

June 11, 2019

Mr. Jonathan Passe
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Energystarhomes@energystar.gov

RE: National Program Requirements for ENERGY STAR Certified Manufactured Homes, Version 2

Dear Mr. Passe,

On behalf of the Natural Resources Defense Council (NRDC) and Prosperity Now we appreciate the opportunity to comment on the National Program Requirements for ENERGY STAR Certified Manufactured Homes, Version 2.

NRDC is a national non-profit membership organization with more than 3 million members and engaged community participants worldwide. NRDC has members throughout the United States. We are committed to the preservation and protection of the environment, public health, and natural resources.

Prosperity Now (formerly CFED) believes that everyone deserves a chance to prosper. Since 1979, through research, policy and practice, we have helped make it possible for millions of people, especially people of color and those of limited incomes, to achieve financial security, stability and, ultimately, prosperity.

Manufactured housing serves an important role in providing housing choices for a significant number of lower-income Americans. More than 17 million Americans lived in manufactured homes as of 2016,¹ and the average income of these residents is less than \$30,000². Approximately 70% of all manufactured homes are located in rural areas, and in some regions they comprise more than 20% of the housing stock³.

We support EPA's efforts to update the ENERGY STAR specification for manufactured housing.

More than 6,400 manufactured homes earned the ENERGY STAR label in 2015, and cumulatively more than 70,000 manufactured homes have been certified to ENERGY STAR specifications.⁴ The residents of these homes have lower energy bills and are more comfortable than manufactured homes built to the minimum code.

While manufactured homes provide a more affordable purchasing option than a site-built home for many families, the costs to actually *live* in a standard manufactured or mobile home are anything but affordable due to the associated energy costs. Most manufactured housing serves rural areas. Rural

¹https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25033&prodType=table

²https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=AHS_2013_C09AO&prodType=table

³<http://energyefficiencyforall.org/sites/default/files/ACEEE%20EEFA%20Rural%20Energy%20burden%20report.pdf>

⁴ https://www.energystar.gov/sites/default/files/asset/document/ES_OverviewAchievements_040816-508.pdf

families face the highest energy burden of any household group in America, meaning they spend a higher percentage of their household income on energy bills. And residents living in manufactured housing have an even greater energy burden than the rural median. Manufactured homes unnecessarily waste energy and have fallen far behind traditionally-built homes when it comes to energy efficiency. Residents of manufactured homes have energy bills that are more than double⁵ that of the average traditionally-built single-family home, on a cost per square foot basis. The ENERGY STAR program can help lower these costs and make housing more affordable.

Furthermore, we support programs and policies to increase the adoption of ENERGY STAR manufactured homes, including utility incentives for manufacturers and home buyers. We look forward to working with ENERGY STAR staff to promote efficient, affordable manufactured homes.

There is drastic room for improvement in the efficiency of manufactured homes.

Manufactured housing has had to comply with Federal Manufactured Housing and Construction Standards set by the Department of Housing and Community Development (known as the HUD Code) since 1976. Unfortunately, the energy-related sections of the HUD Code are grossly outdated, having not been updated since 1994. In contrast, the energy code for site-built homes (the International Energy Conservation Code, or IECC) is updated every three years. The Department of Energy, in spite of being directed by Congress in 2007 to update the energy efficiency standards for manufactured housing, has failed to do so. ENERGY STAR has the opportunity to lead the way and improve efficiency even further than currently proposed in Version 2.

The energy efficiency levels specified in EPA's proposal should be further improved.

Electric Heat Pump Package

An electric heat pump heats and cools a home efficiently, by moving heat using electricity rather than converting from a fuel source. Heat pump technology has greatly advanced over the past few years, so that efficient options are available in all climate zones. The proposed efficiency levels for air source heat pumps are 8.2 HSPF and 14 SEER. This is equivalent to the federal minimum efficiency standard. The purpose of the ENERGY STAR program is to move the market toward more efficient appliances and equipment, so allowing equipment that meets federal minimum standards is inconsistent with this mission. Manufactured homes that earn an ENERGY STAR certification should have appliances and equipment that *exceed* federal minimum standards, and preferably meet ENERGY STAR specification levels.

