The Facts about Light Bulbs and Mercury

The 2007 Energy Independence and Security Act (EISA) signed by President Bush set energy-efficiency standards for new light bulbs. The first phase of the law goes into effect in January 2012. As there are over four billion sockets in the U.S., the economic and environmental benefits from the standards are massive. Once all screw-based sockets contain the new energy-saving light bulbs, our nation will save more than $10 billion each year in the form of lower electric bills.

Unfortunately, there is a lot of misinformation and many misconceptions about the "light bulb law." We address these concerns here and provide additional information regarding mercury and light bulbs.

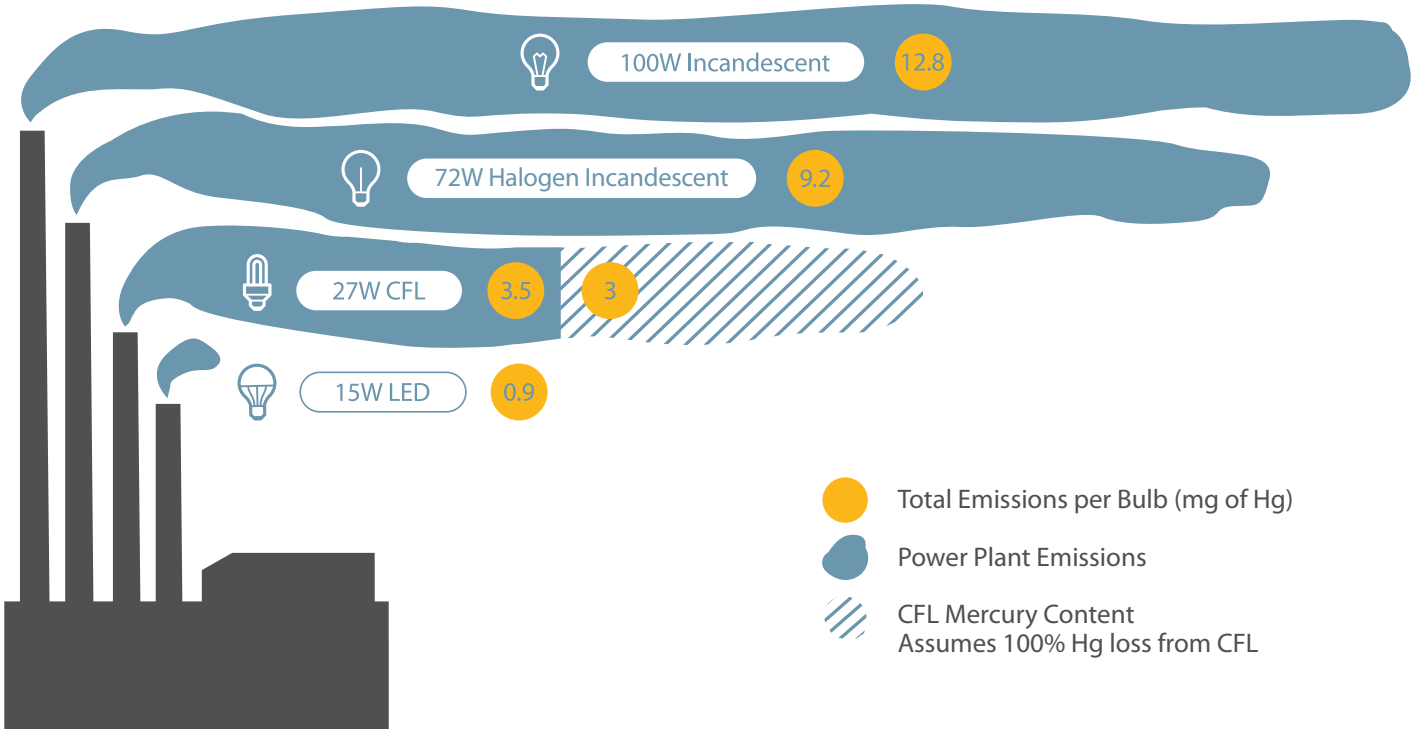
THE STANDARDS DO NOT BAN INCANDESCENT LIGHT BULBS NOR REQUIRE CONSUMERS TO BUY CFLS.

The efficiency standards require new light bulbs beginning in 2012 to use at least 28% less power than the conventional incandescent light bulb. The law is technology-neutral, so any type of bulb can continue to be sold as long as it meets the efficiency standard. As such, consumers will have a range of better bulb choices including improved halogen incandescents, CFLs (compact fluorescent lights) and LEDs (light emitting diodes). These new bulbs will produce similar light as today's incandescents but use less power. All the major lighting manufacturers already produce compliant, more efficient bulbs and are starting to sell them at major retailers.

CFLS RESULT IN LOWER OVERALL MERCURY EMISSIONS THAN CONVENTIONAL INCANDESCENTS.

