

Existing Policy

FEDERAL APPLIANCE AND PRODUCT STANDARDS

Policy summary: The federal government sets energy efficiency standards for appliances, electronics, and other products. Under President Obama, DOE has planned an accelerated schedule for setting new standards between 2009 and 2013. Nationwide these are expected to yield major savings in electricity (11.5 percent of total consumption in 2020), fuel, costs to homeowners and businesses, and carbon dioxide emissions, with Massachusetts getting its proportional share.³³

Savings (above current trends)³⁴

Economy-wide GHG emissions reduced 2020	0.5 million metric tons; 0.6%
Electricity saved — Gigawatt hours (GWh) 2020	1,040 ³⁵
Natural gas, fuel oil saved — MMBtu	2.9 million
\$ value energy savings in 2020	\$330 million
Cumulative net benefits 2011-2020 (discounted)	\$2.7 billion
Jobs gained 2020 (direct and indirect)	1,200 jobs

Clean energy economy impacts: Reduction of \$330 million in costs in 2020 will improve cost of living for residents and reduce operating costs for businesses, also helping to keep jobs in the state.

Rationale: As with most efficiency measures, appliance and product efficiency faces market barriers that result in consumers making short-term purchasing decisions that don't reflect the optimal financial decisions long-term. To some degree this occurs because products, particularly appliances, are often bought on an emergency basis when the old item has failed. By mandating that products be built to specifications that will minimize their lifecycle costs, including both capital and energy costs, DOE can drive large savings.

Policy design and issues: The federal government sets nationwide standards, in some cases, due because climate conditions standards vary by region (such as with windows), but in other cases DOE has not made this distinction, as with heating system efficiencies. For this reason, Massachusetts applied for a federal waiver to set a standard for gas furnaces higher than the 80 percent federal standard, due to our colder climate. DOE denied Massachusetts' waiver request; although it has said that it is looking to develop a higher standard for the entire northern tier of the country.

³³ "Ka-BOOM! The Power of Appliance Standards. Opportunities for New Federal Appliance and Equipment Standards," American Council for an Energy-Efficient Economy and Appliance Standards Awareness Project, July 2009.

³⁴ Because federal standards have existed in the past and exist today, the state's consultants estimate that half the savings from forthcoming standards are already embedded in the "business as usual" trend lines; so only half the savings expected from the planned federal standards are included here. Also, the savings given here for 2020 include a portion of savings over the lifetime of products purchased by 2020, some of which occur after 2020.

³⁵ "State-Level Benefits from Potential Federal Appliance Standards," Appliance Standards Awareness Project, 2009.

GHG impact: ACEEE and the Appliance Standards Awareness Project (ASAP) forecast that the forthcoming standards will reduce GHG emissions by 1.0 million tons in 2020. The Commonwealth's consultants estimate that half of these reductions are already counted in the business-as-usual (BAU) trend for electricity emissions in 2020, and so 0.5 million tons are counted as a reduction versus the BAU.

Other benefits: The standards yield large savings in electricity and costs. In parallel with the GHG reductions, half of the savings are counted in the existing trends, so the incremental gains are estimated at 1,040 gigawatt hours of electricity and \$200 million in 2020.

Costs: Incremental costs of production vary for each product, and are required to be less than the lifetime energy savings in each case in order for DOE to set a standard. Sample costs are \$52 for a refrigerator, \$50 for a clothes dryer, and \$2 for microwave ovens. There have been reports of more frequent or more expensive repairs needed for some items, such as the computer boards for variable speed motors in refrigerators.

Equity issues: Not significant, due to low incremental cost of attaining higher efficiency standards.

Experience in other states: This is a nationwide program.

Legal authority: The federal government has preempted authority over efficiency standards for products; states can apply for waivers.

Implementation issues: None known.

Uncertainty: Energy savings per product are dependable due to mass production and quality standards. Durability of products can be an issue, and higher frequency of replacements would reduce energy savings due to the embodied energy in manufacturing of products.