ASAP | APPLIANCE STANDARDS AWARENESS PROJECT

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Through 2035, existing standards will net consumers and businesses more than $1.1 trillion in savings

Q&A APPLIANCE STANDARDS QUESTIONS AND ANSWERS

The Efficiency Boom: Cashing In on the Savings from Appliance Standards | **March 2012**

What is The Efficiency Boom?

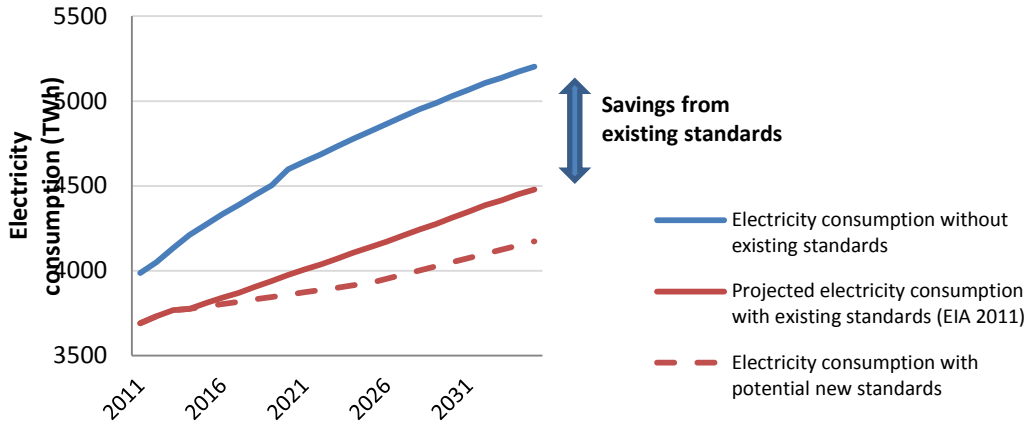
"The Efficiency Boom: Cashing In on the Savings from Appliance Standards" is a newly released ACEEE/ASAP report which analyzes savings and benefits from national appliance standards. Appliance and equipment standards assure a minimum level of energy efficiency performance for most major energy-using household and many business products manufactured for sale in the U.S. The report focuses on two areas:

- Savings from existing standards adopted between 1987 and the present; and
- Potential new or updated standards for 34 residential, commercial and lighting products that could be adopted in the next four years.

What are the key findings?

Savings from appliance standards are VERY LARGE. Taking into account products sold from the inception of each national standard through 2035, existing standards will net consumers and businesses more than **$1.1 trillion in savings** cumulatively. By 2035, cumulative energy savings will reach more than **200 quads**, an amount equal to about two years of total U.S. energy consumption.

Standards have had a particularly large effect on electricity use. The top line in the following figure shows how much higher U.S. electricity consumption would be if existing product efficiency standards had never taken effect.



What are the consumer benefits?

For individual consumers, benefits have been very large and will grow as new and revised standards take effect. Based on a combination of existing and new standards, a typical household replacing their major appliances every 15 years will save over 180 MWh of electricity and over 200,000 gallons of water between 1995 and 2040 simply by purchasing products which comply with minimum standards. Total bill savings over this 45-year period exceeds $30,000, or about enough to cover nearly two years of mortgage payments for an average U.S. household. Between 2010 and 2025 alone, a typical household will save nearly $10,000.

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In 2035, potential standards could save enough water to meet the needs of New York City

How large are the energy and water savings for existing and new standards?

This report evaluates existing standards since the inception of each national standard to 2035 and potential new or updated standards for 34 product categories that could be adopted within the next four years. The table below summarizes impacts from existing and potential new standards.

Savings amounts and comparisons from existing and new standards

	Existing Standards	New and Updated Standards
Cumulative net economic savings	$1.1 trillion	$165 billion
Cumulative savings through 2035	200 quads *Equal to about two years of annual U.S. energy use*	42 quads *Equal to about 40% of annual U.S. energy use*
Electricity savings in 2035	720 TWh *14% of what the total U.S .electricity consumption projected for 2035would have been without standards*	310 TWh *7% of projected electricity consumption for that year*
Natural gas savings in 2035	950 trillion Btu *Enough to heat 32% of all natural gas-heated U.S. homes*	235 trillion Btu *Enough to heat 8% of all natural gas-heated U.S. homes*
Peak electric demand savings In 2035	240 GW *18% of what the total U.S. generating capacity projected for 2035 would have been without standards*	67 GW *6% of total U.S. generating capacity projected for 2035*
Emissions reductions in 2035	470 million metric tons of CO_2 *Equal to the annual emissions of about 118 coal-fired power plants*	200 million metric tons of CO_2 *Equal to the annual emissions of about 49 coal-fired power plants*
Water savings in 2035	Not calculated	430 billion gallons *Roughly enough to meet the needs of New York City*

Which new and updated product standards will provide the greatest savings?

The potential savings from new standards are well-distributed between the residential, commercial and industrial sectors. The top ten products in terms of cumulative energy-saving potential are:

Top ten products by cumulative energy saving potential:

Product	Cumulative quads* (through 2035)
Residential electric water heaters	**4.1**
Incandescent reflector lamps	**3.9**
Residential air handlers	**2.9**
Walk-in coolers and freezers	**2.4**
Distribution transformers	**2.3**
Outdoor light fixtures	**2.3**
Set-top boxes	**2.3**
Electric motors	**1.9**
Computers and monitors	**1.7**
Commercial and industrial pumps	**1.7**

*A quad is 1 quadrillion Btu. The annual U.S. energy consumption is 98 quads