

**Appliance Standards Awareness Project
Alliance to Save Energy
American Council for an Energy-Efficient Economy
Consumer Federation of America
National Consumer Law Center**

September 9, 2019

Ms. Sofie Miller
Senior Advisor
Energy Efficiency and Renewable Energy
U.S. Department of Energy
1000 Independence Ave. SW
Washington, DC 20585-0121

**Re: Energy Conservation Standards for Residential Furnaces and Commercial Water Heaters;
Docket No. EERE-2018-BT-STD-0018**

Submitted via email to ResFurnaceCommWaterHeater2018STD0018@ee.doe.gov

Dear Ms. Miller:

This letter constitutes comments of the Appliance Standards Awareness Project, Alliance to Save Energy, American Council for an Energy-Efficient Economy, Consumer Federation of America and National Consumer Law Center (on behalf of its low-income clients) regarding the notice of proposed interpretive rule published in the Federal Register on July 11, 2019 (84 Fed Reg 33011). The proposed interpretive rule, issued at the request of gas industry petitioners, would lead to the establishment of condensing and non-condensing product classes in each future docket for gas space and water heating products, eliminating DOE's ability to even consider condensing technology as the basis for future standards improvements, regardless of any consideration of costs and benefits. We strongly oppose the proposed interpretive rule and urge DOE to withdraw it.

As DOE acknowledges in the proposed interpretive rule, cost impacts must be evaluated as part of the agency's economic analysis. However, cost is not a "performance-related feature," so cannot be the basis for separate product classes. Using costs to delineate product classes would prevent consideration of improved standard levels that merely affect cost, subverting the statute's central purpose, energy conservation. DOE has failed to show that the differences between condensing and non-condensing products are anything other than differences in cost. Each of DOE's attempted rationales for characterizing "non-condensing" products as a "performance-related feature" are fundamentally cost considerations. Therefore, DOE has failed to show justification for separate product classes. Moreover, DOE's stated concern about affordability and cost impacts are best addressed by informed decision-

making based on economic analysis, not by preventing such analysis through an unjustified product class. If, as DOE contends, the decision whether to establish an interpretive rule is a “close call,” then the agency should withdraw the proposed interpretive rule to permit careful analysis informed by the specific facts in each relevant individual rulemaking, rather than establish a broad interpretive rule that would tie the agency’s hands in pursuing the statute’s energy conservation purpose. An interpretive rule that takes condensing technology off the table in future rulemakings would short-circuit DOE’s decision-making process, leaving large energy and economic benefits unassessed.

A. Cost impacts, including with respect to low-income consumers, are a central concern for standards-level selection, but cost is not a “performance-related feature.”

Every DOE rulemaking must fully assess the costs and benefits of each evaluated standard level. Economic impacts on the consumers of the product are always a central concern in DOE decision making, as required by statute. DOE also typically performs consumer “sub-group analyses” that examine impacts on subsets of consumers such as those with low incomes. The Secretary must consider these impacts along with all the other factors that must be considered under the statute to determine if a standard is economically justified. We support full and careful consideration of consumer impacts, including for consumers with low incomes, as a central, determinative element of DOE’s economic analysis used for selecting standard levels.

However, cost is not a “performance-related feature.” DOE acknowledges in the proposed interpretive rule that cost is properly addressed through economic analysis (“DOE continues to believe that costs are properly addressed in the economic analysis portion of its rulemakings...” 84 Fed Reg at 33020. Also see 33017 arguing that “something much more than (costs)” must be at stake for non-condensing appliances to be “deemed a ‘feature’ under EPCA.”) This conclusion is the only plausible one under the statute. If DOE were to use cost as the basis for defining a feature and, therefore, product classes, it would prevent the reasoned consideration of higher standards. Consideration of higher standards is central to the statute. The effect of separate product classes for higher efficiency products based merely on higher costs is pre-determination of the outcome of a rulemaking *without doing the economic analysis*. Potential standards based on these improvements are put off limits, even those which would unequivocally provide very large benefits for consumers, including low-income consumers.

