5.5 Office, Food Service, and Laundry Equipment

Some of the many different energy-consuming devices in Federal buildings are only recently beginning to receive attention relative to their power and water consumption. Office equipment, food service equipment, and laundry equipment provide excellent opportunities for reducing energy consumption. Indeed, office equipment represents the fastest growing use of electrical energy in U.S. commercial buildings. These products are discussed in general here and in more detail in the following two sections.

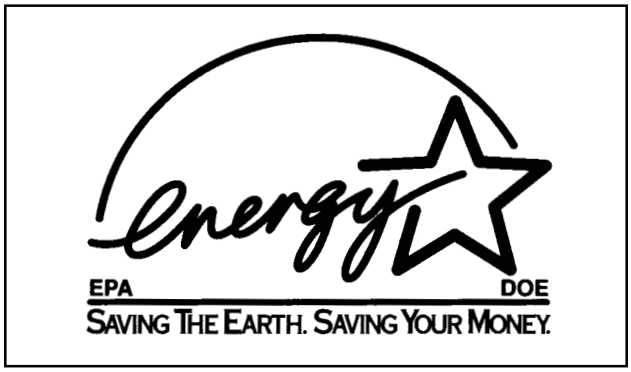
Opportunities

When selecting office, food service, or laundry equipment, the facility manager may reduce energy consumption by opting for the high-efficiency, high-performance equipment described in *Section 5.5.1* and *Section 5.5.2*.

Technical Information

Selecting energy-efficient office equipment—personal computers (PCs), monitors, copiers, printers, and fax machines—and turning off machines when not in use can result in enormous energy savings. A typical PC operating 9 hours a day will use only 38% of the power consumed by a computer operating 24 hours. Power management devices on computers can reduce energy usage even further by turning down the power when the computer is not being used. Copiers, laser printers, faxes, and other office equipment can save up to 66% of their 24-hour power consumption by keeping them on only during office hours.

EPA's ENERGY STAR® program, which began in 1992, was reinforced by a 1993 Executive Order requiring all Federal agencies to purchase only ENERGY STAR-compliant computers. Office equipment qualifying for this program must have the capability of powering down to a low-power mode after a user-designated period of inactivity.



High-capacity, multistage dishwashing machines are designed for medium-to-large food service operations, including hospitals, colleges, prisons, hotels, and restaurants. Multistage dishwashers reuse water from the two rinse stages to prewash the dishes. In addition to the water savings, these devices save considerable amounts of detergent and rinse additives. Because of the improved design of the dishwashers, dish breakage has been reduced.

Source: Jackson MSC, Inc.

This commercial dishwasher handles up to 57 racks per hour with a 58-second wash/rinse cycle. It uses only 1 gallon (3.8 liters) of water per rack, less than the amount required by competitive machines. In addition to savings on water and sewer charges, a built-in booster heater cost-effectively raises incoming water temperature to commercial standards—typically 180°F (82°C).

Before upgrading a kitchen, consider the following energy-efficient types of equipment: infrared fryers, convection ovens (including steamer models), microwave ovens, and specialized equipment such as pizza ovens. Computerized controls can produce savings because they automatically time the cooking of certain foods. Energy-efficient exhaust hoods can provide significant savings because they use outside air rather than indoor conditioned air for ventilation. Side curtains around cooking equipment help restrict the flow of conditioned air to the outdoors. Exhaust air can be used to preheat air for HVAC purposes or to preheat water (see *Section 5.3.1 – Heat-Recovery Water Heating*).

Microcomputers on newer-model clothes washing machines permit precise control of water temperature and cycles. Horizontal-axis and other high-efficiency ENERGY STAR clothes washers use significantly less water and energy than conventional vertical-axis machines. Operate washers and dryers with full loads rather than partial loads in order to save energy.

Laundry water temperatures should be reduced to 160°F (71°C) unless prohibited by codes. Some soaps and detergents will perform at even lower temperatures, and their use is encouraged. Water temperatures should be checked with an accurate thermometer, and the equipment settings should be adjusted as needed.

Contacts

Complete information on the ENERGY STAR program is available by calling the ENERGY STAR Hotline at (888) STAR-YES or through the ENERGY STAR Web site at www.epa.gov/energystar or www.energystar.gov.