



The National Park Service EnviroFact Sheet

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Energy Efficient Office Equipment (G-2)

DRAFT

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Energy efficiency is not only cost effective, but environmentally responsible. Reduced energy consumption can decrease annual greenhouse gas emissions by 11 million metric tons. If all federal agencies used energy efficient products and practices, the federal government could save over \$900 million per year on energy costs.

As the largest energy user in the Department of the Interior, the National Park Service (NPS) has an enormous cost saving opportunity. In addition, the NPS, with its mission of resource conservation and its position as a public educator, has a special obligation to maximize the opportunity for and demonstrate environmental leadership in energy efficiency.

The standard metric unit of electric power is the **watt**. Electric power refers to the amount of electric energy consumed within a specific time frame - the rate at which electrical energy is consumed by a particular device (i.e., KWh)

FOR MORE INFO...

Lawrence Berkeley National Laboratory Standby Electricity website:
<http://standby.lbl.gov/>

American Council on Energy-Efficient Economy:
<http://aceee.org/pubs/991.htm>

APPLICABLE REGULATIONS

Executive Order 13432, *Strengthening Federal Environmental, Energy, and Transportation Management*, requires federal agencies to purchase energy efficient products, including office equipment, that meet EPA's Energy Star criteria.

Under Executive Order 13221 *Energy Efficient Standby Power Devices*, each federal agency purchasing commercially available, off-the-shelf electrical equipment and appliances that use external or internal standby power functions must purchase products that use no more than one watt in standby mode. If such appliances are not available, agencies must purchase products with the lowest standby power wattage while in their standby power consuming mode.

OFFICE EQUIPMENT AND APPLIANCES

Common electronic equipment used by the Park Service includes computers and computer monitors, printers, fax machines, scanners, copiers, shredders, refrigerators, small appliances, and vending machines. By virtue of being energy efficient, many of these products have some kind of power management feature which places the device in a powered down state so that less energy is consumed while device is not being used (i.e., standby mode). Electricity consumption of this nature is called leaking or 'vampire' consumption because often no obvious function is being performed for the energy consumed. The energy consumed in standby mode varies from product to product but collectively can cause a substantial waste of electricity. Estimates are that from 37 to 50 terawatt hours (TWh) (one TWh = one billion kilowatt hours) are consumed annually by standby devices in the U.S. For examples of typical office equipment power requirements, see Table 1.

NEW OFFICE EQUIPMENT

Procurement staff should purchase only Energy Star office equipment that consumes no more than one watt of electricity in standby mode. In cases where such products are not available, procurement staff should purchase equipment with the lowest standby power consumption. The U.S. Department of Energy estimates that approximately \$25 million will be saved by 2008 through the purchase of products that use minimal amounts of standby power.

BEST MANAGEMENT PRACTICES FOR ENERGY CONSERVATION IN OFFICES

To minimize leaking:

- Turn off equipment when it is not in use. Computers, monitors, printers, copiers, and small appliances should not be left on after hours, overnight, or on weekends. If a computer must be left on at night and weekends, save energy by turning off the monitor.
- Turn off computers and monitors during lunch breaks and long meetings.
- Setup power-saver features when you install new equipment and periodically check to ensure that the power-saver functions are still working.
- Plug-in timers to automatically turn equipment off at the power sources at certain times of the day. Timers are especially useful for copiers and printers.
- Check with equipment suppliers to find out if copiers need to remain on continuously.

Table 1 - Typical Power Requirements and Energy Use of Office Equipment

Equipment	Typical Power Requirements (Watts)	Annual Energy Cost - Off at Night	Annual Energy Cost - On 24 Hours/Day
Computer	55	\$9	\$39
Monitor (15")	75	\$12	\$54
Laser Printer	60	\$14	\$44
Fax Machine	35	\$9	\$27
Copier (small)	115	\$30	\$83
Copier (large)	310	\$80	\$224

Source: Office Equipment Energy Savings Calculator (Lawrence Berkeley Laboratory)

ENERGY EFFICIENT OFFICE EQUIPMENT CHECKLIST

Checklist Item	Notes
1. Ensure that there is a program in place to purchase Energy Star office equipment that consumes no more than one watt of electricity in standby mode; or if one watt standby equipment is not available, ensure that products are procured with the lowest standby power consumption.	
2. Verify that personnel are turning off computers, monitors, printers, copiers and small appliances when not in use for long periods (i.e., after hours, overnight, and on weekends).	
3. Ensure that timers have been placed on applicable equipment.	
4. Confirm that power-saver features have been properly set up on new equipment and that procedures are in place to ensure that the power-saver functions remain working.	
5. Check with the copier vendor(s) to find out if copiers need to remain on continuously.	