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Public Interest Comment¹ on
The Department of Energy's Proposed Rule
Energy Conservation Standards for Manufactured Housing

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The George Washington University Regulatory Studies Center

The George Washington University Regulatory Studies Center improves regulatory policy through research, education, and outreach. As part of its mission, the Center conducts careful and independent analyses to assess rulemaking proposals from the perspective of the public interest. This comment on the Department of Energy's (DOE or the Department) proposed rule establishing new energy efficiency standards for manufactured housing does not represent the views of any particular affected party or special interest, but is designed to evaluate the effect of DOE's proposal on overall consumer welfare, including effects on low-income and elderly Americans.

Introduction

The Department of Energy's proposed rule would establish new energy efficiency standards for manufactured housing, formerly known as mobile homes. Although the Department of Housing and Urban Development (HUD) already issues efficiency standards for manufactured housing, the Energy Independence and Security Act of 2007 (EISA) requires DOE to issue its own energy

¹ This comment reflects the views of the author, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center's policy on research integrity is available at <http://regulatorystudies.columbian.gwu.edu/policy-research-integrity>.

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efficiency standards for manufactured housing (MH). The statute requires DOE to issue standards that reflect the practices outlined in the current International Energy Conservation Code (IECC). The 2015 IECC is a consensus-based model code for buildings—including site-built residential homes, commercial buildings, and modular homes—published by the International Code Council.³

The IECC does not specifically apply to manufactured housing.⁴ DOE is proposing certain modifications to the 2015 IECC to account for the HUD code requirements, dimension limitations, optimization of interior space, and construction techniques that are unique to manufactured homes. In this proposed rule, DOE is establishing energy efficiency standards for manufactured homes that largely comport with the current IECC standards for thermostats and controls, and heating and cooling equipment sizing. DOE is also proposing both prescriptive and performance-based U factors and R-values for single-section and multi-section manufactured homes in four distinct climate zones that represent regions with differing climates throughout the U.S. The standards that DOE proposes would increase the price of manufactured homes in exchange for reduced long-term operating costs, primarily reductions in heating costs.

DOE estimates that the standards will save most manufactured homeowners money, in addition to reducing site emissions of carbon dioxide (CO₂), nitric oxide and nitrogen dioxide (NO_x), sulfur dioxide (SO₂), methane (CH₄), and nitrous oxide (N₂O). DOE also estimates that, by reducing demand, the standards will reduce upstream emissions from energy production, extraction, processing, and transportation.⁵

This comment makes three distinct points:

- DOE may be overestimating the benefits of its proposal by disregarding average MH tenant occupancy and resale market obstacles that prevent MH owners from recouping higher upfront costs from increased efficiency. Taking these factors into account suggests that a significant portion of the purchasers of single-section and multi-section manufactured homes will bear net costs instead of benefits.
- Within Climate Zones 1 and 2, the higher costs of DOE's proposal are less likely to provide compensating benefits in the form of reduced heating costs. These areas have relatively higher poverty rates, so that distributive impacts are important to consider as DOE finalizes efficiency standards for manufactured homes.

³ International Code Council. <http://www.iccsafe.org/>

⁴ 81 FR 39766

⁵ 81 FR 39759

- DOE should commit to retrospectively reviewing its standard to ensure there is no conflict or overlap with existing HUD regulations and to evaluate the rule's effects on competition within the MH market and the availability of affordable housing.

Regulatory Analysis

Resale Obstacles Shorten Manufactured Home Lifetimes

DOE calculates large lifecycle cost savings for manufactured home owners using a 30-year MH lifetime.⁶ However, these estimates may not represent actual cost savings to MH owners, who live in their manufactured homes for approximately 13 years on average, according to a recent report by the Consumer Financial Protection Bureau (CFPB).⁷ Although this statistic is for owners who live in manufactured home communities, which does not represent the entire market of MH owners, it is consistent with the median and average homeowner tenure in the site-built home market, which the Board of Governors of the Federal Reserve System estimates at 12 and 15 years respectively.⁸

