudan.....	2	21	6	0	1	26	0	1
Tunisia.....	88	18	47	69	13	73	0	4
Zimbabwe.....	0	0	28	0	0	28	0	0
Other.....	19	68	148	19	6	211	7	20
Total.....	7,583	605	401	5,378	795	2,359	106	86
Far East & Oceania								
Australia.....	645	350	137	178	133	801	13	3
Bangladesh.....	2	23	29	0	1	52	0	(s)
Brunei.....	166	2	2	161	(s)	13	0	0
Burma.....	8	7	4	(s)	(s)	20	0	(s)
China.....	3,131	460	434	407	111	3,520	6	16
Guam.....	0	0	22	0	0	22	1	1
Hong Kong.....	0	0	354	0	171	183	31	72
India.....	735	676	427	0	84	1,681	0	14
Indonesia.....	1,624	196	166	775	297	886	1	16
Japan.....	81	4,506	1,442	0	158	5,867	75	5
Korea, North.....	0	23	25	0	(s)	48	0	0
Korea, South.....	3	1,972	631	0	433	2,183	82	33
Malaysia.....	716	26	172	360	97	435	4	1
Mongolia.....	0	0	12	0	0	12	0	0
New Zealand.....	46	75	30	27	6	134	4	2
Pakistan.....	59	84	196	6	3	327	(s)	3
Papua New Guinea.....	103	0	14	100	(s)	15	0	(s)
Philippines.....	3	355	32	2	25	346	1	12
Singapore.....	4	1,103	458	1	1,006	541	180	39
Sri Lanka.....	0	41	15	0	4	53	6	3
Taiwan.....	4	674	139	0	40	780	38	6
Thailand.....	97	633	143	25	68	749	3	12
Vietnam.....	175	0	113	168	0	116	0	0
Other.....	0	0	76	0	3	72	(s)	13
Total.....	7,604	11,206	5,073	2,210	2,641	18,855	446	252
World Total.....	71,394	35,453	15,139	35,174	15,223	71,322	2,106	1,034

¹ Oil production includes crude oil, natural gas plant liquids, other liquids, and refinery processing gains.

² Apparent consumption includes internal consumption, refinery fuel and loss, and bunkering. Also included, where available, are liquefied petroleum gases sold directly from natural gas processing plants for fuel or chemical uses.

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.2 World Output of Refined Petroleum Products, 1996
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Output of Refined Petroleum Products	Refinery ³ Fuel and Loss
North America									
Canada.....	669	89	51	515	116	84	377	1,900	105
Mexico.....	498	45	24	270	439	251	137	1,664	64
United States.....	7,647	1,515	62	3,316	726	662	2,478	16,406	949
Other.....	0	0	0	0	0	0	0	0	0
Total.....	8,814	1,649	137	4,101	1,280	998	2,991	19,970	1,118
Central & South America									
Argentina.....	154	27	4	191	42	29	62	510	20
Bahamas, The.....	0	0	0	0	0	0	0	0	0
Bolivia.....	10	3	1	8	(s)	2	14	37	1
Brazil.....	282	59	2	460	264	118	385	1,570	60
Chile.....	43	8	7	58	32	15	10	173	7
Colombia.....	113	20	3	66	56	16	17	292	11
Costa Rica.....	2	1	(s)	4	6	(s)	(s)	12	(s)
Cuba.....	21	2	11	15	42	3	23	117	5
Dominican Republic.....	8	(s)	5	9	19	1	1	44	2
Ecuador.....	30	5	2	35	61	8	23	163	6
El Salvador.....	5	1	0	2	6	(s)	(s)	15	1
Guatemala.....	3	1	(s)	5	5	(s)	(s)	15	1
Honduras.....	0	0	0	0	0	0	0	0	0
Jamaica.....	4	1	1	5	9	(s)	1	21	1
Netherlands Antilles.....	42	18	1	45	95	2	64	266	10
Nicaragua.....	2	(s)	(s)	3	5	(s)	(s)	12	(s)
Panama.....	6	1	1	11	21	1	1	41	2
Paraguay.....	1	0	(s)	1	1	(s)	(s)	3	(s)
Peru.....	26	9	14	34	52	6	12	152	6
Puerto Rico.....	20	7	1	7	10	0	20	66	3
Trinidad and Tobago.....	15	11	1	21	47	2	4	102	4
Uruguay.....	6	0	2	12	11	1	1	33	1
Venezuela.....	395	85	2	255	281	13	65	1,095	42
Virgin Islands, U.S.....	137	48	0	102	46	5	63	401	26
Other.....	5	0	3	4	6	3	(s)	20	1
Total.....	1,331	307	61	1,355	1,116	226	767	5,162	209
Western Europe									
Austria.....	53	10	0	73	25	1	35	198	14
Belgium.....	137	37	2	257	121	17	153	725	29
Bosnia and Herzegovina.....	0	0	0	0	0	0	0	0	0
Croatia.....	25	2	(s)	30	26	5	20	109	4
Denmark.....	61	9	0	93	42	5	12	223	8
Finland.....	97	16	0	95	21	10	17	256	13
France.....	390	136	2	680	184	90	302	1,784	103
Germany.....	603	71	1	966	238	95	477	2,450	130
Greece.....	78	42	1	97	122	18	47	404	16
Iceland.....	0	0	0	0	0	0	0	0	0
Ireland.....	9	1	2	14	14	1	2	43	1
Italy.....	439	60	28	642	339	68	249	1,824	107
Luxembourg.....	0	0	0	0	0	0	0	0	0
Macedonia, TFYR.....	4	0	0	6	6	(s)	(s)	16	1
Netherlands.....	344	136	4	435	235	119	458	1,731	85
Norway.....	71	22	1	136	29	12	33	305	13
Portugal.....	59	21	(s)	77	58	12	33	260	15
Serbia and Montenegro.....	7	1	1	8	12	1	17	48	2
Slovenia.....	2	0	0	4	2	(s)	3	11	(s)
Spain.....	214	85	3	352	221	48	185	1,108	74
Sweden.....	100	5	(s)	145	103	8	55	417	9
Switzerland.....	26	8	(s)	47	16	7	7	110	5
Turkey.....	87	22	2	151	158	25	83	528	29
United Kingdom.....	648	179	76	590	243	69	242	2,045	147
Other.....	0	0	0	0	0	0	0	0	0
Total.....	3,454	863	124	4,898	2,214	612	2,430	14,596	805

See footnotes at end of table.

Table 3.2 World Output of Refined Petroleum Products, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Output of Refined Petroleum Products	Refinery ³ Fuel and Loss
Eastern Europe & Former U.S.S.R.									
Albania.....	2	(s)	1	2	1	(s)	3	10	(s)
Bulgaria.....	45	4	0	48	33	5	4	139	5
Czech Republic.....	29	3	(s)	53	32	6	46	168	6
Hungary.....	31	4	2	50	26	3	36	153	6
Poland.....	87	5	(s)	108	64	6	55	324	12
Romania.....	73	2	1	86	47	9	51	269	10
Slovakia.....	19	(s)	2	35	22	2	21	102	4
Armenia.....	0	0	0	0	0	0	0	0	0
Azerbaijan.....	17	11	10	43	75	13	13	183	7
Belarus.....	42	15	(s)	65	91	7	29	249	10
Estonia.....	0	0	0	0	0	0	0	0	0
Georgia.....	2	0	0	3	3	(s)	(s)	8	(s)
Kazakhstan.....	54	7	9	76	73	21	18	258	10
Kyrgyzstan.....	0	0	0	0	0	0	0	0	0
Latvia.....	0	0	0	0	0	0	0	0	0
Lithuania.....	30	4	3	23	18	8	3	89	3
Moldova.....	0	0	0	0	0	0	0	0	0
Russia.....	624	186	3	952	1,263	163	498	3,688	142
Tajikistan.....	0	0	0	0	0	0	0	0	0
Turkmenistan.....	22	5	3	19	16	8	15	88	3
Ukraine.....	50	14	(s)	71	97	5	30	267	10
Uzbekistan.....	28	7	3	38	42	1	25	143	6
Total.....	1,155	268	40	1,671	1,902	255	847	6,138	236
Middle East									
Bahrain.....	22	18	32	87	62	1	50	272	10
Cyprus.....	2	(s)	(s)	5	6	1	1	15	1
Iran.....	149	28	98	298	270	63	176	1,083	42
Iraq.....	70	24	24	141	170	20	41	490	19
Israel.....	50	15	10	54	56	14	23	221	9
Jordan.....	12	6	4	17	19	4	5	69	3
Kuwait.....	46	167	30	231	186	103	91	853	33
Lebanon.....	0	0	0	0	0	0	0	0	0
Oman.....	13	3	0	14	39	1	2	73	3
Qatar.....	11	9	0	18	20	6	2	66	3
Saudi Arabia.....	259	63	110	542	518	31	206	1,729	67
Syria.....	33	4	2	86	97	5	20	248	10
United Arab Emirates.....	34	54	3	68	49	13	23	244	9
Yemen.....	21	10	6	16	14	3	2	73	3
Total.....	723	403	319	1,577	1,507	266	642	5,437	209

See footnotes at end of table.

Table 3.2 World Output of Refined Petroleum Products, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Output of Refined Petroleum Products	Refinery ³ Fuel and Loss
Africa									
Algeria.....	55	16	6	131	112	17	250	588	23
Angola.....	3	3	1	7	12	1	1	27	1
Cameroon.....	6	(s)	4	5	3	1	2	21	1
Congo (Brazzaville).....	1	(s)	1	2	5	(s)	2	11	(s)
Congo (Kinshasa).....	1	(s)	1	2	3	(s)	3	10	(s)
Cote d'Ivoire (Ivory Coast).....	10	1	10	14	9	1	10	56	2
Egypt.....	111	18	28	116	239	46	37	596	23
Ethiopia.....	0	0	0	0	0	0	0	0	0
Gabon.....	1	2	2	6	7	(s)	3	20	1
Ghana.....	9	1	3	7	2	1	1	25	1
Kenya.....	7	6	2	9	10	1	1	36	1
Libya.....	44	34	6	87	98	8	34	311	12
Morocco.....	8	5	1	41	42	7	17	122	5
Nigeria.....	60	1	33	46	54	2	58	254	10
Senegal.....	3	2	(s)	6	4	(s)	3	19	1
South Africa.....	183	28	19	135	70	9	31	474	18
Sudan.....	2	2	1	7	6	(s)	4	22	1
Tunisia.....	8	0	3	12	12	5	2	41	2
Zimbabwe.....	0	0	0	0	0	0	0	0	0
Other.....	15	3	4	17	22	2	6	69	3
Total.....	528	124	127	648	710	101	465	2,702	104
Far East & Oceania									
Australia.....	312	87	9	215	32	26	85	765	41
Bangladesh.....	3	(s)	6	5	7	(s)	3	24	1
Brunei.....	4	1	0	3	1	(s)	2	12	(s)
Burma.....	4	1	(s)	7	2	(s)	1	16	1
China.....	753	78	36	882	459	196	802	3,207	123
Guam.....	0	0	0	0	0	0	0	0	0
Hong Kong.....	0	0	0	0	0	0	0	0	0
India.....	110	46	132	479	204	109	251	1,331	51
Indonesia.....	166	25	146	317	173	122	97	1,047	47
Japan.....	897	127	486	1,297	742	155	664	4,367	213
Korea, North.....	8	0	1	9	4	(s)	1	23	1
Korea, South.....	194	106	140	592	614	47	385	2,077	80
Malaysia.....	54	21	12	126	55	12	63	343	13
Mongolia.....	0	0	0	0	0	0	0	0	0
New Zealand.....	34	16	0	30	8	0	9	98	5
Pakistan.....	24	13	11	35	37	1	14	133	5
Papua New Guinea.....	0	(s)	0	1	(s)	(s)	(s)	1	(s)
Philippines.....	48	17	13	105	130	14	25	351	11
Singapore.....	122	152	64	371	229	21	194	1,153	44
Sri Lanka.....	5	1	4	12	15	1	5	42	2
Taiwan.....	104	29	9	114	264	25	174	719	48
Thailand.....	137	61	3	238	159	30	34	663	45
Vietnam.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	1	(s)
Other.....	0	0	0	0	0	0	0	0	0
Total.....	2,978	782	1,072	4,836	3,135	758	2,810	16,372	730
World Total.....	18,982	4,397	1,880	19,085	11,865	3,215	10,953	70,377	3,413

¹ Jet Fuel includes naphtha-type jet fuel and kerosene-type jet fuel.

² Includes asphalt, coke, aviation gasoline, naphthas, paraffin wax, petrochemical feedstocks, unfinished oils, white spirits, and blending components.

³ Refinery fuel and loss reported in this column as a memo item has been included in the output of the individual petroleum products and should not be added to "Total Output of Refined Petroleum Products".

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.3 World Imports of Refined Petroleum Products, 1996
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Imports of Refined Petroleum Products
North America								
Canada.....	26	11	3	14	28	8	61	150
Mexico.....	73	0	0	0	40	54	10	177
United States.....	336	111	1	230	248	211	833	1,971
Other.....	1	(s)	(s)	2	(s)	(s)	(s)	4
Total.....	436	122	5	246	317	273	904	2,302
Central & South America								
Argentina.....	7	4	2	17	5	0	2	36
Bahamas, The.....	4	1	1	6	43	(s)	(s)	55
Bolivia.....	0	0	0	3	0	0	0	3
Brazil.....	16	12	(s)	84	30	76	50	269
Chile.....	7	2	0	12	9	15	0	46
Colombia.....	23	(s)	0	1	1	(s)	0	24
Costa Rica.....	9	2	0	9	1	1	0	22
Cuba.....	2	2	1	21	41	(s)	2	69
Dominican Republic.....	6	0	2	11	6	10	0	34
Ecuador.....	0	0	0	7	0	11	(s)	18
El Salvador.....	2	(s)	0	9	3	3	(s)	17
Guatemala.....	10	0	1	10	4	5	0	29
Honduras.....	6	1	1	10	6	1	1	25
Jamaica.....	7	3	(s)	5	22	3	1	42
Netherlands Antilles.....	7	1	0	6	13	1	3	32
Nicaragua.....	(s)	0	(s)	3	3	(s)	0	7
Panama.....	3	2	2	1	6	2	0	15
Paraguay.....	4	0	(s)	10	0	2	0	16
Peru.....	1	1	0	22	0	4	1	29
Puerto Rico.....	26	3	0	14	18	(s)	37	99
Trinidad and Tobago.....	3	(s)	0	(s)	0	0	0	4
Uruguay.....	3	0	0	6	2	2	(s)	12
Venezuela.....	0	0	0	0	0	0	11	11
Virgin Islands, U.S.....	0	0	0	0	11	0	1	12
Other.....	14	8	3	21	14	3	2	65
Total.....	160	42	14	287	238	139	111	991
Western Europe								
Austria.....	14	1	(s)	33	6	4	23	81
Belgium.....	42	8	2	103	50	16	126	347
Bosnia and Herzegovina....	3	1	0	5	2	0	8	18
Croatia.....	1	1	(s)	3	2	(s)	1	8
Denmark.....	22	10	0	31	17	(s)	37	116
Finland.....	5	0	0	31	29	16	11	93
France.....	42	15	(s)	187	7	47	116	414
Germany.....	200	60	1	439	74	35	172	981
Greece.....	4	3	0	57	3	0	27	93
Iceland.....	3	2	0	8	2	0	1	15
Ireland.....	17	8	6	35	23	3	1	93
Italy.....	34	1	0	34	311	57	216	654
Luxembourg.....	12	4	0	20	2	1	1	39
Macedonia, TFYR.....	4	(s)	0	4	5	(s)	1	14
Netherlands.....	70	7	15	157	131	213	242	835
Norway.....	11	2	1	12	17	9	14	67
Portugal.....	1	0	0	6	20	25	36	89
Serbia and Montenegro.....	0	0	0	0	4	0	0	4
Slovenia.....	19	(s)	0	22	3	1	2	48
Spain.....	20	2	0	67	19	41	106	255
Sweden.....	34	15	1	37	48	28	32	195
Switzerland.....	61	20	(s)	73	(s)	1	6	162
Turkey.....	17	4	0	31	9	108	8	176
United Kingdom.....	31	18	1	25	50	10	213	349
Other.....	2	1	(s)	5	19	(s)	1	27
Total.....	670	184	29	1,424	852	617	1,399	5,173

See footnotes at end of table.

Table 3.3 World Imports of Refined Petroleum Products, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Imports of Refined Petroleum Products
Eastern Europe & Former U.S.S.R.								
Albania.....	2	0	0	0	0	0	0	2
Bulgaria.....	(s) 2	2	0	2	4	0	2	9
Czech Republic.....	14	(s) 1	(s) 0	10	3	2	12	42
Hungary.....	4	1	0	3	17	3	3	31
Poland.....	31	6	(s) 0	25	3	19	2	85
Romania.....	3	0	0	(s) 0	55	(s) 0	1	60
Slovakia.....	(s) 0	0	0	0	(s) 0	(s) 0	0	1
Armenia.....	1	(s) 0	1	2	3	(s) 0	3	11
Azerbaijan.....	0	0	0	(s) 0	1	0	(s) 0	2
Belarus.....	2	0	0	(s) 0	(s) 0	4	(s) 0	6
Estonia.....	8	1	1	8	9	(s) 0	6	33
Georgia.....	3	0	0	4	4	0	0	10
Kazakhstan.....	5	1	(s) 0	23	3	3	3	40
Kyrgyzstan.....	4	2	0	3	3	1	(s) 0	12
Latvia.....	10	1	(s) 0	14	22	1	(s) 0	49
Lithuania.....	4	0	1	3	18	1	1	28
Moldova.....	4	(s) 0	(s) 0	6	5	0	1	17
Russia.....	12	12	0	38	5	0	13	79
Tajikistan.....	23	(s) 0	0	2	1	(s) 0	1	27
Turkmenistan.....	0	0	0	0	0	1	0	1
Ukraine.....	20	0	0	33	25	49	0	127
Uzbekistan.....	(s) 0	(s) 0	0	(s) 0	0	(s) 0	(s) 0	1
Total.....	152	26	4	176	181	84	50	672
Middle East								
Bahrain.....	0	0	0	0	0	0	0	0
Cyprus.....	2	10	(s) 0	2	10	1	3	27
Iran.....	6	2	2	88	0	0	0	98
Iraq.....	0	0	0	0	0	0	0	0
Israel.....	(s) 0	4	8	2	26	0	5	44
Jordan.....	0	0	0	6	15	3	0	23
Kuwait.....	0	0	0	0	0	0	(s) 0	(s) 0
Lebanon.....	28	4	2	18	27	7	0	85
Oman.....	1	0	0	1	0	0	2	3
Qatar.....	0	0	0	0	0	0	0	0
Saudi Arabia.....	4	0	0	0	0	0	0	4
Syria.....	0	0	1	2	0	7	1	12
United Arab Emirates.....	0	0	0	3	224	0	0	227
Yemen.....	4	0	1	0	0	0	(s) 0	4
Total.....	44	20	14	120	301	18	11	528

See footnotes at end of table.

Table 3.3 World Imports of Refined Petroleum Products, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Imports of Refined Petroleum Products
Africa								
Algeria.....	0	0	0	0	0	0	3	3
Angola.....	(s)	0	0	(s)	0	(s)	0	(s)
Cameroon.....	1	0	(s)	0	(s)	0	2	4
Congo (Brazzaville).....	(s)	0	0	0	(s)	0	(s)	(s)
Congo (Kinshasa).....	3	3	(s)	4	(s)	(s)	3	14
Cote d'Ivoire (Ivory Coast).....	4	(s)	(s)	2	0	(s)	1	8
Egypt.....	0	0	(s)	0	0	(s)	3	3
Ethiopia.....	1	3	0	6	0	0	1	12
Gabon.....	1	0	(s)	(s)	0	0	1	2
Ghana.....	2	0	1	2	1	0	0	5
Kenya.....	3	3	3	6	1	(s)	1	17
Libya.....	0	0	0	0	0	0	1	1
Morocco.....	0	0	0	3	0	21	1	25
Nigeria.....	33	8	7	(s)	0	(s)	(s)	49
Senegal.....	2	1	0	1	1	1	1	8
South Africa.....	11	1	1	5	2	0	3	21
Sudan.....	2	1	1	1	0	(s)	(s)	6
Tunisia.....	1	5	1	17	15	7	2	47
Zimbabwe.....	8	4	(s)	15	0	(s)	(s)	28
Other.....	34	13	11	51	23	4	12	148
Total.....	106	41	26	114	44	34	36	401
Far East & Oceania								
Australia.....	11	6	0	20	13	9	78	137
Bangladesh.....	2	2	4	21	0	0	0	29
Brunei.....	0	(s)	0	1	0	0	(s)	2
Burma.....	(s)	0	0	4	0	(s)	0	4
China.....	2	11	3	94	153	54	117	434
Guam.....	3	9	(s)	9	(s)	(s)	0	22
Hong Kong.....	12	66	0	200	71	6	0	354
India.....	0	3	90	277	13	33	11	427
Indonesia.....	0	39	0	97	31	0	0	166
Japan.....	22	83	76	55	83	570	554	1,442
Korea, North.....	12	0	1	6	6	0	0	25
Korea, South.....	0	12	76	51	80	151	263	631
Malaysia.....	44	3	(s)	36	49	12	27	172
Mongolia.....	4	0	1	6	1	0	(s)	12
New Zealand.....	15	2	0	5	(s)	0	7	30
Pakistan.....	3	0	2	104	86	2	0	196
Papua New Guinea.....	2	1	(s)	6	5	(s)	(s)	14
Philippines.....	1	(s)	(s)	15	7	2	7	32
Singapore.....	28	15	6	85	289	(s)	34	458
Sri Lanka.....	0	3	1	8	1	2	(s)	15
Taiwan.....	36	12	0	0	42	25	24	139
Thailand.....	6	1	0	88	47	(s)	0	143
Vietnam.....	25	4	7	57	20	0	1	113
Other.....	11	15	6	25	13	3	2	76
Total.....	239	288	274	1,268	1,010	868	1,126	5,073
World Total.....	1,806	722	365	3,634	2,942	2,033	3,638	15,139

¹ Jet fuel includes naphtha-type jet fuel and kerosene-type jet fuel.

² Includes asphalt, coke, aviation gasoline, naphthas, paraffin wax, petrochemical feedstocks, unfinished oils, white spirits, and blending components.

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.4 World Exports of Refined Petroleum Products, 1996
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Exports of Refined Petroleum ³ Products
North America								
Canada.....	105	4	1	114	33	339	70	667
Mexico.....	37	10	0	12	5	23	8	96
United States.....	104	48	2	190	102	53	371	871
Other.....	0	0	0	0	0	0	0	0
Total.....	246	63	3	316	140	415	450	1,634
Central & South America								
Argentina.....	22	1	0	14	7	19	4	67
Bahamas, The.....	0	0	0	(s)	38	0	0	39
Bolivia.....	0	0	0	0	0	0	5	5
Brazil.....	10	17	0	7	38	0	6	79
Chile.....	(s)	0	0	1	0	0	(s)	1
Colombia.....	0	2	0	13	49	1	0	65
Costa Rica.....	1	(s)	0	(s)	2	0	0	4
Cuba.....	0	0	0	0	1	0	3	4
Dominican Republic.....	0	0	0	0	0	0	0	0
Ecuador.....	0	0	0	0	33	0	5	38
El Salvador.....	(s)	(s)	0	(s)	2	0	0	2
Guatemala.....	0	0	0	0	0	0	0	0
Honduras.....	0	0	0	0	0	0	0	0
Jamaica.....	0	(s)	0	(s)	1	0	(s)	1
Netherlands Antilles.....	47	18	0	41	70	1	50	227
Nicaragua.....	0	0	0	0	0	0	(s)	(s)
Panama.....	1	2	2	2	2	(s)	0	9
Paraguay.....	0	0	0	0	(s)	0	0	(s)
Peru.....	3	(s)	0	(s)	15	0	(s)	18
Puerto Rico.....	2	(s)	0	(s)	(s)	(s)	10	12
Trinidad and Tobago.....	16	9	0	18	46	1	0	89
Uruguay.....	0	0	(s)	2	9	0	0	11
Venezuela.....	156	53	0	161	221	55	23	669
Virgin Islands, U.S.....	109	43	0	87	54	0	37	330
Other.....	1	0	1	1	1	(s)	0	4
Total.....	368	144	4	348	590	77	144	1,675
Western Europe								
Austria.....	16	0	0	2	1	(s)	4	23
Belgium.....	116	22	(s)	125	54	15	94	426
Bosnia and Herzegovina..	0	0	0	0	0	0	0	0
Croatia.....	11	1	(s)	9	3	4	11	39
Denmark.....	37	2	0	23	25	3	7	95
Finland.....	61	5	0	26	1	1	4	99
France.....	102	40	0	73	42	39	90	384
Germany.....	71	1	(s)	73	75	19	49	289
Greece.....	18	19	0	10	18	4	23	92
Iceland.....	0	0	0	0	0	0	0	0
Ireland.....	(s)	0	0	1	13	0	1	16
Italy.....	63	15	3	170	84	6	35	376
Luxembourg.....	0	0	0	0	0	0	0	0
Macedonia, TFYR.....	(s)	(s)	0	(s)	(s)	(s)	(s)	1
Netherlands.....	206	83	5	399	154	59	307	1,213
Norway.....	43	12	0	70	24	100	30	278
Portugal.....	15	7	0	9	10	0	6	47
Serbia and Montenegro....	0	0	0	0	0	0	0	0
Slovenia.....	(s)	(s)	0	(s)	0	0	1	1
Spain.....	30	13	0	23	31	4	66	167
Sweden.....	36	2	0	70	56	9	18	192
Switzerland.....	0	0	0	0	11	2	(s)	13
Turkey.....	0	0	0	0	22	0	9	31
United Kingdom.....	188	15	7	122	94	112	82	621
Other.....	0	0	0	0	0	0	(s)	(s)
Total.....	1,013	237	15	1,206	719	376	835	4,402

See footnotes at end of table.

Table 3.4 World Exports of Refined Petroleum Products, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Exports of Refined Petroleum ³ Products
Eastern Europe & Former U.S.S.R.								
Albania.....	0	0	0	0	0	0	0	0
Bulgaria.....	7	1	0	24	1	0	1	33
Czech Republic.....	0	1	(s)	9	7	1	3	22
Hungary.....	8	1	1	20	0	1	10	40
Poland.....	(s)	1	(s)	(s)	19	(s)	4	23
Romania.....	45	1	(s)	26	3	0	5	80
Slovakia.....	8	0	1	19	9	1	0	38
Armenia.....	0	0	0	0	0	0	0	0
Azerbaijan.....	0	0	7	37	2	0	5	51
Belarus.....	16	0	(s)	22	7	(s)	4	49
Estonia.....	2	(s)	(s)	1	4	0	(s)	6
Georgia.....	0	0	0	0	0	0	0	0
Kazakhstan.....	7	(s)	1	15	10	1	9	41
Kyrgyzstan.....	0	0	0	0	0	0	0	0
Latvia.....	(s)	(s)	0	1	1	0	(s)	2
Lithuania.....	19	1	2	16	4	6	1	49
Moldova.....	0	0	0	0	0	0	0	0
Russia.....	72	15	0	532	449	44	11	1,122
Tajikistan.....	0	0	0	0	0	0	0	0
Turkmenistan.....	12	0	0	10	2	0	4	27
Ukraine.....	(s)	0	0	1	5	0	0	6
Uzbekistan.....	1	0	0	1	1	0	2	5
Total.....	197	22	12	732	523	53	58	1,597
Middle East								
Bahrain.....	17	17	31	84	59	1	45	253
Cyprus.....	0	0	0	0	0	0	0	0
Iran.....	13	0	0	0	23	58	4	97
Iraq.....	0	0	(s)	3	15	3	0	21
Israel.....	4	9	(s)	16	6	2	(s)	38
Jordan.....	0	0	0	0	(s)	0	0	(s)
Kuwait.....	10	159	29	220	115	101	79	714
Lebanon.....	0	0	0	0	0	0	0	0
Oman.....	0	0	0	(s)	34	0	0	34
Qatar.....	3	7	0	11	19	41	0	81
Saudi Arabia.....	10	29	103	51	284	507	0	985
Syria.....	11	(s)	(s)	(s)	19	0	(s)	31
United Arab Emirates.....	8	51	1	9	4	131	16	221
Yemen.....	0	1	0	0	3	0	0	4
Total.....	76	274	166	395	579	844	145	2,479

See footnotes at end of table.

Table 3.4 World Exports of Refined Petroleum Products, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Exports of Refined Petroleum ³ Products
Africa								
Algeria.....	10	8	(s)	73	102	112	94	401
Angola.....	1	0	0	(s)	2	0	0	3
Cameroon.....	(s)	0	(s)	0	(s)	0	(s)	(s)
Congo (Brazzaville).....	(s)	(s)	0	(s)	4	0	0	5
Congo (Kinshasa).....	0	0	0	0	(s)	0	0	(s)
Cote d'Ivoire (Ivory Coast)	1	(s)	(s)	3	1	(s)	0	6
Egypt.....	62	0	0	0	49	0	(s)	111
Ethiopia.....	0	0	0	0	0	0	0	0
Gabon.....	(s)	0	(s)	1	(s)	(s)	(s)	1
Ghana.....	(s)	0	0	(s)	3	(s)	0	3
Kenya.....	2	1	1	2	2	(s)	(s)	8
Libya.....	6	12	1	38	49	16	24	147
Morocco.....	0	0	0	0	0	0	8	8
Nigeria.....	(s)	(s)	(s)	3	11	0	0	14
Senegal.....	1	0	(s)	(s)	0	0	(s)	1
South Africa.....	15	4	4	34	4	0	6	67
Sudan.....	(s)	0	0	0	1	0	0	1
Tunisia.....	0	0	0	(s)	11	(s)	1	13
Zimbabwe.....	0	0	0	0	0	0	0	0
Other.....	1	(s)	(s)	2	4	0	(s)	6
Total.....	101	26	8	156	242	128	134	795
Far East & Oceania								
Australia.....	20	12	(s)	23	14	37	27	133
Bangladesh.....	0	0	0	0	0	0	1	1
Brunei.....	0	(s)	0	0	0	0	(s)	(s)
Burma.....	0	0	0	0	0	0	(s)	(s)
China.....	31	9	5	32	2	11	22	111
Guam.....	0	0	0	0	0	0	0	0
Hong Kong.....	3	3	0	124	41	1	0	171
India.....	0	0	0	4	15	1	64	84
Indonesia.....	7	2	0	28	140	86	34	297
Japan.....	16	5	6	45	65	(s)	22	158
Korea, North.....	0	0	0	0	(s)	0	0	(s)
Korea, South.....	7	54	8	148	113	10	93	433
Malaysia.....	0	3	12	19	36	9	19	97
Mongolia.....	0	0	0	0	0	0	0	0
New Zealand.....	1	0	0	0	(s)	1	4	6
Pakistan.....	0	0	0	0	0	0	3	3
Papua New Guinea.....	0	0	0	(s)	0	0	0	(s)
Philippines.....	0	0	0	4	6	(s)	15	25
Singapore.....	158	145	11	344	195	23	130	1,006
Sri Lanka.....	0	0	0	0	1	0	3	4
Taiwan.....	0	0	0	18	16	(s)	6	40
Thailand.....	21	3	1	18	17	6	0	68
Vietnam.....	0	0	0	0	0	0	0	0
Other.....	1	1	1	1	0	0	(s)	3
Total.....	264	235	45	810	662	184	440	2,641
World Total.....	2,265	1,001	253	3,964	3,457	2,077	2,205	15,223

¹ Jet Fuel includes naphtha-type jet fuel and kerosene-type jet fuel.

² Includes asphalt, coke, aviation gasoline, naphthas, paraffin wax, petrochemical feedstocks, unfinished oils, white spirits, and blending components.

³ Exports of refined products do not include bunker fuels where identifiable.

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.5 World Apparent Consumption of Refined Petroleum Products, 1996
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Apparent Consumption ³
North America								
Canada.....	591	96	57	404	114	250	286	1,797
Mexico.....	481	45	24	249	432	268	264	1,763
United States.....	7,891	1,578	62	3,365	848	2,222	2,343	18,309
Other.....	1	(s)	(s)	2	(s)	(s)	(s)	4
Total.....	8,963	1,719	143	4,021	1,395	2,740	2,893	21,873
Central & South America								
Argentina.....	128	31	6	187	39	46	42	479
Bolivia.....	10	3	1	12	1	8	1	35
Brazil.....	284	53	2	518	233	193	435	1,718
Chile.....	51	9	7	72	40	29	10	217
Colombia.....	130	15	3	52	6	21	52	278
Costa Rica.....	10	2	(s)	12	4	1	(s)	30
Cuba.....	25	4	12	36	79	3	33	192
Dominican Republic.....	14	(s)	6	19	26	11	1	78
Ecuador.....	31	5	2	42	29	19	11	138
El Salvador.....	7	1	(s)	11	7	4	1	30
Guatemala.....	13	1	1	15	9	5	(s)	44
Honduras.....	6	1	1	10	6	1	1	25
Jamaica.....	11	4	2	11	31	3	1	62
Netherlands Antilles.....	2	1	1	10	38	2	15	69
Panama.....	8	1	(s)	11	24	2	1	47
Paraguay.....	4	0	(s)	12	1	2	(s)	19
Peru.....	29	10	14	54	33	9	6	153
Puerto Rico.....	45	10	1	21	28	(s)	48	152
Trinidad and Tobago.....	4	3	1	4	3	1	4	20
Uruguay.....	8	0	2	17	4	3	1	34
Venezuela.....	186	10	2	67	59	65	53	444
Virgin Islands, U.S.....	28	5	0	15	3	5	27	83
Other.....	24	9	6	36	33	6	3	116
Total.....	1,056	176	70	1,243	734	439	748	4,466
Western Europe								
Austria.....	51	10	(s)	102	28	5	34	232
Belgium.....	63	22	5	232	115	19	108	564
Bosnia and Herzegovina...	3	1	0	5	2	0	8	18
Croatia.....	15	2	(s)	24	25	1	10	78
Denmark.....	45	17	(s)	99	33	3	42	238
Finland.....	41	10	0	81	38	5	18	193
France.....	307	106	(s)	871	158	109	383	1,935
Germany.....	750	128	1	1,327	177	124	405	2,911
Greece.....	68	26	(s)	133	100	14	27	368
Iceland.....	3	2	0	8	2	0	1	16
Ireland.....	25	13	8	47	24	3	5	126
Italy.....	453	62	25	505	569	135	309	2,058
Luxembourg.....	12	5	0	19	1	1	(s)	38
Macedonia, TFYR.....	7	(s)	0	9	11	1	1	29
Netherlands.....	97	58	2	172	189	57	195	771
Norway.....	39	13	4	78	14	37	32	216
Portugal.....	45	14	(s)	70	67	37	44	277
Serbia and Montenegro....	8	1	1	9	13	1	17	49
Slovenia.....	18	(s)	0	26	5	1	3	54
Spain.....	198	75	4	384	216	85	214	1,175
Sweden.....	97	16	(s)	121	91	26	47	398
Switzerland.....	85	28	(s)	136	8	6	12	275
Turkey.....	106	26	2	186	151	80	82	633
United Kingdom.....	515	173	71	488	160	168	269	1,845
Other.....	2	1	(s)	5	19	(s)	(s)	27
Total.....	3,051	810	125	5,138	2,216	918	2,267	14,525

See footnotes at end of table.

Table 3.5 World Apparent Consumption of Refined Petroleum Products, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Apparent ³ Consumption
Eastern Europe & Former U.S.S.R.								
Albania.....	4	(s)	1	2	4	(s)	(s)	12
Bulgaria.....	23	0	7	32	25	5	27	119
Czech Republic.....	43	2	(s)	53	28	6	49	182
Hungary.....	31	4	1	35	40	11	25	148
Poland.....	113	10	(s)	123	42	25	52	365
Romania.....	38	5	2	71	84	8	48	257
Slovakia.....	11	(s)	1	17	13	1	23	66
Armenia.....	1	(s)	1	2	3	(s)	3	11
Azerbaijan.....	17	11	3	6	74	13	8	134
Belarus.....	28	15	(s)	43	84	10	25	206
Estonia.....	6	(s)	1	7	5	(s)	6	26
Georgia.....	5	0	0	7	7	(s)	(s)	18
Kazakhstan.....	53	8	9	84	67	23	13	256
Kyrgyzstan.....	4	2	0	3	3	1	(s)	12
Latvia.....	10	1	(s)	13	21	1	0	47
Lithuania.....	15	3	2	11	31	3	3	68
Moldova.....	4	(s)	(s)	6	5	0	1	17
Russia.....	564	182	3	449	811	116	495	2,619
Tajikistan.....	23	(s)	0	2	1	(s)	1	27
Turkmenistan.....	10	5	3	9	14	9	11	62
Ukraine.....	69	14	(s)	103	117	54	30	388
Uzbekistan.....	27	7	3	37	40	1	23	139
Total.....	1,100	271	39	1,115	1,520	288	845	5,178
Middle East								
Bahrain.....	6	1	1	2	3	1	5	19
Cyprus.....	4	10	(s)	7	15	2	4	42
Iran.....	158	35	130	375	246	68	107	1,119
Iraq.....	70	24	24	138	155	17	41	469
Israel.....	51	10	6	41	67	10	31	214
Jordan.....	12	6	4	23	34	7	5	92
Kuwait.....	36	9	1	9	61	1	23	139
Lebanon.....	28	4	2	18	27	7	0	85
Oman.....	15	3	(s)	15	10	1	2	47
Qatar.....	8	2	0	7	1	19	2	40
Saudi Arabia.....	225	63	7	434	234	29	206	1,197
Syria.....	23	4	3	88	78	12	22	229
United Arab Emirates.....	27	6	2	62	184	19	7	306
Yemen.....	21	8	6	16	11	3	2	68
Total.....	682	185	186	1,235	1,128	195	455	4,066

See footnotes at end of table.

Table 3.5 World Apparent Consumption of Refined Petroleum Products, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Motor Gasoline	Jet Fuel ¹	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Liquefied Petroleum Gases	Other ²	Total Apparent Consumption ³
Africa								
Algeria.....	54	8	7	84	9	40	19	220
Angola.....	2	3	1	7	10	1	1	25
Cameroon.....	7	(s)	4	5	3	1	4	23
Congo (Brazzaville).....	1	(s)	1	2	1	(s)	2	7
Congo (Kinshasa).....	5	3	1	6	4	(s)	6	25
Cote d'Ivoire (Ivory Coast).....	12	1	11	13	9	1	11	58
Egypt.....	50	14	33	117	171	16	99	501
Ethiopia.....	1	3	0	6	0	0	1	12
Gabon.....	2	2	2	5	6	(s)	4	21
Ghana.....	11	1	4	9	(s)	1	1	27
Kenya.....	9	10	5	14	8	1	1	48
Libya.....	39	0	17	53	52	(s)	16	177
Morocco.....	8	5	1	44	42	29	9	137
Nigeria.....	81	9	37	59	14	2	84	286
Senegal.....	4	3	(s)	7	6	1	4	25
South Africa.....	178	25	16	105	67	9	28	428
Sudan.....	5	3	1	7	6	(s)	4	26
Tunisia.....	8	5	4	27	15	10	4	73
Zimbabwe.....	8	4	(s)	15	0	(s)	(s)	28
Other.....	48	15	15	67	41	6	18	211
Total.....	532	116	160	653	463	117	317	2,359
Far East & Oceania								
Australia.....	305	83	2	211	31	66	103	801
Bangladesh.....	5	2	10	26	7	(s)	3	52
Brunei.....	4	2	(s)	3	1	(s)	2	13
Burma.....	4	1	(s)	11	2	(s)	1	20
China.....	708	98	19	832	460	262	1,142	3,520
Guam.....	3	9	(s)	9	(s)	(s)	0	22
Hong Kong.....	9	63	0	76	30	5	0	183
India.....	116	47	203	742	212	157	204	1,681
Indonesia.....	173	35	168	347	84	24	53	886
Japan.....	903	209	526	1,298	760	700	1,470	5,867
Korea, North.....	21	0	2	14	10	(s)	1	48
Korea, South.....	186	64	201	489	567	190	485	2,183
Malaysia.....	98	22	4	147	74	20	71	435
Mongolia.....	4	0	1	6	1	0	(s)	12
New Zealand.....	48	17	(s)	33	8	8	19	134
Pakistan.....	26	13	13	138	123	3	11	327
Papua New Guinea.....	2	1	(s)	6	5	(s)	(s)	15
Philippines.....	48	17	13	104	112	40	12	346
Singapore.....	13	56	25	90	315	8	35	541
Sri Lanka.....	5	4	5	21	14	3	2	53
Taiwan.....	144	41	3	111	245	48	188	780
Thailand.....	119	57	2	306	181	57	28	749
Vietnam.....	26	4	7	57	20	2	1	116
Other.....	10	15	6	24	13	3	2	72
Total.....	2,980	860	1,209	5,103	3,273	1,597	3,833	18,855
World Total.....	18,364	4,136	1,932	18,509	10,730	6,294	11,358	71,322

¹ Jet Fuel includes naphtha-type jet fuel and kerosene-type jet fuel.

² Includes asphalt, coke, aviation gasoline, naphthas, paraffin wax, petrochemical feedstocks, unfinished oils, white spirits, and blending components.

³ Apparent consumption includes internal consumption, refinery fuel and loss, and bunkering. Also included, where available, are liquefied petroleum gases sold directly from natural gas processing plants for fuel or chemical uses.

(s)=Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 3.6 World Crude Oil Refining Capacity, January 1, 1998

Region Country	Number of Refineries	Thousand Barrels per Day ¹			
		Crude Oil Distillation	Catalytic Cracking	Thermal Cracking	Reforming
North America					
Canada.....	22	1,851	395	137	349
Mexico.....	6	1,520	307	151	228
United States. ²	164	15,452	5,452	1,947	3,540
Total.....	192	18,823	6,154	2,235	4,117
Central & South America					
Argentina.....	12	667	181	46	59
Barbados.....	1	4	0	0	0
Bolivia.....	3	48	0	0	13
Brazil.....	13	1,662	396	9	24
Chile.....	3	205	46	20	16
Colombia.....	5	249	90	52	0
Costa Rica.....	1	15	0	7	1
Cuba.....	4	301	15	0	20
Dominican Republic.....	2	50	0	0	10
Ecuador.....	4	168	0	25	3
El Salvador.....	1	20	0	0	3
Guatemala.....	2	20	0	0	3
Jamaica.....	1	36	0	0	4
Martinique.....	1	16	0	0	3
Netherlands Antilles.....	2	525	49	123	20
Nicaragua.....	1	17	0	0	3
Panama.....	1	60	11	27	11
Paraguay.....	1	8	0	0	0
Peru.....	5	182	23	0	0
Puerto Rico.....	2	134	14	0	26
Suriname.....	1	7	0	0	0
Trinidad and Tobago.....	2	245	27	10	31
Uruguay.....	1	37	9	7	3
Venezuela.....	6	1,177	235	82	47
Virgin Islands, U.S.....	1	545	130	80	125
Total.....	76	6,396	1,225	488	426
Western Europe					
Austria.....	1	210	26	18	34
Belgium.....	4	630	111	61	98
Croatia.....	3	294	32	11	37
Denmark.....	2	132	0	51	22
Finland.....	2	200	45	35	43
France.....	14	1,865	334	153	265
Germany.....	17	2,184	323	211	390
Greece.....	4	392	67	46	54
Ireland.....	1	62	0	0	11
Italy.....	17	2,453	294	416	281
Macedonia, TFYR.....	1	51	0	0	11
Netherlands.....	6	1,188	137	121	171
Norway.....	3	307	48	48	49
Portugal.....	2	304	32	23	50
Serbia and Montenegro.....	2	167	21	0	22
Slovenia.....	1	12	0	0	0
Spain.....	10	1,294	176	148	196
Sweden.....	5	427	30	63	70
Switzerland.....	2	132	0	20	28
Turkey.....	5	708	38	24	65
United Kingdom.....	14	1,826	451	95	372
Total.....	116	14,837	2,164	1,545	2,268

See footnotes at end of table.

Table 3.6 World Crude Oil Refining Capacity, January 1, 1998 (Continued)

Region Country	Number of Refineries	Thousand Barrels per Day ¹			
		Crude Oil Distillation	Catalytic Cracking	Thermal Cracking	Reforming
Eastern Europe & Former U.S.S.R.					
Albania.....	2	26	0	0	4
Bulgaria.....	3	325	24	23	6
Czech Republic.....	4	187	0	0	25
Hungary.....	3	232	24	14	30
Poland.....	7	365	46	0	39
Romania.....	10	542	108	37	76
Slovakia.....	1	115	0	0	22
Azerbaijan.....	2	442	71	0	24
Belarus.....	2	544	0	0	84
Georgia.....	1	106	0	0	10
Kazakhstan.....	3	427	38	30	59
Kyrgyzstan.....	1	10	0	0	0
Lithuania.....	1	263	44	30	26
Russia.....	38	6,869	380	411	849
Turkmenistan.....	2	237	15	0	33
Ukraine.....	6	1,247	59	17	100
Uzbekistan.....	3	288	0	10	23
Total.....	89	12,226	809	572	1,410
Middle East					
Bahrain.....	1	249	41	20	15
Cyprus.....	1	27	0	0	5
Iran.....	9	1,358	30	157	163
Iraq.....	8	348	0	0	44
Israel.....	2	220	50	66	27
Jordan.....	1	95	4	0	8
Kuwait.....	3	886	38	0	48
Lebanon.....	2	38	7	0	7
Oman.....	1	85	0	0	16
Qatar.....	1	58	0	0	12
Saudi Arabia.....	8	1,651	104	78	193
Syria.....	2	242	0	25	26
United Arab Emirates.....	3	287	0	0	30
Yemen.....	2	120	0	0	9
Total.....	44	5,662	274	346	602

See footnotes at end of table.

Table 3.6 World Crude Oil Refining Capacity, January 1, 1998 (Continued)

Region Country	Number of Refineries	Thousand Barrels per Day ¹			
		Crude Oil Distillation	Catalytic Cracking	Thermal Cracking	Reforming
Africa					
Algeria.....	5	483	0	0	78
Angola.....	1	32	0	0	2
Cameroon.....	1	45	0	0	12
Congo (Brazzaville).....	1	21	0	0	2
Congo (Kinshasa).....	1	17	0	0	4
Cote d'Ivoire (Ivory Coast)..	2	73	0	0	14
Egypt.....	8	546	0	0	34
Eritrea.....	1	18	0	0	2
Gabon.....	1	17	0	7	1
Ghana.....	1	27	0	0	6
Kenya.....	1	86	0	0	9
Liberia.....	1	15	0	0	2
Libya.....	3	348	0	0	14
Madagascar.....	1	15	0	6	2
Morocco.....	2	152	5	0	25
Nigeria.....	4	439	83	0	70
Senegal.....	1	17	0	0	2
Sierra Leone.....	1	10	0	0	0
Somalia.....	1	10	0	0	0
South Africa.....	4	465	98	71	79
Sudan.....	1	22	0	0	2
Tanzania.....	1	15	0	3	3
Tunisia.....	1	34	0	0	3
Zambia.....	1	25	0	0	6
Total.....	45	2,930	185	86	371
Far East & Oceania					
Australia.....	10	762	213	0	189
Bangladesh.....	1	31	0	10	2
Brunei.....	1	9	0	0	6
Burma.....	2	32	0	0	0
China.....	35	2,967	892	0	156
India.....	12	1,086	138	65	29
Indonesia.....	8	930	101	59	93
Japan.....	38	4,966	779	0	695
Korea, North.....	2	71	0	0	7
Korea, South.....	6	2,540	158	0	221
Malaysia.....	5	371	0	0	53
New Zealand.....	1	91	0	0	23
Pakistan.....	3	137	0	0	7
Philippines.....	4	323	26	20	43
Singapore.....	4	1,157	60	195	128
Sri Lanka.....	1	48	0	11	3
Taiwan.....	3	770	50	0	115
Thailand.....	5	704	76	17	88
Total.....	141	16,995	2,492	378	1,857
World Total.....	703	77,870	13,303	5,649	11,052

¹ Calendar day basis.

² United States data are as of January 1, 1997. Refinery cracking and reforming data for the United States are available only on a stream day basis. These figures have been converted to calendar days by reducing the stream day data by 5 percent. Thus, the United States cracking and reforming data are estimated.

--=Not applicable.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

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Section 4

Natural Gas

Table 4.1 World Natural Gas Production, 1996
(Billion Cubic Feet)

Region Country	Gross Production	Vented, Flared	Reinjected	Marketed Production	Dry Gas Production
North America					
Canada.....	6,969	85	450	6,435	5,779
Mexico.....	1,266	165	0	1,101	1,101
United States.....	24,052	272	4,029	19,751	18,793
Total.....	32,287	521	4,478	27,287	25,673
Central & South America					
Argentina.....	1,224	122	73	1,028	938
Barbados.....	1	0	0	1	1
Bolivia.....	186	17	54	115	109
Brazil.....	323	54	58	212	178
Chile.....	129	4	58	67	64
Colombia.....	333	17	139	176	167
Cuba.....	2	0	0	2	2
Ecuador.....	37	30	4	4	4
Peru.....	44	8	2	34	34
Trinidad and Tobago.....	391	89	0	303	303
Venezuela.....	1,926	224	566	1,136	961
Total.....	4,597	563	955	3,079	2,761
Western Europe					
Austria.....	53	0	0	53	53
Belgium.....	(s)	0	0	(s)	(s)
Croatia.....	64	0	0	64	64
Denmark.....	234	7	0	227	227
France.....	103	0	0	103	103
Germany.....	814	20	0	794	794
Greece.....	1	(s)	0	1	1
Ireland.....	95	0	0	95	95
Italy.....	708	0	0	708	708
Netherlands.....	3,378	9	0	3,370	3,370
Norway.....	2,099	15	561	1,523	1,445
Serbia and Montenegro.....	25	0	0	25	25
Slovenia.....	(s)	0	0	(s)	(s)
Spain.....	17	(s)	0	16	16
Turkey.....	9	2	0	7	7
United Kingdom.....	3,471	86	101	3,284	3,177
Total.....	11,071	139	663	10,270	10,084
Eastern Europe & Former U.S.S.R.					
Albania.....	2	0	1	1	1
Bulgaria.....	1	0	0	1	1
Czech Republic.....	8	0	0	8	8
Hungary.....	165	0	0	165	165
Poland.....	177	0	0	177	177
Romania.....	645	0	0	645	634
Slovakia.....	11	0	0	11	11
Azerbaijan.....	237	0	0	237	237
Belarus.....	11	0	0	11	11
Kazakhstan.....	150	0	0	150	150
Kyrgyzstan.....	1	0	0	1	1
Russia.....	21,235	0	0	21,235	21,235
Tajikistan.....	1	0	0	1	1
Turkmenistan.....	1,307	0	0	1,307	1,307
Ukraine.....	643	0	0	643	643
Uzbekistan.....	1,695	0	0	1,695	1,695
Total.....	26,287	0	1	26,287	26,276

See footnotes at end of table.

Table 4.1 World Natural Gas Production, 1996 (Continued)
(Billion Cubic Feet)

Region Country	Gross Production	Vented, Flared	Reinjected	Marketed Production	Dry Gas Production
Middle East					
Bahrain.....	347	0	106	241	232
Iran.....	3,009	417	1,045	1,547	1,420
Iraq.....	123	2	0	121	114
Israel.....	1	0	0	1	1
Jordan.....	10	0	0	10	10
Kuwait.....	385	18	0	367	328
Oman.....	251	8	86	158	145
Qatar.....	669	0	115	554	484
Saudi Arabia.....	2,742	440	265	2,038	1,460
Syria.....	204	16	17	171	142
United Arab Emirates.....	1,622	14	301	1,308	1,194
Yemen.....	516	0	505	12	0
Total.....	9,879	914	2,439	6,527	5,530
Africa					
Algeria.....	4,903	244	2,283	2,376	2,194
Angola.....	205	138	42	25	20
Cameroon.....	73	73	0	0	0
Congo (Brazzaville).....	47	46	1	0	0
Cote d'Ivoire (Ivory Coast).....	19	0	0	19	19
Egypt.....	631	39	34	559	473
Equatorial Guinea.....	31	28	0	4	0
Gabon.....	91	63	21	7	4
Libya.....	446	64	135	248	227
Morocco.....	1	0	0	1	1
Nigeria.....	1,301	965	139	197	193
Senegal.....	2	0	0	2	2
South Africa.....	65	0	0	65	65
Tunisia.....	42	12	0	30	28
Total.....	7,858	1,670	2,655	3,533	3,225
Far East & Oceania					
Afghanistan.....	8	0	0	8	8
Australia.....	1,058	10	0	1,049	1,049
Bangladesh.....	267	0	0	267	267
Brunei.....	392	0	60	331	325
Burma.....	57	0	0	57	57
China.....	671	0	0	671	671
India.....	810	86	4	721	696
Indonesia.....	3,127	177	547	2,404	2,354
Japan.....	79	0	0	79	79
Korea, South.....	0	1	0	0	0
Malaysia.....	1,249	0	0	1,249	1,230
New Zealand.....	190	2	0	188	188
Pakistan.....	696	0	0	696	696
Papua New Guinea.....	5	0	(s)	5	5
Philippines.....	(s)	0	0	(s)	(s)
Taiwan.....	32	0	0	32	32
Thailand.....	468	0	0	468	428
Vietnam.....	41	11	0	29	29
Total.....	9,151	287	612	8,253	8,114
World Total.....	101,130	4,094	11,802	85,235	81,664

(s) = Value less than 500 million cubic feet.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 4.2 World Dry Natural Gas Supply and Disposition, 1996
(Billion Cubic Feet)

Region Country	Dry Gas Production	Imports ¹	Exports ¹	Apparent Consumption ²
North America				
Canada.....	5,779	43	2,829	2,993
Mexico.....	1,101	31	13	1,122
United States.....	18,793	2,937	154	21,967
Total.....	25,673	3,011	2,997	26,081
Central & South America				
Argentina.....	938	72	0	1,010
Barbados.....	1	0	0	1
Bolivia.....	109	0	72	37
Brazil.....	178	0	0	178
Chile.....	64	0	0	64
Colombia.....	167	0	0	167
Cuba.....	2	0	0	2
Ecuador.....	4	0	0	4
Peru.....	34	0	0	34
Trinidad and Tobago.....	303	0	0	303
Venezuela.....	961	0	0	961
Total.....	2,761	72	72	2,761
Western Europe				
Austria.....	53	232	0	281
Belgium.....	(s)	492	0	493
Bosnia and Herzegovina....	0	5	0	5
Croatia.....	64	25	0	88
Denmark.....	227	0	68	147
Finland.....	0	129	0	129
France.....	103	1,244	28	1,314
Germany.....	794	3,096	137	3,563
Greece.....	1	(s)	0	1
Ireland.....	95	19	0	114
Italy.....	708	1,310	2	1,984
Luxembourg.....	0	25	0	25
Netherlands.....	3,370	201	1,724	1,874
Norway.....	1,445	0	1,343	102
Serbia and Montenegro.....	25	86	0	112
Slovenia.....	(s)	45	0	45
Spain.....	16	322	0	334
Sweden.....	0	32	0	32
Switzerland.....	0	97	0	97
Turkey.....	7	284	0	290
United Kingdom.....	3,177	60	55	3,182
Total.....	10,084	7,703	3,356	14,213

See footnotes at end of table.

Table 4.2 World Dry Natural Gas Supply and Disposition, 1996 (Continued)
(Billion Cubic Feet)

Region Country	Dry Gas Production	Imports ¹	Exports ¹	Apparent Consumption ²
Eastern Europe & Former U.S.S.R.				
Albania.....	1	0	0	1
Bulgaria.....	1	217	0	219
Czech Republic.....	8	328	(s)	328
Hungary.....	165	316	0	453
Poland.....	177	274	1	477
Romania.....	634	260	0	894
Slovakia.....	11	254	0	265
Armenia.....	0	64	0	64
Azerbaijan.....	237	92	0	328
Belarus.....	11	484	0	494
Estonia.....	0	29	0	29
Georgia.....	0	64	0	64
Kazakhstan.....	150	445	85	510
Kyrgyzstan.....	1	64	0	64
Latvia.....	0	35	0	35
Lithuania.....	0	92	0	92
Moldova.....	0	71	0	71
Russia.....	21,235	261	6,992	14,504
Tajikistan.....	1	42	0	43
Turkmenistan.....	1,307	0	1,137	170
Ukraine.....	643	2,317	0	2,935
Uzbekistan.....	1,695	0	261	1,434
Total.....	26,276	5,708	8,477	23,473
Middle East				
Bahrain.....	232	0	0	232
Iran.....	1,420	0	4	1,416
Iraq.....	114	0	0	114
Israel.....	1	0	0	1
Jordan.....	10	0	0	10
Kuwait.....	328	0	0	328
Oman.....	145	0	18	128
Qatar.....	484	0	0	484
Saudi Arabia.....	1,460	0	0	1,460
Syria.....	142	0	0	142
United Arab Emirates.....	1,194	18	253	959
Total.....	5,530	18	274	5,274
Africa				
Algeria.....	2,194	0	1,432	762
Angola.....	20	0	0	20
Cote d'Ivoire (Ivory Coast).....	19	0	0	19
Egypt.....	473	0	0	473
Gabon.....	4	0	0	4
Libya.....	227	0	42	184
Morocco.....	1	0	0	1
Nigeria.....	193	0	0	193
Senegal.....	2	0	0	2
South Africa.....	65	0	0	65
Tunisia.....	28	39	0	67
Total.....	3,225	39	1,474	1,790

See footnotes at end of table.

Table 4.2 World Dry Natural Gas Supply and Disposition, 1996 (Continued)
(Billion Cubic Feet)

Region Country	Dry Gas Production	Imports ¹	Exports ¹	Apparent Consumption ²
Far East & Oceania				
Afghanistan.....	8	0	0	8
Australia.....	1,049	0	345	703
Bangladesh.....	267	0	0	269
Brunei.....	325	0	298	28
Burma.....	57	0	0	57
China.....	671	0	8	663
Hong Kong.....	0	8	0	8
India.....	696	0	0	696
Indonesia.....	2,354	0	1,246	1,108
Japan.....	79	2,295	0	2,390
Korea, South.....	0	443	0	432
Malaysia.....	1,230	0	667	563
New Zealand.....	188	0	0	188
Pakistan.....	696	0	0	696
Papua New Guinea.....	5	0	0	5
Philippines.....	(s)	0	0	(s)
Singapore.....	0	53	0	53
Taiwan.....	32	125	0	157
Thailand.....	428	0	0	428
Vietnam.....	29	0	0	29
Total.....	8,114	2,922	2,564	8,481
World Total.....	81,664	19,473	19,214	82,073

¹ Includes liquefied natural gas.

² Includes stock changes.

(s) = Value less than 500 million cubic feet.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

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Section 5

Coal

Table 5.1 World Coal Production, 1996
(Thousand Short Tons)

Region Country	Primary ¹			Secondary ²		
	Anthracite	Bituminous	Lignite	Metallurgical Coke	Anthracite and Bituminous Briquets	Lignite Briquets
North America						
Canada.....	0	71,601	11,964	3,700	0	0
Mexico.....	0	10,097	0	2,833	0	0
United States.....	4,751	971,048	88,056	23,075	0	0
Total.....	4,751	1,052,746	100,020	29,609	0	0
Central & South America						
Argentina.....	0	342	0	817	0	0
Brazil.....	0	4,226	0	9,212	0	0
Chile.....	0	1,190	42	546	0	0
Colombia.....	0	33,141	0	753	0	0
Cuba.....	0	0	0	18	0	0
Peru.....	10	59	0	0	0	0
Uruguay.....	0	0	0	1	0	0
Venezuela.....	0	3,843	0	0	0	0
Total.....	10	42,801	42	11,346	0	0
Western Europe						
Austria.....	0	0	1,221	1,719	0	0
Belgium.....	0	634	0	3,913	0	0
Bosnia and Herzegovina....	0	0	1,808	0	0	0
Croatia.....	0	71	2	(s)	0	0
Finland.....	0	0	0	1,003	0	0
France.....	967	7,490	881	6,151	316	0
Germany.....	5,274	53,322	206,396	11,753	418	9,350
Greece.....	0	0	65,897	0	0	97
Ireland.....	0	1	0	0	0	321
Italy.....	0	0	326	5,470	0	0
Macedonia, TFYR.....	0	0	7,876	0	0	0
Netherlands.....	0	0	0	3,220	0	0
Norway.....	0	254	0	0	0	0
Portugal.....	0	0	0	365	0	0
Serbia and Montenegro.....	0	66	42,292	0	0	0
Slovenia.....	0	1,051	4,205	0	0	0
Spain.....	6,434	13,063	10,587	2,660	0	0
Sweden.....	0	0	0	1,268	0	0
Turkey.....	0	2,680	59,401	3,540	0	2
United Kingdom.....	735	54,598	0	7,257	562	0
Total.....	13,410	133,230	400,892	48,317	1,296	9,770
Eastern Europe & Former U.S.S.R.						
Albania.....	0	0	111	0	0	0
Bulgaria.....	123	3,719	27,937	1,290	0	0
Czech Republic.....	0	75,691	1,058	5,351	0	798
Hungary.....	0	11,388	5,208	0	0	391
Poland.....	309	150,812	70,377	11,398	11	103
Romania.....	0	4,777	45,798	3,476	0	0
Slovakia.....	0	2,008	787	1,883	0	0
Estonia.....	0	0	0	49	0	0
Georgia.....	0	22	0	0	0	0
Kazakhstan.....	0	80,501	3,933	2,039	0	0
Kyrgyzstan.....	0	1,168	301	0	0	0
Moldova.....	0	40	0	0	0	0
Russia.....	21,104	183,535	99,428	27,888	774	0
Tajikistan.....	0	0	30	(s)	0	0
Ukraine.....	17,097	60,616	4,740	16,314	1,984	0
Uzbekistan.....	0	82	3,046	0	0	0
Total.....	38,633	574,359	262,755	69,687	2,769	1,292

See footnotes at end of table.

Table 5.1 World Coal Production, 1996 (Continued)
(Thousand Short Tons)

Region Country	Primary ¹			Secondary ²		
	Anthracite	Bituminous	Lignite	Metallurgical Coke	Anthracite and Bituminous Briquets	Lignite Briquets
Middle East						
Iran.....	0	1,251	0	165	0	0
Total.....	0	1,251	0	165	0	0
Africa						
Algeria.....	0	24	0	0	0	0
Botswana.....	0	843	0	0	0	0
Cameroon.....	0	1	0	0	0	0
Congo (Kinshasa).....	0	105	0	0	0	0
Egypt.....	0	110	0	1,620	0	0
Malawi.....	0	62	0	0	0	0
Morocco.....	556	0	0	0	0	0
Mozambique.....	0	44	0	0	0	0
Niger.....	0	191	0	0	0	0
Nigeria.....	0	55	0	0	0	0
South Africa.....	3,894	223,581	0	3,130	0	0
Swaziland.....	53	89	0	0	0	0
Tanzania.....	0	6	0	0	0	0
Zambia.....	0	386	0	33	0	0
Zimbabwe.....	0	5,784	0	496	0	0
Total.....	4,503	231,280	0	5,279	0	0
Far East & Oceania						
Afghanistan.....	0	4	0	0	0	0
Australia.....	0	213,170	59,088	4,521	0	615
Bhutan.....	0	2	0	0	0	0
Burma.....	0	34	45	0	0	0
China.....	296,939	1,170,160	72,499	150,389	0	0
India.....	0	314,734	24,846	13,081	0	0
Indonesia.....	0	55,482	(s)	0	0	0
Japan.....	183	7,143	18	44,895	85	0
Korea, North.....	50,548	0	28,109	3,803	0	0
Korea, South.....	5,458	0	0	12,959	3,312	0
Laos.....	0	1	0	0	0	0
Malaysia.....	0	91	0	0	0	0
Mongolia.....	0	754	4,113	0	0	0
Nepal.....	0	0	13	0	0	0
New Zealand.....	145	3,156	353	0	0	0
Pakistan.....	0	4,010	0	794	0	0
Philippines.....	0	1,239	3	0	0	0
Taiwan.....	0	163	0	3,376	0	0
Thailand.....	6	0	23,671	0	0	0
Vietnam.....	10,828	0	0	0	0	0
Total.....	364,106	1,770,144	212,758	233,818	3,397	615
World Total.....	425,412	3,805,811	976,467	398,221	7,463	11,677

¹ Primary coal includes all coal mined and, when necessary, washed and sorted.

² Secondary coal (e.g. coke, briquets), is derived from primary coal.

(s) = Value less than 500 Short tons.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 5.2 World Anthracite Coal Production, 1988 - 1997
(Thousand Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
United States.....	3,555	3,348	3,506	3,445	3,483	4,306	4,621	4,682	4,751	4,692
Total.....	3,555	3,348	3,506	3,445	3,483	4,306	4,621	4,682	4,751	4,692
Central & South America										
Peru.....	10	11	22	12	89	34	29	18	10	10
Total.....	10	11	22	12	89	34	29	18	10	10
Western Europe										
Belgium.....	799	713	95	0	0	0	0	0	0	0
France.....	1,848	1,762	2,007	1,764	1,580	1,488	1,044	923	967	831
Germany.....	--	--	--	7,217	7,546	6,650	6,028	5,551	5,274	5,081
Germany, West.....	7,941	7,315	7,447	--	--	--	--	--	--	--
Spain.....	7,204	7,490	7,791	7,503	8,009	7,846	7,862	7,571	6,434	6,547
Turkey.....	657	473	0	0	0	0	0	0	0	0
United Kingdom.....	2,248	2,201	1,928	1,907	1,714	1,111	1,049	1,169	735	535
Total.....	20,696	19,955	19,268	18,391	18,849	17,094	15,983	15,214	13,410	12,993
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	72	69	47	42	84	79	90	121	123	111
Poland.....	0	0	0	0	0	174	243	304	309	320
Former U.S.S.R.....	79,697	74,957	69,005	61,399	--	--	--	--	--	--
Russia.....	--	--	--	--	27,836	25,207	22,384	21,667	21,104	20,217
Ukraine.....	--	--	--	--	31,017	27,088	22,262	19,728	17,097	18,550
Total.....	79,769	75,027	69,052	61,441	58,936	52,548	44,979	41,820	38,633	39,198
Africa										
Morocco.....	702	556	580	607	635	666	693	715	556	573
South Africa.....	5,458	4,639	4,037	2,964	5,364	5,183	4,721	4,255	3,894	4,020
Swaziland.....	71	71	66	51	41	21	75	71	53	22
Total.....	6,230	5,265	4,683	3,622	6,040	5,869	5,490	5,041	4,503	4,615
Far East & Oceania										
China.....	223,339	240,227	234,627	239,753	243,567	251,048	270,516	296,878	296,939	299,612
Japan.....	387	313	246	238	239	219	187	204	183	121
Korea, North.....	46,297	47,069	47,069	47,399	47,399	47,951	48,502	48,744	50,548	44,482
Korea, South.....	26,781	22,912	18,978	16,599	13,195	10,409	8,199	6,305	5,458	4,974
New Zealand.....	139	100	98	143	193	167	157	151	145	138
Thailand.....	15	9	21	24	24	18	13	6	6	6
Vietnam.....	7,667	4,220	5,100	4,772	5,282	6,503	6,272	9,204	10,828	11,109
Total.....	304,624	314,849	306,139	308,928	309,899	316,315	333,846	361,493	364,106	360,441
World Total.....	414,884	418,453	402,671	395,840	397,297	396,167	404,947	428,268	425,412	421,950

¹ Preliminary.

--= Not applicable.

Notes: Sum of components may not equal total due to independent rounding.

No production is reported for Middle East.

Sources: See sources at the end of this Section.

Table 5.3 World Bituminous Coal Production, 1988 - 1997
(Thousand Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	64,481	65,804	64,981	68,506	61,270	65,015	68,497	70,874	71,601	73,899
Mexico.....	7,904	8,491	8,587	7,816	7,242	7,840	9,809	9,795	10,097	10,298
United States.....	861,609	890,942	937,480	906,025	904,000	851,570	940,803	941,792	971,048	998,899
Total.....	933,993	965,237	1,011,048	982,348	972,512	924,425	1,019,108	1,022,461	1,052,746	1,083,096
Central & South America										
Argentina.....	564	568	304	322	223	185	383	336	342	353
Brazil.....	8,081	7,354	5,065	5,719	5,215	5,065	4,905	4,579	4,226	4,874
Chile.....	2,123	2,148	2,406	2,434	1,792	1,494	1,303	1,104	1,190	1,170
Colombia.....	16,607	20,208	22,562	26,015	26,209	23,394	24,984	28,373	33,141	35,927
Peru.....	145	150	117	68	92	100	75	146	59	66
Venezuela.....	1,182	2,347	2,413	2,819	3,386	4,289	5,226	5,115	3,843	6,120
Total.....	28,702	32,774	32,868	37,376	36,917	34,527	36,876	39,653	42,801	48,510
Western Europe										
Belgium.....	2,741	2,087	2,598	2,323	1,319	1,070	830	702	634	441
France.....	12,365	11,792	10,894	10,523	9,939	8,622	7,777	6,770	7,490	6,098
Germany.....	--	--	--	72,970	71,989	64,091	57,491	56,126	53,322	51,371
Germany, West.....	82,176	80,429	79,019	--	--	--	--	--	--	--
Greece.....	0	0	0	0	0	19	76	77	0	0
Ireland.....	46	47	28	1	1	1	(s)	1	1	1
Italy.....	44	82	64	23	122	11	6	0	0	0
Norway.....	291	397	334	364	396	295	332	322	254	273
Portugal.....	253	284	310	298	244	217	162	157	0	0
Spain.....	23,587	21,902	13,791	12,381	12,595	12,256	12,281	11,827	13,063	13,292
Sweden.....	33	22	12	31	41	4	1	0	0	0
Turkey.....	3,589	3,349	3,330	3,198	3,354	3,169	3,128	2,478	2,680	2,837
United Kingdom.....	112,503	109,242	102,127	102,726	91,870	74,066	52,873	51,313	54,598	52,972
Former Yugoslavia.....	13,490	13,589	12,957	11,309	--	--	--	--	--	--
Croatia.....	--	--	--	--	0	115	106	83	71	53
Serbia and Montenegro.....	--	--	--	--	112	80	90	78	66	62
Slovenia.....	--	--	--	--	1,458	1,323	1,189	1,066	1,051	863
Total.....	251,119	243,222	225,463	216,146	193,442	165,340	136,341	130,998	133,230	128,263
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	5,394	5,210	4,194	3,767	4,092	3,914	3,835	3,650	3,719	3,354
Former Czechoslovakia.....	134,332	127,852	113,848	105,867	99,912	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	75,806	80,954	77,473	75,691	70,847
Slovakia.....	--	--	--	--	--	2,526	2,381	2,109	2,008	1,879
Hungary.....	16,800	15,594	13,348	12,840	11,979	11,045	10,661	10,405	11,388	11,832
Moldova.....	--	--	--	--	287	197	122	35	40	36
Poland.....	212,763	195,807	162,851	154,738	145,086	143,189	146,499	149,820	150,812	150,499
Romania.....	11,026	10,078	5,606	4,827	5,769	4,376	4,987	4,656	4,777	3,889
Former U.S.S.R.....	581,579	560,856	640,222	472,671	--	--	--	--	--	--
Georgia.....	--	--	--	--	220	132	37	44	22	22
Kazakhstan.....	--	--	--	--	134,913	118,172	115,329	87,651	80,501	76,314
Kyrgyzstan.....	--	--	--	--	2,303	2,001	2,153	1,455	1,168	1,333
Russia.....	--	--	--	--	238,209	214,510	185,299	179,897	183,535	175,848
Ukraine.....	--	--	--	--	109,358	96,040	78,930	69,943	60,616	65,768
Uzbekistan.....	--	--	--	--	197	177	157	132	82	93
Total.....	961,895	915,397	940,069	754,710	752,327	672,087	631,344	587,270	574,359	561,715

See footnotes at end of table.

Table 5.3 World Bituminous Coal Production, 1988 - 1997 (Continued)
(Thousand Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Iran.....	1,389	1,323	1,213	1,087	1,070	1,069	1,425	1,254	1,251	1,322
Total.....	1,389	1,323	1,213	1,087	1,070	1,069	1,425	1,254	1,251	1,322
Africa										
Algeria.....	11	17	11	17	17	22	22	24	24	24
Botswana.....	671	698	875	882	993	981	919	899	843	843
Cameroon.....	1	1	1	1	1	1	1	1	1	1
Congo (Kinshasa).....	165	121	86	88	94	101	104	105	105	105
Egypt.....	0	0	0	0	0	0	0	0	110	386
Malawi.....	28	35	44	59	54	55	57	60	62	62
Mozambique.....	50	46	44	46	44	44	44	42	44	44
Niger.....	171	188	190	190	187	190	190	191	191	191
Nigeria.....	90	89	84	152	96	45	55	55	55	55
South Africa.....	194,458	189,833	189,145	193,463	197,512	202,288	211,117	223,054	223,581	238,568
Swaziland.....	111	111	110	85	69	34	125	118	89	36
Tanzania.....	3	3	4	4	4	4	4	6	6	6
Zambia.....	692	438	416	419	435	441	419	397	386	386
Zimbabwe.....	5,583	5,634	6,067	6,191	6,116	5,826	6,029	6,095	5,784	5,787
Total.....	202,035	197,216	197,077	201,597	205,622	210,033	219,087	231,045	231,280	246,494
Far East & Oceania										
Afghanistan.....	152	140	116	104	9	8	7	6	4	4
Australia.....	148,599	162,897	175,085	181,489	193,048	195,060	194,723	210,602	213,170	228,719
Bhutan.....	2	2	2	2	2	2	2	2	2	2
Burma.....	33	43	34	40	37	35	36	42	34	35
China.....	816,328	874,563	905,582	909,539	932,908	989,315	1,066,032	1,169,920	1,170,160	1,180,691
India.....	200,643	207,510	217,839	235,134	252,820	262,910	271,561	280,072	314,734	304,084
Indonesia.....	4,643	9,246	8,841	14,075	24,222	30,390	34,185	45,660	55,482	60,404
Japan.....	13,382	12,220	11,068	9,335	8,379	7,717	7,867	6,902	7,143	4,711
Laos.....	1	1	1	1	1	1	1	1	1	1
Malaysia.....	98	120	122	198	194	415	148	123	91	116
Mongolia.....	761	763	761	744	700	689	718	721	754	774
New Zealand.....	2,488	2,908	2,675	2,760	3,052	3,224	3,027	3,265	3,156	3,009
Pakistan.....	3,006	2,887	3,033	3,183	3,388	3,389	3,543	3,318	4,010	4,118
Philippines.....	1,472	1,360	1,370	1,391	1,831	1,744	1,597	1,453	1,239	1,271
Taiwan.....	1,351	865	520	444	369	362	314	259	163	109
Total.....	1,192,960	1,275,525	1,327,049	1,358,440	1,420,959	1,495,262	1,583,762	1,722,345	1,770,144	1,788,049
World Total.....	3,572,093	3,630,693	3,734,787	3,551,704	3,582,848	3,502,743	3,627,943	3,735,028	3,805,811	3,857,447

¹ Preliminary.

-- Not applicable.

(s) = Value less than 500 short tons.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 5.4 World Lignite Coal Production, 1988 - 1997
(Thousand Short Tons)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	13,391	11,921	10,369	9,899	11,053	11,074	11,778	11,839	11,964	12,845
United States.....	85,101	86,439	88,090	86,514	90,062	89,549	88,081	86,500	88,056	86,341
Total.....	98,492	98,360	98,459	96,413	101,115	100,623	99,859	98,339	100,020	99,186
Central & South America										
Chile.....	41	42	44	44	66	46	44	44	42	42
Total.....	41	42	44	44	66	46	44	44	42	42
Western Europe										
Austria.....	2,347	2,277	2,698	2,294	1,952	1,864	1,256	1,430	1,221	1,213
France.....	1,822	2,390	2,572	2,167	1,739	1,843	1,655	1,549	881	711
Germany.....	--	--	--	308,182	266,552	244,494	228,263	211,597	206,396	195,285
Germany, East.....	342,063	331,860	308,647	--	--	--	--	--	--	--
Germany, West.....	119,735	121,118	118,597	--	--	--	--	--	--	--
Greece.....	53,267	57,172	57,206	58,086	60,683	60,425	62,470	63,561	65,897	66,227
Italy.....	1,102	1,102	1,054	1,036	787	683	294	419	326	234
Spain.....	14,280	19,042	18,048	17,111	16,291	14,713	12,524	11,879	10,587	9,329
Turkey.....	38,953	53,752	48,950	47,628	53,339	50,359	56,805	58,156	59,401	59,525
Former Yugoslavia.....	66,509	68,637	70,652	66,727	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	6,924	5,539	3,240	3,133	1,808	1,692
Croatia.....	--	--	--	--	0	12	8	8	2	0
Macedonia, TFYR.....	--	--	--	--	7,135	7,626	7,562	7,991	7,876	7,165
Serbia and Montenegro.....	--	--	--	--	46,532	40,570	40,210	44,025	42,292	39,723
Slovenia.....	--	--	--	--	4,666	4,322	4,161	4,318	4,205	4,320
Total.....	640,079	657,350	628,423	503,232	466,601	432,450	418,448	408,065	400,892	385,423
Eastern Europe & Former U.S.S.R.										
Albania.....	2,407	2,417	2,282	1,198	403	237	186	132	111	99
Bulgaria.....	32,175	32,528	30,675	27,553	29,268	28,010	27,807	27,416	27,937	25,199
Former Czechoslovakia.....	3,976	4,011	3,643	3,403	1,987	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	1,367	1,190	1,124	1,058	823
Slovakia.....	--	--	--	--	--	1,039	882	827	787	736
Hungary.....	6,210	6,485	6,029	5,872	5,470	5,056	4,881	4,793	5,208	5,411
Poland.....	81,008	79,164	74,499	76,507	73,692	75,073	73,601	70,049	70,377	69,632
Romania.....	53,780	56,317	37,189	30,894	36,408	38,423	40,346	39,261	45,798	37,279
Former U.S.S.R.....	190,033	180,253	172,609	167,585	--	--	--	--	--	--
Kazakhstan.....	--	--	--	--	4,577	5,147	4,603	3,668	3,933	3,307
Kyrgyzstan.....	--	--	--	--	1,225	1,086	493	309	301	343
Russia.....	--	--	--	--	139,808	124,316	112,656	108,467	99,428	91,492
Tajikistan.....	--	--	--	--	287	197	122	35	30	34
Ukraine.....	--	--	--	--	6,370	4,572	3,417	3,307	4,740	2,205
Uzbekistan.....	--	--	--	--	4,992	4,012	4,023	3,263	3,046	3,450
Total.....	369,590	361,176	326,924	313,013	304,488	288,536	274,209	262,651	262,755	240,011
Far East & Oceania										
Australia.....	47,838	53,230	50,695	54,439	55,913	52,523	53,740	55,945	59,088	64,106
Burma.....	39	40	42	43	43	43	44	44	45	46
China.....	40,455	47,157	50,155	49,373	52,106	63,167	66,957	70,171	72,499	73,152
India.....	13,867	13,933	15,554	17,604	17,429	18,318	19,850	21,227	24,846	25,408
Indonesia.....	0	0	0	0	0	0	3	(s)	(s)	1
Japan.....	14	15	17	17	19	18	18	18	18	12
Korea, North.....	19,842	22,046	24,251	25,353	26,455	29,762	29,211	29,321	28,109	23,149
Mongolia.....	8,724	8,099	7,233	5,332	4,729	4,453	4,029	3,947	4,113	3,858
Nepal.....	10	12	12	13	11	12	13	13	13	13
New Zealand.....	192	175	177	191	197	194	278	228	353	256
Philippines.....	3	3	3	3	3	3	3	3	3	3
Thailand.....	8,002	9,812	13,692	16,192	16,904	17,119	18,831	20,300	23,671	24,286
Total.....	138,985	154,522	161,832	168,559	173,809	185,613	192,976	201,218	212,758	214,291
World Total.....	1,247,186	1,271,450	1,215,682	1,081,260	1,046,079	1,007,268	985,537	970,316	976,467	938,953

¹ Preliminary.