B. DOE has not shown that the difference between non-condensing and condensing products is more than a matter of cost.

In the proposed interpretive rule, DOE acknowledges that the difference between condensing and non-condensing products is generally a matter of cost. (“...DOE continues to believe that the distinction between condensing and non-condensing appliances is largely a matter of economics for most consumers...” 84 Fed Reg 33017). DOE has performed cost analyses that address the relative costs of the two technologies, including installation costs, in many regulatory dockets including those for residential and commercial furnaces, boilers and water heaters (81 Fed Reg 65720; 81 Fed Reg 2420; 81 Fed Reg 2320; 81 Fed Reg 15836; 75 Fed Reg 20112; 81 Fed Reg 34440). DOE goes on to explain, however, its new view that, “...for some subset of the population, it is something much more than that.” But the explanation of this “something much more” which follows is a set of purely economic

considerations. DOE makes several assertions: condensing level standards could affect housing affordability, higher upfront costs can crowd out consumer spending on other necessities and long paybacks do little to ameliorate short-term upfront cost impacts. But whether a potential standard level would have these effects is answered by economic and financial analysis. These effects are not descriptors of a “performance-related feature;” they are cost impacts that DOE must evaluate and consider in selecting a standard level.

DOE appears to want to solve hypothesized harmful economic impacts by establishing product classes, a solution with no statutory basis. The solution the statute provides for standard levels that impose more harm than benefit is selection of an alternate standard level or leaving existing standards unchanged.

Notably, the harmful economic effects cited by DOE in this section of the proposed interpretive rule with respect to mobile home furnaces are specious. DOE blithely asserts economic harm due to adoption of a standard at condensing levels of efficiency, when the record in the furnace docket provides substantial evidence to the contrary. In the 2016 SNOPR, DOE proposed a standard of 92% AFUE for mobile home furnaces, which DOE estimated would increase the installed cost by \$152.¹ DOE claims that this increase in the installed cost of a mobile home furnace could price some consumers out of the housing market. But housing purchases are financed and the effect of such an increase in housing prices translates to less than a dollar on a monthly mortgage payment. Mortgage lending decisions do not turn on such small margins. Furthermore, higher efficiency furnaces reduce energy bills, reductions that can make a home *more affordable*. In the same Technical Support Document table DOE cites for the \$152 increase in first cost, DOE estimated annual bill savings of \$87, or about \$7 per month, an amount that easily outweighs the potential impact on a monthly mortgage payment of a more efficient furnace. These monthly savings free up dollars for necessities such as food and medicine, a result in direct conflict with DOE’s claim that high-efficiency furnaces crowd out spending on necessities. Finally, DOE did not find that the payback for high-efficiency mobile home furnaces was long: DOE reported a simple payback for a 92% AFUE mobile home furnace purchase of just 1.7 years. The average product life is 21.5 years.²

Later in the proposed rule (Section IV), DOE again attempts to provide a rationale for the proposed interpretive rule, offering three factors. First, DOE asserts that space constraints and other limitations on installation options result in, “little doubt that some number of such installations would be quite costly.” Second, DOE says that “physical changes associated with a condensing appliance may change a home’s aesthetics.” Third, DOE says that some consumers may have a “proclivity” for gas heating but may feel compelled to switch to a different heating fuel (such as an electric heat pump), presumably due to installed equipment and operating cost differences. Each of these rationales is, at its core, economic.

By DOE’s own description the first factor, space constraints, is an economic consideration (“...some number of such installations would be quite costly”). Solutions for difficult venting situations exist and DOE has been able to estimate the cost of these solutions and account for them in its analyses of potential standard levels.

¹ DOE also evaluated higher condensing levels. At the max-tech level of 96% AFUE, total installed cost would increase by \$331, which explains the range included in the proposed interpretive rule.

² See Chapter 8, DOE Technical Support Document, Table 8.6.29 accessible at <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0217>

Aesthetic impacts are also fundamentally economic, since a homeowner can avoid undesired aesthetic effects by making a different, but perhaps more expensive venting choice. For example, a consumer who does not want a vent pipe or chase added to the exterior of their home can consider using an existing chimney, perhaps making use of retrofit technology that allows common venting of products in existing chimneys, or consider a new vent leading to the roof, using an existing internal chase or a new one. A consumer who does not want to sacrifice closet space to a new chase can consider options using their existing flue or an external chase. Recently completed research by Oak Ridge National Laboratory (ORNL) has proven the viability in various climate conditions and homes of a venting product designed for installing a condensing furnace by making use of a common type of existing vent (a “B Vent”). The product is intended to minimize the need for new chases or venting runs. The study found that,

The design of the FasNSeal 80/90 venting system provides adequate vent performance in the types of houses and climate conditions tested such that a condensing furnace and natural-draft water heater can be properly vented in the same vertical space using a pipe-within-a-pipe configuration (i.e. with the condensing furnace vented through the inner pipe and the natural-draft water heater vented through the annular space between the pipe).³

The ORNL researchers further found that this venting product’s costs, “were estimated to be comparable or even less in those applications where side-wall venting installation is difficult...”⁴ This product means that many consumers who want to avoid aesthetic changes to their home have an option to use their existing vent space. Finally, consumers who do not like any of their choices for venting for one reason or another can elect to go with an electric heat pump.