Typically, we can assume that higher upfront costs are recouped by homeowners when they resell their homes. However, the manufactured housing resale market faces many obstacles that may make it difficult for owners to resell their unit at all, much less recoup increased unit costs. For example, second-hand buyers have difficulty financing resold manufactured homes because lenders often charge a much higher interest rate on used MH units than new ones.⁹ In addition, literature reviews and independent regression analyses indicate that manufactured homes are statistically much more likely to depreciate over time than site-built homes, particularly for MH owners who do not own their own land.¹⁰ As a result, owned manufactured homes tend to have a very high loan-to-value ratio.¹¹ As Consumer Union reported in 2003, before the initiation of the financial crisis, this depreciation can cause MH owners to bypass resale markets completely:

Investors are concerned because depreciation leads to higher repossession rates as homeowners who find themselves underwater in a loan (owing more than the home is worth) simply walk away from the deal, leaving their home and credit

⁶ 81 FR 39783

⁷ Consumer Financial Protection Bureau. *Manufactured-housing consumer finance in the United States*. September 2014. http://files.consumerfinance.gov/f/201409_cfpb_report_manufactured-housing.pdf

⁸ Board of Governors of the Federal Reserve System. *Report on the Economic Well-Being of U.S. Households in 2014*. May 2015. Page 12. <http://www.federalreserve.gov/econresdata/2014-report-economic-well-being-us-households-201505.pdf>

⁹ Kevin Jewell. "Manufactured Housing Appreciation: Stereotypes and Data." *Consumers Union, Southwest Regional Office*. May 2003. Page 6. <http://consumersunion.org/pdf/mh/Appreciation.pdf>

¹⁰ Kevin Jewell. "Manufactured Housing Appreciation: Stereotypes and Data." *Consumers Union, Southwest Regional Office*. May 2003. <http://consumersunion.org/pdf/mh/Appreciation.pdf>

¹¹ Kathy Mitchell. "In Over Our Heads." *Consumers Union, Southwest Regional Office*. Public Policy Series, Vol. 5, No. 1, February 2002.

behind. Newspaper classifieds are littered with ads for “abandoned” mobile homes.¹²

For all of these reasons, the lifespan of certain manufactured homes may only be as long as average tenure for consumers who do not own the land on which their homes are sited. According to 2011 data, the CFPB reported that approximately 40% of MH owners don’t own land;¹³ however, in 2013, only 14% of new manufactured homes were listed as “real property,”¹⁴ which may indicate that the number of MH owners who own their land may be decreasing over time. If so, the lifespan may be much shorter for many MH owners than DOE estimates, and use of a 30-year analysis would overstate payback to many MH owners who do not own the land on which their home is sited.

DOE’s analysis included separate calculations of net costs and benefits for a 10-year lifetime, which better approximates average MH owner tenure. Notably, this analysis indicates much smaller benefits for affected consumers, and also indicates that some groups (including low-income MH owners) will bear net costs.¹⁵ An analysis that reflects that MH lifespans may be much shorter than DOE assumes would better reflect the actual costs and benefits to consumers of DOE’s proposed standards. The current 30-year analysis estimates large benefits by essentially doubling the realistic amount of time that a MH unit is used and disregards the difficulty that is entailed in recouping higher upfront costs via resale.

Discounting Regulatory Benefits

Following federal analytical guidelines, DOE discounts future energy savings to compare them with the upfront costs of the proposed standards. This well-established practice allows DOE to compare costs and benefits that occur in different time periods using a common unit of measurement to evaluate the net effects of the requirement. As a result of this calculation, DOE found that:

Although DOE preliminarily has determined that the proposed standards would result in increased purchase prices of manufactured homes, manufactured

¹² Kevin Jewell. “Manufactured Housing Appreciation: Stereotypes and Data.” *Consumers Union, Southwest Regional Office*. May 2003. Page 4. <http://consumersunion.org/pdf/mh/Appreciation.pdf>

¹³ Consumer Financial Protection Bureau. *Manufactured-housing consumer finance in the United States*. September 2014. Page 24. http://files.consumerfinance.gov/f/201409_cfpb_report_manufactured-housing.pdf

¹⁴ Tim Parker. “Are Mortgages Available For Mobile Homes?” *Investopedia.com*. March 31, 2015. <http://www.investopedia.com/articles/personal-finance/033115/are-mortgages-available-mobile-homes.asp>

