ASAP FACT SHEET: Clothes Washers

Consensus standards

The Department of Energy (DOE) recently published updated national efficiency standards for clothes washers. DOE based the new standards on a consensus recommendation negotiated between manufacturers and consumer, environmental and energy efficiency groups. Top loading (also known as “vertical-axis”) washers meeting the new standards will use about 35% less energy and water relative to top loaders just meeting the current standards. Front loading (also known as “horizontal-axis”) washers, which tend to be more efficient than top loaders, will use about 18% less energy and 40% less water than today’s basic front loaders. The standards, which apply to newly manufactured washers manufactured or imported for domestic sale, take effect in two stages for top loaders with an initial step in 2015 and the full savings level in 2018. For front loaders, the standards take effect in 2015.

The new standards will save consumers money

A top-loading washer that meets the new standards will save consumers about $40 per year relative to a product meeting today’s standards (about $600 over the typical life of a washer). DOE estimates that the price increase to make clothes washers more efficient will pay back in lower utility bills within less than two years.

However, washers meeting the new standards are already very common and can be purchased today for prices lower than the DOE estimates. For example, Sears.com advertised basic “ENERGY STAR” qualified products (the same as the 2018 standard levels) for only $20 more than basic products which do not meet the Energy Star levels. The new standards are an even better deal for consumers than DOE predicts.

For clothes washers, best performers are high efficiency models

Clothes washers meeting the negotiated standards are among the best at washing clothes. Consumer Reports magazine develops overall ratings for washers based on many factors, including washing performance, gentleness on clothing, efficiency, capacity, noise, and vibration. For both front and top loaders, all of the top-rated products in the 2012 Consumer Reports Buyer’s Guide already meet the new standards. These products earned ‘excellent’ or ‘very good’ marks for washing performance. (Note: Consumer Reports has made its washing performance tests harder over the years to keep up with improving technology and to better differentiate products. Current ratings cannot be compared to ratings from many years ago since the test has changed.)

The negotiated standards preserve consumer choice

From the no frills, reasonably-priced top loader to the bells and whistles of the most advanced front loader, consumers will have an array of choices and features in both styles of washers. Current top and front loader models which meet the negotiated 2018 standards levels come in a wide variety of capacities and include features such as stainless steel tubs, automatic temperature controls, multiple spin speeds, extra rinse cycles, and steam cleaning. Many of these features were either nonexistent or not widely available at the time of the last DOE rulemaking, completed in 2001. Manufacturers have continued to improve efficiency while at the same time adding features and choices for consumers, a recurring theme with the advent of new efficiency standards for many products.
DOE has overestimated the price impacts of standards before

DOE last revised the clothes washer standards in 2001, with an initial step up in the standard taking effect in 2004 and a second step taking effect in 2007. The price impact of that standard turned out to be much lower than DOE predicted. DOE estimated that the price of a clothes washer meeting the standard taking effect in 2007 would be $670 (in 1997$). In 2011 dollars, this translates to $939. Consumers can easily find washers today that perform well and meet the current standards for well under $500. Several efficient top-loading models rated ‘good’ or ‘very good’ in washing performance by Consumer Reports sell for $500 and under including products from GE ($400 and $430) and Maytag ($500). These prices are hundreds of dollars below DOE’s estimated cost.

As occurred with the 2001 rulemaking, DOE’s current estimates likely overstate the cost to consumers in 2018 since we would expect economies of scale and learning by manufacturers. These factors combined with the imperative to compete on price at the low end of the market would likely result in lower prices for products that exactly meet the standard in 2018 than DOE predicts.

Huge national savings

The washer standards will deliver huge benefits on a national level. According to a recent ASAP analysis, by 2025, the standards will save about 5 billion kilowatt hours of electricity annually, which is equivalent to the annual electricity consumption of about 460,000 U.S. homes. The standards will also reduce annual natural gas consumption by about 250 million therms (enough to heat a half million U.S. homes) and annual water consumption by about 160 billion gallons by 2025 (enough to meet the daily needs of about 2.8 million Americans). The standards will cut annual CO2 emissions by 4.5 million metric tons by 2025, an amount equal to that emitted by about a million passenger vehicles. DOE’s rule reports cumulative savings impacts: over 30 years, the standards will reduce carbon dioxide emissions by about 113 million metric tons. Taking into account increased upfront costs, DOE estimates total net dollar savings for U.S. consumers will be about $31 billion.

Nuts and bolts of the standards

Washer standards consist of two components: Modified Energy Factor (MEF) measures the amount of laundry that can be washed with a kilowatt hour of electricity. Higher MEFs are better. Water Factor (WF) measures how much water is needed to wash a cubic foot of laundry. Lower WFs are better.

For top loaders, the negotiated standards call for a minimum 1.72 MEF effective in 2015 which increases to 2.0 in 2018 and an 8.0 WF in 2015 which lowers to 6.0 in 2018. For front loaders, the standards require 2.2 MEF and 4.5 WF effective in 2015. The current ENERGY STAR criteria for all washers are identical to the 2018 top loader standards.

The standards in the DOE rule reflect recent changes to the DOE test method. DOE has translated the negotiated standards to equivalent values using the revised test method. A new energy efficiency metric called “integrated MEF” or “IMEF” incorporates standby energy use (energy used by washers for controls and displays when the washer is not operating) for the first time. A new water efficiency metric called “integrated WF” or “IWF” reflects water consumption of all wash/rinse cycles.