-- Not applicable.

(s) = Value less than 500 short tons.

Notes: Sum of components may not equal total due to independent rounding.

No production is reported for Middle East. No production is reported for Africa.

Sources: See sources at the end of this Section.

Table 5.5 World Coal Supply and Disposition, 1996
(Trillion Btu)

Region Country	Production	Imports ¹	Exports ¹	Apparent Consumption ²
North America				
Canada.....	1,919	324	950	1,296
Mexico.....	165	35	(s)	201
United States ³	22,646	206	2,396	21,011
Total.....	24,729	564	3,347	22,508
Central & South America				
Argentina.....	7	33	1	39
Brazil.....	62	251	0	320
Chile.....	30	92	1	127
Colombia.....	706	0	487	208
Peru.....	1	13	0	12
Venezuela.....	92	11	91	17
Other.....	0	26	0	26
Total.....	898	427	579	749
Western Europe				
Austria.....	11	119	(s)	128
Belgium.....	11	379	44	347
Bosnia and Herzegovina.....	14	0	0	14
Croatia.....	2	6	0	8
Denmark.....	0	307	4	256
Finland.....	0	177	(s)	154
France.....	216	400	17	574
Germany.....	2,899	522	34	3,198
Greece.....	285	46	0	347
Italy.....	3	431	3	440
Luxembourg.....	0	19	0	19
Macedonia, TFYR.....	63	2	(s)	66
Netherlands.....	0	432	84	338
Norway.....	6	38	4	40
Portugal.....	0	134	1	135
Serbia and Montenegro.....	358	19	0	377
Slovenia.....	59	10	(s)	69
Spain.....	347	286	3	679
Sweden.....	0	93	3	76
Turkey.....	473	149	0	599
United Kingdom.....	1,193	479	35	1,540
Other.....	(s)	95	(s)	93
Total.....	5,940	4,142	231	9,496
Eastern Europe & Former U.S.S.R.				
Bulgaria.....	267	64	(s)	325
Czech Republic.....	1,195	59	238	1,015
Hungary.....	160	42	(s)	202
Poland.....	3,630	47	722	2,981
Romania.....	388	112	8	499
Slovakia.....	32	181	4	199
Belarus.....	0	24	(s)	27
Estonia.....	0	11	3	14
Kazakhstan.....	1,173	39	425	786
Kyrgyzstan.....	20	30	6	42
Latvia.....	0	5	(s)	6
Lithuania.....	0	8	(s)	7
Moldova.....	1	21	0	23
Russia.....	4,985	398	537	4,938
Tajikistan.....	(s)	2	0	2
Ukraine.....	1,656	293	45	1,904
Uzbekistan.....	40	51	1	90
Other.....	1	5	0	7
Total.....	13,548	1,393	1,989	13,067

See footnotes at end of table.

Table 5.5 World Coal Supply and Disposition, 1996 (Continued)
(Trillion Btu)

Region Country	Production	Imports ¹	Exports ¹	Apparent Consumption ²
Middle East				
Iran.....	31	9	0	39
Israel.....	0	196	0	214
Other.....	0	6	0	6
Total.....	31	211	0	259
Africa				
Algeria.....	1	33	0	33
Botswana.....	21	(s)	0	21
Congo (Kinshasa).....	3	4	0	7
Egypt.....	3	50	11	42
Kenya.....	0	3	0	3
Malawi.....	2	(s)	0	2
Mauritius.....	0	2	0	2
Morocco.....	12	49	0	66
Mozambique.....	1	1	0	2
Niger.....	5	0	0	5
Nigeria.....	1	(s)	0	2
South Africa.....	4,644	13	1,598	3,130
Swaziland.....	3	0	0	3
Tunisia.....	0	3	0	3
Zambia.....	9	0	(s)	9
Zimbabwe.....	141	1	4	142
Other.....	(s)	1	0	1
Total.....	4,845	160	1,613	3,472
Far East & Oceania				
Afghanistan.....	(s)	0	0	(s)
Australia.....	5,007	0	3,380	1,596
Bhutan.....	(s)	1	(s)	1
Burma.....	1	(s)	0	2
China.....	26,332	70	807	25,788
Hong Kong.....	0	182	(s)	201
India.....	6,192	262	3	6,486
Indonesia.....	1,354	12	964	413
Japan.....	145	2,968	65	3,063
Korea, North.....	1,702	69	10	1,760
Korea, South.....	88	1,120	0	1,246
Malaysia.....	3	88	(s)	77
Mongolia.....	51	4	3	52
Nepal.....	(s)	1	0	1
New Caledonia.....	0	5	0	5
New Zealand.....	85	0	42	31
Pakistan.....	71	31	0	102
Philippines.....	24	29	0	60
Singapore.....	0	1	(s)	1
Taiwan.....	4	838	0	814
Thailand.....	273	109	0	383
Vietnam.....	215	1	80	149
Other.....	(s)	1	0	1
Total.....	41,546	5,792	5,355	42,234
World Total.....	91,536	12,690	13,115	91,784

¹ Includes coke.

² Sum of production plus imports minus exports (from this Table) minus stock change.

³ United States apparent coal consumption differs from that published in the Monthly Energy Review (MER). Consumption was 20,509 trillion Btu in the February 1999 issue of the MER. The MER uses a different methodology to derive coal consumption and does not include coal consumption by independent power producers.

(s) = Value less than 0.5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

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Section 6

Electricity

Table 6.1 World Net Conventional Thermal Electricity Generation, 1988 - 1997
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	107.3	119.2	105.5	107.7	116.5	102.7	112.1	121.0	114.4	120.8
Mexico.....	84.2	88.7	85.7	89.7	88.7	93.1	110.5	104.2	110.4	123.0
United States. ²	1,942.0	1,978.6	2,092.3	2,101.3	2,138.8	2,230.8	2,275.2	2,297.5	2,347.7	2,460.5
Other.....	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.7
Total.....	2,134.2	2,187.1	2,284.2	2,299.4	2,344.7	2,427.3	2,498.6	2,523.6	2,573.3	2,705.1
Central & South America										
Argentina.....	29.6	30.5	20.9	25.0	26.4	25.7	24.6	28.8	30.3	29.8
Bahamas, The.....	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.2	1.3	1.3
Bolivia.....	0.6	0.7	0.9	0.9	1.1	1.1	1.1	1.2	1.1	1.9
Brazil.....	9.5	9.9	8.1	9.0	9.1	8.8	9.1	10.6	13.1	14.8
Chile.....	5.1	7.7	8.2	5.9	5.2	6.3	7.7	8.9	12.9	14.1
Colombia.....	8.2	7.5	8.1	8.9	10.6	9.8	8.8	10.7	9.4	13.4
Costa Rica.....	0.1	(s)	0.1	0.2	0.6	0.4	0.8	0.7	0.6	0.6
Cuba.....	13.6	14.2	12.9	11.0	9.5	9.0	10.0	10.8	11.5	13.0
Dominican Republic.....	3.4	2.7	3.1	3.1	3.4	4.0	4.2	4.4	4.7	5.1
Ecuador.....	0.8	0.8	1.3	1.8	2.1	1.5	1.5	3.1	2.8	2.8
Guadeloupe.....	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.0	1.0
Guatemala.....	0.3	0.2	0.2	0.3	0.6	1.1	1.1	1.1	1.1	1.3
Jamaica.....	1.7	1.9	2.2	1.9	2.0	3.5	4.4	5.4	5.6	5.7
Martinique.....	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.9
Nicaragua.....	0.6	0.4	0.6	0.6	0.8	0.8	0.8	0.8	0.9	1.1
Panama.....	0.4	0.4	0.5	0.8	1.1	0.9	1.0	1.0	0.9	1.1
Peru.....	2.9	3.0	3.1	2.8	3.2	2.8	2.9	2.1	3.7	4.5
Puerto Rico.....	13.3	13.2	14.1	14.5	15.2	15.3	16.5	17.6	17.6	17.6
Trinidad and Tobago.....	3.3	3.2	3.4	3.5	3.7	3.7	3.8	4.0	4.3	4.6
Venezuela.....	22.6	21.6	21.2	14.9	17.9	22.5	20.4	18.1	18.0	17.9
Virgin Islands, U.S.....	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0
Other.....	5.3	5.3	4.6	5.6	5.8	5.9	6.0	6.9	6.9	7.7
Total.....	124.2	126.3	116.7	114.3	121.7	126.8	128.8	140.4	149.4	161.2
Western Europe										
Austria.....	11.7	13.1	16.8	18.4	15.1	13.7	15.4	17.0	18.1	18.4
Belgium.....	19.9	23.9	25.6	26.4	26.0	26.2	28.6	25.9	29.7	28.4
Denmark.....	25.5	20.8	23.6	33.4	28.1	30.7	36.6	33.4	49.2	37.4
Finland.....	12.3	20.3	22.8	23.8	22.0	26.0	32.3	29.8	35.7	31.9
France.....	35.7	48.5	45.8	58.2	48.8	33.9	33.2	37.8	42.3	37.9
Germany.....	--	--	--	351.1	335.7	329.6	331.9	334.9	344.6	331.4
Germany, East.....	104.9	105.1	97.3	--	--	--	--	--	--	--
Germany, West.....	263.2	251.3	261.6	--	--	--	--	--	--	--
Greece.....	27.4	29.5	31.0	30.7	32.8	33.6	35.4	35.4	35.6	36.9
Ireland.....	11.1	12.0	12.7	13.3	14.1	14.5	14.9	15.9	17.1	18.0
Italy.....	130.8	159.8	167.8	162.7	166.1	163.9	169.6	184.1	181.7	188.5
Malta.....	1.0	1.0	1.1	1.2	1.3	1.4	1.4	1.4	1.4	1.4
Netherlands.....	62.0	64.8	64.1	66.5	68.8	68.4	70.8	71.7	75.3	78.2
Portugal.....	8.3	18.6	18.0	19.4	23.5	21.1	19.4	23.3	18.4	19.6
Spain.....	46.6	66.9	67.2	67.6	77.0	70.4	72.5	81.6	72.2	86.8
Sweden.....	6.1	5.3	5.0	6.5	7.5	8.6	9.7	9.5	13.8	9.1
Switzerland.....	0.4	1.1	1.1	1.4	1.5	1.2	2.0	2.1	2.0	1.9
Turkey.....	17.8	28.2	32.3	35.2	38.3	37.4	44.8	47.6	51.0	59.6
United Kingdom.....	227.2	225.5	231.3	230.7	222.8	214.3	216.7	224.4	232.9	221.2
Former Yugoslavia.....	50.4	51.2	54.7	52.1	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	8.6	9.1	0.6	0.7	0.8	0.8
Croatia.....	--	--	--	--	4.3	4.7	3.1	3.4	3.1	3.3
Macedonia, TFYR.....	--	--	--	--	4.9	4.4	4.5	5.0	5.3	5.5
Serbia and Montenegro.....	--	--	--	--	23.6	22.0	22.0	24.4	25.0	26.1
Slovenia.....	--	--	--	--	4.4	4.4	4.3	4.4	4.3	4.3
Other.....	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.2	1.4	1.2
Total.....	1,063.2	1,148.2	1,181.1	1,199.9	1,176.5	1,140.8	1,171.4	1,214.8	1,261.1	1,247.8

See footnotes at end of table.

Table 6.1 World Net Conventional Thermal Electricity Generation, 1988 - 1997 (Continued)
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.2	0.2	0.4	0.2	0.1	0.2	0.1	0.2	0.2	0.2
Bulgaria.....	24.7	25.4	24.1	21.9	20.7	20.8	20.1	20.9	20.4	20.9
Former Czechoslovakia.....	56.1	56.7	54.6	52.9	51.2	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	42.0	41.3	43.6	45.8	46.8
Slovakia.....	--	--	--	--	--	8.0	7.6	9.1	8.9	8.4
Hungary.....	14.7	14.6	13.7	15.1	16.5	17.8	18.1	18.6	19.5	19.9
Poland.....	131.8	133.2	125.0	123.4	121.4	122.5	123.7	127.0	131.0	130.7
Romania.....	58.0	59.4	50.1	40.1	39.9	40.1	39.6	40.0	41.6	38.0
Former U.S.S.R.....	1,178.0	1,209.2	1,204.1	1,173.0	--	--	--	--	--	--
Armenia.....	--	--	--	--	5.6	1.9	2.0	3.1	2.2	2.1
Azerbaijan.....	--	--	--	--	16.9	15.7	14.8	14.6	14.6	14.4
Belarus.....	--	--	--	--	35.3	31.3	29.5	23.4	22.3	24.3
Estonia.....	--	--	--	--	11.1	8.6	8.6	8.2	8.5	8.5
Georgia.....	--	--	--	--	4.7	2.9	2.0	1.5	1.0	0.9
Kazakhstan.....	--	--	--	--	71.3	65.6	53.8	54.8	48.2	42.5
Kyrgyzstan.....	--	--	--	--	2.5	2.1	1.1	1.2	1.4	1.1
Latvia.....	--	--	--	--	1.2	0.9	1.0	0.9	1.1	1.6
Lithuania.....	--	--	--	--	3.5	1.4	1.5	1.2	1.9	1.7
Moldova.....	--	--	--	--	10.3	9.3	7.5	5.4	5.4	5.3
Russia.....	--	--	--	--	679.6	627.9	583.7	569.6	549.0	533.9
Tajikistan.....	--	--	--	--	0.8	0.6	0.3	0.2	0.2	0.1
Turkmenistan.....	--	--	--	--	12.4	11.9	9.9	9.2	9.5	8.9
Ukraine.....	--	--	--	--	160.5	134.9	114.4	106.5	87.7	85.6
Uzbekistan.....	--	--	--	--	42.0	39.3	38.2	38.8	36.6	38.4
Total.....	1,463.5	1,498.8	1,471.9	1,426.6	1,307.7	1,205.6	1,118.7	1,098.0	1,056.8	1,034.2
Middle East										
Bahrain.....	3.3	3.3	3.3	3.3	3.7	4.0	4.3	4.3	4.7	5.0
Cyprus.....	1.6	1.7	1.9	2.0	2.3	2.4	2.5	2.3	2.4	2.6
Iran.....	37.9	39.2	49.8	53.6	55.5	62.2	67.4	69.4	70.5	72.0
Iraq.....	25.1	26.6	26.8	19.3	23.1	24.2	25.8	26.7	27.3	28.0
Israel.....	18.2	19.2	19.6	20.2	23.2	24.4	26.6	28.5	30.5	31.6
Jordan.....	2.5	3.2	3.5	3.5	4.1	4.5	4.8	5.3	5.7	6.0
Kuwait.....	18.8	20.2	17.8	10.2	16.1	17.1	21.8	22.7	24.4	25.0
Lebanon.....	3.4	2.0	1.1	1.8	3.1	3.7	4.0	4.6	4.7	5.0
Oman.....	4.1	4.4	5.0	5.2	5.9	6.9	7.4	7.9	8.4	9.0
Qatar.....	4.2	4.4	4.6	4.4	4.9	5.2	5.5	5.5	6.0	6.3
Saudi Arabia.....	57.2	61.6	64.9	69.2	74.0	82.2	91.0	93.9	97.8	100.0
Syria.....	4.5	5.3	9.5	10.1	10.5	10.5	12.0	12.0	13.8	14.5
United Arab Emirates.....	14.0	14.7	16.1	16.2	16.4	16.5	17.7	17.9	18.1	19.0
Yemen.....	1.6	1.6	1.6	1.7	1.8	1.9	2.0	2.2	2.2	2.1
Total.....	196.3	207.3	225.4	220.7	244.6	265.7	292.8	303.3	316.6	326.0
Africa										
Algeria.....	13.9	14.2	15.0	16.0	17.0	17.9	18.5	18.4	19.3	20.0
Angola.....	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Botswana.....	0.8	0.8	0.9	0.9	1.1	1.1	1.0	1.0	0.7	0.7
Cote d'Ivoire (Ivory Coast).....	1.0	1.5	0.9	0.5	0.8	0.8	0.8	0.8	0.8	0.8
Egypt.....	27.6	29.8	27.7	33.7	34.4	35.7	36.4	36.9	37.1	43.0
Libya.....	15.0	15.1	15.8	15.9	15.9	16.0	16.7	16.9	17.2	17.5
Mauritius.....	0.5	0.5	0.6	0.7	0.8	0.8	0.9	0.9	1.1	1.1
Morocco.....	7.5	7.4	7.4	7.5	8.2	8.9	9.3	10.5	10.7	11.0
Nigeria.....	7.2	8.2	10.3	7.9	8.2	8.3	8.3	8.3	8.3	8.3
Reunion.....	0.3	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Senegal.....	0.6	0.7	0.7	0.7	0.8	0.9	0.9	1.1	1.1	1.1
South Africa.....	134.5	139.6	146.6	147.8	147.1	155.9	160.0	164.4	173.9	181.1
Tunisia.....	4.6	4.8	5.2	5.3	5.7	5.9	6.3	6.8	7.0	7.2
Zimbabwe.....	5.4	5.4	6.0	5.7	5.6	6.0	5.9	5.8	5.7	5.5
Other.....	4.6	4.5	4.3	4.3	4.3	4.5	4.5	4.9	5.0	5.2
Total.....	223.9	233.0	242.1	247.9	251.0	263.6	270.6	277.6	288.9	303.5

See footnotes at end of table.

Table 6.1 World Net Conventional Thermal Electricity Generation, 1988 - 1997 (Continued)
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
American Samoa.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Australia.....	117.1	124.2	131.8	132.3	135.2	137.9	141.8	147.7	151.9	156.9
Bangladesh.....	5.8	6.1	6.7	7.6	8.2	8.7	9.2	10.6	11.0	11.5
Bhutan.....	0.0	0.0	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	1.0	1.1	1.2	1.3	1.4	1.4	1.5	1.5	1.5	1.5
Burma.....	1.2	1.3	1.2	1.4	1.4	1.6	1.9	2.3	2.5	2.6
Cambodia.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China.....	409.8	438.3	465.2	519.3	585.3	644.0	701.2	756.1	805.3	850.0
Cook Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Fiji.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
French Polynesia.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Guam.....	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Hong Kong.....	24.0	25.7	27.2	30.0	33.0	33.8	25.1	26.2	26.7	27.0
India.....	166.9	189.8	198.9	223.1	240.7	263.6	279.2	316.3	329.6	350.0
Indonesia.....	29.9	29.1	35.3	37.8	38.7	43.0	48.5	52.0	56.4	60.1
Japan.....	449.1	483.8	524.0	533.2	545.8	517.2	580.4	568.0	579.8	577.0
Kiribati.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Korea, North.....	20.2	20.4	20.4	20.4	13.2	13.2	12.7	12.2	11.8	11.3
Korea, South.....	39.3	40.0	45.5	53.8	65.4	75.5	96.1	105.4	118.8	133.4
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.6	0.7	0.7	0.8	0.9	1.1	1.2	1.2	1.2	1.3
Malaysia.....	12.8	15.6	20.0	22.5	25.9	28.8	31.5	38.1	45.0	50.0
Maldives.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.1	0.1	0.1
Mongolia.....	3.1	3.4	3.1	3.0	2.8	2.4	2.6	2.5	2.4	2.5
Nauru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nepal.....	(s)	(s)	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1
New Caledonia.....	0.6	0.6	0.6	0.8	0.8	0.8	0.8	1.2	1.0	1.0
New Zealand.....	4.9	6.4	6.3	7.6	8.5	7.8	6.8	5.8	7.8	10.4
Niue.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Pakistan.....	20.4	21.9	19.2	21.0	24.8	25.5	28.9	28.4	31.3	34.0
Papua New Guinea.....	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2
Philippines.....	11.9	13.2	13.2	13.0	13.2	13.2	17.1	19.7	20.7	21.0
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Singapore.....	12.2	13.2	14.7	15.6	16.5	17.8	19.4	20.7	22.1	23.4
Solomon Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	0.2	0.1	(s)	0.2	0.3	0.2	0.3	0.3	1.2	1.5
Taiwan.....	36.1	46.5	43.6	51.9	56.1	65.9	72.0	79.1	84.3	93.3
Thailand.....	28.4	31.5	38.7	45.0	52.1	58.8	65.7	72.3	79.1	87.0
Tonga.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
U.S. Pacific Islands.....	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Vanuatu.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	4.5	3.7	3.2	3.4	3.7	1.8	1.8	1.9	2.2	2.2
Total.....	1,403.3	1,519.8	1,624.1	1,748.3	1,877.0	1,967.3	2,148.9	2,272.7	2,396.7	2,512.3
World Total.....	6,608.6	6,920.6	7,145.5	7,257.0	7,323.2	7,397.1	7,629.6	7,830.4	8,042.8	8,290.0

¹ Preliminary.

² U.S. data include purchases from nonutilities.

--- Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Thermal generation consist of electricity generated from coal, oil, and gas.

Generation data consist of both utility and nonutility sources.

Sources: See sources at the end of this Section.

Table 6.2 World Total Net Electricity Consumption, 1988 - 1997
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	424.8	438.8	435.1	438.3	443.5	449.9	459.5	471.3	478.6	475.1
Mexico.....	100.3	108.1	107.1	110.5	114.1	119.2	128.9	133.7	143.7	154.3
United States. ²	2,578.1	2,646.8	2,816.8	2,873.1	2,885.1	2,988.4	3,075.5	3,162.4	3,246.8	3,278.5
Other.....	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Total.....	3,103.8	3,194.4	3,359.7	3,422.7	3,443.5	3,558.2	3,664.6	3,768.2	3,869.9	3,908.6
Central & South America										
Argentina.....	52.6	47.5	45.7	49.3	55.7	59.5	62.3	66.5	64.6	65.4
Bolivia.....	1.7	1.8	1.9	2.1	2.3	2.3	2.3	2.5	2.4	3.1
Brazil.....	214.9	225.1	228.6	242.1	246.3	259.4	271.7	288.2	303.7	322.6
Chile.....	15.3	16.0	18.7	17.6	20.2	21.7	22.8	25.2	27.5	30.1
Colombia.....	30.2	31.7	33.1	33.8	30.8	35.2	38.2	41.8	40.8	41.4
Costa Rica.....	3.1	3.2	3.5	3.5	3.7	4.1	4.3	4.2	4.5	4.5
Cuba.....	12.7	13.3	12.1	10.4	9.0	8.4	9.4	10.1	10.8	12.2
Dominican Republic.....	4.0	3.0	3.3	3.5	5.2	5.4	5.7	6.0	6.0	6.5
Ecuador.....	5.1	5.2	5.8	6.3	6.5	6.8	7.3	9.1	9.5	9.4
El Salvador.....	1.9	1.9	2.1	2.2	2.3	2.6	2.7	2.9	3.1	3.8
Guatemala.....	2.0	2.1	2.1	2.3	2.5	2.8	2.9	3.2	3.1	3.0
Honduras.....	1.8	1.9	2.1	2.1	2.1	2.3	2.5	2.5	2.6	2.7
Jamaica.....	1.7	1.9	2.2	1.9	1.9	3.3	4.2	5.1	5.3	5.5
Nicaragua.....	1.3	1.4	1.4	1.4	1.4	1.4	1.5	1.6	1.7	2.1
Panama.....	2.5	2.5	2.6	2.8	2.9	3.1	3.2	3.3	3.6	4.3
Peru.....	12.3	12.4	12.6	13.2	12.0	13.5	14.5	14.7	15.7	16.3
Puerto Rico.....	12.6	12.5	13.4	13.8	14.4	14.5	15.6	16.6	16.7	16.7
Suriname.....	0.8	1.2	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5
Trinidad and Tobago.....	3.1	3.0	3.1	3.3	3.5	3.4	3.6	3.8	4.0	4.2
Uruguay.....	4.3	4.1	5.6	4.6	4.8	5.1	5.3	5.8	6.0	6.2
Venezuela.....	52.5	52.0	53.7	54.5	59.6	64.3	66.0	67.9	65.9	69.4
Virgin Islands, U.S.....	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Other.....	6.6	5.4	5.8	6.2	6.5	7.3	7.4	8.0	11.3	9.0
Total.....	443.8	450.1	461.7	479.1	495.9	528.8	555.6	591.5	611.3	640.8
Western Europe										
Austria.....	40.8	42.1	44.2	46.9	46.6	45.8	46.4	47.5	49.3	49.7
Belgium.....	54.7	56.3	58.1	60.8	63.0	63.9	66.9	65.0	70.3	71.8
Denmark.....	28.2	29.2	29.4	29.8	30.7	30.7	30.2	31.4	31.4	29.2
Finland.....	48.3	56.5	59.0	58.8	59.7	61.8	64.7	63.7	65.0	66.0
France.....	307.9	314.8	324.3	346.9	353.3	354.5	357.5	364.8	382.1	375.5
Germany.....	--	--	--	470.0	463.3	460.0	463.4	472.9	478.6	477.3
Germany, East.....	111.1	110.4	97.7	--	--	--	--	--	--	--
Germany, West.....	397.0	379.8	386.9	--	--	--	--	--	--	--
Greece.....	28.0	29.6	31.2	32.0	33.1	34.2	35.7	37.0	38.5	40.2
Iceland.....	4.1	4.2	4.1	4.1	4.2	4.3	4.4	4.6	4.7	5.1
Ireland.....	11.1	11.8	12.5	13.1	13.8	14.2	14.8	15.4	16.5	17.4
Italy.....	193.0	216.4	222.3	228.1	232.0	233.6	239.7	246.8	248.7	257.0
Luxembourg.....	4.3	4.4	4.5	4.8	4.5	4.6	5.0	5.4	5.3	5.6
Netherlands.....	66.7	68.8	71.1	74.1	76.3	77.7	80.3	82.2	85.0	88.1
Norway.....	95.2	94.7	96.0	99.0	99.1	102.4	103.1	105.7	105.1	105.5
Portugal.....	21.3	23.8	25.2	26.5	27.5	27.7	28.8	30.3	31.9	33.3
Spain.....	119.3	128.1	133.4	136.4	139.0	138.8	144.3	150.9	155.0	149.4
Sweden.....	128.2	128.8	129.5	130.8	129.5	130.4	128.5	131.8	131.2	131.3
Switzerland.....	43.7	45.9	47.0	48.1	47.9	47.5	47.6	49.1	49.2	48.3
Turkey.....	43.4	43.2	50.6	54.0	60.0	65.7	69.4	76.4	84.7	94.3
United Kingdom.....	280.5	285.9	286.2	293.5	293.2	295.5	297.8	304.8	316.6	309.6
Former Yugoslavia.....	72.9	73.0	72.8	65.5	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	10.9	10.9	1.9	2.2	2.2	2.3
Croatia.....	--	--	--	--	10.9	10.7	11.1	11.5	11.5	13.8
Macedonia, TFYR.....	--	--	--	--	5.6	5.2	5.0	5.4	5.7	5.9
Serbia and Montenegro.....	--	--	--	--	33.6	29.7	30.7	33.0	33.7	35.8
Slovenia.....	--	--	--	--	8.9	9.0	11.4	9.5	9.7	11.5
Other.....	1.2	1.2	1.3	1.4	1.5	1.5	1.6	1.6	1.6	1.6
Total.....	2,100.8	2,149.0	2,187.4	2,224.6	2,248.0	2,260.3	2,290.2	2,348.8	2,413.7	2,425.7

See footnotes at end of table.

Table 6.2 World Total Net Electricity Consumption, 1988 - 1997 (Continued)
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	3.1	3.2	3.2	2.8	2.6	3.1	3.6	4.1	5.5	5.2
Bulgaria.....	43.8	44.4	40.5	36.3	33.9	33.6	33.5	36.7	37.3	38.5
Former Czechoslovakia.....	79.7	81.1	80.7	76.4	70.9	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	49.4	50.9	53.6	55.7	55.3
Slovakia.....	--	--	--	--	--	23.9	24.3	24.8	27.3	23.8
Hungary.....	36.9	37.0	36.3	33.7	31.2	31.4	31.5	32.3	33.0	33.2
Poland.....	130.9	129.1	118.3	115.3	111.9	114.8	115.9	118.9	122.4	122.9
Romania.....	73.5	74.7	66.2	55.5	52.1	51.0	49.6	52.9	54.8	54.4
Former U.S.S.R.....	1,459.9	1,491.0	1,488.4	1,475.3	--	--	--	--	--	--
Armenia.....	--	--	--	--	8.3	5.7	5.1	4.7	5.4	4.7
Azerbaijan.....	--	--	--	--	16.7	16.9	15.7	15.4	15.2	15.5
Belarus.....	--	--	--	--	39.3	35.2	31.4	29.4	28.9	30.8
Estonia.....	--	--	--	--	7.1	6.6	6.9	6.8	7.1	7.1
Georgia.....	--	--	--	--	11.3	9.9	7.1	7.0	6.7	6.7
Kazakhstan.....	--	--	--	--	86.2	83.4	64.9	64.3	56.8	52.3
Kyrgyzstan.....	--	--	--	--	8.8	9.3	9.4	12.6	10.6	10.9
Latvia.....	--	--	--	--	7.5	6.0	5.8	5.8	5.9	4.8
Lithuania.....	--	--	--	--	11.2	10.3	9.8	9.7	8.0	8.0
Moldova.....	--	--	--	--	9.8	6.9	7.8	7.2	6.9	3.8
Russia.....	--	--	--	--	879.9	830.6	770.9	760.2	729.5	712.4
Tajikistan.....	--	--	--	--	16.3	15.1	14.8	14.3	14.1	11.5
Turkmenistan.....	--	--	--	--	8.6	7.9	6.6	6.5	6.0	6.7
Ukraine.....	--	--	--	--	216.7	200.6	178.1	170.9	160.9	163.3
Uzbekistan.....	--	--	--	--	44.2	40.4	43.7	40.5	44.0	43.0
Total.....	1,827.7	1,860.5	1,833.5	1,795.3	1,674.4	1,591.9	1,487.3	1,478.5	1,442.0	1,414.9
Middle East										
Bahrain.....	3.0	3.1	3.1	3.1	3.4	3.7	4.0	4.0	4.4	4.7
Cyprus.....	1.5	1.6	1.7	1.8	2.1	2.3	2.3	2.2	2.3	2.4
Iran.....	41.2	42.6	51.9	56.4	60.4	66.9	69.5	71.4	72.6	74.0
Iraq.....	24.0	25.3	25.5	18.2	22.1	23.0	24.5	25.4	26.0	26.6
Israel.....	16.5	17.5	17.9	18.4	21.2	22.4	24.4	25.7	27.4	28.4
Jordan.....	2.3	3.0	3.2	3.4	4.0	4.3	4.6	5.5	5.6	5.9
Kuwait.....	17.5	18.8	16.5	9.5	14.9	15.9	20.2	21.1	22.7	23.3
Lebanon.....	4.1	2.7	1.7	2.2	3.5	4.4	4.7	5.2	5.8	6.1
Oman.....	3.9	4.1	4.7	4.8	5.5	6.4	6.9	7.3	7.8	8.4
Qatar.....	3.9	4.1	4.2	4.1	4.5	4.9	5.1	5.1	5.5	5.9
Saudi Arabia.....	53.2	57.3	60.4	64.4	68.8	76.4	84.6	87.3	91.0	93.0
Syria.....	8.6	9.2	14.0	15.2	16.6	16.1	17.5	17.6	19.3	20.0
United Arab Emirates.....	13.0	13.6	14.9	15.1	15.3	15.4	16.5	16.7	16.8	17.7
Yemen.....	1.5	1.5	1.5	1.6	1.7	1.8	1.9	2.1	2.0	1.9
Total.....	194.2	204.4	221.3	218.2	244.3	263.8	286.8	296.6	309.2	318.2
Africa										
Algeria.....	13.1	13.4	14.0	14.5	15.1	15.8	16.3	17.0	17.9	18.6
Angola.....	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Cameroon.....	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Congo (Kinshasa).....	4.8	6.3	5.0	4.7	5.4	4.1	4.1	5.5	5.9	6.1
Cote d'Ivoire (Ivory Coast).....	2.1	2.9	2.1	1.6	1.7	1.7	1.7	1.8	1.8	1.8
Egypt.....	32.9	35.1	34.9	39.3	39.8	42.9	43.8	44.4	44.8	50.9
Ghana.....	4.2	4.6	5.2	5.4	5.4	5.4	5.4	5.3	5.2	5.1
Kenya.....	2.7	2.8	2.9	3.1	3.1	3.4	3.5	3.4	3.7	3.8
Libya.....	14.0	14.1	14.7	14.8	14.8	14.9	15.6	15.7	16.0	16.3
Morocco.....	7.9	8.0	8.1	8.7	9.5	10.0	10.6	10.5	10.9	11.2
Nigeria.....	10.3	11.3	13.5	12.7	13.1	12.7	12.7	12.8	12.7	12.6
South Africa.....	137.8	142.7	143.8	146.1	144.6	149.4	156.2	161.1	168.3	175.6
Tunisia.....	4.3	4.4	4.8	5.0	5.4	5.5	5.9	6.5	6.8	6.9
Zambia.....	6.3	4.8	5.7	5.7	5.7	5.7	5.7	5.7	5.9	6.0
Zimbabwe.....	8.3	8.4	10.2	9.6	9.7	9.0	9.4	8.6	9.7	9.9
Other.....	13.7	14.4	15.9	16.7	17.1	18.6	18.6	19.2	19.9	20.7
Total.....	266.4	277.1	285.1	292.3	294.5	303.2	313.6	321.7	333.7	349.9

See footnotes at end of table.

Table 6.2 World Total Net Electricity Consumption, 1988 - 1997 (Continued)
(Billion Kilowatthours)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	1.0	1.0	1.0	1.0	0.8	0.7	0.8	0.7	0.6	0.6
American Samoa.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Australia.....	121.4	128.8	135.6	137.6	139.9	143.6	146.9	152.0	155.4	161.3
Bangladesh.....	6.0	6.5	7.1	7.8	8.4	8.7	9.3	10.2	10.9	11.4
Bhutan.....	0.1	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Brunei.....	1.0	1.0	1.1	1.2	1.3	1.3	1.3	1.4	1.4	1.4
Burma.....	2.0	2.2	2.2	2.4	2.7	3.0	3.2	3.6	3.8	3.9
Cambodia.....	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
China.....	483.1	518.2	550.9	600.9	670.6	744.1	816.0	881.4	922.6	956.0
Fiji.....	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
French Polynesia.....	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Guam.....	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Hong Kong.....	20.9	22.2	23.5	24.8	25.7	27.3	25.4	28.8	31.9	32.4
India.....	214.4	238.1	257.1	280.6	295.1	316.9	341.8	368.8	378.7	397.3
Indonesia.....	36.4	35.9	43.2	45.5	48.6	52.1	56.8	60.3	65.1	67.9
Japan.....	664.2	697.9	749.8	775.8	782.4	790.8	841.3	864.0	883.6	904.6
Korea, North.....	47.8	48.2	48.2	48.2	34.3	34.3	33.4	32.5	31.7	31.3
Korea, South.....	75.0	83.2	94.9	104.5	115.2	127.1	145.0	162.3	180.6	197.2
Laos.....	0.1	0.2	0.3	0.2	0.2	0.3	0.5	0.3	0.4	0.4
Macau.....	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.5	1.3	1.3
Malaysia.....	17.1	19.2	22.3	25.0	28.1	31.4	35.4	41.2	46.6	50.7
Mongolia.....	3.0	3.3	3.1	2.9	2.7	2.3	2.5	2.7	2.7	2.7
Nepal.....	0.6	0.6	0.7	0.8	0.9	0.9	0.9	0.9	1.1	1.2
New Caledonia.....	1.1	1.1	1.0	1.0	1.0	1.0	1.1	1.5	1.4	1.4
New Zealand.....	27.2	28.1	29.3	30.3	28.9	30.7	32.1	32.3	32.8	32.4
Pakistan.....	34.5	36.0	33.8	36.8	40.7	43.5	45.3	47.9	50.8	53.5
Papua New Guinea.....	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Philippines.....	21.1	22.9	22.7	22.8	23.0	23.1	27.0	29.6	30.8	31.3
Samoa.....	(s)	(s)	(s)	(s)	0.1	0.1	0.1	0.1	0.1	0.1
Singapore.....	11.4	12.3	13.7	14.5	15.3	16.5	18.0	19.3	20.5	21.7
Sri Lanka.....	2.6	2.6	2.9	3.1	2.9	3.7	4.0	4.5	4.1	4.0
Taiwan.....	66.6	74.6	77.5	84.6	90.2	98.3	106.2	113.3	120.5	127.7
Thailand.....	30.3	35.1	41.2	46.8	53.0	58.6	65.8	74.0	80.9	88.5
U.S. Pacific Islands.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Vietnam.....	6.0	7.0	7.9	8.4	8.8	9.9	11.4	13.4	14.9	15.6
Other.....	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Total.....	1,898.6	2,030.4	2,175.4	2,312.0	2,425.5	2,574.9	2,776.4	2,952.2	3,078.9	3,202.0
World Total.....	9,835.2	10,165.8	10,524.1	10,744.2	10,826.2	11,080.9	11,374.6	11,757.5	12,058.6	12,260.1

¹ Preliminary.

² There is discontinuity in this time series between 1989 and 1990. Beginning in 1990, expanded coverage of consumption of hydroelectric power generated by nonutility power producers is included. In addition, beginning in 1990, consumption of biomass, geothermal, solar, and wind electric power generated by nonutility power producers is included.

--= Not applicable.

(s) = Value less than 50 million kilowatthours.

Notes: Sum of components may not equal total due to independent rounding.

Consumption equals generation plus imports minus exports minus distribution losses.

Sources: See sources at the end of this Section.

Table 6.3 World Net Electricity Generation by Type, 1996
(Billion Kilowatthours)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
North America					
Canada.....	114.4	352.4	88.1	0.1	555.0
Mexico.....	110.4	31.1	7.5	5.4	154.5
United States.....	2,347.7	344.4	674.7	80.3	3,447.1
Other.....	0.8	0.0	0.0	0.0	0.8
Total.....	2,573.3	727.9	770.3	85.9	4,157.4
Central & South America					
Argentina.....	30.3	28.6	6.9	0.0	65.8
Bolivia.....	1.1	1.5	0.0	0.0	2.5
Brazil.....	13.1	263.1	2.3	8.5	287.1
Chile.....	12.9	16.7	0.0	0.0	29.6
Colombia.....	9.4	34.3	0.0	0.0	43.7
Costa Rica.....	0.6	3.6	0.0	0.4	4.7
Cuba.....	11.5	0.1	0.0	0.0	11.6
Dominican Republic.....	4.7	1.8	0.0	0.0	6.5
Ecuador.....	2.8	7.4	0.0	0.0	10.3
El Salvador.....	1.1	1.9	0.0	0.4	3.3
Guadeloupe.....	1.0	0.0	0.0	0.0	1.0
Guatemala.....	1.1	2.3	0.0	0.0	3.4
Honduras.....	0.6	2.1	0.0	0.0	2.8
Jamaica.....	5.6	0.1	0.0	0.0	5.7
Nicaragua.....	0.9	0.4	0.0	0.6	1.8
Panama.....	0.9	3.0	0.0	0.0	3.9
Paraguay.....	0.1	47.6	0.0	0.0	47.6
Peru.....	3.7	13.2	0.0	0.0	16.9
Puerto Rico.....	17.6	0.3	0.0	0.0	17.9
Suriname.....	0.3	1.3	0.0	0.0	1.6
Trinidad and Tobago.....	4.3	0.0	0.0	0.0	4.3
Uruguay.....	0.4	6.1	0.0	0.0	6.6
Venezuela.....	18.0	53.0	0.0	0.0	71.0
Virgin Islands, U.S.....	1.0	0.0	0.0	0.0	1.0
Other.....	6.5	0.3	0.0	0.0	6.8
Total.....	149.4	488.8	9.2	9.9	657.3
Western Europe					
Austria.....	18.1	33.9	0.0	0.0	52.0
Belgium.....	29.7	0.2	41.2	(s)	71.1
Bosnia and Herzegovina....	0.8	1.4	0.0	0.0	2.2
Croatia.....	3.1	6.5	0.0	0.0	9.7
Denmark.....	49.2	(s)	0.0	1.2	50.4
Finland.....	35.7	11.7	18.5	(s)	66.0
France.....	42.3	64.5	377.5	0.5	484.8
Germany.....	344.6	21.7	152.0	1.9	520.3
Greece.....	35.6	4.3	0.0	(s)	40.0
Iceland.....	(s)	4.7	0.0	0.3	5.1
Ireland.....	17.1	0.7	0.0	(s)	17.8
Italy.....	181.7	41.6	0.0	3.9	227.2
Macedonia, TFYR.....	5.3	0.8	0.0	0.0	6.1
Malta.....	1.4	0.0	0.0	0.0	1.4
Netherlands.....	75.3	0.1	4.0	0.6	80.0
Norway.....	0.8	102.6	0.0	(s)	103.4
Portugal.....	18.4	14.6	0.0	0.1	33.1
Serbia and Montenegro.....	25.0	11.4	0.0	0.0	36.4
Slovenia.....	4.3	3.6	4.4	0.0	12.3
Spain.....	72.2	39.4	53.5	0.4	165.5
Sweden.....	13.8	50.9	69.6	0.1	134.5
Switzerland.....	2.0	28.1	23.9	(s)	54.0
Turkey.....	51.0	40.1	0.0	0.1	91.2
United Kingdom.....	232.9	3.3	85.8	0.5	322.5
Other.....	0.6	0.1	0.0	(s)	0.7
Total.....	1,261.1	486.5	830.3	9.7	2,587.7

See footnotes at end of table.

Table 6.3 World Net Electricity Generation by Type, 1996 (Continued)
(Billion Kilowatthours)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
Eastern Europe & Former U.S.S.R.					
Albania.....	0.2	5.5	0.0	0.0	5.7
Bulgaria.....	20.4	2.4	17.8	0.0	40.6
Czech Republic.....	45.8	1.9	12.2	0.0	59.9
Hungary.....	19.5	0.2	13.5	0.0	33.1
Poland.....	131.0	3.9	0.0	(s)	134.9
Romania.....	41.6	15.6	0.9	0.0	58.1
Slovakia.....	8.9	5.4	11.3	0.0	25.5
Armenia.....	2.2	1.6	2.1	0.0	5.8
Azerbaijan.....	14.6	1.5	0.0	0.0	16.1
Belarus.....	22.3	(s)	0.0	0.0	22.3
Estonia.....	8.5	(s)	0.0	0.0	8.5
Georgia.....	1.0	6.1	0.0	0.0	7.1
Kazakhstan.....	48.2	7.3	0.1	0.0	55.6
Kyrgyzstan.....	1.4	12.1	0.0	0.0	13.5
Latvia.....	1.1	1.8	0.0	0.0	2.9
Lithuania.....	1.9	0.3	12.7	0.0	14.8
Moldova.....	5.4	0.4	0.0	0.0	5.8
Russia.....	549.0	153.1	103.3	(s)	805.4
Tajikistan.....	0.2	14.7	0.0	0.0	14.8
Turkmenistan.....	9.5	(s)	0.0	0.0	9.5
Ukraine.....	87.7	11.4	76.0	0.0	175.1
Uzbekistan.....	36.6	6.5	0.0	0.0	43.0
Total.....	1,056.8	251.6	249.8	(s)	1,558.3
Middle East					
Bahrain.....	4.7	0.0	0.0	0.0	4.7
Cyprus.....	2.4	0.0	0.0	0.0	2.4
Iran.....	70.5	7.5	0.0	0.0	78.0
Iraq.....	27.3	0.6	0.0	0.0	27.9
Israel.....	30.5	(s)	0.0	0.0	30.5
Jordan.....	5.7	(s)	0.0	0.0	5.7
Kuwait.....	24.4	0.0	0.0	0.0	24.4
Lebanon.....	4.7	0.8	0.0	0.0	5.5
Oman.....	8.4	0.0	0.0	0.0	8.4
Qatar.....	6.0	0.0	0.0	0.0	6.0
Saudi Arabia.....	97.8	0.0	0.0	0.0	97.8
Syria.....	13.8	6.9	0.0	0.0	20.8
United Arab Emirates.....	18.1	0.0	0.0	0.0	18.1
Yemen.....	2.2	0.0	0.0	0.0	2.2
Total.....	316.6	15.9	0.0	0.0	332.4
Africa					
Algeria.....	19.3	0.1	0.0	0.0	19.4
Angola.....	0.5	1.4	0.0	0.0	1.8
Botswana.....	0.7	0.0	0.0	0.0	0.7
Cameroon.....	0.1	2.6	0.0	0.0	2.7
Congo (Kinshasa).....	0.1	6.1	0.0	0.0	6.2
Cote d'Ivoire (Ivory Coast).....	0.8	1.1	0.0	0.0	1.9
Egypt.....	37.1	11.0	0.0	0.0	48.2
Ethiopia.....	0.1	1.5	0.0	0.1	1.7
Ghana.....	(s)	5.9	0.0	0.0	6.0
Kenya.....	0.4	3.0	0.0	0.4	3.8
Libya.....	17.2	0.0	0.0	0.0	17.2
Morocco.....	10.7	0.8	0.0	0.0	11.5
Nigeria.....	8.3	5.4	0.0	0.0	13.7
Reunion.....	0.6	0.5	0.0	0.0	1.1
South Africa.....	173.9	1.3	11.8	0.0	186.9
Sudan.....	0.4	0.9	0.0	0.0	1.3
Tunisia.....	7.0	0.1	0.0	0.0	7.1
Zambia.....	(s)	7.7	0.0	0.0	7.7
Zimbabwe.....	5.7	2.3	0.0	0.0	7.9
Other.....	6.0	6.1	0.0	0.0	12.1
Total.....	288.9	57.8	11.8	0.4	358.9

See footnotes at end of table.

Table 6.3 World Net Electricity Generation by Type, 1996 (Continued)
(Billion Kilowatthours)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
Far East & Oceania					
Afghanistan.....	0.2	0.4	0.0	0.0	0.6
American Samoa.....	0.1	0.0	0.0	0.0	0.1
Australia.....	151.9	15.2	0.0	(s)	167.1
Bangladesh.....	11.0	0.7	0.0	0.0	11.7
Bhutan.....	(s)	1.7	0.0	0.0	1.7
Brunei.....	1.5	0.0	0.0	0.0	1.5
Burma.....	2.5	1.6	0.0	0.0	4.1
Cambodia.....	0.1	0.1	0.0	0.0	0.2
China.....	805.3	181.3	13.6	0.0	1,000.2
Cook Islands.....	(s)	0.0	0.0	0.0	(s)
Fiji.....	0.1	0.4	0.0	0.0	0.5
French Polynesia.....	0.2	0.1	0.0	0.0	0.3
Guam.....	0.8	0.0	0.0	0.0	0.8
Hong Kong.....	26.7	0.0	0.0	0.0	26.7
India.....	329.6	68.4	7.4	0.1	405.6
Indonesia.....	56.4	11.0	0.0	2.5	69.9
Japan.....	579.8	79.7	287.1	3.5	950.1
Kiribati.....	(s)	0.0	0.0	0.0	(s)
Korea, North.....	11.8	22.3	0.0	0.0	34.0
Korea, South.....	118.8	5.1	70.2	0.0	194.2
Laos.....	(s)	1.2	0.0	0.0	1.2
Macau.....	1.2	0.0	0.0	0.0	1.2
Malaysia.....	45.0	5.1	0.0	0.0	50.1
Maldives.....	0.1	0.0	0.0	0.0	0.1
Mongolia.....	2.4	0.0	0.0	0.0	2.4
Nauru.....	(s)	0.0	0.0	0.0	(s)
Nepal.....	0.1	1.1	0.0	0.0	1.2
New Caledonia.....	1.0	0.5	0.0	0.0	1.5
New Zealand.....	7.8	25.5	0.0	2.0	35.3
Niue.....	(s)	0.0	0.0	0.0	(s)
Pakistan.....	31.3	23.0	0.3	0.0	54.6
Papua New Guinea.....	1.2	0.5	0.0	0.0	1.7
Philippines.....	20.7	6.6	0.0	5.8	33.1
Samoa.....	(s)	(s)	0.0	0.0	0.1
Singapore.....	22.1	0.0	0.0	0.0	22.1
Solomon Islands.....	(s)	0.0	0.0	0.0	(s)
Sri Lanka.....	1.2	3.2	0.0	0.0	4.4
Taiwan.....	84.3	8.9	36.3	0.0	129.5
Thailand.....	79.1	7.3	0.0	0.0	86.3
Tonga.....	(s)	0.0	0.0	0.0	(s)
U.S. Pacific Islands.....	0.2	(s)	0.0	0.0	0.2
Vanuatu.....	(s)	0.0	0.0	0.0	(s)
Vietnam.....	2.2	13.3	0.0	0.6	16.0
Total.....	2,396.7	484.3	415.0	14.6	3,310.6
World Total.....	8,042.8	2,512.7	2,286.4	120.6	12,962.5

¹ Thermal generation consists of electricity generated from coal, oil, and gas.

² Geothermal and Other consists of geothermal, wind, photovoltaic, and solar thermal generation. Electricity generated from biomass is included for the United States and Brazil.

(s)=Value less than 50 million kilowatthours.

Notes: Generation data consist of both utility and nonutility sources. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

Table 6.4 World Electricity Installed Capacity by Type, January 1, 1997
(Million Kilowatts)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
North America					
Canada.....	35	65	16	(s)	117
Mexico.....	26	10	1	1	38
United States.....	564	98	101	14	776
Other.....	(s)	0	0	0	(s)
Total.....	624	173	118	15	931
Central & South America					
Argentina.....	11	9	1	0	21
Brazil.....	5	53	1	2	61
Chile.....	3	4	0	0	7
Colombia.....	3	8	0	0	11
Cuba.....	4	(s)	0	0	4
Paraguay.....	(s)	7	0	0	7
Peru.....	1	2	0	0	4
Puerto Rico.....	4	(s)	0	0	5
Venezuela.....	9	12	0	0	21
Other.....	10	7	0	(s)	18
Total.....	51	103	2	2	158
Western Europe					
Austria.....	6	8	0	(s)	15
Belgium.....	8	(s)	6	(s)	14
Croatia.....	2	2	0	0	4
Denmark.....	10	(s)	0	1	11
Finland.....	9	3	2	(s)	15
France.....	24	21	60	(s)	105
Germany.....	82	4	23	2	110
Greece.....	7	2	0	(s)	9
Ireland.....	4	(s)	0	(s)	4
Italy.....	48	13	0	1	61
Netherlands.....	20	(s)	1	(s)	20
Norway.....	(s)	26	0	(s)	27
Portugal.....	5	4	0	(s)	9
Serbia and Montenegro.....	8	4	0	0	12
Spain.....	23	12	7	(s)	42
Sweden.....	7	16	10	(s)	33
Switzerland.....	1	10	3	(s)	14
Turkey.....	11	10	0	(s)	21
United Kingdom.....	56	1	13	(s)	70
Other.....	4	3	1	(s)	8
Total.....	334	141	125	4	604
Eastern Europe & Former U.S.S.R.					
Bulgaria.....	7	1	4	0	12
Czech Republic.....	11	1	2	0	14
Hungary.....	6	(s)	2	0	8
Poland.....	27	2	0	0	29
Romania.....	16	6	1	0	23
Slovakia.....	3	2	2	0	7
Armenia.....	2	1	(s)	0	3
Azerbaijan.....	4	1	0	0	5
Belarus.....	7	(s)	0	0	7
Estonia.....	3	0	0	0	3
Georgia.....	2	3	0	0	5
Kazakhstan.....	17	2	(s)	0	19
Kyrgyzstan.....	1	3	0	0	4
Lithuania.....	3	1	3	0	6
Russia.....	146	44	21	(s)	211
Tajikistan.....	(s)	4	0	0	4
Turkmenistan.....	4	(s)	0	0	4
Ukraine.....	37	5	13	0	54
Uzbekistan.....	10	2	0	0	12
Other.....	2	3	0	0	5
Total.....	308	81	47	(s)	435

See footnotes at end of table.

Table 6.4 World Electricity Installed Capacity by Type, January 1, 1997 (Continued)
(Million Kilowatts)

Region Country	Thermal ¹	Hydro	Nuclear	Geothermal and Other ²	Total
Middle East					
Bahrain.....	1	0	0	0	1
Cyprus.....	1	0	0	0	1
Iran.....	24	3	0	0	27
Iraq.....	9	1	0	0	10
Israel.....	4	(s)	0	0	4
Jordan.....	1	(s)	0	0	1
Kuwait.....	7	0	0	0	7
Lebanon.....	1	(s)	0	0	1
Oman.....	2	0	0	0	2
Qatar.....	1	0	0	0	1
Saudi Arabia.....	21	0	0	0	21
Syria.....	4	1	0	0	4
United Arab Emirates.....	5	0	0	0	5
Yemen.....	1	0	0	0	1
Total.....	83	5	0	0	87
Africa					
Algeria.....	6	(s)	0	0	6
Angola.....	(s)	(s)	0	0	1
Cameroon.....	(s)	1	0	0	1
Congo (Kinshasa).....	(s)	3	0	0	3
Cote d'Ivoire (Ivory Coast)..	(s)	1	0	0	1
Egypt.....	14	3	0	0	17
Ghana.....	(s)	1	0	0	1
Kenya.....	(s)	1	0	(s)	1
Libya.....	5	0	0	0	5
Morocco.....	3	1	0	0	4
Mozambique.....	(s)	2	0	0	2
Nigeria.....	4	2	0	0	6
South Africa.....	33	1	2	0	35
Sudan.....	(s)	(s)	0	0	1
Tanzania.....	(s)	(s)	0	0	1
Tunisia.....	2	(s)	0	0	2
Zambia.....	(s)	2	0	0	2
Zimbabwe.....	1	1	0	0	2
Other.....	3	2	0	(s)	4
Total.....	71	21	2	(s)	94
Far East & Oceania					
Australia.....	34	7	0	(s)	41
Bangladesh.....	3	(s)	0	0	3
Burma.....	1	(s)	0	0	1
China.....	179	56	2	0	237
Hong Kong.....	10	0	0	0	10
India.....	73	21	2	(s)	97
Indonesia.....	18	3	0	(s)	21
Japan.....	146	21	43	1	211
Korea, North.....	5	5	0	0	10
Korea, South.....	23	3	10	0	36
Malaysia.....	10	2	0	0	12
New Zealand.....	2	5	0	(s)	8
Pakistan.....	8	5	(s)	0	13
Philippines.....	5	3	0	1	9
Singapore.....	6	0	0	0	6
Sri Lanka.....	(s)	1	0	0	2
Taiwan.....	14	4	5	0	24
Thailand.....	16	3	0	(s)	19
Vietnam.....	2	3	0	(s)	5
Other.....	3	1	0	0	5
Total.....	557	144	62	3	766
World Total.....	2,027	667	356	24	3,075

¹ Thermal capacity consists of coal, oil, and gas.

² Geothermal and Other Capacity consists of geothermal, solar, and wind sources. Biomass capacity is included for United States and Brazil.

(s)=Value less than 500 thousand kilowatts.

Notes: Capacity data consist of both utility and nonutility sources. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of this Section.

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Section 7

Prices

Table 7.1 Selected Crude Oil Prices, 1988-1998
(U.S. Dollars per Barrel)

Region	Country	Crude (API Gravity)	Sulfur Weight ¹	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
North America														
	Canada.....	Lloydminster (22)	2.2	15.25	9.97	14.98	19.27	11.38	15.95	11.58	16.44	18.24	24.44	13.36
	Mexico.....	Isthmus (33)	1.3	14.83	14.53	19.90	24.80	15.80	17.25	11.86	15.92	18.53	23.82	15.80
	Mexico.....	Maya (22)	3.4	11.10	10.63	17.05	20.00	10.75	12.50	9.01	13.77	15.79	19.33	10.81
	United States.....	West Texas Inter. (39)	0.3	16.90	16.75	21.70	27.20	18.70	19.75	14.20	17.60	19.80	25.50	17.80
	United States.....	U S Refiner Acquisition Cost of Imported Crude Oil	--	15.45	16.04	20.51	22.30	16.10	16.80	12.93	16.56	17.48	23.05	14.55
Central & South America														
	Colombia.....	Cano Limon (31)	0.5	15.85	15.20	20.15	24.95	15.73	16.58	11.72	16.02	18.49	23.94	15.65
	Ecuador.....	Oriente (30)	0.9	15.46	13.56	18.81	22.87	13.94	15.62	11.60	16.17	18.20	22.85	14.90
	Venezuela.....	Tia Juana Light(31)	1.2	17.62	12.27	24.69	28.62	19.67	17.97	12.97	16.57	18.52	26.62	15.93
	Venezuela.....	Bachaquero (24)	1.6	14.26	11.45	16.87	27.89	13.94	14.88	11.12	15.25	17.64	24.74	--
	Venezuela.....	Bachaquero (17)	2.4	12.20	10.00	15.00	24.45	10.45	12.75	9.25	14.10	15.70	20.45	--
Western Europe														
	Norway.....	Ekofisk Blend (42)	0.2	17.60	15.85	20.75	27.25	18.00	18.15	13.20	15.95	19.45	24.30	16.50
	United Kingdom.....	Brent Blend (38)	0.4	18.00	15.80	21.00	27.20	17.75	17.90	13.15	16.15	19.37	24.05	15.89
Eastern Europe & Former U.S.S.R.														
	Russia.....	Urals (33)	1.3	15.80	14.55	20.25	26.05	16.55	16.30	12.35	16.40	19.47	22.85	15.79
Middle East														
	Iran.....	Iranian Light (34)	1.4	15.55	12.75	18.20	23.65	15.50	16.70	12.40	16.18	17.73	22.63	14.93
	Iraq.....	Kirkuk Blend (35)	2.0	16.20	14.40	19.45	--	--	--	--	--	--	--	--
	Kuwait.....	Kuwait Blend (31)	2.5	16.67	12.30	17.35	--	--	15.30	11.10	15.58	17.40	21.83	14.90
	Oman	Oman (34)	1.2	17.38	13.40	18.05	23.65	15.20	16.65	12.70	16.35	17.80	22.30	15.35
	Qatar.....	Dukhan (42)	1.3	15.70	13.45	18.30	24.40	16.05	17.35	13.53	16.93	18.22	23.24	15.78
	Saudi Arabia.....	Arabian Light (33)	1.8	17.52	13.15	18.40	24.00	15.90	16.80	12.40	16.63	18.20	22.98	15.50
	Saudi Arabia.....	Arabian Medium (29)	2.9	16.92	12.30	17.55	22.00	14.25	15.40	11.20	15.73	17.40	21.93	14.90
	Saudi Arabia.....	Arabian Heavy (27)	2.8	16.27	11.90	17.15	20.00	13.15	14.40	10.10	15.13	17.05	21.08	14.00
	United Arab Emirates..	Murban (41)	0.8	17.92	13.70	19.05	24.65	16.80	18.15	14.09	17.31	18.81	24.06	16.27
Africa														
	Algeria.....	Saharan Blend (44)	0.1	18.87	16.10	21.15	28.85	18.80	18.60	13.80	16.30	19.79	24.75	16.90
	Angola.....	Cabinda (32)	0.1	16.40	14.40	19.65	25.35	16.65	17.35	12.28	15.42	18.67	23.70	16.05
	Egypt.....	Suez Blend (32)	1.5	15.90	12.75	16.75	24.25	15.20	14.75	10.55	14.60	17.65	21.80	15.05
	Gabon.....	Mandji (31)	1.1	17.32	14.00	19.05	23.25	14.55	15.60	11.10	14.75	17.80	22.30	14.45
	Libya.....	Es Sider (37)	0.5	18.52	15.40	20.40	26.90	17.20	17.55	12.55	16.05	19.20	24.10	16.72
	Nigeria.....	Bonny Light (36)	0.1	18.92	15.05	21.20	27.80	18.20	18.50	13.50	16.15	19.70	24.65	16.50
	Nigeria.....	Forcados (31)	0.2	18.52	15.95	21.35	27.30	18.10	17.95	13.60	16.15	19.70	24.75	16.50
Far East & Oceania														
	Australia.....	Gippsland (42)	--	16.70	16.00	19.65	26.75	21.35	18.60	14.40	16.90	19.40	24.95	16.95
	Brunei.....	Seria Light (37)	0.1	17.20	16.50	20.20	27.25	21.15	19.40	15.60	18.05	20.85	24.80	--
	China.....	Daqing (33)	0.1	17.70	15.30	18.15	26.10	18.50	19.00	13.20	16.90	19.95	25.00	16.60
	Indonesia.....	Minas (34)	0.1	17.56	15.50	18.55	26.50	18.65	19.10	14.15	16.95	20.05	24.95	16.50
	Malaysia.....	Tapis Blend (44)	0.1	18.40	16.75	20.35	27.60	21.45	19.50	15.70	17.60	20.89	25.70	16.00

¹ Percentage of sulfur contained by gross weight.

--=Not applicable.

(s)=No significant volume of exports.

Note: Most foreign crude oil prices are for the available date that is closest to January 1 of the year. The prices for crude oils from Brunei and Malaysia are the United States prices are averages for the month of January. The foreign crude oils are free on board (f.o.b.) at the port of lading. The United States refiner acquisition cost for imported crude oil includes all charges associated with the acquisition, transportation, and storage of imported crude oil up to the time that the oil is booked into the U.S. refineries.

Sources: Bloomberg L.P., *Bloomberg Oil Buyers' Guide*, various issues. Dow Jones & Co., *The Wall Street Journal*, various issues. Energy Information Administration, *Weekly Petroleum Status Report*, DOE/EIA-0208, various issues. The McGraw-Hill Companies, Inc., *Platt's Oilgram Price Report*, various issues. PennWell Publishing Co., *Oil & Gas Journal*, various issues. Petroleum and Energy Intelligence Weekly, Inc., *Petroleum Intelligence Weekly* and *Oil Market Intelligence*, various issues. Petroleum Intelligence Group, *Petroleum Market Intelligence*, various issues.

Table 7.2 World Survey of Recent Selected Petroleum Product Prices (Including Taxes)

Region Country	Date ¹	Automotive Fuels		Residential Fuels			Industrial Fuels	
		Premium Gasoline	Diesel Fuel	Light Fuel Oil	Kerosene	LPG ²	Light Fuel Oil	Heavy Fuel Oil
		U.S. Dollars per Gallon					U.S. Dollars per Barrel	
North America								
Canada	1Q/98	1.55	1.46	--	--	--	21.78	13.44
Mexico.....	1Q/98	1.54 ³	1.21	1.22	--	0.79	49.59	13.78
United States.....	1/98	1.27	1.12	0.93	0.72	0.48	22.72	14.83
Central & South America								
Argentina.....	1/98	2.79	1.62	1.56	1.67	2.08	68.22	23.07
Barbados.....	1/98	2.90	2.43	2.43	1.04	2.15	102.04	30.76
Bolivia.....	1/98	1.40	1.44	1.40	0.77	0.52	60.39	37.81
Brazil.....	1/98	2.94 ³	--	1.39	1.29	1.36	--	--
Chile.....	1/98	1.89	1.32	1.22	1.01	1.54	55.49	23.58
Colombia.....	1/98	0.70	0.83	0.70	0.70	0.40	34.62	14.74
Costa Rica.....	1/98	1.59	1.20	1.13	1.04	1.09	--	22.69
Cuba.....	1/98	1.51	0.75	0.72	0.32	0.50	31.41	20.89
Dominican Republic.....	1/98	1.38	0.97	0.94	1.28	0.22	40.63	23.20
Ecuador.....	1/98	1.08	--	0.76	--	0.15	31.83	14.74
El Salvador.....	1/98	1.76	1.15	1.13	0.89	0.71	48.25	22.56
Grenada.....	1/98	2.03	--	1.54	1.14	2.03	65.76	--
Guatemala.....	1/98	1.60	1.35	1.31	0.94	0.55	56.60	28.71
Guyana.....	1/98	1.39	1.41	1.25	0.92	1.91	59.35	29.10
Haiti.....	1/98	2.11	1.34	1.28	1.03	1.54	56.46	29.74
Honduras.....	1/98	1.78	1.28	1.19	1.02	1.10	53.60	32.69
Jamaica.....	1/98	1.42	1.31	1.34	1.09	1.21	54.84	19.48
Nicaragua.....	1/98	1.84	1.29	1.38	1.15	1.00	54.41	21.79
Panama.....	1/98	1.70	1.26	1.25	1.18	1.11	53.17	30.64
Paraguay.....	1/98	1.79	1.17	1.01	1.19	1.07	49.08	34.87
Peru.....	1/98	1.87	1.70	1.40	1.26	1.83	71.26	29.99
Suriname.....	1/98	2.11	1.55	1.55	1.36	1.50	65.02	10.77
Trinidad and Tobago.....	1/98	1.41	0.76	0.77	0.69	0.73	32.15	21.54
Uruguay.....	1/98	3.18	1.73	1.70	1.66	1.50	72.63	24.36
Venezuela.....	1/98	0.45	--	0.36	0.50	0.47	68.22	--
Western Europe								
Austria.....	1Q/98	3.40	2.69	--	--	--	35.48	15.52
Belgium.....	1Q/98	3.61	2.60	0.80	--	--	27.72	15.93
Denmark.....	1Q/98	3.57	2.88	2.30	--	--	43.90	22.37
Finland.....	1Q/98	3.91	2.72	1.12	--	--	38.62	24.88
France.....	1Q/98	3.82	2.71	1.33	--	--	38.19	18.78
Germany.....	1Q/98	3.33	2.43	0.90	--	--	32.73	17.52
Greece.....	1Q/98	2.68	2.00	1.15	--	--	40.83	24.89
Ireland.....	1Q/98	3.12	3.01	1.38	--	--	40.22	26.41
Italy.....	1Q/98	3.77	2.98	2.93	--	--	102.66	21.13
Luxembourg.....	1Q/98	2.70	2.20	0.87	--	--	32.53	19.09
Netherlands.....	1Q/98	3.94	2.71	1.44	--	--	--	24.67
Norway.....	1Q/98	4.44	3.96	1.73	--	--	56.06	47.77
Portugal.....	1Q/98	3.32	2.32	1.98	--	--	83.12	21.83
Spain.....	1Q/98	2.75	2.20	1.09	--	--	39.31	22.34
Sweden.....	1Q/98	3.83	2.99	2.00	--	--	36.60	28.65
Switzerland.....	1Q/98	3.03	3.21	0.77	--	--	25.70	18.93
Turkey.....	1Q/98	3.02	1.92	2.09	--	--	87.72	27.37
United Kingdom.....	1Q/98	3.90	3.92	0.83	--	--	30.20	20.98

See footnotes at end of table.

Table 7.2 World Survey of Recent Selected Petroleum Product Prices (Including Taxes) (Continued)

Region Country	Date ¹	Automotive Fuels		Residential Fuels			Industrial Fuels	
		Premium Gasoline	Diesel Fuel	Light Fuel Oil	Kerosene	LPG ²	Light Fuel Oil	Heavy Fuel Oil
		U.S. Dollars per Gallon					U.S. Dollars per Barrels	
Eastern Europe & Former U.S.S.R.								
Czech Republic.....	1Q/98	2.56	2.10	1.14	--	--	32.85	11.87
Hungary.....	1Q/98	2.82	2.54	--	--	--	85.32	14.75
Poland.....	1Q/98	1.98	1.64	1.09	--	--	31.62	12.17
Russia.....	3/98	0.53 ³	0.59	0.25	--	--	10.35	--
Slovakia.....	1997	2.52	2.39	0.62	--	--	25.97	15.70
Middle East								
Iran.....	1996	0.32 ³	0.06	0.03	0.06	--	--	--
Kuwait.....	1996	0.05 ³	0.05	0.02	0.05	--	--	--
Qatar.....	1996	0.60 ³	0.57	--	0.42	--	--	--
Saudi Arabia.....	1996	0.61 ³	0.37	0.15	0.44	--	--	--
United Arab Emirates.....	1996	0.86 ³	0.77	0.58	0.79	--	--	--
Africa								
Algeria.....	1996	1.11 ³	0.64	0.59	0.26	--	--	--
Ghana.....	2/1/97	1.68	--	1.57	1.06	1.79	--	--
Kenya.....	12/96	2.43	--	1.93	--	--	--	--
Far East & Oceania								
Australia.....	1Q/98	1.74	1.74	--	--	--	--	--
China.....	7/15/96	0.93 ³	0.88	--	--	--	--	--
Hong Kong.....	1Q/98	5.43	3.30	1.07	1.50	2.17	65.92	44.77
India.....	1997	2.65 ³	1.11	0.27	--	--	36.04	27.25
Japan.....	1Q/98	2.94 ³	2.40	1.35	--	--	37.97	26.70
Korea, South.....	1Q/98	2.85	1.70	--	--	--	--	39.72
New Zealand.....	1Q/98	2.06	1.04	--	--	--	30.99	28.54
Taiwan.....	1997	2.45	1.61	--	--	--	36.80	26.07
Thailand.....	1996	1.38	1.29	1.50	--	--	--	28.27

¹Data are for the available time period that is closest to 1/1/98. Daily, monthly, quarterly, and annual data are averages. (1Q=first quarter)

²Liquefied petroleum gas (LPG) prices refer to residential propane or a mixture of propane and butane.

³Price is for regular gasoline.

--=Not applicable.

Note: Comparisons between prices and price trends in different countries require care. They are of limited validity because of fluctuations in exchange rates; differences in product quality, marketing practices, and market structures; and the extent to which the standard categories of sales are representative of total national sales for a given period.

Sources: Eastern Bloc Research Ltd., *Eastern Bloc Energy*, various issues. Energy Information Administration, *Monthly Energy Review*, May 1998, and *Petroleum Marketing Monthly*, July 1998. Hong Kong Census and Statistics Department, *Hong Kong Energy Statistics, First Quarter, 1998*, 1998. International Energy Agency, *Energy Prices and Taxes, Second Quarter 1998*, 1998. International Monetary Fund, *International Financial Statistics*, November 1998. Kenya Central Bureau of Statistics, *Kenya Economic Survey 1997*. Latin American Energy Organization, *Energy-Economic Information System*, various versions. Organization of Petroleum Exporting Countries, *Annual Statistical Bulletin 1996*, 1997.

Section 8

Energy Reserves

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 1998

Region Country	Crude Oil (Billion Barrels)		Natural Gas (Trillion Cubic Feet)	
	Oil and Gas Journal	World Oil	Oil and Gas Journal	World Oil
North America				
Canada.....	4.8	5.5	65.0	67.5
Mexico.....	40.0	40.8	63.9	63.5
United States ¹	22.5	22.5	167.2	167.2
Total.....	67.4	68.8	296.1	298.2
Central & South America				
Argentina.....	2.6	2.6	24.3	24.1
Barbados.....	(s)	NA	(s)	NA
Bolivia.....	0.1	0.1	4.6	4.2
Brazil.....	4.8	7.1	5.6	8.0
Chile.....	0.2	0.1	3.5	2.7
Colombia.....	2.8	2.6	14.2	8.0
Cuba.....	0.3	0.2	0.4	(s)
Ecuador.....	2.1	2.8	3.7	3.6
Guatemala.....	0.2	NA	(s)	NA
Peru.....	0.8	0.8	7.0	7.0
Suriname.....	0.1	NA	0.0	NA
Trinidad and Tobago.....	0.6	0.5	15.9	18.3
Venezuela.....	71.7	45.5	143.1	145.5
Other.....	0.0	0.7	0.0	(s)
Total.....	86.2	63.0	222.3	221.5
Western Europe				
Austria.....	0.1	0.1	0.9	0.9
Croatia.....	0.1	0.1	0.8	1.3
Denmark.....	0.9	1.0	4.0	3.7
France.....	0.1	0.1	0.5	0.8
Germany.....	0.4	0.4	12.1	12.3
Greece.....	(s)	NA	0.3	NA
Ireland.....	0.0	0.0	0.7	NA
Italy.....	0.7	0.6	10.5	8.1
Netherlands.....	0.1	0.1	61.3	63.1
Norway.....	10.4	11.7	52.3	41.4
Serbia and Montenegro.....	0.1	0.1	2.0	0.6
Spain.....	(s)	NA	0.6	NA
Turkey.....	0.3	0.3	0.3	0.3
United Kingdom.....	5.0	5.2	26.8	27.0
Other.....	0.0	(s)	0.0	0.4
Total.....	18.3	19.7	173.1	159.8
Eastern Europe & Former U.S.S.R.				
Albania.....	0.2	0.1	0.1	0.1
Bulgaria.....	(s)	NA	0.2	NA
Czech Republic.....	(s)	(s)	0.1	0.1
Slovakia.....	(s)	NA	0.5	NA
Hungary.....	0.1	0.1	3.2	1.6
Poland.....	(s)	0.1	5.3	5.1
Romania.....	1.6	0.9	14.0	4.3
Azerbaijan.....	1.2	NA	4.4	NA
Kazakhstan.....	5.4	NA	65.0	NA
Russia.....	48.6	54.8	1,700.0	1,705.0
Turkmenistan.....	0.5	NA	101.0	NA
Ukraine.....	0.4	NA	39.6	NA
Uzbekistan.....	0.6	NA	66.2	NA
Other.....	0.3	8.2	0.8	187.3
Total.....	59.0	64.3	2,000.4	1,903.5

See footnotes at end of table.

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 1998 (Continued)

Region Country	Crude Oil (Billion Barrels)		Natural Gas (Trillion Cubic Feet)	
	Oil and Gas Journal	World Oil	Oil and Gas Journal	World Oil
Middle East				
Bahrain.....	0.2	0.2	5.1	5.0
Iran.....	93.0	89.7	810.0	812.2
Iraq.....	112.5	99.7	109.8	112.6
Israel.....	(s)	NA	(s)	NA
Jordan.....	(s)	NA	0.2	NA
Kuwait. ²	96.5	93.5	52.9	56.7
Oman.....	5.2	3.8	27.5	21.3
Qatar.....	3.7	4.2	300.0	270.0
Saudi Arabia ²	261.5	263.8	190.5	208.0
Syria.....	2.5	2.3	8.3	8.4
United Arab Emirates.....	97.8	64.2	204.9	208.8
Yemen.....	4.0	3.1	16.9	17.0
Other.....	0.0	(s)	0.0	0.6
Total.....	677.0	624.4	1,726.1	1,720.7
Africa				
Algeria.....	9.2	13.8	130.6	139.5
Angola.....	5.4	3.9	1.7	1.7
Benin.....	(s)	NA	(s)	NA
Cameroon.....	0.4	0.6	3.9	3.8
Congo (Brazzaville).....	1.5	1.6	3.2	4.3
Congo (Kinshasa).....	0.2	NA	(s)	NA
Cote d'Ivoire (Ivory Coast).....	0.1	0.1	1.0	1.0
Egypt.....	3.8	3.7	27.6	28.8
Equatorial Guinea.....	(s)	NA	1.3	NA
Ethiopia.....	(s)	0.0	0.9	NA
Gabon.....	2.5	2.7	1.2	3.6
Ghana.....	(s)	NA	0.8	NA
Libya.....	29.5	26.9	46.3	45.5
Madagascar.....	0.0	0.0	0.1	NA
Morocco.....	(s)	NA	0.1	NA
Mozambique.....	0.0	0.0	2.5	NA
Namibia.....	0.0	0.0	3.0	NA
Nigeria.....	16.8	21.2	114.9	109.2
Rwanda.....	0.0	0.0	2.0	NA
Somalia.....	0.0	0.0	0.2	NA
South Africa.....	(s)	NA	0.8	NA
Sudan.....	0.3	NA	3.0	NA
Tanzania.....	0.0	0.0	1.0	NA
Tunisia.....	0.3	0.3	2.5	2.8
Other.....	0.0	1.9	0.0	15.0
Total.....	70.1	76.7	348.6	355.2

See footnotes at end of table.