¹⁵ Department of Energy. “Table 9.2 10-Year Analysis Period Total Cost of Ownership Savings of the Proposed Rule Compared to the HUD Code for Personal Property Loans.” *Technical Support Document for the U.S. Department of Energy’s Notice of Proposed Rulemaking Establishing Energy Conservation Standards for Manufactured Housing*. Pages 9.62-3.

homeowners, on average, would realize significant LCC [life cycle cost] savings and energy savings as a result of the proposed rule.¹⁶

As noted above, these large life cycle cost savings may not represent actual usage cases because they are calculated using a 30-year analysis, which more than doubles the amount of time that many MH units are used. However, these estimates are further complicated by the discount rate used in these analyses.

In its technical support document (TSD), DOE describes a range of appropriate discount rates given the market characteristics of MH financing. To calculate the LCC of efficient manufactured homes, DOE used a nominal discount rate of 9% for buyers who finance via chattel loans (i.e., personal property loans, like a car loan), and 5% for buyers who financed using real estate loans.¹⁷ For reference, both DOE and CFPB conclude that approximately 78 – 79% of MH buyers finance their purchase via chattel loans,¹⁸ indicating that the vast majority of buyers finance at a relatively higher interest rate. Rates on chattel loans range from 7 – 13%,¹⁹ which suggests a higher upper bound on nominal discount rates than DOE assumed in its TSD.

DOE reports the benefits and costs of its standards in the preamble of its rule, separate from the LCC analysis in the TSD. Despite the range of plausible discount rates derived from consumer financing costs, DOE discounts the benefits and costs in its preamble only at 3% and 7% (real). However, use of the more realistic discount rates discussed above reflects a much lower benefit to consumers than DOE includes in its proposed rule.

Life Cycle Cost Analysis

A life cycle cost analysis that uses discount rates derived from actual financing rates shows net costs for MH owners in many regions when combined with the potentially shorter MH lifespan discussed in the section above. For this comment we conducted an LCC analysis using the upfront price increases for single- and multi-section manufactured homes²⁰ and annual cost savings for single- and multi-section manufactured homes in 2015\$ by city and by climate zone

¹⁶ 81 FR 39784

¹⁷ Department of Energy. *Technical Support Document for the U.S. Department of Energy's Notice of Proposed Rulemaking Establishing Energy Conservation Standards for Manufactured Housing*. Chapter 8

¹⁸ Department of Energy. *Technical Support Document for the U.S. Department of Energy's Notice of Proposed Rulemaking Establishing Energy Conservation Standards for Manufactured Housing*. Page 8.52.

See also: Consumer Financial Protection Bureau. *Manufactured-housing consumer finance in the United States*. September 2014. http://files.consumerfinance.gov/f/201409_cfpb_report_manufactured-housing.pdf

¹⁹ Paola Iuspa. "Refinancing mobile home loan at lower rate." Bankrate.com. <http://www.bankrate.com/finance/refinance/refinancing-mobile-home-loan.aspx>

²⁰ Upfront manufactured home price increases were derived from: Department of Energy. "Table 8.1 Total Incremental Purchase Price of Manufactured Homes Under the Proposed Standard Over the HUD Code." *Technical Support Document for the U.S. Department of Energy's Notice of Proposed Rulemaking Establishing Energy Conservation Standards for Manufactured Housing*. Page 8.51

from DOE's TSD.²¹ It used discount rates cited by DOE and external literature on chattel loan rates, and included 5%, 9%, and 13% adjusted for inflation.²²

Our own LCC analysis using these inputs finds that consumers throughout Climate Zone 1 would bear net costs as a result of the proposed standards, including net costs for both single-section and multi-section manufactured homeowners in Miami and Houston. MH owners in Miami will be especially hard-hit by the proposed standards, where both single-section and multi-section buyers are likely to bear net costs at rates as low as 6%. Buyers of single-section and multi-section manufactured homes in Houston will see net costs at real discount rates above 10%.

