



Efficiency Standards Question and Answers Fluorescent Tube and Incandescent Reflector Lamps

What is an efficiency standard and who sets it?

The U.S. Department of Energy (DOE) is charged with setting efficiency standards for a number of residential and commercial products. These minimum performance standards apply to new equipment manufactured for sale in the United States. Usually, once a final rule is set, the manufacturers have about 3 years to conform to the new standard.

What will be covered under the new 'lamp' standard?

Lamp is the commonly accepted term to describe different types of light bulbs. The current rulemaking will update existing standards for the following:



Fluorescent tube lamps

Fluorescent tube lamps work when the electric current produces ultraviolet radiation and converts it into visible light by a layer of a fluorescent substance. Lamps covered under this ruling are either straight (4- and 8-foot long single and bipin tubes) or U-shaped. A fluorescent lamp is considerably more energy efficient than an incandescent because it doesn't use heat to create light.



Incandescent reflector lamps

Incandescent reflector lamps are the very common cone-shaped light bulbs most typically used in "recessed can" light fixtures that mount flush with a ceiling such that the socket and bulb are recessed into the ceiling. The cone is lined with a reflective coating to direct the light. Incandescent lamps create light by heating a filament inside the bulb. Eighty to ninety percent of the energy in an incandescent light bulb is dissipated as heat.

What are the potential savings?

Strong new efficiency standards for fluorescent tube lamps and incandescent reflector lights have the potential to save more energy than any other appliance standard ever established by the Department of Energy.

- According to DOE, annual electricity savings in the year 2020 would be 58 billion kWh, an amount about equal to the annual consumption of about 5 million typical American households.
- Using current electricity prices, these savings are worth about \$800 million per year.
- Over thirty years, the standard would cut CO₂ emissions by nearly a billion metric tons. If you parked 183 million cars for a year, you'd get the same savings. (NRDC estimate)
- Net present value benefits for consumers and businesses, according to DOE, would be about \$66 billion.

What are the key issues?

For tube fluorescents, the key issue is which standard level DOE will select of the 5 they have delineated. Each progressively higher standard would eliminate additional types of inefficient lamps, starting with “T12s” (1 1/2-inch diameter tubes) and moving on to some of the less efficient “T8s.” (1-inch diameter tubes) The highest level evaluated (Candidate Standard Level 5) would require the best T8s. One challenging aspect of this standard is the need, at some CSLs, to replace ballasts at the time of lamp failure. However, DOE’s analysis takes ballast impacts into account and CSL 5, which induces the most early ballast replacements, still delivers the largest, cost-effective energy savings. Today’s higher efficiency ballasts contribute to overall energy cost savings. ASAP supports CSL 5. It will also be important that DOE establish a scope of coverage that protects against loopholes

For incandescent reflector lamps, DOE has outlined three CSL’s. The highest level (CSL 3) is based on advanced halogen IR technology and gains the most efficiency. Levels 1 and 2 are more efficient than the current conventional halogen standard but don’t take advantage of the latest advances in technology. ASAP supports CSL 3.

An additional issue for reflector lamps is the scope of the decision. Will the DOE include the 65wBR lamp and certain lamps under 50 watts which were exempted from federal legislation in 2007? To avoid loopholes, the new standard should apply equally to all incandescent reflector lamps.

Haven’t incandescent lights already been phased out?

Congress enacted a law in 2007 which will phase out most of today’s conventional incandescent light bulbs starting in 2012, leaving consumers a choice of efficient incandescent light bulbs (known also as halogen IR lamps - a 70 watt halogen IR lamp provides about the same light as a 100 watt conventional incandescent bulb), CFLs and, in the future, LED light bulbs. However, incandescent reflector lamps are not covered by this phase out. ASAP believes DOE should set incandescent reflector lamp standards which are similar to those Congress established for other incandescent light bulbs.

When will DOE complete the new standard?

DOE is scheduled to publish a proposed new standard in December 2008. DOE will hold a hearing in Washington, DC and accept written comments after the proposal is issued. Based on the proposal and public input, DOE will publish the final standard in June 2009.