

FACT SHEET



NEW LIGHT BULB ENERGY EFFICIENCY STANDARDS WOULD SAVE BILLIONS & CUT POLLUTION, BUT ADMINISTRATION WANTS PARTIAL ROLLBACK

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.

However, the Department of Energy is proposing to now exclude certain types of bulbs from its definition of GSLs, which will increase consumer utility bills by \$12 billion—\$100 per U.S. household—and require 25 power plants' worth of extra electricity every year.

WHAT WILL THE TIER-2 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 a minimum efficiency of 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 and halogen 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 more than a billion 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.

DOE'S PROPOSED ROLLBACK WILL GUT THE SAVINGS AND IS UNLAWFUL

In the 2007 federal energy bill, Congress ordered DOE to review its list of exempted bulbs and revise it as needed. After extensive stakeholder feedback and a thorough analysis, DOE in 2017 published an updated definition of which bulbs would be covered by the 2020 efficiency standards. Several common household bulbs no longer were exempted because energy-efficient, cost-effective replacements were readily available: 3-way, reflector (used in recessed cans, floodlights, and track lighting), round globe, and flame-shaped "candelabra" bulbs.

However, DOE in February 2019 issued a proposal to completely roll back the updated definition. The proposed

changes are neither technically justified nor lawful. The DOE cannot simply undo previously passed rules and standards it does not like. Its unlawful proposal would cut the energy and financial savings from the 2020 light bulb standard almost in half.

Incandescent and halogen light bulbs are being phased out all around the world. In July 2018, the phaseout of incandescent and halogen lamps went into effect in the 28 European Union countries and included the bulbs that DOE is trying to exempt in the United States. In addition, numerous developing countries are in the process of setting similar regulations.

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. The bulbs affected by the rollback, such as the 3-ways and reflector bulbs, have similar economics, where the extra up-front cost of the LED is made up within the first six months of use and the consumer sees significant savings over the bulb's longer lifetime.



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 one year and LED bulbs stay lit 10 to 25 years. While CFLs can still be sold after 2020, consumers are more likely to purchase LEDs instead.

ARE THE NEW BULBS DIMMABLE?

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

HOW IS THE LIGHTING QUALITY OF LED BULBS?

Consumers are extremely happy with LED bulbs because they are a perfect drop-in replacement for incandescent bulbs. 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 that 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, Feit, 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?

Updated efficiency standards need to be enforced to:

- Make sure the outdated, inefficient bulbs are no longer being sold. This will ensure consumers receive the savings they deserve and we avoid all the extra pollution caused by their use.
- Create a level playing field for those manufacturers and retailers who have invested and geared up for the new standards.

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.

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 designs new LED components and bulbs, and Lumileds' plant in California that makes the LEDs that go into light bulbs and car headlights. In fact, Sylvania recently converted portions of its St. Mary's, PA, incandescent plant to produce LED light bulbs. Also Sora—the company founded by a UC Santa Barbara professor and Nobel Prize winner that produces high-end LED bulbs commonly used in retail stores and museums—has its headquarters and factory in Silicon Valley. 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.