



Lights out for the incandescent light bulb

The Energy Independence and Security Act of 2007 imposes new restrictions on energy use and greenhouse gas emissions. One provision in the law provides for transitioning to lower-wattage, energy-saving bulbs.

Lighting accounts for about 17 percent of all the electrical use in homes and as much as 29 percent in office buildings.

How does the Energy *Independence and Security Act of 2007* affect the average consumer?

- The Act WILL NOT require customers to throw out incandescent light bulbs. The new standards apply to lighting manufacturer and wholesalers which will not be allowed to sell bulbs that do not meet the minimum efficiency standards. This will result in fewer incandescent bulbs available for purchase as the applicable dates approach.
- The Act requires that all light bulbs sold must maintain the same or greater light output and quality as an incandescent light bulb.

Effective Date	Lumens-Light Output	Minimum Lamp Life	Current Incandescent Watts	Maximum Allowed Watts	Essentially Phases Out
Jan. 1, 2012	1490-2600	1000 hrs	~90-150	72	100 Watt
Jan. 1, 2013	1050-1489	1000 hrs	~75-90	53	75 Watt
Jan. 1, 2014	750-1049	1000 hrs	~60-75	43	60 Watt
Jan. 1, 2014	310-749	1000 hrs	~30-60	29	40 Watt

T12 Fluorescent fixtures commonly used in commercial buildings are also affected by The Act.

- In July 2010 magnetic ballasts manufacturing ended.
- T12 lamps will no longer be produced as of July 2012.

What choices are there in lighting?

CFL (about 75% energy savings) Compact fluorescent light bulbs are expected to be the leading replacements for standard incandescent light bulbs, at least at first. In CFLs, electric current energizes argon and mer-



cury vapor, which in turn causes a phosphor coating inside the bulb to emit light.

Halogen (about 25% energy savings) New halogen bulbs look like the incandescent bulbs people are used to buying. Halogens are a more energy efficient form of incandescent, but they are the least efficient of the incandescent replacement technologies. The filament is encased in a bulb made of fused quartz or high silica glass containing a halogen gas.

LED (about 75% - 80% energy savings) LEDs are the gizmos that have been around for years lighting up digital clocks and calculators. They use semiconductors that emit light when electrons move around. Recent innovation has allowed engineers to make them bright enough for light bulbs.

Look for the EnergyStar label when purchasing light bulbs. EnergyStar qualified CFL's, LED's and Halogen technologies can produce the same amount of lumens (light) as traditional incandescent bulbs while using less energy.

What about the amount mercury in CFL's?

CFLs contain a very small amount of mercury (4 milligrams on average), which is sealed within the glass tubing. By comparison, an older thermometer contains about 500 milligrams of mercury, an amount equal to 125 CFLs. Mercury is essential to CFLs, because it allows the bulb to be an efficient light source. Mercury is also in the common straight fluorescent tubes used in many kitchens, garages, and offices. *Popular Mechanics* crunched the numbers and discovered that traditional incandescent bulbs actually introduce more mercury into the environment over their product life cycle because incandescent use more energy.

Sources: National Electric Manufacturers Association, The Washington Post - September 7, 2010
EPA CFL Fact Sheet
www.energysavers.gov website