Table 8.1 World Crude Oil and Natural Gas Reserves, January 1, 1998 (Continued)

Region Country	Crude Oil (Billion Barrels)		Natural Gas (Trillion Cubic Feet)	
	Oil and Gas Journal	World Oil	Oil and Gas Journal	World Oil
Far East & Oceania				
Afghanistan.....	0.0	0.0	3.5	NA
Australia.....	1.8	2.3	19.4	51.9
Bangladesh.....	(s)	NA	10.9	NA
Brunei.....	1.4	1.1	14.1	13.3
Burma.....	0.1	0.3	10.0	15.0
China.....	24.0	34.0	41.0	42.4
India.....	4.3	3.5	17.4	13.5
Indonesia.....	5.0	9.1	72.3	137.8
Japan.....	0.1	NA	1.4	NA
Malaysia.....	3.9	5.0	79.8	87.0
New Zealand.....	0.1	0.2	2.4	2.0
Pakistan.....	0.2	0.2	21.0	23.3
Papua New Guinea.....	0.3	0.3	9.0	6.0
Philippines.....	0.2	0.3	2.7	3.5
Taiwan.....	(s)	NA	2.7	NA
Thailand.....	0.3	0.3	7.0	12.5
Vietnam.....	0.6	0.8	6.0	6.0
Other.....	0.0	0.6	0.0	22.3
Total.....	42.3	58.0	320.6	436.3
World Total.....	1,020.1	975.0	5,087.2	5,095.2

¹ Data for the United States are from the Energy Information Administration.

² Includes one-half of the reserves in the Neutral Zone.

NA = Not Available

(s) = Value less than 50 million barrels of crude oil or less than 50 billion cubic feet of natural gas.

Notes: Sum of components may not equal total due to independent rounding. All reserve data except those for the Former U.S.S.R. and natural gas reserves in Canada are proved reserves. Former U.S.S.R. data are "explored reserves," which are understood to be proved, and some probable. World Oil did not present disaggregated data for the Other Republics of the Former U.S.S.R.. Data was presented for Russia (54.8 billion barrels of crude oil and 1705.0 trillion cubic feet of natural gas) and aggregated data for the Other Republics of the Former U.S.S.R. (8.2 billion barrels of crude oil and 186.3 trillion cubic feet of natural gas).

Sources: PennWell Publishing Co., Oil and Gas Journal. Vol 95, No. 52, (December 1997). Gulf Publishing Co., World Oil. Vol 219, No. 8, (August 1998). Energy Information Administration, U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1997 Annual Report, DOE/EIA-0216(97) (December 1998).

Table 8.2 World Estimated Recoverable Coal
(Million Short Tons)

Region Country	Recoverable Anthracite and Bituminous ¹	Recoverable Lignite and Subbituminous ¹	Total Recoverable Coal ¹
North America			
Canada.....	4,970	4,535	9,505
Greenland.....	0	202	202
Mexico.....	948	387	1,335
United States.. ²	126,442	148,700	275,143
Total.....	132,360	153,824	286,184
Central & South America			
Argentina.....	0	143	143
Bolivia.....	1	0	1
Brazil.....	0	13,173	13,173
Chile.....	34	1,268	1,302
Colombia.....	7,020	420	7,439
Ecuador.....	0	26	26
Peru.....	1,058	110	1,168
Venezuela.....	528	0	528
Total.....	8,641	15,140	23,781
Western Europe			
Austria.....	0	28	28
Croatia.....	7	36	43
France.....	105	23	128
Germany.....	26,455	47,399	73,855
Greece.....	0	3,168	3,168
Ireland.....	15	0	15
Italy.....	0	37	37
Netherlands.....	548	0	548
Norway.....	0	7	7
Portugal.....	3	36	40
Serbia and Montenegro.....	71	18,087	18,157
Slovenia.....	0	65	65
Spain.....	220	507	728
Sweden.....	0	1	1
Turkey.....	495	690	1,185
United Kingdom.....	1,102	551	1,653
Total.....	29,022	70,636	99,658
Eastern Europe & Former U.S.S.R.			
Bulgaria.....	14	2,974	2,988
Czech Republic.....	2,880	3,929	6,809
Hungary.....	657	4,260	4,917
Kazakhstan.....	34,172	3,307	37,479
Kyrgyzstan.....	0	895	895
Poland.....	13,352	2,421	15,773
Romania.....	1	3,979	3,980
Russia.....	54,110	118,964	173,074
Slovakia.....	0	190	190
Ukraine.....	18,065	19,806	37,871
Uzbekistan.....	1,102	3,307	4,409
Total.....	124,354	164,032	288,386
Middle East			
Iran.....	213	0	213
Total.....	213	0	213

See footnotes at end of table.

Table 8.2 World Estimated Recoverable Coal (Continued)
(Million Short Tons)

Region Country	Recoverable Anthracite and Bituminous ¹	Recoverable Lignite and Subbituminous ¹	Total Recoverable Coal ¹
Africa			
Algeria.....	44	0	44
Botswana.....	4,754	0	4,754
Central African Republic....	0	4	4
Congo (Kinshasa).....	97	0	97
Egypt.....	0	24	24
Malawi.....	2	0	2
Morocco.....	6	0	6
Mozambique.....	265	0	265
Niger.....	77	0	77
Nigeria.....	23	186	209
South Africa.....	60,994	0	60,994
Swaziland.....	128	0	128
Tanzania.....	220	0	220
Zambia.....	0	61	61
Zimbabwe.....	809	0	809
Total.....	67,420	276	67,695
Far East & Oceania			
Afghanistan.....	73	0	73
Australia.....	52,139	47,510	99,649
Burma.....	2	0	2
China.....	68,564	57,651	126,215
India.....	80,174	2,205	82,379
Indonesia.....	849	4,905	5,754
Japan.....	865	0	865
Korea, North.....	331	331	661
Korea, South.....	90	0	90
Malaysia.....	4	0	4
Nepal.....	2	0	2
New Caledonia.....	2	0	2
New Zealand.....	32	597	629
Pakistan.....	0	3,228	3,228
Philippines.....	26	303	330
Taiwan.....	1	0	1
Thailand.....	0	2,205	2,205
Vietnam.....	165	0	165
Total.....	203,321	118,934	322,255
World Total.....	565,331	522,841	1,088,172

¹ World Energy Council definition of "Proved Recoverable Reserves": Proved Recoverable Reserves are the tonnage within the Proved Amount in Place that can be recovered (extracted from the earth in raw form) under present and expected local economic conditions with existing available technology.

² Data represent both measured and indicated tonnage, as of January 1, 1997 (equated to December 31, 1996). The U.S. term "measured" approximates the term "proved" used by the World Energy Council. The U.S. "measured and indicated" data have been combined prior to depletion adjustments and cannot be recaptured as "measured

-- Not applicable

Notes: Formerly entitled "World Estimated Recoverable Reserves of Coal." The estimates in this table are dependent on the judgment of each reporting country to interpret local economic conditions and its own mineral assessment criteria in terms of specified standards of the World Energy Council. Consequently, the data may not all meet the same standards of reliability and some data, including the Energy Information Administration's (EIA)'s, may not represent reserves of coal that are known to be recoverable under current economic conditions and regulations. Some data, including the EIA's, represent estimated recovery rates for highly reliable estimates of coal quantities in the ground that have physical characteristics like those of coals currently being profitably mined. U.S. coal rank approximations are based partly on Btu and may not match precisely borderline geologic ranks. Further, data in this table may represent different base years. Data for the U.S. represent recoverable coal estimates as of December 31, 1996. Data for other countries are as of December 31, 1996, the most recent period for which they are available. The Energy Information Administration does not certify the international reserves data but reproduces the information as a matter of convenience for the reader. Sum of components may not equal total due to independent rounding.

Sources: World Energy Council, 1998 Survey of Energy Resources, 1998. United States: Energy Information Administration. Unpublished File Data of the Coal Reserves Database (October 1998).

Appendix A

**Geographical and
Organizational
Definitions**

Appendix A

Geographical and Organizational Definitions

North America

Bermuda	Greenland	Saint Pierre and Miquelon
Canada	Mexico	United States

Central and South America

Antarctica ¹	Dominican Republic	Nicaragua
Antigua and Barbuda	Ecuador	Panama
Argentina	El Salvador	Paraguay
Aruba	Falkland Islands	Peru
Bahamas, The	French Guiana	Puerto Rico
Barbados	Grenada	Saint Kitts and Nevis
Belize	Guadeloupe	Saint Lucia
Bolivia	Guatemala	Saint Vincent/Grenadines
Brazil	Guyana	Suriname
Cayman Islands	Haiti	Trinidad and Tobago
Chile	Honduras	Turks and Caicos Islands
Colombia	Jamaica	Uruguay
Costa Rica	Martinique	Venezuela
Cuba	Montserrat	Virgin Islands, British
Dominica	Netherlands Antilles	Virgin Islands, U.S.

Western Europe

Austria	Iceland	Switzerland
Belgium	Ireland	Turkey
Denmark	Italy	United Kingdom
Faroe Islands	Luxembourg	Former Yugoslavia
Finland	Malta	Bosnia and Herzegovina
France	Netherlands	Croatia
Germany	Norway	Macedonia, The Former Yugoslav
Germany, East	Portugal	Republic of (TFYR)
Germany, West	Spain	Serbia and Montenegro
Gibraltar	Sweden	Slovenia
Greece		

¹Formerly listed as Antarctic Fisheries.

Eastern Europe and Former U.S.S.R.

Albania	Former U.S.S.R.	Latvia
Bulgaria	Armenia	Lithuania
Former Czechoslovakia	Azerbaijan	Moldova
Czech Republic	Belarus	Russia
Slovakia	Estonia	Tajikistan
Hungary	Georgia	Turkmenistan
Poland	Kazakhstan	Ukraine
Romania	Kyrgyzstan	Uzbekistan

Middle East

Bahrain	Jordan	Saudi Arabia
Cyprus	Kuwait	Syria
Iran	Lebanon	United Arab Emirates
Iraq	Oman	Yemen
Israel	Qatar	

Africa

Algeria	Gabon	Reunion
Angola	Gambia, The	Rwanda
Benin	Ghana	Saint Helena
Botswana	Guinea	Sao Tome and Principe
Burkina Faso	Guinea-Bissau	Senegal
Burundi	Kenya	Seychelles
Cameroon	Lesotho	Sierra Leone
Cape Verde	Liberia	Somalia
Central African Republic	Libya	South Africa
Chad	Madagascar	Sudan
Comoros	Malawi	Swaziland
Congo (Brazzaville) ¹	Mali	Tanzania
Congo (Kinshasa) ²	Mauritania	Togo
Cote d'Ivoire (Ivory Coast)	Mauritius	Tunisia
Djibouti	Morocco	Uganda
Egypt	Mozambique	Western Sahara
Equatorial Guinea	Namibia	Zambia
Eritrea	Niger	Zimbabwe
Ethiopia	Nigeria	

¹Formerly listed as Congo.

²Formerly named Zaire.

Far East and Oceania

Afghanistan	India	Niue
American Samoa	Indonesia	Pakistan
Australia	Japan	Papua New Guinea
Bangladesh	Kiribati	Philippines
Bhutan	Korea, North	Samoa ³
Brunei	Korea, South	Singapore
Burma	Laos	Solomon Islands
Cambodia	Macau	Sri Lanka
China	Malaysia	Taiwan
Cook Islands	Maldives	Thailand
Fiji	Mongolia	Tonga
French Polynesia	Nauru	U.S. Pacific Islands ⁴
Guam	Nepal	Vanuatu
Hawaiian Trade Zone ¹	New Caledonia	Vietnam
Hong Kong ²	New Zealand	Wake Island

Organization for Economic Cooperation and Development (OECD)⁵

Australia	Greenland	New Zealand
Austria	Guam	Norway
Belgium	Hawaiian Trade Zone ¹	Poland
Canada	Hungary	Portugal
Czech Republic	Iceland	Puerto Rico
Denmark	Ireland	Spain
Faroe Islands	Italy	Sweden
Finland	Japan	Switzerland
France	Korea, South	Turkey
Germany	Luxembourg	United Kingdom
Germany, East	Mexico	United States
Germany, West	Netherlands	Virgin Islands, U.S.
Greece		

OECD Europe

Austria	Germany, West	Norway
Belgium	Greece	Poland
Czech Republic	Hungary	Portugal
Denmark	Iceland	Spain
Faroe Islands	Ireland	Sweden
Finland	Italy	Switzerland
France	Luxembourg	Turkey
Germany	Netherlands	United Kingdom
Germany, East		

¹As of January 1, 1987, Hawaiian Trade Zone data are included in the United States data.

²Under a Sino-British declaration of September 1984, Hong Kong reverted to Chinese control on July 1, 1997. It is now a semi-autonomous entity that exists pursuant to international agreement and maintains its own government apart from the People's Republic of China.

³Formerly named Western Samoa.

⁴Includes data for three independent countries - Federated States of Micronesia, Republic of the Marshall Islands, and Republic of Palau - and a United States territory, Commonwealth of the Northern Mariana Islands.

⁵Membership is as of December 31, 1997.

International Energy Agency (IEA)¹

Australia	Greece	Norway
Austria	Greenland	Portugal
Belgium	Guam	Puerto Rico
Canada	Hawaiian Trade Zone ²	Spain
Denmark	Hungary	Sweden
Faroe Islands	Ireland	Switzerland
Finland	Italy	Turkey
France	Japan	United Kingdom
Germany	Luxembourg	United States
Germany, East	Netherlands	Virgin Islands, U.S.
Germany, West	New Zealand	

European Union (EU)³

Austria	Germany	Luxembourg
Belgium	Germany, East	Netherlands
Denmark	Germany, West	Portugal
Faroe Islands	Greece	Spain
Finland	Ireland	Sweden
France	Italy	United Kingdom

Former U.S.S.R.

Armenia	Kazakhstan	Russia
Azerbaijan	Kyrgyzstan	Tajikistan
Belarus	Latvia	Turkmenistan
Estonia	Lithuania	Ukraine
Georgia	Moldova	Uzbekistan

Organization of Petroleum Exporting Countries (OPEC)³

Algeria	Kuwait	Saudi Arabia
Indonesia	Libya	United Arab Emirates
Iran	Nigeria	Venezuela
Iraq	Qatar	

¹Membership is as of December 31, 1997.

²As of January 1, 1987, Hawaiian Trade Zone data are included in the United States data.

³Membership is as of December 31, 1997.

Appendix B

**World Population
and Gross Domestic
Product, 1988-1997**

Table B1 World Population, 1988 - 1997
(Millions)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Bermuda.....	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Canada.....	26.89	27.38	27.79	28.12	28.53	28.90	29.26	29.62	29.96	30.29
Greenland.....	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Mexico.....	82.72	84.27	86.15	87.84	89.54	91.21	93.01	94.85	96.58	98.40
Saint Pierre and Miquelon.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
United States.....	244.50	246.82	249.44	252.12	255.00	257.75	260.29	262.76	265.18	267.64
Total.....	354.23	358.60	363.51	368.21	373.20	377.99	382.69	387.36	391.85	396.45
Central & South America										
Antigua and Barbuda.....	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.07
Argentina.....	31.64	32.08	32.53	32.97	33.42	33.87	34.32	34.77	35.22	35.67
Aruba.....	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.08
Bahamas, The.....	0.25	0.25	0.26	0.26	0.26	0.27	0.27	0.28	0.28	0.29
Barbados.....	0.25	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Belize.....	0.18	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.22	0.23
Bolivia.....	6.29	6.43	6.57	6.73	6.90	7.07	7.24	7.41	7.59	7.77
Brazil.....	139.82	142.31	144.72	147.07	149.36	151.57	153.73	155.82	157.87	159.88
Cayman Islands.....	0.23	0.24	0.25	0.26	0.26	0.30	0.32	0.33	0.34	0.36
Chile.....	12.75	12.96	13.10	13.32	13.54	13.77	13.99	14.20	14.42	14.62
Colombia.....	31.14	31.71	32.30	32.84	33.39	33.95	34.52	35.10	35.63	36.16
Costa Rica.....	2.72	2.76	2.80	2.87	2.94	3.10	3.27	3.33	3.40	3.46
Cuba.....	10.41	10.52	10.62	10.74	10.83	10.90	10.95	10.98	11.02	11.06
Dominica.....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Dominican Republic.....	6.87	7.02	7.17	7.32	7.47	7.62	7.77	7.91	8.05	8.10
Ecuador.....	9.79	10.03	10.26	10.50	10.74	10.98	11.22	11.46	11.70	11.94
El Salvador.....	5.09	5.19	5.27	5.35	5.48	5.52	5.64	5.73	5.80	5.91
Falkland Islands.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
French Guiana.....	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.15	0.15	0.16
Grenada.....	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.09
Guadeloupe.....	0.37	0.38	0.39	0.40	0.40	0.41	0.42	0.42	0.43	0.44
Guatemala.....	8.68	8.94	9.20	9.47	9.74	10.03	10.32	10.62	10.93	11.24
Guyana.....	0.79	0.79	0.80	0.80	0.81	0.82	0.82	0.83	0.84	0.85
Haiti.....	6.24	6.36	6.49	6.62	6.76	6.90	7.04	7.18	7.34	7.49
Honduras.....	4.80	4.95	5.11	5.26	5.43	5.59	5.77	5.95	6.14	6.34
Jamaica.....	2.36	2.37	2.39	2.41	2.43	2.45	2.47	2.50	2.52	2.55
Martinique.....	0.35	0.36	0.36	0.37	0.37	0.38	0.38	0.38	0.38	0.39
Montserrat.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Netherlands Antilles.....	0.19	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.20	0.20
Nicaragua.....	3.62	3.74	3.87	4.00	4.13	4.26	4.40	4.54	4.69	4.85
Panama.....	2.30	2.35	2.40	2.44	2.49	2.53	2.58	2.63	2.67	2.72
Paraguay.....	3.96	4.09	4.22	4.33	4.45	4.57	4.70	4.83	4.96	5.09
Peru.....	20.68	21.11	21.55	22.00	22.45	22.64	23.09	23.53	23.95	24.37
Puerto Rico.....	3.46	3.50	3.53	3.55	3.58	3.62	3.69	3.72	3.73	3.77
Saint Kitts and Nevis.....	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Saint Lucia.....	0.15	0.15	0.13	0.13	0.14	0.14	0.14	0.14	0.14	0.15
Saint Vincent/Grenadines.....	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Suriname.....	0.39	0.40	0.40	0.40	0.40	0.40	0.40	0.41	0.43	0.44
Trinidad and Tobago.....	1.21	1.21	1.22	1.23	1.24	1.25	1.26	1.27	1.28	1.31
Turks and Caicos Islands.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Uruguay.....	3.06	3.08	3.09	3.11	3.13	3.15	3.17	3.19	3.20	3.28
Venezuela.....	18.42	18.87	19.33	19.79	20.44	20.91	21.38	21.64	22.71	23.21
Virgin Islands, British.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Virgin Islands, U.S.....	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Total.....	339.15	345.49	351.70	357.89	364.35	370.35	376.68	382.54	389.12	395.18

See footnotes at end of table.

Table B1 World Population, 1988 - 1997 (Continued)
(Millions)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Western Europe										
Austria.....	7.62	7.66	7.73	7.81	7.91	7.99	8.03	8.05	8.06	8.07
Belgium.....	9.90	9.94	9.97	10.01	10.05	10.08	10.11	10.14	10.16	10.19
Denmark.....	5.13	5.13	5.14	5.15	5.17	5.19	5.20	5.23	5.26	5.28
Faroe Islands.....	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Finland.....	4.95	4.96	4.99	5.01	5.04	5.07	5.09	5.11	5.12	5.14
France.....	56.12	56.42	56.73	57.05	57.37	57.65	57.90	58.14	58.37	58.61
Germany.....	--	--	--	79.98	80.57	81.19	81.42	81.66	81.90	82.07
Germany, East.....	16.67	16.63	16.25	--	--	--	--	--	--	--
Germany, West.....	61.42	61.99	63.23	--	--	--	--	--	--	--
Gibraltar.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Greece.....	10.04	10.09	10.16	10.25	10.32	10.38	10.43	10.45	10.48	10.52
Iceland.....	0.25	0.25	0.25	0.26	0.26	0.26	0.27	0.27	0.27	0.27
Ireland.....	3.51	3.52	3.53	3.54	3.55	3.56	3.57	3.58	3.60	3.61
Italy.....	57.44	57.54	57.66	57.75	57.86	58.05	58.20	58.30	58.38	58.52
Luxembourg.....	0.37	0.38	0.38	0.39	0.39	0.40	0.40	0.41	0.42	0.42
Malta.....	0.35	0.35	0.35	0.36	0.36	0.36	0.36	0.37	0.37	0.37
Netherlands.....	14.76	14.85	14.95	15.07	15.18	15.29	15.38	15.45	15.53	15.60
Norway.....	4.21	4.23	4.24	4.26	4.29	4.31	4.33	4.36	4.38	4.41
Portugal.....	9.90	9.89	9.88	9.88	9.89	9.90	9.91	9.92	9.93	9.94
Spain.....	38.72	38.79	38.85	38.92	39.01	39.09	39.15	39.21	39.27	39.32
Sweden.....	8.44	8.49	8.56	8.62	8.67	8.72	8.78	8.83	8.84	8.85
Switzerland.....	6.59	6.65	6.71	6.80	6.88	6.94	6.99	7.04	7.07	7.09
Turkey.....	53.71	54.89	56.20	57.31	58.40	59.49	60.58	61.64	62.70	63.75
United Kingdom.....	57.16	57.36	57.56	57.81	58.01	58.19	58.39	58.61	58.80	59.00
Former Yugoslavia.....	23.57	23.69	23.82	23.93	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	4.41	4.43	4.46	4.48	4.51	4.54
Croatia.....	--	--	--	--	4.47	4.64	4.65	4.67	4.69	4.70
Macedonia, TFYR.....	--	--	--	--	2.06	2.12	2.14	2.16	2.18	2.19
Serbia and Montenegro.....	--	--	--	--	10.45	10.48	10.52	10.55	10.57	10.60
Slovenia.....	--	--	--	--	2.00	1.99	1.99	1.99	1.99	1.99
Total.....	450.91	453.78	457.22	460.23	462.65	465.85	468.33	470.70	472.93	475.13
Eastern Europe & Former U.S.S.R.										
Albania.....	3.14	3.20	3.26	3.32	3.36	3.41	3.48	3.55	3.61	3.67
Bulgaria.....	8.98	8.99	8.99	8.98	8.54	8.47	8.44	8.41	8.36	8.31
Former Czechoslovakia.....	15.61	15.64	15.66	15.68	15.73	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	10.33	10.34	10.33	10.32	10.30
Slovakia.....	--	--	--	--	--	5.32	5.35	5.36	5.37	5.38
Hungary.....	10.44	10.40	10.36	10.35	10.32	10.29	10.26	10.22	10.19	10.15
Poland.....	37.86	37.96	38.12	38.24	38.37	38.47	38.54	38.59	38.62	38.65
Romania.....	23.05	23.15	23.21	23.19	22.79	22.76	22.74	22.68	22.61	22.57
Former U.S.S.R.....	283.68	285.86	290.10	292.05	--	--	--	--	--	--
Armenia.....	--	--	--	--	3.69	3.73	3.75	3.76	3.77	3.74
Azerbaijan.....	--	--	--	--	7.33	7.40	7.46	7.51	7.55	7.63
Belarus.....	--	--	--	--	10.31	10.36	10.31	10.28	10.25	10.22
Estonia.....	--	--	--	--	1.54	1.52	1.50	1.48	1.47	1.46
Georgia.....	--	--	--	--	5.45	5.44	5.43	5.42	5.41	5.43
Kazakhstan.....	--	--	--	--	16.52	16.48	16.30	16.07	15.92	15.83
Kyrgyzstan.....	--	--	--	--	4.49	4.48	4.49	4.51	4.57	4.64
Latvia.....	--	--	--	--	2.63	2.59	2.55	2.51	2.49	2.47
Lithuania.....	--	--	--	--	3.74	3.73	3.72	3.71	3.71	3.71
Moldova.....	--	--	--	--	4.35	4.36	4.35	4.35	4.33	4.31
Russia.....	--	--	--	--	148.31	148.15	147.97	148.14	147.74	147.10
Tajikistan.....	--	--	--	--	5.57	5.64	5.74	5.84	5.92	6.05
Turkmenistan.....	--	--	--	--	4.03	4.31	4.41	4.51	4.57	4.64
Ukraine.....	--	--	--	--	52.06	52.24	52.11	51.73	51.33	50.64
Uzbekistan.....	--	--	--	--	21.21	21.70	22.19	22.56	23.01	23.44
Total.....	382.76	385.20	389.70	391.81	390.34	391.18	391.43	391.52	391.12	390.34

See footnotes at end of table.

Table B1 World Population, 1988 - 1997 (Continued)
(Millions)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Bahrain.....	0.47	0.49	0.50	0.51	0.52	0.54	0.56	0.58	0.60	0.62
Cyprus.....	0.66	0.67	0.68	0.69	0.71	0.72	0.73	0.74	0.76	0.77
Iran.....	51.91	53.19	54.50	55.84	57.15	58.49	59.78	60.28	61.13	61.69
Iraq.....	16.88	17.43	18.08	18.51	18.90	19.26	19.65	20.09	20.61	21.18
Israel.....	4.44	4.52	4.66	4.95	5.12	5.26	5.40	5.54	5.70	5.83
Jordan.....	4.06	4.13	4.26	4.44	4.67	4.94	5.20	5.44	5.58	5.77
Kuwait.....	1.97	2.05	2.14	2.09	1.42	1.46	1.62	1.69	1.75	1.81
Lebanon.....	2.56	2.54	2.55	2.61	2.70	2.81	2.91	3.01	3.08	3.14
Oman.....	1.60	1.67	1.75	1.83	1.91	1.99	2.08	2.16	2.30	2.40
Qatar.....	0.43	0.46	0.49	0.51	0.53	0.56	0.59	0.61	0.63	0.67
Saudi Arabia.....	14.02	14.43	14.87	16.54	16.96	17.35	17.76	18.25	18.84	19.49
Syria.....	11.34	11.72	12.12	12.53	12.96	13.39	13.84	14.19	14.62	14.95
United Arab Emirates.....	1.79	1.86	1.92	1.98	2.04	2.10	2.16	2.31	2.44	2.58
Yemen.....	10.61	10.95	11.28	11.61	11.95	12.30	12.67	13.05	13.50	13.98
Total.....	122.74	126.11	129.80	134.64	137.54	141.17	144.95	147.94	151.54	154.88
Africa										
Algeria.....	23.73	24.33	25.02	25.64	26.27	26.89	27.50	28.06	28.57	29.47
Angola.....	8.64	9.24	9.74	10.23	10.41	10.58	10.67	10.82	11.19	11.57
Benin.....	4.46	4.61	4.74	4.89	4.92	5.08	5.24	5.41	5.59	5.83
Botswana.....	1.21	1.24	1.30	1.33	1.36	1.39	1.42	1.46	1.50	1.53
Burkina.....	8.54	8.77	9.00	9.19	9.43	9.68	9.94	10.20	10.78	11.09
Burundi.....	5.15	5.30	5.46	5.62	5.74	5.81	5.90	5.98	6.09	6.19
Cameroon.....	10.88	11.54	11.68	11.81	12.14	12.48	12.83	13.28	13.56	13.94
Cape Verde.....	0.33	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41
Central African Republic.....	2.88	2.96	3.01	3.04	3.08	3.16	3.23	3.31	3.40	3.48
Chad.....	5.32	5.56	5.69	5.82	5.96	6.09	6.21	6.33	6.52	6.70
Comoros.....	0.51	0.52	0.53	0.54	0.56	0.57	0.59	0.61	0.63	0.65
Congo (Brazzaville).....	2.10	2.16	2.23	2.30	2.37	2.44	2.52	2.59	2.67	2.75
Congo (Kinshasa).....	33.46	34.49	35.56	36.67	38.94	42.28	43.93	45.45	46.81	48.04
Cote d'Ivoire (Ivory Coast).....	10.82	11.26	11.72	12.19	12.67	13.18	13.70	14.23	14.78	15.30
Djibouti.....	0.47	0.50	0.52	0.54	0.55	0.57	0.58	0.60	0.62	0.63
Egypt.....	50.27	51.48	52.69	53.92	55.74	56.49	57.85	59.23	60.60	62.01
Equatorial Guinea.....	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42
Eritrea.....	--	--	--	--	--	--	3.22	3.32	3.43	3.59
Ethiopia.....	48.59	50.17	51.69	53.38	55.12	56.90	54.94	56.68	58.51	60.15
Gabon.....	0.88	0.91	0.93	0.96	0.99	1.02	1.05	1.08	1.11	1.14
Gambia, The.....	0.85	0.88	0.92	0.96	0.99	1.03	1.08	1.11	1.14	1.17
Ghana.....	14.14	14.57	15.02	15.47	15.92	16.38	16.86	17.34	17.83	18.34
Guinea.....	5.07	5.53	5.75	6.05	6.40	6.76	7.09	7.35	7.52	7.61
Guinea-Bissau.....	0.93	0.94	0.96	0.98	1.01	1.03	1.05	1.07	1.09	1.11
Kenya.....	23.88	24.87	25.03	25.91	26.98	28.11	29.29	30.52	31.80	33.14
Lesotho.....	1.66	1.70	1.78	1.83	1.88	1.93	1.98	2.03	2.08	2.13
Liberia.....	2.34	2.40	2.46	2.52	2.58	2.64	2.70	2.76	2.81	2.88
Libya.....	3.82	3.98	4.15	4.33	4.51	4.70	4.90	5.21	5.59	5.78
Madagascar.....	11.82	12.22	12.50	12.99	13.50	13.95	14.41	14.87	15.35	15.85
Malawi.....	7.75	8.02	8.29	8.56	8.82	9.13	9.46	9.79	10.14	10.44
Mali.....	7.83	7.96	8.16	9.51	9.82	10.13	10.46	10.79	11.13	11.48
Mauritania.....	1.90	1.95	2.00	2.04	2.11	2.15	2.21	2.28	2.35	2.39
Mauritius.....	1.01	1.02	1.03	1.04	1.05	1.06	1.08	1.09	1.13	1.15
Morocco.....	23.23	23.70	24.18	24.65	25.12	25.58	26.07	26.39	26.85	27.31
Mozambique.....	13.95	13.96	14.15	14.42	14.79	15.58	16.61	17.42	17.80	18.27
Namibia.....	1.28	1.31	1.35	1.39	1.42	1.46	1.50	1.54	1.58	1.61
Niger.....	7.26	7.49	7.73	7.99	8.26	8.36	8.85	9.15	9.47	9.79
Nigeria.....	91.96	93.34	96.15	99.09	102.13	105.26	108.47	111.72	115.02	118.37
Reunion.....	0.57	0.59	0.60	0.61	0.62	0.63	0.64	0.65	0.66	0.67
Rwanda.....	6.87	7.01	7.18	6.67	6.20	5.68	5.30	5.18	5.40	5.88
Saint Helena.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Sao Tome and Principe.....	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.14	0.14
Senegal.....	6.91	7.10	7.30	7.50	7.70	7.91	8.13	8.35	8.57	8.80
Seychelles.....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08
Sierra Leone.....	3.82	3.91	4.00	4.09	4.19	4.30	4.40	4.51	4.30	4.43
Somalia.....	8.41	8.55	8.68	8.78	8.86	8.95	9.08	9.25	9.82	10.22
South Africa.....	35.42	36.24	37.07	38.01	38.82	39.63	40.44	41.24	42.39	43.34
Sudan.....	24.24	24.99	25.75	26.53	27.32	28.13	28.95	29.71	30.29	30.90

Table B1 World Population, 1988 - 1997 (Continued)
(Millions)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Swaziland.....	0.72	0.74	0.77	0.80	0.83	0.85	0.88	0.91	0.94	0.97
Tanzania.....	24.00	24.80	25.63	26.36	27.30	28.25	29.17	30.34	30.80	31.51
Togo.....	3.32	3.42	3.52	3.63	3.74	3.86	3.93	4.08	4.20	4.32
Tunisia.....	7.82	7.97	8.15	8.32	8.48	8.66	8.81	8.96	9.09	9.22
Uganda.....	15.78	16.18	16.65	17.19	17.80	18.44	19.08	19.26	19.85	20.44
Western Sahara.....	0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.28	0.28
Zambia.....	6.53	6.80	7.07	7.39	7.55	7.72	7.90	8.09	8.28	8.48
Zimbabwe.....	8.88	9.12	9.37	10.14	10.41	10.78	11.15	11.53	11.91	12.29
Total.....	592.94	609.39	625.98	644.96	664.54	684.85	704.49	724.41	744.86	765.69
Far East & Oceania										
Afghanistan.....	15.51	15.81	16.12	16.43	16.28	17.32	18.47	19.66	20.88	22.13
American Samoa.....	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06
Australia.....	16.53	16.81	17.06	17.28	17.49	17.67	17.85	18.07	18.31	18.53
Bangladesh.....	104.53	106.51	108.12	109.88	112.71	114.84	116.49	118.23	120.07	122.01
Bhutan.....	1.48	1.52	1.54	1.57	1.58	1.60	1.61	1.64	1.71	1.76
Brunei.....	0.24	0.25	0.25	0.26	0.27	0.28	0.28	0.29	0.30	0.31
Burma.....	40.04	40.92	41.35	41.55	42.33	43.12	43.92	44.80	45.92	46.40
Cambodia.....	8.32	8.45	8.57	8.81	9.05	9.31	9.57	9.84	10.27	10.52
China.....	1,121.90	1,139.20	1,155.30	1,170.10	1,183.60	1,196.40	1,208.80	1,221.50	1,232.08	1,243.74
Cook Islands.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Fiji.....	0.72	0.72	0.73	0.74	0.75	0.77	0.78	0.80	0.80	0.81
French Polynesia.....	0.19	0.19	0.20	0.20	0.21	0.21	0.21	0.22	0.22	0.23
Guam.....	0.13	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.16
Hong Kong.....	5.63	5.69	5.70	5.75	5.81	5.92	6.06	6.19	6.31	6.50
India.....	800.50	817.49	834.70	851.66	867.82	883.91	899.95	915.97	939.54	955.22
Indonesia.....	175.59	179.14	180.48	182.94	186.04	189.13	192.22	195.28	198.34	201.39
Japan.....	122.58	123.09	123.48	123.92	124.32	124.67	124.96	125.20	125.76	126.24
Kiribati.....	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08
Korea, North.....	19.76	20.05	20.36	20.69	21.03	21.38	21.73	22.10	22.47	22.84
Korea, South.....	42.03	42.45	42.87	43.30	43.74	44.19	44.64	45.09	45.54	45.99
Laos.....	3.94	4.07	4.20	4.33	4.46	4.60	4.74	4.88	5.04	5.19
Macau.....	0.32	0.33	0.33	0.35	0.37	0.38	0.40	0.41	0.42	0.42
Malaysia.....	16.94	17.35	17.76	18.33	18.76	19.21	19.66	20.11	21.17	21.67
Maldives.....	0.20	0.21	0.22	0.22	0.23	0.24	0.25	0.25	0.26	0.27
Mongolia.....	2.02	2.07	2.18	2.23	2.27	2.32	2.36	2.41	2.46	2.49
Nauru.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nepal.....	17.37	17.74	18.11	19.28	20.28	20.81	21.36	21.82	22.13	22.59
New Caledonia.....	0.16	0.17	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.19
New Zealand.....	3.32	3.33	3.36	3.41	3.44	3.45	3.49	3.54	3.57	3.76
Niue.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Pakistan.....	105.97	109.14	112.40	115.77	119.23	122.79	126.47	130.25	134.15	138.15
Papua New Guinea.....	3.56	3.63	3.70	3.77	3.85	3.92	4.00	4.07	4.16	4.21
Philippines.....	58.72	60.10	61.48	63.69	65.34	66.98	68.62	70.27	71.90	73.53
Samoa.....	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.18
Singapore.....	2.85	2.93	3.02	3.09	3.18	3.26	3.36	3.47	3.61	3.74
Solomon Islands.....	0.30	0.31	0.32	0.33	0.34	0.35	0.37	0.38	0.39	0.40
Sri Lanka.....	16.60	16.83	16.99	17.25	17.41	17.62	17.86	18.11	18.31	18.55
Taiwan.....	19.90	20.11	20.35	20.56	20.75	20.94	21.13	21.30	21.47	21.70
Thailand.....	54.33	55.21	55.84	56.57	57.29	58.01	58.71	59.40	60.00	60.60
Tonga.....	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
U.S. Pacific Islands.....	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Vanuatu.....	0.15	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.18
Vietnam.....	63.73	64.77	66.23	67.77	69.41	70.98	72.51	73.79	75.18	76.55
Wake Island.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	--
Total.....	2,846.47	2,897.28	2,944.20	2,992.92	3,040.53	3,087.51	3,133.76	3,180.31	3,233.71	3,279.44
World Total.....	5,089.19	5,175.84	5,262.09	5,350.66	5,433.15	5,518.89	5,602.33	5,684.78	5,775.13	5,857.11

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5000.

Notes: Sum of components may not equal total due to independent rounding.

Sources: The United Nations, Monthly Bulletin of Statistics, various issues. U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States 1997. International Monetary Fund, International Financial Statistics, various issues.

Table B2 World Gross Domestic Product at Market Exchange Rates, 1988 - 1997

(Millions of 1990 U.S. Dollars)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Bermuda.....	--	--	--	--	--	--	--	--	--	--
Canada.....	561,416	575,154	573,800	563,550	567,861	580,468	604,097	618,152	625,814	649,726
Greenland.....	--	--	--	--	--	--	--	--	--	--
Mexico.....	239,929	250,000	262,673	273,765	283,697	289,232	302,001	283,377	298,048	318,848
Saint Pierre and Miquelon.....	--	--	--	--	--	--	--	--	--	--
United States.....	5,342,300	5,477,600	5,522,200	5,687,900	5,842,700	5,973,100	6,183,600	6,308,400	6,482,700	6,728,800
Central & South America										
Antigua and Barbuda.....	304	323	334	400	403	425	452	433	458	--
Argentina.....	150,627	141,262	141,352	156,189	172,284	183,055	198,659	189,561	197,631	214,215
Aruba.....	--	--	--	--	--	--	--	--	--	--
Bahamas, The.....	2,579	3,006	3,134	2,922	2,698	2,635	2,700	2,675	--	--
Barbados.....	1,707	1,769	1,710	1,641	--	--	--	--	--	--
Belize.....	321	364	402	415	450	469	481	500	507	526
Bolivia.....	4,549	4,677	4,867	5,123	5,208	5,430	5,684	5,949	6,193	6,453
Brazil.....	445,692	459,783	438,808	466,948	462,963	490,902	514,855	534,783	550,765	570,733
Cayman Islands.....	--	--	--	--	--	--	--	--	--	--
Chile.....	26,782	29,427	30,387	32,723	36,740	39,307	41,551	45,967	49,353	52,838
Colombia.....	37,345	38,621	40,274	41,082	42,741	45,042	47,666	50,443	51,478	--
Costa Rica.....	5,218	5,513	5,709	5,838	6,290	6,688	6,988	7,155	7,109	7,335
Cuba.....	--	--	--	--	--	--	--	--	--	--
Dominica.....	158	156	166	170	175	178	--	--	--	--
Dominican Republic.....	7,167	7,483	7,074	7,142	7,716	7,947	8,293	8,690	9,323	10,084
Ecuador.....	10,344	10,374	10,685	11,222	11,622	11,857	12,376	12,663	13,035	--
El Salvador.....	4,349	4,394	4,544	4,706	5,062	5,434	5,763	6,132	6,258	6,511
French Guiana.....	--	--	--	--	--	--	--	--	--	--
Grenada.....	199	210	221	228	229	--	--	--	--	--
Guadeloupe.....	--	--	--	--	--	--	--	--	--	--
Guatemala.....	7,138	7,419	7,650	7,929	8,314	8,640	8,988	9,433	9,710	10,105
Guyana.....	430	416	397	420	453	490	--	--	--	--
Haiti.....	2,771	2,786	2,791	2,923	2,538	2,476	2,270	2,370	2,434	2,461
Honduras.....	6,003	6,263	6,269	6,473	6,837	7,263	7,168	7,460	7,735	8,079
Jamaica.....	3,769	4,026	4,246	4,277	4,342	4,405	4,454	4,474	4,396	4,292
Martinique.....	--	--	--	--	--	--	--	--	--	--
Montserrat.....	--	--	--	--	--	--	--	--	--	--
Netherlands Antilles.....	--	--	--	--	--	--	--	--	--	--
Nicaragua.....	11,308	11,111	11,106	11,084	11,128	11,084	11,453	11,948	12,490	13,120
Panama.....	5,058	5,020	5,392	5,814	6,291	6,634	6,823	6,942	7,111	7,425
Paraguay.....	4,827	5,107	5,265	5,395	5,492	5,719	5,896	6,174	6,252	6,417
Peru.....	39,840	35,189	33,906	34,891	34,279	36,466	41,245	44,279	45,381	48,654
Puerto Rico.....	--	--	--	--	--	--	--	--	--	--
Saint Kitts and Nevis.....	122	130	134	139	144	151	159	165	175	--
Saint Lucia.....	366	383	398	405	431	--	--	--	--	--
Saint Vincent/Grenadines.....	184	189	198	199	214	214	209	225	227	--
Suriname.....	1,662	1,732	1,733	1,784	1,855	1,815	1,687	--	--	--
Trinidad and Tobago.....	5,034	4,993	5,068	5,204	5,118	5,044	5,224	5,349	5,514	--
Turks and Caicos Islands.....	--	--	--	--	--	--	--	--	--	--
Uruguay.....	8,177	8,282	8,355	8,623	9,303	9,582	10,190	10,010	10,539	11,072
Venezuela.....	49,337	45,471	48,599	53,326	56,559	56,714	55,382	57,407	57,158	60,047
Virgin Islands, British.....	--	--	--	--	--	--	--	--	--	--
Virgin Islands, U.S.....	--	--	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table B2 World Gross Domestic Product at Market Exchange Rates, 1988 - 1997 (Continued)

(Millions of 1990 U.S. Dollars)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Western Europe										
Austria.....	146,359	152,559	159,499	164,969	167,177	168,039	172,304	175,858	178,725	183,281
Belgium.....	179,724	185,978	191,992	199,114	202,107	199,054	203,902	208,121	211,144	217,368
Denmark.....	126,579	127,307	129,116	135,208	136,937	138,730	143,642	148,134	153,304	158,475
Finland.....	127,559	134,787	134,806	125,281	120,832	119,412	124,844	131,160	135,823	143,986
France.....	1,118,616	1,166,198	1,195,435	1,204,782	1,218,776	1,202,542	1,236,534	1,262,300	1,281,894	1,311,645
Germany.....	--	--	--	1,702,420	1,739,865	1,719,688	1,768,893	1,803,367	1,827,319	1,864,207
Germany, East.....	--	--	--	--	--	--	--	--	--	--
Germany, West.....	1,369,685	1,420,004	1,503,621	--	--	--	--	--	--	--
Greece.....	79,332	82,531	81,846	85,779	86,155	85,372	86,622	--	--	--
Iceland.....	6,156	6,169	6,244	6,321	6,109	6,170	6,395	6,461	6,799	7,155
Ireland.....	39,414	41,826	45,095	46,017	47,929	49,423	53,029	58,925	63,277	69,493
Italy.....	1,041,649	1,072,198	1,095,151	1,106,418	1,112,678	1,099,825	1,123,696	1,156,665	1,164,677	1,181,955
Luxembourg.....	8,169	8,711	8,989	9,264	9,435	--	--	--	--	--
Malta.....	2,027	2,192	2,330	2,476	2,592	2,708	2,801	3,006	3,114	3,205
Netherlands.....	260,805	272,942	283,541	290,076	295,898	296,886	304,684	311,714	322,698	334,670
Norway.....	112,192	113,202	115,352	119,052	122,942	126,303	133,240	137,995	145,271	150,290
Portugal.....	61,557	64,566	67,240	68,941	72,122	71,106	72,836	74,983	77,367	80,209
Spain.....	452,772	474,218	491,955	503,110	506,573	500,500	511,115	525,321	536,721	555,989
Sweden.....	221,405	226,668	229,756	225,933	222,719	217,774	225,044	233,911	236,876	241,044
Switzerland.....	212,712	220,919	226,029	226,605	226,317	225,238	226,245	227,973	227,541	229,053
Turkey.....	134,172	137,238	137,622	152,189	160,623	174,040	165,223	176,340	189,374	203,174
United Kingdom.....	958,777	979,693	983,584	964,291	959,187	979,122	1,021,384	1,049,243	1,073,586	1,111,011
Former Yugoslavia.....	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	--	--	--	--	--	--
Croatia.....	--	--	--	--	--	--	--	--	--	--
Macedonia, TFYR.....	--	--	--	--	--	--	--	--	--	--
Serbia and Montenegro.....	--	--	--	--	--	--	--	--	--	--
Slovenia.....	--	--	--	--	--	--	--	--	--	--
Eastern Europe & Former U.S.S.R.										
Albania.....	--	--	--	--	--	--	--	--	--	--
Bulgaria.....	--	--	--	--	--	--	--	--	--	--
Former Czechoslovakia.....	--	--	--	--	--	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	--	--	--	--	--
Slovakia.....	--	--	--	--	--	--	--	--	--	--
Hungary.....	34,002	34,253	33,055	29,122	28,231	28,069	28,896	29,326	--	--
Poland.....	--	--	--	--	--	--	--	--	--	--
Romania.....	43,834	41,280	38,248	33,313	28,801	29,206	30,366	--	--	--
Former U.S.S.R.....	--	--	--	--	--	--	--	--	--	--
Armenia.....	--	--	--	--	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	--	--	--	--	--	--
Belarus.....	--	--	--	--	--	--	--	--	--	--
Estonia.....	--	--	--	--	--	--	--	--	--	--
Georgia.....	--	--	--	--	--	--	--	--	--	--
Kazakhstan.....	--	--	--	--	--	--	--	--	--	--
Kyrgyzstan.....	--	--	--	--	--	--	--	--	--	--
Latvia.....	--	--	--	--	--	--	--	--	--	--
Lithuania.....	--	--	--	--	--	--	--	--	--	--
Moldova.....	--	--	--	--	--	--	--	--	--	--
Russia.....	--	--	--	--	--	--	--	--	--	--
Tajikistan.....	--	--	--	--	--	--	--	--	--	--
Turkmenistan.....	--	--	--	--	--	--	--	--	--	--
Ukraine.....	--	--	--	--	--	--	--	--	--	--
Uzbekistan.....	--	--	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table B2 World Gross Domestic Product at Market Exchange Rates, 1988 - 1997 (Continued)

(Millions of 1990 U.S. Dollars)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Bahrain.....	3,738	3,829	4,006	4,189	4,515	4,888	5,003	5,112	5,270	--
Cyprus.....	4,798	5,186	5,570	5,608	6,136	6,179	6,537	6,896	7,027	--
Iran.....	466,109	481,542	538,106	599,692	634,038	644,126	648,899	676,476	716,300	--
Iraq.....	--	--	--	--	--	--	--	--	--	--
Israel.....	48,728	49,342	52,185	55,755	59,431	61,331	65,478	70,096	73,221	74,639
Jordan.....	4,601	3,982	4,021	4,094	4,752	5,018	5,445	5,768	5,814	5,941
Kuwait.....	--	--	--	--	--	--	--	--	--	--
Lebanon.....	--	--	--	--	--	--	--	--	--	--
Oman.....	9,506	9,799	10,535	11,171	12,120	12,865	13,359	14,005	14,410	15,332
Qatar.....	--	--	--	--	--	--	--	--	--	--
Saudi Arabia.....	94,417	94,587	104,670	113,453	116,619	115,877	116,470	117,017	118,649	--
Syria.....	24,393	22,208	23,904	25,614	28,325	30,214	32,519	33,687	35,551	--
United Arab Emirates.....	24,843	28,630	33,642	33,914	34,841	--	--	--	--	--
Yemen.....	--	--	--	--	--	--	--	--	--	--
Africa										
Algeria.....	--	--	--	--	--	--	--	--	--	--
Angola.....	--	--	--	--	--	--	--	--	--	--
Benin.....	1,794	1,707	1,762	1,845	1,915	1,973	2,054	2,178	--	--
Botswana.....	2,756	3,117	3,296	3,821	4,063	4,058	4,224	4,355	4,659	4,982
Burkina.....	--	--	--	--	--	--	--	--	--	--
Burundi.....	1,093	1,109	1,148	1,206	1,233	--	--	--	--	--
Cameroon.....	12,760	11,995	12,247	--	--	--	--	--	--	--
Cape Verde.....	--	--	--	--	--	--	--	--	--	--
Central African Republic.....	--	--	--	1,388	1,341	1,282	1,745	2,024	2,002	--
Chad.....	--	--	--	--	--	--	--	--	--	--
Comoros.....	--	--	--	--	--	--	--	--	--	--
Congo (Brazzaville).....	--	--	--	--	--	--	--	--	--	--
Congo (Kinshasa).....	9,721	9,584	9,350	8,201	7,345	6,352	6,105	6,201	--	--
Cote d'Ivoire (Ivory Coast).....	--	--	--	--	--	--	--	--	--	--
Djibouti.....	--	--	--	--	--	--	--	--	--	--
Egypt.....	30,440	31,953	33,775	34,139	35,653	36,681	38,129	39,867	41,917	44,383
Equatorial Guinea.....	--	--	--	--	--	--	--	--	--	--
Eritrea.....	--	--	--	--	--	--	--	--	--	--
Ethiopia.....	8,534	8,671	8,634	8,113	--	--	--	--	--	--
Gabon.....	--	--	--	--	--	--	--	--	--	--
Gambia, The.....	275	291	300	303	319	321	333	320	--	--
Ghana.....	5,733	6,025	6,227	6,557	6,812	7,148	7,420	7,754	8,155	8,570
Guinea.....	--	--	--	--	--	--	--	--	--	--
Guinea-Bissau.....	216	226	233	240	247	255	--	--	--	--
Kenya.....	7,823	8,190	8,533	8,656	8,587	8,617	8,844	9,234	9,617	9,816
Lesotho.....	535	597	625	649	657	693	776	--	--	--
Liberia.....	--	--	--	--	--	--	--	--	--	--
Libya.....	--	--	--	--	--	--	--	--	--	--
Madagascar.....	2,871	2,988	3,082	2,887	2,921	2,983	2,981	3,032	3,097	3,210
Malawi.....	1,704	1,773	1,858	2,003	1,844	2,043	1,806	1,969	2,156	2,294
Mali.....	2,223	2,389	2,447	2,442	--	--	--	--	--	--
Mauritania.....	--	--	--	--	--	--	--	--	--	--
Mauritius.....	2,284	2,388	2,559	2,777	2,934	3,095	3,221	3,362	3,546	--
Morocco.....	24,385	24,993	25,963	27,620	26,506	26,239	28,955	26,941	30,165	29,522
Mozambique.....	1,388	1,457	1,443	1,471	1,443	1,691	1,787	--	--	--
Namibia.....	2,247	2,295	2,302	2,619	2,811	2,755	2,937	3,087	3,179	--
Niger.....	--	--	--	--	--	--	--	--	--	--
Nigeria.....	27,907	29,968	32,426	33,959	34,970	35,766	36,244	37,184	38,422	--
Reunion.....	--	--	--	--	--	--	--	--	--	--
Rwanda.....	2,291	2,301	2,347	2,366	2,378	--	--	--	--	--
Sao Tome and Principe.....	--	--	--	--	--	--	--	--	--	--
Senegal.....	4,727	4,654	--	--	--	--	--	--	--	--
Seychelles.....	311	343	369	377	--	--	--	--	--	--
Sierra Leone.....	624	629	635	617	533	500	501	487	--	--
Somalia.....	--	--	--	--	--	--	--	--	--	--
South Africa.....	104,575	107,079	106,739	105,652	103,335	104,667	107,544	111,164	114,768	116,692
Sudan.....	--	--	--	--	--	--	--	--	--	--
Swaziland.....	760	823	884	881	892	921	953	982	1,017	1,055

Table B2 World Gross Domestic Product at Market Exchange Rates, 1988 - 1997 (Continued)

(Millions of 1990 U.S. Dollars)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Tanzania.....	3,577	3,720	3,886	4,377	4,457	4,509	4,537	4,699	4,896	5,058
Togo.....	1,356	1,409	1,411	--	--	--	--	--	--	--
Tunisia.....	11,211	11,501	12,315	12,795	13,794	14,097	14,561	14,904	15,931	16,818
Uganda.....	3,426	3,672	3,488	3,941	4,123	4,415	4,882	5,351	5,665	--
Western Sahara.....	--	--	--	--	--	--	--	--	--	--
Zambia.....	3,335	3,301	3,285	3,227	3,226	3,446	3,325	3,249	3,461	3,583
Zimbabwe.....	7,764	8,169	8,739	9,222	8,390	8,501	9,081	9,090	9,711	10,130
Far East & Oceania										
Afghanistan.....	--	--	--	--	--	--	--	--	--	--
Australia.....	275,143	286,776	290,206	286,393	294,058	305,605	322,067	335,209	348,046	358,226
Bangladesh.....	19,518	20,010	21,336	22,062	22,994	24,025	25,038	26,151	27,551	29,108
Bhutan.....	253	265	277	287	298	317	338	363	387	--
Brunei.....	--	--	--	--	--	--	--	--	--	--
Burma.....	22,483	23,314	23,971	23,815	26,116	27,693	29,764	31,832	33,882	35,450
Cambodia.....	--	--	--	--	--	--	--	--	--	--
China.....	341,006	355,787	369,627	423,419	483,714	548,963	618,477	675,301	739,756	804,880
Fiji.....	1,007	1,137	1,178	1,147	1,219	1,250	1,313	1,347	1,392	1,370
French Polynesia.....	--	--	--	--	--	--	--	--	--	--
Guam.....	--	--	--	--	--	--	--	--	--	--
Hong Kong.....	70,477	72,274	74,841	78,564	83,442	88,577	93,456	97,050	101,928	107,320
India.....	271,681	289,534	305,947	307,244	323,932	339,580	365,282	394,687	423,720	--
Indonesia.....	92,105	98,974	106,141	122,380	130,285	138,749	149,210	161,475	174,361	182,467
Japan.....	2,671,421	2,797,376	2,932,088	3,082,886	3,114,725	3,124,104	3,144,236	3,190,490	3,315,650	3,345,390
Korea, North.....	--	--	--	--	--	--	--	--	--	--
Korea, South.....	217,745	231,646	253,672	276,840	290,861	307,589	333,978	363,825	389,669	410,999
Laos.....	715	811	866	900	964	1,020	1,103	1,181	1,262	1,354
Macau.....	--	--	--	--	--	--	--	--	--	--
Malaysia.....	35,730	39,021	42,822	46,452	50,074	54,253	59,300	64,851	70,431	75,857
Maldives.....	115	126	146	157	167	177	189	202	216	229
Mongolia.....	1,830	1,907	1,859	1,687	1,527	1,481	1,515	1,610	1,649	1,703
Nepal.....	3,183	3,356	3,521	3,748	3,921	4,050	4,370	4,495	4,752	4,939
New Caledonia.....	--	--	--	--	--	--	--	--	--	--
New Zealand.....	44,468	43,894	43,558	42,659	42,997	45,646	48,026	49,454	50,745	52,405
Pakistan.....	35,965	37,749	39,432	41,586	44,840	45,699	47,479	49,918	51,973	53,731
Papua New Guinea.....	3,073	3,030	2,939	3,220	3,665	4,154	--	--	--	--
Philippines.....	40,521	43,034	44,309	44,083	44,231	45,169	47,151	49,397	52,199	54,852
Singapore.....	31,575	34,550	37,354	40,172	42,700	47,158	52,056	56,583	61,006	65,146
Sri Lanka.....	7,393	7,563	8,032	8,402	8,762	9,371	9,898	10,438	10,830	11,528
Taiwan.....	156,142	168,598	177,933	191,371	203,291	215,529	228,624	242,020	255,128	271,739
Thailand.....	68,384	76,721	85,640	92,648	100,137	108,532	118,233	128,681	135,783	135,200
Tonga.....	117	118	124	131	126	126	132	--	--	--
Vanuatu.....	139	145	153	169	168	175	180	185	--	--
Vietnam.....	--	--	--	--	--	--	--	--	--	--

¹ Preliminary.

-- Not applicable.

Notes: The data presented in this table are obtained by converting the gross domestic product (GDP) for each country measured in 1990 foreign currency units to U.S. dollars using 1990 annual average foreign currency market exchange rates. GDP figures theoretically should be converted by using purchasing power parity (PPP) rates to avoid the problem that the market exchange rate for a foreign currency is not a precise reflection of the purchasing power of that currency. In practice, it is often difficult to find generally agreeable PPP rates for some countries.

Sources: International Monetary Fund, International Financial Statistics, various issues. U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, various issues.

Appendix C

Conversion Factors and Heat Contents

Table C1 General Conversion Factors

Product	Barrels per Metric Ton
Refined Petroleum Products	
Asphalt	6.06
Distillate Fuel Oil	7.46
Gasoline, Aviation	8.90
Gasoline, Motor	8.53
Greases	6.30
Jet Fuel, Kerosene-Type	7.93
Jet Fuel, Naphtha-Type	8.27
Kerosene	7.73
Liquefied Petroleum Gas (LPG)	11.60
Lubricants	7.00
Miscellaneous Products	8.04
Naphthas	8.22
Natural Gas Liquids (NGL)	10.40
Natural Gasoline	10.00
Paraffin Oil	7.14
Paraffin Wax	7.87
Petrolatum	7.87
Petroleum Coke	5.51
Residual Fuel Oil	6.66
White Spirits	8.50
Crude Oil	See Table C2 on next page.

Product Unit	Equivalent
Liquid Fuels	
42 U.S. gallons	1 barrel
1 cubic meter	6.289 barrels
159 liters	1 barrel
Gaseous Fuels	
35.315 cubic feet	1 cubic meter
Liquefied Natural Gas (LNG)	
1 metric ton	48,700 cubic feet of natural gas
Solid Fuels	
1 long ton	1.120 short tons
1 metric ton	1.102 short tons
Heat	
1 quadrillion (10 ¹⁵) British thermal units (Btu)	1.055056 exa (10 ¹⁸) joules
1 exa (10 ¹⁸) joule	0.9478 quadrillion (10 ¹⁵) Btu

Table C2 Barrels of Crude Oil Per Metric Ton, 1988 - 1997

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Canada.....	7.453	7.453	7.186	7.186	7.186	7.186	7.186	7.186	7.186	7.186
Mexico.....	6.965	6.965	6.965	6.965	6.965	6.965	6.965	6.965	6.965	6.965
United States.....	7.333	7.333	7.333	7.333	7.333	7.333	7.333	7.333	7.333	7.333
Central & South America										
Argentina.....	7.149	7.149	7.120	7.120	7.120	7.120	7.120	7.120	7.120	7.120
Bolivia.....	7.881	7.881	7.881	7.881	7.881	7.881	7.881	7.881	7.881	7.881
Brazil.....	7.268	7.268	7.056	7.056	7.056	7.056	7.056	7.056	7.056	7.056
Chile.....	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506
Colombia.....	7.084	7.084	7.080	7.080	7.080	7.080	7.080	7.080	7.080	7.080
Cuba.....	6.449	6.449	6.449	6.449	6.449	6.449	6.449	6.449	6.449	6.449
Ecuador.....	7.130	7.130	7.130	7.130	7.130	7.130	7.130	7.130	7.130	7.130
Peru.....	7.407	7.407	7.407	7.407	7.407	7.407	7.407	7.407	7.407	7.407
Trinidad and Tobago.....	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084
Venezuela.....	6.880	6.880	6.890	6.890	6.890	6.890	6.890	6.890	6.890	6.890
Western Europe										
Austria.....	7.082	7.082	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200
Denmark.....	7.689	7.689	7.405	7.405	7.405	7.405	7.405	7.405	7.405	7.405
France.....	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332
Germany.....	--	--	--	7.330	7.330	7.330	7.330	7.330	7.330	7.330
Germany, East.....	7.340	7.340	7.340	--	--	--	--	--	--	--
Germany, West.....	7.247	7.247	7.247	--	--	--	--	--	--	--
Greece.....	7.178	7.178	7.231	7.231	7.231	7.231	7.231	7.231	7.231	7.231
Italy.....	6.853	6.853	7.300	7.300	7.300	7.300	7.300	7.300	7.300	7.300
Netherlands.....	6.853	6.853	7.239	7.239	7.239	7.239	7.239	7.239	7.239	7.239
Norway.....	7.810	7.810	7.644	7.644	7.644	7.644	7.644	7.644	7.644	7.644
Spain.....	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506
Sweden.....	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247
Turkey.....	7.150	7.150	7.200	7.200	7.200	7.200	7.200	7.200	7.200	7.200
United Kingdom.....	7.466	7.466	7.523	7.523	7.523	7.523	7.523	7.523	7.523	7.523
Former Yugoslavia.....	7.418	7.418	7.418	7.418	--	--	--	--	--	--
Croatia.....	--	--	--	--	7.418	7.418	7.418	7.418	7.418	7.418
Serbia and Montenegro.....	--	--	--	--	7.418	7.418	7.418	7.418	7.418	7.418
Slovenia.....	--	--	--	--	--	7.418	7.418	7.418	7.418	7.418
Eastern Europe & Former U.S.S.R.										
Albania.....	6.594	6.594	6.594	6.594	6.594	6.594	6.594	6.594	6.594	6.594
Bulgaria.....	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332	7.332
Former Czechoslovakia.....	6.780	6.780	6.780	6.780	6.780	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	6.780	6.780	6.780	6.780	6.780
Slovakia.....	--	--	--	--	--	6.780	6.780	6.780	6.780	6.780
Hungary.....	6.690	6.690	6.690	6.690	6.690	6.690	6.690	6.690	6.690	6.690
Poland.....	7.418	7.418	7.418	7.418	7.418	7.418	7.418	7.418	7.418	7.418
Romania.....	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506
Former U.S.S.R.....	7.270	7.270	7.270	7.270	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Belarus.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Georgia.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Lithuania.....	--	--	--	--	--	7.270	7.270	7.270	7.270	7.270
Kazakhstan.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Kyrgyzstan.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Russia.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Tajikistan.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Turkmenistan.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Ukraine.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270
Uzbekistan.....	--	--	--	--	7.270	7.270	7.270	7.270	7.270	7.270

See footnotes at end of table.

Table C2 Barrels of Crude Oil Per Metric Ton, 1988 - 1997 (Continued)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Middle East										
Bahrain.....	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320
Iran.....	7.305	7.305	7.350	7.350	7.350	7.350	7.350	7.350	7.350	7.350
Iraq.....	7.426	7.426	7.430	7.430	7.430	7.430	7.430	7.430	7.430	7.430
Israel.....	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247	7.247
Jordan.....	7.190	7.190	7.190	7.190	7.190	7.190	7.190	7.190	7.190	7.190
Kuwait.....	7.245	7.245	7.250	7.250	7.250	7.250	7.250	7.250	7.250	7.250
Oman.....	7.332	7.332	7.330	7.330	7.330	7.330	7.330	7.330	7.330	7.330
Qatar.....	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500
Saudi Arabia.....	7.268	7.268	7.323	7.323	7.323	7.323	7.323	7.323	7.323	7.323
Syria.....	6.836	6.836	6.836	6.836	6.836	6.836	6.836	6.836	6.836	6.836
United Arab Emirates.....	7.480	7.480	7.480	7.480	7.480	7.480	7.480	7.480	7.480	7.480
Yemen.....	7.632	7.632	7.631	7.631	7.631	7.631	7.631	7.631	7.631	7.631
Africa										
Algeria.....	7.936	7.936	8.130	8.130	8.130	8.130	8.130	8.130	8.130	8.130
Angola.....	7.409	7.409	7.409	7.409	7.409	7.409	7.409	7.409	7.409	7.410
Benin.....	6.870	6.870	6.870	6.870	6.870	6.870	6.870	6.870	6.870	6.870
Cameroon.....	7.205	7.205	7.205	7.205	7.205	7.205	7.205	7.205	7.205	7.205
Congo (Brazzaville).....	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506	7.506
Congo (Kinshasa).....	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320
Cote d'Ivoire (Ivory Coast).....	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285
Egypt.....	7.256	7.256	7.256	7.256	7.256	7.256	7.256	7.256	7.256	7.260
Equatorial Guinea.....	--	--	--	8.077	8.077	8.077	8.077	8.077	8.077	8.077
Gabon.....	7.305	7.305	7.305	7.305	7.305	7.305	7.305	7.305	7.305	7.305
Ghana.....	--	--	--	--	7.285	7.285	7.285	7.285	7.285	7.285
Libya.....	7.515	7.515	7.580	7.580	7.580	7.580	7.580	7.580	7.580	7.580
Morocco.....	7.600	7.600	7.600	7.600	7.600	7.600	7.600	7.600	7.600	7.600
Nigeria.....	7.315	7.315	7.315	7.315	7.315	7.315	7.315	7.315	7.315	7.500
Sudan.....	--	--	--	--	7.452	7.452	7.452	7.452	7.452	7.452
Tunisia.....	7.689	7.689	7.689	7.689	7.689	7.689	7.689	7.689	7.689	7.689
Far East & Oceania										
Australia.....	7.855	7.855	7.868	7.868	7.868	7.868	7.868	7.868	7.868	7.868
Bangladesh.....	7.453	7.453	7.453	7.453	7.453	7.453	7.453	7.453	7.453	7.453
Brunei.....	7.340	7.340	7.340	7.340	7.340	7.340	7.340	7.340	7.340	7.340
Burma.....	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084	7.084
China.....	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.320	7.300
India.....	7.600	7.600	7.440	7.440	7.440	7.440	7.440	7.440	7.440	7.330
Indonesia.....	7.558	7.558	7.360	7.360	7.360	7.360	7.360	7.360	7.360	7.360
Japan.....	7.285	7.285	7.357	7.357	7.357	7.357	7.357	7.357	7.357	7.357
Malaysia.....	7.641	7.641	7.641	7.641	7.641	7.641	7.641	7.641	7.641	7.641
New Zealand.....	8.127	8.127	8.127	8.127	8.127	8.127	8.127	8.127	8.127	8.127
Pakistan.....	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500	7.500
Papua New Guinea.....	--	--	--	7.809	7.809	7.809	7.809	7.809	7.809	7.809
Philippines.....	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285	7.285
Taiwan.....	6.568	6.568	6.568	6.568	6.568	6.568	6.568	6.568	6.568	6.568
Thailand.....	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758	6.758
Vietnam.....	7.082	7.082	7.082	7.082	7.082	7.082	7.082	7.082	7.082	7.082

-- Not applicable.

Sources: See sources at the end of Section 3.

Table C3 Gross Heat Content of Crude Oil, 1988 - 1997
(Thousand Btu per Barrel)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Canada.....	5,810	5,810	5,810	5,810	5,810	5,810	5,810	5,810	5,810	5,810
Mexico.....	6,010	6,010	6,010	6,010	6,010	6,010	6,010	6,010	6,010	6,010
United States.....	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800	5,800
Central & South America										
Argentina.....	5,993	5,993	5,993	5,993	5,993	5,993	5,993	5,993	5,993	5,993
Bolivia.....	5,574	5,574	5,574	5,574	5,574	5,574	5,574	5,574	5,574	5,574
Brazil.....	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910
Chile.....	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780
Colombia.....	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023
Cuba.....	6,393	6,393	6,393	6,393	6,393	6,393	6,393	6,393	6,393	6,393
Ecuador.....	5,986	5,986	5,986	5,986	5,986	5,986	5,986	5,986	5,986	5,986
Peru.....	5,831	5,831	5,831	5,831	5,831	5,831	5,831	5,831	5,831	5,831
Trinidad and Tobago.....	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023	6,023
Venezuela.....	6,135	6,135	6,135	6,135	6,135	6,135	6,135	6,135	6,135	6,135
Western Europe										
Austria.....	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020
Denmark.....	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677
France.....	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869
Germany.....	--	--	--	5,926	5,926	5,926	5,926	5,926	5,926	5,926
Germany, East.....	5,874	5,874	5,874	--	--	--	--	--	--	--
Germany, West.....	5,927	5,927	5,927	--	--	--	--	--	--	--
Greece.....	5,926	5,926	5,926	5,926	5,926	5,926	5,926	5,926	5,926	5,926
Italy.....	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158
Netherlands.....	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158
Norway.....	5,620	5,620	5,620	5,620	5,620	5,620	5,620	5,620	5,620	5,620
Spain.....	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780
Sweden.....	6,148	6,148	6,148	6,148	6,148	6,148	6,148	6,148	6,148	6,148
Turkey.....	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976	5,976
United Kingdom.....	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803
Former Yugoslavia.....	5,823	5,823	5,823	5,823	--	--	--	--	--	--
Croatia.....	--	--	--	--	5,823	5,823	5,823	5,823	5,823	5,823
Serbia and Montenegro.....	--	--	--	--	5,823	5,823	5,823	5,823	5,823	5,823
Slovenia.....	--	--	--	--	--	5,823	5,823	5,823	5,823	5,823
Eastern Europe & Former U.S.S.R.										
Albania.....	6,305	6,305	6,305	6,305	6,305	6,305	6,305	6,305	6,305	6,305
Bulgaria.....	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879
Former Czechoslovakia.....	6,211	6,211	6,211	6,211	6,211	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	6,211	6,211	6,211	6,211	6,211
Slovakia.....	--	--	--	--	--	6,211	6,211	6,211	6,211	6,211
Hungary.....	6,249	6,249	6,249	6,249	6,249	6,249	6,249	6,249	6,249	6,249
Poland.....	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820
Romania.....	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780
Former U.S.S.R.....	5,880	5,880	5,880	5,880	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Belarus.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Georgia.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Kazakhstan.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Kyrgyzstan.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Lithuania.....	--	--	--	--	--	5,880	5,880	5,880	5,880	5,880
Russia.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Tajikistan.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Turkmenistan.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Ukraine.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880
Uzbekistan.....	--	--	--	--	5,880	5,880	5,880	5,880	5,880	5,880

See footnotes at end of table.

Table C3 Gross Heat Content of Crude Oil, 1988 - 1997 (Continued)
(Thousand Btu per Barrel)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Middle East										
Bahrain.....	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879
Iran.....	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888
Iraq.....	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820	5,820
Israel.....	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920	5,920
Jordan.....	5,956	5,956	5,956	5,956	5,956	5,956	5,956	5,956	5,956	5,956
Kuwait.....	5,921	5,921	5,921	5,921	5,921	5,921	5,921	5,921	5,921	5,921
Oman.....	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869	5,869
Qatar.....	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777
Saudi Arabia.....	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910	5,910
Syria.....	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158
United Arab Emirates.....	5,788	5,788	5,788	5,788	5,788	5,788	5,788	5,788	5,788	5,788
Yemen.....	5,728	5,729	5,725	5,725	5,725	5,725	5,725	5,725	5,725	5,725
Africa										
Algeria.....	5,555	5,555	5,555	5,555	5,555	5,555	5,555	5,555	5,555	5,555
Angola.....	5,828	5,828	5,828	5,828	5,828	5,828	5,828	5,828	5,828	5,828
Benin.....	6,142	6,142	6,142	6,142	6,142	6,142	6,142	6,142	6,142	6,142
Cameroon.....	5,948	5,948	5,948	5,948	5,948	5,948	5,948	5,948	5,948	5,948
Congo (Brazzaville).....	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780	5,780
Congo (Kinshasa).....	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879
Cote d'Ivoire (Ivory Coast).....	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899
Egypt.....	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,922
Equatorial Guinea.....	--	--	--	5,464	5,464	5,464	5,464	5,464	5,464	5,464
Gabon.....	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888	5,888
Ghana.....	--	--	--	--	5,936	5,936	5,936	5,936	5,936	5,936
Libya.....	5,775	5,775	5,775	5,775	5,775	5,775	5,775	5,775	5,775	5,775
Morocco.....	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738	5,738
Nigeria.....	5,880	5,880	5,880	5,880	5,880	5,880	5,880	5,880	5,880	5,880
Sudan.....	--	--	--	--	5,084	5,084	5,084	5,084	5,084	5,084
Tunisia.....	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677	5,677
Far East & Oceania										
Australia.....	5,578	5,578	5,578	5,578	5,578	5,578	5,578	5,578	5,578	5,578
Bangladesh.....	5,792	5,792	5,792	5,792	5,792	5,792	5,792	5,792	5,792	5,792
Brunei.....	5,865	5,865	5,865	5,865	5,865	5,865	5,865	5,865	5,865	5,865
Burma.....	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020	6,020
China.....	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879	5,879
India.....	5,729	5,729	5,729	5,729	5,729	5,729	5,729	5,729	5,729	5,729
Indonesia.....	5,740	5,740	5,740	5,740	5,740	5,740	5,740	5,740	5,740	5,740
Japan.....	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899	5,899
Malaysia.....	5,697	5,697	5,697	5,697	5,697	5,697	5,697	5,697	5,697	5,697
New Zealand.....	5,441	5,441	5,441	5,441	5,441	5,441	5,441	5,441	5,441	5,441
Pakistan.....	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777	5,777
Papua New Guinea.....	--	--	--	5,607	5,607	5,607	5,607	5,607	5,607	5,607
Philippines.....	5,902	5,902	5,902	5,902	5,902	5,902	5,902	5,902	5,902	5,902
Taiwan.....	6,321	6,321	6,321	6,321	6,321	6,321	6,321	6,321	6,321	6,321
Thailand.....	6,317	6,317	6,317	6,317	6,317	6,317	6,317	6,317	6,317	6,317
Vietnam.....	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022

--= Not applicable.

Sources: See sources at the end of Section 3.

Table C4 Gross Heat Content of Natural Gas Plant Liquids, 1988 - 1997
(Thousand Btu per Barrel)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Canada.....	3,980	3,980	3,980	3,980	3,980	3,980	3,980	3,980	3,980	3,980
Mexico.....	3,620	3,620	3,620	3,620	3,620	3,620	3,620	3,620	3,620	3,620
United States.....	3,800	3,826	3,822	3,807	3,804	3,801	3,794	3,796	3,777	3,762
Central & South America										
Argentina.....	3,820	3,820	3,820	3,820	3,820	3,820	3,820	3,820	3,820	3,820
Bolivia.....	4,130	4,130	4,130	4,130	4,130	4,130	4,130	4,130	4,130	4,130
Brazil.....	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250
Chile.....	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150
Colombia.....	3,286	3,286	3,286	3,286	3,286	3,286	3,286	3,286	3,286	3,286
Cuba.....	4,344	4,344	4,344	4,344	4,344	4,344	4,344	4,344	4,344	4,344
Ecuador.....	4,235	4,235	4,235	4,235	4,235	4,235	4,235	4,235	4,235	4,235
Peru.....	4,617	4,617	4,617	4,617	4,617	4,617	4,617	4,617	4,617	4,617
Trinidad and Tobago.....	--	--	--	4,344	4,344	4,344	4,344	4,344	4,344	4,344
Venezuela.....	4,195	4,195	4,195	4,195	4,195	4,195	4,195	4,195	4,195	4,195
Western Europe										
Austria.....	4,262	4,262	4,262	4,262	4,262	4,262	4,262	4,262	4,262	4,262
France.....	4,385	4,385	4,385	4,385	4,385	4,385	4,385	4,385	4,385	4,385
Greece.....	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050
Italy.....	4,259	4,259	4,259	4,259	4,259	4,259	4,259	4,259	4,259	4,259
Netherlands.....	4,347	4,347	4,347	4,347	4,347	4,347	4,347	4,347	4,347	4,347
Norway.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
Spain.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
United Kingdom.....	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490	4,490
Former Yugoslavia.....	4,349	4,349	4,349	4,349	--	--	--	--	--	--
Croatia.....	--	--	--	--	4,349	4,349	4,349	4,349	4,349	4,349
Eastern Europe & Former U.S.S.R.										
Former Czechoslovakia.....	4,645	4,645	4,645	4,645	4,645	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	4,645	4,645	4,645	4,645	4,645
Hungary.....	4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386
Poland.....	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454
Romania.....	4,619	4,619	4,619	4,619	4,619	4,619	4,619	4,619	4,619	4,619
Former U.S.S.R.....	4,150	4,150	4,150	4,150	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150
Kazakhstan.....	--	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150
Kyrgyzstan.....	--	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150
Russia.....	--	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150
Tajikistan.....	--	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150
Turkmenistan.....	--	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150
Ukraine.....	--	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150
Uzbekistan.....	--	--	--	--	4,150	4,150	4,150	4,150	4,150	4,150
Middle East										
Bahrain.....	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287	4,287
Iran.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
Iraq.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
Kuwait.....	4,190	4,190	4,190	4,190	4,190	4,190	4,190	4,190	4,190	4,190
Oman.....	4,581	4,581	4,581	4,581	4,581	4,581	4,581	4,581	4,581	4,581
Qatar.....	3,790	3,790	3,790	3,790	3,790	3,790	3,790	3,790	3,790	3,790
Saudi Arabia.....	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265
Syria.....	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300
United Arab Emirates.....	4,532	4,532	4,532	4,532	4,532	4,532	4,532	4,532	4,532	4,532

See footnotes at end of table.

Table C4 Gross Heat Content of Natural Gas Plant Liquids, 1988 - 1997 (Continued)
(Thousand Btu per Barrel)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Africa										
Algeria.....	5,080	5,080	5,080	5,080	5,080	5,080	5,080	5,080	5,080	5,080
Egypt.....	4,940	4,940	4,940	4,940	4,940	4,940	4,940	4,940	4,940	4,940
Libya.....	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350	4,350
South Africa.....	--	--	--	--	4,649	4,649	4,649	4,649	4,649	4,649
Tunisia.....	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300	4,300
Far East & Oceania										
Australia.....	4,290	4,290	4,290	4,290	4,290	4,290	4,290	4,290	4,290	4,290
Bangladesh.....	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050
Brunei.....	4,506	4,506	4,506	4,506	4,506	4,506	4,506	4,506	4,506	4,506
Burma.....	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348	4,348
India.....	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
Indonesia.....	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060	4,060
Japan.....	4,327	4,327	4,327	4,327	4,327	4,327	4,327	4,327	4,327	4,327
Malaysia.....	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,410	4,410
New Zealand.....	4,075	4,075	4,075	4,075	4,075	4,075	4,075	4,075	4,075	4,075
Pakistan.....	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372	4,372
Taiwan.....	3,825	3,825	3,825	3,825	3,825	3,825	3,825	3,825	3,825	3,825
Thailand.....	4,349	4,349	4,349	4,349	4,349	4,349	4,349	4,349	4,349	4,349

--= Not applicable.