Windows

Likewise, manufactured homes earning an ENERGY STAR certification should be required to have ENERGY STAR certified windows. The proposed glazing U-factors and solar heat gain coefficients are significantly higher (i.e., less efficient) than the ENERGY STAR requirements for windows most parts of the country. ENERGY STAR products are widely available and, in fact, already have an enormous share of the market. In 2016 – the first year the ENERGY STAR Version 6.0 specification was in effect for all climate zones – ENERGY STAR windows already had an 83% market share. In particular, the solar heat gain coefficient for ENERGY STAR windows is much lower than non-certified windows, meaning greater levels of comfort and efficiency. Again, a manufactured home earning the ENERGY STAR certification should have fenestration components that meet ENERGY STAR specification levels.

⁵ <https://www.eia.gov/consumption/residential/data/2009/c&e/ce1.1.xlsx>

High-Efficiency Furnace Package

In the 2016 Supplemental Notice of Proposed Rulemaking for furnaces,⁶ the US Department of Energy found that a mobile home gas furnace with an Annual Fuel Utilization Efficiency (AFUE) of 92 would have an average lifecycle cost savings of \$1,049 and a simple payback period of 1.9 years for a consumer. While EPA's proposed AFUE of 90 for HUD Thermal Zone 1,⁷ will save energy as compared to the current minimum standards, EPA should consider requiring a minimum AFUE of 92 for Thermal Zone 1, since DOE has already completed extensive analysis showing this level is cost-effective and attainable. While DOE has not, to date, moved forward to finalize the furnace standard, if and when they do so then EPA would have to immediately revise this manufactured housing specification, as the required efficiency level for furnaces would be below the federal minimum efficiency levels. As the purpose of the ENERGY STAR program is to lead the way in efficiency, a minimum AFUE of at least 92 is reasonable and achievable.

Insulation

Insulation levels should be increased. A strong building envelope means that a home uses less energy to heat and cool, and remains more comfortable for the residents even in the hottest or coldest weather. It is cheapest and easiest to install installation at the time of home construction. Numerous studies have shown that there are technical difficulties with retrofitting manufactured housing for greater efficiency,⁸ and it is much more expensive to retrofit a manufactured home than it is to build it efficiently from the start.⁹

As noted in comments by the North American Insulation Manufacturers Association (NAIMA), a requirement of R-11 wall insulation is too low, especially in a package where a home can use a minimum-efficiency heat pump. While EPA responded to NAIMA's comment that other measures are included in these packages to achieve at least 10% savings, insulation is a proven, cost-effective measure that will last the lifetime of the home. We agree with NAIMA's suggestion of changing packages with R-11 walls to R-13. This will provide better comfort and durability to consumers, while helping to close the gap in efficiency between manufactured and site-built homes, which have been required to have at least R-13 wall insulation since 2006.

Thank you for considering these comments.

Sincerely,



Lauren Urbanek
Senior Energy Policy Advocate
Natural Resources Defense Council



Doug Ryan
Senior Director, Affordable Homeownership
Prosperity Now

⁶ <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0031-0230>

⁷ HUD Thermal Zone 1 consists of Alabama, Florida, Georgia, Hawaii, Louisiana, Mississippi, South Carolina, and Texas.

⁸ https://prosperitynow.org/sites/default/files/resources/weatherization_replacement_of_homes.pdf

⁹ Emily Salzberg, Michael Lubliner, Luke Howard, Andrew Gordon, Ken Eklund, and Kelly Morgan, "Cost Implications of Retrofit vs. Replacement of Manufactured Housing" (Olympia, WA: Washington State University Extension Energy Program and Habitat for Humanity, 2012), pp. 2-32.