U.S. Department of Energy
Building Technologies Program

RE: Notice of Proposed Rulemaking for	**)**	
Energy Conservation Standards for	**)**	**EERE-2014–BT–STD–0031**
Residential Furnaces	)	

JOINT COMMENTS OF THE CONSUMER FEDERATION OF AMERICA, NATIONAL CONSUMER LAW CENTER, MASSACHUSETTS UNION OF PUBLIC HOUSING TENANTS AND TEXAS RATEPAYERS' ORGANIZATION TO SAVE ENERGY

OCTOBER 14, 2015

The Consumer Federation of America, National Consumers Law Center, Massachusetts Union Of Public Housing Tenants and Texas Ratepayers' Organization to Save Energy (Joint Commenters) are pleased to provide comments for the Department of Energy's Notice of Data Availability in the Proposed Rulemaking on energy conservation standards for residential furnaces (Docket Number: EERE-2014-BT-STD-0031 RIN: 1904-AD20.)

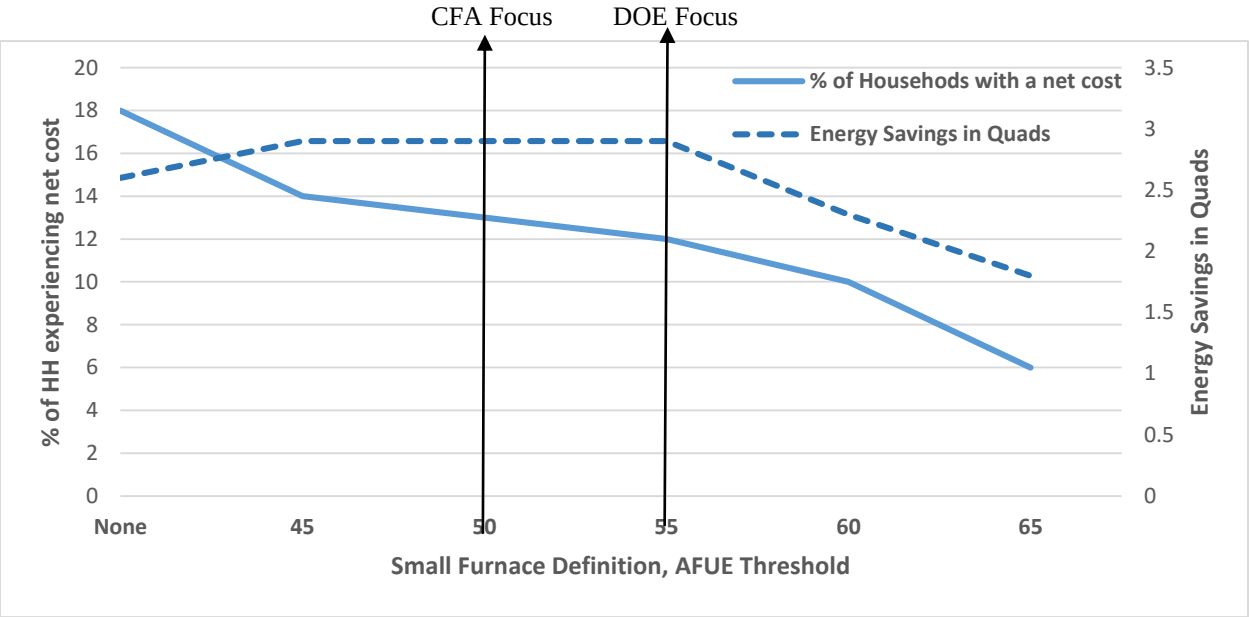
In our initial comments, we presented the most extensive analysis of a two tiered standard in the record by modeling the distribution of furnace sizes across geographic areas and income groups. Based on that analysis, we concluded that a tiered standard would offset potential adverse impacts that the standard might have on a relatively small number of cases. In Section V, subsection B in which we discussed exempting small furnaces, we said:

> [Exempting] units of up to 50,000 Btus per hour would address concerns about low income households being disadvantaged by a higher standard. It also appears to address some of the concerns about attached single family residences. In mild climates, these are two market segments in which well-insulated houses can meet the need for heating with furnaces up to 50,000 Btus per hour capacity. Setting the threshold higher exempts more houses, but these are not a source of concern in terms of either the impact on occupants who are likely to bear an increase in costs or the cost of installation.