Even if some subset of consumers cannot avoid undesired aesthetic impacts, that effect is not a basis for a separate product class. We concur with comments filed by Earthjustice and Natural Resources Defense Council arguing that incidental aesthetic effects cannot be the basis for separate classes. To conclude otherwise would make standard setting for many products impossible, in conflict with the purpose of the statute and thirty years of DOE rulemakings. For example, more efficient refrigerators have thicker door panels; more efficient clothes washers lack a central agitator; more efficient outdoor units for central air conditioners are physically larger. If changes that affect the aesthetics of some products or installation in a manner that some consumers find displeasing is deemed a “performance-related feature” then standard setting would be all but impossible.

Fuel switching is also an economic consideration. Consumers switch heating fuels when it is in their economic interest to do so. DOE says that some consumers may show a “proclivity” for gas heating. DOE has not provided any data or evidence to enable stakeholders to assess what portion of consumers, if any, have a “proclivity” for heat produced by burning gas. (There may be an equal or greater number with a proclivity for switching to a heat pump, especially if the power they use is generated from clean sources and they appreciate that the heat pump adds the utility of an air conditioner.) But, if some portion of consumers prefer not to switch to a heat pump even though it would be cheaper for them to

³ Ternes, M., J. Munk, M. Malhotra, A. Gehl. *Furnace and Water Heating Venting Field Demonstration*. Oak Ridge National Laboratory. ORNL/TM-2017/756. May 2019 p xv. accessed at <https://info.ornl.gov/sites/publications/Files/Pub106745.pdf>

⁴ Ibid. p. xvi.

do so, that choice remains available to them. They might incur higher installation costs, but that is an economic impact chosen by that consumer in response to the regulatory change. A condensing standard does not forbid the use of a gas appliance for this consumer; it makes it more expensive upfront, an effect which DOE can account for in its economic analysis. For example, DOE can account for this subset of consumers' behavior (if such a subset even exists) by modeling less fuel switching.

In sum, each of the three factors DOE cites for explaining the proposed rule – some undetermined number of costly installations, aesthetic impacts, and the possibility that some consumers have a proclivity for gas heating—are cost considerations that must be addressed in DOE's economic analysis. As cost impacts, they cannot be the basis for product classes.

C. DOE's concerns about energy affordability are best addressed by fully evaluating the costs and benefits of condensing-level standards.

DOE completes its explanation of its new interpretation by asserting that it serves to protect low-income consumers. ("Finally, DOE is very concerned about ensuring energy affordability, particularly for persons with low incomes." 84 Fed Reg 33020). DOE acknowledges that the impacts on low-income consumers are economic considerations. What remains unexplained is why DOE believes that creating product classes that prevent evaluation of these economic impacts best ensures energy affordability.

The separate comments of National Consumer Law Center and Consumer Federation of America filed in this docket address the costs imposed on low-income consumers when DOE fails to adopt cost-effective, improved standards. As those commenters show, low-income households are disproportionately renters, who reap the benefits of lower monthly utility bills but do not directly bear the cost of equipment. As they argue, most likely renters do not bear equipment costs even indirectly through rent increases. Even if they bear some or even all the amortized cost in rent increases, this amount is easily covered by lower energy bills.

Rental housing markets have been thoroughly studied in the economics literature. DOE investigated whether equipment cost increases are passed through in higher rents in preparation for a public meeting in April 2015. On behalf of DOE, an economist, Dr. Larry Dale, reviewed the literature and presented his findings. He concluded, "The implications from these findings are: tenants benefit from lower energy bills; rent increases may not, and I would say almost certainly do not, cover the higher equipment costs. So overall, tenants (meaning largely low-income households in this case, or rather the other way around, low-income households that are largely tenants) are probably better off than suggested by our LCC [life-cycle cost] analysis."⁵

The best way for DOE to make decisions about future standard levels is to fully evaluate the costs and benefits of potential standard levels, including through a consumer sub-group analysis which accounts

⁵ U.S. DEPARTMENT OF ENERGY PUBLIC MEETING THE ENERGY CONSERVATION STANDARDS FOR RESIDENTIAL FURNACES, April 13, 2015, p. 12, lines 3 -10. Available at <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0050>

for effects on renters.⁶ Under DOE's proposed interpretive rule, these costs and benefits would not even get evaluated. A standard set at condensing levels could not even be considered, even if it would provide large economic benefits to all low-income consumers.