In Climate Zone 2, single-section and multi-section MH buyers in Charleston, South Carolina could bear net costs. In Climate Zone 3, both single-section and multi-section MH owners in San Francisco would bear net costs, along with Salem, Massachusetts and Boise, Idaho in Climate Zone 4. The cities where consumers are anticipated to bear net costs represent 28.5% of all shipments of single-section manufactured homes and 35.1% of all shipments of multi-section manufactured homes, a large market share of manufactured home buyers. The table below highlights the cities where buyers will face net costs as a result of the rule and each city's associated percentage of national market share.

Percent of National Shipments Allocated to the 19 Cities for Single-Section and Multi-Section Manufactured Homes		
City	Single Section Shipments	Multi-Section Shipments
Miami	4.2%	8.6%
Houston	19.2%	12.1%
Phoenix	0.6%	1.2%
Atlanta	1.2%	2.4%
Charleston, SC	2.7%	3.7%
Jackson, MS	7.7%	5.3%
Birmingham, AL	3.6%	4.0%
Memphis, TN	5.6%	7.0%
El Paso, TX	16.7%	11.6%
San Francisco	0.9%	6.8%
Baltimore	7.1%	8.1%
Albuquerque, NM	2.2%	2.9%
Salem, OR	0.9%	3.9%

²¹ Annual cost savings were derived from: Department of Energy. "Table 8.5 Annual Energy Cost Savings Associated with the Proposed Rule Over the HUD Code." *Technical Support Document for the U.S. Department of Energy's Notice of Proposed Rulemaking Establishing Energy Conservation Standards for Manufactured Housing*. Page 8.57

²² These discount rates were converted from nominal to real rates (e.g. assuming future inflation) to discount annual energy savings measured by DOE in 2015\$ (e.g. both assuming and adjusting for future inflation).

Chicago	13.3%	10.3%
Boise, ID	0.6%	1.6%
Burlington, VT	5.9%	6.5%
Helena, MT	3.0%	1.6%
Duluth, MN	4.3%	2.5%
Fairbanks, AK	0.1%	0.02%
Total Market of Net Cost Regions	28.5%	35.1%

These net costs affect a large market share of manufactured homes. As DOE's TSD analysis further suggests, benefits will be smaller still for low-income manufactured home buyers,²³ who generally finance via higher-rate chattel loans and represent a large portion of all MH buyers/owners.²⁴

Standard Fails Statutory Cost-Effectiveness Requirement

As mentioned previously in this comment, DOE is required by statute to issue energy efficiency standards for manufactured housing that reflects the current International Energy Conservation Code (IECC). However, DOE may deviate from the IECC if it finds that such standards would not be cost-effective:

The statutory authority for this rulemaking requires DOE to base its standards on the most recent version of the IECC and any supplements to that document, except where DOE finds that the IECC is not cost-effective or where a more stringent standard would be more cost-effective, based on the impact of the IECC on the purchase price of manufactured housing and on total lifecycle construction and operating costs.²⁵

As referenced above, this assessment of cost-effectiveness includes consideration of life cycle cost. The data provided in this comment, which relies on DOE's input parameters and external literature on the markets for manufactured housing, suggest that the proposed standard does not meet this statutory threshold for cost effectiveness.

²³ Department of Energy. "Life-Cycle Cost Subgroup Analysis." *Technical Support Document for the U.S. Department of Energy's Notice of Proposed Rulemaking Establishing Energy Conservation Standards for Manufactured Housing*. Chapter 9.

²⁴ Consumer Financial Protection Bureau. *Manufactured-housing consumer finance in the United States*. September 2014. http://files.consumerfinance.gov/f/201409_cfpb_report_manufactured-housing.pdf

²⁵ 81 FR 39762

Distributional Effects

The Department took a step in the right direction by analyzing the effects of its proposed standards on low-income households,²⁶ who are more likely to own manufactured homes than other income groups. In DOE's preamble, some commenters note that there is already a range of energy efficiency among manufactured homes on the market; however, the higher cost of these more efficient units makes them inaccessible to many potential customers.²⁷ It does not require extensive analysis to conclude that mandatory, across-the-board increases in efficiency will price many low-income consumers out of the market for manufactured homes entirely.