Sources: See sources at the end of Section 3.

Table C5 Gross Heat Content of Dry Natural Gas, 1988 - 1997
(Btu per Cubic Foot)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Canada.....	1,017	1,014	1,014	1,015	1,017	1,017	1,035	1,024	1,021	1,023
Mexico.....	1,093	1,093	1,093	1,093	1,093	1,093	1,093	1,093	1,097	1,097
United States.....	1,029	1,031	1,031	1,030	1,030	1,027	1,028	1,027	1,027	1,026
Central & South America										
Argentina.....	1,036	1,036	1,036	1,036	1,083	1,083	1,083	1,083	1,083	1,083
Barbados.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Bolivia.....	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Brazil.....	1,107	1,107	1,175	1,175	1,174	1,174	1,174	1,174	1,174	1,174
Chile.....	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,050	1,050
Colombia.....	929	929	929	929	929	929	929	929	929	929
Cuba.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Ecuador.....	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Peru.....	929	929	929	929	929	929	929	929	929	929
Trinidad and Tobago.....	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
Venezuela.....	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191
Western Europe										
Austria.....	1,074	1,074	1,074	1,060	1,060	1,063	1,063	1,063	1,063	1,063
Belgium.....	944	944	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065
Denmark.....	1,091	1,092	1,089	1,092	1,091	1,093	1,099	1,098	1,098	1,098
Finland.....	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,051	1,015	1,015
France.....	1,098	1,091	1,092	1,101	1,102	1,052	1,052	1,040	1,032	1,044
Germany.....	--	--	--	893	893	895	895	895	895	895
Germany, East.....	390	390	390	--	--	--	--	--	--	--
Germany, West.....	888	888	888	--	--	--	--	--	--	--
Greece.....	1,443	1,443	1,402	1,476	1,449	1,428	1,563	1,522	1,521	1,521
Ireland.....	1,008	1,010	1,009	1,010	1,010	1,009	1,009	1,011	1,011	1,008
Italy.....	1,042	1,039	1,038	1,013	1,013	1,001	1,001	1,001	1,020	1,023
Luxembourg.....	1,079	1,079	1,088	1,093	1,093	1,092	1,094	1,094	1,098	1,104
Netherlands.....	894	894	894	894	894	894	894	894	894	894
Norway.....	1,085	1,085	1,091	1,088	1,093	1,099	1,113	1,113	1,112	1,091
Portugal.....	--	--	--	--	--	--	--	--	--	1,126
Spain.....	1,143	1,140	1,140	1,140	1,140	1,156	1,156	1,141	1,141	1,142
Sweden.....	1,045	1,045	1,045	1,043	1,043	1,043	989	989	989	990
Switzerland.....	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,083
Turkey.....	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,028	1,029
United Kingdom.....	1,033	1,033	1,094	1,002	1,040	1,038	1,042	1,052	1,053	1,053
Former Yugoslavia.....	1,061	1,061	1,061	1,061	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	1,061	1,061	1,061	1,061	1,061	1,061
Croatia.....	--	--	--	--	1,020	1,020	1,020	1,020	1,020	1,020
Macedonia, TFYR.....	--	--	--	--	1,061	1,061	1,061	1,061	1,061	1,061
Serbia and Montenegro.....	--	--	--	--	1,061	1,061	1,061	1,061	1,061	1,061
Slovenia.....	--	--	--	--	959	959	959	959	960	960

See footnotes at end of table.

Table C5 Gross Heat Content of Dry Natural Gas, 1988 - 1997 (Continued)
(Btu per Cubic Foot)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Eastern Europe & Former U.S.S.R.										
Albania.....	1,047	1,047	1,047	1,044	1,044	1,044	1,044	1,044	1,044	1,044
Bulgaria.....	943	943	943	990	990	990	990	990	990	990
Former Czechoslovakia.....	1,006	1,006	1,006	974	974	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	987	939	973	963	963
Slovakia.....	--	--	--	--	--	974	974	974	972	972
Hungary.....	975	975	975	975	975	975	975	968	962	959
Poland.....	935	935	935	925	871	791	791	781	807	831
Romania.....	1,070	1,070	1,070	1,009	1,009	1,009	1,009	1,009	1,003	1,003
Former U.S.S.R.....	1,026	1,026	1,026	1,012	--	--	--	--	--	--
Armenia.....	--	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012
Azerbaijan.....	--	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012
Belarus.....	--	--	--	--	1,037	1,037	1,037	1,037	1,017	1,017
Estonia.....	--	--	--	--	1,006	1,006	1,006	1,006	1,006	1,006
Georgia.....	--	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012
Kazakhstan.....	--	--	--	--	1,008	1,008	1,012	1,012	1,015	1,015
Kyrgyzstan.....	--	--	--	--	1,024	1,024	1,024	1,024	1,024	1,024
Latvia.....	--	--	--	--	1,004	1,004	1,004	1,004	1,004	1,004
Lithuania.....	--	--	--	--	1,026	1,026	1,026	1,026	1,026	1,026
Moldova.....	--	--	--	--	1,043	1,043	1,043	1,043	1,043	1,043
Russia.....	--	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012
Tajikistan.....	--	--	--	--	1,015	1,015	1,015	1,015	1,015	1,015
Turkmenistan.....	--	--	--	--	1,010	1,010	1,012	1,012	1,012	1,012
Ukraine.....	--	--	--	--	1,012	1,012	1,012	1,012	1,012	1,012
Uzbekistan.....	--	--	--	--	1,014	1,014	1,014	1,014	1,014	1,014
Middle East										
Bahrain.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Iran.....	1,058	1,058	1,056	1,056	1,056	1,056	1,056	1,056	1,056	1,056
Iraq.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Israel.....	1,039	1,039	1,039	1,039	1,039	1,039	1,039	1,039	1,039	1,039
Jordan.....	--	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Kuwait.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Oman.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Qatar.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Saudi Arabia.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Syria.....	962	962	962	962	962	962	962	962	962	962
United Arab Emirates.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Africa										
Algeria.....	1,180	1,180	1,180	1,180	1,180	1,180	1,180	1,180	1,127	1,127
Angola.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Congo (Brazzaville).....	--	--	--	--	--	1,047	1,047	1,047	1,047	1,047
Cote d'Ivoire (Ivory Coast).....	--	--	--	--	--	--	--	1,047	1,047	1,047
Egypt.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Gabon.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Libya.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Morocco.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Nigeria.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Senegal.....	--	--	--	--	--	1,047	1,047	1,047	1,047	1,047
South Africa.....	--	--	--	--	1,047	1,047	1,047	1,047	1,047	1,047
Tunisia.....	1,236	1,236	1,236	1,236	1,236	1,236	1,236	1,236	1,258	1,258

See footnotes at end of table.

Table C5 Gross Heat Content of Dry Natural Gas, 1988 - 1997 (Continued)
(Btu per Cubic Foot)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Far East & Oceania										
Afghanistan.....	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Australia.....	1,043	1,043	1,045	1,044	1,063	1,065	1,070	1,067	1,068	1,071
Bangladesh.....	941	941	941	941	941	941	941	941	941	941
Brunei.....	1,214	1,214	1,214	1,154	1,154	1,154	1,154	1,154	1,154	1,154
Burma.....	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014	1,014
China.....	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151
Hong Kong.....	--	--	--	--	--	--	--	1,047	1,047	1,047
India.....	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151
Indonesia.....	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Japan.....	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101
Korea, South.....	1,047	1,047	1,047	1,047	1,152	1,118	1,118	1,118	1,118	1,118
Malaysia.....	1,043	1,043	1,043	1,043	1,043	1,043	1,043	1,043	1,043	1,043
New Zealand.....	1,017	1,019	1,018	1,009	1,012	1,018	1,025	1,017	1,026	1,047
Pakistan.....	934	934	934	934	934	934	934	934	934	934
Papua New Guinea.....	--	--	--	--	1,047	1,047	1,047	1,047	1,047	1,047
Philippines.....	--	--	--	--	--	--	--	1,047	1,047	1,047
Singapore.....	--	--	--	--	1,043	1,043	1,043	1,043	1,043	1,043
Taiwan.....	1,047	1,047	1,047	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Thailand.....	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	977	977
Vietnam.....	1,026	1,026	1,026	1,026	1,026	1,026	1,026	1,026	1,026	1,026

--= Not applicable.

Sources: See sources at the end of Section 4.

Table C6 Gross Heat Content of Coal, 1988 - 1997
(Thousand Btu per Short Ton)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Canada.....	22,159	22,367	22,543	22,670	22,414	22,485	22,747	22,960	22,959	22,898
Mexico.....	19,352	19,352	19,352	19,352	19,352	19,352	15,644	15,958	16,321	16,321
United States.....	21,822	21,765	21,822	21,681	21,646	21,388	21,353	21,277	21,287	21,287
Central & South America										
Argentina.....	19,438	19,438	19,438	19,438	19,330	19,330	19,330	19,330	19,330	19,330
Brazil.....	17,459	17,459	17,459	17,459	16,000	16,000	16,000	14,746	14,746	14,746
Chile.....	24,655	24,652	24,664	24,666	24,488	24,544	24,517	24,070	24,113	24,103
Colombia.....	23,405	23,405	23,405	23,405	23,405	23,405	21,296	21,296	21,296	21,296
Peru.....	19,435	19,435	19,435	19,435	19,435	19,435	19,435	19,435	19,435	19,435
Venezuela.....	24,403	24,403	24,403	24,403	23,917	23,917	23,917	23,917	23,917	23,917
Western Europe										
Austria.....	10,493	10,493	10,493	10,493	9,372	9,373	9,370	9,370	9,370	9,370
Belgium.....	18,175	18,319	17,229	17,054	17,054	17,054	15,184	17,257	16,645	16,645
France.....	22,878	22,378	22,174	22,389	22,582	22,391	22,077	22,436	23,120	23,125
Germany.....	--	--	--	10,205	10,544	10,690	10,992	11,017	10,942	10,990
Germany, East.....	7,640	7,640	7,640	--	--	--	--	--	--	--
Germany, West.....	13,341	13,208	13,230	--	--	--	--	--	--	--
Greece.....	5,444	5,444	5,444	5,444	4,479	4,942	4,715	4,696	4,330	4,330
Ireland.....	24,768	24,768	24,768	24,768	23,414	23,604	22,469	22,469	22,469	22,469
Italy.....	9,521	9,932	9,774	9,297	10,819	9,216	8,608	8,348	8,348	8,348
Norway.....	24,172	24,172	24,172	24,172	24,168	24,168	24,161	24,161	24,161	24,161
Portugal.....	14,763	14,763	12,477	12,477	12,477	12,477	12,477	12,477	--	--
Spain.....	14,830	14,031	13,482	13,423	13,429	13,393	13,704	11,539	11,544	11,805
Sweden.....	20,642	20,642	20,642	20,642	23,404	23,404	23,404	--	--	--
Turkey.....	8,966	8,635	8,563	8,556	8,557	8,747	7,848	7,658	7,619	7,638
United Kingdom.....	22,689	22,689	22,687	22,687	20,860	20,849	20,828	21,728	21,562	21,562
Former Yugoslavia.....	10,754	10,707	10,564	10,425	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	7,958	7,958	7,958	7,646	7,646	7,646
Croatia.....	--	--	--	--	--	27,664	28,085	22,675	23,522	23,808
Macedonia, TFYR.....	--	--	--	--	7,936	7,936	7,936	7,936	7,936	7,936
Serbia and Montenegro.....	--	--	--	--	7,987	7,982	7,985	5,275	8,450	8,450
Slovenia.....	--	--	--	--	9,995	9,920	9,679	11,054	11,206	10,741
Eastern Europe & Former U.S.S.R.										
Albania.....	8,463	8,463	8,463	8,463	8,463	8,463	8,463	8,463	8,463	8,463
Bulgaria.....	9,097	9,004	8,700	8,700	8,280	8,278	8,260	7,963	8,414	8,414
Former Czechoslovakia.....	20,687	20,669	20,663	20,662	20,783	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	20,891	20,926	15,568	15,571	15,583
Slovakia.....	--	--	--	--	--	17,991	18,209	10,664	11,315	11,315
Hungary.....	10,413	10,353	10,309	10,302	11,129	10,660	11,826	9,646	9,651	9,651
Poland.....	16,288	16,117	15,752	15,513	16,118	16,037	16,166	15,462	16,388	16,413
Romania.....	8,330	8,172	7,993	8,029	6,896	7,970	8,086	8,156	7,678	7,678
Former U.S.S.R.....	15,339	15,351	15,507	15,180	--	--	--	--	--	--
Georgia.....	--	--	--	--	16,840	16,840	16,840	15,976	15,976	15,976
Kazakhstan.....	--	--	--	--	16,561	16,663	12,602	12,603	13,888	13,888
Kyrgyzstan.....	--	--	--	--	13,890	13,851	15,257	15,591	13,888	13,888
Moldova.....	--	--	--	--	16,840	16,840	16,840	16,840	13,888	13,888
Russia.....	--	--	--	--	15,670	15,686	15,645	15,653	16,393	16,426
Tajikistan.....	--	--	--	--	12,599	12,599	12,599	12,599	12,599	12,599
Ukraine.....	--	--	--	--	17,492	17,537	17,557	20,772	20,081	20,292
Uzbekistan.....	--	--	--	--	12,727	12,742	12,725	12,731	12,687	12,687

See footnotes at end of table.

Table C6 Gross Heat Content of Coal, 1988 - 1997 (Continued)
(Thousand Btu per Short Ton)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Middle East										
Iran.....	26,232	26,232	26,232	26,232	26,232	26,232	26,232	25,200	24,403	24,403
Africa										
Algeria.....	24,403	24,403	24,403	24,403	24,403	24,403	24,403	25,200	25,200	25,200
Botswana.....	22,000	22,000	22,000	22,000	22,000	22,000	22,000	25,200	24,403	24,403
Cameroon.....	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	24,403
Congo (Kinshasa).....	23,927	23,927	23,927	23,927	23,927	23,927	23,927	25,200	24,403	24,403
Egypt.....	--	--	--	--	--	--	--	--	24,403	24,403
Malawi.....	22,000	22,000	22,000	21,500	21,500	21,500	21,500	25,200	24,403	24,403
Morocco.....	30,103	30,103	30,103	30,103	30,103	30,103	30,103	25,200	22,221	22,221
Mozambique.....	24,403	24,403	24,403	24,403	24,403	24,403	24,403	25,200	24,403	24,403
Niger.....	25,200	25,200	25,200	25,200	25,200	25,200	25,200	25,200	24,403	24,403
Nigeria.....	24,403	24,403	24,403	24,403	24,403	24,403	24,403	25,200	24,403	24,403
South Africa.....	20,478	20,456	20,438	20,401	20,473	20,464	20,444	20,424	20,414	20,397
Swaziland.....	23,400	23,400	23,386	23,386	23,386	23,386	23,386	23,387	24,403	24,403
Tanzania.....	24,403	24,403	24,403	24,403	24,403	24,403	24,403	25,200	24,403	24,403
Zambia.....	23,411	23,411	23,411	23,411	24,244	25,308	25,308	21,246	23,415	23,415
Zimbabwe.....	24,403	24,403	24,403	24,403	24,403	24,403	24,403	24,403	24,403	24,403
Far East & Oceania										
Afghanistan.....	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
Australia.....	17,343	17,309	17,574	17,498	17,540	17,782	18,374	18,485	18,390	18,364
Bhutan.....	17,500	17,500	17,500	17,500	17,500	18,500	18,500	25,200	24,403	24,403
Burma.....	15,536	16,499	15,334	15,840	15,606	15,537	15,559	16,325	15,368	15,401
China.....	18,138	18,121	18,101	18,109	18,100	17,973	17,978	17,103	17,103	17,103
India.....	16,786	16,807	16,762	16,727	17,050	17,042	17,006	20,000	18,233	18,195
Indonesia.....	24,403	24,403	24,403	24,403	24,403	24,403	24,401	25,199	24,403	24,403
Japan.....	21,096	21,091	21,086	21,088	21,088	21,088	19,816	19,785	19,786	19,784
Korea, North.....	22,082	21,935	21,772	21,707	21,079	20,849	20,915	20,918	21,638	21,755
Korea, South.....	16,203	16,203	16,203	16,203	16,200	16,200	16,200	16,199	16,199	16,199
Laos.....	22,500	22,500	22,500	22,500	22,500	22,500	22,500	25,200	24,403	24,403
Malaysia.....	24,403	24,403	24,403	24,403	24,403	24,403	24,403	25,200	27,776	27,776
Mongolia.....	10,177	10,236	10,326	10,600	9,744	9,799	9,990	10,926	10,487	10,687
Nepal.....	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	7,936	7,936
New Zealand.....	22,558	22,656	22,609	22,616	22,626	22,645	21,572	24,977	23,396	23,672
Pakistan.....	19,443	19,443	19,443	19,443	19,443	19,443	19,443	19,124	17,753	17,753
Philippines.....	20,204	20,204	20,204	20,204	20,206	20,206	20,205	17,003	19,017	19,018
Taiwan.....	24,602	24,602	24,602	24,602	23,500	22,324	22,324	25,200	24,403	24,403
Thailand.....	9,917	9,902	9,912	9,911	9,415	9,418	9,412	15,843	11,510	11,510
Vietnam.....	24,403	24,403	24,403	24,403	24,403	29,308	29,308	25,200	19,816	19,816

--= Not applicable.

Note: Heat contents are calculated based on individual heat contents for production of anthracite, bituminous, and lignite.

Sources: See sources at the end of Section 5.

Table C7 Gross Heat Content of Hyrdoelectric Power, 1988 - 1997
(Btu per Kilowatthour)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Canada.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Mexico.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
United States.....	10,324	10,432	10,399	10,425	10,340	10,309	10,309	10,304	10,338	10,338
Central & South America										
Argentina.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Bolivia.....	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403
Brazil.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Chile.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Colombia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Costa Rica.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Dominican Republic.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Ecuador.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
El Salvador.....	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402
Guatemala.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Haiti.....	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410	10,410
Honduras.....	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402	10,402
Jamaica.....	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403	10,403
Nicaragua.....	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415
Panama.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Paraguay.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Peru.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Puerto Rico.....	10,389	10,389	10,389	10,389	10,389	10,389	10,389	10,389	10,389	10,389
Suriname.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Uruguay.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Venezuela.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Western Europe										
Austria.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Belgium.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Finland.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
France.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Germany.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Germany, East.....	10,400	10,400	10,400	--	--	--	--	--	--	--
Germany, West.....	10,400	10,400	10,400	--	--	--	--	--	--	--
Greece.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Iceland.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Ireland.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Italy.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Luxembourg.....	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409	10,409
Norway.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Portugal.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Spain.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Sweden.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Switzerland.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Turkey.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
United Kingdom.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Former Yugoslavia.....	10,400	10,400	10,400	10,400	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Croatia.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Macedonia, TFYR.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Serbia and Montenegro.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Slovenia.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400

See footnotes at end of table.

Table C7 Gross Heat Content of Hyrdoelectric Power, 1988 - 1997 (Continued)
(Btu per Kilowatthour)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Eastern Europe & Former U.S.S.R.										
Albania.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Bulgaria.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Former Czechoslovakia.....	10,400	10,400	10,400	10,400	10,400	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	10,400	10,400	10,400	10,400	10,400
Slovakia.....	--	--	--	--	--	10,400	10,400	10,400	10,400	10,400
Hungary.....	10,419	10,419	10,419	10,419	10,419	10,419	10,419	10,419	10,419	10,419
Poland.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Romania.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Former U.S.S.R.....	10,400	10,400	10,400	10,400	--	--	--	--	--	--
Armenia.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Azerbaijan.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Georgia.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Kazakhstan.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Kyrgyzstan.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Latvia.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Lithuania.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Moldova.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Russia.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Tajikistan.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Ukraine.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Uzbekistan.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Middle East										
Iran.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Iraq.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Israel.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Jordan.....	10,526	10,526	10,526	10,526	10,526	10,526	10,526	10,526	10,526	10,526
Lebanon.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Syria.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Africa										
Algeria.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Angola.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Cameroon.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Congo (Brazzaville).....	10,390	10,390	10,390	10,390	10,390	10,390	10,390	10,390	10,390	10,390
Congo (Kinshasa).....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Cote d'Ivoire (Ivory Coast).....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Egypt.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Ethiopia.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Gabon.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Ghana.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Kenya.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Madagascar.....	10,412	10,412	10,412	10,412	10,412	10,412	10,412	10,412	10,412	10,412
Malawi.....	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394
Mali.....	10,375	10,375	10,375	10,375	10,375	10,375	10,375	10,375	10,375	10,375
Morocco.....	10,407	10,407	10,407	10,407	10,407	10,407	10,407	10,407	10,407	10,407
Nigeria.....	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398	10,398
Reunion.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
South Africa.....	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394
Sudan.....	10,391	10,391	10,391	10,391	10,391	10,391	10,391	10,391	10,391	10,391
Tanzania.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Uganda.....	10,392	10,392	10,392	10,392	10,392	10,392	10,392	10,392	10,392	10,392
Zambia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Zimbabwe.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401

See footnotes at end of table.

Table C7 Gross Heat Content of Hyrdoelectric Power, 1988 - 1997 (Continued)
(Btu per Kilowatthour)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Far East & Oceania										
Afghanistan.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Australia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Bangladesh.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Bhutan.....	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Burma.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Cambodia.....	10,333	10,333	10,333	10,333	10,333	10,333	10,333	10,333	10,333	10,333
China.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Fiji.....	10,405	10,405	10,405	10,405	10,405	10,405	10,405	10,405	10,405	10,405
French Polynesia.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
India.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Indonesia.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Japan.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Korea, North.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Korea, South.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Laos.....	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404	10,404
Malaysia.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Nepal.....	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394
New Caledonia.....	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394	10,394
New Zealand.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Pakistan.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Papua New Guinea.....	10,393	10,393	10,393	10,393	10,393	10,393	10,393	10,393	10,393	10,393
Philippines.....	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401	10,401
Samoa.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Sri Lanka.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
Taiwan.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Thailand.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399
U.S. Pacific Islands.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Vietnam.....	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399	10,399

--= Not applicable.

Note: There is no generally accepted practice for evaluating the thermal conversion rates for power plants that generate electricity from hydroelectric sources. Therefore, estimates of the prevailing annual average heat content for fossil-fueled, steam-electric power plants are used to evaluate the heat content for hydroelectric power. By using that factor, it is possible to evaluate fossil fuel requirements for replacing those sources during periods of interruption such as droughts.

Sources: See sources at the end of Section 6.

Table C8 Gross Heat Content of Nuclear Electric Power, 1988 - 1997
(Btu per Kilowatthour)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Canada.....	11,550	11,550	11,478	11,478	11,440	11,376	11,376	11,365	11,365	11,365
Mexico.....	--	--	10,295	10,065	10,065	10,065	10,065	10,065	10,065	10,065
United States.....	10,743	10,724	10,680	10,740	10,678	10,682	10,676	10,658	10,623	10,623
Central & South America										
Argentina.....	11,809	11,809	11,809	11,809	11,809	11,809	11,809	11,809	11,809	11,809
Brazil.....	10,258	10,258	10,258	10,246	10,246	10,246	10,246	10,246	10,246	10,246
Western Europe										
Belgium.....	10,378	10,378	10,378	10,373	10,373	10,373	10,373	10,373	10,373	10,373
Finland.....	10,365	10,365	10,365	10,278	10,278	10,278	10,278	10,278	10,278	10,278
France.....	10,161	10,161	10,413	10,405	10,399	10,396	10,355	10,355	10,349	10,349
Germany.....	--	--	--	10,205	10,205	10,205	10,205	10,189	10,189	10,189
Germany, East.....	11,278	11,278	11,278	--	--	--	--	--	--	--
Germany, West.....	10,467	10,469	10,437	--	--	--	--	--	--	--
Netherlands.....	10,548	10,548	10,548	10,485	10,485	10,485	10,485	10,485	10,485	10,308
Spain.....	10,775	10,775	10,151	10,151	10,151	10,151	10,151	10,151	10,151	10,151
Sweden.....	10,001	10,001	10,001	10,090	10,090	10,090	10,090	10,090	10,090	10,090
Switzerland.....	10,632	10,632	10,632	10,540	10,540	10,540	10,540	10,540	10,540	10,540
United Kingdom.....	11,892	11,892	11,892	12,461	12,461	12,424	12,552	12,446	12,446	12,446
Former Yugoslavia.....	11,373	11,373	11,373	10,035	--	--	--	--	--	--
Slovenia.....	--	--	--	--	10,035	10,035	10,035	10,035	10,035	10,035
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	11,006	11,006	11,006	11,006	11,006	11,006	11,006	11,006	11,006	11,006
Former Czechoslovakia.....	12,274	12,274	12,274	12,274	12,274	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	12,099	12,099	12,099	12,099	12,099
Slovakia.....	--	--	--	--	--	12,318	12,318	12,318	12,318	12,318
Hungary.....	11,373	11,373	11,373	10,065	10,065	10,065	10,065	10,065	10,065	10,065
Romania.....	--	--	--	--	--	--	--	--	11,930	11,930
Former U.S.S.R.....	11,433	11,443	11,463	11,469	--	--	--	--	--	--
Armenia.....	--	--	--	--	--	--	--	--	11,725	11,725
Kazakhstan.....	--	--	--	--	11,373	11,373	11,373	11,373	11,373	11,373
Lithuania.....	--	--	--	--	10,663	10,663	10,663	10,663	10,663	10,663
Russia.....	--	--	--	--	11,038	11,030	11,030	11,030	11,030	11,030
Ukraine.....	--	--	--	--	10,911	10,911	10,911	10,873	10,873	10,873
Africa										
South Africa.....	10,308	10,308	10,308	10,035	10,035	10,035	10,035	10,035	10,035	10,035
Far East & Oceania										
China.....	--	--	--	--	10,339	10,207	10,159	10,159	10,159	10,159
India.....	11,671	11,671	11,671	11,844	11,906	11,957	11,957	11,998	11,998	11,998
Japan.....	10,646	10,646	10,273	10,250	10,250	10,234	10,226	10,236	10,223	10,217
Korea, South.....	10,422	10,422	10,088	10,088	10,088	10,088	10,035	10,035	9,991	9,955
Pakistan.....	11,784	11,784	10,797	10,797	10,797	10,797	10,797	10,797	10,797	10,797
Taiwan.....	10,227	10,227	10,227	9,876	9,876	9,876	9,876	9,876	9,876	9,876

--= Not applicable.

Note: The average heat content of electricity generated by nuclear electric power plants is calculated by dividing the heat content of electricity consumed in nuclear generating units (3,412 Btu per kilowatthour) by the estimated efficiency factor (the ratio of output to input) for each nuclear power plant.

Sources: See sources at the end of Section 6.

Table C9 Gross Heat Content of Geothermal Electric Power, 1988 - 1997
(Btu per Kilowatthour)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Mexico.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
United States.....	21,096	21,096	21,096	20,997	20,914	20,914	20,914	20,914	20,960	20,960
Central & South America										
Costa Rica.....	--	--	--	--	--	--	21,020	21,020	21,020	21,020
El Salvador.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Nicaragua.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Western Europe										
Greece.....	21,273	--	--	--	--	--	--	--	--	--
Iceland.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Italy.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Portugal.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Turkey.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Eastern Europe & Former U.S.S.R.										
Romania.....	21,273	21,273	21,273	--	--	--	--	--	--	--
Former U.S.S.R.....	21,273	21,020	21,020	21,020	--	--	--	--	--	--
Russia.....	--	--	--	--	21,020	21,020	21,020	21,020	21,020	21,020
Middle East										
Jordan.....	--	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Africa										
Ethiopia.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Kenya.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Far East & Oceania										
Indonesia.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Japan.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
New Zealand.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Philippines.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020
Vietnam.....	21,273	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020	21,020

--= Not applicable.

Note: The average heat content of electricity generated by geothermal electric power plants is calculated by weighting the annual average heat rates of operating geothermal units by the installed nameplate capacities.

Sources: See sources at the end of Section 6.

Table C10 Gross Heat Content of Solar and Wind Electric Power, 1988 - 1997
(Btu per Kilowatthour)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
North America										
Canada.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Mexico.....	--	--	--	--	--	--	10,400	10,400	10,400	10,400
United States.....	10,324	10,432	10,399	10,425	10,340	10,309	10,309	10,304	10,338	10,338
Central & South America										
Brazil.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Western Europe										
Belgium.....	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397	10,397
Denmark.....	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345	10,345
France.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Germany.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Germany, West.....	10,400	10,400	10,400	--	--	--	--	--	--	--
Greece.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Ireland.....	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Italy.....	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Netherlands.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Norway.....	--	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400
Portugal.....	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Spain.....	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Sweden.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Switzerland.....	--	--	--	10,400	10,400	10,400	10,400	10,400	10,400	10,400
United Kingdom.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Eastern Europe & Former U.S.S.R.										
Poland.....	--	--	--	--	--	--	--	10,400	10,400	10,400
Romania.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Far East & Oceania										
Australia.....	--	--	--	--	--	--	10,400	10,400	10,400	10,400
India.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
Japan.....	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400

--= Not applicable.

Note: There is no generally accepted practice for evaluating the thermal conversion rates for power plants that generate electricity from wind and solar thermal sources. Therefore, estimates of the prevailing annual average heat content for fossil-fueled, steam-electric power plants are used to evaluate the heat content for wind and solar thermal power. (These same estimates are used to evaluate the heat content for biomass thermal power for the United States and Brazil.)

Sources: See sources at the end of Section 6.

Appendix D

**Oil and Gas Market
Chronology: 1997**

Appendix D

Oil and Gas Market Chronology: 1997

The following chronology lists international events of significance for the world oil and natural gas markets in 1996. *Sources include: Dow Jones (DJ), Energy Alert (EA), Energy Market Consultants (EMC), Herold's Oil Headliner (HOH), Platt's Oilgram News (PON), Reuters (REU), The New York Times (NYT), The Wall Street Journal (WSJ), The Washington Post (WP), and U.S. Department of Energy Press Releases and Briefs (DOE).*

(Note: For monthly chronologies for 1996-1999 and annual highlights for 1970-1998, see the Chronologies section of our International (Energy) Web Page at (<http://www.eia.doe.gov/emeu/international/chronolo.html>).

- Jan. 1** A Turkish newspaper reports an agreement between Turkey and Iran to build a pipeline to carry Iranian oil from the Caspian Sea to Turkey's Mediterranean port of Ceyhan. The agreement also includes a pipeline to carry natural gas from Turkmenistan through Iran to Turkey. No details are provided. This is the latest in a series of Turkish-Iranian initiatives (including a \$20 billion natural gas deal and several trade agreements) which have been criticized by the United States due to Iran's links to terrorism. *(NYT)*
- Jan. 2** A Russian tanker carrying 19,000 tons of heavy oil breaks apart and sinks in rough seas in the Sea of Japan. Japanese helicopters sight an oil slick about 1 mile long and 90 yards wide located about 375 miles west of Tokyo. The tanker, Nakhodka, was en route from Shanghai, China to Russia's Kamchatka Peninsula. *(DJ)*
- Jan. 3** President Clinton suspends for another six months a U.S. law, the Helms-Burton Act, which would allow Americans to sue foreigners who are doing business in Cuba on property confiscated from Americans. *(DJ)*
- Jan. 3** The New York Mercantile Exchange posts its first long-term, forward contracts for crude oil, covering delivery as far out as December 2003. There are no takers. *(DJ)*
- Jan. 6** Saudi Arabia reports a discovery of new reserves of super light crude oil in the central region, near Riyadh. According to Oil Minister Ali Naimi, this is the seventeenth such discovery in the area. Further assessments to determine potential reserves are planned. *(DJ)*
- Jan. 6** Iraq informs its customers that it will reduce its contractual crude oil sales volumes in order to stay within the \$1 billion limit for the first 90 days of the United Nations' oil-for-food agreement. *(DJ)*
- Jan. 7** The United Nations approves three more contracts for the sale of Iraqi oil, bringing to 24 the total number of contracts approved so far under the oil-for-food agreement. *(DJ)*
- Jan. 7** A Salomon Brothers' survey of 228 oil and natural gas companies worldwide indicates exploration and development spending will increase to \$81.4 billion in 1997, up 14.7 percent from \$71 billion in 1996. This is described as the "strongest outlook for oil service demand" in the 15 years of the survey. Of the total, 62 percent of the investment is planned outside North America, 28 percent in the United States, and 10 percent in Canada. *(PON)*
- Jan. 7** Algeria's Prime Minister, Ahmed Ouyahya, claims his country's proven oil reserves have recovered to their 1971 level (9.84 billion barrels, according to Organization of Petroleum Exporting Countries statistical sources). *(PON)*
- Jan. 7** A senior official of the China National Petroleum Company, China's state onshore oil and gas producer, says China plans to double its natural gas production capacity to almost 1.1 trillion cubic feet per year by 2005. To meet this goal, China has set a target to add 35 trillion cubic feet of verified onshore reserves by 2000. Primary areas of exploration are the Shaanxi-Gansu-Ningxia region, the Tarim Basin, and Sichuan province -- whose combined total proven reserves are estimated to be at least 20.8 trillion cubic feet. *(PON)*

- Jan. 10** Russia's Gazprom approves a \$2.5 billion project to build the world's deepest underwater natural gas pipeline (about 6,900 feet below the surface) linking Russia and Turkey via the Black Sea. A feasibility study will be completed in the second quarter of 1997. *(EA)*
- Jan. 10** Freezing weather disrupts shipments of petroleum products on Europe's inland waterways. Major areas affected include the Dutch canal system and waterways in Belgium, France, and the Netherlands that connect to the Rhine River. *(DJ)*
- Jan. 15** U.S. Deputy Treasury Secretary Lawrence Summers announces that Mexico's oil receipts are now free of U.S. claims, as a result of its early repayment of \$5 billion in debt to the United States and the International Monetary Fund. The country's oil revenues had guaranteed the U.S. loan. *(DJ)*
- Jan. 16** Qatar Liquefied Gas Company (Qatargas) starts up a second production line, with output capacity of 2.0 million tons per year of liquefied natural gas. *(DJ)*
- Jan. 16** Oil from a wrecked Russian tanker in the Sea of Japan penetrates oil fences set up around two nuclear power plants belonging to Japan's Kansai Electric Power and Hokuriku Electric Power. A preliminary investigation indicates the tanker, which broke up and sank in the Sea of Japan on January 2, collided with a "half-submerged object". *(DJ)*
- Jan. 18** Iraq agrees to export 25 million barrels of crude oil and 7 million barrels of petroleum products to Jordan in 1997. The total, which equates to 88,000 barrels per day, is 7 percent more than in 1996. Jordan relies entirely on Iraqi crude oil, which is shipped under a special exemption from United Nations' sanctions against Iraq. Part of the oil is paid for at a reduced price (\$19.10 per barrel in 1997, 25 percent higher than in 1996) and the rest of the oil goes toward reducing Iraq's \$1.3 billion debt to Jordan and paying for Jordanian exports of food and medicine to Iraq (slated to increase by 17 percent to \$255 million in 1997). *(DJ)*
- Jan. 21** Yemen signs a final agreement endorsing the participation of a foreign consortium, Gas General, in its \$4.2 million project to produce 5 million tons per year of liquefied natural gas. Participants include Total (36 percent), Hunt Oil (15.3 percent), Exxon (14.3 percent), Yukong (8.4 percent), and the Yemen government (26 percent). *(EA)*
- Jan. 21** Japan's Prime Minister Ryutaro Hashimoto concedes that his government misjudged the seriousness of the January 2, 1997 oil spill in the Sea of Japan and announces an all-out effort to prevent further damage. Cleanup has been complicated by heavy seas and by the nature of the oil, a specially refined distillate destined for use in Siberia, which did not coagulate in cold waters as expected. Fishermen and environmentalists describe the spill as a major ecological disaster and Japan's worst oil spill in 20 years. *(WP)*
- Jan. 21** Statoil, Norway's state-owned energy company, announces an agreement to supply 5.3 trillion cubic feet of natural gas to Italy under a 25-year contract between Norway's Gas Negotiating Committee (representing Statoil, Norsk Hydro, and Saga) and SNAM, a unit of Ente Nazionale Idrocarburi (ENI). The contract, valued at nearly \$14 billion (at current prices), provides for initial delivery of 71 billion cubic feet in 2000. Annual contract volumes would increase to 212 billion cubic feet in 2002, and could be increased an additional 71 billion cubic feet in each subsequent year. Norway is currently the second largest source of natural gas for Europe (after Russia's Gazprom). *(WSJ)*
- Jan. 22** President Fidel Ramos orders full deregulation of the Philippine oil industry effective February 8, 1997, nearly a month ahead of the established deadline. *(DJ)*
- Jan. 22** Libya officially notifies the United Nations that it will resume international flights in violation of United Nations' sanctions. *(DJ)*
- Jan. 22** A senior Qatari official announces plans to increase Qatar's combined crude oil and condensate output capacity to 910,000 barrels per day by 2000. Current capacity is about 510,000 barrels per day. *(REU)*

- Jan. 23** An explosion and fire on the Iraq-Turkey oil pipeline in southern Turkey damages the unused portion of the line, but the line currently in use (carrying an estimated 440,000 barrels per day) is undamaged. Kurdish guerillas are blamed for the attack. *(EMC)*
- Jan. 24** The U.S. Minerals Management Service (MMS), part of the Department of the Interior, proposes a new regulation that would revise how federal royalties are calculated on oil produced from federal lands. Under the proposed regulation, royalties would be based on a monthly average of futures prices at the New York Mercantile Exchange, except for oil produced in California or Alaska (which would be based on prices for Alaska North Slope crude oil). MMS would adjust the market prices to account for differences in quality and location. Currently, royalties are based on the posted (wellhead) prices of the oil. *(WP)*
- Jan. 28** The official Iraqi News Agency (INA) reports that Iraq has exported a total of 11.5 million barrels of crude oil from its Persian Gulf terminal of Mina al Bakr since it began selling oil under the United Nations' oil-for-food deal in December 1996. *(PON)*
- Jan. 29** The Clinton Administration refutes news reports that Iraq is threatening its neighbors, but restates the U.S. willingness to act if Iraq does become aggressive. The statement is in reaction to speculation following reports that Saddam Hussein's wife has been placed under house arrest and his son risks losing a leg to gangrene in the wake of a previous assassination attempt. March light, sweet crude oil futures prices settle sharply higher on the New York Mercantile Exchange (up 57 cents, to \$24.47 per barrel). *(DJ)*
- Jan. 29** Amoco and Shell Deepwater Development (Shell) announce plans to jointly develop a deepwater Gulf of Mexico oil and natural gas discovery known as the Marlin prospect. The prospect is located in 3,240 feet of water and will cost \$500 million to develop. It is expected to produce 250 million cubic feet of natural gas per day and 40,000 barrels of oil per day by 1999. Amoco owns 75 percent of the prospect and Shell owns the remaining 25 percent. *(DJ)*
- Jan. 29** Leftist rebels are suspected of being responsible for an explosion on a section of Colombia's main oil pipeline that causes a spill of about 5,000 barrels of crude oil and forces the first suspension of pumping on the pipeline this year. *(REU)*
- Jan. 30** United Nations' Secretary General Kofi Annan states he expects Iraqi oil exports under the oil-for-food deal to continue through the year after an anticipated renewal of a six-month agreement at mid-year. *(DJ)*
- Jan. 30** Venezuela's state-owned oil company, Petroleos de Venezuela S.A. (PDVSA), announces that 259 companies have qualified to participate in its third auction of operating contracts for mature and marginal oil fields, scheduled for May 1997. According to PDVSA's estimates, the fields included in the 20 contracts hold reserves of between 2 billion and 3 billion barrels and output is expected to reach 300,000 barrels per day by 2006. *(HOH)*
- Jan. 30** A United Nations' spokesman announces that disbursements from the escrow account set up under the Iraqi oil-for-food plan have begun. The fund is expected to total \$239 million by the end of the day. *(DJ)*
- Feb. 5** The Energy Policy Committee of the U.S.-Russian Joint Commission on Economic and Technological Cooperation (the Gore-Chernomyrdin Commission) meets in Washington to review progress in U.S-Russian cooperation, including improvements in the foreign investment climate in the Russian oil sector. Other topics of discussion include nuclear nonproliferation; nuclear reactor safety and peaceful uses of nuclear technologies; the development of power projects, including for Russia's northern territories; and progress in energy efficiency. *(DOE)*
- Feb. 5** Japan's Ministry of Finance announces plans to cut import tariffs on crude oil and most petroleum products from April 1, 1997, in a phased process that will reduce the country's crude oil import tariff rate to zero in April 2002. *(DJ)*
- Feb. 6** President Clinton formally unveils a fiscal 1998 budget plan, which includes a proposal to raise \$1.35 billion over the next 5 years with the sale or lease of crude oil from the Strategic Petroleum Reserve. *(DJ)*

- Feb. 6** The United Nations reports that it so far has received a total of \$343 million in proceeds from Iraq's oil-for-food sale. *(DJ)*
- Feb. 10** Lukoil, Russia's largest oil company, and the U.S. energy company Arco enter a \$5 billion, 18-year joint venture to prospect for and develop oil in the former Soviet Union. Lukoil's share is 54 percent and Arco's is 46 percent. The venture, called Lukarko, plans investment of \$400 million in 1997. Initial projects include a 12 percent stake in the Caspian Pipeline Consortium and a 5 percent share of the Tengiz field in Kazakhstan. *(HOH)*
- Feb. 10** South Africa's deputy-minister of mineral and energy affairs indicates that South Africa will complete the restructuring of its oil industry by the end of 1997. *(DJ)*
- Feb. 11** Woodside Petroleum receives approval from the Australian government to proceed with the \$1 billion Laminaria development in the Timor Sea. The project will employ the world's biggest floating production, storage, and offloading facilities to produce 170,000 barrels per day of oil beginning in 1999. Crude oil reserves are estimated at 130-250 million barrels. Woodside's partners in the development are Broken Hill Proprietary (25 percent) and Shell (25 percent). *(HOH)*
- Feb. 11** In a special report, the International Energy Agency (IEA) predicts major increases in oil and natural gas production capacity in Algeria, Libya, and Egypt. Between 1995 and 2000, the IEA reports that Algeria is projected to increase its crude oil production capacity by 25 percent (to at least 1.0 million barrels per day) and its natural gas production capacity by 58 percent (to 3 trillion cubic feet annually). Libya will increase its crude oil production capacity by 18 percent (to 1.65 million barrels per day) and maintain natural gas production capacity at 667 billion cubic feet annually. Egypt will increase its crude oil production capacity by 11 percent (to 1.0 million barrels per day) and its natural gas capacity by 76 percent (to 1.2 trillion cubic feet annually). Natural gas liquids production will also increase in all three countries. In addition, the IEA projects that Algeria's natural gas export capacity will reach 2.9 trillion cubic feet and Libya's 159 billion cubic feet, representing increases of 123 percent and 41 percent respectively, compared with 1995 capacities. *(DJ)*
- Feb. 12** A U.S. admiral headquartered in Bahrain reports that tankers are smuggling tens of thousands of tons of fuel oil out of Iraq in violation of United Nations' sanctions by reportedly skirting the shoals of Iran's coast, apparently with Iranian approval. *(WSJ)*
- Feb. 12** A spokesman for Ecopetrol, Colombia's national oil company, announces a suspension of drilling in the Coporo field, which had been hailed as one of the most promising in the country's history (with 700 million to 1.5 billion barrels of oil reserves). A company report indicates difficulties in extracting the oil due to low permeability and low pressure. *(DJ)*
- Feb. 12** The Norwegian Oil Directorate announces it has upgraded its estimate of total extractable oil and natural gas reserves on Norway's continental shelf by 16 percent, to 78.6 billion barrels of oil equivalent. *(DJ)*
- Feb. 12** Petroleos Mexicanos (Pemex) announces plans to invest \$5.92 billion in 1997 to boost Mexico's oil and natural gas production and upgrade operations (a 70 percent increase from 1996). Pemex plans to increase production to 3.08 million barrels per day of crude oil and 4.55 billion cubic feet per day of natural gas. *(HOH)*
- Feb. 13** Exxon files documents with the U.S. District Court in Anchorage, Alaska, in an appeal of that court's \$5.06 billion amended final judgment on the 1989 Exxon Valdez oil spill, which spilled 11 million gallons of crude oil into Prince William Sound. *(DJ)*
- Feb. 13** The Congolese government announces plans to liberalize -- and eventually privatize -- the downstream activities of the country's petroleum sector. To participate, private-sector companies will need to obtain approval from the Congolese government. *(DJ)*
- Feb. 13** Canadian crude oil begins flowing through the new Express Pipeline to Casper, Wyoming. Originating in Hardisty, Alberta, the pipeline interconnects at Casper with the Platte Pipeline to transport oil to Wood River, Illinois and other points in the U.S. Midwest and Southeast. Commercial service on the 172,000-barrel-per-day pipeline is scheduled to start April 1. *(DJ)*

- Feb. 14** Australia's Broken Hill Proprietary receives formal approvals to proceed with the development plan and environmental assessments for developing the first two oil fields in the Timor Sea Zone of Cooperation, an area jointly administered by Indonesia and Australia. The two fields (Elang and Kakatua) contain estimated commercial oil reserves totaling 15 million barrels and are expected to begin producing in the third quarter of 1998. *(DJ)*
- Feb. 17** Australia's Woodside Petroleum announces a significant increase in natural gas and condensate reserves from acreage held by the North-West Shelf venture. As of December 31, 1996, the total proved raw gas ultimate recovery is estimated at 24.4 trillion cubic feet, 60 percent higher than the previous year's estimate, and the proved condensate ultimate recovery is estimated at 690 million barrels, an 18-percent increase. The project is a joint venture shared equally among Woodside and its five partners: Broken Hill Proprietary, Chevron, Royal/Dutch Shell, British Petroleum, and Japan Australia LNG. *(DJ)*
- Feb. 17** The *Middle East Economic Survey* reports that Iraq's State Oil Marketing Organization is increasing crude oil sales to reach its targeted \$1.0 billion in sales for the first 90-day period under the United Nations' oil-for-food plan. The total value of contracts for the first 90 days is reported to be \$800-\$850 million, lower than expected due to lower oil prices (14 percent less than when the sale was announced in mid-December 1996) and the failure of Russian companies to lift contracted volumes. *(DJ)*
- Feb. 17** Raul Baca, Ecuador's new energy minister, suspends the bidding process announced by the previous government to build a new 246,000-barrel-per-day pipeline for heavy crude oil, due to "serious indications of illegalities." *(DJ)*
- Feb. 18** A Colombian public workers' strike, in effect since February 11, ends when the government reaches an agreement with labor representatives, which reportedly includes a promise not to privatize state-held oil and telecommunications companies. The strike, which included 5,000 oil workers, had forced the shutdown of one of the state oil company Ecopetrol's gasoline plants in Barrancabermeja, the country's main hydrocarbons processing center. *(DJ)*
- Feb. 18** Presidents Eduard Shevardnadze of Georgia and Heydar Aliyev of Azerbaijan sign a package of 22 cooperation agreements. They include: 1) an agreement for Azerbaijan to supply natural gas to Georgia; 2) an agreement on an oil pipeline from Azerbaijan across Georgia to the Black Sea port of Batumi; 3) an agreement calling for closer cooperation between the two countries' state oil companies; and 4) an agreement under which Azerbaijan will ship 4.4 million barrels of oil by railroad through Georgia in 1997. *(DJ)*
- Feb. 19** Conoco announces that the United Kingdom Department of Trade and Industry has approved development of the North Sea's Banff oil field, following a 6-month production assessment which maintained a production rate of about 35,000 barrels per day. Discovered in 1991, the Banff field contains recoverable reserves of approximately 60 million barrels of oil (38 to 39 degree API gravity) and around 39 billion cubic feet of associated gas. Start-up is scheduled for June 1998. Conoco holds a 31.7-percent share of the venture and will operate the field. Conoco's partners are Enterprise Oil (27.9 percent); Ranger Oil (26.2 percent); Hardy Exploration & Production (12.4 percent); and Santos Europe (1.8 percent). *(DJ)*
- Feb. 19** Deng Xiaoping, China's retired senior leader and architect of the country's economic reforms, dies at the age of 92. It is generally believed that his death will not have an immediate impact on China's economy, including its oil and petrochemical industries, as the retired leader had not played an active role in recent years. *(DJ)*
- Feb. 20** U.S. Air Force officials announce the deployment of 30 warplanes and more than 1,000 airmen in Qatar to help train the emirate's Air Force and to enforce the no-fly zone over southern Iraq, that was established in 1991 after Iraq crushed a rebellion by Shiite Muslims following the Gulf War. *(DJ)*
- Feb. 21** Cameroon's president Paul Biya officially inaugurates the Ebome offshore oil field, the country's second largest. The field began production on January 12 and is expected to produce up to 12,000 barrels per day. *(DJ)*

- Feb. 21** China's official news service reports that China National Petroleum Corporation expects to produce 88,000 barrels per day of crude oil from Tarim Basin oil fields in the country's northwest in 1997, up from 63,000 barrels per day in 1996. *(DJ)*
- Feb. 24** Romania announces plans to privatize 62 large state companies by the end of 1998, including oil refineries and energy distributors. *(DJ)*
- Feb. 24** Russia oil giant AO Lukoil, citing an audit of its holdings, claims to have the largest proven oil reserves (10.77 billion barrels) of any company in the world. The estimate includes 7.927 billion barrels in Lukoil's main fields in Western Siberia and 2.85 billion barrels in European Russia. The company's natural gas reserves in European Russia are reportedly 1.0878 trillion cubic feet. *(DJ)*
- Feb. 24** Qatar inaugurates the world's largest liquefied natural gas (LNG) exporting facility and formally launches Qatar Liquefied Gas Company, which will have total output capacity of 6 million tons per year of LNG. The facilities are part of a new \$7.2 billion industrial zone which also includes a seaport with a capacity to handle 25-30 million tons of LNG annually. Qatar plans to build more gas liquefaction plants in the area to exploit its natural gas reserves of around 237 trillion cubic feet. *(DJ)*
- Feb. 25** A senior oil official in Qatar reports that Qatar General Petroleum Corporation has approved a \$5.0 billion, 5-year oil drilling program aimed at increasing oil production capacity to around 700,000 barrels per day (currently around 550,000 barrels per day). The goal is to spud 202 offshore wells, including 69 wells at the Al Shaheen oilfield. Plans include opening three new oil blocks and awarding development and production sharing agreements to foreign oil companies. *(DJ)*
- Feb. 25** Azerbaijan's parliament ratifies a \$2 billion oil development project in the Caspian Sea -- the country's fourth major oil exploration contract with foreign companies. The 25-year production-sharing contract, first signed in December 1996, covers development of the Dan Ulduzu and Ashrafi oil fields. Partners are Amoco (30 percent), Unocal (25.5 percent), Itochu (20 percent), Azerbaijan's state oil company (20 percent), and Delta Nimir of Saudi Arabia (4.5 percent). *(DJ)*
- Feb. 25** Amoco signs an agreement with Shell Oil to form a limited partnership called Altura Energy Limited, which will operate the combined oil and natural gas producing assets of the two companies in the greater Permian Basin area of west Texas and southeast New Mexico. The new company (64 percent Amoco, 36 percent Shell), which begins operations on March 1, will be the largest oil producer in Texas and the third largest independent oil producer in the United States, according to Amoco officials. In 1996, Altura's 6,300 wells produced roughly 170,000 barrels per day of oil and 220 million cubic feet per day of natural gas. *(DJ)*
- Feb. 27** Russia's State Property Committee approves a privatization plan for AO Rosneft, the country's last major oil company that is still entirely in state hands. Rosneft was among the last of the integrated oil companies the government formed from once-independent production, refining, and marketing enterprises. In 1996, the company produced 261,000 barrels per day of crude oil and refined 95,000 barrels per day of crude oil. *(DJ)*
- Feb. 28** Turkey's national pipeline company Botas receives 14 bids for the construction of a 162-mile natural gas pipeline from the Iranian border to the Turkish city of Erzurum. Iran will also build a 172-mile natural gas pipeline from its Western city of Tabriz to the Turkish border. Each pipeline is expected to cost \$200 million. Turkey has agreed to buy 10 billion cubic feet of natural gas annually from Iran beginning in 1998, with volume increasing to 33 billion cubic feet annually by 2005. *(DJ)*
- Feb. 28** Russian gas producer and distributor RAO Gazprom agrees to the terms of an 8-year, \$2.5 billion syndicated loan from 19 international banks. The loan, which is backed by revenues from Gazprom's gas exports to Europe, will pay for the construction of Gazprom's planned Yamal-Europe pipeline to western and central Europe. *(DJ)*
- Feb. 28** The United Nations announces the approval of the 35th contract for the sale of crude oil under Iraq's oil-for-food program. The contract is for delivery during the second 90-day period of the sale, which begins March 10. To date, about \$900 million of oil has been contracted for the second 90-day period, during which Iraq is allowed to sell up to \$1 billion worth of crude oil. *(DJ)*

- Mar. 1** Sudan signs contracts with national oil companies from China and Malaysia and a private Canadian company (Arakis) to develop its oil reserves. The contracts also cover construction of a 50,000-barrel-per-day oil refinery in Khartoum and a 900-mile oil pipeline to transport up to 250,000 barrels per day to Port Sudan on the Red Sea. Sudan hopes to increase crude oil output to 150,000 barrels per day by mid-1999 (current production is estimated between 10,000 and 15,000 barrels per day). A civil war that erupted in 1983 hampered previous oil industry development in Sudan, which currently consumes about 50,000 barrels per day of refined products. *(DJ)*
- Mar. 3** In its regular 60-day review, the United Nations Security Council votes to maintain sanctions on Iraq. This is the 36th review since sanctions were first imposed in 1990. *(DJ)*
- Mar. 3** Lyondell Petrochemical and Citgo Petroleum announce the completion of a \$1.1 billion upgrade of their joint venture LCR refinery in Houston. The upgrade allows the refinery to process more than 215,000 barrels per day of very heavy crude oil (17 degree API gravity) from Venezuela and to produce higher valued products such as reformulated gasoline and low-sulfur diesel. Affiliates of Venezuela's state oil company (Citgo's parent company) supply up to 230,000 barrels per day of crude oil under a long-term contract and Citgo purchases and markets most of the refined product output. For Venezuela, the joint venture refinery secures guaranteed long-term markets for its heavy crude oil. *(DJ)*
- Mar. 3** A Venezuelan Navy spokesman announces that a major oil spill (25,000-50,000 barrels) off Venezuela's western coast will take at least one month to clean up. The spill occurred when the Greek tanker Nissos Amorgos ran aground February 28 and began leaking its cargo of 476,000 barrels of heavy crude oil. Maraven, a unit of state-owned oil company Petroleos de Venezuela, reports that the tanker was leased by Italy-based oil companies Agip. *(DJ)*
- Mar. 3** Mexico's state oil company Petroleos Mexicanos (Pemex) establishes two new petrochemical subsidiaries covering the Cangrejera and Morelos complexes. Establishment of subsidiaries is the first step in the process of privatizing Mexico's petrochemical industry. To date, Pemex has established subsidiaries for 6 of its 10 petrochemical complexes (subsidiaries for Camargo, Cosoleacaque, Escolin and Tula were announced in late January). Competitive bidding for the sale of 49 percent of each subsidiary is scheduled to begin in the second half of 1997. *(DJ)*
- Mar. 4** Mexico's state oil company Petroleos Mexicanos (Pemex) reports the Campeche Sound (in the Gulf of Mexico) has hydrocarbon potential of 74 billion barrels of crude petroleum equivalent, proven reserves of 17.1 billion barrels, and cumulative production of 11.8 billion barrels. Pemex plans to publish estimates for Mexico's Southern Region in 1998 and its Northern Region in 1999. At the end of 1995, Pemex claimed that proven hydrocarbon reserves (crude oil and natural gas) for all of Mexico stood at 62.06 billion barrels of crude petroleum equivalent. *(DJ)*
- Mar. 5** The United Nations approves the 36th contract for the sale of Iraqi oil and announces that the \$1.07 billion limit for the first 90-day period of Iraq's oil-for-food program has been "more or less met." The \$1.07 billion includes \$70 million in pipeline fees to Turkey. *(DJ)*
- Mar. 6** The North Sea's Captain Field, operated by a unit of Texaco, begins production. Located about 90 miles northeast of Aberdeen, Scotland, the field holds estimated reserves of 350 million barrels of oil and 53 billion cubic feet of natural gas. It is expected to reach peak production of 67,000 barrels per day by mid-1997. *(WSJ)*
- Mar. 6** The Minerals Management Service of the U.S. Department of Interior reports a record-breaking sale of offshore oil and natural gas leases in the Central Gulf of Mexico. The sale attracted more than \$824 million in high bids from 81 companies (compared with last year's \$520.9 million in high bids from 78 companies). The high bid on each block must be evaluated to ensure fair market value before a lease is awarded; each block is approximately nine square miles. *(DJ)*
- Mar. 7** Indonesia's state-owned oil and gas company Pertamina announces that it has secured a \$1.13 billion syndicated loan to finance the development of its eighth liquefied natural gas (LNG) plant, to be located in Bontang, East Kalimantan. The plant, with annual production capacity of 2.95 million tons, is scheduled to begin operating at the end of 1999 and will supply LNG to the Korean Gas Company and the Chinese Petroleum Corporation under a 20-year contract. *(DJ)*
- Mar. 7** Spain's Cabinet of Ministers approves the public offering of the government's final 10 percent stake in Repsol, the country's largest oil and energy group. The sale is expected to begin in April. The government has been reducing its stake in stages since privatization began in 1989. *(DJ)*

- Mar. 8** Qatar's al-Khaleej offshore oilfield begins production at an initial rate of 20,000 barrels per day, which will gradually increase to around 30,000 per day by November 1997. A consortium including France's Elf Aquitaine and Italy's Agip are developing the field under a production-sharing agreement with Qatar General Petroleum Corporation. Qatar plans to increase its oil output to around 700,000 barrels per day by 2000, from 550,000 barrels per day currently. *(DJ)*
- Mar. 10** Exxon announces a 'significant discovery' in the Gulf of Mexico, called Hoover, which may contain developable reserves of more than 100 million barrels of oil equivalent. *(DJ)*
- Mar. 11** Turkey's Minister of Energy Recai Kutan reports that Turkey will go ahead with its plans to import Iranian natural gas, despite objections from the United States. Turkey plans to begin operating gas power plants by 2000, when the country's annual demand for natural gas is projected to exceed 950 billion cubic feet. *(DJ)*
- Mar. 11** Royal Dutch/Shell begins drilling its first appraisal well at Peru's giant Camisea field, now thought to be the largest natural gas field in South America. The field, discovered in 1980, could contain as much as 11 trillion cubic feet of natural gas and 600 million barrels of condensate. *(DJ)*
- Mar. 12** By a vote of 99 to 1, Federico Peña is confirmed by the Senate and later sworn in as the eighth U.S. Secretary of Energy. *(DJ)*
- Mar. 12** Turkey's BOTAS pipeline company reports that it has received 29.1 million barrels of oil from Iraq since December 14, 1996 at its Yumurtalik pumping station on the Iraq-Turkey pipeline. 8.4 million barrels were used for domestic consumption and 20.7 million barrels were shipped out of the country aboard 27 tankers. *(DJ)*
- Mar. 13** In his annual state-of-the-union address to Congress, Venezuelan President Rafael Caldera reiterates his administration's determination not to use oil windfall tax revenue on current spending and notes that his administration has created a special account for these revenues in the Central Bank of Venezuela. Separately, Venezuela's Finance Ministry reports the country produced approximately 3.154 million barrels of oil per day (and exported 2.723 million barrels per day) in 1996 - well above its current OPEC production quota of 2.359 million barrels per day. The government expects both production and exports to increase in 1997 (to 3.25 million barrels per day and 2.876 million barrels per day, respectively). *(DJ)*
- Mar. 14** Officials at Japan's Ministry of International Trade and Industry predict a slowdown in the country's petroleum product demand growth over the next 5 years, to an average annual rate of less than 1 percent (compared with 2.1 percent annually over the past 5 years). Declines in demand for the electric power sector (as new coal, nuclear, and liquefied natural gas plants come on stream) are expected to partially offset continuing increases in other oil-consuming sectors. *(DJ)*
- Mar. 14** Following the signing of a final agreement on the maritime boundary between Australia and Indonesia, Australia's Resources Minister Warwick Parer announces that his country will move to release exploration blocks for petroleum exploration at the earliest opportunity. He cites recent petroleum discoveries in the Timor Sea, which previously had not been considered for petroleum exploration due to uncertainty over which nation had jurisdiction. *(DJ)*
- Mar. 14** The prime ministers of three former Soviet republics in Central Asia -- Kyrgyzstan, Kazakhstan and Uzbekistan -- sign a series of agreements aimed at forming an economic union. *(DJ)*
- Mar. 15** Vietnam accuses China of violating its waters in the South China Sea and demands the immediate removal of a Chinese exploratory oil rig that allegedly has been operating between the Vietnamese coast and China's Hainan Island since the beginning of Mar. *(DJ)*
- Mar. 15** Saudi Arabian Oil Company (Saudi Aramco) reports that production from the Shaybah oil field will begin in June 1998, earlier than its initial plan that called for production of 500,000 barrels per day by December 1999. The field is estimated to contain 7 billion barrels of premium-grade extra light crude oil with 40-42 degree API gravity. The \$2.5 billion development program for Shaybah is the largest undertaking by Aramco in recent years. *(DJ)*
- Mar. 17** Mexico President Ernesto Zedillo formally presents the country's 1997 energy sector program, under which the government will invest 69 billion pesos (about \$8.7 billion at current exchange rates). This represents an increase of 41

percent in real terms over the amount invested in 1996 and is the highest level of investment in real terms since 1990. The president also reiterates his support for private sector participation -- but only up to a point. Mexico has invited private companies to participate in the transport and distribution of natural gas, electricity generation, and minority ownership in the petrochemicals industry, but has refused to open up its oil production to private investors. *(DJ)*

- Mar. 17** Ecuador authorizes Arco to extract oil from the Villano field in block 10 of the country's Amazon region. Initial production is expected to be 30,000 barrels per day of oil. Arco also plans to build an 80,000-barrel-per-day pipeline that will connect the field with Ecuador's main cross-country oil pipeline by the second quarter of 1999. *(DJ)*
- Mar. 18** Independent oil experts suggest that Mexico may have overstated the size of its petroleum reserves by as much as 30 percent since the 1970s, and indicate that Mexico's latest reserves estimates are more in line with outside estimates such as the U.S. Central Intelligence Agency's. This is based on an analysis of a statistical report, released earlier this month. In the report, Mexico reduced its estimates of proven reserves in the Bay of Campeche to 15 billion barrels of crude oil and 9.7 billion cubic feet of natural gas (from previous estimates of 23.5 billion barrels of crude oil and 11.6 billion cubic feet of natural gas in 1996). The report was the first report on Mexican reserves to be audited by independent experts. The Bay of Campeche currently accounts for about 80 percent of Mexico's oil and natural gas production. Reserve studies of other major petroleum areas (including the Chincontepec and Tabasco-Chiapas fields) are not expected to be completed until 1999. *(NYT)*
- Mar. 18** Mobil announces the start-up of oil production from the second production facility on the Wandoo field (the Wandoo B platform) on Australia's North-West Shelf, which will boost the field's production to 40,000 barrels per day by May 1997 (current production is 8,000 barrels per day). Australia's Bureau of Agricultural and Resource Economics reports several other projects are expected to approach full production capacity in the next fiscal (July 1997- June 1998), boosting the country's total production by 5.7 percent. New production will be concentrated in the Gippsland Basin offshore southeastern Australia. Other projects expected to come on stream after 1998 include the Elang/Kakatua and the Laminaria/Corallina fields in the Timor Sea, which together could add a further 170,000 barrels per day of production. *(DJ)*
- Mar. 18** Iraq grants Russia most favored nation status to receive Iraqi oil exports in exchange for humanitarian goods. Of the first 37 contracts approved by the United Nations in the oil-for-food sale, 7 went to Russian companies representing almost 20 percent of the volume of oil in the sale. *(DJ)*
- Mar. 18** The United Nations approves the 38th and 39th contracts for the sale of Iraqi oil under Resolution 986, the Iraqi oil-for-food sale. This brings the total dollar value of contracts approved to date to about \$1.9 billion of oil (out of a total value of about \$2.14 billion allowed over the first 6 months of the oil sale period). According to a Western diplomat, Iraq had shipped 55.9 million barrels of crude oil worth about \$1.11 billion under the agreement through Mar. 14, including 4.3 million barrels worth about \$77.5 million since the second 90-day period began on Mar. 10. Most of the oil (about 63 percent) has been shipped through the Iraq-Turkey pipeline from Kirkuk to Yumurtalik. *(DJ)*
- Mar. 18** An explosion damages Colombia's Cano Limon-Covenas oil pipeline near the Venezuelan border, the second attack on the country's oil facilities in less than two days. British Petroleum asks Colombian President Ernesto Samper to beef up security near the Cusiana field, the country's largest. Earlier this month, Colombia's state oil company Ecopetrol reported that the Cano Limon-Covenas pipeline was attacked 12 times in January and February, and the Vasconia-Covenas pipeline was attacked once in February. The attackers reportedly are members of the National Liberation Army, a pro-Marxist group that opposes the government's oil policies. *(DJ)*
- Mar. 18** India's oil minister T.R. Baalu announces a new oil policy aimed at increasing investment in the country's oil sector. The new policy allows -- for the first time -- oil exploration ventures that are 100-percent private and foreign-owned. The previous policy required companies to form joint ventures that gave state-run partners up to 40-percent equity when they bid for acreage. *(DJ)*
- Mar. 19** The Czech government announces a 20-year agreement to purchase 1.9 trillion cubic feet of natural gas from a Norwegian consortium of natural gas exporters (Norsk Hydro, Saga Petroleum, and Statoil). Shipments will begin May 1 at the rate of 49 million cubic feet per day, increasing to 290 million cubic feet per day (106 billion cubic feet annually). Currently, Russia's Gazprom is the only supplier of natural gas to the Czech Republic. The contract represents the first time

Norwegian natural gas will enter a market in central Europe. The agreement is part of the Czech government's strategy to diversify its imports of natural gas. *(DJ)*

- Mar. 19** Texaco announces that it has received approval from the United Kingdom (U.K.) Department of Trade and Industry to develop the Galley oil and gas field in Block 15/23a of the U.K. North Sea. Initial production will begin in the first quarter of 1998 and reach 43,000 barrels per day of oil equivalent. *(DJ)*
- Mar. 20** China's official news service reports that China hopes to build an annual natural gas production base of about 1.1 trillion cubic feet by 2005 (compared with current production of about 600 billion cubic feet). China also hopes to double its known onshore reserves of natural gas by 2000 (to about 70.6 trillion cubic feet). Exploration and development work will focus on gas-rich regions including: the Shaan-Gan-Ning Basin in central-western China (with proven natural gas reserves currently estimated at about 8.1 trillion cubic feet); the Tarim Basin in the far west (with estimated proven reserves of about 5.6 trillion cubic feet); and Sichuan province in the southwest (with estimated proven reserves of 7.1 trillion cubic feet). In addition, another 1.8 trillion cubic feet of natural gas was recently identified in the eastern part of Qinghai province, just east of Xinjiang. *(DJ)*
- Mar. 20** Yemen's Oil Minister Mohammed Said al-Attar reports that he expects Yemen's 1998 oil output to rise to 420,000 barrels per day from a current average of 360,000 barrels per day. *(REUT)*
- Mar. 20** Colombia's Mines and Energy Minister Rodrigo Villamizar reports that his country's oil output will top 800,000 barrels per day by the end of 1997. *(REUT)*
- Mar. 21** Great Lakes Gas Transmission announces plans to double its capacity to transport Canadian natural gas to pipeline interconnections in the United States no later than the winter of 1999-2000, at a cost of \$2.5 billion. The project, which involves about 1,000 miles of pipeline and associated gas compression facilities along the entire length of the company's pipeline system, will allow shipment of an additional 2 billion cubic feet per day of natural gas primarily to markets in the northeastern United States and eastern Canada. *(WSJ)*
- Mar. 22** Iraqi Oil Minister Amir Rashid announces the establishment of a new Iraq/Russian oil company that will work independently of Iraq's national oil company, and reports that other agreements would be signed with France and China. Russia and France were Iraq's main arms suppliers before the Gulf War. *(DJ)*
- Mar. 24** Royal Dutch/Shell reports that local protesters have detained 127 of its staff operating in western Nigeria and taken over six flow stations, disrupting 100,000 barrels per day of crude oil production at six fields. The company plans to maintain oil production at approximately 900,000 barrels per day by increasing production from other fields in the eastern region. *(DJ)*
- Mar. 24** Presidents Heydar Aliyev of Azerbaijan and Leonid Kuchma of Ukraine sign 17 economic, cultural, and military cooperation agreements, including a memorandum on cooperation in the oil and gas industries under which Ukraine will build platforms for a future Caspian Sea drilling project. *(DJ)*
- Mar. 25** The United Arab Emirates appoints Obeid bin Saif al-Nasiri oil minister, replacing Rakadh Bin Salem who had served as acting oil minister since May 1995. *(DJ)*
- Mar. 27** Trinidad and Tobago signs a production sharing agreement with British Gas, Agip, and Deminex for the North Coast Marine Area, a new hydrocarbon province off Trinidad's northern coast. The consortium plans to drill two exploration wells in the next 6 months. The area includes four undeveloped gas fields (Hibiscus, Orchid, Iris and Poinsettia) with potential reserves of more than 3 trillion cubic feet of natural gas. *(DJ)*
- Mar. 27** Shell reports it is losing 210,000 barrels per day of production due to protests at its oil installations in Nigeria (twice as much as originally estimated) but that exports are not being affected because the company has large crude oil stockpiles in the country. *(DJ)*
- Mar. 30** The state-owned Dubai Natural Gas Company opens a new methyl tertiary butyl ether (MTBE) plant with a capacity of 500,000 metric tons a year. The company's chairman, Hussain Alsayegh, reports that most of the output from the \$250 million facility will be exported to the United States. *(DJ)*

- Apr. 1** A Shell spokesman confirms the company will declare *force majeure* at its Nigerian Bonny terminal due to local protests that disrupted 210,000 barrels per day of the company's oil production. Although the protests have ended and production is returning to normal, the backlog is temporarily delaying loadings by 3 days. (DJ)
- Apr. 1** Enron begins producing natural gas from the Tapti field offshore India. Production is expected to reach 150 million cubic feet per day by the end of 1997 and continue for 25 years. (DJ)
- Apr. 2** The U.S. Department of Energy announces plans to offer two types of interest in the sale of the government portion of the giant Elk Hills oil and gas field near Bakersfield, California: a single "operating working interest" (representing about three quarters of the government's interest) and separate "non-operating working interests" (each representing 2 percent of the government's interests). The sale, scheduled to be completed by February 10, 1998, is one of the largest divestitures of federal property in the nation's history. Current ownership is divided between the U.S. government and Chevron. (DOE)
- Apr. 2** The Potential Gas Committee of the American Gas Association estimates that 1996 U.S. natural gas reserves had risen 6 percent from 1994 -- to 1,039 trillion cubic feet (representing about 55 times the current yearly U.S. production levels). The estimate includes: 165.1 trillion cubic feet of proven gas reserves as estimated by the U.S. Department of Energy; 190.9 trillion cubic feet of probable gas reserves from current fields; 240.7 trillion cubic feet of possible gas reserves from new fields; 309.8 trillion cubic feet of speculative gas reserves from frontier fields; 13.4 trillion cubic feet of probable coalbed-methane reserves; 36.3 trillion cubic feet of possible coalbed-methane reserves; and 82.6 trillion cubic feet of speculative coalbed-methane reserves. The committee also presents a higher estimate (1,232 trillion cubic feet) calculated using the statistically aggregated mean values for reserves rather than its traditional methodology. (DJ)
- Apr. 2** Esso Production Malaysia announces the start-up of production and sales from the Lawit gas field (150 miles offshore Malaysia), whose production is expected to reach about 450 million cubic feet per day upon completion of development drilling later this year. The company plans to install compression facilities in 1998 to achieve design capacity of 700 million cubic feet a day. (DJ)
- Apr. 3** Colombia Gas System announces plans to build a \$600 million natural gas pipeline to carry Canadian natural gas to U.S. markets in the northeast. The 380-mile Millennium Pipeline would carry at least 650 million cubic feet per day beginning in early 1999. (NYT)
- Apr. 3** TransCanada PipeLines and Northern States Power Co. announce plans to build a \$1 billion pipeline to pump natural gas from Alberta, Canada to the U.S. Midwest. The 800-mile Viking Voyageur Gas Transmission project would carry up to 1.2 billion cubic feet per day of natural gas through Minnesota, Wisconsin, and Illinois. (WSJ)
- Apr. 7** Express Pipeline begins shipments of Canadian crude oil from Hardisty, Alberta to the Platte PipeLine in Casper, Wyoming. The 785-mile pipeline gives Canadian producers access to U.S. markets in the Rocky Mountain and Midwest regions. Initial design capacity is 172,000 barrels per day. (DJ)
- Apr. 8** Nigeria's military government approves the first gasoline imports since September 1996, in response to a 2-week-old fuels shortage. A dusk-to-dawn curfew in response to communal troubles near the country's Warri refinery is impeding fuel deliveries. (WP)
- Apr. 8** Turkmenistan President Saparmurat Niyazov names Deputy Prime Minister Batyr Sardjaev as the new oil and gas minister. (REUT)
- Apr. 9** Romanian Prime Minister Victor Ciorbea announces plans to close 10 large state companies in the next few weeks, including two oil refineries -- Petromidia Navodari in the Black Sea port of Constanza and the Darmanesti Rafinaria in Bacau. The closures are expected to reduce 1997 refining capacity by about 47 percent, to about 363,000 barrels per day. (DJ)
- Apr. 11** China and Vietnam conclude three days of expert-level talks with no resolution over rights to potentially oil-rich waters claimed by both countries in the South China Sea. Earlier in the week, a Chinese oil rig left an offshore area between Vietnam's north coast and China's Hainan Island after completing one month of exploration and drilling. (DJ)

- Apr. 14** Australia's minister for resources and energy, Warwick Parer, announces the release of 34 new offshore oil and gas exploration areas -- including 11 areas adjacent to the Zone of Cooperation between Australia and Indonesia in the Timor Sea and 6 areas in the Browse Basin offshore Western Australia. The minister notes that this action "is in keeping with the government's strategy to encourage more intensive exploration in Australia's vast continental shelf." *(DJ)*
- Apr. 14** An Iraqi Oil Ministry official reports that Iraq expects to earn more than \$80 billion from its contract with Russia for the development of the West Qurna oil field in southern Iraq. The contract, which was initialed in March and approved by Iraq's National Assembly on April 13, calls for 560 wells which will produce 4.4 billion barrels over 23 years. According to the official, the part of the field being developed with Russia has 11.5 billion barrels in reserves and the entire West Qurna field has reserves of 38 billion barrels. The official states that production will begin "soon" (initially about 250,000 barrels per day, increasing to 600,000 barrels per day). *(DJ)*
- Apr. 17** Royal Dutch/Shell Group estimates Nigeria's proven oil reserves rose to 24 billion barrels at the end of 1996 (8.3 percent higher than the 22 billion barrels estimated in 1995). The Group also reports that Nigerian production could reach 3 million barrels per day by 2002 (and 4 million barrels per day by 2010) with an annual investment of \$4-\$6 billion *(DJ)*
- Apr. 18** An annual ranking of the world's top oil companies by the Price Waterhouse World Energy Group and Petroleum Intelligence Weekly indicates state-owned oil companies continue to dominate the upstream sector of the world oil industry and are beginning to catch up to the major publicly traded companies in the downstream sector. Based on 1995 data, state-owned companies accounted for 17 of the top 20 companies in terms of oil reserves, 8 of the top 10 companies in terms of oil production, and 4 of the top 10 companies in terms of refining capacity. However, 4 state-owned companies (Petroleos de Venezuela S.A., Saudi Aramco, Indonesia's Pertamina, and Kuwait's KPC) increased their refining capacity by more than 1 million barrels per day in the 1993-1995 period, accounting for about half of the net global increase in refining capacity during that time. *(DJ)*
- Apr. 19** A senior Iranian oil industry official reports that Iran and Russia signed three agreements on cooperation in the oil and gas industries: 1) an agreement whereby Russia's Gazprom would invest directly in joint operations in the development of Iranian gas fields, production capacity, refining, liquidation, and transport of natural gas and associated extraction industries in the Persian Gulf and other areas; 2) an agreement between a newly formed Russian consortium and the National Iranian Oil company (NIOC) for drilling in Iran's continental shelf; and 3) an agreement between NIOC and the oil company of Tatarstan for cooperation in pre-extraction and post-extraction industries. *(DJ)*
- Apr. 21** Occidental Petroleum reports that Colombia's main oil pipeline (Cano Limon-Covenas) was bombed 21 times in the first quarter of 1997 (compared with a total of 45 attacks in all of 1996) and that the leftist National Liberation Army (ELN) is growing increasingly active in the region near its operations. Occidental operates the Cano Limon field in partnership with Ecopetrol (Colombia's national oil company) and Shell. As a result of the repeated attacks, Occidental plans to spend \$20 million on security in 1997, including a cooperation contract with the Colombian armed forces. *(DJ)*
- Apr. 22** U.S. Secretary of State Madeline Albright announces sanctions to bar new U.S. investment in Burma (also known as Myanmar) because of the continued oppression of opposition activists by the country's military rulers. About 20 U.S. companies have direct investment or employees in Burma, and the eight largest investors are oil or mining companies: Atlantic Richfield, Baker Hughes, East Asia Gold, Halliburton, McDermott International, Newmont Mining, Texaco, and Unocal. U.S. companies have a total of \$240 million in investment in Burma. Unocal, the single largest investor, is a partner in a \$1.2 billion joint venture led by Total of France to develop several offshore blocks with significant natural gas reserves. *(DJ)*
- Apr. 23** Pakistan's government approves a privatization plan for 13 state-owned companies (including its electrical and natural gas holdings) over the next 6 months. *(DJ)*
- Apr. 24** Russian President Boris Yeltsin names reformist First Deputy Prime Minister Boris Nemtsov to the additional post of minister of fuel and energy. Nemtsov, who has called for radical liberalization of the energy sector, replaces Pyotr Rodionov, who resigned in March. *(DJ)*
- Apr. 24** Norwegian and British authorities agree on a natural gas treaty covering the Frigg pipeline running from the North Sea to St. Fergus in northern Scotland, reopening the way for exports of Norwegian gas to the United Kingdom and Ireland.

