

Appliance Efficiency Standards in the 2007 Energy Bill: Key Facts December 2007

Background: National appliance and equipment efficiency standards are a proven energy-saving policy. The first standards were established in 1987 (signed by President Reagan) and subsequent standards enacted by Congress in 1988, 1992 and 2005. The Department of Energy (DOE) has updated many of the initial standards set by Congress. Typically, states enact standards on a product, then manufacturers and efficiency supporters' work together to negotiate consensus standards that are recommended to Congress. In general, federal standards preempt new state standards. ACEEE estimates that standards enacted prior to 2007 will save about 5 quadrillion Btu's of energy in 2020, which is 4% of projected nationwide energy use in that year. Annual electricity savings will reach about 400 billion kilowatt hours by 2020 and peak load reductions will be about 144,000 MW, equivalent to 480 power plants of 300 MW each. Annual carbon dioxide emissions will be cut by 315 million metric tons.

- **New Standards in the 2007 Energy Bill:** The energy bill contains new standards for 10 products –
 - general service lamps (light bulbs) – see below for more details.
 - reflector lamps (light bulbs) – extends 1992 reflector standards to more lamp types.
 - residential boilers – updates existing federal standard
 - clothes washers – updates existing federal standard; sets water efficiency standards
 - dishwashers – updates existing federal standard; sets water efficiency standards
 - dehumidifiers – updates existing federal standard
 - electric motors – updates existing federal standard and extends coverage to more motors
 - metal halide lamp fixtures (commonly used in high-ceiling commercial and industrial applications) – new federal standard based on those of California, New York, and other states
 - walk-in coolers (refrigerators) and freezers – new federal standard based on California, Maryland and Rhode Island standards
 - external power supplies (the small black boxes attached to the power cords of many electronic products) – new federal standard based on standards adopted in various states
- **Lamp Efficiency Standards:** The biggest energy-saver among the standards in the bill are those for common light bulbs (known as “lamps” in the lighting trade), requiring them to use about 25-30% less energy than today’s most common incandescent bulbs by 2012-2014 (phasing in over several years) and at least 60% less energy by 2020. The initial targets can be met by advanced incandescent lamps which the major manufacturers are introducing to the market, compact fluorescent lamps (CFLs) and light-emitting diodes (LEDs). CFLs and LEDs will also meet the longer-term targets and, based on industry statements, so will at least one incandescent technology.
- **DOE Rulemakings:** The bill requires DOE to complete rulemakings to determine revised standards for refrigerators by 2011; clothes washers by 2012; external power supplies and battery chargers by July 2011 and again by July 2015; dishwashers by 2015; walk-in coolers and freezers by 2012; metal halide lamp fixtures; and general service lamps by 2017 and 2022. DOE must issue a furnace electricity use standard by 2014. In addition, the bill requires that future standards for covered products incorporate energy use in standby mode and off mode.
- **Regional Standards for Heating and Cooling Equipment:** This provision, based on an agreement with ACEEE, in consultation with other energy efficiency supporters, and the Air

Conditioning and Refrigeration Institute (ARI), will allow for regional standards for the major climate-sensitive products. Salient features include –

- authority for the Secretary to set a national minimum standard and one additional Federal regional standard for residential furnaces;
- authority for the Secretary to set a national minimum standard and one or two additional Federal regional standards for residential central air conditioners and heat pumps;
- development, by rule, of enforcement plans for any Federal regional standard, and;
- new authority for states to enforce an applicable Federal regional standard.

The section authorizes regional standards only if significant additional energy savings will be achieved and only if the law's existing criteria for economic justification and technical feasibility are fully met.

- **Regular DOE reviews of all standards and test methods.** The bill requires DOE to determine whether a standard should be revised every six years, and, if a positive determination is made, allows another two years to issue a revised standard. The bill calls for DOE to review test procedures for both residential and commercial equipment at least every seven years.
- **Authority for expedited DOE rules in response to consensus recommendations.** This provision allows DOE to adopt revised standards based on consensus recommendations more quickly, putting consensus standards in place sooner and freeing up resources for other rulemakings.
- **Firm schedule to complete DOE reviews of new ASHRAE equipment standards.** Under the Energy Policy Act of 1992, the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is given the lead to develop new standards for commercial heating, cooling and water heating. DOE reviews new ASHRAE standards and decides whether to make them national standards or whether stronger standards are justified. DOE has sometimes taken a long time to make these decisions. The energy bill gives DOE 18 months to decide whether to accept a revised ASHRAE standard, and an additional 12 months to set a stronger standard if justified.
- **New standards for small commercial air conditioners.** The bill establishes the most recent ASHRAE standards for small commercial air conditioners under 65 kbtuh capacity and for a specialized commercial AC type called single package vertical units (SPVUs).
- **Develop new labeling requirements for electronic products.** The bill requires the Federal Trade Commission (FTC) to develop new energy consumption labeling programs for televisions, personal computers, cable and satellite set-top boxes, stand-alone digital video recorder boxes, and personal computer monitors.
- **Elimination of requirement for an Advanced Notice of Proposed Rulemaking.** Without a formal ANOPR, the process to revise standards can move a little more quickly. Under DOE regulations, a workshop to review initial analyses will still take place, but it will be less formal and not require a formal Federal Register notice and the legal review that accompanies such notices.

Energy Savings: ACEEE estimates that the standards provisions will save at least 2.0 quadrillion Btu's in 2030, which is 1.6% of total projected nationwide energy use that year. The bill will save 177 billion kilowatt hours per year in 2030 and reduce peak electric demand by 33,000 megawatts (MW), equivalent to 110 power plants of 300 MW each. Annual carbon dioxide emissions will be cut by 135 million metric tons¹.

¹ Savings estimates are conservative since they do not include additional rulemakings required by the regular reviews provision.