D. If it's a "close case," DOE should choose the interpretation that allows for consideration of energy-saving standards and their large potential benefits.

Before describing its rationales for the proposed interpretation, DOE states that "DOE found this to be a close case, with persuasive arguments on both sides of the issue." (84 Fed Reg 33020). For the reasons described above, DOE has failed to demonstrate that there is any basis for finding that non-condensing products include a "performance-related feature" that merits protection with a separate product class. But, if it were a "close case," the statute and good public policy process favors an outcome that at least keeps the door open to evaluation of improved standards. The statutory purpose is energy conservation. By creating separate product classes for condensing and non-condensing equipment, the proposed interpretive rule would forestall consideration of meaningful efficiency improvements in gas-using products. On the other hand, DOE's prior interpretation, which allows for consideration of condensing-level standards, allows for a careful balancing of costs and benefits that may or may not culminate in the selection of condensing-level standards.

DOE attempts to minimize the importance of the interpretive rule ("This interpretation is likely to impact only a limited set of appliances, and DOE notes that market trends have favored the growing reach of condensing furnaces..." 84 Fed Reg 33020.) Natural gas water and space heating products may represent just eight⁷ out of the total number of products that DOE regulates, but the far more important consideration for DOE must be the total potential savings from these products. As we described in detail in our comments on the original petition, the total potential savings, based on DOE's own analyses from future standards based on condensing-level performance is about 13 quads over a thirty-year analysis period. Consumer and business utility bill savings from these standards would exceed \$100 billion. DOE's analyses account for market trends. The proposed residential furnace rule issued in fall 2016 would save about \$700 for the average furnace buyer over the life of the furnace after accounting for all costs. Altogether, the proposed furnace standards would save consumers \$5.6 to \$21.7 billion over DOE's thirty-year analysis period (81 Fed Reg 65720). The typical business using a commercial gas-fired storage water heater, the most common class, would save about \$1,400 over the equipment's life, again accounting for all costs. For all equipment classes, savings would total to between \$2.3 and \$6.8 billion while saving 1.8 quads of energy over the thirty-year analysis period (81 Fed Reg 34440).

In short, DOE's claim that the interpretive rule does not matter very much is not supported by the agency's own analyses in multiple dockets. To the contrary, the proposed interpretive rule eliminates DOE's ability to even consider standards that would potentially save very large amounts of energy and money.

⁶ DOE conducted a low-income consumer sub-group analysis for the 2016 furnace SNOBR and found slightly less favorable results than those for all households. 81 Fed. Reg. 65817

⁷ Condensing technology is available for at least eight categories of products regulated by DOE: residential furnaces, commercial furnaces, residential boilers, commercial boilers, residential water heaters, commercial water heaters, direct heating equipment, and unit heaters.

Summary

All considerations and factors that DOE identifies in the proposed interpretive rule to support a separate product class for non-condensing products are economic cost issues. As DOE acknowledges, costs are properly analyzed within rulemaking economic analyses. Costs cannot be considered a “performance-related feature” that provides the basis for separate product classes. Rather, they must be used to inform DOE’s evaluations of potential standard levels. We urge DOE to withdraw the proposed interpretive rule.

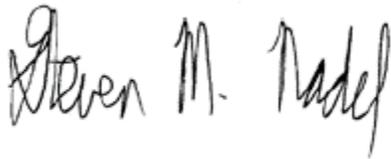
Sincerely,



Andrew deLaski
Executive Director
Appliance Standards Awareness Project



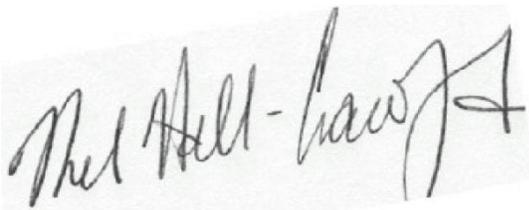
Dan Bressette
Vice President, Policy and Research
Alliance to Save Energy



Steve Nadel
Executive Director
American Council for an Energy-Efficient Economy



Charlie Harak, Esq.
National Consumer Law Center
(on behalf of its low-income clients)



Mel Hall-Crawford
Energy Project Director
Consumer Federation of America

Contact: Please direct any questions regarding these comments to Andrew deLaski at adelaski@standardsASAP.org or 617-390-5334