Disagreement between the two governments on the use of the pipeline had previously stopped Norway from making new gas sales. The Frigg pipeline currently transports 230 billion cubic feet of gas per year, but capacity can be boosted to 424 billion cubic feet per year. In addition, the two governments reached a framework agreement on the use of connector pipelines to facilitate the use of new oil and gas pipelines which tie installations together on both sides of the British and Norwegian gas sectors. (DJ)

- Apr. 25** Shell Nigeria declares *force majeure* on loadings of Forcados crude oil, effective April 29-May 20, due to the loss of about 90,000 barrels per day from the usual daily production of 450,000-460,000 barrels per day of Forcados crude oil production. The disruption is the result of escalation in fighting between local communities in Nigeria's Warri region. (DJ)
- Apr. 25** Russian President Boris Yeltsin signs a decree in support of the Caspian Pipeline Consortium (CPC). The decree gives CPC a 16-year special exemption from rules mandating that it must convert foreign-exchange revenues into rubles as part of a package of support for the venture -- on condition that the company reinvests its revenues in the project. The CPC is a \$2 billion joint project of the governments of Russia, Kazakstan, and Oman and a group of private oil companies. It was set up to build a 932-mile pipeline (planned capacity is 1.5 million barrels per day) from Kazakh oilfields on the eastern shore of the Caspian Sea across southern Russia to an export terminal near the Black Sea port of Novorossisk. (DJ)
- Apr. 28** The *Middle East Economic Survey* reports that Iraq's State Oil Marketing Organization (SOMO) is continuing to hold negotiations with international oil companies, despite the fact that the 50 sales contracts approved so far have reached the \$2 billion target for the first 180 days under the oil-for-food agreement with the United Nations. According to United Nations statistics, Iraq has sold 121.164 million barrels (averaging 673,000 barrels per day for the 6-month period ending June 7) worth a projected \$2.142 billion (including \$142 million in pipeline fees for Turkey). (DJ)
- Apr. 28** Russian President Boris Yeltsin signs a decree ordering sweeping reforms in the country's natural gas, electric, rail and telecommunications sectors aimed at reducing rates and stimulating investment. At a news conference announcing the decree, First Deputy Prime Minister Boris Nemtsov explains that the state will retain control over these key natural monopolies and will not break up their national supply networks. With respect to natural gas, the government will retain its 40-percent equity stake in the monopoly RAO Gazprom indefinitely and work to strengthen Gazprom's international position and boost its share price. Gazprom will lose its monopoly right to develop new gas deposits (which instead will be allocated at tenders open to competitors), will offer equal access and competitive rates on its national pipeline network to all producers (giving oil and other companies the opportunity to compete in the gas business), and will be required to ensure transparency of its finances with detailed annual financial reports. (DJ)
- Apr. 28** Turkey signs a \$12 billion agreement to boost its imports of Russian natural gas (from the current level of 212 billion cubic feet) by 18 billion cubic feet in 1997, 71 billion cubic feet in 1998, 106 billion cubic feet in 1999, and 159 billion cubic feet in 2000. By the year 2001, Turkey's total gas purchases from Russia will reach 494 billion cubic feet per year. The gas will be shipped through the existing pipeline, which will be expanded by two new joint ventures which will invest \$1.5 billion to add compressor stations and new stretches of pipe to double the capacity. (DJ)
- Apr. 29** The U.S. Department of Energy begins soliciting public comment regarding the future of the Strategic Petroleum Reserve (SPR), which will be incorporated into a Statement of Administration Policy on the SPR to be issued in September 1997. (DJ)
- Apr. 29** In a report to Congress, the U.S. State Department estimates that the Caspian Sea basin contains proven recoverable oil reserves of 15.6 billion barrels and possible reserves of an additional 163 billion barrels. This contrasts with more generally used estimates of 27.5 billion barrels of proven oil reserves and an additional 40-60 billion barrels of estimated reserves). According to the report, Kazakstan has the largest reserves in the region (10 billion barrels proven, 85 billion barrels possible), followed by Turkmenistan (1.5 billion barrels proven, 32 billion barrels possible), Azerbaijan (3.6 billion barrels proven, 27 billion barrels possible), Iran (no proven reserves, 12 billion barrels possible) and Russia (no proven reserves, 5 billion barrels possible). (WSJ)
- Apr. 30** For the fourth year in a row, three Organization of Petroleum Exporting Countries (Iran, Iraq, and Libya) are named on the U.S. State Department's list of the top sponsors of international terrorism (other countries on the list are Cuba, North Korea, Sudan and Syria). Appearance on the list automatically triggers U.S. government sanctions, including: a ban on

military sales and aid; controls over export of dual-use items that can be used for either military or civilian purposes; prohibitions on economic aid, and miscellaneous financial and other sanctions. (DJ)

- Apr. 30** Shell Nigeria reports that four out of the five flow stations that had shut in 80,000 barrels per day of Forcados crude oil production in the Western Delta area of Nigeria since April 25 have been re-opened. The Warri River flow station is the only one that is still shut in. (DJ)
- May 1** In its regular 60-day review, the United Nations Security Council votes to maintain sanctions on Iraq. This is the 37th review since sanctions were first imposed in 1990. This vote, however, does not affect the humanitarian oil sales. (DJ)
- May 2** Shell Nigeria announces the release of 15 contractor staff held hostage for 12 days by a local community in Nigeria's Western Delta and the reopening of flow stations that had been disrupted by unrelated civil unrest in the area since April 25. The company expects output of Forcados crude oil, which initially was disrupted by 80,000 barrels per day, to return to normal within a few days. (DJ)
- May 2** South Korea Development Corporation buys a 15-percent stake in the North Sea's Captain field from Texaco. The purchase will provide a steady supply of high-sulfur crude oil that will be refined into fuel oil for Korean power generation and will enable the country to develop a strategic fuel reserve. (NYT)
- May 2** British Petroleum announces a new oil discovery, the Liberty field, off the north coast of Alaska. Recoverable reserves are estimated at 120 million barrels. (NYT)
- May 4** Chinese deputy Vice Premier for trade Li Lanqing and Iranian vice-president Mohammad Hashemi sign a new trade protocol under which exports of Iranian crude oil to China would be increased from the current level of 70,000 barrels per day to 100,000 barrels per day (200,000 barrels per day by 1999). China also accepts an offer from Iran to equip a Chinese oil refinery to handle high-sulfur Iranian crude oil. (DJ)
- May 5** The New York Mercantile Exchange (NYMEX) adds Colombia's Cusiana crude oil as a deliverable for its light, sweet crude oil futures contract, effective with the July 1997 contract. (DJ)
- May 6** The director of exploration and production for Petrobras, Brazil's state-owned oil company, reports that the company plans to spend \$3 billion per year to increase its production to 1.6 million barrels per day by 2001 (from the current level of 900,000 barrels per day and a projected level of 1.2 million barrels per day in 1998). Editor's note: The Energy Information Administration estimates that Brazil produced 840,000 barrels per day of crude oil and 35,000 barrels per day of natural gas plant liquids in March 1997. (DJ)
- May 7** Mexico's energy regulatory commission (CRE) awards the concession to distribute natural gas in the northern state of Sonora to a U.S.-Mexico consortium, including U.S. company KN Energy. (DJ)
- May 8** Elf Petroleum Nigeria begins construction of its Obite Gas Project, which will supply 253 million cubic feet per day of natural gas to the Nigeria liquefied natural gas plant being constructed at Bonny. The project, which is scheduled for completion in 1999, also involves the construction of an 87-mile pipeline to Bonny and production of about 18,000 barrels per day of condensates. (DJ)
- May 9** Colombia's national oil company, Ecopetrol, reports that guerrillas have attacked the country's largest oil pipeline (Cano Limon-Covenas) 24 times so far in 1997, spilling a total of 78,000 barrels of crude oil and reducing production by 500,000 barrels. Colombian armed forces blame the National Liberation Army for 460 separate attacks since the pipeline started operating in 1986. (DJ)
- May 10** General Binford Peay, head of the U.S. Central Command, warns that U.S. forces will respond if Iran tries to make good on a threat to close the Persian Gulf's Strait of Hormuz if it felt threatened by the United States. Iran issued the threat earlier in May, following reports that U.S. officials were considering missile strikes against Iran if it was found responsible for a truck bombing that killed 19 American servicemen in Saudi Arabia in 1996. In addition, Iran held military exercises in the Gulf to demonstrate its naval capability. The United States has 18,550 Air Force, Army, Navy, and Marine personnel on 14 ships or at installations in Saudi Arabia, Kuwait, Qatar, and Bahrain. The Strait of Hormuz is the gateway to about one-fifth of the world's oil supply. (DJ)

- May 10** Qatar Liquefied Gas Company (Qatargas) signs a contract with Spain's Enagas for the sale of 420,000 tons of liquefied natural gas (LNG) -- 32,300 tons per month for delivery over a 13-month period, beginning September 1997. This will be the company's first LNG sale to the European market. Current capacity is 6 million tons of LNG per year, with most of the output committed to Japan's Chubu Electric Power Company under a 25-year contract. *(DJ)*
- May 10** Turkey and Iraq sign a preliminary agreement to build an 807-mile pipeline to carry Iraqi natural gas to Turkey's Mediterranean port of Ceyhan. The project must secure \$2.5 billion in financing prior to implementation. *(DJ)*
- May 10** Libya's oil minister reports that his country has lost about \$3 billion in oil revenues since the United Nations imposed sanctions in 1992. The sanctions (which limit diplomatic contacts, ban arms sales, and prohibit air traffic in and out of Libya) are intended to force the surrender of two Libyan suspects wanted in connection with the 1988 bombing of Pan Am Flight 103 over Lockerbie, Scotland, in which 270 people were killed. Editor's note: In November 1993, United Nations sanctions were extended to include a freeze on Libyan funds overseas, a ban on the sale of equipment for oil and gas export terminals and refineries, and tougher restrictions on civil aviation and the supply of arms. *(DJ)*
- May 13** Russian President Boris Yeltsin signs a decree substantially increasing the state's role in managing natural gas giant RAO Gazprom. The order names First Deputy Prime Minister Boris Nemtsov to head a special commission charged with setting government policy at the 40-percent state-owned company (Russia's largest) and calls on the government to draft new regulations on foreign investment in Gazprom shares. *(DJ)*
- May 14** Yemen's oil minister, Mohammed al-Attar, reports that his country's oil production capacity is expected to increase to 500,000-550,000 barrels per day by 2000. Editor's note: The Energy Information Administration estimates that Yemen produced 410,000 barrels per day of crude oil in March 1997. *(DJ)*
- May 14** The leaders of Iran, Turkey, and Turkmenistan sign an agreement under which 1.059 trillion cubic feet per year of Turkmen natural gas would be exported to Turkey, via Iran, for shipment to European markets. *(DJ)*
- May 15** Turkish Energy Minister Recai Kutan reports that Turkey's state pipeline company, Botas, has started construction work for the first phase of a pipeline that will transport Iranian gas into Turkey. He adds that Iran has also begun building its part of the pipeline under the \$20 billion, 22-year gas project announced by the two countries in August 1996. *(DJ)*
- May 15** The managing director of Shell Exploration and Production Namibia reports that the company has applied to Namibia's Ministry of Mines and Energy to have the Kudu gas field declared an official petroleum field. This marks the first step in developing the field, located off the country's southern Atlantic coast, which is believed to contain sufficient natural gas to power a planned 750-megawatt power plant in Namibia for at least 20 years. *(DJ)*
- May 15** The Canadian Gas Potential Committee estimates that Canada has 570 trillion cubic feet of discovered and undiscovered natural gas in conventional and unconventional reservoirs (including coalbed methane, tight gas reservoirs, and shale gas). The reserves represent approximately 50 years of supply from conventional sources and another 50 years from unconventional sources. Most of the natural gas is located in the Western Canada Sedimentary Basin. *(DJ)*
- May 15** Tosco Corporation announces the reopening of its Marcus Hook refinery in Trainer, Pennsylvania, after a \$100 million refurbishment program. Tosco bought the refinery in 1995 from British Petroleum, and shut it down in January 1996 after failing to reach an agreement with union workers over a new labor contract. In 1996, Tosco said it was cutting the refinery's crude processing capacity to 150,000 barrels per day from the previous level of 190,000 barrels per day. *(DJ)*
- May 16** A final agreement creating the Caspian Pipeline Consortium (CPC) is signed by project participants: Russia (24 percent), Kazakstan (19 percent), Chevron (15 percent), AO Lukoil/Arco (12.5 percent), Mobil (7.5 percent), AO Rosneft/Shell (7.5 percent), Oman (7 percent), Agip SpA (2 percent), British Gas PLC (2 percent), Oryx (1.75 percent), and Kazakstan Pipeline Ventures, a joint venture of Kazakhstan's state oil company and Amoco (1.75 percent). The Russian government plans to transfer its stake to two Russian oil companies, AO Lukoil and AO Rosneft. CPC plans to begin building a 932-mile pipeline to transport crude oil from the Caspian region to Russia's Black Sea coast in 1998 and begin shipping around 558,000 barrels per day of oil in 1999 (planned peak capacity is 1.4 million barrels per day). *(DJ)*

- May 16** USX Corporation and Ashland announce plans to combine most of their downstream oil businesses, creating one of the largest U.S. refiners and continuing an industry trend to consolidate gas station operations. This would be accomplished by a joint venture (for which Ashland Petroleum Co. has signed a letter of intent with Marathon Oil Co., a unit of USX) involving 5,400 gas stations and 6 percent of U.S. refining capacity. *(WSJ)*
- May 20** President Clinton signs an executive order barring new U.S. investment in Burma (also known as Myanmar), effective May 21 and renewable annually. U.S. companies have invested about \$250 million in Burma, primarily in the oil and gas sector. The biggest U.S. investor is Unocal, which is building (with France's Total) a \$1.2 billion pipeline from Burma's Yadana natural gas field to an electric power plant in Thailand. *(DJ)*
- May 21** The U.S. Department of Energy authorizes its financial advisors to begin contacting prospective bidders for the Elk Hills Naval Petroleum Reserve, one of the largest producing fields in the lower 48 states. Bids must be received by October 1, 1997, and the sale is expected to close by February 10, 1998. *(DJ)*
- May 22** A Mobil Oil executive reports that his company has relocated three rigs outside Nigeria, and may relocate a fourth, because of the Nigerian government's failure to maintain payments for its share of joint venture production costs. Most of Nigeria's oil production (currently 2.2 million barrels per day) comes from joint ventures with international oil groups led by Shell, Mobil, and Chevron. *(DJ)*
- May 23** The International Energy Agency (IEA) issues a communiqué reaffirming that oil security remains a serious concern, particularly given the prospect of increasing import dependence and the increasing concentration of remaining oil reserves in the Middle East. The IEA states that spare crude oil production capacity is now lower than before the 1990 Gulf crisis, and the potential for further fuel switching has diminished. The communiqué was issued following a meeting of the IEA's Board of Governors, at which Hungary was welcomed as the organization's 24th member. *(DJ)*
- May 24** Mohammed Khatami, a moderate cleric, is declared the winner in Iran's presidential election. He will succeed President Hashemi Rafsanjani, who steps down in August after two, four-year terms. *(DJ)*
- May 27** Former Iraqi oil minister Issam Al-Chalabi estimates Iraq needs \$5 billion of outside investment and two to three years for its oil industry to restore production to the level prior to the imposition of United Nations sanctions (3.8-4.2 million barrels per day). He also indicates that it would take 5 years and \$30-50 billion to achieve production capacity of 5.5 million barrels per day. *(DJ)*
- May 28** The United Kingdom is reported to have added at least 161,000 barrels per day of new offshore oil production in 1997. New oil field start-ups could add up to 190,000 barrels per day more by the end of the third quarter of 1997, and another 84,000 barrels per day at the beginning of the fourth quarter. *(DJ)*
- May 28** *West Africa* magazine reports that a widespread, complicated series of inter-ethnic claims and conflicts stretching across state and local government boundaries in Nigeria's Niger Delta leaves many onshore and offshore oil and gas projects vulnerable. This area produces about 37 percent of Nigeria's onshore oil production. *(DJ)*
- May 28** Russian President Boris Yeltsin signs a decree designed to limit foreign investment in natural gas giant RAO Gazprom. *(DJ)*
- May 28** Royal Dutch/Shell Group (RD) reports that the Cornea oil structure, located in the Browse Basin offshore northwestern Australia, could contain up to 2.67 billion barrels of oil. *(DJ)*
- May 30** Iraq's Oil Minister, Amer Mohammed Rasheed, reports that the full allotment of \$2.14 billion in Iraqi oil (including \$140 million for maintaining oil pipelines) has been exported under the United Nations' 6-month oil-for-food program. Oil sales totaled 120 million barrels under 51 contracts with international companies. The United Nations is expected to renew the agreement, which began in December 1996 and expires in early June. *(DJ)*
- June 1** Oman and Iran agree to draw up a joint development plan for the Bukha/Hengam oil field which is jointly owned by the two countries. *(DJ)*

- June 1** Shell Oil Company and Mobil Corporation combine their California exploration and production units into a joint venture company, Aera Energy LLC (58.6 percent Shell, 41.4 percent Mobil). With proven reserves of about 1 billion barrels of oil equivalent and production of about 250,000 barrels per day, the venture is now the largest oil producer in California. *(WSJ)*
- June 2** Amoco Corporation announces plans to sell about 15 percent of its domestic oil and natural gas reserves to allow the company to focus future efforts on six regions. The regions are Trinidad (where it is expanding a liquefied natural gas plant); Venezuela; the Eastern Mediterranean (especially Egypt's Nile Delta); the Caspian Sea; heavy oil projects in Alberta, Canada; and deep-water projects in the Gulf of Mexico. The reserves -- located in Wyoming, Colorado, New Mexico, Oklahoma, and along the coast of the Gulf of Mexico -- total about 450 million barrels of oil equivalent (about two-thirds natural gas) and provide about 10 percent of the company's domestic production. *(WSJ)*
- June 3** Japan's Minister of International Trade and Industry says Japan needs to diversify the sources of its oil supplies further to improve its energy security. *(DJ)*
- June 4** In a unanimous vote, the United Nations Security Council renews for another 180-day period its oil-for-food initiative with Iraq. Under the resolution, Iraq may sell \$2 billion worth of oil to buy food, medicine and other necessities to alleviate civilian suffering under the sanctions imposed when it invaded Kuwait in 1990. *(WP)*
- June 4** China signs separate agreements with Kazakstan and Iraq to secure oil supplies into the next century. The agreements cover a \$4.3 billion investment in Kazakhstan's Aktyubinsk oil enterprise over the next 20 years, a planned oil pipeline from Kazakstan to China, and the development of the Ahdab oil field in southern Iraq (1 billion barrels at a cost of \$1.2 billion). *(WP)*
- June 5** Russia's Deputy Prime Minister Alfred Kokh announces plans to sell an additional 15 percent share of state-owned oil producer AO Lukoil. No details are provided. *(WSJ)*
- June 6** Australian Prime Minister John Howard announces that his country will phase out the use of lead in automobile gasoline by 2010. *(DJ)*
- June 6** Venezuela completes a 5-day auction of 20 marginal oil fields in its third round of sales to foreign investors, earning about \$2 billion (twice as much as expected). Successful bidders receive a 20-year production contract with certain minimum investment levels and must pay set royalties and fees for each barrel of oil produced. They include U.S. companies Atlantic Richfield, Chevron, Pennzoil, and Phillips Petroleum; British company Lasmco; and the China National Petroleum Company. *(WSJ)*
- June 10** Chevron Corporation signs a production-sharing agreement to perform seismic tests and drill wells deep beneath China's second largest oil field (Shengli). This is the first onshore exploration pact in China for Chevron, which already has offshore leases in China's Bohai Gulf and the South China Sea. *(WSJ)*
- June 10** The National Iranian Oil Company agrees to spend \$250 million to upgrade a large refinery in southern China to increase its capacity for processing Iranian crude oil. *(WSJ)*
- June 10** Kazakstan and Azerbaijan agree to build a 1600-mile pipeline along the floor of the Caspian Sea to ship 315-350 million barrels per year of Kazak oil via Turkmenistan to Baku in Azerbaijan. The pipeline would continue overland across Georgia and Turkey to the Mediterranean Sea. Construction is slated to begin in 2000 and be completed within 3 years. *(WP)*
- June 11** Canadian Prime Minister Jean Chretien names Ralph Goodale the country's new natural resources minister. *(DJ)*
- June 13** Triton Energy reports that it expects combined production from Colombia's Cupiagua and Cusiana fields to reach 500,000 barrels per day in early 1998 (currently 185,000 barrels per day). The company had planned to achieve this goal by the end of 1997, but has recently encountered problems in construction and drilling operations in the Cupiagua field. *(WSJ)*

- June 18** Turkey and Ukraine sign a deal to build a pipeline from Turkey's Mediterranean coast to its Black Sea coast for oil shipments to Ukraine. *(DJ)*
- June 19** The U.S. Supreme Court rules in favor of the Federal Government in an 18-year-old boundary dispute with Alaska over control of offshore areas along the Arctic coast. The decision effectively prevents development of the area's oil and natural gas reserves, as the Federal Government has said it would not permit drilling off the coast of wildlife refuges. *(NYT)*
- June 19** Exxon appeals the \$5.3 billion verdict awarded in 1994 to fishermen, native Alaskans, and others harmed by the 1989 Exxon Valdez oil spill. *(NYT)*
- June 20** Talisman Energy receives permission to develop the Ross oil field in the United Kingdom sector of the North Sea. The field, which contains estimated reserves of 60-100 million barrels of oil and 20-30 billion cubic feet of natural gas, is expected to begin producing in September 1998 and reach peak production of 40,000 barrels per day in 1999. *(WSJ)*
- June 20** Russian President Boris Yeltsin orders cuts of up to 40 percent in natural gas prices for businesses that pay their overdue Gazprom bills in cash by the end of the year. High customer debt (estimated at \$12.15 billion) makes it difficult for the company to pay its national tax arrears. *(WSJ)*
- June 24** Russia's State Duma (lower house) approves a long-awaited law that would allow production-sharing agreements for development of major natural resource deposits, including five oil fields (Samotlor, Krasnoleninsk, Romashkinskoye, Prirazlomnoye, North Sakhalin), the Kuranakhskeye gold field, and the Yakovlevskoye iron-ore deposit. Investment in these projects is expected to total \$16 billion. The legislation now goes to the upper house for consideration, which is expected to consider the measure this fall. *(DJ)*
- June 25** Partners in Australia's Stuart Oil Shale project announce that they have obtained financing to proceed with the first phase of development for what could become the world's first commercial project extracting crude oil from oil shale. If successful, the project would produce 85,000 barrels per day within 10 years. Partners are Canada's Suncor (50 percent) and two Australian companies (Southern Pacific and Central Pacific, 25 percent each). *(WSJ)*
- June 26** The Organization of Petroleum Exporting Countries (OPEC) extends its current output ceiling of 25.033 million barrels per day of crude oil through the end of 1997. The official communiqué indicates quota adherence will be "closely monitored" and announces that the next meeting would take place November 26 in Jakarta, Indonesia. OPEC Secretary General Rilwanu Lukman tells a news conference after the meeting that OPEC's target price remains at \$21.00 per barrel. Individual quotas remain as follows (in millions of barrels per day): Saudi Arabia, 8.0; Iran, 3.6; Iraq, 1.2; Venezuela, 2.359; Nigeria, 1.865; Indonesia, 1.33; Kuwait, 2.0; Libya, 1.39; United Arab Emirates, 2.161; Algeria, 0.75; and Qatar, 0.378. *(DJ)*
- June 26** Iranian Oil Minister Gholamreza Aghazadeh reports that U.S. sanctions to deter Iran's ability to attract outside capital "haven't worked at all" because creative financing methods allow foreign companies to avoid punishment under the Iran and Libya Sanctions Act (which was passed in 1996 and applies to investments of \$40 million or more). He cites the use of buyback contracts under which companies pay for development rights in oil rather than in dollars, and direct financing by foreign banks (which are not covered by the sanctions law). *(DJ)*
- June 26** The government of Portugal confirms the sale of a 27.5 percent stake in petroleum company Petrogal to Saudi Aramco. Under an agreement scheduled to be finalized by the end of 1997, Saudi Aramco would supply Petrogal's sour crude requirements under a long-term contract. Petrogal operates two refineries (with capacity totaling 300,000 barrels per day) and supplies 50 percent of the country's petroleum products. Portugal's government retains a 45 percent stake (down from 55 percent) and Petrocontrol, a private consortium of shareholders, retains a 27.5 percent stake (down from 45 percent). A leading Portuguese newspaper estimates the reference value of the Saudi share at \$1.4-1.5 billion. *(DJ)*
- June 27** International Energy Agency head Robert Priddle says he "regrets" the previous day's action by the U.S. House Appropriations Committee approving a \$209 million sale of crude oil from the U.S. Strategic Petroleum Reserve.

Priddle notes that U.S. strategic stocks have already dropped from a 90-day supply to less than 70 days currently, following earlier sales of 30 million barrels of crude oil. *(DJ)*

- June 27** China's Premier Li Peng and Russia's Prime Minister Viktor Chernomyrdin sign a series of agreements to boost trade and economic relations between their countries. Included is a planned \$4-5 billion project involving the development of Russian natural gas reserves in the Irkutsk region of western Siberia to supply up to 1 trillion cubic feet per year via pipeline to China's coast. *(DJ)*
- June 30** Iran's top military commander says his country does not intend to start a war with the United States, but promises to turn the Persian Gulf into a slaughterhouse if attacked. The pledge follows a series of U.S. warnings about Iran's potential to use missiles to close the Strait of Hormuz to oil tankers and other shipping. *(DJ)*
- June 30** Nigeria's government authorizes the Nigerian National Petroleum Company to swap 100,000 barrels per day of crude oil for petroleum product imports, reversing a year-earlier decision banning the practice due to widespread abuses. The action comes one week after the government authorized importing 33 cargoes of oil products to ease fuel shortages associated with problems at domestic refineries. *(DJ)*
- July 1** The Russian government begins offering many of its remaining oil-industry holdings in a series of auctions and investment tenders expected to raise \$780 million by mid-December 1997. The privatizations, which are open to foreign bidders, include Russia's stakes in AO Vostsibneftegaz (38 percent), AO Vostochnaya Neftyanaya (51 percent), AO Sibur (36.28 percent), AO Tyumenskaya Neftyanaya (48.68 percent), AO Komitek (27.1 percent), and AO Norski-Oil (45.45 percent). *(WSJ)*
- July 1** The British colony of Hong Kong reverts to Chinese rule as a Special Administrative Region. Chinese Prime Minister Li Peng declares Beijing's rule of law will protect foreign interests in post-hand-over Hong Kong. China has promised laissez-faire oversight under the principle of "one country, two systems." *(DJ)*
- July 5** China National Petroleum Corporation (CNPC) reports plans to intensify exploration in eight basins that contain 80 percent of the country's onshore oil and gas reserves while continuing its efforts to secure overseas supplies. According to CNPC, the company has verified 25.6 billion barrels of crude oil reserves and 22.6 trillion cubic feet of natural gas reserves in the past 6 years. *(DJ)*
- July 6** The government of India approves the sale of shares in four state-run companies, including Gas Authority of India Limited and Indian Oil Corporation *(DJ)*
- July 9** Corpoven (a unit of Venezuela's state-owned oil company) signs a formal agreement with three U.S.-based companies (Atlantic Richfield, Phillips Petroleum, and Texaco) that creates a \$3.5 billion joint venture. The joint venture will extract and upgrade 197,000 barrels per day of extra-heavy crude oil in the Hamaca Zone of Venezuela's Orinoco Belt. Drilling is expected to start in late 1998, with oil production beginning the following year at an initial rate of 35,000-40,000 barrels per day. The first of two upgrading facilities, designed to produce a grade similar to Alaskan North Slope crude oil, is scheduled to be completed by 2002. *(DJ)*
- July 11** The German cabinet approves a supplementary budget that includes proposals to sell part of the government's strategic oil reserves to meet European Monetary Union criteria for a budget deficit of 3 percent of gross domestic product. Germany plans to sell about \$224 million worth of reserves in 1997 (roughly 15 million barrels of oil), and additional volumes in 1998 and 1999. *(DJ)*
- July 11** A tripartite agreement on the transportation of Caspian Sea crude oil via the Baku-Grozny-Novorossiysk pipeline is signed in Baku by Russian Oil and Energy Minister Boris Nemtsov and representatives of Azerbaijan's state oil company and the Chechen oil company. The pipeline, which will pump oil from Azerbaijan across Chechnya to a Russian export terminal in Novorossiysk, is expected to be operational within one month. *(DJ)*
- July 15** The president of the Colombian Petroleum Association declares that repeated attacks on Colombia's oil installations have led to a "critical" situation for private oil companies operating in the country. This is in reaction to three attacks in the last 10 days, which forced Ecopetrol, the state-owned oil company, and field operator Occidental Petroleum Corporation to close down production and declare *force majeure* for all export commitments in the Cano Limon field. The Cano

Limon-Covenas pipeline has been attacked 470 times since it began operations in 1986, causing damage in excess of \$1.5 billion; however, this is the longest time field operations have been suspended due to the attacks. *(DJ)*

- July 15** Guatemala awards oil exploration contracts in its northern Peten province to four foreign firms (including U.S.-based Oil Technology Service) and one Guatemalan company. Minister of Energy and Mines Leonel Lopez Rodas expects company investments of \$128 million in nine potential fields in 1997 and 1998 will make Guatemala self-sufficient in energy supply. Guatemala previously awarded 23 drilling contracts to private firms. *(DJ)*
- July 16** The Brazilian Senate approves the creation of a regulatory body (the National Petroleum Agency) required for implementation of a 1995 constitutional amendment allowing private domestic and foreign enterprises to compete with federally-controlled oil conglomerate Petroleo Brasileiro SA (Petrobras). The legislation also creates a National Energy Policy Council. *(DJ)*
- July 16** Tengizchevroil, operator of Kazakhstan's Tengiz field, awards a \$250 million contract for construction of a new oil and gas processing plant that will increase production capacity by 30 percent (from 160,000 barrels per day currently to 240,000 barrels per day by the end of 1999). *(DJ)*
- July 17** Texaco, the government of Saudi Arabia, and the U.S. unit of Royal Dutch/Shell agree to merge their U.S. East Coast and Gulf Coast refining and marketing businesses in a joint venture company pooling four refineries (with total capacity of 823,000 barrels per day) and 14,717 gasoline stations currently owned by Shell and Star Enterprise (a joint venture between Texaco and Saudi Aramco). Under the agreement, Shell would own 35 percent of the new company, and Texaco and Saudi Arabia would hold 32.5 percent each. *(WSJ)*
- July 19** Iran opens an oil jetty for petroleum product exports at Nowshahr port on the Caspian Sea. According to Iran's managing director of Ports and Shipping Organization, the country plans to increase its total port capacity to 4 million barrels per day by the year 2022 (currently 800,000 barrels per day). *(DJ)*
- July 22** The first shipments of oil produced from Kazakhstan's Tengiz field arrive at terminals on the Black Sea in Novorossisk (Russia) and Batumi (Georgia) for subsequent export through the Bosphorus Strait. Volumes total between 100,000 and 150,000 barrels per day. *(DJ)*
- July 23** A senior official with Royal Dutch/Shell reports that the company plans to spend at least \$10 billion in Latin America by the year 2005, primarily in four countries: Peru, Venezuela, Brazil and Argentina. Major projects include Peru's Camisea fields and the Bolivia-Brazil natural gas pipeline. *(DJ)*
- July 23** The U.S. State Department rules that Turkey's August 1996 agreement to purchase \$23 billion worth of natural gas from Iran over a 20-year period does not violate the Iran and Libya Sanctions Act. In a May 1997 memorandum of understanding with Iran and Turkmenistan, Turkey modified the original arrangement so that the natural gas will be purchased from Turkmenistan rather than Iran. *(DJ)*
- July 23** Officials from Turkmenistan, Pakistan, Unocal, and Delta (a Saudi oil company) sign an agreement to build a natural gas pipeline from Turkmenistan across Afghanistan to Pakistan (871 miles). Under the agreement, a consortium will be formed by October 1997, construction will begin by December 1998, and 2001 at an estimated cost of \$2.0-2.7 billion will complete the project. The pipeline will carry up to 706 billion cubic feet of natural gas annually from Turkmenistan's largest natural gas fields, at Daulatabad. *(DJ)*
- July 24** The government of Chile approves CMS Energy's \$650 million Atacama project, which will transport natural gas via pipeline from northern Argentina across the Andes Mountains to two new natural gas-fired electric generating units at Mejillones in northern Chile. The project is being built in conjunction with Chile's Empresa Nacional de Electricidad SA. Construction of the pipeline will begin in the fourth quarter of 1997 and commercial operations will begin by early 1999. *(DJ)*
- July 25** Presidents Gonzalo Sanchez de Lozada of Bolivia and Fernando Henrique Cardoso of Brazil sign construction contracts for the longest natural gas pipeline in South America -- a 1900-mile pipeline from Rio Grande, Bolivia to three Brazilian cities (Sao Paulo, Curitiba, and Porto Alegre). The 32-inch diameter pipeline, estimated to cost about \$2 billion, is

scheduled to begin operating in 1999 at an initial rate of 283 million cubic feet per day, increasing to 565 million cubic feet per day after 7 years. Major contractors include Enron, Bechtel and Royal Dutch/Shell. *(DJ)*

- July 26** Iran's President Hashemi Rafsanjani formally inaugurates the 232,000-barrel-per-day Bandar Abbas refinery -- the country's eighth oil refinery. The facility, which will run Iranian Heavy crude oil, has partially started up and is scheduled to be fully operational in March 1998. Iran hopes to become self-sufficient in gasoline, kerosene, jet fuel, and diesel, and begin exporting petroleum products at that time. Domestic petroleum demand averages about 1.1 million barrels per day. The country's refining capacity (excluding Bandar Abbas) totals about 1.2 million barrels per day. *(DJ)*
- July 28** Egypt's Petroleum Minister Hamdi el-Banbi announces that the private sector will be allowed to launch distribution networks for natural gas as part of the government's plan to substitute natural gas for oil. *(DJ)*
- July 28** Azerbaijan's President Heydar Aliyev, on his first visit to the United States, repeats his support for Turkey's port of Ceyhan on the Mediterranean Sea to be the main export route for his country's Caspian Sea crude oil. *(DJ)*
- July 29** State-owned oil company Petroleos de Venezuela (PDVSA) signs agreements turning over operating contracts for 17 marginal crude oil fields to 17 national and international consortiums, the winners in the country's third round of auctions for 20 marginal oil field contracts held in June 1997. The auction raised \$2.08 billion. Two fields received no bids and PDVSA later revoked the winning bid on one field (Mata). *(DJ)*
- July 30** The U.S. Federal Energy Regulatory Commission approves several natural gas pipeline projects for delivery of Canadian natural gas to the United States. The projects include: 1) the U.S. portion of Alliance Pipeline Limited's new \$3.6 billion pipeline from British Columbia and Alberta to the Midwest (conditional upon Canadian regulatory approval); 2) expansion and extension of Northern Border Pipeline from the Canadian border to the Chicago area; and 3) a portion of the Maritimes & Northeast Pipeline from Sable Island, Nova Scotia, to markets in New England. *(DJ)*
- July 31** Russian state-owned oil company AO Rosneft announces it is pulling out of a \$1 billion oil deal (signed July 4) to develop Azerbaijan's Kyapaz field, in the Caspian Sea. Neighboring Turkmenistan, which claims the field as its own (under the name Serdar), has challenged the deal. *(DJ)*
- Aug. 1** Azerbaijan signs production-sharing contracts with Chevron Corporation, Exxon Corporation, Mobil Corporation, and Amoco Corporation. Officials from Azerbaijan value the Caspian Sea projects at more than \$10 billion. Mobil will develop the Oguz exploration area, Chevron the Zeynabdin Tagiyev area, Exxon the Nakhchivan area, and Amoco the Inam Prospect. *(WSJ)*
- Aug. 1** United Nations Secretary-General Kofi Annan approves Iraq's request to add the Iraqi-Syrian border as an entry point for food and humanitarian aid under the oil-for-food program. The request provides further evidence of re-established official ties between the two countries. Ties were severed after Syria supported Tehran during the Iran-Iraq War and this new link between Iraq and Syria follows the reopening in mid-June of three border points that were shut in 1980. *(DJ)*
- Aug. 1** Mobil Corporation announces a favorable \$78.3 million judgement in litigation with the federal government. The lawsuit involved Mobil's offshore North Carolina federal Outer Continental Shelf oil and gas leases. The company said that the judgement recognizes Mobil's right to terminate five Outer Continental Shelf leases, and recover the purchase price. Mobil sued the federal government in 1992 for the government's failure to allow development of certain oil and gas leases offshore Alaska, Florida, and North Carolina. The Alaska and Florida parts of the litigation were settled in 1995. *(DJ)*
- Aug. 1** Russia annuls a \$1 billion oil deal with Azerbaijan in support of Turkmenistan's protest that the deal is illegal. On July 4 Russia's Rosneft and Lukoil signed a deal with Azerbaijan's Socar to develop the Kyapaz field at the edge of Azerbaijan's zone in the Caspian Sea. The Turkmen government protested claiming the field, which Turkmenistan calls Serdar, as its own. *(DJ)*
- Aug. 2** Shell Netherlands BV, a unit of Royal Dutch/Shell Group, unexpectedly shuts down part of Europe's second largest oil refinery. A company spokesperson indicated that the unit at Shell's Pernis refinery near Rotterdam could be closed all month, but did not give a reason for the shutdown. *(NYT)*
- Aug. 4** Mohammed Khatami, a cleric viewed as moderate, is sworn in as Iran's new president. *(DJ)*

- Aug. 4** In Colombia, Occidental Petroleum, a California-based international oil company, and Ecopetrol, Colombia's national oil company, declare *force majeure* on all oil exports from the Cano Limon field. The declaration comes after a series of attacks dating back to July 30 knocked out a major oil pipeline transporting oil from the field to the Caribbean port of Covenas. The pipeline has been attacked 45 times this year equal to the total number of attacks for 1996. Responsibility for the attacks has not been determined, but leftist guerrillas from the National Liberation Army are usually blamed for such attacks. The *force majeure* declaration does not apply to the oil contained in the 2-million-barrel storage facility at Covenas. (DJ)
- Aug. 4** United Nations (U.N.) Secretary-General Kofi Annan approves a revised Iraqi aid distribution plan under the U.N. oil-for-food program. The oil-for-food program allows Iraq to sell approximately \$2 billion of crude oil every six months. Sale periods are divided into two 90-day intervals. The proceeds from the oil sales are paid into a U.N.-run escrow account from which humanitarian supplies are purchased for the Iraqi people. The program went into effect in December 1996 and was renewed for another six months on June 8, 1997. However, since late May 1997, Iraq has refused to sell any oil until the U.N. approved the revised aid distribution plan which is designed to speed up the procedure for approving shipments of humanitarian goods. The next step for Iraq is to gain U.N. approval of an oil pricing formula, and then the U.N. must approve purchase contracts from buyers. Following these two approvals, Iraq can resume its oil exports. Iraq has until September 5, 1997 to sell \$1.07 billion of oil under the current 90-day period. (DJ)
- Aug. 5** Mobil reveals that production at Nigeria's 100,000 barrel per day Oso condensate field has been completely shut in since the previous week to repair faults in the gas reinjection wells. Bolts securing one offshore injection wellhead sheared, and as a precaution, Mobil decided to replace all the bolts securing offshore injection wellheads. Officials expect delays to Oso condensate loadings, but could not specify how many days' cargoes would be delayed. (DJ)
- Aug. 6** Nigeria's government releases \$145 million to the state petroleum corporation to begin repair work on its oil refineries. All four of the country's refineries were either closed or had production severely reduced in May due to maintenance problems. These problems have forced Nigeria to import oil to meet domestic needs, despite its position as the world's sixth-largest producer of crude oil. Repairs are expected to begin October 1 and take at least 60 days. (DJ)
- Aug. 7** Romanian Prime Minister Victor Ciorbea announces the closure of three of the country's nine oil refineries. Petrotel, Vega, and Darmanesti will close immediately in order to reduce a surplus of oil refining capacity and cut government spending. (DJ)
- Aug. 7** Exxon Corporation confirms that it has been chosen as sole foreign partner in a proposed multi-billion-dollar project to expand oil refining and build a major petrochemical plant in Fujian province, China. The joint project, involving Exxon and Fujian Petrochemical, includes increasing oil refining capacity at Xiaocuo from 80,000 barrels per day to 240,000 barrels per day and constructing a 600,000-metric-ton-per-year ethylene plant. In addition, the plant will include a 450,000-ton-per-year polyethylene plant and a 300,000-ton-per-year polypropylene plant. Exxon has a 50 percent share in the joint venture. (DJ)
- Aug. 7** Nova Corporation, a Canadian natural gas services and petrochemicals company, officially opens the GasAndes pipeline. The pipeline will initially transport 140 million cubic feet per day of natural gas from Argentina to Chile. The volume will increase to 250 million cubic feet per day by fall 1998. The new pipeline will supply three new gas-fired power plants in Chile that are set to open in October 1997, spring 1998 and fall 1998. The power plants are part of a program to improve the air quality in the Chilean capital, Santiago, by switching from coal-fired to natural gas-fired electrical generation. Nova holds a 56 percent interest in the GasAndes project. (DJ)
- Aug. 8** The United Nations approves a sale-price formula for Iraqi crude oil sales under the oil-for-food plan. The approval cleared the way for Iraq to resume limited oil exports immediately through the Turkish port of Ceyhan on the Mediterranean Sea and Iraq's Gulf port of Mina al-Bakr. The United Nations will also begin reviewing contracts for Iraqi crude oil purchases. Iraq has until September 5 to raise the \$1.07 billion allowed under the existing 90-day oil-for-food plan window. Iraqi officials state they will boost exports to 2 million barrels per day to meet the sales target. However, industry experts say that Iraq's export capacity is untested beyond 1.4 million barrel per day. (DJ)

- Aug. 8** Shell Nigeria announces that it expects to produce 7 percent to 8 percent less oil than had been originally planned for 1997. Officials cite a reduction in hard currency available to its joint venture partners as the reason for the decrease. A cutback in production would reduce output by approximately 70,000 barrels per day to 856,000 barrels per day. (DJ)
- Aug. 11** Colombia's national oil company, Ecopetrol, lifts the *force majeure* declaration on all oil exports from the Cano Limon field. A company spokesman states that crews completed repairs to the Cano Limon-Covenas pipeline on Saturday August 9 and that normal operations have resumed. (DJ)
- Aug. 12** A spokesman for Saga Petroleum ASA announces that oil production from the Snorre oil field in the Norwegian sector of the North Sea has been restarted and that it should return to full production within a day. A restart date for the Vigdis field, which was also shut down, has not been set. Production at the two fields was stopped on August 11 following the discovery of a production fault. Snorre produces 200,000 barrels per day while Vigdis has been gradually working towards 40,000 barrels per day following repairs to the gas compressor. (DJ)
- Aug. 12** Exxon Corporation shuts down a catalytic cracking unit at its refinery in Baytown, Texas because of an unspecified operating problem. Exxon declined to say when the unit, which produces more than 100,000 barrels per day of gasoline components, is expected to return to service. (NYT)
- Aug. 14** Stefan Balabanoff, acting head of economics and finance in the OPEC research division, predicts that OPEC's share of the world oil market will rise from a current level of about 40 percent to 52 percent by 2020. Balabanoff estimates that OPEC's production capacity must rise to 50 million barrels per day to meet the increased demand. From 1995 to 2000 he sees oil demand increasing by an average of 2.1 percent per year and from 2000 to 2010 demand is forecast to rise by 1.4 percent per year. Asian and Pacific countries are predicted to lead the increases in demand. In addition, Balabanoff forecasts growth for non-OPEC supply centered on the North Sea, non-OPEC developing countries, and the Commonwealth of Independent States. (DJ)
- Aug. 18** Three international groups confirm that they plan to bid on Petroleos Mexicanos' (Pemex) Cantarell project in the Yucatan peninsula. Pemex, the Mexican state-owned oil monopoly is seeking to boost oil production by injecting nitrogen into the terrain of Campeche State and into the sea floor beneath Campeche Bay in the Gulf of Mexico. Dresser Industries of Dallas will submit a joint bid with U.S. companies Marathon Oil and Praxair, Nova Gas International of Canada, and Bufete Industrial of Mexico. Shell Oil Company entered a joint bid with Enron Corporation and Air Products and Chemicals Incorporated, both from the U.S., and Japan's Mitsui and Company. BOC GROUP PLC of Britain leads the third group. Industry officials estimate the price of the project at \$950 million. (WSJ)
- Aug. 18** A spokesman for Saga Petroleum ASA reports that production at the Vigdis oil field in the Norwegian section of the North Sea was restarted despite the absence of a replacement gas seal. A temporary measure of transferring gas from the field to the Snorre field for processing enabled the company to restart Vigdis. The replacement seal is in production and scheduled to be completed by August 25. (DJ)
- Aug. 20** The Iranian parliament, the Majlis, confirms all 22 of President Mohammed Khatami's nominations for his cabinet. The confirmations are seen as a strengthening of Khatami's mandate to move towards a less strict society and a weakening of the hard-liners' power base in parliament. One of the nominees has advocated direct talks with the United States. Editor's note: The new Iranian Oil Minister is Bijan Namdar Zaganeh. (DJ)
- Aug. 20** Mexican President Ernesto Zedillo inaugurates the first U.S.-originated natural gas delivery to the Mexican State of Baja California. The new gas distribution system in Mexicali, the state capital just across the United States border, is the first under the Mexican government's natural gas privatization program. A binational consortium comprised of Enova International, Pacific Enterprises International and Proxima Gas, S.A. de C.V. will distribute the gas for the next 30 years. The deal is valued at \$20 million over the first three years for the supply more than 10 billion cubic feet of gas. (DJ)
- Aug. 20** The Saudi Arabian Oil Company (Aramco) shut down its 300,000-barrel-per-day oil refinery on the Persian Gulf for maintenance. Aramco expects the shutdown to continue until September 17. Reports suggest that the shutdown will result in the release of extra supplies of Arab Light and Extra Light crude oil for export in August and September. (DJ)
- Aug. 20** YPF SA, an Argentine energy company, and Amoco Corporation sign an agreement to operate U.S. natural gas fields with estimated reserves of 989 billion cubic feet of gas. YPF reveals that the joint venture includes 2,000 productive wells

in the Texas Panhandle and western Oklahoma, two processing plants with combined daily capacity of 230 million cubic feet of gas, a 932-mile distribution system and 889,560 acres of leased land for exploration. The companies have set up a 50-50 holding company called Crescendo Management LLC to operate the joint venture. (DJ)

- Aug. 21** The United Nations approves the pricing formula for September crude oil exports under the United Nations/Iraq oil-for-food sale. Shipments of Iraqi Kirkuk crude oil headed for Europe will increase 20 cents per barrel, and shipments of Basrah Light crude oil to the Far East and United States, as well as Kirkuk crude oil to the United States, will increase 10 cents per barrel. (DJ)
- Aug. 22** An analyst with Calgary's First Energy Capital Corporation reports that western Canada's natural gas production is declining for the first time in many years and that demand could outstrip supply soon. In addition, the analyst estimates that natural gas reserves in western Canada are declining between 17 percent and 18 percent per year. Ontario Hydro's recent decision to close seven of nineteen nuclear power plants could increase the demand for western Canadian natural gas thereby exacerbating the potential shortage. (WSJ)
- Aug. 26** Enterprise Oil announces that for its development plan for the Pierce Field in the central North Sea has received approval from the British government. The company expects the first oil from the field in August 1998 with an initial rate of production of 20,000 barrels per day. Enterprise expects a continuous rate of 45,000 barrels per day shortly thereafter. In addition, Enterprise reveals that it completed a deal with British Petroleum, which increases its stake in the Pierce Field to 75 percent. (DJ)
- Aug. 26** China plans to spend \$600 million combining onshore and offshore exploration activities at its biggest offshore oil field, Suizhong 36-1 in Bohai Bay. The Bohai Oil Company will build facilities for oil and gas processing, storage, and marketing as well as a new oil berth. Suizhong 36-1 covers 18.5 square miles and has proven oil reserves of 2.1 billion barrels. (DJ)
- Aug. 26** The leader of Norway's oil workers union, Terje Nustad, said that the union plans to expand a strike already affecting five oil rigs on the Norwegian continental shelf. The expansion will start after September 10 and will include the West Epsilon rig, the Transocean rig, and the Poly Saga rig. Approximately 340 oil workers went on strike August 24 after rejecting a 7.8 percent raise offered by the Norwegian Shipowners Association. The strike has not slowed daily oil production because the five affected rigs are mainly used for drilling new wells. However, if the strike is expanded, the annual maintenance stoppage at Statfjord B in the North Sea could be extended. Moreover, the restart of Norne field production, scheduled for September, could be delayed. (DJ)
- Aug. 27** Consulting firm Arthur Anderson reports that world oil companies increased spending on U.S. exploration and development to \$21.6 billion in 1996, an increase of 24 percent over 1995. Major oil companies spent \$11.1 billion in the U.S., a 13 percent increase, while independent companies spent \$10.5 billion, a 37 percent increase. Royal Dutch/Shell Group, Texaco and Amoco Corporation led the major companies in 1996 U.S. exploration expenditures. Independent spending leaders were Union Pacific Resources Group, Burlington Resources, and Enron Oil & Gas Company. (WSJ)
- Aug. 27** The United Nations Security Council announces that it will discuss a possible rollover of Iraqi oil sales from the current 90-day period to the second 90-day period under the renewed oil-for-food program. The existing six-month period of the oil-for-food program began on June 8, 1997, but Iraq stalled on the oil sale until mid-August 1997. The delay makes it impossible for Iraq to sell \$1.07 billion of oil during the first 90-day period, which is set to end on September 5, 1997. If the rollover gains approval, it could prevent Iraq from losing an estimated \$400 million in sales because of the late start. (DJ)
- Aug. 28** Russian officials annul a high-profile deal with Exxon Corporation to develop huge oil deposits in Russia's far north. Late last year Exxon's affiliate, Exxon Arkhangelsk, beat out several international consortia for a 50 percent stake in oil fields in the Timan-Pechora province. Russian officials cite five undisclosed violations committed by Exxon during the tender process as the reason for scrapping the agreement. Some analysts suggest that the cancellation of this \$1.5 billion investment project could shake investor confidence in Russia's energy sector and may deter private investment in Russia. (DJ)
- Aug. 29** A spokesman for Enterprise Oil confirms that production at Enterprise's North Sea Nelson oil field is to be halted at midnight while an unexploded World War II bomb is removed from close to the Nelson pipeline. The work may take as

many as five days to complete; however, Enterprise hopes to restart production on September 1. Normal production from the field is 160,000 barrels per day. *(DJ)*

- Aug. 29** Russia and Turkey sign an agreement to build an underwater pipeline across the Black Sea to transport Russian natural gas to Turkey. The proposed 225-mile pipeline would run from the Russian port city of Tuapse to the Turkish port city of Samsun, and initially carry 280 billion cubic feet of gas. The amount will reportedly double by 2003. Construction of the pipeline is scheduled to start next year and is expected to be complete by 2000. *(DJ)*
- Sep. 1** South Korea's state-run Daehan Oil Pipeline Corporation (DOPCO) dedicates a 593-mile oil pipeline and a large oil storage terminal in Songnam, 20 miles south of Seoul. DOPCO has invested about \$890 million over seven years to complete the two projects. The storage terminal is capable of storing 1.97 million barrels of petroleum products and loading 186,000 barrels of oil per day. The pipeline will transport oil products from five domestic refineries including Yukong and Hyundai Oil Refining Company. *(DJ)*
- Sep. 1** Saga Petroleum, a Norwegian upstream oil company, reveals that production stoppages at the North Sea Vigdis Field, caused by gas compressor problems, have reduced this year's output target from 25 million barrels to 16 million barrels. *(DJ)*
- Sep. 1** Shell Nigeria resumes operations at the Nembe Creek flow stations following repairs of a pipeline leak. Flow stations at Nembe Creek are a part of a major trunk line feeding Nigeria's Bonny Terminal. Shell officials suspect that the line had been sabotaged to force Shell to pay compensation to the local communities for other pipeline leaks. Shell confirms that negotiations are under way with the local communities. *(DJ)*
- Sep. 3** Japanese and Russian governors sign an oil and gas development agreement at a meeting on economic cooperation between three Russian Far East regions and Japan's northernmost prefecture. The agreement targets development of the Sakhalin continental shelf and encourages private companies to participate in offshore oil and gas drilling projects. Commercial production is expected as early as 1999. *(DJ)*
- Sep. 3** After months of negotiations, Chechnya and Russia reach a compromise on transporting Caspian Sea oil across Chechnya. The last issue holding up the agreement was disagreement over tariff rates for the use of the existing Chechen pipeline. *(DJ)*
- Sep. 3** Workers from Colombia's oil, banking, and judicial sectors launch a 24-hour strike to protest government plans to privatize state-held assets. The oil workers are also protesting the detention of 17 oil workers, on charges of bombing Colombia's oil installations and talks between Ecopetrol and British Petroleum to renegotiate a contract to develop the Piedemonte field. *(DJ)*
- Sep. 5** Amoco Corporation announces an agreement to merge its oil and natural gas business in South America's southern region with Bidas Corporation of Argentina. The deal will create what will be Argentina's second-largest oil and natural gas company with more than \$3 billion in assets. The new company is currently unnamed with Amoco holding a 60 percent interest and Bidas the remaining 40 percent. The venture will focus on exploration and production in Argentina, Bolivia, Brazil, Paraguay, Chile, Peru, and Uruguay. *(WSJ)*
- Sep. 5** Mobil Oil Canada and Chevron Canada Resources enter a strategic alliance for exploration and development of 29 million acres in the Grand Banks area, offshore Newfoundland. The companies indicate the alliance enables them to move more quickly on proposed exploration and development plans. *(DJ)*
- Sep. 8** YPF SA, Argentina's largest energy company, confirms that its board approved a previously announced agreement with Amoco Corporation to operate U.S. natural gas fields with an estimated 989 billion cubic feet of gas reserves. The venture will be called Crescendo Resources LP, with YPF holding an indirect 64 percent interest and Amoco the remaining 36 percent. *(DJ)*
- Sep. 8** China National Oil Development Corporation, a unit of state-owned China National Petroleum Corporation (CNPC), and Pan-China Resources Limited, a unit of Canada's Ivanhoe Capital Corporation, sign a production-sharing contract to develop oil reserves in China's Hebei province. The two firms will develop the 34.9-square-mile Kongnan block of the

Dagang oil field, located 62 miles south of Tianjin. The contract is CNPC's latest effort to stabilize production in China's eastern oil fields. *(DJ)*

- Sep. 10** Norway's state-owned Statoil AS and United Kingdom's (U.K.) Enterprise Oil sign a deal to develop and produce the Pierce oil field located in the U.K. sector of the North Sea. According to Statoil, the deal is worth around \$280 million and will last for a minimum of 5 years. The Pierce field has recoverable reserves of 84 million barrels of oil. When it comes on stream in the fall of 1998, it is expected to produce 45,000 barrels per day. *(DJ)*
- Sep. 11** China completes a natural gas pipeline from Shaanxi province to Beijing. The 534-mile pipeline is the county's longest land pipeline. The project cost about \$475 million and will supply gas from the Changqing field in northwest China's Ordos Basin. The pipeline is expected to supply Beijing with 10.6 billion cubic feet of gas in 1998 and eventually deliver 212 billion cubic feet of gas annually. *(DJ)*
- Sep. 11** Israel's Prime Minister Benjamin Netanyahu orders a freeze on a major natural gas deal with Russia, which includes the construction of an underwater pipeline to transport the gas from Turkey across the Mediterranean to the Israeli coast. Prime Minister Netanyahu cites suspicions that Russia is helping Iran develop ballistic missiles as the reason for the freeze. *(DJ)*
- Sep. 11** Colombia's President Ernesto Samper inaugurates a natural gas pipeline stretching from the southwestern city of Cali to the city of Mariquita. The 211-mile pipeline cost \$312 million and has a maximum capacity of 200 million cubic feet of gas per day. The line will transport gas to 3 million people in about 47 municipalities. *(DJ)*
- Sep. 12** The United Nations Security Council passes a resolution that allows Iraq to reach the \$2.14 billion oil sales limit under its oil-for-food program by December 5. The current 6-month oil sales window, running from June 8 to December 5, will be split into a 120-day segment and a 60-day segment instead of two 90-day segments. During each segment Iraq can sell \$1.07 billion worth of oil. The resolution should enable Iraq to make up for lost revenues during a delay in the start of oil sales during the first two months of the current six-month sale period. *(DJ)*
- Sep. 15** U.S.-based Bechtel, Peru's Cosapi, and Brazil-based Odebrecht win a \$2 billion contract for the design and construction of a natural gas pipeline stretching from Peru's Camisea gas fields to the capital city, Lima. The field is being developed by a joint venture between Royal/Dutch Shell and Mobil Corporation. *(DJ)*
- Sep. 16** Amoco Exploration Company announces a major North Sea drilling program designed to increase reserves and production from its central and northern United Kingdom (U.K.) oil and natural gas fields. The cost of the program is expected to exceed \$160 million and extend over a three-to-five year period. The program will initially concentrate on additional development drilling in Amoco's Arbroath field and then continue on to other fields in the central and northern U.K. sector. The program will also utilize new drilling rigs built to operate in harsh conditions. *(DJ)*
- Sep. 17** One day after sending money to Chechnya for repairs to a war-torn pipeline, a Russian commission announces a decision to construct a new pipeline that would bypass Chechnya. The new 176-mile pipeline will run along the Chechen border in the Dagestan republic to the Stavropol region, and then on to Russia's oil terminal at the Black Sea port of Novorossisk. First Deputy Prime Minister Boris Nemtsov estimates the cost of the project at \$220 million. *(DJ)*
- Sep. 22** Texaco confirms that it has agreed to sell all of its assets in Burma to the United Kingdom based Premier Oil PLC for \$260 million. Texaco holds a 42.9 percent interest in the Yetagun natural gas field and a 50 percent interest in Block M-10, a nearby exploration area. Premier will reportedly sell most of the interests to Petronas, Malaysia's state-owned oil and gas company. *(DJ)*
- Sep. 23** Greenpeace begins legal proceedings against the United Kingdom Department of Trade & Industry in an attempt to block oil and gas exploration west of the Shetland Islands and Scotland in the Atlantic Frontier. Greenpeace is asking for a full judicial review of operating licenses awarded in April's 17th Offshore Licensing Round. The environmental group contends that the European Habitats Directive requires special consideration be given to reef habitats before licenses are granted. If Greenpeace is successful, a full judicial hearing could be held in November. *(DJ)*
- Sep. 24** A four-week-old Norwegian oil strike intensifies as the Norwegian Shipowners' Association threatens to lock out oil workers from 13 floating oil rigs beginning on October 8. The strike began on August 24 and has mainly affected

exploration drilling rather production. However, on September 22 the strike forced the closure of the 35,000-barrel-per-day North Sea Yme field. The oil workers union called the strike after rejecting a 7.8 percent pay increase offered by the Shipowners' Association. *(DJ)*

- Sep. 25** Dominique Simondon, chief of conceptual engineering for Elf Aquitaine on the Girassol project, reveals that reserve estimates for Elf's Angolan block 17 oil discoveries have been increased to 3 to 4 billion barrels. Initial reserve estimates of 1 to 3 billion barrels had already made it one of the largest finds offshore West Africa. The Girassol field is due to begin producing oil in the second half of 2000 and is expected to have a production capacity of 200,000 barrels per day. *(DJ)*
- Sep. 25** Russia's State Property Committee approves a privatization plan for AO Rosneft. The approval clears the way for the sale of the Russian government's last major holding in the oil industry. The sale will take place during the fourth quarter of 1997 and the first half of 1998 and will be open to foreign and domestic investors. *(DJ)*
- Sep. 26** Kazakstan and China sign a \$4.3 billion deal to explore the Aktyubinsk oil fields in western Kazakstan. The deal comes two days after the China National Petroleum Corporation and the Kazak Ministry of Energy and Natural Resources signed a contract for joint exploration of the Uzen oil field, which includes the construction of a \$3.5 billion, 1,863-mile pipeline from western Kazakstan to China. Work on the pipeline is expected to begin in 1998 and be completed by 2005. *(DJ)*
- Sep. 29** France's Total SA confirms that it reached a \$2 billion agreement with the National Iranian Oil Company (NIOC) to develop part of the South Pars natural gas field. Other companies that are part of the deal include Russia's Gazprom and Malaysia's Petronas. The South Pars gas field has estimated reserves of 300 trillion cubic feet and is located in the Persian Gulf adjacent to Qatar's North Dome natural gas field. Under the terms of the agreement, Total and its partners will be responsible for the initial development and production of the field until 2002. At the completion of this work, NIOC will take over as production operator. In a related story, the French government warns the United States not to apply the "D'Amato law" to the agreement. The law allows the President of the United States to impose sanctions on foreign companies investing more than \$40 million per year in Libya or Iran. *(DJ)*
- Sep. 30** Brazil's Petrobras begins oil production in two major fields in the Campos Basin. The Barracuda and Caratinga fields together contain reserves of one billion barrels of oil equivalent and 530 billion cubic feet of natural gas. The fields are located 50 miles off the coast of Rio de Janeiro. *(DJ)*
- Oct. 1** Russian oil company AO Sidanko's petition to settle a lengthy legal battle with the Russian government and state-owned AO Rosneft for control of the Siberian oil production company AO Purneftegaz is accepted by the Supreme Arbitration Court. The end of the lawsuit clears the final hurdle for the privatization of AO Rosneft. *(DJ)*
- Oct. 1** South Korea's state-owned Korea Petroleum Development Corporation (Pedco) agrees to participate in a consortium to develop Venezuela's Onado oil field. Pedco will hold a 12 percent interest in the development project with the remaining 88 percent split among CGC of Argentina, Carmanah Resources Limited of Canada, and Distral of Venezuela. The Onado field contains 162 million barrels of oil and is expected to produce 52,000 barrels per day beginning in January 1998. *(DJ)*
- Oct. 2** In a joint statement, Norway's Saga Petroleum and state-owned Statoil announce a deal to jointly develop the Haltenbanken South oil and gas area in the Norwegian Sea. The deal combines Haltenbanken's four fields, Kristin, Lavrans, Tyrihans, and Trestakk, into one unit and should speed up the development of the area. Combined reserves are estimated at around 7 trillion cubic feet of natural gas and 630 million barrels of crude oil and condensate. Production is expected to start in 2001. *(DJ)*
- Oct. 2** The Venezuelan Congress approves a proposed \$2.5 billion joint venture between Lagoven, a unit of state-owned Petroleos de Venezuela, U.S.-based Mobil, and Germany-based Veba Oel AG to extract and upgrade extra heavy crude oil from the Cerro Negro zone of the Orinoco belt. The project is projected to last 35 years with peak production of 120,000 barrels per day reached by 2001. *(DJ)*
- Oct. 5** Japan Gasoline Corporation (JGC) announces that it has won a contract to design, build, and equip an oil refinery in Pakistan. JGC estimates the total cost of the project to be around \$600 million. The refinery will include a crude oil distillation unit and a hydrocracker and will have a processing capacity of 100,000 barrels of crude oil per day, making it

Pakistan's largest refinery. It is designed to help meet Pakistan's domestic demand for oil products and is expected to be complete by the end of 2000. (DJ)

- Oct. 6** Japan's Itochu Corporation and Japan Gasoline Corporation secure an oil refinery construction contract from the Georgian government. The contract is estimated to be worth between \$200 and \$300 million, with construction beginning in 1998 and start-up scheduled for 2001. The refinery will be built in Supsa on the Black Sea and will process 60,000 barrels of crude oil per day. It will supply gasoline, gas oil, and heavy fuel oil for domestic consumption in Georgia and export to Ukraine, Turkey, and other neighboring countries. (DJ)
- Oct. 6** The Malaysian government confirms that it has approved a proposal submitted by Japan's Chiyoda Corporation to build a 118-mile crude oil pipeline across the Malay Peninsula. The \$2 billion pipeline will have the capacity to carry 2 million barrels per day from the Malaysian town of Alor Setar to the Thai port of Sai Buri. Thailand still needs to approve the project before it can go forward, but Chiyoda is expecting that to occur soon. (DJ)
- Oct. 6** The U.S. Department of Energy announces that it will sell its 78 percent share of the Elk Hills Naval Petroleum Reserve in California to Occidental Petroleum for \$3.6 billion. Currently, Elk Hills produces 60,000 barrels per day of oil, down from a high of 150,000 barrels per day in 1981. The U.S. Congress and the U.S. Department of Justice have 31 days and 60 days, respectively, to review the sale. (DJ)
- Oct. 8** The United Nation's Iraq Sanctions Committee votes to provide funds to Turkey to purchase spare parts for the Kirkuk-to-Yumurtalik pipeline that carries Iraqi crude oil to the Turkish port of Ceyhan. The Committee said that the funds are for medium-term maintenance of the pipeline, which is to carry at least half of Iraq's oil exports under the current six-month phase of the oil-for-food program. (DJ)
- Oct. 9** Turkey's state-owned oil company, Turkiye Petrolleri AO (TPOA), signs a \$750 million deal with Kazakhstan to develop oil reserves in the northwestern Aktyubinsk region near the Caspian Sea. The contract is expected to last at least 29 years, and Kazakhstan could earn \$1.8 billion in revenues. TPOA and Amoco will set up a 50-50 joint venture to finance and implement the project. The first four years of the contract are set aside for exploration and the following 25 years for production. Turkish officials estimate that the region contains about 327 million barrels of oil. (WSJ)
- Oct. 9** Norway's state-owned oil company, Statoil AS, reports that so far about 60 million barrels of recoverable oil have been found in eight exploration wells drilled this year. In the North Sea, new discoveries were made in the Beta West structure on the Yme field, in the Glitne oil field north of the Sleipner area, and in the Statfjord field. By the end of the year, Statoil will drill four more exploration wells. Its greatest expectations are for the first deep water well on the Vena Dome in the Voering plateau in the Norwegian Sea. (DJ)
- Oct. 11** Pilipinas Shell Petroleum Corporation, a unit of Royal Dutch/Shell, and Occidental Philippines Incorporated, a unit of Occidental Petroleum Corporation of the U.S., announce a \$5 billion joint venture to distribute natural gas from the Malampaya/Camago natural gas field off the western Philippine island of Pauline. The Philippines has depended heavily on imported coal and oil for its energy needs and has begun to develop its domestic energy resources to reduce this dependence. The Filipino government will retain 60 percent of the revenues generated by the project which should translate into an estimated \$8 billion. The remaining 40 percent go to the Shell/Occidental partnership. Shell and Occidental stand to earn \$500 million per year in revenues with investments fully recovered in seven to eight years. (DJ)
- Oct. 11** Nine days after signing a \$2 billion contract with the National Iranian Oil Company, France's Total SA begins Phases Two and Three of the development plan for Iran's South Pars natural gas field. The field contains an estimated 280 trillion cubic feet of natural gas and 7.5 billion barrels of natural gas liquids. Phases Two and Three are designed to produce two billion cubic feet of natural gas per day over 30 years. The deal has the support of the European Union, but has drawn harsh criticism from the United States. (DJ)
- Oct. 11** Egypt and Libya announce a \$1 billion project that includes the construction of a 386-mile oil pipeline between the two countries. The line will transport up to 150,000 barrels of oil per day, carrying Libyan crude oil from the border town of Tobruk to Egyptian refineries. (DJ)
- Oct. 13** The Gulf Cooperation Council (GCC), whose membership includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates, opens a two-day conference with the European Union in Manama, Bahrain, focusing on advanced

oil and gas technologies. Fayez al-Sadah, general manager of Bahrain National Oil Company, opened the conference by stating that world crude oil demand is expected to rise from today's level of 72 million barrels per day to 96 million barrels per day by 2010 and that the GCC states are ready to meet any increases in world oil demand. (DJ)

- Oct. 14** Shell U.K. Exploration and Production reports that production has started on the Central North Sea Kingfisher condensate field, four weeks ahead of schedule and significantly under budget. The field's reserves are estimated at 56 million barrels of crude oil and condensate and 368 billion cubic feet of gas. Kingfisher is located about 155 miles northeast of Aberdeen. A second production well should be flowing by the end of 1997 and four more wells are expected on line by early 1999. (DJ)
- Oct. 14** At a joint news conference, officials from Turkmenistan and Iran announce an agreement to set up a joint consortium to develop offshore oil and gas fields located on their joint border in the Caspian Sea. The two countries also agreed to further efforts toward determining the legal status of the Caspian region in order to provide more guarantees to international companies interested in long-term work in the Caspian. (DJ)
- Oct. 20** Two of Mexico's main Gulf Coast crude oil export ports reopen after being closed for five days due to poor weather conditions. The port of Pajaritos usually exports around 400,000 barrels of oil per day and the port of Dos Bocas exports around 300,000 barrels per day. These two ports, along with the port of Cayo Arcos, handle the vast majority of exports from state-owned Petroleos Mexicanos. (DJ)
- Oct. 20** The Maritime and Port Authority of Singapore confirms that a 166,500-barrel oil spill from a collision of two oil tankers has been contained in a region southwest of Singapore. On October 15, an empty, very large crude carrier and an oil tanker collided in the Singapore Strait. The oil tanker was carrying about 800,000 barrels of marine fuel oil before the collision. Neither ship was in danger of sinking and clean-up operations began immediately. However, clean-up efforts have been hampered by thick haze from forest fires in nearby Indonesia. The individuals in charge of the two vessels have been charged with reckless navigation. The spill has been described as Singapore's worst. (DJ)
- Oct. 21** Thailand's Songkla Petroleum & Chemical Limited signs a \$2.2 billion contract with a German joint venture company, Kruppe Uhde GmbH & Thyssen Rhestahl Technik GmbH, to design and build a crude oil refinery, a petrochemical complex, and a 150-megawatt power plant. The project is part of Thailand's Southern Seaboard Development program and will be constructed in Songkla province in southern Thailand. The oil refinery will have a capacity of at least 125,000 barrels per day. (DJ)
- Oct. 21** Qatar General Petroleum Corporation announces that it will move forward with its plans to build a gas pipeline from its North Dome natural gas field to Jebel Ali in the United Arab Emirates. The proposed pipeline will have a capacity of 800 million cubic feet per day and is scheduled to be completed in three years. A five-member consortium led by Atlantic Richfield of the U.S is developing the project. (DJ)
- Oct. 22** Kazakhstan's Ambassador to Rome, Olxas Suleimenov, announces that Italy's Ente Nazionale Idrocarburi (ENI), Texaco, BG PLC, and Kazak Gas will invest \$9 billion over 40 years to develop Kazakhstan's giant Karachaganak oil and gas field. ENI and BG will each hold a 32 percent stake in the field, Texaco 20 percent and Kazak Gas 16 percent. The Karachaganak field contains reserves of 17.66 trillion cubic feet of gas and 2.2 billion barrels of crude oil and condensates. (DJ)
- Oct. 23** Oilwatch Alaska, an oil industry watchdog group, is calling for an antitrust investigation of the companies that control the Trans-Alaska oil pipeline. The group charges that high shipping charges are strangling competition for development of the North Slope oil fields. Oilwatch also accuses the companies of overcharging for oil shipments through the pipeline, which allegedly cuts into profits and costs the state of Alaska billions of dollars in royalties and taxes. The 800-mile pipeline carries 20 percent of US domestic oil production. The companies that control the pipeline include British Petroleum 50 percent, Arco 22 percent, Exxon 20 percent, and Mobil 3.2 percent. Amerada Hess, Philips Petroleum, and Unocal each own less than 2 percent. (DJ)
- Oct. 23** The Afghanistan Taliban Islamic movement and Turkmenistan have reached an agreement on setting up a tripartite commission to build a natural gas pipeline from Turkmenistan to Pakistan via Afghanistan. Officials from Turkmenistan and Pakistan signed an agreement in July 1997 to build the pipeline that will carry up to 706 billion cubic feet per year of Turkmen gas. (DJ)

- Oct. 23** In response to Iraq's recent refusal to comply with United Nations (U.N.) arms inspections, the U.N. Security Council approves a resolution condemning Iraq's actions. Although the measure does not add new sanctions on Iraq, it expresses the Council's intentions of adopting travel restrictions on Iraqi military and intelligence officials if Iraq continues to inhibit U.N. arms inspections. The resolution passed by a 10-0 vote with five abstentions. *(DJ)*
- Oct. 25** The State Oil Company of Azerbaijan opens an oil pipeline that stretches northwest from Baku on the Caspian Sea, through a 93-mile segment in Chechnya, and on to the Russian port of Novorossisk on the Black Sea. The ceremony marks the first time Azerbaijan has exported its own oil to Western markets in 65 years. *(WP)*
- Oct. 27** Unocal Corporation organizes a multinational consortium to build a natural gas pipeline from Turkmenistan to Pakistan, and possibly India, via Afghanistan. The CentGas pipeline will cost about \$2 billion and will transport two billion cubic feet of gas per day 790 miles from the Turkmen border to Multan, Pakistan. The pipeline is expected to take two years to complete. The consortium has also proposed a \$600 million, 400-mile extension to New Delhi. Unocal will act as project leader, retaining a 46.5 percent interest in the project. The rest of the consortium consists of Saudi Arabia's Delta Oil (15 percent), the Turkmen government (7 percent), Japan's Itochu Oil Exploration (6.5 percent), Indonesia Petroleum (6.5 percent), Korea's Hyundai Engineering & Construction (5 percent), and Pakistan's Crescent Group (3.5 percent). A 10 percent share has been reserved for Russia's Gazprom, which is expected to sign onto the project soon. *(WSJ)*
- Oct. 27** The Tehran Times newspaper reports that Russia and Iran have signed a memorandum of understanding for Russia to build an oil refinery and a petrochemical complex in the Chahbahar free trade and industrial zone in southeast Iran. *(DJ)*
- Oct. 27** Under pressure from the U.S. Congress, the U.S. Export-Import Bank is expected to suspend \$186 million in loan guarantees to 21 oil service companies, that were expecting to sell oil well drilling and measuring equipment to Russia's Gazprom over the next year. The U.S. Congress is calling for the suspension of the loans because of Gazprom's ties to Iran. Gazprom recently signed onto a \$2 billion contract to develop Iran's South Pars natural gas field, a deal that may violate the Iran and Libya Sanctions Act. The Export-Import Bank is due to vote on the loan guarantees by the end of 1997. *(DJ)*
- Oct. 28** The U.S. Senate passes the \$13.8 billion Interior Appropriates bill that includes a provision directing the Department of Energy to sell \$207.5 million of oil from the Strategic Petroleum Reserve. Revenues from the sale will pay for the Reserve's operations over the next year. The bill also extends for another year the current moratorium on offshore oil and gas drilling in parts of the Gulf of Mexico and Alaska. The U.S. House of Representatives has already passed its version of the bill and President Clinton is expected to sign it. *(DJ)*
- Oct. 29** A consortium of South Korean, British, and Italian firms has discovered an oil field in Libya with estimated recoverable reserves of one billion barrels. The field is located 466 miles south of Tripoli on the Murzuk NC-174 block. A contract to explore the field was signed in 1990 by the consortium and Libya's National Oil Company. Under the terms of the agreement, the Libyan company will retain 75 percent of the oil produced and the rest will be equally split among the consortium's members. *(DJ)*
- Oct. 29** Iraq's Revolution Command Council, the country's main decision making body, announces that it will no longer allow U.S. citizens and U.S. aircraft to serve with the United Nations (U.N.) arms inspection teams. The council's statement gives U.S. citizens working with the inspection teams one week to leave Iraq. Iraq has also asked the U.N. to stop flights by American reconnaissance aircraft monitoring its compliance with U.N. resolutions requiring the elimination of weapons of mass destruction. In response to this statement, the U.N. Security Council unanimously approves a statement condemning Iraq's threats to expel the Americans. *(DJ)*
- Oct. 31** Chevron Corporation announces that its Kuito Field (formally known as Block 14) off the coast of Angola, may contain at least one billion barrels of oil. This estimate makes the field one of Chevron's largest finds in several decades. Production is expected to begin by early 1999. Chevron holds a 31 percent interest in the field followed by France's Total, Italy's Agip, and the Angolan government each with 20 percent share, and by Portugal's Petrogal with about a 9 percent share. *(WSJ)*
- Nov. 3** An official from Russian oil drilling company Zarubezhneft denies an Iraqi news report that it will begin developing Iraq's 600,000-barrel-per-day West Qurna oil field. Zarubezhneft is part of a consortium led by Russia's Lukoil that signed a 23-

year production sharing agreement with Iraq, valued at \$3.8 billion, to develop the field. Zarubezhneft's Deputy General Director Yuri Agababov indicates that there have been negotiations but reiterates that work in Iraq will not start until United Nations sanctions are lifted. *(DJ)*

