

FACT SHEET

NEW LIGHT BULB ENERGY EFFICIENCY STANDARDS WILL SAVE CONSUMERS BILLIONS, REDUCE HARMFUL POLLUTION, AND CREATE JOBS



New energy efficiency standards for light bulbs were part of the Energy Independence and Security Act (EISA) of 2007, which passed Congress on a bipartisan vote with support from the lighting industry. The EISA was signed into law by President George W. Bush, representing the first significant makeover of light bulbs since the days of Thomas Edison. The first tier of standards, phased in between 2012 and 2014, required bulbs to use 25 to 30 percent less energy than old-style incandescent bulbs. A second tier will become effective in 2020, requiring everyday light bulbs—which are called general service lamps (GSLs) in the law—to use about 65 percent less energy than the original incandescent bulbs while delivering the same amount of light.

Once the second tier is fully in effect, the transition to more efficient bulbs will:

- Cut the nation's electricity costs by about \$12.5 billion annually, saving every household about \$100 a year. A state breakdown of savings is available on Page 2 of <http://www.nrdc.org/energy/files/betterbulbs.pdf>.
- Avoid the equivalent of 30 new power plants, preventing tens of millions of tons of carbon emissions annually.

WHAT WILL THE NEW STANDARDS DO?

The new standards would ensure that our light bulbs are even more energy efficient. As required by the 2007 law, general service light bulbs must achieve 45 lumens per watt (45 LPW) as of Jan. 1, 2020. (Lumens measure the amount of light a bulb produces and watts measure the power it consumes.) Newly manufactured incandescent bulbs sold in the United States as of that date can use only one-third as much power as the old incandescent; instead of 60 watts, the new bulbs will use 18 watts or less.

As a practical matter, incandescent bulbs will likely be phased out unless a manufacturer can redesign the bulb and bring a qualifying version to the market. Since LED bulbs look and perform the same as incandescents—but last longer and lower energy bills—they will almost certainly become the bulb of choice. More than 1,000 LED models already meet the new standards, but there are no such incandescent bulbs for sale or near commercialization.

WHY ARE THE STANDARDS NEEDED?

Energy efficiency standards have been established for a wide range of products in our homes and businesses, which will save consumers and business owners \$63 billion this year. Given the success of these standards, Congress decided in 2007 to require that light bulbs become more efficient through a phased-in process. There are 2 billion or so sockets nationally that still contain an inefficient incandescent or halogen light bulb, illustrating the need for the second tier of efficiency standards. Today's incandescent halogen bulbs, which use four times more power than LED bulbs, represent a large share of the market. But few actions can reduce carbon pollution as cheaply and easily as installing more efficient bulbs. The new standards will set a floor that removes the most inefficient products from the market, helping achieve greater cost savings and emissions reductions.

WHEN WILL THE UPDATED DEFINITIONS AND STANDARDS BE EFFECTIVE?

The new standards are due to go into effect in 2020. In January 2017, DOE published an updated definition for GSLs that details which bulbs will be covered by the regulations and which are exempted. The updated definition was the result of a multi-year process led by DOE that included numerous opportunities for input from manufacturers and other stakeholders. All everyday light bulbs are covered, but speciality bulbs like appliance bulbs for ovens and custom bulbs for projectors are exempted.

A provision in the law allows California to move up the effective date of the Tier 2 standards to January 1, 2018—two years before the rest of the nation. The European Union established similar regulations phasing out incandescent and halogen lamps in all 28 countries as of July 1, 2018, 18 months ahead of the United States.

DO LED BULBS COST A LOT MORE?

LED bulbs that replace the old 60-watt incandescent bulb cost as little as \$2.50 per bulb when purchased in a multi-pack and prices are expected to decrease further as their production increases. While today's incandescent halogen bulbs cost about \$1.50 when purchased in a multi-pack, they burn out every year. LED bulbs cost a little more upfront but create big savings after purchase by using four times less energy to deliver the same amount of light and last 10 to 25 times longer. LED bulbs can save consumers \$50 to \$150 in electricity costs before burning out.