A. Separate Standards Analysis in the NODA

DOE has undertaken a detailed analysis of the questions of setting the size threshold for small furnace energy efficiency standards. The results of that analysis, summarized in Figure 1, strongly support our conclusion.

FIGURE 1: SETTING THE THRESHOLD FOR SMALL FURNACES



Sources and Notes: NODA, Tables III.2 and III.8. These estimates use a 92% AFUE for the large furnaces.

By moving the 90 + AFUE threshold from 50k Btus to 55k Btus/hour, DOE finds that the amount of energy saved remains the same, but the percent of households that suffer a net cost declines slightly from 13 to 12 percent. Moving the threshold to 60k Btus/hour reduces the percentage of households experiencing a net cost slightly to 10% but results in a relatively large reduction in energy savings. At 50k Btus/hour the number of households experiencing a net cost is reduced while there is no reduction in energy savings. The analysis shows that setting the size threshold for small furnaces at 55,000 Btus/hour minimizes cost impacts without a loss of energy savings.

B. High Impact Groups

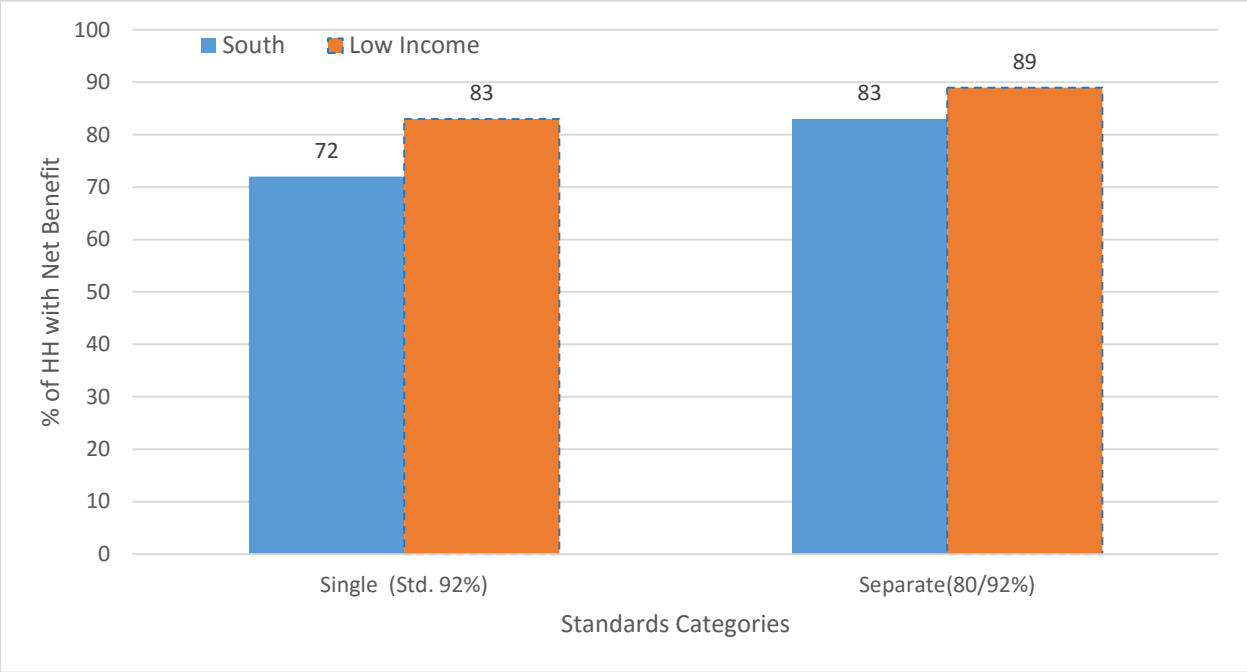
Moreover, as we concluded, setting the size threshold in this range resolves a significant part of the inevitable problem that some households will not benefit from the rule. As shown in Figure 2, setting the threshold at 55,000 Btus/hour sharply increases the percentage of households that are net beneficiaries. As shown in the top graph, among low income households, the percentage that are net beneficiaries increases from 83% to 89%, while in the South, the increase in beneficiaries is from 72% to 83%. As shown in the bottom graph, not only are there many more households that enjoy a net benefit, but the average life cycle benefit is much larger, particularly for low income households whose net benefit increases by over 25%. In the aggregate, the approach with separate standards for large and small furnaces is superior – with benefits almost 60% higher at a 7% discount rate.