- Nov. 3** Dutch and Belgian oil worker unions call for a boycott of Nigerian crude oil as part of a campaign to secure the release of jailed Nigerian oil union leaders Milton Dabibi and Frank Korkori. *(DJ)*
- Nov. 4** The U.S. Department of the Interior rejects a petition from environmental groups seeking to halt crude oil and natural gas drilling in the Beaufort Sea off the coast of Alaska's Arctic National Wildlife Refuge. The petition expressed concern for potential damage to the ecosystem of the refuge from pollution and possible oil spills. However, the Interior Department states that Atlantic Richfield Company's plan for exploration in the Beaufort Sea has adequate safeguards to protect the area. *(DJ)*
- Nov. 4** Turkmenistan withdraws three of eleven blocks from the first round of an offshore oil and gas tender opened on September 1, 1997. The three blocks, Lachin, Burgut, and Yelbars, lie on the Turkmen-Iranian Caspian Sea border-zone, calling ownership into question. The three blocks contain estimated reserves of 17.1 trillion cubic feet of natural gas and 5.4 billion barrels of oil. *(DJ)*
- Nov. 5** Texaco North Sea U.K. Limited announces that natural gas and condensate production has begun in its United Kingdom North Sea Erskine field. This follows a November 3, 1997 announcement that first production had been delayed again from the original start-up date of October 14, 1997 due to final testing on a pipeline that will carry gas and condensate to a London platform operated by Amoco Exploration Company. Peak production is expected to reach 120 million cubic feet of gas per day and 29,600 barrels per day of condensate by October 1998. Estimated recoverable reserves total more than 330 billion cubic feet of natural gas and over 75 million barrels of condensate. *(DJ)*
- Nov. 5** Turkmenistan resumes natural gas shipments to Ukraine following the signing of a new agreement on paying for the fuel. Under the agreement, Turkmenistan will supply 99 billion cubic feet of gas through the end of 1997 and 706 billion cubic feet in 1998. Ukraine is required to pay for at least half of the shipments in cash and the remainder through barter and other mechanisms. Turkmenistan cut off gas shipments to Ukraine in April 1997 to force repayment of a \$300 million debt from previous gas shipments. *(DJ)*
- Nov. 7** Mexico's state-owned Petroleos Mexicanos announces that it will spend \$3.5 billion over the next three years to build coker units at three oil refineries in Salina Cruz, Ciudad Madero, and Minatitlan. The project will begin in 1998 and enable the refineries to produce more high quality products, such as diesel fuel and gasoline, from heavy Mexican crude oil. The upgrade is designed to meet rising domestic demand for oil, but should also permit increased exports. *(DJ)*
- Nov. 8** Azerbaijan's parliament ratifies an exploration agreement signed between Azerbaijan's state oil company and Mobil Corporation on August 1, 1997. The \$2 billion deal is for the exploration of the Oguz oil field that is located about 50 miles southeast of the Apsheron Peninsula in the Caspian Sea. Each company holds a 50 percent stake in the project, and reserves are estimated at 733 million barrels of oil. *(DJ)*
- Nov. 11** Russian President Boris Yeltsin and Chinese President Jiang Zemin sign an agreement to build a \$12 billion pipeline to carry natural gas from eastern Siberia to China and then on to Japan and South Korea. The pipeline is expected to bring 353 billion cubic feet of gas to China and make available an additional 353 billion cubic feet to Japan and South Korea over a 30-year period. South Korea and Japan have yet to sign off on the deal, but the two countries are expected to provide equipment and financing. *(WSJ)*
- Nov. 11** Russian gas company Gazprom postpones a bond offering to raise up to \$3 billion for a natural gas exploration project in Iran. Gazprom cites uncertain market conditions as the reason for the delay. The lead underwriter for Gazprom is Goldman, Sachs, an American investment bank, which may be in violation of the 1996 Iran-Libya Sanctions Act for its role in the bond offering. Gazprom and its partners, France's Total and Malaysian oil company Petronas, signed a \$2 billion contract last month with Iran to begin exploration of Iran's South Pars gas field. *(NYT)*
- Nov. 12** BG Exploration and Production and its partners Royal Dutch/Shell Group and Edison International sign a natural gas sales agreement with Egyptian General Petroleum Company to supply gas from the Rosetta Concession, offshore Egypt's

Nile Delta. Gas deliveries will begin in January 2000 and reach a maximum of 250 million cubic feet of gas per day. The agreement is scheduled to last for a minimum of 20 years. *(DJ)*

- Nov. 12** The United Nations (U.N.) Security Council unanimously approves a resolution to condemn Iraq for its decision to expel Americans from U.N. weapons inspection teams. The Council's measure imposes a travel ban on Iraqi officials who obstruct the inspection teams and expresses the firm intention to take further unspecified measures if Iraq continues to defy the U.N. *(DJ)*
- Nov. 13** Australian crude oil and natural gas producer, Santos Limited, reports that it has made one of the largest natural gas discoveries in Australia at its Barrolka field in southwest Queensland State. Barrolka's reserves are estimated at 575 billion cubic feet. Santos holds a 58.86 percent interest in the field. *(DJ)*
- Nov. 14** Coastal Corporation signs a memorandum of understanding with Maraven, a unit of Venezuela's state-owned Petroleos de Venezuela, for a 35-year joint venture to produce, refine, and market extra heavy crude oil from the Zuata region of Venezuela's Orinoco Belt. The crude oil will be transported via pipeline to the Jose upgrading complex near Puerto La Cruz and then on to Coastal's 100,000-barrel-per-day refinery in Corpus Christi, Texas. The agreement calls for the joint venture to purchase the Corpus Christi refinery and install a new delayed coking unit and an additional hydrotreatment unit. The deal is still subject to final approval by the Venezuelan Congress and by Coastal's board. *(DJ)*
- Nov. 17** Royal Dutch/Shell announces that it will invest \$1 billion in a joint venture with Russia's Gazprom to produce crude oil, natural gas liquids, and natural gas in Russia and elsewhere. Shell and Gazprom will share equal ownership in the partnership. In a separate memorandum of understanding, Shell, Gazprom, and Russian oil company, Lukoil, announce that they will submit a joint bid for a stake in Russian oil company, Rosneft, when it becomes available for privatization in the near future. *(NYT)*
- Nov. 18** Mobil Oil Qatar, a unit of Mobil Corporation, signs a memorandum of understanding with state-owned Qatar General Petroleum Corporation to evaluate development of Qatar's North Field. The giant field contains estimated reserves of more than 380 trillion cubic feet of natural gas and is thought to be the world's largest nonassociated natural gas field. Mobil says the project will eventually deliver one billion cubic feet of natural gas per day, primarily to the Qatari domestic market, more than 30,000 barrels per day of condensate, and more than 15,000 barrels per day of propane and butane. *(WSJ)*
- Nov. 18** Kazakhstan signs an agreement with a consortium that includes US-based Texaco, British Gas, Italy's Agip, and Russia's Lukoil to develop the Karachaganak crude oil and natural gas field in northwestern Kazakhstan. The field's reserves are estimated at more than 2 billion barrels of crude oil and condensate and about 20 trillion cubic feet of natural gas. The consortium will develop the field for the next 40 years, with Agip and British Gas each holding a 32.5 percent interest in the field, Texaco 20 percent and Lukoil 15 percent. *(DJ)*
- Nov. 18** Kazakhstan signs an agreement with a consortium that includes Mobil Corporation, British Petroleum, Royal Dutch/Shell, Norway's Statoil, France's Total, British Gas, and Italy's Agip to explore an offshore area in the North Caspian Sea known as Kazakhstancaspishelf. The agreement allows the consortium to split production from 12 blocks selected by the consortium and also calls for additional seismic data. Drilling is expected to start in 1998. *(DJ)*
- Nov. 18** Nizar Hamdoon, Iraq's United Nations (U.N.) representative, announces that Iraq will not continue the U.N.-sponsored oil-for-food sale unless the U.N. agrees to a specific date for lifting economic sanctions. Hamdoon indicates that Iraq will continue to participate in the current six-month phase of the oil-for-food sale, which runs through December 4, 1997. *(DJ)*
- Nov. 20** Iraq's Revolution Command Council formally endorses an agreement, arranged by Russia, that enables United Nations (U.N.) weapons inspection teams to resume operations in Iraq. The deal ends a three-week standoff between the U.N. and Iraq that began in late October 1997 after Iraq announced it would no longer allow U.S. citizens to serve on U.N. weapons' inspection teams. *(DJ)*
- Nov. 20** Egypt and Libya sign an agreement to link the two countries' natural gas networks by constructing a pipeline between Tobruk, Libya and Alexandria, Egypt. The two countries also have agreed to form a joint company to manufacture pipelines and integrate their petrochemical industries. *(DJ)*

- Nov. 21** Turkey's state-run petroleum company Turkiye Petrolleri Anonim Ortakligi will team with Amoco Corporation to explore and develop the Alibegamolla oil fields in Kazakhstan. The two companies plan to invest \$850 million in the oil fields, located in the Temir region. *(DJ)*
- Nov. 24** Exxon Services Venezuela, a unit of Exxon Corporation, agrees to form a joint venture with Corpoven, a unit of Venezuela's state-owned oil company Petroleos de Venezuela. The joint venture will develop extra heavy crude oil from the Hamaca area of the Orinoco belt. Although the project still requires the approval of Venezuela's Congress, Exxon indicates that its initial investment will be \$800 million, and Corpoven foresees the companies investing \$4.9 billion over 35 years. Exxon will hold a 70 percent interest in the venture and Corpoven the remaining 30 percent. *(WSJ)*
- Nov. 25** Canada's AEC Pipelines initiates an expansion of its Alberta Oil Sands Pipeline to accommodate extra output from the Syncrude Canada plant. The initial phase of the project involves a 30-inch looping of the existing 22-inch system and will increase pipeline capacity to 300,000 barrels per day. This phase is estimated to cost about \$155 million and is expected to be completed as early as 1999. AEC also reports that when the pipeline expansion is fully complete, the system will carry up to 950,000 barrels of crude oil per day from Ft. McMurray to Edmonton. *(DJ)*
- Nov. 25** U.S. oil company Chevron Corporation and representatives from Australia's Aborigines finalize a land access agreement for a proposed \$2 billion, 1,553-mile natural gas pipeline between Papua New Guinea and Australia's Queensland state. The agreement is a significant step toward final approval of the project that is scheduled for October 1998. *(DJ)*
- Nov. 26** Mexico's state-owned oil company Petroleos Mexicanos signs a \$2.46 billion contract with a consortium consisting of South Korea's Sunkyong Engineering and Construction, Germany's Siemens, and Mexico's Tribasa to expand and modernize an oil refinery in northeastern Mexico. The project involves the construction of nine new units, the expansion and updating of ten existing units, and the construction of 754 miles of oil pipeline. Construction is expected to be complete within three years. *(DJ)*
- Nov. 28** United Nations Secretary-General Kofi Annan decides not to give a recommendation on the amount of oil Iraq can sell in the next six-month phase of the oil-for-food program. The current six-month phase ends December 4, 1997. Annan will suggest improvements to the program, but will not specify a recommended amount of oil that Iraq will be allowed to export. Currently, Iraq is allowed to export \$1.07 billion worth of oil every 90 days for two consecutive 90-day periods. *(WP)*
- Nov. 29** For the first time in four years, the Organization of Petroleum Exporting Countries (OPEC) agrees to an increase in its production ceiling. OPEC has raised the ceiling to 27.5 million barrels per day for the first half of 1998, effective January 1, 1998. The new ceiling represents a 10 percent increase over the current ceiling. The new quotas are as follows: Saudi Arabia 8.76 million barrels per day, Iran 3.942 million barrels per day, Iraq 1.314 million barrels per day, Venezuela 2.583 million barrels per day, Nigeria 2.042 million barrels per day, Indonesia 1.456 million barrels per day, Kuwait 2.19 million barrels per day, Libya 1.522 million barrels per day, United Arab Emirates 2.366 million barrels per day, Algeria 0.909 million barrels per day, and Qatar 0.414 million barrels per day. *(NYT)*
- Dec. 2** Royal Dutch/Shell has been offered a lead role in building a natural gas pipeline from Turkmenistan to Turkey, according to Alan Parsley of Shell Exploration & Production. The 1,242-mile pipeline, running from Turkmenistan through Iran and into Turkey and European markets, will be designed to carry between 989 billion cubic feet and 1.06 trillion cubic feet of gas annually. *(DJ)*
- Dec. 4** Canada's National Energy Board approves construction of eastern Canada's first offshore natural gas project and a pipeline to carry the gas to markets in eastern Canada and the U.S. Northeast. The combined cost for the two projects is estimated at \$2.1 billion. The Board's approval removes some of the uncertainties surrounding the Sable Offshore Energy Project, which is scheduled to start producing 460 million cubic feet of natural gas per day from offshore Nova Scotia in late 1999. *(WSJ)*
- Dec. 4** Iraq's United Nations (U.N.) Ambassador Nizar Hamdoon warns that Iraq will not allow oil to flow during a third six-month phase of the U.N.'s oil-for-food sale until the U.N. approves an aid distribution plan. Despite the warning, the U.N. Security Council approves a third six-month phase following the end of the second six-month phase. Like the first two phases, the third phase allows Iraq to sell up to \$1.07 billion of oil in each of two 90-day

periods. However, the Security Council may increase the sales level in January 1998 after U.N. Secretary-General Kofi Annan reports on Iraq's needs. *(WP)*

- Dec. 5** Iraq stops pumping oil into the Iraqi-Turkish pipeline at the end of the second six-month phase of the United Nations (U.N.) oil-for-food program in spite of U.N. approval of a third six-month phase. *(NYT) (DJ)*
- Dec. 7** Japan's Isuzu Motors announces that it will begin producing trucks that run on condensed natural gas in August 1998. Isuzu plans to manufacture gas-powered trucks with a two-ton load capacity. The company expects to produce 150 trucks in the first year of production, and another 300 trucks in the following year. Isuzu also expects demand to increase to more than 500 per year in 2000. *(DJ)*
- Dec. 8** As a result of construction delays, Malaysian Refinery Company (MRC) has delayed the start of operations at its 100,000-barrel-per-day oil refinery in Malacca from January 1998 to late March 1998. MRC is a joint venture between Petronas, Malaysia's state oil company, Conoco of the United States, and Norwegian state oil company Statoil. Petronas holds a 45 percent stake in the refinery, Conoco 40 percent and Statoil 15 percent. *(DJ)*
- Dec. 9** Russian oil company AO Yukos announces that it has acquired a controlling interest in Russia's state owned Eastern Oil Company. Yukos won a 45 percent stake in the Siberian oil producer for \$775 million, adding to the 9 percent that Yukos already held. The purchase secures Yukos's position as Russia's second largest oil producer behind AO Lukoil. *(WSJ)*
- Dec. 9** French oil company Elf Aquitaine confirms the discovery of a third oil field in Block 17 in the Gulf of Guinea off Angola. The oil field, named Dalia 2, has estimated reserves of 730 million barrels, which will boost Elf's worldwide reserves by 15 percent. Elf holds a 35 percent stake, Exxon 20 percent, British Petroleum 16.67 percent, Norway's Statoil 13.33 percent, Norsk-Hydro 10 percent, and Belgium's Fina 5 percent. *(DJ)*
- Dec. 10** The Australia Gas Light Company has reached a final agreement with Native Title claimants, opening the way for construction of a \$35 million natural gas pipeline in Australia's New South Wales state. The 140-mile pipeline will connect the towns of Dubbo and Marsden. Construction is set to commence in January 1998, with first gas deliveries expected in mid-1998. Under the agreement, the Aborigines win guarantees that selected cultural sites will be protected during construction and promises that they will be offered jobs. *(DJ)*
- Dec. 10** Texaco, Brown & Root, and Syntroleum Corporation announce plans to develop a plant that will convert natural gas to synthetic crude oil. The partners state that it will be capable of turning gas into heavy and light synthetic crude that can then be processed into petroleum products. The proposed plant, the first of its kind, will have a capacity of 2,500 barrels per day and will be located outside the United States at a sight to be announced in early 1998. *(NYT)*
- Dec. 11** Delegates from 150 industrial nations attending a United Nations climate conference in Kyoto, Japan reach an agreement to control heat-trapping greenhouse gasses. The agreement commits nations to roll back emissions from the burning of fossil fuels to pre-1990 levels. Under the agreement, the United States is required to reduce greenhouse gases to 7 percent below 1990 levels while Europe and Japan will make cuts of 8 percent and 9 percent, respectively. Developing countries, such as China, are to be exempt from the emissions ceilings for the time being. *(DJ)*
- Dec. 16** Talal Kanaan, an Iraqi official, states that two new oil fields have been discovered in northern and western Iraq. The field in northern Iraq, called Ismail, is expected to add to Iraq's 112 billion barrels of reserves while the western field, located in the western desert, could open a new area for development. *(DJ)*
- Dec. 17** A consortium led by United Kingdom-based Premier Oil PLC signs a \$250 million contract to develop an onshore oil field in Albania. The deal involves the development of the Patos Merinze oil field where production of heavy crude is to be increased from 6,000 barrels per day to between 25,000 and 50,000 barrels per day within four years. The consortium consists of Premier with a 25 percent stake, Germany's Preussag 17.5 percent, International Finance Corporation 15 percent, and Albpetrol, Albania's state owned oil company, 42.5 percent. *(DJ)*

- Dec. 17** Australia's Broken Hill Proprietary (BHP) announces that the Australian government has granted a production license to the company for the development of the deep water Blackback oil field in the Bass Strait. BHP states that it will spend about \$71 million on the field, while BHP's 50 percent partner, Esso Australia, claims that total expenditures will exceed \$128 million. Production is expected to begin in the first half of 1999, with peak production reaching 18,000 barrels of oil per day in the first year. Esso Australia, a unit of Exxon Corporation, adds that the field will also yield 35.3 million cubic feet of natural gas per day. (DJ)
- Dec. 18** Norway's state-owned oil company, Statoil, reports that its Smoerbukk South component of the Aasgard oil field will produce more oil than originally expected. Olav Strandenaes, staff engineer for Aasgard, states that a well at Smoerbukk South produced an oil flow of about 15,700 barrels per day but could produce between 30,000 and 37,000 barrels per day. Peak output from Aasgard is estimated to reach 200,000 barrels per day. (DJ)
- Dec. 18** Russia's giant gas company Gazprom cancels a \$750 million loan deal with the U.S. Export-Import Bank. The loan, signed in November 1994, guaranteed financing for purchases of equipment and services from American companies. Gazprom reports that it decided to turn down the loan guarantees before they could be withdrawn. The U.S. government has been considering sanctions against Gazprom for its participation in a \$2 billion project to develop Iran's South Pars gas field. (DJ)
- Dec. 19** In a deal valued at nearly \$3.5 billion, KN Energy, a Colorado-based natural gas utility, confirms that it will purchase gas pipeline giant MidCon Corporation from Occidental Petroleum. MidCon, headquartered in Lombard, Illinois, primarily transports natural gas from the Gulf of Mexico to as far north as the Canadian Border. KN Energy's acquisition of MidCon complements its decision in August 1997 to purchase Interenergy Corporation, an energy company that processes and markets natural gas in the Rocky Mountains. (WSJ)
- Dec. 23** After changing one word, the United Nations (U.N.) Security Council agrees to a statement criticizing, but not condemning, Iraq for refusing to grant U.N. weapons inspectors full access to suspected weapons sites. Opposition from Russia and other council members prompted the wording change. The statement comes after chief weapons inspector Richard Butler told the Security Council that Iraq would not allow access to all suspected weapons sites, including Iraqi President Saddam Hussein's palaces and homes. (DJ)
- Dec. 24** A spokesman for Shell Nigeria confirms that loadings of Nigerian Forcados crude oil cargos are to be delayed by 1-3 days until the end of January 1998. This announcement follows the earlier closures of 20 flow stations. Two stations, Tunu and Opukushi, had been closed since November 25, 1997, after villagers attacked and occupied the facilities. Those closures forced Shell Nigeria, on December 19, 1997, to declare *force majeure* on crude exports from its Forcados terminal from December 21, 1997 to January 11, 1998. The other 18 flow stations were shut down on December 21, 1997 because of a contractual dispute. All 20 flow stations have now begun to reopen, with output of Forcados crude returning to the normal 450,000-barrel-per-day rate, and Shell Nigeria continuing talks with local communities and its contract workers. (DJ)
- Dec. 24** Japan's Arabian Oil Company (AOC) confirms that it will begin a feasibility study in early 1998 for the development of the Dorra gas field in the Neutral Zone, shared equally by Saudi Arabia and Kuwait. The study will last for about six months and, if it shows that the project is economically viable, AOC will begin commercial production of natural gas after 2000. (DJ)
- Dec. 29** The Presidents of Iran and Turkmenistan open a 125-mile natural gas pipeline built to transport Turkmen gas to Iranian power plants. The pipeline cost \$190 million and has an initial capacity of 4 million cubic feet per day. The line runs between the Korpedzhe field in Turkmenistan and the Iranian border village of Kurtkoy and it is the first pipeline to carry energy southward from Central Asia. (WSJ)

Appendix E

**World Energy
Consumption (Btu),
1988-1997**

Table E1 World Primary Energy Consumption (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	10.87	11.13	10.88	10.82	11.06	11.37	11.70	11.81	12.16	12.19
Mexico.....	4.74	4.90	5.00	5.05	5.18	5.08	5.19	5.26	5.50	5.77
United States.....	80.22	81.35	84.12	84.02	85.55	87.37	89.25	90.86	93.87	94.19
Other.....	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01
Total.....	95.84	97.39	100.02	99.91	101.80	103.83	106.15	107.94	111.54	112.17
Central & South America										
Argentina.....	2.04	1.97	1.91	1.98	2.15	2.30	2.37	2.48	2.52	2.53
Brazil.....	5.46	5.63	5.65	5.90	5.95	6.13	6.49	6.81	7.28	7.64
Chile.....	0.45	0.50	0.56	0.56	0.60	0.65	0.69	0.75	0.81	0.89
Colombia.....	0.92	0.95	0.89	1.06	1.02	1.06	1.10	1.08	1.27	1.19
Cuba.....	0.49	0.50	0.49	0.45	0.40	0.40	0.40	0.41	0.42	0.44
Venezuela.....	1.94	2.07	2.09	2.22	2.23	2.30	2.43	2.53	2.59	2.68
Other.....	2.43	2.47	2.54	2.63	2.70	2.83	3.02	3.23	3.37	3.49
Total.....	13.72	14.09	14.13	14.80	15.06	15.67	16.51	17.29	18.25	18.85
Western Europe										
Austria.....	1.11	1.12	1.16	1.20	1.18	1.23	1.22	1.25	1.27	1.29
Belgium.....	2.05	2.09	2.16	2.26	2.25	2.24	2.30	2.34	2.54	2.58
Denmark.....	0.83	0.82	0.81	0.83	0.82	0.85	0.84	0.87	0.77	0.97
Finland.....	1.11	1.13	1.14	1.14	1.14	1.14	1.16	1.06	1.04	1.19
France.....	8.35	8.63	8.84	9.41	9.41	9.34	9.20	9.43	9.79	9.73
Germany.....	--	--	--	14.34	14.03	14.19	14.05	14.21	14.10	14.18
Germany, East.....	3.87	3.72	3.33	--	--	--	--	--	--	--
Germany, West.....	11.46	11.16	11.43	--	--	--	--	--	--	--
Greece.....	0.97	0.99	1.05	1.07	1.04	1.09	1.11	1.12	1.18	1.18
Ireland.....	0.33	0.35	0.37	0.39	0.40	0.40	0.42	0.45	0.46	0.48
Italy.....	6.78	7.03	7.02	7.14	7.18	7.00	6.93	7.52	7.65	7.65
Netherlands.....	3.24	3.25	3.36	3.55	3.51	3.57	3.56	3.66	3.78	3.88
Norway.....	1.55	1.56	1.58	1.59	1.65	1.65	1.66	1.72	1.74	1.78
Portugal.....	0.67	0.70	0.74	0.74	0.75	0.77	0.81	0.84	0.87	0.91
Spain.....	3.92	4.09	3.93	4.14	4.11	4.05	4.24	4.47	4.46	4.48
Sweden.....	2.22	2.18	2.15	2.15	2.15	2.15	2.13	2.32	2.23	2.16
Switzerland.....	1.12	1.13	1.17	1.20	1.21	1.19	1.19	1.17	1.21	1.21
Turkey.....	1.83	1.78	1.97	2.08	2.10	2.33	2.23	2.47	2.61	2.75
United Kingdom.....	9.13	9.38	9.44	9.57	9.32	9.63	9.59	9.55	9.89	10.08
Former Yugoslavia.....	2.22	2.23	2.13	1.87	--	--	--	--	--	--
Croatia.....	--	--	--	--	0.33	0.33	0.36	0.37	0.36	0.40
Serbia and Montenegro.....	--	--	--	--	0.71	0.55	0.58	0.46	0.72	0.73
Other.....	0.28	0.29	0.30	0.31	0.84	0.84	0.80	0.87	0.84	0.86
Total.....	63.02	63.63	64.07	64.97	64.11	64.55	64.39	66.15	67.51	68.48
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	1.53	1.43	1.27	1.01	1.01	0.93	0.93	0.98	1.01	0.94
Former Czechoslovakia.....	4.28	4.19	3.98	3.61	3.23	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	2.08	2.20	1.79	1.88	1.87
Slovakia.....	--	--	--	--	--	0.75	0.77	0.80	0.83	0.74
Hungary.....	1.37	1.35	1.28	1.20	1.11	1.11	1.09	1.08	1.11	1.10
Poland.....	5.13	4.92	3.95	3.89	3.84	3.94	3.77	3.59	4.12	4.23
Romania.....	3.04	3.16	2.89	2.25	2.06	2.04	1.94	2.07	2.13	1.92
Former U.S.S.R.....	60.23	59.75	60.69	57.46	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	0.97	0.83	0.75	0.72	0.64	0.69
Belarus.....	--	--	--	--	1.57	1.34	1.10	1.06	1.06	1.08
Kazakhstan.....	--	--	--	--	3.34	2.77	2.29	2.01	1.96	1.99
Lithuania.....	--	--	--	--	0.44	0.37	0.36	0.37	0.32	0.34
Russia.....	--	--	--	--	35.42	32.72	29.75	28.22	27.67	26.63
Turkmenistan.....	--	--	--	--	0.29	0.27	0.26	0.28	0.27	0.26
Ukraine.....	--	--	--	--	8.86	8.41	7.19	7.10	6.60	6.60
Uzbekistan.....	--	--	--	--	1.66	2.04	1.81	1.89	1.95	1.94
Other.....	0.16	0.15	0.11	0.09	1.81	1.38	1.24	1.23	1.31	1.26
Total.....	75.74	74.95	74.17	69.51	65.61	60.98	55.46	53.20	52.84	51.58

See footnotes at end of table.

Table E1 World Primary Energy Consumption (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Bahrain.....	0.23	0.24	0.26	0.29	0.24	0.29	0.28	0.28	0.28	0.28
Iran.....	2.70	2.97	3.10	3.24	3.35	3.47	3.66	3.82	3.96	4.19
Iraq.....	0.77	0.82	0.92	0.60	0.84	0.96	1.08	1.13	1.12	1.18
Israel.....	0.42	0.44	0.45	0.48	0.54	0.60	0.62	0.63	0.65	0.69
Kuwait.....	0.62	0.70	0.45	0.11	0.26	0.43	0.50	0.52	0.64	0.65
Oman.....	0.13	0.17	0.18	0.21	0.20	0.23	0.24	0.22	0.23	0.24
Qatar.....	0.27	0.29	0.36	0.42	0.49	0.57	0.57	0.57	0.58	0.63
Saudi Arabia.....	3.11	3.07	3.15	3.28	3.39	3.52	3.64	3.85	4.05	4.19
Syria.....	0.47	0.50	0.59	0.56	0.59	0.64	0.68	0.65	0.70	0.71
United Arab Emirates.....	1.17	1.26	1.23	1.49	1.55	1.48	1.49	1.60	1.67	1.75
Yemen.....	0.14	0.15	0.16	0.17	0.17	0.14	0.14	0.14	0.14	0.14
Other.....	0.29	0.28	0.29	0.33	0.36	0.40	0.45	0.47	0.50	0.51
Total.....	10.32	10.90	11.12	11.17	11.98	12.73	13.33	13.90	14.52	15.16
Africa										
Algeria.....	1.21	1.17	1.22	1.35	1.31	1.24	1.30	1.35	1.33	1.32
Angola.....	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Egypt.....	1.30	1.35	1.44	1.43	1.43	1.51	1.55	1.58	1.73	1.80
Gabon.....	0.04	0.04	0.04	0.04	0.05	0.04	0.05	0.05	0.06	0.06
Libya.....	0.46	0.48	0.51	0.53	0.49	0.51	0.53	0.54	0.57	0.59
Morocco.....	0.27	0.30	0.31	0.32	0.33	0.36	0.40	0.36	0.36	0.36
Nigeria.....	0.66	0.71	0.70	0.77	0.79	0.80	0.67	0.83	0.85	0.86
South Africa.....	3.66	3.40	3.36	3.52	3.79	3.87	4.07	4.18	4.15	4.30
Zimbabwe.....	0.21	0.22	0.24	0.23	0.24	0.22	0.24	0.24	0.25	0.25
Other.....	1.32	1.40	1.44	1.44	1.51	1.55	1.64	1.61	1.68	1.80
Total.....	9.21	9.15	9.33	9.73	10.02	10.19	10.54	10.83	11.05	11.42
Far East & Oceania										
Australia.....	3.38	3.55	3.70	3.69	3.85	3.92	3.95	4.12	4.10	4.46
Bangladesh.....	0.23	0.25	0.25	0.26	0.29	0.30	0.33	0.36	0.37	0.37
Brunei.....	0.07	0.08	0.07	0.04	0.05	0.05	0.05	0.06	0.06	0.07
China.....	26.47	26.96	27.01	28.26	29.33	31.36	33.99	34.95	35.75	36.64
Hong Kong.....	0.48	0.50	0.48	0.46	0.50	0.55	0.59	0.64	0.67	0.61
India.....	6.93	7.27	7.78	8.06	8.71	9.10	9.81	11.12	11.59	11.81
Indonesia.....	1.86	2.07	2.19	2.31	2.53	2.91	3.11	3.32	3.64	3.72
Japan.....	16.93	17.53	18.11	18.82	19.08	19.26	20.11	20.75	21.45	21.28
Korea, North.....	1.98	2.04	2.10	2.13	2.02	2.08	2.07	2.06	2.09	1.85
Korea, South.....	3.05	3.29	3.68	4.19	4.67	5.40	5.92	6.48	7.06	7.46
Malaysia.....	0.80	0.86	0.98	1.09	1.14	1.28	1.42	1.46	1.62	1.69
New Zealand.....	0.68	0.71	0.73	0.73	0.74	0.77	0.80	0.88	0.80	0.79
Pakistan.....	1.08	1.13	1.18	1.25	1.29	1.41	1.50	1.58	1.70	1.74
Philippines.....	0.64	0.71	0.73	0.74	0.79	0.86	0.89	0.94	0.97	0.99
Singapore.....	0.68	0.73	0.80	0.86	0.97	1.08	1.16	1.18	1.25	1.27
Taiwan.....	1.81	1.93	2.04	2.09	2.21	2.43	2.61	2.86	3.06	3.39
Thailand.....	0.91	1.07	1.25	1.37	1.47	1.68	1.87	2.24	2.45	2.52
Vietnam.....	0.25	0.23	0.28	0.27	0.29	0.40	0.43	0.54	0.57	0.60
Other.....	0.61	0.61	0.62	0.55	0.54	0.58	0.62	0.63	0.64	0.63
Total.....	68.85	71.52	74.00	77.16	80.46	85.41	91.23	96.18	99.84	101.87
World Total.....	336.70	341.63	346.85	347.26	349.04	353.36	357.60	365.49	375.56	379.53

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Primary energy consumption reported in this table includes petroleum, dry natural gas, coal, net hydroelectric, nuclear, geothermal, solar, and wind electric power, and biomass electric power for the United States and Brazil, as reported in Tables E2-E7. Primary energy consumption for the United States, beginning in 1990, also includes:

(1) the consumption of biomass, geothermal energy, and solar energy not used for electricity generation; (2) electricity imports from Mexico that are derived from geothermal energy; and (3) net imports of electricity derived from nonrenewable sources. Primary energy consumption for all countries, except the United States, has been adjusted to include total electricity imports and to exclude total electricity exports. This adjustment is necessary because the consumption data for electric power by type, as reported in Tables E5-E7, are not adjusted for electricity imports and exports, except for hydroelectric power in the United States. As a result of these adjustments, primary energy consumption reported in this table might not be equal to sum of the individual fuel types reported in Tables E2-E7.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Table E2 World Petroleum Consumption (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	3.40	3.48	3.39	3.24	3.28	3.33	3.40	3.45	3.53	3.66
Mexico.....	3.27	3.36	3.44	3.45	3.47	3.44	3.62	3.47	3.56	3.75
United States.....	34.22	34.21	33.55	32.85	33.53	33.84	34.74	34.66	35.86	36.38
Other.....	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01
Total.....	40.91	41.07	40.39	39.55	40.30	40.62	41.77	41.60	42.96	43.81
Central & South America										
Argentina.....	0.97	0.89	0.84	0.84	0.90	0.97	0.96	0.95	0.97	0.98
Bolivia.....	0.04	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.07
Brazil.....	2.65	2.68	2.71	2.73	2.77	2.88	3.10	3.24	3.52	3.66
Chile.....	0.22	0.25	0.27	0.29	0.30	0.34	0.36	0.40	0.44	0.46
Colombia.....	0.40	0.41	0.39	0.41	0.46	0.48	0.48	0.50	0.55	0.57
Costa Rica.....	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.07	0.06	0.07
Cuba.....	0.48	0.49	0.48	0.44	0.39	0.39	0.40	0.41	0.42	0.43
Dominican Republic.....	0.12	0.12	0.13	0.13	0.14	0.12	0.14	0.15	0.16	0.16
Ecuador.....	0.19	0.18	0.20	0.21	0.24	0.22	0.24	0.25	0.28	0.29
El Salvador.....	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.06	0.06	0.06
Guatemala.....	0.05	0.05	0.05	0.05	0.06	0.07	0.08	0.08	0.09	0.09
Honduras.....	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
Jamaica.....	0.08	0.09	0.10	0.10	0.11	0.11	0.12	0.13	0.13	0.14
Netherlands Antilles.....	0.14	0.15	0.15	0.14	0.14	0.14	0.14	0.15	0.15	0.15
Panama.....	0.06	0.05	0.06	0.07	0.09	0.09	0.09	0.09	0.10	0.10
Peru.....	0.30	0.25	0.25	0.23	0.25	0.26	0.27	0.30	0.32	0.32
Puerto Rico.....	0.31	0.30	0.29	0.37	0.32	0.33	0.35	0.34	0.32	0.33
Trinidad and Tobago.....	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.05
Uruguay.....	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.06	0.07	0.07
Venezuela.....	0.80	0.78	0.79	0.81	0.83	0.83	0.85	0.88	0.88	0.89
Virgin Islands, U.S.....	0.08	0.12	0.11	0.12	0.11	0.12	0.13	0.16	0.17	0.20
Other.....	0.22	0.24	0.25	0.24	0.24	0.26	0.27	0.30	0.28	0.30
Total.....	7.31	7.33	7.34	7.46	7.64	7.92	8.31	8.69	9.13	9.45
Western Europe										
Austria.....	0.44	0.45	0.45	0.49	0.48	0.48	0.49	0.49	0.48	0.51
Belgium.....	0.99	0.97	0.97	1.06	1.08	1.05	1.08	1.05	1.19	1.25
Denmark.....	0.43	0.41	0.40	0.41	0.40	0.41	0.44	0.47	0.50	0.49
Finland.....	0.48	0.48	0.47	0.48	0.46	0.44	0.46	0.36	0.40	0.46
France.....	3.69	3.81	3.73	3.99	3.96	3.85	3.77	3.90	4.00	4.04
Germany.....	--	--	--	5.85	5.87	5.97	5.92	5.92	5.98	5.96
Germany, East.....	0.67	0.62	0.58	--	--	--	--	--	--	--
Germany, West.....	5.01	4.69	4.90	--	--	--	--	--	--	--
Greece.....	0.60	0.62	0.67	0.68	0.70	0.72	0.74	0.74	0.77	0.79
Ireland.....	0.16	0.17	0.19	0.21	0.22	0.22	0.24	0.26	0.26	0.28
Italy.....	3.89	4.07	3.94	3.92	4.08	3.87	3.84	4.28	4.28	4.26
Luxembourg.....	0.06	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Netherlands.....	1.49	1.47	1.52	1.57	1.59	1.58	1.59	1.65	1.61	1.68
Norway.....	0.37	0.38	0.38	0.37	0.37	0.37	0.37	0.39	0.43	0.45
Portugal.....	0.43	0.52	0.52	0.53	0.58	0.55	0.56	0.60	0.57	0.61
Spain.....	2.03	2.13	2.09	2.21	2.29	2.18	2.33	2.60	2.43	2.69
Sweden.....	0.74	0.69	0.65	0.66	0.70	0.68	0.72	0.84	0.82	0.67
Switzerland.....	0.54	0.53	0.56	0.58	0.59	0.57	0.58	0.53	0.56	0.58
Turkey.....	0.93	0.91	0.98	0.97	1.02	1.16	1.11	1.23	1.30	1.29
United Kingdom.....	3.46	3.55	3.59	3.68	3.67	3.70	3.72	3.72	3.72	3.64
Former Yugoslavia.....	0.67	0.66	0.67	0.53	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.07	0.05	0.04	0.04	0.04	0.04
Croatia.....	--	--	--	--	0.14	0.13	0.17	0.19	0.17	0.17
Macedonia, TFYR.....	--	--	--	--	0.04	0.05	0.04	0.04	0.06	0.07
Serbia and Montenegro.....	--	--	--	--	0.12	0.07	0.07	0.06	0.11	0.11
Slovenia.....	--	--	--	--	0.07	0.09	0.09	0.10	0.11	0.12
Other.....	0.07	0.06	0.07	0.07	0.09	0.09	0.09	0.09	0.09	0.10
Total.....	27.16	27.26	27.42	28.32	28.69	28.37	28.51	29.61	29.97	30.33

See footnotes at end of table.

Table E2 World Petroleum Consumption (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.07	0.06	0.04	0.04	0.04	0.04	0.03	0.03	0.02	0.03
Bulgaria.....	0.60	0.50	0.41	0.26	0.28	0.25	0.27	0.28	0.25	0.24
Former Czechoslovakia.....	0.67	0.67	0.60	0.49	0.45	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	0.31	0.32	0.33	0.38	0.37
Slovakia.....	--	--	--	--	--	0.13	0.14	0.14	0.14	0.14
Hungary.....	0.40	0.38	0.37	0.34	0.36	0.35	0.36	0.33	0.31	0.32
Poland.....	0.73	0.72	0.58	0.57	0.62	0.62	0.63	0.65	0.75	0.78
Romania.....	0.71	0.74	0.82	0.60	0.53	0.53	0.47	0.52	0.55	0.57
Former U.S.S.R.....	18.54	18.25	17.48	17.45	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.07	0.03	0.04	0.02	0.02	0.03
Azerbaijan.....	--	--	--	--	0.43	0.41	0.39	0.38	0.28	0.34
Belarus.....	--	--	--	--	0.79	0.62	0.51	0.49	0.44	0.43
Estonia.....	--	--	--	--	0.06	0.06	0.05	0.05	0.06	0.06
Georgia.....	--	--	--	--	0.06	0.03	0.03	0.04	0.04	0.05
Kazakhstan.....	--	--	--	--	0.85	0.71	0.63	0.59	0.53	0.56
Kyrgyzstan.....	--	--	--	--	0.07	0.04	0.02	0.02	0.03	0.03
Latvia.....	--	--	--	--	0.11	0.09	0.08	0.09	0.10	0.09
Lithuania.....	--	--	--	--	0.18	0.16	0.17	0.16	0.14	0.15
Moldova.....	--	--	--	--	0.12	0.09	0.05	0.05	0.04	0.04
Russia.....	--	--	--	--	9.32	7.86	6.66	6.25	5.52	5.88
Tajikistan.....	--	--	--	--	0.04	0.04	0.01	0.02	0.05	0.05
Turkmenistan.....	--	--	--	--	0.16	0.14	0.13	0.13	0.13	0.11
Ukraine.....	--	--	--	--	1.74	1.22	1.06	1.01	0.80	0.84
Uzbekistan.....	--	--	--	--	0.40	0.37	0.35	0.38	0.30	0.31
Total.....	21.72	21.32	20.32	19.75	16.69	14.11	12.41	11.96	10.87	11.41
Middle East										
Bahrain.....	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Cyprus.....	0.05	0.06	0.07	0.07	0.08	0.08	0.09	0.09	0.09	0.10
Iran.....	1.85	2.03	2.11	2.27	2.28	2.34	2.36	2.39	2.34	2.38
Iraq.....	0.67	0.72	0.83	0.56	0.73	0.86	0.95	1.00	1.00	1.04
Israel.....	0.34	0.35	0.35	0.37	0.43	0.42	0.42	0.44	0.45	0.46
Jordan.....	0.13	0.13	0.14	0.13	0.15	0.15	0.17	0.18	0.19	0.20
Kuwait.....	0.25	0.26	0.18	0.09	0.17	0.23	0.28	0.30	0.30	0.31
Lebanon.....	0.09	0.07	0.07	0.11	0.11	0.14	0.16	0.17	0.18	0.17
Oman.....	0.05	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.10	0.10
Qatar.....	0.05	0.06	0.07	0.08	0.07	0.07	0.07	0.08	0.07	0.08
Saudi Arabia.....	2.04	1.97	2.02	2.09	2.13	2.19	2.24	2.45	2.52	2.58
Syria.....	0.41	0.42	0.43	0.37	0.39	0.44	0.48	0.48	0.49	0.50
United Arab Emirates.....	0.52	0.53	0.53	0.67	0.60	0.65	0.69	0.69	0.66	0.68
Yemen.....	0.14	0.15	0.16	0.17	0.17	0.14	0.14	0.14	0.14	0.14
Total.....	6.62	6.88	7.08	7.10	7.44	7.84	8.18	8.54	8.57	8.78

See footnotes at end of table.

Table E2 World Petroleum Consumption (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Africa										
Algeria.....	0.33	0.36	0.38	0.41	0.42	0.43	0.45	0.44	0.43	0.45
Angola.....	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.06
Cameroon.....	0.04	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.05
Congo (Brazzaville).....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
Congo (Kinshasa).....	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.04	0.05	0.05
Cote d'Ivoire (Ivory Coast).....	0.08	0.08	0.08	0.08	0.09	0.09	0.11	0.11	0.12	0.13
Egypt.....	0.93	0.94	0.99	0.97	0.94	0.95	0.96	0.98	1.07	1.13
Ethiopia.....	0.04	0.04	0.04	0.03	0.05	0.05	0.03	0.03	0.02	0.03
Gabon.....	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.05
Ghana.....	0.04	0.05	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06
Kenya.....	0.08	0.09	0.09	0.08	0.09	0.09	0.09	0.10	0.10	0.10
Libya.....	0.30	0.31	0.33	0.35	0.31	0.34	0.35	0.36	0.38	0.38
Morocco.....	0.20	0.23	0.24	0.24	0.27	0.28	0.30	0.29	0.28	0.29
Nigeria.....	0.48	0.50	0.51	0.53	0.54	0.55	0.45	0.58	0.59	0.60
Senegal.....	0.03	0.04	0.04	0.03	0.04	0.04	0.05	0.05	0.05	0.05
South Africa.....	0.59	0.58	0.63	0.69	0.85	0.83	0.84	0.94	0.88	0.96
Sudan.....	0.06	0.06	0.05	0.08	0.07	0.07	0.06	0.06	0.06	0.06
Tunisia.....	0.13	0.13	0.13	0.14	0.15	0.15	0.15	0.14	0.15	0.15
Zimbabwe.....	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06
Other.....	0.32	0.34	0.38	0.37	0.40	0.41	0.46	0.44	0.44	0.44
Total.....	3.85	3.98	4.17	4.29	4.50	4.56	4.62	4.83	4.91	5.11
Far East & Oceania										
Australia.....	1.31	1.37	1.42	1.42	1.43	1.50	1.57	1.66	1.59	1.63
Bangladesh.....	0.08	0.08	0.08	0.08	0.08	0.09	0.10	0.11	0.11	0.11
Brunei.....	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.03	0.03
Burma.....	0.03	0.04	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04
China.....	4.83	5.03	4.85	5.29	5.59	6.19	6.52	6.90	7.26	7.81
Guam.....	0.01	0.01	0.03	0.03	0.03	0.05	0.06	0.05	0.04	0.04
Hong Kong.....	0.26	0.26	0.27	0.28	0.32	0.33	0.38	0.39	0.39	0.36
India.....	2.29	2.40	2.44	2.49	2.66	2.73	2.94	3.27	3.48	3.73
Indonesia.....	1.10	1.22	1.36	1.45	1.48	1.59	1.61	1.70	1.84	1.95
Japan.....	9.69	10.14	10.44	10.76	11.10	10.95	11.56	11.63	11.92	11.59
Korea, North.....	0.14	0.13	0.15	0.16	0.15	0.15	0.14	0.13	0.10	0.09
Korea, South.....	1.54	1.77	2.15	2.53	3.05	3.54	3.88	4.23	4.57	4.72
Malaysia.....	0.43	0.46	0.55	0.58	0.62	0.70	0.79	0.83	0.91	0.94
Mongolia.....	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
New Zealand.....	0.19	0.21	0.22	0.21	0.22	0.25	0.26	0.31	0.27	0.26
Pakistan.....	0.41	0.44	0.47	0.47	0.49	0.55	0.61	0.64	0.71	0.74
Papua New Guinea.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Philippines.....	0.42	0.49	0.50	0.50	0.55	0.60	0.64	0.69	0.72	0.73
Singapore.....	0.68	0.73	0.80	0.85	0.93	1.03	1.11	1.13	1.20	1.21
Sri Lanka.....	0.07	0.07	0.07	0.07	0.08	0.09	0.09	0.10	0.11	0.12
Taiwan.....	1.02	1.11	1.14	1.15	1.17	1.30	1.39	1.56	1.64	1.72
Thailand.....	0.58	0.72	0.84	0.91	1.00	1.14	1.26	1.42	1.56	1.55
Vietnam.....	0.09	0.10	0.11	0.12	0.13	0.16	0.18	0.20	0.24	0.26
Other.....	0.14	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.15	0.15
Total.....	25.37	26.99	28.15	29.64	31.33	33.17	35.35	37.22	38.94	39.83
World Total.....	132.96	134.82	134.87	136.11	136.59	136.59	139.14	142.44	145.36	148.71

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table E3 World Dry Natural Gas Consumption (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	2.37	2.53	2.41	2.44	2.64	2.76	2.92	2.94	3.06	3.03
Mexico.....	1.01	1.03	1.03	1.09	1.11	1.02	1.04	1.09	1.23	1.31
United States.....	18.55	19.38	19.30	19.61	20.13	20.83	21.29	22.16	22.56	22.54
Total.....	21.94	22.95	22.74	23.13	23.88	24.61	25.25	26.19	26.85	26.88
Central & South America										
Argentina.....	0.74	0.83	0.74	0.81	0.85	0.90	0.93	1.03	1.09	1.10
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
Brazil.....	0.11	0.14	0.11	0.14	0.15	0.17	0.18	0.19	0.21	0.23
Chile.....	0.04	0.06	0.07	0.05	0.05	0.06	0.07	0.07	0.07	0.10
Colombia.....	0.14	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.20
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ecuador.....	(s)	(s)	0.01	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Peru.....	0.04	0.04	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
Trinidad and Tobago.....	0.16	0.17	0.18	0.21	0.20	0.23	0.26	0.28	0.32	0.34
Venezuela.....	0.78	0.92	0.91	0.95	0.91	0.97	1.04	1.06	1.14	1.19
Total.....	2.03	2.31	2.21	2.35	2.37	2.55	2.70	2.86	3.06	3.24
Western Europe										
Austria.....	0.20	0.21	0.23	0.24	0.24	0.26	0.26	0.28	0.30	0.29
Belgium.....	0.32	0.35	0.36	0.39	0.40	0.42	0.43	0.47	0.52	0.50
Denmark.....	0.06	0.07	0.08	0.09	0.09	0.11	0.12	0.14	0.16	0.17
Finland.....	0.06	0.08	0.10	0.11	0.11	0.11	0.13	0.13	0.13	0.13
France.....	1.06	1.08	1.12	1.26	1.26	1.23	1.19	1.23	1.36	1.34
Germany.....	--	--	--	2.57	2.55	2.72	2.76	3.01	3.19	3.03
Germany, East.....	0.23	0.23	0.14	--	--	--	--	--	--	--
Germany, West.....	1.88	2.00	2.05	--	--	--	--	--	--	--
Greece.....	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	0.01
Ireland.....	0.07	0.08	0.08	0.08	0.08	0.10	0.10	0.10	0.12	0.12
Italy.....	1.52	1.64	1.74	1.80	1.78	1.80	1.75	1.92	2.02	2.09
Luxembourg.....	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03
Netherlands.....	1.35	1.39	1.37	1.53	1.49	1.52	1.47	1.51	1.68	1.58
Norway.....	0.08	0.08	0.09	0.08	0.14	0.10	0.10	0.11	0.11	0.12
Portugal.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)
Spain.....	0.15	0.20	0.22	0.25	0.26	0.27	0.31	0.34	0.38	0.49
Sweden.....	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Switzerland.....	0.07	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.10
Turkey.....	0.04	0.12	0.13	0.15	0.16	0.19	0.20	0.26	0.30	0.36
United Kingdom.....	2.04	2.02	2.25	2.22	2.21	2.53	2.65	2.83	3.35	3.39
Former Yugoslavia.....	0.27	0.30	0.26	0.26	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.02	0.01	0.02	0.09	0.01	0.01
Croatia.....	--	--	--	--	0.10	0.11	0.09	0.08	0.09	0.10
Macedonia, TFYR.....	--	--	--	--	0.01	0.01	0.00	0.00	0.00	0.00
Serbia and Montenegro.....	--	--	--	--	0.08	0.04	0.06	0.04	0.12	0.14
Slovenia.....	--	--	--	--	0.02	0.03	0.03	0.03	0.04	0.03
Total.....	9.43	9.96	10.34	11.17	11.14	11.71	11.80	12.74	14.04	14.05

See footnotes at end of table.

Table E3 World Dry Natural Gas Consumption (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.03	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.21	0.21	0.23	0.20	0.18	0.17	0.17	0.21	0.22	0.17
Former Czechoslovakia.....	0.42	0.45	0.54	0.49	0.40	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	0.25	0.22	0.28	0.32	0.32
Slovakia.....	--	--	--	--	--	0.17	0.20	0.27	0.26	0.25
Hungary.....	0.40	0.42	0.39	0.38	0.34	0.37	0.35	0.39	0.44	0.41
Poland.....	0.42	0.44	0.39	0.35	0.31	0.30	0.30	0.33	0.39	0.36
Romania.....	1.40	1.48	1.35	1.05	0.94	0.92	0.86	0.91	0.90	0.72
Former U.S.S.R.....	24.72	25.17	25.61	25.31	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.07	0.05	0.06	0.06	0.06	0.05
Azerbaijan.....	--	--	--	--	0.53	0.39	0.34	0.32	0.33	0.33
Belarus.....	--	--	--	--	0.67	0.62	0.52	0.47	0.50	0.54
Estonia.....	--	--	--	--	0.05	0.02	0.02	0.03	0.03	0.04
Georgia.....	--	--	--	--	0.18	0.09	0.06	0.08	0.06	0.07
Kazakhstan.....	--	--	--	--	0.72	0.53	0.54	0.40	0.52	0.50
Kyrgyzstan.....	--	--	--	--	0.09	0.08	0.07	0.03	0.07	0.07
Latvia.....	--	--	--	--	0.06	0.03	0.02	0.04	0.04	0.05
Lithuania.....	--	--	--	--	0.14	0.09	0.08	0.10	0.09	0.11
Moldova.....	--	--	--	--	0.08	0.07	0.05	0.05	0.07	0.09
Russia.....	--	--	--	--	16.68	16.38	15.40	14.68	14.68	13.60
Tajikistan.....	--	--	--	--	0.07	0.05	0.06	0.03	0.04	0.04
Turkmenistan.....	--	--	--	--	0.14	0.15	0.15	0.17	0.17	0.16
Ukraine.....	--	--	--	--	3.55	3.92	3.37	3.01	2.97	2.83
Uzbekistan.....	--	--	--	--	1.11	1.56	1.25	1.37	1.45	1.48
Total.....	27.58	28.19	28.50	27.79	26.31	26.20	24.06	23.22	23.61	22.17
Middle East										
Bahrain.....	0.19	0.19	0.21	0.24	0.20	0.24	0.24	0.24	0.24	0.24
Iran.....	0.75	0.83	0.88	0.86	0.93	0.99	1.19	1.31	1.50	1.69
Iraq.....	0.09	0.09	0.08	0.04	0.11	0.09	0.12	0.12	0.12	0.13
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	0.00	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.37	0.43	0.27	0.02	0.10	0.20	0.22	0.22	0.34	0.35
Oman.....	0.08	0.10	0.10	0.13	0.12	0.15	0.15	0.14	0.13	0.14
Qatar.....	0.22	0.23	0.29	0.34	0.42	0.50	0.50	0.50	0.51	0.56
Saudi Arabia.....	1.08	1.10	1.13	1.18	1.26	1.33	1.39	1.41	1.53	1.60
Syria.....	0.02	0.03	0.10	0.12	0.12	0.13	0.13	0.10	0.14	0.14
United Arab Emirates.....	0.65	0.73	0.69	0.83	0.94	0.84	0.80	0.92	1.00	1.07
Total.....	3.44	3.75	3.77	3.77	4.20	4.47	4.75	4.96	5.52	5.93
Africa										
Algeria.....	0.84	0.78	0.80	0.91	0.86	0.77	0.81	0.88	0.86	0.83
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Congo (Brazzaville).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.03
Egypt.....	0.26	0.29	0.30	0.34	0.37	0.42	0.44	0.46	0.50	0.50
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.16	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.19	0.20
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	0.14	0.17	0.14	0.18	0.18	0.19	0.17	0.19	0.20	0.20
Senegal.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	0.00	0.00	(s)	0.07	0.07	0.07	0.07	0.07
Tunisia.....	0.05	0.07	0.07	0.05	0.04	0.07	0.09	0.07	0.08	0.16
Total.....	1.47	1.50	1.52	1.69	1.66	1.71	1.79	1.88	1.95	2.02

See footnotes at end of table.

Table E3 World Dry Natural Gas Consumption (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.07	0.07	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.58	0.59	0.65	0.61	0.64	0.67	0.69	0.75	0.75	0.75
Bangladesh.....	0.14	0.15	0.15	0.16	0.19	0.20	0.22	0.24	0.25	0.25
Brunei.....	0.06	0.07	0.06	0.02	0.04	0.03	0.03	0.04	0.03	0.04
Burma.....	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.05
China.....	0.58	0.58	0.58	0.61	0.61	0.64	0.68	0.69	0.76	0.86
Hong Kong.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
India.....	0.36	0.36	0.46	0.52	0.55	0.61	0.68	0.72	0.80	0.96
Indonesia.....	0.54	0.60	0.60	0.61	0.74	0.93	1.06	1.17	1.22	1.22
Japan.....	1.78	1.91	2.04	2.18	2.23	2.15	2.40	2.43	2.63	2.58
Korea, South.....	0.10	0.10	0.12	0.14	0.19	0.23	0.31	0.38	0.48	0.59
Malaysia.....	0.30	0.31	0.33	0.40	0.40	0.48	0.50	0.51	0.59	0.62
New Zealand.....	0.17	0.18	0.17	0.18	0.20	0.18	0.17	0.16	0.19	0.21
Pakistan.....	0.42	0.44	0.45	0.50	0.51	0.54	0.59	0.60	0.65	0.65
Papua New Guinea.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)
Singapore.....	0.00	0.00	0.00	0.00	0.04	0.06	0.06	0.06	0.06	0.06
Taiwan.....	0.03	0.05	0.08	0.11	0.11	0.11	0.14	0.15	0.16	0.18
Thailand.....	0.19	0.18	0.21	0.24	0.25	0.31	0.34	0.37	0.42	0.51
Vietnam.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.03
Total.....	5.35	5.64	6.02	6.31	6.77	7.21	7.95	8.37	9.10	9.57
World Total.....	71.24	74.31	75.10	76.21	76.33	78.47	78.31	80.20	84.13	83.86

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 4.

Table E4 World Coal Consumption (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	1.34	1.35	1.24	1.26	1.28	1.21	1.26	1.29	1.30	1.35
Mexico.....	0.16	0.17	0.17	0.16	0.18	0.20	0.18	0.23	0.20	0.21
United States.2.....	18.88	18.95	19.11	18.78	19.24	19.85	20.05	20.12	21.01	21.42
Total.....	20.39	20.47	20.52	20.20	20.71	21.26	21.49	21.64	22.51	22.98
Central & South America										
Argentina.....	0.04	0.04	0.03	0.03	0.04	0.02	0.04	0.04	0.04	0.02
Brazil.....	0.42	0.42	0.37	0.43	0.39	0.30	0.30	0.30	0.32	0.32
Chile.....	0.07	0.09	0.10	0.08	0.07	0.07	0.08	0.09	0.13	0.14
Colombia.....	0.13	0.12	0.07	0.22	0.19	0.15	0.13	0.07	0.21	0.11
Costa Rica.....	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Cuba.....	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Dominican Republic.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Haiti.....	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Jamaica.....	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Panama.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Peru.....	0.01	0.01	(s)	0.01	0.01	0.02	0.02	0.02	0.01	0.01
Puerto Rico.....	0.01	0.01	0.01	0.01	(s)	0.01	0.01	0.01	(s)	(s)
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.01	0.02	0.01	0.02	0.02	0.01	0.01	0.02	0.02	0.02
Virgin Islands, U.S.....	0.00	0.00	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	0.69	0.71	0.61	0.81	0.75	0.59	0.61	0.57	0.75	0.64
Western Europe										
Austria.....	0.14	0.13	0.16	0.13	0.11	0.12	0.11	0.13	0.13	0.13
Belgium.....	0.33	0.38	0.43	0.41	0.33	0.33	0.36	0.36	0.35	0.33
Denmark.....	0.29	0.23	0.26	0.34	0.27	0.30	0.31	0.26	0.26	0.37
Finland.....	0.16	0.16	0.15	0.15	0.13	0.17	0.20	0.17	0.15	0.20
France.....	0.57	0.76	0.81	0.84	0.70	0.59	0.56	0.57	0.57	0.51
Germany.....	--	--	--	4.34	3.94	3.81	3.66	3.51	3.20	3.32
Germany, East.....	2.80	2.71	2.52	--	--	--	--	--	--	--
Germany, West.....	2.83	2.80	2.83	--	--	--	--	--	--	--
Greece.....	0.33	0.34	0.35	0.35	0.30	0.34	0.34	0.33	0.35	0.32
Iceland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08
Italy.....	0.56	0.56	0.60	0.57	0.45	0.42	0.42	0.46	0.44	0.39
Luxembourg.....	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.01
Malta.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Netherlands.....	0.30	0.30	0.35	0.32	0.30	0.33	0.34	0.34	0.34	0.46
Norway.....	0.04	0.04	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04
Portugal.....	0.09	0.11	0.12	0.12	0.11	0.12	0.13	0.14	0.14	0.13
Spain.....	0.87	1.01	0.85	0.87	0.82	0.78	0.76	0.71	0.68	0.54
Sweden.....	0.11	0.11	0.10	0.09	0.08	0.10	0.07	0.10	0.08	0.10
Switzerland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)
Turkey.....	0.56	0.56	0.62	0.72	0.64	0.63	0.61	0.62	0.60	0.67
United Kingdom.....	2.78	2.88	2.72	2.67	2.34	2.18	1.99	1.78	1.54	1.72
Former Yugoslavia.....	0.98	0.97	0.94	0.88	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.06	0.04	0.03	0.02	0.01	0.01
Croatia.....	--	--	--	--	0.01	0.02	0.01	(s)	0.01	0.01
Macedonia, TFYR.....	--	--	--	--	0.06	0.06	0.07	0.07	0.07	0.06
Serbia and Montenegro.....	--	--	--	--	0.38	0.34	0.34	0.25	0.38	0.35
Slovenia.....	--	--	--	--	0.07	0.06	0.06	0.07	0.07	0.06
Total.....	13.89	14.22	14.00	12.98	11.27	10.92	10.52	10.05	9.50	9.82

See footnotes at end of table.

Table E4 World Coal Consumption (Btu), 1988 - 1997 (Continued)

 (Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.03	0.03	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.48	0.48	0.43	0.37	0.38	0.35	0.32	0.29	0.33	0.31
Former Czechoslovakia.....	2.84	2.70	2.47	2.29	2.07	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	1.38	1.49	1.01	1.01	1.03
Slovakia.....	--	--	--	--	--	0.24	0.22	0.20	0.20	0.15
Hungary.....	0.31	0.29	0.26	0.27	0.24	0.23	0.23	0.19	0.20	0.20
Poland.....	3.89	3.70	2.96	2.96	2.91	3.00	2.82	2.60	2.98	3.07
Romania.....	0.72	0.73	0.50	0.40	0.42	0.44	0.47	0.47	0.50	0.41
Former U.S.S.R.....	12.66	11.99	13.24	10.17	--	--	--	--	--	--
Armenia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Azerbaijan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Belarus.....	--	--	--	--	0.04	0.04	0.03	0.03	0.03	0.02
Estonia.....	--	--	--	--	0.02	0.02	0.02	0.02	0.01	0.02
Georgia.....	--	--	--	--	0.01	0.01	0.01	0.01	(s)	(s)
Kazakhstan.....	--	--	--	--	1.56	1.29	0.96	0.88	0.79	0.79
Kyrgyzstan.....	--	--	--	--	0.09	0.06	0.06	0.06	0.04	0.03
Latvia.....	--	--	--	--	0.02	0.01	0.01	0.01	0.01	0.01
Lithuania.....	--	--	--	--	0.02	0.02	0.02	0.01	0.01	0.01
Moldova.....	--	--	--	--	0.08	0.05	0.05	0.03	0.02	0.02
Russia.....	--	--	--	--	6.56	5.64	5.08	4.63	4.94	4.66
Tajikistan.....	--	--	--	--	0.01	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	--	0.01	0.01	0.01	0.01	(s)	(s)
Ukraine.....	--	--	--	--	2.78	2.39	1.93	2.25	1.90	1.95
Uzbekistan.....	--	--	--	--	0.09	0.06	0.12	0.10	0.09	0.07
Total.....	20.94	19.93	19.88	16.47	17.32	15.25	13.84	12.77	13.07	12.77
Middle East										
Cyprus.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Iran.....	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.04
Israel.....	0.09	0.10	0.10	0.11	0.11	0.18	0.19	0.19	0.21	0.23
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Total.....	0.13	0.14	0.15	0.15	0.15	0.22	0.24	0.24	0.26	0.28
Africa										
Algeria.....	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.03	0.03
Botswana.....	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Egypt.....	0.03	0.04	0.04	0.03	0.03	0.04	0.04	0.03	0.04	0.05
Ghana.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Madagascar.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Malawi.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mauritania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mauritius.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.05	0.05	0.05	0.06	0.04	0.07	0.07	0.07	0.07	0.07
Mozambique.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Niger.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	2.92	2.68	2.65	2.74	2.86	2.93	3.08	3.08	3.13	3.19
Swaziland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tunisia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Zambia.....	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zimbabwe.....	0.14	0.14	0.15	0.14	0.15	0.14	0.15	0.15	0.14	0.14
Total.....	3.23	2.99	2.98	3.07	3.18	3.27	3.43	3.41	3.47	3.54

See footnotes at end of table.

Table E4 World Coal Consumption (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	1.36	1.44	1.48	1.49	1.62	1.58	1.52	1.55	1.60	1.90
Bangladesh.....	0.01	(s)	0.02	0.01	(s)	(s)	0.00	0.00	0.00	0.00
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	19.93	20.11	20.26	21.05	21.71	22.91	24.96	25.37	25.79	26.11
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Hong Kong.....	0.24	0.26	0.23	0.21	0.23	0.26	0.19	0.20	0.20	0.17
India.....	3.62	3.82	4.08	4.23	4.69	4.95	5.27	6.28	6.49	6.30
Indonesia.....	0.11	0.14	0.10	0.11	0.16	0.23	0.28	0.29	0.41	0.38
Japan.....	2.65	2.65	2.71	2.77	2.70	2.72	2.81	2.95	3.06	3.03
Korea, North.....	1.52	1.58	1.62	1.64	1.62	1.68	1.68	1.69	1.76	1.53
Korea, South.....	0.99	0.91	0.83	0.93	0.84	1.01	1.12	1.17	1.25	1.37
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.00	0.00	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	0.01	0.05	0.06	0.06	0.06	0.06	0.07	0.06	0.08	0.08
Mongolia.....	0.09	0.08	0.08	0.07	0.05	0.05	0.05	0.05	0.05	0.05
Nepal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
New Caledonia.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	(s)	(s)
New Zealand.....	0.05	0.06	0.06	0.05	0.06	0.06	0.06	0.08	0.03	0.05
Pakistan.....	0.08	0.08	0.08	0.08	0.09	0.09	0.10	0.09	0.10	0.10
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.06	0.05	0.06	0.06	0.06	0.08	0.07	0.06	0.06	0.06
Singapore.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Taiwan.....	0.40	0.43	0.40	0.45	0.51	0.63	0.66	0.73	0.81	1.04
Thailand.....	0.09	0.11	0.14	0.17	0.18	0.19	0.21	0.38	0.38	0.38
Vietnam.....	0.14	0.09	0.11	0.09	0.09	0.13	0.13	0.18	0.15	0.15
Total.....	31.36	31.85	32.32	33.49	34.71	36.64	39.19	41.15	42.23	42.73
World Total.....	90.63	90.30	90.45	87.16	88.08	88.15	89.32	89.83	91.78	92.76

¹ Preliminary.

² United States apparent coal consumption is calculated as: production+imports-exports-stock builds. Coal consumption by independent power producers is included beginning in 1992. The Monthly Energy Review uses a different methodology for deriving coal consumption and does not include coal consumption by independent power producers.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Coal includes anthracite, subanthracite, bituminous, subbituminous, lignite, and brown coal.

Sources: See sources at the end of Section 5.

Table E5 World Net Hydroelectric Power Consumption (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	3.16	2.99	3.06	3.17	3.26	3.33	3.40	3.45	3.66	3.62
Mexico.....	0.22	0.25	0.24	0.23	0.27	0.27	0.21	0.28	0.32	0.27
United States..?	2.66	2.91	3.09	3.16	2.82	3.10	2.93	3.44	3.88	3.90
Total.....	6.04	6.16	6.38	6.56	6.35	6.71	6.54	7.18	7.87	7.80
Central & South America										
Argentina.....	0.23	0.16	0.21	0.20	0.24	0.30	0.35	0.35	0.30	0.29
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01
Brazil.....	2.05	2.11	2.13	2.24	2.30	2.42	2.50	2.61	2.74	2.87
Chile.....	0.12	0.10	0.12	0.14	0.17	0.18	0.17	0.19	0.17	0.19
Colombia.....	0.25	0.27	0.28	0.28	0.23	0.29	0.33	0.35	0.36	0.32
Costa Rica.....	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Dominican Republic.....	0.01	0.01	(s)	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Ecuador.....	0.05	0.05	0.05	0.05	0.05	0.06	0.07	0.07	0.08	0.08
El Salvador.....	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.02
Guatemala.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Haiti.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Honduras.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Jamaica.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nicaragua.....	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Panama.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04
Paraguay.....	0.21	0.25	0.28	0.30	0.28	0.32	0.37	0.43	0.49	0.53
Peru.....	0.11	0.11	0.11	0.12	0.10	0.12	0.13	0.14	0.14	0.14
Puerto Rico.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Suriname.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Uruguay.....	0.06	0.04	0.07	0.06	0.08	0.08	0.08	0.06	0.06	0.07
Venezuela.....	0.35	0.36	0.38	0.46	0.48	0.49	0.53	0.57	0.55	0.59
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	3.56	3.60	3.80	4.01	4.12	4.43	4.71	4.97	5.08	5.27
Western Europe										
Austria.....	0.37	0.36	0.32	0.32	0.36	0.38	0.37	0.38	0.35	0.37
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Finland.....	0.14	0.13	0.11	0.14	0.16	0.14	0.12	0.13	0.12	0.12
France.....	0.77	0.48	0.55	0.59	0.70	0.66	0.80	0.73	0.67	0.64
Germany.....	--	--	--	0.15	0.18	0.18	0.21	0.22	0.23	0.20
Germany, East.....	0.02	0.02	0.01	--	--	--	--	--	--	--
Germany, West.....	0.22	0.20	0.19	--	--	--	--	--	--	--
Greece.....	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.04	0.04	0.04
Iceland.....	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05
Ireland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Italy.....	0.42	0.35	0.33	0.43	0.43	0.43	0.46	0.39	0.43	0.43
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Norway.....	1.12	1.22	1.25	1.13	1.20	1.23	1.15	1.25	1.07	1.13
Portugal.....	0.13	0.06	0.09	0.09	0.05	0.09	0.11	0.09	0.15	0.14
Spain.....	0.36	0.20	0.26	0.28	0.19	0.25	0.29	0.24	0.41	0.25
Sweden.....	0.72	0.74	0.75	0.65	0.77	0.77	0.61	0.70	0.53	0.71
Switzerland.....	0.37	0.31	0.31	0.33	0.34	0.37	0.40	0.36	0.29	0.35
Turkey.....	0.30	0.18	0.24	0.23	0.27	0.35	0.31	0.37	0.42	0.41
United Kingdom.....	0.05	0.05	0.05	0.05	0.06	0.04	0.05	0.05	0.03	0.04
Former Yugoslavia.....	0.27	0.24	0.20	0.20	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.03	0.02	0.01	0.01	0.01	0.02
Croatia.....	--	--	--	--	0.04	0.04	0.05	0.05	0.07	0.07
Macedonia, TFYR.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Serbia and Montenegro.....	--	--	--	--	0.12	0.10	0.11	0.12	0.12	0.13
Slovenia.....	--	--	--	--	0.04	0.03	0.03	0.03	0.04	0.04
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	5.31	4.61	4.74	4.69	5.02	5.17	5.19	5.24	5.06	5.17

See footnotes at end of table.

Table E5 World Net Hydroelectric Power Consumption (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.04	0.04	0.03	0.04	0.03	0.03	0.04	0.04	0.06	0.05
Bulgaria.....	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.03
Former Czechoslovakia.....	0.05	0.04	0.04	0.03	0.04	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	0.01	0.02	0.02	0.02	0.02
Slovakia.....	--	--	--	--	--	0.04	0.05	0.05	0.06	0.05
Hungary.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Poland.....	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Romania.....	0.14	0.13	0.11	0.15	0.12	0.13	0.13	0.17	0.16	0.16
Former U.S.S.R.....	2.38	2.30	2.40	2.42	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.03	0.04	0.04	0.02	0.02	0.02
Azerbaijan.....	--	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02
Georgia.....	--	--	--	--	0.07	0.07	0.05	0.05	0.06	0.06
Kazakhstan.....	--	--	--	--	0.07	0.08	0.09	0.09	0.08	0.07
Kyrgyzstan.....	--	--	--	--	0.10	0.09	0.12	0.11	0.13	0.14
Latvia.....	--	--	--	--	0.03	0.03	0.03	0.03	0.02	0.02
Lithuania.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Moldova.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	--	1.78	1.79	1.81	1.82	1.59	1.56
Tajikistan.....	--	--	--	--	0.16	0.18	0.17	0.15	0.15	0.14
Ukraine.....	--	--	--	--	0.08	0.12	0.13	0.13	0.12	0.13
Uzbekistan.....	--	--	--	--	0.06	0.08	0.07	0.06	0.07	0.07
Other.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	2.67	2.58	2.64	2.70	2.65	2.79	2.84	2.84	2.62	2.58
Middle East										
Iran.....	0.07	0.07	0.06	0.07	0.10	0.10	0.08	0.08	0.08	0.08
Iraq.....	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lebanon.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Syria.....	0.05	0.05	0.06	0.06	0.08	0.07	0.07	0.07	0.07	0.07
Total.....	0.13	0.13	0.13	0.15	0.19	0.19	0.16	0.16	0.17	0.17
Africa										
Algeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Angola.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cameroon.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Congo (Brazzaville).....	(s)	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.05	0.07	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.07
Cote d'Ivoire (Ivory Coast).....	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Egypt.....	0.08	0.08	0.10	0.09	0.09	0.11	0.11	0.11	0.11	0.12
Ethiopia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Gabon.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ghana.....	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Kenya.....	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Madagascar.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
Malawi.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Mali.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.01	0.01	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01
Nigeria.....	0.04	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.05
Reunion.....	(s)	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01
South Africa.....	0.03	0.03	0.01	0.02	0.01	(s)	0.01	0.01	0.01	0.02
Sudan.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Tanzania.....	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Uganda.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zambia.....	0.09	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Zimbabwe.....	0.03	0.03	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Other.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.54	0.56	0.57	0.59	0.58	0.57	0.59	0.59	0.60	0.62

See footnotes at end of table.

Table E5 World Net Hydroelectric Power Consumption (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.16	0.16	0.17
Bangladesh.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	0.01	0.01
Bhutan.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Burma.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Cambodia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	1.12	1.22	1.30	1.29	1.35	1.55	1.72	1.92	1.89	1.82
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
French Polynesia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.60	0.64	0.74	0.75	0.72	0.73	0.85	0.75	0.71	0.68
Indonesia.....	0.09	0.09	0.11	0.10	0.13	0.12	0.12	0.11	0.11	0.10
Japan.....	0.94	0.94	0.92	1.00	0.85	0.98	0.69	0.85	0.83	0.89
Korea, North.....	0.32	0.33	0.33	0.33	0.25	0.25	0.24	0.24	0.23	0.23
Korea, South.....	0.04	0.05	0.07	0.05	0.05	0.06	0.04	0.06	0.05	0.06
Laos.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.06	0.05	0.04	0.05	0.04	0.05	0.07	0.06	0.05	0.05
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Caledonia.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
New Zealand.....	0.24	0.23	0.24	0.24	0.21	0.24	0.27	0.28	0.27	0.23
Pakistan.....	0.17	0.17	0.17	0.19	0.19	0.22	0.20	0.24	0.24	0.24
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Philippines.....	0.06	0.07	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.03	0.03
Taiwan.....	0.06	0.07	0.09	0.06	0.09	0.07	0.09	0.09	0.09	0.09
Thailand.....	0.04	0.06	0.05	0.05	0.04	0.04	0.05	0.07	0.08	0.08
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	0.02	0.04	0.06	0.06	0.06	0.09	0.10	0.12	0.14	0.15
Total.....	3.99	4.20	4.42	4.49	4.32	4.75	4.79	5.14	5.04	4.98
World Total.....	22.24	21.83	22.69	23.18	23.22	24.60	24.81	26.12	26.43	26.57

¹ Preliminary.

² Includes hydroelectric pumped storage. There is a discontinuity in this time series between 1989 and 1990. Before 1990, it includes all net imports of electricity. From 1990, it includes only the portion of net imports of electricity that is derived from hydroelectric power. In addition, beginning in 1990, expanded coverage of the use of hydroelectric power by nonutility power producers is included.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Consumption accounts for thermal equivalent conversion losses.

Sources: See sources at the end of Section 6.

Table E6 World Net Nuclear Electric Power Consumption (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	0.90	0.87	0.79	0.93	0.88	1.02	1.17	1.06	1.00	0.88
Mexico.....	0.00	0.00	0.03	0.04	0.04	0.05	0.04	0.08	0.08	0.10
United States.....	5.66	5.68	6.16	6.58	6.61	6.52	6.84	7.18	7.17	6.69
Total.....	6.56	6.55	6.99	7.55	7.52	7.59	8.04	8.31	8.24	7.67
Central & South America										
Argentina.....	0.06	0.06	0.08	0.09	0.08	0.09	0.09	0.08	0.08	0.09
Brazil.....	(s)	0.02	0.02	0.01	0.02	(s)	(s)	0.02	0.02	0.03
Total.....	0.06	0.07	0.10	0.10	0.10	0.09	0.09	0.11	0.11	0.12
Western Europe										
Belgium.....	0.42	0.41	0.42	0.42	0.43	0.41	0.40	0.41	0.43	0.47
Finland.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.20
France.....	2.64	2.93	3.11	3.28	3.34	3.64	3.54	3.71	3.91	3.87
Germany.....	--	--	--	1.43	1.54	1.49	1.46	1.48	1.55	1.65
Germany, East.....	0.12	0.12	0.06	--	--	--	--	--	--	--
Germany, West.....	1.52	1.47	1.46	--	--	--	--	--	--	--
Netherlands.....	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.02
Spain.....	0.52	0.58	0.52	0.54	0.54	0.54	0.53	0.53	0.54	0.53
Sweden.....	0.66	0.63	0.65	0.74	0.61	0.59	0.70	0.67	0.70	0.67
Switzerland.....	0.23	0.23	0.24	0.23	0.23	0.23	0.24	0.25	0.25	0.25
United Kingdom.....	0.66	0.76	0.70	0.78	0.86	1.01	1.00	1.00	1.07	1.11
Former Yugoslavia.....	0.04	0.05	0.05	0.04	--	--	--	--	--	--
Slovenia.....	--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.05
Total.....	7.05	7.40	7.43	7.67	7.82	8.18	8.16	8.33	8.72	8.83
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.17	0.16	0.15	0.14	0.12	0.15	0.16	0.18	0.20	0.18
Former Czechoslovakia.....	0.27	0.28	0.29	0.28	0.29	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	0.15	0.15	0.14	0.15	0.15
Slovakia.....	--	--	--	--	--	0.14	0.14	0.13	0.14	0.14
Hungary.....	0.14	0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.14	0.13
Romania.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06
Former U.S.S.R.....	2.33	2.43	2.31	2.31	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.00	0.00	0.00	0.00	0.02	0.02
Kazakhstan.....	--	--	--	--	0.01	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	--	--	0.15	0.13	0.08	0.11	0.14	0.12
Russia.....	--	--	--	--	1.25	1.25	1.02	1.04	1.14	1.15
Ukraine.....	--	--	--	--	0.76	0.78	0.71	0.73	0.83	0.82
Total.....	2.91	3.03	2.89	2.86	2.71	2.73	2.41	2.47	2.76	2.77
Africa										
South Africa.....	0.11	0.11	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13
Total.....	0.11	0.11	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13
Far East & Oceania										
China.....	0.00	0.00	0.00	0.00	0.01	0.03	0.14	0.13	0.14	0.12
India.....	0.06	0.04	0.07	0.06	0.07	0.07	0.06	0.08	0.09	0.13
Japan.....	1.85	1.86	1.97	2.08	2.17	2.42	2.61	2.83	2.93	3.13
Korea, South.....	0.39	0.47	0.51	0.54	0.54	0.56	0.56	0.64	0.70	0.73
Pakistan.....	(s)	(s)	(s)	(s)	0.01	(s)	0.01	0.01	(s)	(s)
Taiwan.....	0.30	0.28	0.32	0.33	0.32	0.33	0.33	0.34	0.36	0.34
Total.....	2.61	2.65	2.87	3.01	3.12	3.41	3.70	4.02	4.23	4.45
World Total.....	19.30	19.81	20.37	21.29	21.36	22.07	22.50	23.35	24.17	23.97

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Consumption accounts for thermal equivalent conversion losses.