The anticipated price increases are largest in Climate Zones 1 and 2,²⁸ which include Louisiana, Alabama, Mississippi, Florida, South Carolina, and parts of Texas and Arizona. According to our life cycle analysis, even in southern cities that do not bear net costs the overall benefits are very small, such as in Birmingham, Atlanta, and Jackson where consumers stand to save as little as \$14 over the lifetime of their manufactured home. Because the largest cost savings from these standards are associated with heating costs,²⁹ the anticipated cost savings are largest for Climate Zone 4, which includes 28 states in cooler climates to the north. The regional distribution of effects means the Southern states will bear the highest costs. This is particularly important because the South has emphasized manufactured housing as a means to increase homeownership,³⁰ and because DOE's shipment data indicate that a significant portion (e.g. ~40%) of MH shipments are to regions in Climate Zones 1 and 2.

This may be problematic from a distributional standpoint because poverty rates are much higher in Climate Zones 1 and 2 where consumers are likely to bear higher costs, according to DOE's analysis. Based on additional analysis in this comment, consumers are likely to bear net costs in Miami, Houston, and Charleston, where poverty rates are 29.9%, 22.9%, and 19% respectively. (For reference, the national poverty rate is 14.8%).³¹ As noted above, overall benefits are very small in Birmingham, Atlanta, and Jackson, where poverty rates are 31%, 25.2%, and 29.9%, respectively. For comparison, the following maps display DOE's proposed climate zones and the corresponding poverty rates in those areas.

²⁶ Department of Energy. "Life-Cycle Cost Subgroup Analysis." *Technical Support Document for the U.S. Department of Energy's Notice of Proposed Rulemaking Establishing Energy Conservation Standards for Manufactured Housing*. Chapter 9.

²⁷ 81 FR 39763

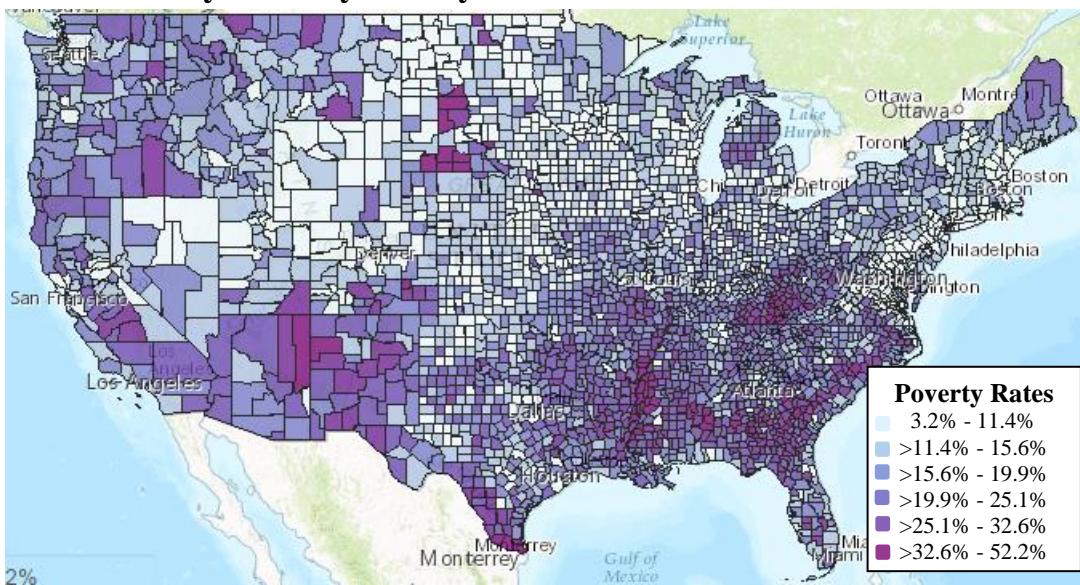
²⁸ 81 FR 39783-4, *Table IV.1—Average Manufactured Home Purchase Price and Percentage Increases Under the Proposed Rule by Climate Zone*.

²⁹ 81 FR 39784

³⁰ U.S. Census Bureau. "Manufactured Housing." 2002.