C. Conclusion

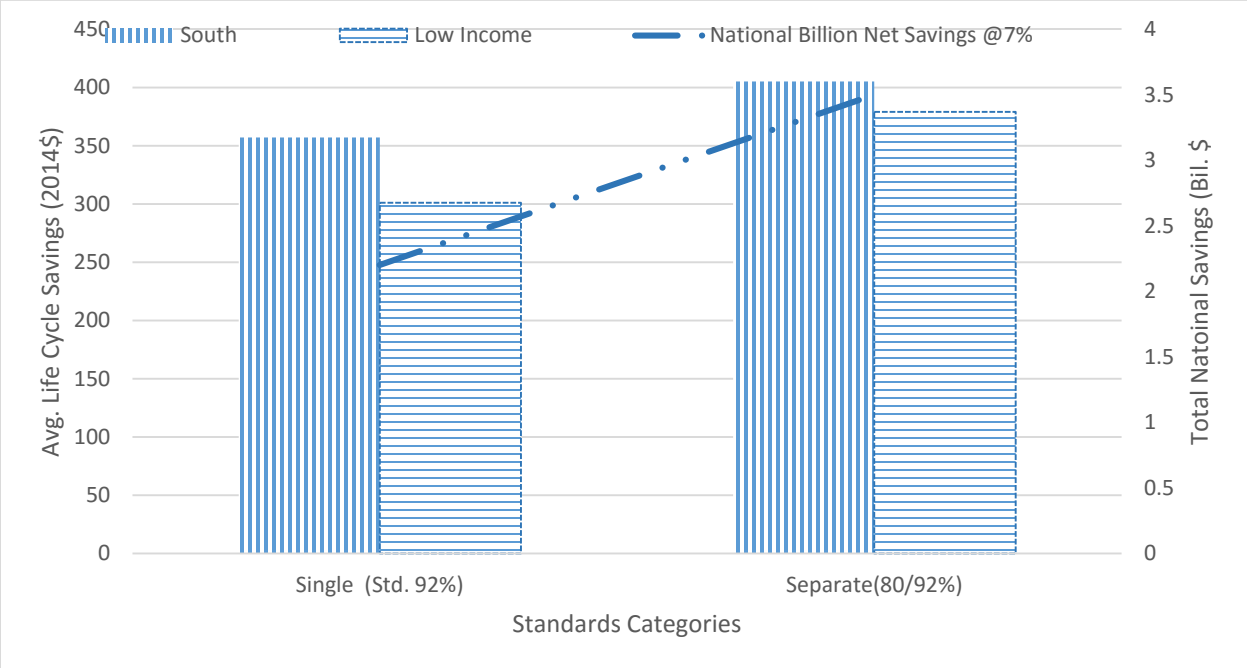
Given the strong support for our initial analysis in the NOPR, our conclusion bears repeating. "This analysis shows that increasing the minimum efficiency of gas furnaces to at least 92% AFUE will benefit consumers and the nation because standards address serious market imperfections in a technically correct and cost effective manner. The engineering-economic analysis has shown this to be the case for well over a decade and the failure to adopt a 90%+ performance standard has resulted in significant, unnecessary costs on consumers and the environment while unnecessarily depleting finite natural gas resources. While that harm cannot be undone, adopting a higher standard today will prevent future harm."