No consumption is reported for Middle East.

Sources: See sources at the end of Section 6.

Table E7 World Net Geothermal, Solar, and Wind Electric Power Consumption (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mexico.....	0.10	0.10	0.10	0.11	0.12	0.12	0.11	0.11	0.11	0.11
United States. ²	0.23	0.22	0.83	0.91	0.97	1.00	1.02	0.96	0.99	1.07
Total.....	0.33	0.32	0.93	1.02	1.08	1.12	1.13	1.08	1.11	1.18
Central & South America										
Brazil..... ³	0.05	0.05	0.05	0.05	0.07	0.07	0.07	0.08	0.09	0.10
Costa Rica.....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nicaragua.....	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.06	0.06	0.07	0.07	0.09	0.09	0.10	0.11	0.12	0.13
Western Europe										
Denmark.....	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
France.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Germany.....	--	--	--	(s)	(s)	0.01	0.01	0.01	0.02	0.03
Germany, West.....	(s)	(s)	(s)	--	--	--	--	--	--	--
Greece.....	(s)	0.00	(s)	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Iceland.....	0.01	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01
Ireland.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	0.06	0.06	0.06	0.06	0.07	0.08	0.07	0.07	0.08	0.09
Netherlands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Norway.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Portugal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Spain.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkey.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
United Kingdom.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.13	0.14	0.17
Eastern Europe & Former U.S.S.R.										
Poland.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)
Romania.....	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Former U.S.S.R.....	0.00	(s)	(s)	(s)	--	--	--	--	--	--
Russia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Middle East										
Jordan.....	0.00	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Total.....	0.00	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Africa										
Ethiopia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Far East & Oceania										
Australia.....	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)
India.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Indonesia.....	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.05	0.06
Japan.....	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.06	0.07	0.08
New Zealand.....	0.03	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04
Philippines.....	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12
Vietnam.....	(s)	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Total.....	0.18	0.19	0.21	0.22	0.22	0.23	0.25	0.28	0.30	0.31
World Total.....	0.66	0.66	1.31	1.40	1.49	1.55	1.60	1.60	1.68	1.81

¹ Preliminary.

² Includes the consumption of biomass electric power. There is a discontinuity in this time series between 1989 and 1990; beginning in 1990, consumption of biomass, geothermal, solar, and wind electric power generated by nonutility power producers is included.

³ Data are for consumption of biomass electric power.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Data are reported as net consumption as opposed to gross. Net consumption excludes the energy consumed by the generating units.

Consumption accounts for thermal equivalent conversion losses.

Sources: See sources at the end of Section 6.

Appendix F

**World Energy
Production (Btu),
1988-1997**

Table F1 World Primary Energy Production (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	13.41	13.36	13.36	13.91	14.43	15.36	16.31	16.85	17.26	17.48
Mexico.....	7.49	7.56	7.74	8.03	8.05	8.04	8.01	7.99	8.73	9.09
United States.....	66.11	66.16	70.78	70.45	69.98	68.34	70.71	71.03	72.31	72.32
Total.....	87.01	87.08	91.88	92.39	92.46	91.73	95.03	95.88	98.30	98.89
Central & South America										
Argentina.....	1.98	2.01	2.05	2.13	2.35	2.56	2.78	3.02	3.12	3.32
Bolivia.....	0.16	0.17	0.17	0.17	0.18	0.17	0.18	0.19	0.20	0.21
Brazil.....	3.59	3.75	3.79	3.94	4.01	4.17	4.33	4.53	4.89	5.17
Chile.....	0.27	0.27	0.31	0.30	0.32	0.32	0.32	0.33	0.31	0.32
Colombia.....	1.62	1.78	1.93	1.96	1.95	1.99	2.01	2.40	2.60	2.73
Ecuador.....	0.72	0.67	0.68	0.71	0.76	0.83	0.88	0.95	0.96	0.94
Paraguay.....	0.21	0.25	0.28	0.30	0.28	0.32	0.37	0.43	0.49	0.53
Peru.....	0.45	0.43	0.40	0.38	0.37	0.43	0.44	0.45	0.43	0.42
Trinidad and Tobago.....	0.51	0.51	0.51	0.55	0.51	0.53	0.55	0.57	0.60	0.62
Venezuela.....	5.59	5.77	6.31	6.97	6.97	7.27	7.72	8.14	8.61	9.60
Other.....	0.26	0.26	0.30	0.28	0.33	0.34	0.36	0.36	0.40	0.41
Total.....	15.35	15.86	16.73	17.70	18.04	18.93	19.94	21.38	22.62	24.26
Western Europe										
Austria.....	0.49	0.49	0.45	0.46	0.48	0.50	0.48	0.50	0.47	0.48
Belgium.....	0.49	0.46	0.47	0.46	0.45	0.43	0.42	0.42	0.44	0.48
Denmark.....	0.31	0.37	0.38	0.46	0.51	0.55	0.58	0.60	0.69	0.80
Finland.....	0.33	0.32	0.30	0.33	0.34	0.33	0.31	0.32	0.31	0.32
France.....	4.07	4.05	4.26	4.46	4.61	4.83	4.84	4.91	5.02	4.88
Germany.....	--	--	--	6.30	6.11	5.79	5.61	5.49	5.53	5.47
Germany, East.....	2.88	2.79	2.49	--	--	--	--	--	--	--
Germany, West.....	5.23	5.10	5.03	--	--	--	--	--	--	--
Greece.....	0.37	0.38	0.37	0.39	0.33	0.35	0.35	0.36	0.35	0.35
Italy.....	1.31	1.23	1.23	1.31	1.36	1.39	1.46	1.40	1.47	1.47
Netherlands.....	2.41	2.59	2.62	2.94	2.92	2.96	2.89	2.89	3.23	2.86
Norway.....	4.77	5.71	5.94	6.22	7.08	7.28	7.65	8.35	9.28	9.55
Spain.....	1.66	1.58	1.43	1.43	1.34	1.33	1.32	1.19	1.35	1.16
Sweden.....	1.37	1.37	1.39	1.39	1.38	1.36	1.31	1.37	1.23	1.38
Switzerland.....	0.60	0.54	0.55	0.56	0.57	0.60	0.65	0.61	0.54	0.60
Turkey.....	0.80	0.81	0.85	0.87	0.95	0.99	0.95	0.99	1.05	1.04
United Kingdom.....	9.99	9.02	9.06	9.25	9.02	9.35	10.14	10.71	11.53	11.44
Former Yugoslavia.....	1.46	1.44	1.39	1.29	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.09	0.06	0.04	0.07	0.03	0.03
Croatia.....	--	--	--	--	0.20	0.21	0.21	0.21	0.21	0.21
Serbia and Montenegro.....	--	--	--	--	0.57	0.51	0.52	0.43	0.55	0.54
Other.....	0.26	0.20	0.24	0.24	0.39	0.44	0.47	0.46	0.53	0.50
Total.....	38.80	38.45	38.46	38.35	38.70	39.27	40.20	41.28	43.81	43.57
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.55	0.54	0.48	0.44	0.42	0.44	0.44	0.46	0.49	0.45
Former Czechoslovakia.....	3.21	3.09	2.79	2.59	2.46	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	1.78	1.90	1.40	1.38	1.29
Slovakia.....	--	--	--	--	--	0.26	0.26	0.23	0.24	0.23
Hungary.....	0.73	0.70	0.63	0.60	0.60	0.59	0.59	0.55	0.55	0.55
Poland.....	5.02	4.65	3.91	3.76	3.69	3.69	3.74	3.59	3.82	3.82
Romania.....	2.48	2.28	1.88	1.63	1.49	1.51	1.50	1.51	1.49	1.37
Former U.S.S.R.....	72.28	71.89	72.11	66.43	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	0.77	0.71	0.65	0.64	0.64	0.61
Kazakhstan.....	--	--	--	--	3.76	3.38	2.62	2.26	2.35	2.48
Lithuania.....	--	--	--	--	0.15	0.14	0.09	0.12	0.14	0.13
Russia.....	--	--	--	--	49.05	45.60	43.03	42.11	42.08	40.85
Tajikistan.....	--	--	--	--	0.17	0.18	0.18	0.15	0.16	0.15
Turkmenistan.....	--	--	--	--	2.27	2.50	1.45	1.32	1.50	1.16
Ukraine.....	--	--	--	--	4.35	3.99	3.50	3.58	3.42	3.50
Uzbekistan.....	--	--	--	--	1.79	1.90	2.04	2.14	2.15	2.19
Other.....	0.19	0.19	0.13	0.09	0.46	0.46	0.46	0.42	0.45	0.45
Total.....	84.46	83.35	81.93	75.54	71.44	67.12	62.44	60.49	60.87	59.22

See footnotes at end of table.

Table F1 World Primary Energy Production (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Bahrain.....	0.30	0.30	0.31	0.33	0.29	0.35	0.35	0.34	0.33	0.35
Iran.....	5.71	7.02	7.67	8.27	8.53	8.83	9.16	9.35	9.65	9.79
Iraq.....	5.97	6.47	4.54	0.69	1.02	1.21	1.33	1.35	1.39	2.63
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	3.63	4.32	2.83	0.43	2.44	4.28	4.73	4.81	4.94	5.02
Oman.....	1.41	1.49	1.59	1.64	1.72	1.82	1.90	1.99	2.07	2.10
Qatar.....	0.99	1.06	1.20	1.25	1.39	1.45	1.44	1.51	1.66	2.13
Saudi Arabia.....	12.86	12.81	15.92	19.75	20.39	20.11	20.00	20.25	20.39	21.18
Syria.....	0.67	0.85	1.03	1.29	1.29	1.45	1.47	1.48	1.53	1.49
United Arab Emirates.....	4.22	4.99	5.51	6.24	6.11	5.78	5.84	6.14	6.34	6.48
Yemen.....	0.36	0.41	0.40	0.41	0.38	0.46	0.70	0.72	0.71	0.80
Other.....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Total.....	36.12	39.72	41.02	40.31	43.57	45.77	46.94	47.97	49.03	52.00
Africa										
Algeria.....	4.27	4.48	4.73	5.04	5.06	4.87	4.79	5.13	5.28	5.68
Angola.....	1.00	1.00	1.04	1.10	1.16	1.12	1.17	1.41	1.55	1.55
Cameroon.....	0.38	0.40	0.38	0.36	0.33	0.30	0.26	0.27	0.26	0.30
Congo (Brazzaville).....	0.31	0.35	0.35	0.33	0.37	0.39	0.38	0.40	0.43	0.56
Congo (Kinshasa).....	0.12	0.13	0.12	0.12	0.12	0.12	0.11	0.13	0.13	0.13
Egypt.....	2.24	2.32	2.36	2.40	2.44	2.55	2.59	2.67	2.73	2.61
Gabon.....	0.35	0.46	0.59	0.64	0.65	0.68	0.72	0.80	0.81	0.81
Libya.....	2.73	2.70	3.18	3.43	3.34	3.17	3.21	3.23	3.28	3.39
Nigeria.....	3.30	3.90	4.07	4.30	4.43	4.45	4.37	4.53	4.56	5.27
South Africa.....	4.23	4.12	4.05	4.12	4.26	4.41	4.61	4.85	4.86	5.18
Tunisia.....	0.24	0.24	0.22	0.23	0.25	0.23	0.21	0.20	0.22	0.31
Zambia.....	0.10	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Zimbabwe.....	0.16	0.17	0.18	0.18	0.18	0.16	0.17	0.17	0.17	0.16
Other.....	0.26	0.25	0.26	0.26	0.27	0.27	0.30	0.30	0.36	0.45
Total.....	19.70	20.59	21.63	22.61	22.96	22.80	22.99	24.17	24.72	26.48
Far East & Oceania										
Australia.....	5.33	5.58	6.14	6.28	6.57	6.60	6.90	7.41	7.55	7.97
Bangladesh.....	0.15	0.17	0.16	0.17	0.20	0.21	0.23	0.25	0.26	0.27
Brunei.....	0.68	0.67	0.72	0.68	0.70	0.71	0.72	0.75	0.73	0.77
Burma.....	0.08	0.09	0.08	0.09	0.09	0.09	0.10	0.10	0.09	0.09
China.....	27.15	28.77	29.38	29.68	30.33	31.85	34.07	35.44	35.86	36.23
India.....	5.96	6.25	6.57	6.86	7.17	7.37	7.86	9.13	9.29	9.31
Indonesia.....	4.56	4.96	5.20	5.81	5.99	6.34	6.69	7.03	7.48	7.56
Japan.....	3.21	3.20	3.27	3.44	3.36	3.73	3.63	4.00	4.10	4.31
Korea, North.....	1.78	1.84	1.88	1.91	1.80	1.87	1.87	1.87	1.93	1.70
Korea, South.....	0.86	0.89	0.88	0.86	0.81	0.79	0.73	0.80	0.84	0.87
Malaysia.....	1.81	1.92	2.03	2.19	2.26	2.34	2.40	2.58	2.82	3.10
Mongolia.....	0.10	0.09	0.08	0.06	0.05	0.05	0.05	0.05	0.05	0.05
New Zealand.....	0.57	0.59	0.61	0.63	0.62	0.63	0.65	0.65	0.67	0.69
Pakistan.....	0.74	0.78	0.82	0.89	0.91	0.96	0.98	1.04	1.09	1.10
Papua New Guinea.....	(s)	(s)	(s)	0.01	0.12	0.27	0.23	0.21	0.22	0.17
Philippines.....	0.21	0.21	0.21	0.21	0.23	0.23	0.23	0.22	0.22	0.22
Taiwan.....	0.43	0.43	0.51	0.44	0.45	0.44	0.47	0.47	0.49	0.48
Thailand.....	0.42	0.45	0.52	0.57	0.59	0.65	0.73	0.94	0.96	1.11
Vietnam.....	0.24	0.21	0.29	0.35	0.43	0.56	0.62	0.77	0.78	0.83
Other.....	0.19	0.19	0.19	0.10	0.09	0.10	0.11	0.11	0.10	0.10
Total.....	54.48	57.29	59.56	61.23	62.79	65.79	69.25	73.82	75.55	76.93
World Total.....	335.93	342.34	351.22	348.13	349.96	351.42	356.79	364.99	374.89	381.34

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Primary energy production reported in this table includes petroleum (crude oil and natural gas plant liquids), dry natural gas, and coal, and net hydroelectric, nuclear, geothermal, solar, and wind electric power generation, and net biomass electric power generation for the United States and Brazil. Primary energy production for the United States, beginning in 1990, also includes the production of biomass, geothermal energy, and solar energy not used for electricity generation. As a result, primary energy production for the United States reported in this table might not be equal to sum of the individual fuel types reported in Tables F2-F8.

Sources: See sources at the end of Sections 3, 4, 5, and 6.

Table F2 World Crude Oil Production (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada ²	3.44	3.31	3.29	3.28	3.41	3.56	3.70	3.83	3.91	4.08
Mexico.....	5.53	5.53	5.60	5.88	5.87	5.86	5.89	5.74	6.28	6.63
United States.....	17.28	16.12	15.57	15.70	15.22	14.49	14.10	13.89	13.72	13.66
Total.....	26.24	24.95	24.47	24.86	24.51	23.92	23.70	23.46	23.91	24.37
Central & South America										
Argentina.....	0.98	1.01	1.06	1.06	1.21	1.30	1.42	1.56	1.66	1.82
Bolivia.....	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.07
Brazil.....	1.20	1.29	1.36	1.36	1.35	1.39	1.45	1.50	1.72	1.82
Chile.....	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02
Colombia.....	0.83	0.89	0.97	0.92	0.95	1.00	0.99	1.29	1.37	1.43
Cuba.....	0.04	0.04	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.07
Ecuador.....	0.66	0.61	0.62	0.65	0.70	0.75	0.80	0.86	0.87	0.85
Peru.....	0.30	0.28	0.27	0.24	0.25	0.27	0.27	0.28	0.26	0.25
Trinidad and Tobago.....	0.35	0.34	0.33	0.33	0.30	0.30	0.29	0.29	0.29	0.27
Venezuela.....	4.27	4.27	4.79	5.32	5.32	5.49	5.80	6.16	6.60	7.42
Other.....	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.05	0.05
Total.....	8.74	8.82	9.53	10.02	10.24	10.64	11.18	12.11	12.95	14.07
Western Europe										
Austria.....	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.04
Denmark.....	0.21	0.24	0.25	0.30	0.34	0.36	0.38	0.39	0.43	0.48
France.....	0.14	0.14	0.13	0.13	0.12	0.12	0.12	0.11	0.09	0.08
Germany.....	--	--	--	0.15	0.14	0.13	0.13	0.13	0.13	0.12
Germany, East.....	(s)	(s)	(s)	--	--	--	--	--	--	--
Germany, West.....	0.17	0.16	0.15	--	--	--	--	--	--	--
Greece.....	0.05	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Italy.....	0.20	0.18	0.20	0.18	0.19	0.19	0.19	0.21	0.23	0.25
Netherlands.....	0.17	0.14	0.16	0.17	0.12	0.11	0.18	0.15	0.13	0.12
Norway.....	2.38	3.19	3.50	3.88	4.59	4.82	5.17	5.68	6.39	6.45
Spain.....	0.06	0.04	0.03	0.05	0.05	0.04	0.03	0.03	0.02	0.02
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkey.....	0.11	0.12	0.16	0.19	0.18	0.17	0.16	0.15	0.15	0.15
United Kingdom.....	4.74	3.82	3.85	3.81	3.88	4.06	5.03	5.27	5.45	5.33
Former Yugoslavia.....	0.16	0.15	0.14	0.13	--	--	--	--	--	--
Croatia.....	--	--	--	--	0.08	0.08	0.08	0.07	0.06	0.06
Serbia and Montenegro.....	--	--	--	--	0.05	0.05	0.05	0.05	0.05	0.04
Slovenia.....	--	--	--	--	0.00	(s)	(s)	(s)	(s)	(s)
Total.....	8.45	8.28	8.65	9.06	9.80	10.19	11.60	12.29	13.19	13.15
Eastern Europe & Former U.S.S.R.										
Albania.....	0.10	0.11	0.07	0.04	0.02	0.03	0.03	0.02	0.02	0.02
Bulgaria.....	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	(s)	0.01	0.01	0.01	0.01
Slovakia.....	--	--	--	--	--	(s)	(s)	(s)	(s)	(s)
Hungary.....	0.09	0.08	0.09	0.08	0.08	0.08	0.09	0.08	0.07	0.08
Poland.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Romania.....	0.41	0.38	0.34	0.30	0.29	0.28	0.29	0.28	0.29	0.28
Former U.S.S.R.....	25.94	25.14	23.55	21.44	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	0.46	0.43	0.39	0.38	0.38	0.37
Belarus.....	--	--	--	--	0.09	0.09	0.09	0.08	0.08	0.08
Georgia.....	--	--	--	--	0.01	(s)	(s)	(s)	(s)	0.01
Kazakhstan.....	--	--	--	--	0.96	0.88	0.76	0.78	0.87	1.00
Kyrgyzstan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	--	--	0.00	(s)	0.01	0.01	0.01	0.01
Russia.....	--	--	--	--	16.42	14.44	13.17	12.87	12.59	12.71
Tajikistan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	--	0.21	0.17	0.17	0.15	0.16	0.22
Ukraine.....	--	--	--	--	0.15	0.14	0.14	0.14	0.14	0.12
Uzbekistan.....	--	--	--	--	0.08	0.10	0.16	0.25	0.25	0.24
Total.....	26.56	25.74	24.08	21.88	18.78	16.66	15.31	15.06	14.89	15.17

See footnotes at end of table.

Table F2 World Crude Oil Production (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Bahrain.....	0.09	0.09	0.09	0.08	0.08	0.09	0.09	0.09	0.08	0.09
Iran.....	4.83	6.04	6.64	7.12	7.39	7.61	7.78	7.83	7.94	7.87
Iraq.....	5.72	6.15	4.33	0.65	0.91	1.09	1.17	1.19	1.23	2.45
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	3.23	3.85	2.54	0.41	2.29	4.00	4.38	4.45	4.47	4.50
Oman.....	1.33	1.37	1.47	1.50	1.59	1.66	1.74	1.82	1.90	1.94
Qatar.....	0.73	0.80	0.86	0.83	0.89	0.87	0.88	0.93	1.08	1.37
Saudi Arabia.....	11.00	10.92	13.83	17.51	18.02	17.68	17.52	17.76	17.78	18.47
Syria.....	0.60	0.76	0.87	1.11	1.08	1.25	1.26	1.29	1.31	1.26
United Arab Emirates.....	3.32	3.93	4.47	5.04	4.80	4.56	4.63	4.72	4.82	4.89
Yemen.....	0.36	0.41	0.40	0.41	0.38	0.46	0.70	0.72	0.71	0.80
Total.....	31.21	34.34	35.50	34.65	37.44	39.27	40.13	40.80	41.32	43.65
Africa										
Algeria.....	2.11	2.22	2.38	2.49	2.47	2.36	2.39	2.44	2.53	2.59
Angola.....	0.96	0.97	1.01	1.06	1.12	1.08	1.14	1.37	1.51	1.52
Benin.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	0.01
Cameroon.....	0.35	0.37	0.35	0.33	0.31	0.28	0.23	0.24	0.24	0.27
Congo (Brazzaville).....	0.30	0.35	0.35	0.33	0.37	0.38	0.38	0.40	0.43	0.55
Congo (Kinshasa).....	0.06	0.06	0.06	0.06	0.06	0.05	0.06	0.06	0.06	0.06
Cote d'Ivoire (Ivory Coast).....	0.03	(s)	(s)	(s)	(s)	(s)	0.01	0.02	0.03	0.04
Egypt.....	1.84	1.87	1.89	1.89	1.91	1.92	1.94	1.99	2.00	1.85
Equatorial Guinea.....	0.00	0.00	0.00	(s)	(s)	0.01	0.01	0.01	0.03	0.10
Gabon.....	0.34	0.45	0.58	0.63	0.64	0.67	0.71	0.78	0.79	0.80
Ghana.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	0.01	0.01	0.01
Libya.....	2.48	2.42	2.90	3.13	3.03	2.87	2.90	2.93	2.96	3.05
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	3.12	3.68	3.88	4.06	4.18	4.21	4.14	4.28	4.31	5.01
Sudan.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	0.01
Tunisia.....	0.21	0.22	0.19	0.22	0.23	0.20	0.19	0.18	0.18	0.19
Total.....	11.84	12.62	13.61	14.22	14.33	14.05	14.12	14.72	15.09	16.05
Far East & Oceania										
Australia.....	1.10	1.00	1.17	1.11	1.09	1.02	1.09	1.14	1.16	1.20
Bangladesh.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	0.29	0.28	0.32	0.35	0.35	0.35	0.36	0.35	0.33	0.37
Burma.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
China.....	5.87	5.91	5.95	6.08	6.12	6.20	6.31	6.42	6.74	6.87
India.....	1.33	1.46	1.38	1.29	1.18	1.12	1.23	1.47	1.37	1.41
Indonesia.....	2.82	2.95	3.06	3.34	3.16	3.17	3.16	3.15	3.25	3.18
Japan.....	0.03	0.02	0.02	0.03	0.04	0.03	0.02	0.02	0.03	0.02
Malaysia.....	1.13	1.22	1.29	1.34	1.36	1.33	1.34	1.42	1.45	1.55
New Zealand.....	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.06	0.07	0.11
Pakistan.....	0.10	0.10	0.13	0.13	0.13	0.13	0.12	0.12	0.12	0.12
Papua New Guinea.....	0.00	0.00	0.00	(s)	0.11	0.26	0.23	0.20	0.21	0.16
Philippines.....	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	(s)	(s)
Taiwan.....	(s)	(s)	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Thailand.....	0.08	0.09	0.10	0.11	0.12	0.12	0.13	0.12	0.14	0.17
Vietnam.....	0.03	0.07	0.11	0.18	0.23	0.26	0.31	0.38	0.39	0.42
Total.....	12.89	13.24	13.67	14.08	14.02	14.12	14.43	14.89	15.28	15.62
World Total.....	125.93	127.98	129.50	128.77	129.13	128.86	130.46	133.32	136.64	142.08

¹ Preliminary.

² Includes oil processed from Athabasca Tar Sands.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Crude oil includes lease condensate.

Sources: See sources at the end of Section 3.

Table F3 World Natural Gas Plant Liquids Production (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	0.55	0.60	0.62	0.63	0.67	0.74	0.77	0.84	0.87	0.92
Mexico.....	0.49	0.51	0.57	0.60	0.60	0.61	0.61	0.59	0.56	0.51
United States.....	2.26	2.16	2.17	2.31	2.36	2.41	2.39	2.44	2.53	2.50
Total.....	3.31	3.26	3.36	3.54	3.63	3.75	3.77	3.87	3.96	3.93
Central & South America										
Argentina.....	0.05	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.06	0.07
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Brazil.....	0.04	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.05	0.05
Chile.....	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01
Colombia.....	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ecuador.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Peru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Trinidad and Tobago.....	0.00	0.00	0.00	(s)	0.01	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.15	0.17	0.17	0.18	0.17	0.22	0.22	0.23	0.23	0.25
Total.....	0.27	0.28	0.29	0.30	0.31	0.36	0.39	0.41	0.40	0.41
Western Europe										
Austria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
France.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Greece.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Netherlands.....	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.03	0.04	0.04
Norway.....	0.12	0.12	0.12	0.15	0.15	0.16	0.16	0.22	0.22	0.22
Spain.....	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
United Kingdom.....	0.26	0.23	0.18	0.23	0.26	0.28	0.36	0.44	0.43	0.38
Former Yugoslavia.....	0.02	0.01	0.02	0.01	--	--	--	--	--	--
Croatia.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.45	0.42	0.38	0.45	0.48	0.51	0.60	0.73	0.72	0.68
Eastern Europe & Former U.S.S.R.										
Former Czechoslovakia.....	(s)	(s)	(s)	(s)	(s)	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	(s)	(s)	(s)	(s)	(s)
Hungary.....	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Poland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Romania.....	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Former U.S.S.R.....	0.68	0.64	0.64	0.64	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Kazakhstan.....	--	--	--	--	0.13	0.12	0.10	0.08	0.08	0.08
Kyrgyzstan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	--	0.35	0.33	0.30	0.27	0.28	0.30
Tajikistan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	--	0.02	0.02	0.01	0.02	0.02	0.03
Ukraine.....	--	--	--	--	0.03	0.03	0.03	0.03	0.02	0.04
Uzbekistan.....	--	--	--	--	0.05	0.06	0.06	0.07	0.08	0.07
Total.....	0.74	0.69	0.68	0.67	0.63	0.60	0.54	0.51	0.52	0.56
Middle East										
Bahrain.....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Iran.....	0.03	0.04	0.06	0.08	0.08	0.09	0.09	0.10	0.10	0.11
Iraq.....	0.03	0.09	0.05	0.00	(s)	0.02	0.03	0.04	0.03	0.03
Kuwait.....	0.15	0.16	0.10	0.00	0.05	0.08	0.13	0.15	0.13	0.18
Oman.....	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01
Qatar.....	0.04	0.03	0.06	0.07	0.08	0.08	0.07	0.08	0.07	0.10
Saudi Arabia.....	0.78	0.78	0.97	1.06	1.11	1.10	1.09	1.09	1.09	1.11
Syria.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.02
United Arab Emirates.....	0.22	0.22	0.22	0.24	0.24	0.24	0.25	0.26	0.27	0.26
Total.....	1.28	1.35	1.47	1.47	1.58	1.65	1.70	1.76	1.72	1.83

See footnotes at end of table.

Table F3 World Natural Gas Plant Liquids Production (Btu), 1988 - 1997 (Continued)

(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Africa										
Algeria.....	0.22	0.24	0.24	0.26	0.26	0.27	0.26	0.27	0.28	0.30
Egypt.....	0.06	0.08	0.07	0.08	0.08	0.10	0.10	0.11	0.12	0.13
Libya.....	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.06	0.08	0.10
South Africa.....	0.00	0.00	0.00	0.00	(s)	0.02	0.02	0.02	0.02	0.02
Tunisia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)
Total.....	0.34	0.39	0.38	0.41	0.42	0.46	0.45	0.46	0.49	0.54
Far East & Oceania²										
Australia.....	0.11	0.10	0.10	0.10	0.09	0.09	0.09	0.08	0.10	0.11
Bangladesh.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Brunei.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.02	0.02	0.02	0.02	0.05	0.05	0.08	0.08	0.13	0.14
Indonesia.....	0.04	0.11	0.11	0.11	0.11	0.12	0.12	0.11	0.12	0.13
Japan.....	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.08
New Zealand.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Pakistan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	(s)	(s)
Taiwan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Thailand.....	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.06	0.06	0.08
Total.....	0.24	0.29	0.30	0.30	0.32	0.35	0.39	0.41	0.48	0.59
World Total.....	6.63	6.67	6.85	7.13	7.38	7.67	7.84	8.14	8.30	8.54

¹ Preliminary.

² Does not include China for which data are unavailable.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table F4 World Dry Natural Gas Production (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	3.63	3.85	3.90	4.12	4.60	4.99	5.45	5.77	5.90	5.98
Mexico.....	1.01	1.01	1.03	1.02	1.01	0.98	1.00	1.03	1.21	1.30
United States.....	17.60	17.85	18.36	18.23	18.38	18.58	19.35	19.10	19.30	19.39
Total.....	22.24	22.71	23.30	23.37	23.98	24.56	25.79	25.90	26.41	26.68
Central & South America										
Argentina.....	0.66	0.75	0.65	0.73	0.77	0.82	0.85	0.96	1.02	1.05
Barbados.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Bolivia.....	0.10	0.11	0.11	0.10	0.11	0.10	0.10	0.11	0.11	0.11
Brazil.....	0.11	0.14	0.11	0.14	0.15	0.17	0.18	0.19	0.21	0.23
Chile.....	0.04	0.06	0.07	0.05	0.06	0.06	0.07	0.07	0.07	0.08
Colombia.....	0.14	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.16	0.20
Cuba.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Ecuador.....	(s)	(s)	0.01	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Peru.....	0.04	0.04	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
Trinidad and Tobago.....	0.16	0.17	0.18	0.21	0.20	0.23	0.26	0.28	0.32	0.34
Venezuela.....	0.78	0.92	0.91	0.95	0.91	0.97	1.04	1.06	1.14	1.19
Total.....	2.02	2.31	2.20	2.35	2.36	2.54	2.70	2.85	3.06	3.24
Western Europe										
Austria.....	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.06	0.06	0.05
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	(s)	0.00
Denmark.....	0.10	0.12	0.12	0.15	0.16	0.17	0.19	0.21	0.25	0.30
France.....	0.12	0.12	0.11	0.13	0.12	0.12	0.13	0.12	0.11	0.10
Germany.....	--	--	--	0.60	0.60	0.61	0.60	0.63	0.71	0.70
Germany, East.....	0.12	0.11	0.05	--	--	--	--	--	--	--
Germany, West.....	0.52	0.52	0.51	--	--	--	--	--	--	--
Greece.....	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)
Ireland.....	0.07	0.08	0.08	0.08	0.08	0.10	0.10	0.10	0.10	0.08
Italy.....	0.61	0.62	0.63	0.62	0.65	0.69	0.73	0.72	0.72	0.70
Netherlands.....	2.19	2.39	2.41	2.72	2.73	2.78	2.63	2.66	3.01	2.67
Norway.....	1.14	1.18	1.06	1.05	1.14	1.06	1.16	1.20	1.61	1.75
Spain.....	0.04	0.06	0.06	0.05	0.05	0.03	0.01	0.02	0.02	0.01
Switzerland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00
Turkey.....	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
United Kingdom.....	1.67	1.64	1.92	2.01	2.01	2.40	2.57	2.80	3.34	3.41
Former Yugoslavia.....	0.11	0.11	0.10	0.10	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	(s)	0.00	0.00	0.03	0.00	0.00
Croatia.....	--	--	--	--	0.07	0.07	0.06	0.07	0.06	0.06
Serbia and Montenegro.....	--	--	--	--	0.03	0.04	0.03	0.03	0.03	0.03
Slovenia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	6.76	7.01	7.13	7.58	7.72	8.14	8.27	8.66	10.02	9.87

See footnotes at end of table.

Table F4 World Dry Natural Gas Production (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.03	0.03	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	(s)	(s)	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Former Czechoslovakia.....	0.03	0.03	0.03	0.02	0.01	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	0.01	0.01	0.01	0.01	(s)
Slovakia.....	--	--	--	--	--	0.01	0.01	0.01	0.01	0.01
Hungary.....	0.22	0.21	0.17	0.17	0.17	0.18	0.17	0.17	0.16	0.15
Poland.....	0.19	0.18	0.13	0.14	0.12	0.14	0.13	0.13	0.14	0.15
Romania.....	1.37	1.21	1.07	0.88	0.78	0.75	0.70	0.69	0.64	0.54
Former U.S.S.R.....	27.90	28.84	29.53	28.97	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	0.28	0.24	0.23	0.23	0.24	0.21
Belarus.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Georgia.....	--	--	--	--	(s)	0.00	0.00	0.00	0.00	0.00
Kazakhstan.....	--	--	--	--	0.29	0.24	0.16	0.17	0.15	0.22
Kyrgyzstan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	--	22.89	22.08	21.71	21.26	21.49	20.41
Tajikistan.....	--	--	--	--	(s)	0.00	(s)	(s)	(s)	(s)
Turkmenistan.....	--	--	--	--	2.04	2.31	1.27	1.15	1.32	0.91
Ukraine.....	--	--	--	--	0.75	0.69	0.65	0.63	0.65	0.63
Uzbekistan.....	--	--	--	--	1.53	1.61	1.69	1.72	1.72	1.76
Total.....	29.73	30.50	30.93	30.18	28.89	28.27	26.74	26.19	26.54	25.00
Middle East										
Bahrain.....	0.19	0.19	0.21	0.24	0.20	0.24	0.24	0.24	0.24	0.24
Iran.....	0.75	0.83	0.88	0.97	0.93	1.01	1.19	1.32	1.50	1.69
Iraq.....	0.21	0.23	0.15	0.04	0.11	0.09	0.12	0.12	0.12	0.13
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	0.00	(s)	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Kuwait.....	0.24	0.30	0.19	0.02	0.10	0.20	0.22	0.22	0.34	0.35
Oman.....	0.08	0.10	0.10	0.13	0.12	0.15	0.16	0.15	0.15	0.16
Qatar.....	0.22	0.23	0.29	0.34	0.42	0.50	0.50	0.50	0.51	0.66
Saudi Arabia.....	1.08	1.10	1.13	1.18	1.26	1.33	1.39	1.41	1.53	1.60
Syria.....	0.02	0.03	0.10	0.12	0.12	0.13	0.13	0.10	0.14	0.14
United Arab Emirates.....	0.69	0.85	0.82	0.96	1.07	0.98	0.95	1.16	1.25	1.33
Total.....	3.47	3.87	3.89	4.01	4.33	4.64	4.91	5.22	5.79	6.32
Africa										
Algeria.....	1.93	2.02	2.11	2.28	2.33	2.24	2.13	2.42	2.47	2.79
Angola.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Congo (Brazzaville).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.02	0.03
Egypt.....	0.26	0.29	0.30	0.34	0.37	0.42	0.44	0.46	0.50	0.50
Gabon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Libya.....	0.20	0.22	0.23	0.24	0.25	0.24	0.24	0.23	0.24	0.24
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	0.14	0.17	0.14	0.18	0.18	0.19	0.17	0.19	0.20	0.20
Senegal.....	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)
South Africa.....	0.00	0.00	0.00	0.00	(s)	0.07	0.07	0.07	0.07	0.07
Tunisia.....	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.01	0.04	0.12
Total.....	2.57	2.74	2.81	3.07	3.17	3.19	3.09	3.42	3.56	3.98

See footnotes at end of table.

Table F4 World Dry Natural Gas Production (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.11	0.11	0.11	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Australia.....	0.58	0.59	0.76	0.79	0.87	0.92	0.98	1.10	1.12	1.12
Bangladesh.....	0.14	0.15	0.15	0.16	0.19	0.20	0.22	0.24	0.25	0.25
Brunei.....	0.37	0.37	0.39	0.32	0.33	0.34	0.34	0.38	0.38	0.37
Burma.....	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.06	0.06	0.05
China.....	0.57	0.58	0.58	0.61	0.61	0.64	0.68	0.69	0.77	0.86
India.....	0.36	0.36	0.46	0.52	0.55	0.61	0.68	0.72	0.80	0.96
Indonesia.....	1.47	1.57	1.68	1.90	1.97	2.17	2.43	2.46	2.59	2.61
Japan.....	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09
Malaysia.....	0.61	0.63	0.68	0.78	0.83	0.92	0.96	1.06	1.28	1.41
New Zealand.....	0.17	0.17	0.17	0.19	0.20	0.18	0.17	0.17	0.19	0.21
Pakistan.....	0.42	0.44	0.45	0.50	0.51	0.54	0.59	0.60	0.65	0.65
Papua New Guinea.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)
Taiwan.....	0.03	0.05	0.08	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Thailand.....	0.19	0.18	0.21	0.24	0.25	0.31	0.34	0.37	0.42	0.51
Vietnam.....	(s)	(s)	(s)	(s)	0.01	0.01	0.01	0.03	0.03	0.03
Total.....	5.12	5.34	5.84	6.16	6.49	7.01	7.59	8.02	8.67	9.18
World Total.....	71.91	74.47	76.10	76.72	76.94	78.35	79.10	80.27	84.06	84.26

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 4.

Table F5 World Coal Production (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	1.73	1.74	1.70	1.78	1.62	1.71	1.83	1.90	1.92	1.99
Mexico.....	0.15	0.16	0.17	0.15	0.14	0.15	0.15	0.16	0.16	0.17
United States.....	20.74	21.35	22.46	21.59	21.59	20.22	22.07	21.98	22.65	23.20
Total.....	22.62	23.25	24.32	23.52	23.35	22.08	24.05	24.03	24.73	25.36
Central & South America										
Argentina.....	0.01	0.01	0.01	0.01	(s)	(s)	0.01	0.01	0.01	0.01
Brazil.....	0.14	0.13	0.09	0.10	0.08	0.08	0.08	0.07	0.06	0.07
Chile.....	0.05	0.05	0.06	0.06	0.05	0.04	0.03	0.03	0.03	0.03
Colombia.....	0.39	0.47	0.53	0.61	0.61	0.55	0.53	0.60	0.71	0.77
Peru.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.03	0.06	0.06	0.07	0.08	0.10	0.12	0.12	0.09	0.15
Total.....	0.63	0.73	0.74	0.85	0.83	0.78	0.78	0.83	0.90	1.02
Western Europe										
Austria.....	0.02	0.02	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Belgium.....	0.06	0.05	0.05	0.04	0.02	0.02	0.01	0.01	0.01	0.01
France.....	0.37	0.36	0.34	0.32	0.30	0.27	0.23	0.21	0.22	0.18
Germany.....	--	--	--	3.96	3.65	3.37	3.21	3.01	2.90	2.77
Germany, East.....	2.61	2.54	2.36	--	--	--	--	--	--	--
Germany, West.....	2.80	2.76	2.71	--	--	--	--	--	--	--
Greece.....	0.29	0.31	0.31	0.32	0.27	0.30	0.29	0.30	0.29	0.29
Ireland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)
Norway.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Portugal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00
Spain.....	0.67	0.68	0.53	0.50	0.50	0.47	0.45	0.36	0.35	0.34
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00
Turkey.....	0.39	0.50	0.45	0.43	0.49	0.47	0.47	0.46	0.47	0.48
United Kingdom.....	2.60	2.53	2.36	2.37	1.95	1.57	1.12	1.14	1.19	1.15
Former Yugoslavia.....	0.86	0.88	0.88	0.81	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.06	0.04	0.03	0.02	0.01	0.01
Croatia.....	--	--	--	--	0.00	(s)	(s)	(s)	(s)	(s)
Macedonia, TFYR.....	--	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
Serbia and Montenegro.....	--	--	--	--	0.37	0.32	0.32	0.23	0.36	0.34
Slovenia.....	--	--	--	--	0.06	0.06	0.05	0.06	0.06	0.06
Total.....	10.70	10.65	10.05	8.81	7.76	6.98	6.27	5.90	5.94	5.69
Eastern Europe & Former U.S.S.R.										
Albania.....	0.02	0.02	0.02	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Bulgaria.....	0.34	0.34	0.30	0.27	0.28	0.26	0.26	0.25	0.27	0.24
Former Czechoslovakia.....	2.86	2.73	2.43	2.26	2.12	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	1.61	1.72	1.22	1.20	1.12
Slovakia.....	--	--	--	--	--	0.06	0.06	0.03	0.03	0.03
Hungary.....	0.24	0.23	0.20	0.19	0.19	0.17	0.18	0.15	0.16	0.17
Poland.....	4.78	4.43	3.74	3.59	3.53	3.50	3.56	3.40	3.63	3.62
Romania.....	0.54	0.54	0.34	0.29	0.29	0.34	0.37	0.36	0.39	0.32
Former U.S.S.R.....	13.06	12.53	13.67	10.65	--	--	--	--	--	--
Georgia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Kazakhstan.....	--	--	--	--	2.31	2.05	1.51	1.15	1.17	1.11
Kyrgyzstan.....	--	--	--	--	0.05	0.04	0.04	0.03	0.02	0.02
Moldova.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	--	6.36	5.71	5.01	4.85	4.98	4.72
Tajikistan.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Ukraine.....	--	--	--	--	2.57	2.24	1.84	1.93	1.66	1.76
Uzbekistan.....	--	--	--	--	0.07	0.05	0.05	0.04	0.04	0.04
Total.....	21.85	20.82	20.71	17.26	17.77	16.07	14.61	13.42	13.55	13.14

See footnotes at end of table.

Table F5 World Coal Production (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Iran.....	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03
Total.....	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03
Africa										
Algeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Botswana.....	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Egypt.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	0.01
Malawi.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
Mozambique.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Niger.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
South Africa.....	4.09	3.98	3.95	4.01	4.15	4.25	4.41	4.64	4.64	4.95
Swaziland.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Zambia.....	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zimbabwe.....	0.14	0.14	0.15	0.15	0.15	0.14	0.15	0.15	0.14	0.14
Total.....	4.30	4.17	4.16	4.22	4.37	4.45	4.63	4.86	4.84	5.15
Far East & Oceania										
Afghanistan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	3.41	3.74	3.97	4.13	4.37	4.40	4.57	4.93	5.01	5.38
Bhutan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Burma.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	19.59	21.06	21.55	21.71	22.24	23.43	25.23	26.29	26.33	26.57
India.....	3.60	3.72	3.91	4.23	4.61	4.79	4.96	6.03	6.19	6.00
Indonesia.....	0.11	0.23	0.22	0.34	0.59	0.74	0.83	1.15	1.35	1.47
Japan.....	0.29	0.26	0.24	0.20	0.18	0.17	0.16	0.14	0.15	0.10
Korea, North.....	1.46	1.52	1.55	1.58	1.56	1.62	1.63	1.63	1.70	1.47
Korea, South.....	0.43	0.37	0.31	0.27	0.21	0.17	0.13	0.10	0.09	0.08
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Malaysia.....	(s)	(s)	(s)	(s)	(s)	0.01	(s)	(s)	(s)	(s)
Mongolia.....	0.10	0.09	0.08	0.06	0.05	0.05	0.05	0.05	0.05	0.05
Nepal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
New Zealand.....	0.06	0.07	0.07	0.07	0.08	0.08	0.07	0.09	0.09	0.08
Pakistan.....	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.07
Philippines.....	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.02	0.02	0.02
Taiwan.....	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	(s)	(s)
Thailand.....	0.08	0.10	0.14	0.16	0.16	0.16	0.18	0.32	0.27	0.28
Vietnam.....	0.19	0.10	0.12	0.12	0.13	0.19	0.18	0.23	0.21	0.22
Total.....	29.45	31.37	32.26	32.98	34.29	35.93	38.10	41.06	41.55	41.80
World Total.....	89.58	91.02	92.27	87.67	88.41	86.31	88.48	90.14	91.54	92.20

¹ Preliminary.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Coal includes anthracite, subanthracite, bituminous, subbituminous, lignite, and brown coal.

Sources: See sources at the end of Section 5.

Table F6 World Net Hydroelectric Power Generation (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	3.16	2.99	3.06	3.17	3.26	3.33	3.40	3.45	3.66	3.62
Mexico.....	0.22	0.25	0.24	0.23	0.27	0.27	0.21	0.28	0.32	0.27
United States.2.....	2.33	2.80	2.99	2.96	2.57	2.85	2.65	3.18	3.56	3.68
Total.....	5.71	6.04	6.29	6.36	6.10	6.45	6.25	6.91	7.55	7.57
Central & South America										
Argentina.....	0.23	0.16	0.21	0.20	0.24	0.30	0.35	0.35	0.30	0.29
Bolivia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01
Brazil.....	2.05	2.11	2.13	2.24	2.30	2.42	2.50	2.61	2.74	2.87
Chile.....	0.12	0.10	0.12	0.14	0.17	0.18	0.17	0.19	0.17	0.19
Colombia.....	0.25	0.27	0.28	0.28	0.23	0.29	0.33	0.35	0.36	0.32
Costa Rica.....	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Dominican Republic.....	0.01	0.01	(s)	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Ecuador.....	0.05	0.05	0.05	0.05	0.05	0.06	0.07	0.07	0.08	0.08
El Salvador.....	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.02
Guatemala.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Haiti.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Honduras.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Jamaica.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nicaragua.....	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Panama.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04
Paraguay.....	0.21	0.25	0.28	0.30	0.28	0.32	0.37	0.43	0.49	0.53
Peru.....	0.11	0.11	0.11	0.12	0.10	0.12	0.13	0.14	0.14	0.14
Puerto Rico.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Suriname.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Uruguay.....	0.06	0.04	0.07	0.06	0.08	0.08	0.08	0.06	0.06	0.07
Venezuela.....	0.35	0.36	0.38	0.46	0.48	0.49	0.53	0.57	0.55	0.59
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	3.56	3.60	3.80	4.01	4.12	4.43	4.71	4.97	5.08	5.27
Western Europe										
Austria.....	0.37	0.36	0.32	0.32	0.36	0.38	0.37	0.38	0.35	0.37
Belgium.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Finland.....	0.14	0.13	0.11	0.14	0.16	0.14	0.12	0.13	0.12	0.12
France.....	0.77	0.48	0.55	0.59	0.70	0.66	0.80	0.73	0.67	0.64
Germany.....	--	--	--	0.15	0.18	0.18	0.21	0.22	0.23	0.20
Germany, East.....	0.02	0.02	0.01	--	--	--	--	--	--	--
Germany, West.....	0.22	0.20	0.19	--	--	--	--	--	--	--
Greece.....	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.04	0.04	0.04
Iceland.....	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05
Ireland.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Italy.....	0.42	0.35	0.33	0.43	0.43	0.43	0.46	0.39	0.43	0.43
Luxembourg.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Norway.....	1.12	1.22	1.25	1.13	1.20	1.23	1.15	1.25	1.07	1.13
Portugal.....	0.13	0.06	0.09	0.09	0.05	0.09	0.11	0.09	0.15	0.14
Spain.....	0.36	0.20	0.26	0.28	0.19	0.25	0.29	0.24	0.41	0.25
Sweden.....	0.72	0.74	0.75	0.65	0.77	0.77	0.61	0.70	0.53	0.71
Switzerland.....	0.37	0.31	0.31	0.33	0.34	0.37	0.40	0.36	0.29	0.35
Turkey.....	0.30	0.18	0.24	0.23	0.27	0.35	0.31	0.37	0.42	0.41
United Kingdom.....	0.05	0.05	0.05	0.05	0.06	0.04	0.05	0.05	0.03	0.04
Former Yugoslavia.....	0.27	0.24	0.20	0.20	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.03	0.02	0.01	0.01	0.01	0.02
Croatia.....	--	--	--	--	0.04	0.04	0.05	0.05	0.07	0.07
Macedonia, TFYR.....	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01
Serbia and Montenegro.....	--	--	--	--	0.12	0.10	0.11	0.12	0.12	0.13
Slovenia.....	--	--	--	--	0.04	0.03	0.03	0.03	0.04	0.04
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	5.31	4.61	4.74	4.69	5.02	5.17	5.19	5.24	5.06	5.17

See footnotes at end of table.

Table F6 World Net Hydroelectric Power Generation (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.04	0.04	0.03	0.04	0.03	0.03	0.04	0.04	0.06	0.05
Bulgaria.....	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.03
Former Czechoslovakia.....	0.05	0.04	0.04	0.03	0.04	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	0.01	0.02	0.02	0.02	0.02
Slovakia.....	--	--	--	--	--	0.04	0.05	0.05	0.06	0.05
Hungary.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Poland.....	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Romania.....	0.14	0.13	0.11	0.15	0.12	0.13	0.13	0.17	0.16	0.16
Former U.S.S.R.....	2.38	2.30	2.40	2.42	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.03	0.04	0.04	0.02	0.02	0.02
Azerbaijan.....	--	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02
Georgia.....	--	--	--	--	0.07	0.07	0.05	0.05	0.06	0.06
Kazakhstan.....	--	--	--	--	0.07	0.08	0.09	0.09	0.08	0.07
Kyrgyzstan.....	--	--	--	--	0.10	0.09	0.12	0.11	0.13	0.14
Latvia.....	--	--	--	--	0.03	0.03	0.03	0.03	0.02	0.02
Lithuania.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Moldova.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Russia.....	--	--	--	--	1.78	1.79	1.81	1.82	1.59	1.56
Tajikistan.....	--	--	--	--	0.16	0.18	0.17	0.15	0.15	0.14
Ukraine.....	--	--	--	--	0.08	0.12	0.13	0.13	0.12	0.13
Uzbekistan.....	--	--	--	--	0.06	0.08	0.07	0.06	0.07	0.07
Other.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	2.67	2.58	2.64	2.70	2.65	2.79	2.84	2.84	2.62	2.58
Middle East										
Iran.....	0.07	0.07	0.06	0.07	0.10	0.10	0.08	0.08	0.08	0.08
Iraq.....	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Lebanon.....	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Syria.....	0.05	0.05	0.06	0.06	0.08	0.07	0.07	0.07	0.07	0.07
Total.....	0.13	0.13	0.13	0.15	0.19	0.19	0.16	0.16	0.17	0.17
Africa										
Algeria.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Angola.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cameroon.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Congo (Brazzaville).....	(s)	(s)	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.05	0.07	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.07
Cote d'Ivoire (Ivory Coast).....	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Egypt.....	0.08	0.08	0.10	0.09	0.09	0.11	0.11	0.11	0.11	0.12
Ethiopia.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Gabon.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ghana.....	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Kenya.....	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Madagascar.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
Malawi.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Mali.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Morocco.....	0.01	0.01	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01
Nigeria.....	0.04	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.05
Reunion.....	(s)	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01	0.01
South Africa.....	0.03	0.03	0.01	0.02	0.01	(s)	0.01	0.01	0.01	0.02
Sudan.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Tanzania.....	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Uganda.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zambia.....	0.09	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Zimbabwe.....	0.03	0.03	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Other.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.54	0.56	0.57	0.59	0.58	0.57	0.59	0.59	0.60	0.62

See footnotes at end of table.

Table F6 World Net Hydroelectric Power Generation (Btu), 1988 - 1997 (Continued)
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.01	0.01	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.16	0.16	0.17
Bangladesh.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	(s)	0.01	0.01
Bhutan.....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Burma.....	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Cambodia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
China.....	1.12	1.22	1.30	1.29	1.35	1.55	1.72	1.92	1.89	1.82
Fiji.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
French Polynesia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
India.....	0.60	0.64	0.74	0.75	0.72	0.73	0.85	0.75	0.71	0.68
Indonesia.....	0.09	0.09	0.11	0.10	0.13	0.12	0.12	0.11	0.11	0.10
Japan.....	0.94	0.94	0.92	1.00	0.85	0.98	0.69	0.85	0.83	0.89
Korea, North.....	0.32	0.33	0.33	0.33	0.25	0.25	0.24	0.24	0.23	0.23
Korea, South.....	0.04	0.05	0.07	0.05	0.05	0.06	0.04	0.06	0.05	0.06
Laos.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malaysia.....	0.06	0.05	0.04	0.05	0.04	0.05	0.07	0.06	0.05	0.05
Nepal.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
New Caledonia.....	0.01	0.01	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01
New Zealand.....	0.24	0.23	0.24	0.24	0.21	0.24	0.27	0.28	0.27	0.23
Pakistan.....	0.17	0.17	0.17	0.19	0.19	0.22	0.20	0.24	0.24	0.24
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Philippines.....	0.06	0.07	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
Samoa.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sri Lanka.....	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.03	0.03
Taiwan.....	0.06	0.07	0.09	0.06	0.09	0.07	0.09	0.09	0.09	0.09
Thailand.....	0.04	0.06	0.05	0.05	0.04	0.04	0.05	0.07	0.08	0.08
U.S. Pacific Islands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Vietnam.....	0.02	0.04	0.06	0.06	0.06	0.09	0.10	0.12	0.14	0.15
Total.....	3.99	4.20	4.42	4.49	4.32	4.75	4.79	5.14	5.04	4.98
World Total.....	21.92	21.72	22.59	22.98	22.98	24.35	24.52	25.85	26.11	26.35

¹ Preliminary.

² Includes hydroelectric pumped storage. There is a discontinuity in this time series between 1989 and 1990; beginning in 1990, expanded coverage of generation of hydroelectric power by nonutility power producers is included.

--= Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit and excludes generation from pumped storage.

Sources: See sources at the end of Section 6.

Table F7 World Net Nuclear Electric Power Generation (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	0.90	0.87	0.79	0.93	0.88	1.02	1.17	1.06	1.00	0.88
Mexico.....	0.00	0.00	0.03	0.04	0.04	0.05	0.04	0.08	0.08	0.10
United States.....	5.66	5.68	6.16	6.58	6.61	6.52	6.84	7.18	7.17	6.69
Total.....	6.56	6.55	6.99	7.55	7.52	7.59	8.04	8.31	8.24	7.67
Central & South America										
Argentina.....	0.06	0.06	0.08	0.09	0.08	0.09	0.09	0.08	0.08	0.09
Brazil.....	(s)	0.02	0.02	0.01	0.02	(s)	(s)	0.02	0.02	0.03
Total.....	0.06	0.07	0.10	0.10	0.10	0.09	0.09	0.11	0.11	0.12
Western Europe										
Belgium.....	0.42	0.41	0.42	0.42	0.43	0.41	0.40	0.41	0.43	0.47
Finland.....	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.20
France.....	2.64	2.93	3.11	3.28	3.34	3.64	3.54	3.71	3.91	3.87
Germany.....	--	--	--	1.43	1.54	1.49	1.46	1.48	1.55	1.65
Germany, East.....	0.12	0.12	0.06	--	--	--	--	--	--	--
Germany, West.....	1.52	1.47	1.46	--	--	--	--	--	--	--
Netherlands.....	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.02
Spain.....	0.52	0.58	0.52	0.54	0.54	0.54	0.53	0.53	0.54	0.53
Sweden.....	0.66	0.63	0.65	0.74	0.61	0.59	0.70	0.67	0.70	0.67
Switzerland.....	0.23	0.23	0.24	0.23	0.23	0.23	0.24	0.25	0.25	0.25
United Kingdom.....	0.66	0.76	0.70	0.78	0.86	1.01	1.00	1.00	1.07	1.11
Former Yugoslavia.....	0.04	0.05	0.05	0.04	--	--	--	--	--	--
Slovenia.....	--	--	--	--	0.04	0.04	0.04	0.04	0.04	0.05
Total.....	7.05	7.40	7.43	7.67	7.82	8.18	8.16	8.33	8.72	8.83
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	0.17	0.16	0.15	0.14	0.12	0.15	0.16	0.18	0.20	0.18
Former Czechoslovakia.....	0.27	0.28	0.29	0.28	0.29	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	0.15	0.15	0.14	0.15	0.15
Slovakia.....	--	--	--	--	--	0.14	0.14	0.13	0.14	0.14
Hungary.....	0.14	0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.14	0.13
Romania.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06
Former U.S.S.R.....	2.33	2.43	2.31	2.31	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.00	0.00	0.00	0.00	0.02	0.02
Kazakhstan.....	--	--	--	--	0.01	(s)	(s)	(s)	(s)	(s)
Lithuania.....	--	--	--	--	0.15	0.13	0.08	0.11	0.14	0.12
Russia.....	--	--	--	--	1.25	1.25	1.02	1.04	1.14	1.15
Ukraine.....	--	--	--	--	0.76	0.78	0.71	0.73	0.83	0.82
Total.....	2.91	3.03	2.89	2.86	2.71	2.73	2.41	2.47	2.76	2.77
Africa										
South Africa.....	0.11	0.11	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13
Total.....	0.11	0.11	0.09	0.09	0.09	0.07	0.10	0.11	0.12	0.13
Far East & Oceania										
China.....	0.00	0.00	0.00	0.00	0.01	0.03	0.14	0.13	0.14	0.12
India.....	0.06	0.04	0.07	0.06	0.07	0.07	0.06	0.08	0.09	0.13
Japan.....	1.85	1.86	1.97	2.08	2.17	2.42	2.61	2.83	2.93	3.13
Korea, South.....	0.39	0.47	0.51	0.54	0.54	0.56	0.56	0.64	0.70	0.73
Pakistan.....	(s)	(s)	(s)	(s)	0.01	(s)	0.01	0.01	(s)	(s)
Taiwan.....	0.30	0.28	0.32	0.33	0.32	0.33	0.33	0.34	0.36	0.34
Total.....	2.61	2.65	2.87	3.01	3.12	3.41	3.70	4.02	4.23	4.45
World Total.....	19.30	19.81	20.37	21.29	21.36	22.07	22.50	23.35	24.17	23.97

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit.

No generation is reported for Middle East.

Sources: See sources at the end of Section 6.

Table F8 World Net Geothermal, Solar, and Wind Electric Power Generation (Btu), 1988 - 1997
(Quadrillion (10¹⁵) Btu)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mexico.....	0.10	0.10	0.10	0.11	0.12	0.12	0.11	0.11	0.11	0.11
United States. ²	0.23	0.22	0.83	0.91	0.97	1.00	1.02	0.96	0.99	1.07
Total.....	0.33	0.32	0.93	1.02	1.08	1.12	1.13	1.08	1.11	1.18
Central & South America										
Brazil..... ³	0.05	0.05	0.05	0.05	0.07	0.07	0.07	0.08	0.09	0.10
Costa Rica.....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
El Salvador.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nicaragua.....	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.06	0.06	0.07	0.07	0.09	0.09	0.10	0.11	0.12	0.13
Western Europe										
Denmark.....	(s)	(s)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
France.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Germany.....	--	--	--	(s)	(s)	0.01	0.01	0.01	0.02	0.03
Germany, West.....	(s)	(s)	(s)	--	--	--	--	--	--	--
Greece.....	(s)	0.00	(s)	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Iceland.....	0.01	0.01	0.01	0.01	(s)	0.01	0.01	0.01	0.01	0.01
Ireland.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Italy.....	0.06	0.06	0.06	0.06	0.07	0.08	0.07	0.07	0.08	0.09
Netherlands.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	0.01	0.01	0.01
Norway.....	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)
Portugal.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Spain.....	0.00	0.00	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkey.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
United Kingdom.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Other.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	0.08	0.08	0.09	0.09	0.10	0.11	0.11	0.13	0.14	0.17
Eastern Europe & Former U.S.S.R.										
Poland.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)
Romania.....	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Former U.S.S.R.....	0.00	(s)	(s)	(s)	--	--	--	--	--	--
Russia.....	--	--	--	--	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Middle East										
Jordan.....	0.00	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Total.....	0.00	(s)	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00
Africa										
Ethiopia.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Far East & Oceania										
Australia.....	0.00	0.00	0.00	0.00	0.00	0.00	(s)	(s)	(s)	(s)
India.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Indonesia.....	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.05	0.06
Japan.....	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.06	0.07	0.08
New Zealand.....	0.03	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04
Philippines.....	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12
Vietnam.....	(s)	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Total.....	0.18	0.19	0.21	0.22	0.22	0.23	0.25	0.28	0.30	0.31
World Total.....	0.66	0.66	1.31	1.40	1.49	1.55	1.60	1.60	1.68	1.81

¹ Preliminary.

² Includes biomass electric power generation. There is a discontinuity in this time series between 1989 and 1990; beginning in 1990, generation of biomass, geothermal, solar, and wind electric power by nonutility power producers is included.

³ Data are for biomass electric power generation.

-- Not applicable.

(s) = Value less than 5 trillion Btu.

Notes: Sum of components may not equal total due to independent rounding.

Generation data consist of both utility and nonutility sources. Data are reported as net generation as opposed to gross. Net generation excludes the energy consumed by the generating unit.

Sources: See sources at the end of Section 6.

Appendix G

**World Production of Crude Oil,
Natural Gas Plant Liquids (NGPL),
Other Liquids, and
Refinery Processing Gain**

Table G1 World Production of Crude Oil, NGPL, and Other Liquids, 1988 - 1997
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	1,997	1,970	1,979	1,979	2,065	2,186	2,275	2,386	2,432	2,558
Mexico.....	2,882	2,904	2,981	3,137	3,123	3,132	3,146	3,064	3,278	3,411
United States.....	9,818	9,219	8,994	9,168	8,996	8,836	8,645	8,626	8,607	8,611
Total.....	14,697	14,093	13,955	14,284	14,185	14,154	14,066	14,076	14,318	14,580
Central & South America										
Argentina.....	484	487	510	515	583	629	694	757	800	882
Barbados.....	1	1	1	1	1	1	1	1	1	1
Bolivia.....	24	25	26	26	28	29	30	34	37	43
Brazil.....	718	761	790	808	793	806	858	890	1,001	1,068
Chile.....	34	32	32	28	26	26	24	23	21	14
Colombia.....	382	411	448	425	439	461	455	593	631	661
Cuba.....	17	17	16	16	18	22	26	28	32	33
Ecuador.....	304	281	287	301	324	353	374	401	405	393
Guatemala.....	3	4	4	4	5	7	8	10	13	16
Peru.....	142	130	130	116	117	127	129	131	121	119
Suriname.....	3	4	4	4	5	5	6	7	7	5
Trinidad and Tobago.....	157	154	150	154	142	135	132	131	130	124
Venezuela.....	2,001	2,015	2,251	2,492	2,484	2,593	2,734	2,899	3,088	3,477
Total.....	4,271	4,323	4,649	4,890	4,967	5,195	5,472	5,906	6,287	6,837
Western Europe										
Austria.....	24	24	23	27	24	22	22	24	22	20
Denmark.....	99	117	121	143	163	174	185	186	208	230
France.....	79	77	72	69	70	68	69	62	55	46
Germany.....	--	--	--	95	85	81	79	78	78	76
Germany, East.....	1	1	1	--	--	--	--	--	--	--
Germany, West.....	112	104	104	--	--	--	--	--	--	--
Greece.....	23	19	17	17	14	12	11	10	9	10
Italy.....	92	84	89	82	86	86	89	97	105	114
Netherlands.....	88	77	84	84	67	67	103	87	81	77
Norway.....	1,233	1,628	1,782	1,984	2,324	2,450	2,624	2,905	3,242	3,282
Spain.....	37	30	27	33	31	24	21	17	14	11
Sweden.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Turkey.....	50	56	73	88	84	76	72	67	67	68
United Kingdom.....	2,391	1,942	1,928	1,938	1,986	2,084	2,593	2,756	2,827	2,751
Former Yugoslavia.....	86	78	74	68	--	--	--	--	--	--
Croatia.....	--	--	--	--	42	43	46	40	36	37
Serbia and Montenegro.....	--	--	--	--	23	23	24	22	22	20
Total.....	4,316	4,238	4,395	4,629	4,999	5,210	5,938	6,350	6,767	6,741
Eastern Europe & Former U.S.S.R.										
Albania.....	44	47	30	19	11	11	12	10	10	9
Bulgaria.....	4	5	4	1	1	1	1	1	1	1
Former Czechoslovakia.....	3	3	2	3	2	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	2	3	3	4	3
Slovakia.....	--	--	--	--	--	1	1	1	2	2
Hungary.....	62	51	55	47	46	45	50	46	42	50
Poland.....	4	3	2	3	3	5	5	5	5	6
Romania.....	206	193	171	148	143	137	142	141	142	141
Former U.S.S.R.....	12,503	12,140	11,400	10,412	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	222	208	192	182	182	180
Belarus.....	--	--	--	--	40	40	40	38	36	36
Georgia.....	--	--	--	--	3	2	2	1	1	3
Kazakhstan.....	--	--	--	--	530	490	415	414	457	521
Kyrgyzstan.....	--	--	--	--	2	2	2	2	2	2
Lithuania.....	--	--	--	--	0	2	3	3	3	4
Russia.....	--	--	--	--	7,862	6,950	6,335	6,175	6,035	6,115
Tajikistan.....	--	--	--	--	1	1	1	1	1	1
Turkmenistan.....	--	--	--	--	110	90	85	81	88	120
Ukraine.....	--	--	--	--	95	87	85	85	81	85
Uzbekistan.....	--	--	--	--	66	85	115	160	165	157
Total.....	12,827	12,442	11,664	10,633	9,137	8,159	7,487	7,349	7,256	7,435

See footnotes at end of table.

Table G1 World Production of Crude Oil, NGPL, and Other Liquids, 1988 - 1997 (Continued)
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Bahrain.....	52	51	47	43	44	53	54	51	45	52
Iran.....	2,260	2,837	3,123	3,362	3,479	3,595	3,673	3,703	3,746	3,734
Iraq.....	2,705	2,951	2,070	305	425	527	573	585	599	1,175
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	1	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,592	1,888	1,240	190	1,092	1,905	2,110	2,152	2,147	2,198
Oman.....	623	651	695	708	746	781	816	861	893	910
Qatar.....	376	404	446	445	478	468	465	497	560	719
Saudi Arabia.....	5,585	5,567	7,030	8,795	9,045	8,902	8,818	8,933	8,915	9,274
Syria.....	266	342	390	494	483	562	568	584	590	571
United Arab Emirates.....	1,695	1,990	2,252	2,532	2,410	2,305	2,343	2,393	2,438	2,476
Yemen.....	173	194	193	197	182	220	335	345	340	385
Total.....	15,328	16,876	17,487	17,071	18,384	19,318	19,754	20,104	20,273	21,495
Africa										
Algeria.....	1,160	1,225	1,305	1,370	1,354	1,307	1,320	1,347	1,392	1,437
Angola.....	452	455	475	500	526	509	536	646	709	714
Benin.....	5	4	4	4	6	6	6	3	2	3
Cameroon.....	163	170	161	153	140	127	108	111	108	124
Congo (Brazzaville).....	144	164	165	156	174	181	180	188	201	261
Congo (Kinshasa).....	30	28	29	28	26	25	26	30	30	28
Cote d'Ivoire (Ivory Coast).....	12	2	2	2	2	1	7	8	16	19
Egypt.....	883	910	913	919	926	945	954	980	987	927
Equatorial Guinea.....	0	0	0	(s)	2	5	5	5	17	52
Gabon.....	159	208	270	294	298	313	329	365	368	370
Ghana.....	0	0	0	0	1	2	1	4	6	5
Libya.....	1,205	1,185	1,410	1,523	1,473	1,402	1,419	1,430	1,450	1,506
Morocco.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Nigeria.....	1,450	1,716	1,810	1,892	1,943	1,960	1,931	1,993	2,001	2,332
South Africa.....	60	70	70	70	129	183	183	192	195	196
Sudan.....	0	0	0	0	(s)	(s)	(s)	(s)	2	5
Tunisia.....	108	110	98	109	114	102	96	90	88	91
Total.....	5,831	6,247	6,712	7,021	7,113	7,067	7,100	7,392	7,572	8,072
Far East & Oceania										
Australia.....	605	555	638	606	591	558	592	614	632	659
Bangladesh.....	1	1	1	1	1	1	2	1	2	2
Brunei.....	148	142	160	171	177	178	180	176	166	190
Burma.....	14	16	14	16	15	14	14	10	8	10
China.....	2,730	2,757	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200
India.....	644	710	670	625	589	564	635	750	731	760
Indonesia.....	1,372	1,481	1,539	1,668	1,579	1,589	1,590	1,579	1,627	1,605
Japan.....	14	13	14	18	20	19	18	18	18	17
Malaysia.....	551	596	631	658	666	657	662	702	715	796
New Zealand.....	50	54	56	56	55	58	55	45	45	66
Pakistan.....	45	48	62	64	64	63	58	62	58	60
Papua New Guinea.....	0	0	0	(s)	53	126	110	100	103	80
Philippines.....	6	5	5	3	8	9	6	3	2	1
Taiwan.....	4	4	4	3	3	2	2	2	2	2
Thailand.....	52	51	57	59	65	67	78	89	96	122
Vietnam.....	15	32	50	80	106	120	141	173	175	191
Total.....	6,251	6,465	6,675	6,863	6,838	6,916	7,081	7,315	7,513	7,760
World Total.....	63,521	64,683	65,537	65,390	65,625	66,018	66,899	68,492	69,986	72,920

¹ Preliminary.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Notes: NGPL are natural gas plant liquids. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1988 - 1997
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	2,042	2,027	2,025	2,032	2,125	2,241	2,328	2,448	2,494	2,622
Mexico.....	2,910	2,932	3,009	3,165	3,151	3,160	3,174	3,092	3,306	3,439
United States.....	10,473	9,880	9,677	9,883	9,768	9,602	9,413	9,400	9,445	9,461
Total.....	15,425	14,839	14,712	15,080	15,045	15,003	14,915	14,940	15,245	15,522
Central & South America										
Argentina.....	489	492	515	520	588	634	699	762	805	887
Barbados.....	1	1	1	1	1	1	1	1	1	1
Bolivia.....	24	25	26	26	28	29	30	34	37	43
Brazil.....	731	774	803	821	806	819	871	903	1,014	1,081
Chile.....	35	33	33	29	27	27	25	24	22	15
Colombia.....	384	413	450	427	441	463	457	595	633	663
Cuba.....	17	17	16	16	18	22	26	28	32	33
Dominican Republic.....	1	1	1	1	1	1	1	1	1	1
Ecuador.....	305	282	288	302	325	354	375	402	406	394
Guatemala.....	3	4	4	4	5	7	8	10	13	16
Netherlands Antilles.....	6	6	6	6	6	6	6	6	6	6
Panama.....	1	1	1	1	1	1	1	1	1	1
Peru.....	144	132	132	118	119	129	131	133	123	121
Suriname.....	3	4	4	4	5	5	6	7	7	5
Trinidad and Tobago.....	160	157	153	157	145	138	135	134	133	127
Venezuela.....	2,018	2,032	2,268	2,509	2,501	2,610	2,751	2,916	3,105	3,494
Virgin Islands, U.S.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Total.....	4,323	4,375	4,702	4,942	5,019	5,247	5,524	5,958	6,339	6,890
Western Europe										
Austria.....	26	26	25	29	26	24	24	26	24	22
Belgium.....	12	12	12	12	12	12	12	12	12	12
Denmark.....	103	121	125	147	167	178	189	190	212	234
France.....	119	120	115	113	112	111	112	105	98	89
Germany.....	--	--	--	141	132	137	135	134	134	132
Germany, East.....	1	1	1	--	--	--	--	--	--	--
Germany, West.....	158	156	151	--	--	--	--	--	--	--
Greece.....	26	22	20	20	17	15	14	13	12	13
Ireland.....	1	1	1	1	1	1	1	1	1	1
Italy.....	130	122	133	124	155	147	150	158	166	175
Netherlands.....	122	111	118	118	101	101	137	121	115	111
Norway.....	1,236	1,631	1,785	1,987	2,327	2,453	2,627	2,908	3,245	3,285
Portugal.....	2	2	2	2	2	2	2	2	2	2
Spain.....	51	44	41	47	45	38	35	31	28	25
Sweden.....	4	4	4	4	4	4	4	4	4	4
Switzerland.....	1	1	1	1	1	1	1	1	1	1
Turkey.....	54	60	77	92	88	80	76	71	71	72
United Kingdom.....	2,440	1,991	1,977	1,986	2,032	2,129	2,638	2,801	2,872	2,796
Former Yugoslavia.....	86	78	74	68	--	--	--	--	--	--
Croatia.....	--	--	--	--	42	43	46	40	36	37
Serbia and Montenegro.....	--	--	--	--	23	23	24	22	22	20
Slovenia.....	--	--	--	--	0	(s)	(s)	(s)	(s)	(s)
Total.....	4,573	4,504	4,662	4,893	5,287	5,499	6,227	6,639	7,056	7,030

See footnotes at end of table.

Table G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1988 - 1997 (Cont.)
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	44	47	30	19	11	11	12	10	10	9
Bulgaria.....	4	5	4	1	1	1	1	1	1	1
Former Czechoslovakia.....	3	3	2	3	2	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	2	3	3	4	3
Slovakia.....	--	--	--	--	--	1	1	1	2	2
Hungary.....	62	51	55	47	46	45	50	46	42	50
Poland.....	4	3	2	3	3	5	5	5	5	6
Romania.....	206	193	171	148	143	137	142	141	142	141
Former U.S.S.R.....	12,503	12,140	11,400	10,412	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	222	208	192	182	182	180
Belarus.....	--	--	--	--	40	40	40	38	36	36
Georgia.....	--	--	--	--	3	2	2	1	1	3
Kazakhstan.....	--	--	--	--	530	490	415	414	457	521
Kyrgyzstan.....	--	--	--	--	2	2	2	2	2	2
Lithuania.....	--	--	--	--	0	2	3	3	3	4
Russia.....	--	--	--	--	7,862	6,950	6,335	6,175	6,035	6,115
Tajikistan.....	--	--	--	--	1	1	1	1	1	1
Turkmenistan.....	--	--	--	--	110	90	85	81	88	120
Ukraine.....	--	--	--	--	95	87	85	85	81	85
Uzbekistan.....	--	--	--	--	66	85	115	160	165	157
Total.....	12,827	12,442	11,664	10,633	9,137	8,159	7,487	7,349	7,256	7,435
Middle East										
Bahrain.....	53	52	48	44	45	54	55	52	46	53
Iran.....	2,272	2,849	3,135	3,374	3,491	3,607	3,685	3,715	3,758	3,746
Iraq.....	2,709	2,955	2,074	305	426	528	574	586	600	1,176
Israel.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Jordan.....	1	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Kuwait.....	1,601	1,897	1,245	190	1,096	1,909	2,114	2,156	2,151	2,202
Oman.....	623	651	695	708	746	781	816	861	893	910
Qatar.....	377	405	447	446	479	469	466	498	561	720
Saudi Arabia.....	5,600	5,582	7,045	8,810	9,060	8,917	8,833	8,948	8,930	9,289
Syria.....	266	342	390	494	483	562	568	584	590	571
United Arab Emirates.....	1,698	1,993	2,255	2,535	2,413	2,308	2,346	2,396	2,441	2,479
Yemen.....	173	194	193	197	182	220	335	345	340	385
Total.....	15,373	16,921	17,528	17,103	18,421	19,355	19,791	20,141	20,310	21,532
Africa										
Algeria.....	1,161	1,226	1,306	1,371	1,355	1,308	1,321	1,348	1,393	1,438
Angola.....	452	455	475	500	526	509	536	646	709	714
Benin.....	5	4	4	4	6	6	6	3	2	3
Cameroon.....	163	170	161	153	140	127	108	111	108	124
Congo (Brazzaville).....	144	164	165	156	174	181	180	188	201	261
Congo (Kinshasa).....	30	28	29	28	26	25	26	30	30	28
Cote d'Ivoire (Ivory Coast).....	13	3	3	3	3	2	8	9	17	20
Egypt.....	884	911	914	920	927	946	955	981	988	928
Equatorial Guinea.....	0	0	0	(s)	2	5	5	5	17	52
Gabon.....	160	209	271	295	299	314	330	366	369	371
Ghana.....	0	0	0	0	1	2	1	4	6	5
Kenya.....	1	1	1	1	1	1	1	1	1	1
Libya.....	1,205	1,185	1,410	1,523	1,473	1,402	1,419	1,430	1,450	1,506
Morocco.....	1	1	1	1	1	1	1	1	1	1
Nigeria.....	1,455	1,721	1,815	1,897	1,948	1,965	1,936	1,998	2,006	2,337
South Africa.....	60	70	70	70	129	183	183	192	195	196
Sudan.....	0	0	0	0	(s)	(s)	(s)	(s)	2	5
Tunisia.....	108	110	98	109	114	102	96	90	88	91
Total.....	5,842	6,258	6,723	7,032	7,124	7,078	7,111	7,403	7,583	8,083

See footnotes at end of table.

