

# Shedding New Light on the U.S. Energy Efficiency Standards For Everyday Light Bulbs

In 2007, the U.S. Congress adopted energy efficiency standards for new screw-based light bulbs. Beginning in 2012, these standards will phase out the inefficient incandescent light bulb that dates back more than 125 years, and require new bulbs to use 25 to 30 percent less energy. As there are more than 4 billion screw-based sockets in the United States, the transition to more efficient light bulbs will provide massive national benefits, including:

- electric bill savings of more than \$10 billion per year;
- savings equivalent to 30 large power plants; and
- avoiding global warming pollution of approximately 100 million tons of carbon dioxide (CO<sub>2</sub>) per year.

Replacing all the nation's inefficient bulbs with energy efficient ones will save as much electricity annually as that consumed by all the homes in Texas.

## Why phase-out inefficient light bulbs?

Today's incandescent light bulb wastes up to 90 percent of the electricity it consumes as heat. Standards are needed because out of the 4 billion screw-based sockets in the United States, more than 3 billion contain these inefficient bulbs.

## What do the new incandescent bulbs look like? Exactly like the old bulbs.

New 72-watt bulb



- ▶ Similar brightness
- ▶ Same shape and size
- ▶ New bulbs use at least 28 percent less electricity

Old 100-watt bulb



## How does the standard work?

The standards are technology neutral, which means any type of bulb can be sold provided it meets the efficiency requirements. The standards do NOT ban incandescent light bulbs; they only require these bulbs to become more efficient. The standards also do not require consumers to buy compact fluorescent light bulbs (CFLs). The first phase of the standard requires new bulbs to use at least 25 to 30 percent less energy. In 2020, the second phase of the standard will go into effect and will require new light bulbs to use approximately 65 percent less energy than conventional incandescent bulbs.

## How will the standard impact consumers?

Consumers will continue to have a wide selection of light bulbs from which to choose. These will include new and more efficient incandescent light bulbs that use halogen technology and look just like today's ordinary light bulbs, compact fluorescent light bulbs (CFLs), and light emitting diodes (LEDs). All these types of bulbs are already widely available at leading retailers such as Home Depot, Lowes, and Wal-mart, as well as most local hardware stores.

These new bulbs will also save consumers money. While some of the newer and more efficient bulbs may cost more to buy, they will save the consumer more in the long run. For example, because these bulbs last longer and are so much more efficient, a single CFL can save \$30 or more in electricity over its lifetime.

## Do lighting manufacturers support the standards?

Yes. Through their trade association, the National Electrical Manufacturers Association (NEMA), all the leading lighting manufacturers have publicly expressed their support. The standards provide the industry with several years lead time to transition their supply chains over to the more efficient alternatives.

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January 2011

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### What about jobs?

The standards have jumpstarted domestic industry investment in research and development (R&D) and production of more efficient lighting products. As a result of the standard, a considerable number of new lighting-related jobs have been created. For example:

- Osram Sylvania has retooled their current St. Marys, Pennsylvania incandescent factory to produce new energy saving incandescents that will meet the standards.
- In 2011, TCP—one of the world’s largest makers of CFLs—is opening a new CFL factory in Ohio to help meet the new demand.
- Several thousand U.S. jobs have been created by companies like Cree in North Carolina, Lighting Sciences Group Corp in Florida, and Philips Lighting (the world’s biggest lighting company) to produce the next generation of energy efficient LED light bulbs.
- GE recently invested \$60 million to create a Global Center of Excellence for linear fluorescent lamp manufacturing in Bucyrus, Ohio—an action that will double the number of jobs at that plant.

### Will I have to buy a CFL?

No. A wide range of products meeting the technology-neutral standards are already on the market. These include CFLs, more efficient incandescents that use halogen technology, and LEDs—all of which are available from multiple manufacturers. Product offerings will only increase as the implementation date of the new standards approaches. Consumers will have their pick of multiple energy-efficient options.

### Are CFLs a good choice?

Today, CFLs represent the best value for consumers as they use one-fourth the power of a comparable incandescent light bulb and last up to 10 times longer. As a result, each CFL will save the consumer at least \$30 in the form of lower electricity costs over the life of the bulb. The new improved incandescents will save much less, but some consumers may still prefer to stick with products with which they are most familiar.

### What about the mercury contained in a CFL?

CFLs require very low levels of mercury—2 to 5 milligrams—in order to operate. In comparison, older thermometers contained nearly 500 milligrams of mercury—equivalent to the amount in more than 100 CFLs combined.

Buying CFLs reduces the environmental impact of lighting because efficient bulbs reduce power plant emissions, including carbon dioxide, mercury, and sulfur dioxide. On a life cycle basis, CFLs cause less mercury to be emitted into the environment than incandescent bulbs because they need less electricity from coal burning power plants to operate. In addition, several major retailers including Lowes, Home Depot, and IKEA now offer free nation-wide collection points for CFL recycling. CFLs are completely safe to use as the low levels of mercury they contain remain in the bulb.

In the unlikely event a CFL is broken, the Environmental Protection Agency’s website provides instructions for clean-up.

### What about specialty lamps?

Specialty lamps designed to operate in unique environments are exempted from the standards. For example, items such as refrigerator or oven bulbs, aquarium lights, and airport runway lights are not covered.

### When does the standard go into effect?

The effective dates for the standard are shown below. Each of these dates goes into effect one year earlier in California.

Today's Bulbs		After the Standard	Effective Date
100 W	→	≤ 72 W	1/1/2012
75 W	→	≤ 53 W	1/1/2013
60 W	→	≤ 43 W	1/1/2014
40 W	→	≤ 29 W	1/1/2014