FIGURE 2: SEPARATE SMALL AND LARGE STANDARDS AT 80%/92% DRAMATICALLY IMPROVE THE BENEFIT OF THE STANDARD

% of Households with a Net Benefit



Monetary Impacts



Sources and Notes: NODA, Tables III.5, III.6 and III.11. These estimates use a 55kBtu threshold for small furnaces and 80%/ 92% AFUE for the small/large furnaces.

The DOE should move expeditiously to adopt such a standard, while it continues to seek approaches that will raise the overall net benefit to consumers by tailoring the standard to specific situations. However, under no circumstances should it delay the standard in pursuit of tailoring nor should it adopt an approach to tailoring that jeopardizes the legality of the standard. Failure to adopt a standard at 92% AFUE or higher will impose harm on the vast majority of consumers, harm that will last for decades and cost billions of dollars."

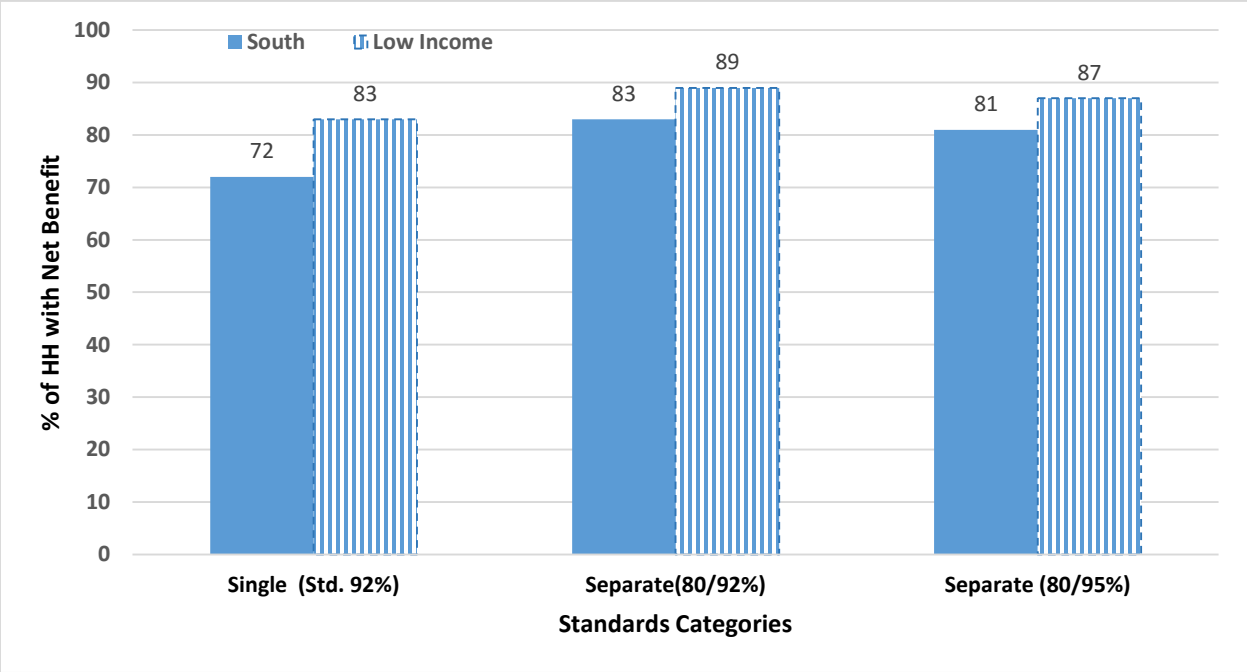
The NODA analysis not only shows that a separate standard for small and large furnaces dramatically improves the consumer economics of the standard, but it also makes a strong case for considering a higher level of efficiency, AFUE = 95%, for large furnaces, as shown in Figure 3, which extends the analysis in Figure 2 to include the consideration of a standard with a 55k Btu threshold and AFUE levels at 80% for small furnaces and 95% for large units over 55k Btus.