Table G2 World Production of Crude Oil, NGPL, Other Liquids, and Refinery Processing Gain, 1988 - 1997 (Cont.)
(Thousand Barrels per Day)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Australia.....	618	568	651	619	604	572	606	627	645	672
Bangladesh.....	1	1	1	1	1	1	2	1	2	2
Brunei.....	148	142	160	171	177	178	180	176	166	190
Burma.....	14	16	14	16	15	14	14	10	8	10
China.....	2,730	2,757	2,774	2,835	2,845	2,890	2,939	2,990	3,131	3,200
India.....	648	714	674	629	593	568	639	754	735	764
Indonesia.....	1,369	1,478	1,536	1,665	1,576	1,586	1,587	1,576	1,624	1,602
Japan.....	76	73	74	76	79	82	81	81	81	80
Korea, South.....	3	3	3	3	3	3	3	3	3	3
Malaysia.....	552	597	632	659	667	658	663	703	716	797
New Zealand.....	51	55	57	57	56	59	56	47	46	67
Pakistan.....	46	49	63	65	65	64	59	63	59	61
Papua New Guinea.....	0	0	0	(s)	53	126	110	100	103	80
Philippines.....	7	6	6	4	9	10	7	4	3	2
Singapore.....	4	4	4	4	4	4	4	4	4	4
Taiwan.....	6	6	6	5	5	4	4	4	4	4
Thailand.....	53	52	58	60	66	68	79	90	97	123
Vietnam.....	15	32	50	80	106	120	141	173	175	191
Total.....	6,342	6,553	6,763	6,950	6,926	7,007	7,173	7,407	7,604	7,852
World Total.....	64,705	65,892	66,754	66,632	66,961	67,348	68,228	69,837	71,394	74,343

¹ Preliminary.

--= Not applicable.

(s) = Value less than 500 barrels per day.

Notes: NGPL are natural gas plant liquids. Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Table G3 World Oil Supply From Refinery Processing Gain and Other Liquids, 1996
(Thousand Barrels per Day)

Region Country	Refinery Processing Gain	Other Liquids
North America		
Canada.....	62	0
Mexico.....	28	0
United States.....	837	313
Total.....	927	313
Central & South America		
Argentina.....	5	0
Brazil.....	13	171
Chile.....	1	0
Colombia.....	2	0
Dominican Republic.....	1	0
Ecuador.....	1	0
Netherlands Antilles.....	6	0
Panama.....	1	0
Peru.....	2	0
Trinidad and Tobago.....	3	0
Venezuela.....	17	0
Virgin Islands, U.S.....	(s)	0
Total.....	52	171
Western Europe		
Austria.....	2	0
Belgium.....	12	0
Denmark.....	4	0
France.....	43	0
Germany.....	56	18
Greece.....	3	0
Ireland.....	1	0
Italy.....	61	3
Netherlands.....	34	0
Norway.....	3	0
Portugal.....	2	0
Spain.....	14	0
Sweden.....	4	0
Switzerland.....	1	0
Turkey.....	4	0
United Kingdom.....	45	0
Total.....	289	21
Middle East		
Bahrain.....	1	0
Iran.....	12	0
Iraq.....	1	0
Kuwait.....	4	0
Qatar.....	1	0
Saudi Arabia.....	15	0
United Arab Emirates.....	3	0
Total.....	37	0
Africa		
Algeria.....	1	0
Cote d'Ivoire (Ivory Coast).....	1	0
Egypt.....	1	0
Gabon.....	1	0
Kenya.....	1	0
Morocco.....	1	0
Nigeria.....	5	0
South Africa.....	0	184
Total.....	11	184

See footnotes at end of table.

Table G3 World Oil Supply From Refinery Processing Gain and Other Liquids, 1996 (Continued)
(Thousand Barrels per Day)

Region Country	Refinery Processing Gain	Other Liquids
Far East & Oceania		
Australia.....	13	0
India.....	4	0
Indonesia.....	-3	0
Japan.....	63	3
Korea, South.....	3	0
Malaysia.....	1	0
New Zealand.....	1	3
Pakistan.....	1	0
Philippines.....	1	0
Singapore.....	4	0
Taiwan.....	2	0
Thailand.....	1	0
Total.....	92	6
World Total.....	1,408	695

(s) = Value less than 500 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

Sources: See sources at the end of Section 3.

Appendix H

**World Carbon
Dioxide Emissions,
1988-1997**

Table H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1988 - 1997
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	130.29	134.30	127.83	125.29	129.64	130.60	135.95	137.14	140.46	143.44
Mexico.....	78.47	80.55	81.19	82.07	86.82	83.79	88.13	86.01	91.08	93.69
United States.....	1,354.12	1,366.40	1,352.10	1,337.25	1,358.66	1,387.61	1,406.43	1,420.55	1,469.52	1,488.47
Other.....	0.28	0.33	0.25	0.22	0.18	0.18	0.17	0.16	0.16	0.18
Total.....	1,563.16	1,581.58	1,561.37	1,544.82	1,575.30	1,602.17	1,630.68	1,643.87	1,701.23	1,725.78
Central & South America										
Argentina.....	30.81	30.88	28.31	29.55	30.99	33.59	33.21	34.60	35.73	34.79
Brazil.....	57.64	59.48	57.70	60.33	60.96	64.39	69.17	72.01	74.33	77.28
Chile.....	6.51	7.99	8.60	8.18	8.45	9.01	9.95	10.84	12.33	13.45
Colombia.....	12.97	13.01	11.29	15.34	15.72	14.89	14.55	13.74	17.78	16.15
Cuba.....	9.93	10.15	9.87	9.15	8.14	8.04	7.90	8.37	8.25	8.49
Venezuela.....	28.42	29.40	29.77	30.53	30.47	31.46	32.99	34.11	36.39	37.34
Other.....	40.80	41.50	41.86	43.00	45.16	46.99	49.15	52.45	52.68	55.06
Total.....	187.08	192.41	187.39	196.09	199.88	208.38	216.92	226.12	237.48	242.55
Western Europe										
Austria.....	15.50	15.64	16.13	17.19	16.09	15.84	15.56	15.85	16.47	16.77
Belgium.....	31.44	32.79	34.20	35.40	34.16	33.33	34.46	34.88	36.75	36.83
Denmark.....	16.00	16.00	15.29	17.46	16.61	16.04	17.53	18.50	19.33	19.46
Finland.....	13.64	14.41	14.73	14.45	13.75	14.19	15.54	12.17	13.69	15.31
France.....	94.03	101.73	103.13	108.55	104.43	98.48	94.75	97.39	102.70	101.72
Germany.....	--	--	--	252.44	242.20	241.48	235.97	235.01	234.16	234.42
Germany, East.....	89.35	85.20	78.38	--	--	--	--	--	--	--
Germany, West.....	189.18	183.33	188.79	--	--	--	--	--	--	--
Greece.....	20.69	21.11	22.29	22.35	21.86	22.86	23.24	22.98	23.83	23.84
Ireland.....	6.34	6.59	7.06	7.31	7.56	7.63	7.89	8.52	8.73	9.08
Italy.....	108.43	113.31	113.27	112.94	112.93	108.48	106.47	116.18	116.07	115.78
Netherlands.....	56.85	56.44	59.88	61.78	60.88	59.37	59.47	59.97	62.38	64.38
Norway.....	9.01	9.74	9.46	8.88	9.68	9.53	9.82	10.25	10.93	11.33
Portugal.....	9.40	11.89	12.07	12.15	12.95	12.28	12.34	13.07	12.76	13.49
Spain.....	59.19	66.29	62.01	64.49	65.67	62.08	63.95	65.47	65.45	67.81
Sweden.....	16.77	15.46	14.77	14.43	14.69	14.94	15.12	16.92	17.39	15.07
Switzerland.....	11.58	11.49	12.07	12.48	12.54	12.16	12.35	11.49	12.32	12.57
Turkey.....	31.43	32.27	34.99	37.41	36.63	38.86	37.52	40.64	42.04	44.57
United Kingdom.....	162.33	166.63	167.36	165.89	156.66	157.17	154.59	151.74	153.91	156.95
Former Yugoslavia.....	41.73	41.76	40.76	36.40	--	--	--	--	--	--
Croatia.....	--	--	--	--	5.09	4.64	4.73	4.87	4.61	4.97
Serbia and Montenegro.....	--	--	--	--	12.66	10.76	10.86	8.25	13.36	13.14
Other.....	4.27	4.29	4.57	4.66	12.86	13.89	12.60	13.66	12.91	12.67
Total.....	987.15	1,006.36	1,011.21	1,006.65	969.90	954.01	944.76	957.82	979.81	990.16
Eastern Europe & Former U.S.S.R.										
Bulgaria.....	27.02	24.51	21.51	17.22	17.43	16.22	15.93	15.34	16.28	15.03
Former Czechoslovakia.....	89.42	85.62	79.72	72.74	65.12	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	43.82	46.22	35.30	36.13	36.39
Slovakia.....	--	--	--	--	--	11.15	10.92	11.32	11.39	10.17
Hungary.....	21.08	20.42	19.01	18.58	17.77	18.17	17.79	16.61	16.69	16.58
Poland.....	117.55	112.94	90.78	89.92	89.64	91.32	86.22	81.08	93.00	95.21
Romania.....	53.30	55.35	49.51	37.71	35.02	35.00	33.23	34.58	35.80	31.33
Former U.S.S.R.....	1,035.87	1,013.24	1,035.73	954.81	--	--	--	--	--	--
Azerbaijan.....	--	--	--	--	15.91	13.67	12.47	12.08	10.36	11.31
Belarus.....	--	--	--	--	25.13	22.34	18.04	16.86	16.30	16.50
Kazakhstan.....	--	--	--	--	65.47	53.73	44.08	39.24	37.40	37.90
Lithuania.....	--	--	--	--	6.24	4.81	5.01	4.80	4.41	4.66
Russia.....	--	--	--	--	583.23	536.60	480.06	442.90	437.91	421.81
Turkmenistan.....	--	--	--	--	5.10	5.09	4.86	4.94	4.88	4.53
Ukraine.....	--	--	--	--	154.52	141.52	118.39	119.69	106.04	106.15
Uzbekistan.....	--	--	--	--	25.91	31.38	27.78	29.49	28.98	29.07
Other.....	2.45	2.21	1.63	1.12	25.38	17.63	14.88	13.85	14.76	15.10
Total.....	1,346.69	1,314.29	1,297.89	1,192.09	1,131.86	1,042.46	935.89	878.08	870.33	851.76

See footnotes at end of table.

Table H1 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1988 - 1997 (Cont.)
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Middle East										
Bahrain.....	3.52	3.70	3.87	4.32	3.68	4.34	4.29	4.20	4.16	4.20
Iran.....	49.82	53.51	55.56	62.27	63.88	65.33	68.01	70.79	70.70	73.17
Iraq.....	16.40	17.44	18.77	11.51	15.53	18.44	20.70	20.71	20.68	21.74
Israel.....	9.29	9.54	9.83	10.14	11.74	12.71	13.09	13.18	12.92	13.67
Kuwait.....	10.02	11.28	7.23	9.73	4.72	7.61	8.83	9.32	11.21	11.39
Oman.....	2.19	2.82	3.37	3.85	3.65	4.01	4.09	3.83	3.95	4.08
Qatar.....	3.94	4.26	5.21	6.24	7.10	8.16	8.25	8.32	8.38	9.21
Saudi Arabia.....	56.65	55.89	56.58	61.50	62.70	65.48	67.08	68.25	71.41	73.53
Syria.....	8.32	8.79	10.24	9.26	9.83	10.75	11.15	10.70	11.37	11.54
United Arab Emirates.....	21.26	22.23	21.45	25.67	27.64	25.99	25.54	27.31	28.08	29.26
Yemen.....	2.67	2.95	3.12	3.20	3.30	2.77	2.67	2.71	2.69	2.72
Other.....	5.54	5.39	5.54	6.30	7.06	7.51	8.47	8.80	9.23	9.44
Total.....	189.63	197.81	200.78	214.00	220.81	233.12	242.16	248.13	254.79	263.95
Africa										
Algeria.....	22.43	22.14	23.17	24.11	23.38	23.57	24.68	24.62	24.19	24.04
Angola.....	1.36	1.33	2.00	2.08	2.11	2.10	2.00	3.30	3.30	3.39
Egypt.....	23.55	24.12	26.04	26.51	26.18	26.28	27.10	26.82	29.50	30.69
Gabon.....	1.14	1.56	1.56	1.57	1.65	1.63	1.61	1.66	1.75	1.79
Libya.....	9.49	10.11	11.46	11.30	9.80	10.05	10.32	10.61	11.16	11.43
Morocco.....	5.22	5.78	5.97	6.15	6.29	6.93	7.44	6.89	6.70	6.83
Nigeria.....	17.23	20.65	22.25	23.99	25.31	26.31	25.96	27.20	27.95	27.67
South Africa.....	86.42	80.38	80.54	83.90	87.60	90.13	94.05	95.77	95.82	98.91
Zimbabwe.....	4.05	4.19	4.47	4.36	4.48	4.26	4.54	4.67	4.62	4.63
Other.....	19.59	20.47	20.91	20.74	22.14	23.95	24.72	24.45	25.21	27.02
Total.....	190.47	190.72	198.37	204.71	208.94	215.21	222.42	225.97	230.20	236.40
Far East & Oceania										
Australia.....	66.69	70.47	74.38	74.00	77.67	77.81	78.07	80.87	80.55	88.84
Bangladesh.....	3.64	3.81	4.04	4.01	4.46	4.63	5.05	5.65	5.83	5.87
Brunei.....	1.26	1.43	1.24	0.77	0.99	1.00	0.95	0.94	0.94	1.05
China.....	612.39	620.85	620.45	649.58	672.56	711.88	767.19	782.23	801.26	821.77
Hong Kong.....	10.76	11.12	10.64	11.20	11.79	12.76	11.93	12.49	12.20	10.85
India.....	139.92	146.77	155.74	161.58	176.07	185.74	195.16	225.79	235.28	237.26
Indonesia.....	34.13	37.96	40.03	42.26	46.64	53.88	55.70	58.62	65.79	67.12
Japan.....	256.47	264.81	273.62	280.70	286.91	279.31	295.43	292.06	303.72	296.72
Korea, North.....	43.99	45.42	46.76	47.53	46.84	48.42	48.44	48.41	49.61	43.17
Korea, South.....	53.35	55.77	60.65	69.77	73.70	83.63	92.92	100.67	109.36	116.28
Malaysia.....	12.90	14.32	17.70	19.13	19.76	22.68	24.08	24.03	27.09	28.28
New Zealand.....	7.19	7.71	7.89	7.82	8.55	8.56	8.45	9.71	8.52	8.97
Pakistan.....	16.12	16.96	18.37	18.69	19.59	21.11	22.98	23.71	26.01	26.60
Philippines.....	9.66	10.77	11.14	11.19	12.32	13.69	14.18	15.11	15.27	15.46
Singapore.....	14.07	15.20	16.52	17.49	19.73	21.60	22.58	22.06	24.35	24.70
Taiwan.....	28.68	31.62	31.91	33.56	35.31	42.58	43.66	48.93	53.35	60.89
Thailand.....	16.21	19.16	22.94	25.43	27.39	31.51	34.91	42.61	46.07	46.96
Vietnam.....	5.58	4.30	5.27	4.87	5.19	7.26	7.54	9.25	9.49	9.94
Other.....	10.80	10.47	10.64	9.52	8.96	9.59	10.14	10.25	10.49	10.37
Total.....	1,343.81	1,388.93	1,429.92	1,489.10	1,554.42	1,637.65	1,739.36	1,813.41	1,885.21	1,921.10
World Total.....	5,808.00	5,872.09	5,886.93	5,847.46	5,861.10	5,893.00	5,932.17	5,993.39	6,159.05	6,231.71

¹ Preliminary.

--= Not applicable.

Notes: Sum of components may not equal total due to independent rounding.

Includes carbon dioxide emissions from the consumption of petroleum, natural gas, and coal, and the flaring of natural gas.

Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon = 3.667 tons of carbon dioxide gas.

Source: Office of Energy Markets and End Use, Energy Information Administration.

Table H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1988 - 1997
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	61.21	62.92	60.87	57.60	58.30	59.53	61.15	61.30	62.89	64.99
Mexico.....	59.19	60.73	61.50	61.87	65.61	63.42	67.94	63.35	66.01	69.65
United States.....	606.37	606.42	591.35	576.95	587.64	588.81	601.27	597.37	620.56	627.47
Other.....	0.28	0.33	0.25	0.22	0.18	0.18	0.17	0.16	0.16	0.18
Total.....	727.05	730.41	713.97	696.64	711.74	711.93	730.54	722.19	749.63	762.30
Central & South America										
Argentina.....	18.31	16.61	15.67	16.04	16.66	18.86	17.79	17.67	17.23	17.46
Bolivia.....	0.80	0.86	0.89	0.91	0.93	0.93	1.04	1.18	1.18	1.22
Brazil.....	45.15	46.64	46.15	46.96	48.17	53.96	58.53	61.07	62.41	65.04
Chile.....	4.13	4.72	5.03	5.36	5.60	6.35	6.80	7.56	8.14	8.43
Colombia.....	7.66	7.95	7.43	7.70	8.69	9.03	9.08	9.58	10.20	10.45
Costa Rica.....	0.75	0.81	0.76	0.80	1.01	1.09	1.09	1.27	1.20	1.27
Cuba.....	9.79	9.93	9.70	9.02	7.98	7.89	7.74	8.21	8.09	8.32
Dominican Republic.....	2.25	2.19	2.43	2.35	2.66	2.34	2.63	2.92	3.07	3.15
Ecuador.....	3.75	3.68	3.84	4.19	4.83	4.20	4.48	4.61	5.04	5.18
El Salvador.....	0.65	0.65	0.69	0.78	0.89	0.88	0.98	1.25	1.18	1.17
Guatemala.....	0.97	0.99	1.04	0.99	1.19	1.31	1.47	1.64	1.71	1.75
Honduras.....	0.53	0.64	0.74	0.72	0.73	0.73	0.81	0.94	1.05	1.07
Jamaica.....	1.53	1.92	2.04	2.12	2.30	2.31	2.36	2.65	2.66	2.75
Netherlands Antilles.....	3.13	3.30	3.15	3.03	3.00	2.82	2.60	3.08	3.08	3.11
Panama.....	1.06	0.99	1.08	1.36	1.76	1.71	1.80	1.75	2.03	2.09
Peru.....	5.71	4.89	4.87	4.49	4.76	5.07	5.35	5.78	5.99	6.05
Puerto Rico.....	5.60	5.25	5.28	6.25	5.97	6.58	6.59	6.04	5.16	5.41
Trinidad and Tobago.....	0.73	0.89	0.85	0.87	0.87	0.84	0.83	0.82	0.77	0.82
Uruguay.....	1.34	1.34	1.25	1.18	1.25	1.41	1.25	1.26	1.34	1.41
Venezuela.....	14.84	14.28	14.50	14.56	14.95	15.35	15.90	16.38	15.91	16.13
Virgin Islands, U.S.....	1.56	2.35	2.13	2.19	2.05	2.35	2.30	3.04	3.17	3.81
Other.....	4.31	4.68	4.79	4.61	4.70	5.10	5.36	5.86	5.49	5.77
Total.....	134.54	135.56	134.30	136.46	140.96	151.12	156.79	164.55	166.08	171.86
Western Europe										
Austria.....	8.99	9.13	9.23	9.97	9.73	9.01	9.10	8.82	8.82	9.25
Belgium.....	18.67	18.23	18.31	19.76	20.20	19.21	19.41	18.93	20.59	21.56
Denmark.....	8.37	7.92	7.77	7.92	7.85	8.05	8.62	8.86	9.28	9.15
Finland.....	9.29	9.24	9.19	9.23	9.07	8.16	8.43	6.47	7.49	8.59
France.....	64.64	67.08	66.85	69.48	68.88	65.94	63.66	65.35	68.85	69.58
Germany.....	--	--	--	104.36	104.96	104.85	102.44	101.29	106.05	105.74
Germany, East.....	12.77	10.99	10.40	--	--	--	--	--	--	--
Germany, West.....	90.75	83.85	87.92	--	--	--	--	--	--	--
Greece.....	11.89	12.13	13.15	13.30	13.73	14.02	14.41	14.29	15.00	15.25
Ireland.....	3.12	3.23	3.65	3.94	4.17	4.18	4.56	5.11	5.11	5.38
Italy.....	72.71	75.95	73.53	73.03	76.16	72.10	70.99	76.32	76.13	75.65
Luxembourg.....	1.15	1.22	1.35	1.57	1.59	1.60	1.58	1.47	1.52	1.59
Netherlands.....	28.81	28.38	29.19	30.08	30.76	27.88	27.89	27.80	28.11	29.46
Norway.....	6.77	6.79	6.86	6.61	6.63	7.02	7.07	7.32	7.97	8.38
Portugal.....	7.19	9.26	9.05	9.22	10.22	9.23	9.10	9.48	9.47	10.24
Spain.....	34.93	37.87	37.20	38.71	41.00	38.13	40.19	42.48	42.60	46.94
Sweden.....	13.68	12.35	11.86	11.72	12.41	12.09	12.90	14.04	14.70	12.11
Switzerland.....	10.25	10.15	10.69	11.05	11.21	10.79	10.98	9.93	10.71	11.04
Turkey.....	16.47	16.12	17.17	16.76	17.76	19.97	19.07	21.04	22.37	22.42
United Kingdom.....	62.76	64.89	65.88	66.50	66.52	65.36	65.38	65.65	66.11	64.45
Former Yugoslavia.....	12.89	12.58	12.92	10.01	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.97	0.92	0.83	0.80	0.49	0.53
Croatia.....	--	--	--	--	3.38	2.71	3.13	3.62	3.11	3.24
Macedonia, TFYR.....	--	--	--	--	0.74	0.89	0.75	0.75	1.23	1.30
Serbia and Montenegro.....	--	--	--	--	1.56	1.36	1.13	1.09	1.76	1.85
Slovenia.....	--	--	--	--	0.97	1.64	1.60	1.79	2.07	2.17
Other.....	1.38	1.24	1.37	1.33	1.67	1.83	1.83	1.84	1.89	2.00
Total.....	497.48	498.57	503.54	514.55	522.19	506.91	505.04	514.56	531.39	537.88

See footnotes at end of table.

Table H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1988 - 1997 (Continued)
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	1.30	1.13	0.85	0.66	0.82	0.70	0.53	0.60	0.47	0.52
Bulgaria.....	11.84	9.25	7.40	4.88	5.09	4.97	5.38	4.94	4.84	4.73
Former Czechoslovakia.....	13.05	12.28	11.00	9.14	8.10	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	6.21	6.09	6.40	6.59	6.42
Slovakia.....	--	--	--	--	--	2.62	2.50	2.55	2.68	2.74
Hungary.....	7.44	7.10	6.90	6.26	6.72	7.03	6.82	6.07	5.20	5.44
Poland.....	15.03	14.83	11.92	11.60	12.60	12.18	11.80	11.78	13.14	13.67
Romania.....	14.58	15.29	17.12	12.16	10.79	10.49	8.92	9.62	10.15	10.46
Former U.S.S.R.....	350.81	338.85	332.21	327.80	--	--	--	--	--	--
Armenia.....	--	--	--	--	1.50	0.71	0.74	0.45	0.45	0.51
Azerbaijan.....	--	--	--	--	7.80	8.00	7.63	7.45	5.58	6.60
Belarus.....	--	--	--	--	14.52	12.40	10.02	9.37	8.46	8.21
Estonia.....	--	--	--	--	1.07	1.20	1.09	1.03	1.08	1.10
Georgia.....	--	--	--	--	1.05	0.67	0.66	0.74	0.78	1.08
Kazakhstan.....	--	--	--	--	16.37	13.95	12.40	11.39	10.23	10.78
Kyrgyzstan.....	--	--	--	--	1.30	0.78	0.36	0.46	0.49	0.52
Latvia.....	--	--	--	--	2.16	1.69	1.68	1.78	2.03	1.74
Lithuania.....	--	--	--	--	3.50	3.32	3.40	3.16	2.85	2.96
Moldova.....	--	--	--	--	2.32	1.80	0.96	0.92	0.71	0.76
Russia.....	--	--	--	--	172.02	153.78	126.25	114.39	101.78	108.41
Tajikistan.....	--	--	--	--	0.82	0.68	0.29	0.44	1.00	1.05
Turkmenistan.....	--	--	--	--	2.69	2.67	2.38	2.30	2.36	2.14
Ukraine.....	--	--	--	--	32.94	24.49	21.03	19.65	15.19	16.05
Uzbekistan.....	--	--	--	--	7.66	7.26	6.83	7.36	5.76	6.00
Total.....	414.05	398.74	387.41	372.50	311.84	277.61	237.75	222.87	201.81	211.90
Middle East										
Bahrain.....	0.78	0.90	0.78	0.80	0.84	0.82	0.84	0.75	0.66	0.70
Cyprus.....	1.08	1.31	1.37	1.38	1.69	1.62	1.84	1.80	1.80	1.92
Iran.....	36.04	39.80	41.05	43.40	43.90	45.84	45.35	45.08	42.29	42.90
Iraq.....	12.56	13.43	15.36	10.57	13.95	17.06	18.99	19.00	18.93	19.76
Israel.....	6.85	7.09	7.08	7.45	8.68	8.37	8.15	8.27	8.04	8.28
Jordan.....	2.65	2.64	2.81	2.61	3.08	2.98	3.28	3.41	3.70	3.83
Kuwait.....	4.28	4.47	3.02	1.77	3.08	4.48	5.40	5.89	6.01	6.16
Lebanon.....	1.77	1.35	1.26	2.24	2.20	2.70	3.10	3.28	3.43	3.38
Oman.....	1.03	1.25	1.53	1.55	1.58	1.60	1.65	1.76	1.92	1.97
Qatar.....	0.82	1.01	1.05	1.12	1.06	0.98	1.06	1.14	1.08	1.21
Saudi Arabia.....	39.51	38.09	37.75	37.96	38.79	41.45	41.94	41.69	43.22	44.24
Syria.....	8.07	8.31	8.58	7.31	7.63	8.76	9.10	9.05	9.18	9.33
United Arab Emirates.....	10.64	10.85	10.87	13.50	13.62	13.72	13.81	13.94	13.43	13.71
Yemen.....	2.67	2.95	3.12	3.20	3.30	2.77	2.67	2.71	2.69	2.72
Total.....	128.76	133.44	135.63	134.87	143.40	153.14	157.19	157.77	156.39	160.12

See footnotes at end of table.

Table H2 World Carbon Dioxide Emissions from the Consumption of Petroleum, 1988 - 1997 (Continued)
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Africa										
Algeria.....	6.19	6.72	7.07	7.63	7.86	7.61	8.08	7.20	7.31	7.64
Angola.....	1.09	1.10	1.08	1.12	1.17	1.09	1.06	1.14	1.07	1.10
Cameroon.....	0.74	0.88	0.93	0.94	0.97	0.83	0.87	0.92	0.81	0.83
Congo (Brazzaville).....	0.23	0.25	0.28	0.24	0.24	0.26	0.28	0.29	0.27	0.27
Congo (Kinshasa).....	0.96	0.89	0.83	0.90	1.03	1.05	1.06	1.00	1.01	1.07
Cote d'Ivoire (Ivory Coast).....	1.52	1.64	1.54	1.60	1.65	1.87	2.22	2.11	2.39	2.45
Egypt.....	18.98	19.04	20.11	19.69	19.08	18.75	19.30	19.09	20.87	21.87
Ethiopia.....	0.72	0.80	0.81	0.66	0.97	0.90	0.59	0.64	0.46	0.56
Gabon.....	0.47	0.65	0.64	0.64	0.66	0.64	0.67	0.72	0.81	0.85
Ghana.....	0.82	0.93	0.78	0.79	0.90	0.95	1.04	1.07	1.05	1.09
Kenya.....	1.56	1.67	1.68	1.47	1.64	1.70	1.81	1.87	1.96	2.03
Libya.....	5.84	5.97	6.33	6.83	6.10	6.66	6.82	7.14	7.48	7.60
Morocco.....	3.88	4.36	4.58	4.55	5.15	5.23	5.58	5.20	5.01	5.10
Nigeria.....	9.10	9.48	9.78	10.14	10.28	10.79	10.14	11.38	11.44	11.60
Senegal.....	0.69	0.71	0.70	0.64	0.79	0.80	0.95	1.02	1.03	1.07
South Africa.....	13.46	13.58	14.59	15.73	16.28	16.12	16.25	18.04	16.85	18.36
Sudan.....	1.23	1.16	1.06	1.52	1.39	1.33	1.17	1.07	1.07	1.09
Tunisia.....	2.45	2.47	2.51	2.71	2.82	2.93	2.91	2.68	2.78	2.84
Zimbabwe.....	0.67	0.75	0.81	0.89	0.80	0.89	0.90	0.98	1.12	1.11
Other.....	6.50	6.67	7.38	7.02	7.68	7.98	8.19	8.36	8.54	8.59
Total.....	77.10	79.73	83.49	85.72	87.46	88.38	89.90	91.93	93.34	97.12
Far East & Oceania										
Australia.....	24.34	25.92	27.70	27.71	27.88	28.56	29.90	30.97	29.50	30.17
Bangladesh.....	1.46	1.55	1.46	1.54	1.55	1.68	1.87	2.12	2.18	2.22
Brunei.....	0.24	0.26	0.26	0.38	0.27	0.37	0.37	0.37	0.48	0.50
Burma.....	0.63	0.64	0.60	0.63	0.66	0.71	0.77	0.75	0.81	0.82
China.....	97.27	101.34	97.67	106.12	112.08	121.19	124.12	130.48	137.92	148.50
Guam.....	0.22	0.20	0.50	0.57	0.59	0.91	1.18	1.04	0.87	0.84
Hong Kong.....	5.11	5.07	5.09	5.33	6.09	6.51	7.47	7.68	7.56	7.03
India.....	42.77	44.20	45.10	45.78	48.88	52.41	53.25	57.67	61.03	65.36
Indonesia.....	21.27	23.36	26.30	27.97	28.81	31.22	30.73	31.89	35.35	37.52
Japan.....	166.29	172.64	178.05	181.53	188.82	181.72	192.15	184.84	190.57	185.51
Korea, North.....	2.69	2.64	3.02	3.13	3.01	2.96	2.87	2.60	1.97	1.85
Korea, South.....	26.35	31.06	37.58	44.34	49.88	55.02	60.32	66.05	71.11	73.29
Malaysia.....	8.17	8.71	10.67	11.10	11.59	13.62	14.32	15.15	16.70	17.26
Mongolia.....	0.73	0.66	0.62	0.58	0.53	0.51	0.52	0.46	0.48	0.48
New Zealand.....	3.40	3.69	3.95	3.78	4.06	4.43	4.51	5.39	4.94	4.73
Pakistan.....	8.22	8.67	9.23	9.41	9.96	10.97	12.10	12.75	14.11	14.68
Papua New Guinea.....	0.65	0.66	0.67	0.66	0.66	0.66	0.65	0.65	0.65	0.69
Philippines.....	8.11	9.48	9.67	9.57	10.73	11.76	12.35	13.52	13.74	13.89
Singapore.....	14.05	15.18	16.49	17.47	19.12	20.77	21.75	21.23	23.53	23.90
Sri Lanka.....	1.43	1.30	1.41	1.42	1.51	1.71	1.80	1.92	2.17	2.24
Taiwan.....	18.47	20.31	20.73	21.00	20.96	25.48	25.30	28.76	30.85	32.42
Thailand.....	11.12	13.78	16.17	17.53	19.22	22.13	24.43	27.38	30.17	29.79
Vietnam.....	1.65	1.89	2.15	2.29	2.53	3.20	3.52	3.91	4.79	5.17
Other.....	2.78	2.86	2.89	2.90	2.68	2.73	2.74	2.80	2.95	2.86
Total.....	467.42	496.06	518.00	542.77	572.09	601.23	628.99	650.38	684.41	701.72
World Total.....	2,446.39	2,472.51	2,476.34	2,483.50	2,489.67	2,490.32	2,506.19	2,524.24	2,583.05	2,642.90

¹ Preliminary.

--= Not applicable.

Notes: Sum of components may not equal total due to independent rounding.

Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon = 3.667 tons of carbon dioxide gas.

Source: Office of Energy Markets and End Use, Energy Information Administration.

Table H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1988 - 1997
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	35.46	37.67	35.84	36.30	39.29	40.89	43.26	43.49	45.15	44.66
Mexico.....	15.31	15.48	15.44	16.20	16.61	15.48	15.72	16.78	20.14	18.92
United States.....	268.67	280.32	279.30	284.60	292.94	304.42	309.60	322.98	328.04	328.01
Total.....	319.44	333.46	330.58	337.10	348.84	360.79	368.58	383.25	393.33	391.58
Central & South America										
Argentina.....	11.62	13.42	11.98	12.87	13.40	14.17	14.51	15.99	17.53	16.82
Barbados.....	0.01	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.02
Bolivia.....	0.33	0.43	0.49	0.43	0.75	0.91	1.17	0.86	0.76	0.87
Brazil.....	2.10	2.34	2.38	2.56	3.01	3.04	3.17	3.29	3.86	4.19
Chile.....	0.62	0.94	1.04	0.84	1.11	0.93	1.05	1.01	1.02	1.49
Colombia.....	2.09	2.06	2.11	2.16	2.26	2.19	2.26	2.35	2.45	3.06
Cuba.....	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Ecuador.....	0.44	0.40	0.42	0.39	0.43	0.39	0.39	0.60	0.60	0.60
Peru.....	0.72	0.68	0.39	0.31	0.34	0.56	0.57	0.54	0.56	0.56
Trinidad and Tobago.....	4.07	4.09	4.30	4.39	3.89	4.47	5.05	5.33	5.80	6.14
Venezuela.....	13.28	14.65	15.00	15.55	15.06	15.85	16.77	17.28	20.05	20.81
Total.....	35.30	39.04	38.15	39.54	40.28	42.54	44.97	47.29	52.66	54.57
Western Europe										
Austria.....	2.83	3.02	3.32	3.48	3.42	3.73	3.71	4.01	4.31	4.18
Belgium.....	4.58	5.10	5.22	5.55	5.74	6.01	6.14	6.80	7.55	7.18
Denmark.....	1.07	1.26	1.20	1.41	1.47	1.73	1.85	2.07	2.42	2.44
Finland.....	0.88	1.18	1.44	1.51	1.57	1.63	1.80	1.86	1.88	1.85
France.....	15.19	15.57	16.07	18.12	18.07	17.76	17.17	17.71	19.53	19.35
Germany.....	--	--	--	37.34	36.75	39.20	40.16	43.60	46.15	43.66
Germany, East.....	3.38	3.30	2.00	--	--	--	--	--	--	--
Germany, West.....	27.03	28.73	29.56	--	--	--	--	--	--	--
Greece.....	0.08	0.08	0.10	0.09	0.08	0.05	0.03	0.03	0.03	0.14
Ireland.....	1.04	1.16	1.21	1.22	1.21	1.37	1.39	1.48	1.66	1.72
Italy.....	21.90	23.61	24.99	25.86	25.63	25.96	25.19	27.68	29.14	30.10
Luxembourg.....	0.23	0.26	0.27	0.28	0.30	0.38	0.31	0.35	0.39	0.40
Netherlands.....	19.47	19.95	19.84	22.12	21.54	21.87	21.29	21.89	24.22	22.69
Norway.....	1.20	1.88	1.67	1.41	2.30	1.60	1.68	1.84	1.87	1.90
Portugal.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Spain.....	2.12	2.82	3.18	3.58	3.77	3.96	4.40	4.90	5.49	7.03
Sweden.....	0.20	0.27	0.35	0.35	0.39	0.45	0.40	0.41	0.46	0.47
Switzerland.....	0.98	1.07	1.04	1.16	1.22	1.28	1.26	1.39	1.51	1.46
Turkey.....	0.64	1.69	1.81	2.22	2.35	2.72	2.86	3.68	4.32	5.13
United Kingdom.....	30.42	30.18	33.78	33.14	31.85	37.66	39.72	41.88	49.46	49.76
Former Yugoslavia.....	3.94	4.39	3.79	3.77	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	0.27	0.20	0.22	1.32	0.08	0.08
Croatia.....	--	--	--	--	1.41	1.52	1.34	1.20	1.30	1.42
Macedonia, TFYR.....	--	--	--	--	0.14	0.16	0.00	0.00	0.00	0.00
Serbia and Montenegro.....	--	--	--	--	1.09	0.52	0.88	0.60	1.70	2.05
Slovenia.....	--	--	--	--	0.34	0.41	0.40	0.48	0.62	0.45
Total.....	137.18	145.52	150.83	162.61	160.91	170.17	172.23	185.18	204.09	203.52

See footnotes at end of table.

Table H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1988 - 1997 (Cont.)
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.37	0.37	0.14	0.08	0.05	0.02	0.04	0.02	0.02	0.01
Bulgaria.....	3.00	3.03	3.27	2.85	2.65	2.45	2.40	2.97	3.12	2.49
Former Czechoslovakia.....	6.03	6.53	7.71	7.07	5.76	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	3.66	3.22	3.99	4.55	4.57
Slovakia.....	--	--	--	--	--	2.46	2.87	3.83	3.71	3.56
Hungary.....	5.72	6.01	5.56	5.49	4.89	5.28	4.99	5.67	6.27	5.95
Poland.....	6.02	6.27	5.56	5.05	4.48	4.37	4.36	4.79	5.55	5.24
Romania.....	20.11	21.33	19.43	15.11	13.60	13.20	12.36	13.08	12.91	10.30
Former U.S.S.R.....	365.61	371.83	370.28	370.23	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.96	0.72	0.82	0.82	0.93	0.67
Azerbaijan.....	--	--	--	--	8.09	5.66	4.84	4.63	4.79	4.71
Belarus.....	--	--	--	--	9.64	8.95	7.43	6.75	7.24	7.81
Estonia.....	--	--	--	--	0.77	0.31	0.33	0.38	0.42	0.54
Georgia.....	--	--	--	--	2.57	1.23	0.82	1.08	0.93	0.98
Kazakhstan.....	--	--	--	--	10.30	7.59	7.72	5.78	7.45	7.23
Kyrgyzstan.....	--	--	--	--	1.25	1.17	0.94	0.46	0.95	0.95
Latvia.....	--	--	--	--	0.82	0.41	0.36	0.56	0.51	0.66
Lithuania.....	--	--	--	--	2.09	1.25	1.20	1.46	1.36	1.51
Moldova.....	--	--	--	--	1.17	0.95	0.74	0.74	1.06	1.27
Russia.....	--	--	--	--	245.44	239.99	225.37	211.38	211.33	195.74
Tajikistan.....	--	--	--	--	0.98	0.72	0.83	0.42	0.63	0.59
Turkmenistan.....	--	--	--	--	2.05	2.11	2.16	2.47	2.47	2.37
Ukraine.....	--	--	--	--	51.04	56.40	48.47	43.27	42.76	40.75
Uzbekistan.....	--	--	--	--	15.98	22.49	17.94	19.69	20.93	21.24
Total.....	406.86	415.35	411.94	405.86	384.60	381.38	350.19	334.25	339.87	319.13
Middle East										
Bahrain.....	2.74	2.81	3.09	3.51	2.83	3.52	3.45	3.45	3.50	3.50
Iran.....	12.76	12.70	13.42	17.83	19.08	18.59	21.53	24.71	27.45	29.23
Iraq.....	3.85	4.00	3.41	0.94	1.57	1.38	1.71	1.71	1.75	1.98
Israel.....	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.01	0.01	0.01
Jordan.....	0.00	0.04	0.07	0.07	0.08	0.11	0.15	0.15	0.14	0.15
Kuwait.....	5.74	6.81	4.21	7.96	1.64	3.13	3.43	3.43	5.20	5.23
Oman.....	1.16	1.57	1.84	2.31	2.07	2.41	2.44	2.07	2.04	2.11
Qatar.....	3.12	3.24	4.16	5.13	6.04	7.19	7.19	7.19	7.29	8.01
Saudi Arabia.....	17.14	17.80	18.82	23.53	23.91	24.03	25.13	26.56	28.19	29.29
Syria.....	0.25	0.49	1.66	1.95	2.20	1.99	2.04	1.64	2.18	2.21
United Arab Emirates.....	10.62	11.38	10.58	12.16	14.01	12.28	11.73	13.38	14.65	15.55
Total.....	57.39	60.86	61.29	75.40	73.46	74.64	78.82	84.30	92.39	97.25
Africa										
Algeria.....	15.46	14.64	15.31	15.69	14.64	14.89	15.57	16.58	16.05	15.56
Angola.....	0.27	0.23	0.92	0.96	0.94	1.00	0.94	2.15	2.23	2.28
Congo (Brazzaville).....	0.00	0.00	0.00	0.00	0.00	0.65	0.65	0.65	0.65	0.81
Cote d'Ivoire (Ivory Coast).....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.29	0.37
Egypt.....	3.78	4.22	4.90	6.01	6.39	6.66	6.98	7.19	7.68	7.71
Gabon.....	0.67	0.91	0.92	0.93	0.99	0.99	0.94	0.94	0.94	0.94
Libya.....	3.64	4.14	5.13	4.47	3.70	3.39	3.49	3.47	3.68	3.83
Morocco.....	0.03	0.03	0.03	0.02	0.01	0.02	0.02	0.01	0.01	0.02
Nigeria.....	8.09	11.13	12.43	13.78	14.97	15.48	15.78	15.78	16.47	16.04
Senegal.....	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.03	0.03
South Africa.....	0.00	0.00	0.00	0.00	0.02	0.96	1.04	1.04	0.98	0.98
Tunisia.....	0.70	0.99	0.96	0.73	0.56	1.17	1.44	1.23	1.41	2.53
Total.....	32.65	36.29	40.60	42.58	42.21	45.22	46.86	49.08	50.43	51.10

See footnotes at end of table.

Table H3 World Carbon Dioxide Emissions from the Consumption and Flaring of Natural Gas, 1988 - 1997 (Cont.)
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	1.17	1.13	1.10	0.24	0.17	0.16	0.16	0.11	0.12	0.12
Australia.....	8.33	8.56	9.52	8.90	9.24	9.66	10.05	10.92	10.95	10.86
Bangladesh.....	2.03	2.22	2.19	2.34	2.79	2.92	3.18	3.53	3.65	3.65
Brunei.....	1.02	1.17	0.98	0.39	0.72	0.63	0.58	0.57	0.46	0.55
Burma.....	0.54	0.56	0.58	0.56	0.53	0.57	0.74	0.85	0.82	0.73
China.....	8.34	8.37	8.42	8.72	8.84	9.25	9.76	9.97	10.98	12.41
Hong Kong.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00
India.....	7.25	7.79	9.35	10.55	10.56	10.18	10.93	11.85	12.87	15.10
Indonesia.....	10.04	11.05	11.13	11.47	13.87	16.87	17.89	19.42	20.16	20.18
Japan.....	25.65	27.44	29.34	31.32	32.07	30.90	34.55	34.99	37.89	37.09
Korea, South.....	1.42	1.42	1.75	2.00	2.69	3.30	4.49	5.42	6.96	8.45
Malaysia.....	4.34	4.47	5.64	6.59	6.55	7.64	8.10	7.28	8.45	8.91
New Zealand.....	2.43	2.52	2.52	2.66	2.87	2.57	2.52	2.40	2.80	3.01
Pakistan.....	5.98	6.39	7.03	7.18	7.41	7.84	8.43	8.69	9.36	9.39
Papua New Guinea.....	0.00	0.00	0.00	0.00	0.03	0.04	0.03	0.05	0.07	0.06
Philippines.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
Singapore.....	0.00	0.00	0.00	0.00	0.58	0.80	0.80	0.80	0.80	0.80
Taiwan.....	0.36	0.76	1.21	1.51	1.65	1.60	2.02	2.17	2.26	2.57
Thailand.....	2.78	2.62	2.99	3.40	3.59	4.47	4.92	5.29	6.03	7.36
Vietnam.....	0.02	0.02	0.02	0.04	0.11	0.51	0.51	0.51	0.59	0.59
Total.....	81.70	86.48	93.78	97.87	104.26	109.91	119.66	124.79	135.35	141.83
World Total.....	1,070.52	1,117.00	1,127.16	1,160.97	1,154.55	1,184.66	1,181.31	1,208.14	1,268.11	1,258.98

¹ Preliminary.

-- Not applicable.

Notes: Sum of components may not equal total due to independent rounding.

Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon = 3.667 tons of carbon dioxide gas.

Source: Office of Energy Markets and End Use, Energy Information Administration.

Table H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1988 - 1997
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
North America										
Canada.....	33.62	33.71	31.12	31.38	32.05	30.19	31.54	32.36	32.42	33.79
Mexico.....	3.97	4.34	4.25	4.00	4.60	4.89	4.47	5.87	4.93	5.12
United States.....	479.08	479.66	481.45	475.70	478.07	494.38	495.56	500.20	520.93	532.99
Total.....	516.67	517.71	516.82	511.08	514.72	529.46	531.56	538.43	558.28	571.90
Central & South America										
Argentina.....	0.88	0.85	0.65	0.64	0.93	0.55	0.92	0.94	0.97	0.51
Brazil.....	10.39	10.50	9.16	10.81	9.78	7.40	7.47	7.65	8.06	8.05
Chile.....	1.77	2.33	2.52	1.98	1.74	1.72	2.10	2.27	3.17	3.53
Colombia.....	3.22	3.00	1.75	5.48	4.77	3.68	3.20	1.81	5.13	2.64
Costa Rica.....	(s)	(s)	(s)	(s)	0.00	0.00	0.00	0.00	0.00	0.00
Cuba.....	0.12	0.21	0.15	0.11	0.14	0.14	0.14	0.13	0.14	0.14
Dominican Republic.....	0.07	0.01	0.01	0.04	0.10	0.09	0.08	0.08	0.09	0.09
Haiti.....	0.03	(s)	0.01	0.02	0.02	0.01	0.00	0.00	0.00	0.00
Jamaica.....	0.00	0.03	0.04	0.04	0.03	0.03	0.04	0.04	0.04	0.04
Panama.....	0.01	0.01	0.02	0.03	0.04	0.04	0.04	0.03	0.07	0.04
Peru.....	0.22	0.19	0.13	0.28	0.35	0.43	0.49	0.54	0.32	0.35
Puerto Rico.....	0.24	0.20	0.14	0.13	0.10	0.13	0.13	0.13	0.11	0.12
Uruguay.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Venezuela.....	0.29	0.47	0.28	0.41	0.45	0.27	0.31	0.44	0.43	0.40
Virgin Islands, U.S.....	0.00	0.00	0.05	0.09	0.15	0.18	0.20	0.17	0.17	0.17
Other.....	(s)	0.01	0.03	0.04	0.05	0.05	0.04	0.04	0.04	0.04
Total.....	17.24	17.81	14.94	20.10	18.64	14.71	15.16	14.28	18.74	16.12
Western Europe										
Austria.....	3.68	3.49	3.58	3.74	2.93	3.10	2.76	3.02	3.34	3.34
Belgium.....	8.19	9.46	10.67	10.09	8.22	8.12	8.90	9.15	8.61	8.09
Denmark.....	6.56	6.82	6.31	8.13	7.28	6.27	7.06	7.57	7.63	7.87
Finland.....	3.47	4.00	4.10	3.71	3.11	4.40	5.31	3.83	4.32	4.86
France.....	14.19	19.08	20.22	20.95	17.48	14.79	13.91	14.33	14.32	12.80
Germany.....	--	--	--	110.74	100.49	97.43	93.37	90.12	81.97	85.02
Germany, East.....	73.20	70.91	65.98	--	--	--	--	--	--	--
Germany, West.....	71.41	70.75	71.31	--	--	--	--	--	--	--
Greece.....	8.72	8.90	9.04	8.96	8.04	8.80	8.80	8.66	8.80	8.45
Iceland.....	0.07	0.07	0.07	0.07	0.05	0.05	0.07	0.06	0.07	0.06
Ireland.....	2.19	2.19	2.20	2.14	2.18	2.09	1.94	1.93	1.97	1.98
Italy.....	13.81	13.76	14.75	14.05	11.14	10.42	10.28	12.18	10.81	10.03
Luxembourg.....	1.28	1.30	1.31	1.21	1.13	1.30	1.05	0.58	0.54	0.34
Malta.....	0.16	0.20	0.20	0.20	0.16	0.18	0.18	0.18	0.21	0.21
Netherlands.....	8.56	8.11	10.85	9.58	8.58	9.62	10.30	10.28	10.05	12.23
Norway.....	1.04	1.07	0.94	0.85	0.74	0.91	1.06	1.09	1.10	1.05
Portugal.....	2.20	2.63	3.02	2.92	2.73	3.05	3.24	3.58	3.28	3.19
Spain.....	22.14	25.60	21.62	22.20	20.89	19.99	19.36	18.09	17.36	13.83
Sweden.....	2.89	2.84	2.57	2.37	1.89	2.40	1.81	2.48	2.23	2.49
Switzerland.....	0.35	0.28	0.34	0.27	0.10	0.09	0.10	0.17	0.10	0.07
Turkey.....	14.32	14.46	16.01	18.44	16.51	16.17	15.59	15.92	15.35	17.02
United Kingdom.....	69.15	71.56	67.70	66.24	58.29	54.15	49.50	44.21	38.34	42.74
Former Yugoslavia.....	24.90	24.80	24.05	22.62	--	--	--	--	--	--
Bosnia and Herzegovina.....	--	--	--	--	1.41	1.13	0.67	0.62	0.36	0.34
Croatia.....	--	--	--	--	0.30	0.41	0.26	0.05	0.20	0.31
Macedonia, TFYR.....	--	--	--	--	1.46	1.63	1.68	1.74	1.69	1.54
Serbia and Montenegro.....	--	--	--	--	10.02	8.88	8.85	6.57	9.90	9.24
Slovenia.....	--	--	--	--	1.67	1.58	1.44	1.67	1.77	1.67
Total.....	352.49	362.26	356.84	329.48	286.79	276.93	267.49	258.08	244.32	248.76

See footnotes at end of table.

Table H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1988 - 1997 (Continued)
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Eastern Europe & Former U.S.S.R.										
Albania.....	0.78	0.70	0.65	0.38	0.11	0.05	0.04	0.03	0.02	0.02
Bulgaria.....	12.17	12.23	10.84	9.48	9.69	8.80	8.15	7.43	8.33	7.82
Former Czechoslovakia.....	70.35	66.82	61.02	56.53	51.25	--	--	--	--	--
Czech Republic.....	--	--	--	--	--	33.96	36.92	24.90	24.98	25.40
Slovakia.....	--	--	--	--	--	6.06	5.55	4.94	5.00	3.87
Hungary.....	7.92	7.31	6.55	6.83	6.16	5.85	5.98	4.87	5.22	5.19
Poland.....	96.49	91.84	73.30	73.27	72.56	74.77	70.07	64.51	74.32	76.31
Romania.....	18.61	18.73	12.96	10.44	10.63	11.32	11.95	11.88	12.75	10.57
Former U.S.S.R.....	319.45	302.56	333.24	256.78	--	--	--	--	--	--
Armenia.....	--	--	--	--	0.10	(s)	0.02	(s)	(s)	(s)
Azerbaijan.....	--	--	--	--	0.02	(s)	(s)	(s)	(s)	(s)
Belarus.....	--	--	--	--	0.97	0.99	0.60	0.75	0.60	0.48
Estonia.....	--	--	--	--	0.46	0.34	0.44	0.47	0.39	0.51
Georgia.....	--	--	--	--	0.26	0.17	0.15	0.14	0.09	0.07
Kazakhstan.....	--	--	--	--	38.80	32.19	23.95	22.07	19.71	19.89
Kyrgyzstan.....	--	--	--	--	2.15	1.54	1.41	1.43	1.05	0.85
Latvia.....	--	--	--	--	0.58	0.31	0.26	0.17	0.14	0.11
Lithuania.....	--	--	--	--	0.66	0.24	0.41	0.18	0.20	0.19
Moldova.....	--	--	--	--	1.87	1.33	1.27	0.66	0.57	0.53
Russia.....	--	--	--	--	165.77	142.83	128.45	117.13	124.80	117.66
Tajikistan.....	--	--	--	--	0.24	0.11	0.10	0.05	0.06	0.05
Turkmenistan.....	--	--	--	--	0.36	0.32	0.32	0.16	0.05	0.03
Ukraine.....	--	--	--	--	70.53	60.63	48.88	56.76	48.10	49.35
Uzbekistan.....	--	--	--	--	2.26	1.62	3.00	2.44	2.28	1.82
Total.....	525.78	500.19	498.54	413.72	435.43	383.47	347.94	320.96	328.65	320.73
Middle East										
Cyprus.....	0.04	0.05	0.05	(s)	0.01	0.03	0.02	0.02	0.02	0.02
Iran.....	1.02	1.02	1.09	1.04	0.90	0.90	1.13	1.00	0.97	1.03
Israel.....	2.42	2.43	2.73	2.68	3.04	4.32	4.92	4.90	4.88	5.38
Other.....	(s)	(s)	(s)	0.01	(s)	0.08	0.08	0.14	0.14	0.15
Total.....	3.48	3.50	3.87	3.73	3.95	5.34	6.15	6.06	6.01	6.58
Africa										
Algeria.....	0.77	0.78	0.79	0.79	0.88	1.07	1.03	0.84	0.83	0.84
Botswana.....	0.37	0.40	0.49	0.49	0.55	0.54	0.51	0.57	0.52	0.52
Cameroon.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Congo (Kinshasa).....	0.21	0.18	0.16	0.17	0.17	0.18	0.19	0.18	0.19	0.18
Egypt.....	0.78	0.87	1.02	0.81	0.72	0.87	0.83	0.54	0.95	1.11
Ghana.....	(s)	(s)	(s)	0.07	(s)	(s)	(s)	(s)	(s)	(s)
Kenya.....	0.08	0.09	0.11	0.09	0.11	0.11	0.09	0.07	0.07	0.07
Libya.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Madagascar.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Malawi.....	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
Mauritania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Mauritius.....	0.03	0.05	0.05	0.04	0.04	0.05	0.03	0.04	0.04	0.04
Morocco.....	1.31	1.38	1.36	1.58	1.13	1.69	1.84	1.68	1.68	1.71
Mozambique.....	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Niger.....	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Nigeria.....	0.04	0.04	0.03	0.07	0.06	0.03	0.04	0.04	0.04	0.04
South Africa.....	72.96	66.80	65.95	68.17	71.30	73.05	76.76	76.68	77.99	79.58
Swaziland.....	0.11	0.11	0.11	0.08	0.07	0.03	0.12	0.11	0.09	0.04
Tanzania.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Tunisia.....	0.10	0.10	0.09	0.09	0.10	0.11	0.10	0.08	0.09	0.09
Zambia.....	0.40	0.25	0.24	0.24	0.26	0.27	0.26	0.21	0.22	0.22
Zimbabwe.....	3.38	3.44	3.66	3.47	3.68	3.37	3.64	3.69	3.50	3.52
Total.....	80.73	74.71	74.28	76.41	79.28	81.62	85.66	84.97	86.44	88.18

See footnotes at end of table.

Table H4 World Carbon Dioxide Emissions from the Consumption of Coal, 1988 - 1997 (Continued)
(Million Metric Tons of Carbon)

Region Country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 ¹
Far East & Oceania										
Afghanistan.....	0.08	0.08	0.06	0.06	(s)	(s)	(s)	(s)	(s)	(s)
Australia.....	34.02	35.99	37.17	37.38	40.55	39.60	38.13	38.98	40.09	47.81
Bangladesh.....	0.14	0.04	0.39	0.13	0.11	0.03	0.00	0.00	0.00	0.00
Bhutan.....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Burma.....	0.03	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
China.....	506.78	511.14	514.36	534.75	551.64	581.44	633.31	641.78	652.35	660.87
Fiji.....	(s)	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01
Hong Kong.....	5.65	6.06	5.54	5.87	5.70	6.25	4.46	4.81	4.53	3.82
India.....	89.90	94.79	101.29	105.26	116.63	123.15	130.98	156.27	161.38	156.81
Indonesia.....	2.83	3.56	2.60	2.83	3.96	5.79	7.07	7.32	10.28	9.42
Japan.....	64.52	64.73	66.23	67.84	66.01	66.69	68.73	72.24	75.27	74.12
Korea, North.....	41.31	42.78	43.74	44.40	43.83	45.46	45.57	45.81	47.64	41.32
Korea, South.....	25.58	23.29	21.31	23.42	21.13	25.31	28.11	29.20	31.29	34.53
Laos.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Macau.....	0.00	0.00	(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia.....	0.38	1.15	1.39	1.44	1.62	1.41	1.65	1.60	1.95	2.11
Mongolia.....	2.38	2.14	2.02	1.68	1.36	1.32	1.25	1.34	1.34	1.30
Nepal.....	0.06	0.06	0.01	0.05	0.07	0.05	0.10	0.08	0.04	0.03
New Caledonia.....	0.10	0.12	0.09	0.10	0.10	0.14	0.13	0.13	0.11	0.12
New Zealand.....	1.36	1.49	1.42	1.38	1.62	1.56	1.42	1.93	0.78	1.23
Pakistan.....	1.92	1.91	2.10	2.09	2.22	2.31	2.45	2.27	2.53	2.53
Papua New Guinea.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Philippines.....	1.55	1.28	1.47	1.62	1.59	1.93	1.83	1.58	1.53	1.57
Singapore.....	0.02	0.02	0.03	0.02	0.02	0.03	0.04	0.03	0.03	(s)
Sri Lanka.....	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Taiwan.....	9.85	10.55	9.97	11.05	12.69	15.50	16.33	18.00	20.24	25.90
Thailand.....	2.31	2.76	3.78	4.50	4.58	4.92	5.56	9.94	9.88	9.81
Vietnam.....	3.91	2.40	3.09	2.54	2.55	3.55	3.52	4.84	4.11	4.17
Total.....	794.70	806.40	818.14	848.46	878.07	926.50	990.71	1,038.24	1,065.45	1,077.56
World Total.....	2,291.09	2,282.58	2,283.43	2,202.99	2,216.88	2,218.02	2,244.67	2,261.01	2,307.88	2,329.83

¹ Preliminary.

-- Not applicable.

(s) = Value less than 5,000 metric tons.

Notes: Sum of components may not equal total due to independent rounding.

Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon = 3.667 tons of carbon dioxide gas.

Source: Office of Energy Markets and End Use, Energy Information Administration.

Glossary

Glossary

Alcohol: The family name of a group of organic chemical compounds composed of carbon, hydrogen, and oxygen. The series of molecules vary in chain length and are composed of a hydrocarbon plus a hydroxyl group, CH- (CH)_n-OH. Alcohol includes methanol and ethanol.

Anthracite Coal: Anthracite, or hard coal, is the highest rank of economically usable coal. It is jet black with a high luster. The moisture content generally is less than 15 percent. It usually has a high fixed carbon and ash content and is low in volatile matter. It is a non-coking coal.

API: The American Petroleum Institute, a trade association.

API Gravity: An arbitrary scale expressing the gravity or density of liquid petroleum products. The measuring scale is calibrated in terms of degrees API. A lighter, less dense product has a higher API gravity.

Apparent Consumption (Coal): Primary coal production plus imports of coal and coke, minus exports of coal and coke plus or minus stock changes of coal and coke. Note: In the United States apparent consumption is reported data by major end-use sectors.

Apparent Consumption (Natural Gas): Dry natural gas production plus imports minus exports plus or minus stock changes.

Apparent Consumption (Petroleum): Includes internal consumption, refinery fuel and loss, and bunkering. Also included, where available, are liquefied petroleum gases sold directly from natural gas processing plants for fuel or chemical uses.

Asphalt (Natural): A natural mineral pitch, tar, or bitumen composed principally of hydrocarbons, a natural bituminous rock of dark color comparatively hard and nonvolatile. Does not include asphalt, bitumen, tar, etc., derived from petroleum processing.

Asphalt (Refined): A dark brown to black solid or semi-solid material obtained from petroleum processing in which the predominant component is bitumen. Used mainly in road construction.

Associated Gas: Gas produced in a field containing both oil and gas. The field is developed primarily for extraction of crude oil.

ASTM: The American Society for Testing and Materials.

Barrel (Petroleum): A unit of volume equal to 42 U.S. gallons.

Biomass: Organic nonfossil material of biological origin constituting a renewable energy resource.

Bitumen: A naturally occurring viscous mixture, mainly of hydrocarbons heavier than pentane, that may contain sulfur compounds and that, in its natural occurring viscous state, is not recoverable at a commercial rate through a well.

Bituminous Coal: Bituminous coal is the most common coal. It is dense, black, often with well-defined bands of bright and dull materials. Its moisture content usually is less than 20 percent. It is used for generating electricity, making coke, and space heating.

British Thermal Unit (Btu): The quantity of heat needed to raise the temperature of 1 pound of water by 1 degree Fahrenheit at or near 39.2 degrees Fahrenheit.

Bunkers: Fuels supplied to ships and aircraft in international transportation, irrespective of the flag of the carrier, consisting primarily of residual, distillate, and jet fuel oils.

Butane: A normally gaseous straight-chain or branch-chain hydrocarbon, (C₄H₁₀). It is extracted from natural gas or refinery gas streams. It includes isobutane and normal butane and is covered by ASTM Specification D1835 and Gas Processors Association Specifications for commercial butane.

Coal: A black or brownish-black solid, combustible substance formed by the partial decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, subanthracite, bituminous, subbituminous, and lignite, is based on fixed carbon, volatile matter, coking and coking properties, and heating

value. Coal rank includes the progressive alteration, or coalification, from lignite to anthracite.

Coal Briquets: Anthracite, bituminous, and lignite briquets comprise the secondary solid fuels manufactured from coal by a process in which the coal is partly dried, warmed to expel excess moisture, and then compressed into briquets, usually without the use of a binding substance. In the reduction of briquets to coal equivalent, different conversion factors are applied according to their origin from hard coal, peat, brown coal, or lignite.

Coal Production: The sum of sales, mine consumption, issues to miners, and issues to coking, briquetting, and other ancillary plants at mines. Production data include quantities extracted from surface and underground working, and normally exclude wastes removed at mines or associated preparation plants.

Coke (Coal): In general, coke is made from bituminous coal (or blends of bituminous coal) from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit, so that the fixed carbon and ash are fused together. Coke is hard and porous, has gray submetallic luster, and is strong enough to support a load of iron ore in a blast furnace. It is used both as a fuel and a reducing agent in smelting iron ore in a blast furnace.

Conventional Thermal Electricity Generation: Electricity generated by an electric power plant using coal, petroleum, or gas as its source of energy.

Conversion Factor: A number that translates units of one system into corresponding values of another system. Conversion factors can be used to translate physical units of measure for various fuels into Btu equivalents.

Crude Oil (including Lease Condensate): A mixture of hydrocarbons that exists in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Included are lease condensate and liquid hydrocarbons produced from tar sands, Gilsonite, and oil shale. Drip gases are also included, but topped crude oil (residual) and other unfinished oils are excluded. Liquids produced at natural gas processing plants and mixed with crude oil are likewise excluded where identifiable.

Crude Oil Production: The volume of crude oil produced from oil reservoirs during given periods of time. The amount of such production for a given period is measured as volumes delivered from lease storage tanks (i.e., the point of custody transfer) to pipelines, trucks, or other media for transport to refineries or terminals with, adjustments for (1) net differences

between opening and closing lease inventories, and (2) basic sediment and water.

Distillate Fuel Oil: A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on-and-off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation. Included are products known as No. 1, No. 2, and No. 4 fuel oils; and No. 1, No. 2, and No. 4 diesel fuels.

Domestic Inland Consumption (Petroleum): Domestic inland consumption is the sum of all refined petroleum products supplied for domestic use (excludes international marine bunkers). Consumption is calculated by product by adding production, imports, crude oil burned directly, and refinery fuel and losses, and then subtracting exports and changes in primary stocks (net withdrawals is a plus quantity and net additions is a minus quantity).

Electricity Installed Capacity: The maximum load that a generating unit, generating station, or other electrical apparatus can carry under specified conditions for a given period of time and not limited by existing service conditions.

Ethane: A normally gaseous straight-chain hydrocarbon, (C₂H₆). It is a colorless paraffinic gas that boils at a temperature of -127.48 degrees Fahrenheit. It is extracted from natural gas and refinery gas streams.

Gasohol: A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol but sometimes methanol) in which 10 percent or more of the product is alcohol.

Gasoline, Aviation: All special grades of gasoline for use in aviation reciprocating engines, as given in ASTM Specification D910 and Military Specification MIL-G5572. Excludes blending components that will be used in blending or compounding into finished aviation gasoline.

Gasoline Blending Components: Finished components in the gasoline range that will be used for blending or compounding into finished aviation or motor gasoline.

Gasoline, Motor (Leaded): Contains more than 0.05 grams of lead per gallon or more than 0.005 grams of phosphorus per gallon. The actual lead content of any given gallon may vary. Premium and regular grades are included, depending on the octane rating. Includes leaded gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

Gasoline, Motor (Unleaded): Contains not more than 0.05 grams of lead per gallon and not more than 0.005 grams of phosphorus per gallon. Premium and regular grades are included, depending on the octane rating. Includes unleaded gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

Geothermal Electric Power Generation: Electricity derived from heat found under the earth's surface. Within the earth, there are vast amounts of molten rock and metal, covered by succeeding layers of cooler material, up to the crust of the earth's surface. Underground rivers generate steam that is liberated in the form of geysers through fissures in the earth's surface.

Gross Electricity Generation: The total amount of electric energy produced by a generating facility, as measured at the generator terminals.

Hydroelectric Power Generation: Electricity generated by an electric power plant whose turbines are driven by falling water. It includes electric utility and industrial generation of hydroelectricity, unless otherwise specified. Generation is reported on a net basis, i. e., on the amount of electric energy generated after the electric energy consumed by station auxiliaries and the losses in the transformers that are considered integral parts of the station are deducted.

Jet Fuel (Kerosene-type): A quality kerosene product with an average gravity of 40.7 degrees API, and a 10 percent distillation temperature of 400 degrees Fahrenheit. It is covered by ASTM Specification D1655 and Military Specification MIL-T-5G24L (Grades JP-5 and JP-8). A relatively low-freezing point distillate of the kerosene type; it is used primarily for commercial turbojet and turboprop aircraft engines.

Jet Fuel (Naphtha-type): A fuel in the heavy naphtha boiling range with an average gravity of 52.8 degrees API and 20 to 90 percent distillation temperatures of 290 degrees to 470 degrees Fahrenheit, meeting Military Specification MIL-T-5624L (Grade JP-4). JP-4 is used for turbojet and turboprop aircraft engines, primarily by the military. Excludes ram-jet and petroleum rocket fuels.

Joule: The meter-kilogram-second unit of work or energy, equal to the work done by a force of one newton when its point of application moves through a distance of one meter in the direction of the force; equivalent to 10^7 and one watt-second.

Kerosene: Light hydrocarbon distillates in the 150 degrees to 280 degrees Centigrade (300 degrees to 550 degrees Fahrenheit) distillation range. Includes

vaporizing oil for use in reciprocating engines (primarily tractors), lamp oil, and kerosene and heating oil.

Kilowatt (kW): One thousand watts.

Kilowatthour (kWh): One thousand watthours.

Lease Condensate: A liquid recovered from natural gas at the well or at small gas/oil separators in the field. Consists primarily of pentanes and heavier hydrocarbons. Also called field condensate. Does not include plant condensate.

Lignite: Lignite, the lowest rank of coal, is a young coal. It is brownish black in color and has high moisture content, sometimes as high as 45 percent, and a high ash content. It tends to disintegrate when exposed to the weather. The heat content of lignite is one of the lower coals, usually less than 5700 Kcal/kg.

Liquefied Natural Gas (LNG): Conventional natural gas that is liquefied by reducing its temperature to minus 260 degrees Fahrenheit at atmospheric pressure. The volume of the LNG is 1/600 that of the gas in its vapor state.

Liquefied Petroleum Gases (LPG): Ethane, ethylene, propane, propylene, normal butane, butylene, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw natural gas plant liquids.

Liquefied Refinery Gases (LRG): Liquefied petroleum fractionated from refinery or still gases. Through compression and/or refrigeration, they are retained in the liquid state. The reported categories are ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane. Excludes still gas used for chemical or rubber manufacture, which is reported as petrochemical feedstock, and also excludes liquefied petroleum gases intended for blending into gasoline, which are reported as gasoline blending components.

Lubricants (Greases): Mixtures of lubricating oils that contain substances that reduce their ability to flow.

Lubricants (Lubricating Oils): Substances used to reduce friction between bearing surfaces. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. "Lubricants" include all grades of lubricating oils from spindle oil to cylinder oil and those used in greases.

Metallurgical Coke: A strong, hard coke produced mainly for use in the iron and steel industry, where it serves as a chemical agent and source of energy. It is used mainly in blast furnaces to absorb the oxygen contained in iron oxides and provide energy for smelting.

A portion of its potential energy is captured in the gases generated in the smelting process, then recycled in the form of blast furnace gas to provide additional energy inside or outside the smelting process. Metallurgical coke is also used to some extent as a domestic fuel and as a raw material for the manufacture of gas.

Naphthas: Refined or partly refined light distillates with an approximate boiling point range of 27 degrees to 221 degrees Centigrade. Blended further or mixed with other materials, they make high-grade motor gasoline or jet fuel. Also used as solvents, petrochemical feedstocks, or as raw materials for the production of town gas.

Natural Gas: A mixture of hydrocarbon compounds, primarily methane and small quantities of various nonhydrocarbons existing in gaseous phase or in solution with crude oil in natural underground reservoirs at reservoir conditions.

Natural Gas Dry Production: Gross withdrawals of natural gas from reservoirs less gas used for reinjection into reservoirs for repressuring, gas which is flared or vented, gas lost in transmission, and shrinkage. Derived by subtracting shrinkage or extraction loss from marketed production. It represents the amount of natural gas that can be marketed and consumed as a gas.

Natural Gas Gross Production: Total withdrawals of natural gas from oil/gas and gas reservoirs.

Natural Gas Liquids (NGL): Those portions of reservoir gas that are liquefied at the surface in lease separators, field facilities, or natural gas processing plants. Natural gas liquids include natural gas plant liquids and lease condensate.

Natural Gas Marketed Production: Gross withdrawals of natural gas from reservoirs less gas used for reinjection into reservoirs for repressuring, gas that is flared and/or vented, and gas that is lost in transmission before the natural gas liquids have been extracted.

Natural Gas Plant Liquids (NGPL): Products obtained from processing natural gas at natural gas processing plants, including natural gasoline plants, cycling plants, and fractionators. Products obtained include ethane, liquefied petroleum gases, (propane, butane, propane-butane mixtures, and ethane-propane mixtures), isopentane, natural gasoline, unfractionated streams, plant condensate, and other minor quantities of finished products, such as motor gasoline, special naphthas, jet fuel, kerosene, and distillate fuel oil.

Natural Gasoline: A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas, that meets vapor pressure, end-point, and other specifications for natural gasoline set by the Gas Processors Association. Includes isopentane, which is a saturated

branch-chain hydrocarbon, (C₅H₁₂), obtained by fractionation of natural gasoline or isomerization of normal pentane.

Net Electricity Consumption: Consumption of electricity computed as generation, plus imports, minus exports, minus transmission and distribution losses.

Net Electricity Generation: Gross generation less the electric energy consumed at the generating station for station use.

Nuclear Electric Power Generation: Electricity generated by nuclear reactors of various types such as heavy water, light water, and boiling water. Generation is reported on a net basis and excludes energy that is generally used by the electric power plant for its own operating purposes and not for commercial use.

Other Hydrocarbons: Materials received by a refinery and consumed as raw materials. Includes hydrogen, coal tar derivatives, Gilsonite, and natural gas received by the refinery for reforming into hydrogen. Natural gas to be used as fuel is excluded.

Paraffin (Oil): A light-colored, wax-free oil obtained by pressing paraffin distillate.

Paraffin (Wax): The wax removed from paraffin distillates by chilling and pressing. When separating from solutions, it is a colorless, more or less translucent, crystalline mass, without odor and taste, slightly greasy to touch, and consisting of a mixture of solid hydrocarbons in which the paraffin series predominates.

Petrochemical Feedstocks: Products from petroleum refineries and natural gas liquids processing plants to be processed further at a petrochemical plant. Includes products primarily in the naphtha range, still gas (refinery gas), and liquefied gases for petrochemical use.

Petroleum: A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, refined petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

Petroleum Coke: A solid refinery residue; the final product of the condensation process in cracking. Includes green or calcined petroleum coke and coke deposited on catalysts.

Petroleum Jelly: A semi-solid oily product produced from de-waxing lubricating oil basestocks.

Petroleum Products: Products obtained from the processing of crude oil, unfinished oils, natural gas liquids, and other miscellaneous hydrocarbon com-

pounds. Includes aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, ethane, liquefied petroleum gases, petrochemical feedstocks, special naphthas, lubricants, paraffin wax, petroleum coke, asphalt and road oil, still gas, and other miscellaneous products.

Petroleum Stocks: Primary stocks of crude oil and petroleum products held in storage at (or in) leases, refineries, natural gas processing plants, pipelines, tankfarms, and bulk terminals that can store at least 50,000 barrels of petroleum products or that can receive petroleum products by tanker, barge, or pipeline. Crude oil that is in-transit by water from Alaska or that is stored on Federal leases or in the Strategic Petroleum Reserve is included. Primary stocks exclude stocks of foreign origin that are held in bonded warehouse storage.

Plant Condensate (Petroleum): Mixture of hydrocarbons, mostly pentanes and heavier hydrocarbons, recovered at natural gas liquids processing plants. Does not include field or lease condensate.

Primary Coal: All coal milled and, when necessary, washed and sorted.

Propane: A normally gaseous straight-chain hydrocarbon, (C₃H₈). It is a colorless paraffinic gas that boils at a temperature of -43.67 degrees Fahrenheit. It is extracted from natural gas or refinery gas streams. It includes all products covered by Gas Processors Association Specifications for commercial propane and HD-5 propane and ASTM Specification D1835.

Proved Reserves of Coal: Proved reserves of coal are the estimated quantities, which analysis of geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions.

Proved Reserves of Crude Oil: Proved reserves of crude oil are the estimated quantities of all liquids defined as crude oil, which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions.

Proved Reserves of Natural Gas: Proved reserves of natural gas are the estimated quantities which analysis of geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions.

Refinery Fuel: Crude oil and petroleum products consumed at the refinery for all purposes.

Refinery Losses and Gains (Petroleum): Processing gain and loss that takes place during the refining process itself. Excludes losses that do not take place during the refining process, e.g., spills, fire losses, and contamination during blending, transportation, or storage.

Refinery Processing Gain: The volumetric amount by which total refinery output is greater than input for a given period of time. This difference is due to the processing of crude oil into products that, in total, have a higher specific gravity than the crude oil processed.

Reinjected (Natural Gas): The forcing of gas under pressure into an oil reservoir in an attempt to increase recovery.

Residual Fuel Oil: The topped crude of refinery operations which includes No. 5 and No. 6 fuel oils as defined in ASTM Specification D396 and Federal Specification VV-F-815C, Navy Special fuel oil as defined in Military Specification MIL-F-859E including Amendment 2 (NATO Symbol F-77), and Bunker C fuel oil. Residual fuel oil is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes. Imports of residual fuel oil include "Imported Crude Oil Burned Directly as Fuel."

Road Oil: Any heavy petroleum oil, including residual asphaltic oil used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades from 0, the most liquid, to 5, the most viscous.

Secondary Coal: (e.g. coke, briquets) is derived from primary coal.

Short Ton (coal): A unit of weight equal to 2,000 pounds.

Shrinkage (Natural Gas): The volume of natural gas that is transformed into liquid products during processing, primarily at natural gas liquids processing plants.

Special Naphthas: All finished products within the gasoline range that are used as paint thinners, cleaners, or solvents. These products are refined to a specified flash point and have a boiling range of 90 degrees to 220 degrees Fahrenheit. "Special Naphthas" include all commercial hexane and cleaning solvents conforming to ASTM Specification D1836 and D484, respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks are excluded.

Still Gas (Refinery Gas): Any form or mixture of gas produced in refineries by distillation, cracking,

reforming, and other processes. The principal constituents are methane, ethane, ethylene, normal butane, butylene, propane, propylene, etc. Still gas is reported for petrochemical feedstock use and/or refinery fuel use. The conversion factor from gas to barrels is 6.000 million Btu per fuel oil equivalent barrel.

Subbituminous Coal: Similar to the poorer grades of bituminous coal; low in carbon, high in volatile matter and moisture. Its energy value is somewhat below that of bituminous coal.

Transmission and Distribution Loss: Electric energy lost due to the transmission and distribution of electricity. Much of the loss is thermal in nature.

Unfinished Oils: Includes all oils requiring further processing, except those requiring only mechanical blending.

Vented/Flared (Natural Gas): The release (venting) or burning (flaring) of associated gas as a means of disposal.

Watt: The electrical unit of power. The rate of energy transfer equivalent to one ampere flowing under a pressure of one volt at unity power factor.

Watt-hour (Wh): An electrical energy unit of measure equal to 1 watt of power supplied to, or taken from, an electric circuit steadily for 1 hour.

Wax: A solid or semi-solid material derived from petroleum distillates or residues by such treatments as chilling, precipitating with a solvent, or de-oiling. It is a light-colored, more-or-less translucent crystalline mass, slightly greasy to the touch, consisting of a mixture of solid hydrocarbons in which the paraffin series predominates. Includes all marketable wax whether crude scale or fully refined. The three grades included are microcrystalline, crystalline fully refined, and crystalline-other.

White Spirit: A highly refined distillate with a boiling point range of about 150 degrees to 200 degrees Centigrade. It is used as a paint solvent and for dry-cleaning purposes.