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Energy Savings Tips for Small Businesses: Offices— Owners and Tenants

According to the U.S. Energy Information Administration, office spaces generally use the most electricity for lighting, followed by cooling, then computers. This document will help you target energy use in these areas. If you rent office space, take an active role in improving the efficiency of your building by contacting your landlord and collectively establishing performance goals. However, before you fine-tune your energy program with office-specific energy upgrades, remember to first refer to the Small Business Action Workbook. This resource will help you make simple no- and low-cost changes that can affect your bottom line energy consumption; and remember these apply to all businesses!



This document will help you take your energy program one step further by providing additional guidance tailored for office space that includes:

- How to profile your office's energy use
- What office-specific tips can help you save energy and money
- Where to find office-specific online resources.

PROFILING YOUR ENERGY USE

If your business mainly consists of office space, you face specific challenges and opportunities regarding energy management. For example, if your business rents office space, you may need to coordinate energy efficient projects with your landlord and/or co-tenants. Facilities that are not active 24 hours a day can benefit from managing lighting, heating and cooling, and equipment use. Make sure to turn these services down or off when not in use.

If you are a tenant, ENERGY STAR has published *Successes in Sustainability: Landlords and Tenants Team Up to Improve Energy Efficiency*. This 28-page report profiles several commercial real estate owners, managers, and tenants who are tapping into the power of collaboration to overcome barriers to create high-performance, sustainable buildings. These innovative organizations demonstrate the value of retrofitting leased space as green space, measuring and sharing energy data to enable efficiency, and



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engaging employees. Their stories serve as models for other landlords and tenants who face challenges in coming together for top performance.

EPA's ENERGY STAR *DataTrends: Energy Use in Office Buildings* examines benchmarking and trends in the energy and water consumption in office spaces. On the whole, office spaces have no “typical operating profile.” Energy use intensity (EUI) varies widely, ranging from less than 100 kBtu per square foot to more than 1,000 kBtu per square foot across all office buildings.

TIPS FOR ENERGY SAVING AT YOUR OFFICE

Inefficient office equipment not only draws power, but also emits heat that can contribute to higher cooling bills. In addition to the below, consider the *ENERGY STAR Building Upgrade Manual*.

Lighting

Lighting products that have earned the ENERGY STAR deliver exceptional features while using less energy. ENERGY STAR certified lighting products combine quality and attractive design with the highest levels of energy efficiency available today. ENERGY STAR certified fixtures typically use one-quarter the energy of traditional lighting and distribute light more efficiently and evenly than standard fixtures. In addition to bulbs and fixtures themselves, your office can employ lighting controls and/or sensors to reduce energy use. Here are some office lighting tips:

- **Employ bi-level switching.** Bi-level switching allows you to control a lighting system in groups of fixtures or lamps. For example, bi-level switching allows you to turn off half of the lights in a room off when full illumination is not required.
- **Dim the lights.** Dimmers are available for both LEDs and CFLs (ensure that you use dimmable CFLs). Daylight dimmers are special sensors that automatically dim room lights based on the amount of free and natural daylight available.
- **Install occupancy sensors.** Occupancy sensors detect the motion of room occupants, turning off lights in unoccupied areas and turning them back on when movement is detected.
- **Try daylight sensors (photocells).** A common inefficiency of exterior lighting systems is a tendency to “dayburn,” leaving exterior lights on during the day, wasting energy and money. This problem can be prevented by installing daylight sensors that turn the lights on and off automatically.

Heating and Cooling

Although heating and cooling systems provide a useful service by keeping employees comfortable, they also account for a significant portion of a building's energy use—typically about a quarter. However, it is possible to lessen this impact in both central and unitary systems by increasing their efficiency. For more information, see the *ENERGY STAR Guide to Energy-Efficient Heating and Cooling*. Here are some tips you can employ in your business' office space:



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- **Change your air filter regularly.** Check your filter every month, especially during heavy use months (winter and summer). If the filter looks dirty after a month, change it. At a minimum, change the filter every 3 months. A dirty filter will slow down air flow and make the system work harder to keep you warm or cool—wasting energy.
- **Tune up your HVAC equipment yearly.** Just as a tune-up for your car can improve your gas mileage, a yearly tune-up of your heating and cooling system can improve efficiency and comfort. Use the ENERGY STAR Maintenance Checklist as a guide.
- **Install a programmable thermostat.** A programmable thermostat is ideal for office spaces that are unoccupied during set periods of time throughout the week. Through proper use of pre-programmed settings, a programmable thermostat can save you about \$180 every year in energy costs.
- **Seal your heating and cooling ducts.** Ducts that move air to-and-from a forced air furnace, central air conditioner, or heat pump are often big energy wasters. Sealing and insulating ducts can improve the efficiency of your heating and cooling system by as much as 20 percent and sometimes much more. See the *ENERGY STAR Duct Sealing brochure* for more information.

Computers and Other Office Equipment

ENERGY STAR qualified computers deliver substantial savings over standard models. In fact, if all computers sold in the U.S. were ENERGY STAR certified products, the U.S. would avoid 15 billion pounds of greenhouse gas emissions annually (more than \$1 billion in energy costs). Desktops, integrated desktops, notebook (laptop) computers, workstations, and small-scale servers are all eligible to earn the ENERGY STAR. Check out ENERGY STAR computers for consumers to find ENERGY STAR certified computer specifications and buying guidance. You can also estimate your office's savings potential for computers and laptops using the *ENERGY STAR Office Equipment Savings Calculator*. Here are some tips to consider for computers and other equipment in your office:

- **Always buy ENERGY STAR certified products for your business.** The ENERGY STAR mark indicates the most efficient computers, printers, copiers, televisions, windows, thermostats, ceiling fans, and other appliances and equipment.
- **Use power management features.** Place computers (CPU, hard drive, etc.) into a low-power "sleep mode" after a designated period of inactivity. You can also purchase a commercial software power management package.
- **Print double sided pages;** much more energy is used in the manufacturing and distributing of paper than the actual printing at your office.
- **Many offices have a variety of kitchen appliances such as refrigerators and dishwashers.** ENERGY STAR certified appliances incorporate advanced technologies that use 10% to 50% less energy and water than standard models.



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- **Maintain an air-gap** of at least three inches between the back of refrigerators, water coolers, and freezers and the wall. Also, keep condenser coils clean.
- **Use timers** to ensure that coffee maker heating elements are not operating during off hours.
- **Use dishwashers only when full** to conserve energy, water, and detergent.

RESOURCES AND LINKS

This section includes online resources that can help your business learn more about office-specific energy use and energy efficiency.

- ENERGY STAR Successes in Sustainability: Landlords and Tenants Team Up to Improve Energy Efficiency:
www.energystar.gov/buildings/tools-and-resources/successes-sustainability-landlords-tenants-team-improve-energy-efficiency
- ENERGY STAR DataTrends: Energy Use in Office Buildings:
www.energystar.gov/buildings/tools-and-resources/datatrends-energy-use-office-buildings
- ENERGY STAR Building Upgrade Manual: www.energystar.gov/BldgManual
- ENERGY STAR Office Equipment Product Finder:
www.energystar.gov/index.cfm?c=ofc equip.pr office equipment
- ENERGY STAR Office Equipment Savings Calculator:
<http://www.energystar.gov/sites/default/files/asset/document/Office%20Equipment%20Calculator.xlsx>
- ENERGY STAR Certified Products: <http://www.energystar.gov/products/certified-products>
- ENERGY STAR Computers for Consumers:
www.energystar.gov/products/certified-products/detail/computers
- ENERGY STAR: Activating Power Management Software:
www.energystar.gov/index.cfm?c=power_mgt.pr power_mgt_comm_packages
- ENERGY STAR Guide to Heating and Cooling:
http://www.energystar.gov/ia/partners/publications/pubdocs/HeatingCoolingGuide%20FINAL_9-4-09.pdf?0cbe-cc73
- DOE Office of Energy Efficiency and Renewable Energy: Buildings Technology Office:
energy.gov/eere/buildings/building-technologies-office
- DOE Office of Energy Efficiency and Renewable Energy: Take Action to Save Energy in Commercial Buildings: energy.gov/eere/buildings/take-action-save-energy-commercial-buildings