Increasing the AFUE standard for large furnaces decreases the percentage of households that are net beneficiaries slightly (1 percentage point for low income and 2 percentage points in the South), but increases the aggregate value of the energy savings significantly (by over 30%). The average life cycle benefit for low income households increases at the higher AFUE standard for low income households (by 12%), while it decreases for households in the South (by 8%). Certainly for low income households, the large increase in net benefits and small decrease in the percentage of households that are net beneficiaries provides a strong basis on which to set the standard at a higher level.

The additional analysis done by the DOE supports the general conclusion of our initial comments. The DOE should implement a two tiered standard that requires higher efficiency for furnaces that are larger than 55,000/Btu. The standard for large furnaces should be set at an AFUE of at least 92%.

FIGURE 3: THE IMPACT OF RAISING THE SEPARATE STANDARDS TO 80%/95% AFUE

% of Households with a Net Benefit



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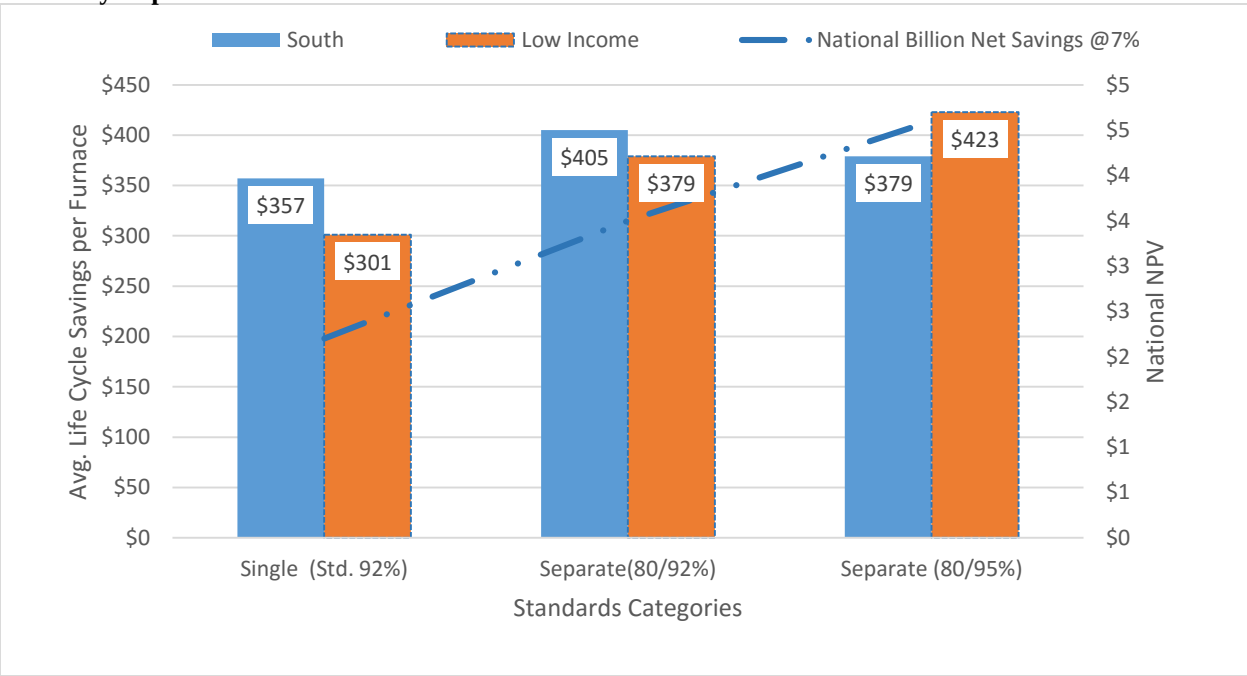

Sources and Notes: NODA, Tables III.5, III.6 and III.11. These estimates use a 55kBtu threshold for small furnaces and 80%/ 92% AFUE for the small/large furnaces.