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APPLIANCE STANDARDS FACT SHEET

Gas Furnace Efficiency Standards Rebuttal

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Standards are expected to net consumers \$4 billion to \$19 billion nationwide, for purchases made over a 30-year period.



THIS DOCUMENT REBUTS CLAIMS MADE BY THE AMERICAN GAS ASSOCIATION (AGA) RELATED TO UPDATED FURNACE STANDARDS PROPOSED BY THE DEPARTMENT OF ENERGY (DOE).

Overview: DOE's proposed furnace efficiency standards would net consumers more than \$600 on average over the life of their furnace, compared to basic furnaces sold today. That means consumer savings of \$4 billion to \$19 billion nationwide for purchases made over a 30-year period.¹

AGA states that many consumers would switch from natural gas furnaces to electric heating if the proposed standards go into effect. DOE found this is not a major concern.

In response to AGA, DOE did an analysis that found 9% of consumers with gas furnaces might switch to electric heating equipment, mostly heat pumps and some electric resistance heat. Even with the 9% rate of estimated switching, the new standards would yield very large national energy savings.

AGA believes DOE has underestimated costs associated with new furnace standards. But the record shows that DOE often overestimates product prices.

The DOE estimates are based on examinations of actual furnaces that have been disassembled plus input from manufacturers over the course of two open rulemaking dockets. These are likely conservative, high-end estimates. Retrospective analyses¹ have showed that DOE tends to overestimate the impact of efficiency standards on retail prices of major appliances. An ACEEE/ASAP study which examined nine previous rulemakings,

found that DOE overestimated prices by a factor of 10 on average.ⁱⁱ

DOE estimates that furnace prices will increase by \$179, while AGA's estimate is nearly double that at \$350. Consumers will save even more if it does turn out that the DOE estimates were high, as previous trends indicate.

Industry innovation may play a role in the lower-than-projected prices for appliances that meet the standards. Manufacturers often find innovative ways to meet new standards and reduce costs when redesigning product lines.

AGA also overstates installation costs.

The proposed standards (92% efficiency) would essentially require condensing furnace technology. DOE's analysis shows it generally costs more to install this type of furnace but AGA overestimates installation costs by a large margin. DOE's analysis shows that the difference in average total installed costs for a 92% versus an 80% efficiency furnace is \$494 – money that is recouped in lower energy bills. The DOE estimate includes both the price of a new furnace *and* the installation cost. AGA claims an unrealistically high \$1,500-2,200 for *additional* installation costs alone.

¹ 7% and 3% discount rate respectively

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New venting technologies allowing a common vent for a condensing furnace and a gas water heater are bringing down the cost of installing condensing furnaces.



AGA points to venting issues. But stakeholders are working together to find solutions to these issues.

AGA has raised concerns that a small number of consumers may face unusually high installation costs when replacing an 80% furnace with a condensing furnace. Efficiency advocates are working with industry stakeholders to find ways that non-condensing furnaces could be sold under certain conditions. This approach might deliver even greater economic benefits overall, and provide a good option for the small number of households with particularly difficult installation issues.

Some of the most challenging installations are in older row houses in cities like Philadelphia and Baltimore but DOE says that these “high cost” row houses and condos represent only 0.4% of total installations.

Condensing furnace standards implemented in Canada in 2009 have been a huge energy-savings success story. Staff at Natural Resources Canada worked with the Heating, Refrigeration, and Air Conditioning Institute (HRAI) of Canada to highlight and plan for difficult venting issues prior to implementation.

AGA notes that chimneys must be reconfigured if replacing the furnace means it no longer shares chimney venting with the water heater. But DOE already accounted for such “orphaned water heaters” in its cost calculations.

DOE estimated that in 19% of all gas furnace installations, the contractor encounters an orphaned water heater. The DOE calculations account for the cost of reconfiguring the water heater venting in these situations. Plus, new

ⁱ Dale, L., Antinori, M., McNeil, M., McMahan, J., and Fujita, S. 2009. [Retrospective Evaluation of Price Trends](#). Energy Policy.

venting technologies allowing a common vent for a condensing furnace and a gas water heater are bringing down the cost of installing condensing furnaces. AGA ignores that DOE has accounted for these costs and that new technologies will further reduce venting costs.

AGA claims that DOE has obscured methodologies, data, and assumptions. But the depth and breadth of DOE documents and responses shows otherwise.

For this rulemaking, DOE went beyond its usual rigorous technical and economic analyses. They held an additional workshop, conducted additional analyses (including those requested by AGA), extended the comment period on the proposed rule, and provided a thorough and documented response to AGA’s questions.

AGA suggests that DOE should use marginal utility rates in their analysis, because they would have a considerable impact on operating cost savings. DOE *did* use such rates.

In response to stakeholder requests, DOE *did* use marginal rates in their technical analysis. Any impact on operating costs is already included.

AGA is concerned that furnace standards would increase our nation’s overall energy consumption and carbon footprint. Simply not true.

Furnaces meeting the new standards sold over 30 years are expected to reduce carbon dioxide emissions by 137 million metric tons and save 3.1 quadrillion Btus (quads) of energy—enough to meet the gas and propane heating needs of all of New England for 17 years.

ⁱⁱ Nadel, S. and deLaski, A. 2013. [Appliance Standards: Comparing Predicted and Observed Prices](#). Washington DC: ACEEE and ASAP.