³¹ U.S. Census Bureau, "Income and Poverty in the United States: 2014." September 2015.
<http://www.census.gov/library/publications/2015/demo/p60-252.html>

Map of U.S. Poverty Rates by County



Source: United States Census Bureau. *Small Area Income Poverty Estimates*. "2014 All Ages in Poverty."

Map of DOE's Proposed Climate Zones



Figure 7.3 Proposed Climate Zone Map

Source: U.S. Department of Energy. *Technical Support Document for the U.S. Department of Energy's Notice of Proposed Rulemaking Establishing Energy Conservation Standards for Manufactured Housing*.

In 2011, President Obama signed Executive Order 13563, which makes particular mention of considering equity and distributive impacts when issuing regulations:

Where appropriate and permitted by law, each agency may consider (and discuss qualitatively) values that are difficult or impossible to quantify, including equity, human dignity, fairness, and distributive impacts.³²

³² Executive Order 13563 §1(c). "Improving Regulation and Regulatory Review." January 18, 2011.

In light of this information, DOE may want to consider the distributive impacts of its proposal and the effects on equity, human dignity, and fairness, particularly since the proposal would have a regressive impact on low-income consumers in high-poverty regions.

Effect on Competition

Regulations have a significant influence on marketplace competition, which affects the options available to consumers and the quality of products in the marketplace.³³ Recognizing the importance of this relationship, on April 15th of this year President Barack Obama signed an Executive Order instructing federal agencies to identify and address barriers to competition. According to that Executive Order:

Promoting competitive markets and ensuring that consumers and workers have access to the information needed to make informed choices must be a shared priority across the Federal Government. Executive departments and agencies can contribute to these goals through, among other things, pro-competitive rulemaking and regulations, and by eliminating regulations that create barriers to or limit competition.³⁴

The Department would benefit from giving due consideration to the effects of its proposed rule on competition in the manufactured housing market, particularly since the primary consumers of manufactured homes are low-income³⁵ and elderly households.³⁶

The proposed standards were developed through recommendations and a negotiated consensus from the manufactured housing working group, comprised of 20 stakeholders and two representatives from DOE and the Appliance Standards and Rulemaking Federal Advisory Committee.³⁷ Forty percent of the stakeholders were affiliated with the Manufactured Housing Institute, a trade association that represents some MH manufacturers. Other stakeholders have

³³ Miller, Pérez, Dudley, & Mannix. “Regulatory Reforms to Enhance Competition: Recommendations for Implementing Executive Order 13725.” *The George Washington University Regulatory Studies Center*. May 11, 2016.

³⁴ Executive Order 13725. “Steps to Increase Competition and Better Inform Consumers and Workers to Support Continued Growth of the American Economy.” April 15, 2016. Available at: <https://www.whitehouse.gov/the-press-office/2016/04/15/executive-order-steps-increase-competition-and-better-inform-consumers>

³⁵ Consumer Financial Protection Bureau. *Manufactured-housing consumer finance in the United States*. September 2014. http://files.consumerfinance.gov/f/201409_cfpb_report_manufactured-housing.pdf

³⁶ Robert W. Wilden. “Manufactured Housing And Its Impact on Seniors.” *Prepared for the Commission on Affordable Housing and Health Facility Needs for Seniors in the 21st Century*. February 2002. http://govinfo.library.unt.edu/seniorscommission/pages/final_report/g5.pdf

³⁷ 79 FR 41456-7

For more information on the Appliance Standards and Rulemaking Federal Advisory Committee, see: <http://energy.gov/eere/buildings/appliance-standards-and-rulemaking-federal-advisory-committee>

raised concerns that the Manufactured Housing Institute is using the negotiated rulemaking process to push competitors out of the market.³⁸

DOE is required by statute to consider “the impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the imposition of the standard” before finalizing an efficiency standard.³⁹ This evaluation is typically conducted by the Department of Justice (DOJ); however, DOE does not reference DOJ’s competition analysis in its proposed rule, and we could not locate DOJ’s competition analysis in the docket.

Due to the concerns about potential anti-competitive effects, and due to President Obama’s recent Executive Order 13725, DOE should pay particular attention to the prospective effects of its proposed rule on competition within the MH market.