CFLs use 75% less energy than conventional incandescent light bulbs, therefore reducing the mercury (Hg) emissions associated with generating the energy to power the bulbs. However, in order to operate, CFLs contain extremely low levels of mercury, typically 3 milligrams (mg) per bulb. NRDC has analyzed the overall impacts of various lighting products and found that while incandescent bulbs do not contain mercury within the bulb, they result in the highest level of mercury emissions to the environment. Figure 1 below shows that the use of a 100W incandescent light bulb results in two times more overall mercury emissions than an equivalent CFL over its lifetime.[1]

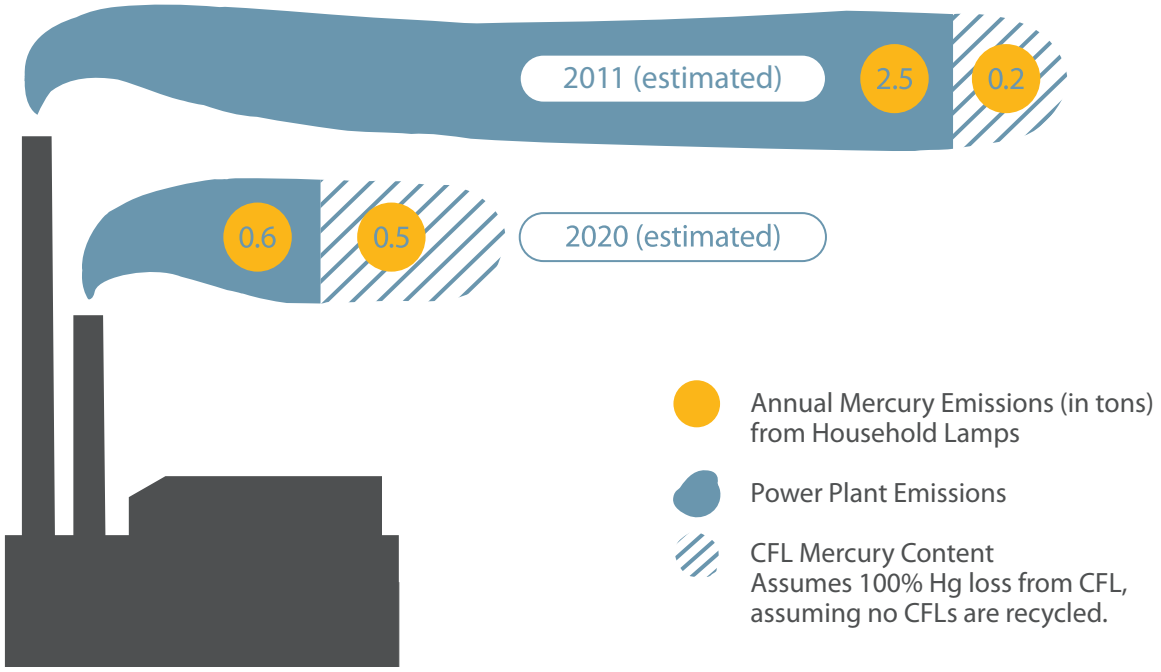
OVERALL MERCURY (Hg) IMPACTS OF 100W EQUIVALENT LIGHT BULBS OVER THE LIFETIME OF A CFL



NATIONAL MERCURY EMISSIONS WILL DECREASE AS A RESULT OF THE LIGHTING STANDARDS.

Mercury emissions to the air cause the most serious pollution concerns, and the biggest source of airborne mercury in the U.S. is coal-burning power plants. Given the dramatic energy savings of new lighting technologies, the standards will result in dramatic overall reductions in mercury emissions. Modeling performed by NRDC shows that national mercury emissions caused by common household lighting would be reduced by 60% once the standard is in full effect, with national mercury levels going down from 2.7 tons per year to 1.1 tons per year.[2]

ENERGY SAVINGS FROM THE FULL IMPLEMENTATION OF EISA (2020) WILL CUT U.S. MERCURY EMISSIONS FROM HOME LIGHTING BY MORE THAN HALF



CFLS ARE SAFE TO USE.

CFLs contain very low levels of mercury and the mercury remains inside the bulb during use. By comparison, an older mercury thermometer contained 100 to 200 times more mercury than today's CFL. If a bulb breaks, common sense cleanup procedures should be used: Keep kids away, open a window and carefully clean up the pieces and place them in a ziplock bag for proper disposal.

To help put the risk of mercury exposure from broken CFLs into perspective, the amount found in a CFL is only a tiny fraction of what is found in numerous household products, including thermostats, watch batteries—and even dental fillings. Recent studies have reinforced that exposure from broken CFLs is not a significant health risk.[3]

If you are still concerned about the low levels of mercury in CFLs, fear not; you can choose a different type of light bulb meeting new efficiency standards, such as an improved halogen incandescent or an LED.

RECYCLING IS SIMPLE.

Major retailers such as The Home Depot and Lowe's recycle CFLs for free. If your local retailer doesn't provide free recycling yet, tell them you want it!

ADDITIONAL RESOURCES.

For more information, contact:

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1. Mercury emissions from individual 100W equivalent light bulbs were calculated using the total energy consumed during 8000 hours of operation, the percentage of coal-fired power plants currently used to produce electricity (U.S. Energy Information Administration, Annual Energy Review 2009), and energy-generation mercury emissions data (U.S. EPA National Emissions Inventory, 2005).

2. 2020 Mercury emissions estimate assumes a 50:50 ratio of CFLs and LEDs replacing all of today's common household lamps, and does not take into account proposed or future power sector mercury emission regulations.

3. Robert Clear, Francis Rubinstein, and Jack Howells, "One Big Fish Story", LD+A (2009), 53-56; SCHER (Scientific Committee on Health and Environmental Risks), Opinion on Mercury in Certain Energy-saving Light Bulbs, 18 May 2010.

More information on CFLs and Mercury is available at **nrdc.org/energy/files/cfl.pdf**

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