HOW LONG DOES EACH TYPE OF LIGHT BULB LAST?

Most incandescent bulbs—both the old-fashioned and the improved versions—last 750 to 1,000 hours; CFL bulbs, 10,000 hours; and LED bulbs last 10,000 to 25,000 hours. Under typical use of three hours per day, incandescent bulbs last 1 year and LED bulbs stay lit 10 to 25 years.



ARE THE NEW BULBS DIMMABLE?

Most LED bulbs on the market are dimmable, unless stated otherwise on the package.

WILL I BE ABLE TO BUY AN LED FOR EVERY FIXTURE IN MY HOUSE?

Yes, LED bulbs come in every shape and brightness level. These include the everyday pear-shaped bulb similar to old incandescent bulbs, flame-shaped bulbs for chandeliers, reflector lamps for recessed can down lights and track lighting, bulbs for ceiling fans, and three-way lamps.

HOW IS THE LIGHTING QUALITY OF LED BULBS?

Consumers are extremely happy with LED lighting because they are a perfect drop-in replacement for incandescent bulbs as they provide equivalent light, are dimmable, reach full brightness instantly, and last up to 25 times longer. All new light bulb packages list the light output, operating cost, and the type of light produced (indicating whether it is similar to the yellowish white light of an incandescent or a cooler, more bluish white light, which some consumers prefer).

CAN CONSUMERS BUY BULBS THAT MEET THE NEW STANDARDS NOW?

There are more than 1,000 LED models on the market that already meet the Tier 2 standards. They are made by well-known companies like General Electric, Philips, and Sylvania, as well as new companies such as Cree, TCP, and Sora Lighting. The bulbs are widely available at big box retailers, local hardware stores, and on the Internet.

WHICH LIGHT BULBS CONTAIN MERCURY?

There is no mercury in LED bulbs. CFL bulbs contain extremely low levels of mercury—less than 3 milligrams per bulb—and should be properly recycled.

WHY DO THE LIGHT BULB STANDARDS NEED TO BE ENFORCED?

Some members of Congress are leading an all-out assault on regulation, introducing broad regulatory reform bills that put at risk the tremendous financial gains to consumers, jobs supported through energy efficiency, and U.S. competitiveness.

These threats can take many forms, from measures attached to spending bills that limit the DOE's ability to enforce standards, to authorizing legislation to end energy efficiency standards outright. The perennial spending bill rider sponsored by Representative Michael Burgess (R-Texas) currently restricts the DOE's ability to enforce these lighting energy efficiency standards. However, it has not had an impact on technological progress. The standards have spurred innovation throughout the lighting industry, which invested tens of millions of dollars in research and development and adjusting supply chains to meet the 2012 standards and is gearing up for the 2020 requirements.

Anti-regulatory legislative pursuits can have serious consequences. For example, DOE's inability to enforce the lighting standards leaves the door open for overseas manufacturers to produce inefficient, cheap light bulbs and sell them in the United States, harming American manufacturers and putting U.S. jobs at risk. In addition, many of the benefits of the standards—lower consumer electric bills and avoided power plant pollution—would be reduced. To prevent this, Congress should not renew the rider and should protect the law delivering these dollar savings to consumers.

HOW WILL THE SECOND TIER OF STANDARDS AFFECT U.S. JOBS?

Thousands of U.S. jobs have been created to design, test, and produce the next generation of energy-saving light bulbs. These include Cree's facilities in North Carolina that design and manufacture LED components and bulbs, and Lumileds' plant in California that makes the LEDs that go into light bulbs and car headlights. And even more LED-related jobs are on the way, including a new factory in upstate NY by Sora, which produces the high-end LED directional lamps favored by retailers. The number of domestic LED jobs dwarfs the few hundred jobs remaining in the United States to produce incandescent and halogen bulbs. (Most incandescent halogen bulbs still sold in America are made in factories in Mexico, China, and Hungary.) There's no reason the improved standards can't lead to even more U.S. jobs.