

Make the Switch, Save the Planet

Lighting plays a fundamental role in our lives. We use lights to illuminate most of our daily activities and to create a safe, comfortable environment. Most households around the world use incandescent bulbs for lighting. They are readily available and inexpensive to buy. However, incandescent bulbs are inefficient light sources, converting 90 percent of electricity directly to heat and only about 10 percent to visible light.

In a typical American household, lighting sources consume a lot of electricity—nearly 2,000 kilowatt-hours per year, or 15 percent of the household's electricity consumption. If electricity is produced by burning coal (as is half of the electricity in the United States), each kilowatt-hour releases over two pounds (nearly 1 kilo) of carbon dioxide (CO₂). The buildup of CO₂ and other "greenhouse gases" in the atmosphere is contributing to global climate change, which is predicted to result in more frequent and severe storms and droughts, the rapid spread of infectious diseases, rising sea levels, and other adverse effects that could harm humans and other life on Earth.



DID YOU KNOW...?

- * Lighting consumes up to 34 percent of U.S. electricity.
- * Compact fluorescent light bulbs (CFLs) are an energy-saving alternative to incandescent bulbs—they produce the same amount of light, use one third of the electricity, and last up to ten times as long.
- * Where electricity is produced from coal, each CFL used prevents 1,300 pounds (nearly 600 kilograms) of CO₂ emissions and 20 pounds of sulfur dioxide from being pumped into the atmosphere.
- * If every household replaced its most often-used incandescent light bulbs with CFLs, electricity use for lighting could be cut in half.
- * While fluorescent lamps save energy, they need to be disposed of properly because they also contain mercury, a highly persistent and toxic chemical that builds up in the tissue of fish, wildlife, and people.

CHALLENGE YOURSELF AND OTHERS:

Ask your local power provider how the electricity that lights up your neighborhood or town is produced. How does the electricity production affect the air you breathe, the water you drink, people's livelihoods, and the animals that live near your surroundings? Present your findings to your family, friends, and work or school colleagues, and encourage them to reduce their own lighting energy needs.

SUCCESS STORIES

- ❖ Global sales of CFLs surged nearly 13-fold between 1990 and 2001, to some 606 million units.
- ❖ In 1996, the Chinese government started a Green Lights Program to promote the use of energy-efficient lighting products. By 1999, a survey of households in several Chinese provinces found that 60 percent of homes had at least one CFL installed—a significant increase from 10 percent just two years earlier.
- ❖ Consumers in Brazil have purchased more than 48 million efficient lighting products since the government started an energy conservation program in 1985. As a result, Brazil avoided a 12 percent increase in its lighting electricity use.
- ❖ In the western United States, consumer programs developed through business and utility partnerships have pushed sales of CFLs. Between 2000 and 2001, CFL sales grew 4 percent in California and 10 percent in the Northwest.



SIMPLE THINGS YOU CAN DO:

- ✓ Turn off all lights when you're not using them.
- ✓ The next time one of your often-used light bulbs goes out, replace it with a compact fluorescent, preferably one with low mercury content.
- ✓ Replace all of your often-used incandescent bulbs with compact fluorescents.
- ✓ Consider reducing your lighting energy use in areas of your home that receive plenty of natural light.
- ✓ For tasks where you need more concentrated light, such as reading in the living room or working at your desk, rely on localized lamps rather than general room lighting.
- ✓ Encourage your friends and family to do the same.

FOR MORE INFORMATION

- ☛ **ENERGY STAR®** (www.energystar.gov), a joint project of the U.S. Environmental Protection Agency and the Department of Energy, works to promote energy-efficient lighting and appliances.
- ☛ Germany's **Blue Angel** (www.blauer-engel.de) provides consumers in Europe with information on environmentally preferable products, including lighting.
- ☛ **American Council for an Energy-Efficient Economy** (ACEEE) (www.aceee.org), a group dedicated to advancing energy efficiency in the United States and other countries, offers consumer resources on energy-efficient lighting.
- ☛ **INFORM, Inc's** fact sheet on mercury-containing lamps (www.informinc.org/fact_P3mercury_lamps.php) offers useful tips on choosing lighting with the lowest mercury content.
- ☛ U.S. Department of Energy's **Office of Energy Efficiency and Renewable Energy** (www.eere.energy.gov/consumerinfo) provides good energy-saving tips for lighting.
- ☛ **Consumer Federation of America** (www.buyenergyefficient.org) provides useful information on what you can do in your community to increase awareness about energy efficiency.