Retrospective Review

Potential for Conflicting Standards

DOE is attempting to ensure that its proposed standards will not conflict with the standards for manufactured housing issued by HUD:

DOE’s intention in proposing energy conservation standards for manufactured homes is that, if finalized, there would be no conflict between the proposed requirements and the construction and safety standards for manufactured homes as established by HUD.⁴⁰

Although much thought has gone into resolving any potential conflicts early in the rulemaking process, DOE might consider whether to commit to retrospectively reviewing its rule after implementation to assess any potential overlap or conflicts between the two standards.

Effect on Manufactured Home Ownership

The Federal government has identified increasing MH ownership as a means to expand affordable housing options, especially in rural areas and in the South.⁴¹ This goal has been

³⁸ See the Manufactured Housing Association for Regulatory Reform, “DOE Publishes Destructive MH ‘ENERGY’ Rule – Schemes To Blunt Growing Opposition.” June 20, 2016. “Thus, the industry’s largest corporate conglomerates – and their national representative MHI – have not only “gone along” with DOE, but appear to have worked publicly and behind the scenes to advance government action that will disproportionately harm smaller competitors. This, together with a level of industry domination that either does—or will—exceed half the national manufactured housing market, raises antitrust questions that should and will be explored further.” <http://www.mhmarketingsalesmanagement.com/latest-news-from-mharr/11731-doe-publishes-destructive-mh-energy-rule--schemes-to-blunt-growing-opposition>

³⁹ 42 U.S.C. 6295(o)(2)(B)(i)(V). <http://www.gpo.gov/fdsys/pkg/USCODE-2010-title42/pdf/USCODE-2010-title42-chap77-subchapIII-partA-sec6295.pdf>

⁴⁰ 81 FR 39780

⁴¹ Maria I. Marshall & Thomas L. Marsh. “Consumer and investment demand for manufactured housing units.” *Journal of Housing Economics*. Vol. 6 Issue 1, March 2007.

furthered by HUD, which, pursuant to the 2000 Manufactured Housing Improvement Act, is responsible for facilitating the availability of affordable manufactured homes.⁴² Because DOE's proposed rule will make manufactured homes less affordable and price some customers out of the MH market, the Department may want to revisit the effect of its energy efficiency standards on the federal government's goal to increase the availability of affordable housing.

Conclusion

Because this proposed standard would overwhelmingly affect low-income households and elderly households, DOE should take special care to evaluate the distributive impacts of its rule and any potential regressive effects. Specifically, DOE may be overestimating the benefits of its proposal by disregarding resale market obstacles that prevent MH owners from recouping higher upfront costs from increased efficiency. These obstacles greatly reduce the lifetime to manufactured homes for some occupants and suggest that a significant portion of the purchasers of single-section and multi-section manufactured homes will bear net costs instead of benefits. Many of those who bear net costs are low-income households who are likely borrowing at higher rates to finance the purchase of their manufactured home.

There is already a range of energy efficiency among manufactured homes on the market, and as previous commenters have noted, the higher cost of more efficient units makes them inaccessible to many potential customers. It follows that mandatory, across-the-board increases in efficiency will price many low-income consumers out of the market for manufactured homes entirely. This will have two effects: the first is a negative distributional effect on MH owners, particularly low-income and elderly households, in the Southern U.S. The second is to counter the federal government's existing goal to increase homeownership and the accessibility of affordable housing.

The price increases that DOE projects as a result of its rule are largest in Climate Zones 1 and 2, where the costs of the standards are less likely to provide compensating benefits in the form of reduced heating costs. The regional distribution of effects means the Southern states will bear the highest costs. This is particularly important because the South has emphasized manufactured housing as a means to increase homeownership and a significant portion of manufactured homes are purchased in Climate Zones 1 and 2. The regions in these Climate Zones also have relatively higher poverty rates, so that distributive impacts are important to consider as DOE finalizes efficiency standards for manufactured homes.

⁴² U.S. Government Accountability Office. *MANUFACTURED HOUSING: Efforts Needed to Enhance Program Effectiveness and Ensure Funding Stability*. GAO-14-410. July 2014. <http://gao.gov/assets/670/664632.pdf>