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Meeting Minutes Manufactured Housing Consensus Committee

January 27 & 28, 2026

Meeting Minutes
Manufactured Housing Consensus Committee (MHCC)

January 27 & 28, 2026

Tuesday, January 27, 2026

Call to Order

The Manufactured Housing Consensus Committee (MHCC) meeting was held via webinar on Tuesday and Wednesday, January 27 and 28, 2026. Kevin Kauffman, Administering Organization (AO) Home Innovation Research Labs, called the meeting to order, conducted roll call, and announced that a quorum was present. MHCC members each introduced themselves and provided background information relating to their experience with the manufactured housing industry. See Appendix A for a list of meeting participants.

Introductions and Opening Remarks

Mary Jo Houton, Administrator Office of Manufactured Housing Programs and Designated Federal Official (DFO) welcomed the committee members and introduced herself. She indicated the importance of the role that the MHCC plays and how the experience and background of the members on the committee make this demanding work possible. DFO Houton recognized and thanked the six committee members whose terms ended at the end of 2025: Amy Batiste, Rita Dilenno, Derek Dodson, Keisha Hoggard, Aaron Howard, and Manuel Santana. She provided background information, and a brief history of how the US Department of Energy has been involved with the energy requirements for manufactured housing. DFO Houton welcomed Frank Cassidy, the Assistant Secretary for Housing and Federal Housing Commissioner. Ms. Houton thanked Commissioner Cassidy for his time indicating that HUD is fortunate to have a leader with his wealth of experience and vision for the future.

Commissioner Cassidy thanked everyone for the time to speak and address the MHCC and welcomed everyone to the meeting. He indicated that the MHCC's input is invaluable in the manufactured housing space. Mr. Cassidy briefly shared his background and experience in both the manufactured housing field as well as with FHA loans. He is honored to serve the Trump administration and looks forward to the work that will collectively be done. Commissioner Cassidy said manufactured housing is and will continue to be a large part of the affordable housing solution. He thanked the committee for their hard work at the previous MHCC meeting on the proposed regulations pertaining to chassis requirements of multi-story homes and the removal of the chassis on upper floors will increase the flexibility and availability of manufactured housing. Commissioner Cassidy emphasized the MHCC's input on the Department of Energy (DOE) Request for Information (RFI) is essential and is confident the MHCC's input will have a positive impact on the industry. He again thanked the committee for their time and indicated he is looking forward to the results of this meeting.

DFO Houton thanked the Commissioner for his time and willingness to address the committee at this meeting. She then continued her coverage of how the DOE has been involved in the energy requirements of manufactured housing. She explained the types of questions DOE is seeking answers to

in the RFI and emphasized the importance of the MHCC in providing responses and feedback on these questions. Ms. Houton thanked everyone again for their time and introduced the Acting Chair of the meeting, Tara Brunetti.

Ms. Brunetti thanked DFO Houton and the rest of the committee and guests for their participation in the meeting and indicated she is excited to get to work with the group. She briefly discussed the goals of the meeting, which were to provide comments and feedback on the DOE RFI. The MHCC comments can be found in Appendix C.

HUD staff and participating members of the public then introduced themselves.

Public Comment Period

See Appendix B for written public comments received prior to the meeting.

Lesli Gooch, Manufactured Housing Institute (MHI), thanked everyone for the opportunity to address the MHCC. Ms. Gooch informed the committee that MHI represents 90% of the HUD code homes that are built each year. MHI submitted written comments prior to the meeting, and she hopes the MHCC has had a chance to review them. She requested that the MHI letter submitted as a written public comment be included with the MHCC comments when they are submitted to HUD. Modern manufactured houses are very energy efficient and consistently rank among the highest performers per square foot. The controlled construction environment and rigorous construction and inspection protocols are key in achieving such high energy efficiency. There is an improper idea that most newly manufactured homes are built to the federal minimum standards when this is not the case. Due to the nature of two different bodies, HUD and DOE, both responsible for the building code for manufactured homes has led to legislative paralysis. The manufacturers, which MHI represents, typically and routinely surpass the minimums in the HUD code due to market demand. MHI considers it important that the committee should indicate that an ICC-based construction code is not appropriate for manufactured housing. Many of the ICC requirements are not applicable and are not able to be implemented into manufactured housing and would harm affordability. Ms. Gooch reminded the committee that previously the MHCC has rejected the DOE rule and believes that the DOE should be in an advisory role rather than setting the energy standards for manufactured homes. She referenced some current proposed legislation that would put the control of the building code back into HUD and the MHCC's hands. She thanked the committee for the opportunity to speak and looks forward to partnering with the MHCC for the benefit of the entire manufactured housing industry.

Sarah Newman, Responsible Energy Codes Alliance (RECA), informed the committee that RECA is a broad coalition of energy efficiency professionals, regional efficiency organizations, product and equipment manufacturers, trade associations, and environmental organizations with expertise in the development, adoption, and implementation of energy codes nationwide. RECA thanked the MHCC for the opportunity to provide a comment. RECA supports the adoption of either the 2021 or 2024 IECC as the guiding standard for manufactured housing energy conservation. Both codes represent a substantial improvement in efficiency for manufactured housing. RECA strongly encourages HUD to implement the 2022 Final Rule as soon as possible. The 2022 Final Rule represents many hours of careful consideration and public input, and it includes compromises specifically aimed at maintaining affordability and availability of manufactured housing. Most of the energy saving measures of the 2024 IECC that would be applicable to manufactured housing are already included in the 2022 Final Rule. Ms. Newman urged

HUD to focus on the work already done on the 2021 IECC and to implement this important update. According to RECA's understanding, the efficiency standard for manufactured housing has not been meaningfully updated in over 30 years. Technology has changed a great deal over that period. For example, the IECC has required windows to meet low solar heat gain requirements for over 20 years – an important provision in the southern half of the United States where air conditioning loads are high – yet there is no requirement for solar heat gain reduction in the manufactured housing standards. It is a straightforward, low-cost solution that has benefitted the owners of millions of homes constructed in the southern states through improved comfort, lower energy costs, and cooling system savings, but it is a benefit that is not guaranteed to purchasers of brand-new manufactured homes. There are many more areas in which the IECC has improved comfort and affordability for homeowners nationwide, while the manufactured housing energy standard has remained unchanged. RECA encourages HUD to implement the 2022 Final Rule as soon as possible, whether or not HUD reviews the 2024 IECC.

Mark Weiss, Manufactured Housing Association for Regulatory Reform (MHARR), thanked everyone for the chance to speak and address the committee. MHARR asked that the 2022 DOE standards be withdrawn for multiple reasons. MHARR submitted written comments and additional supplemental comments to the 2025 DOE released RFI. The bottom line of the comments is that the 2022 DOE standards are based on inputs that are invalid and inaccurate. The assumptions and cost estimates are based on the cost of carbon metric, and that metric has since been repudiated and rescinded by the federal government. The estimates are also based on the IECC which is based upon site-built homes – not manufactured homes. That fact was acknowledged by the MHCC in their October - November 2022 comments. The MHCC stated "if adopted as written, the final rule would adversely affect the entire manufactured housing program." To this date, nothing has changed and MHARR believes this is still the case. Manufactured homes are already energy efficient and the proposed DOE standards rely on rejected and repudiated inputs and should once again be rejected by the MHCC. Any tinkering with the standards by the MHCC is dangerous as it would be built on a shaky foundation. Mr. Weiss stated if the MHCC believes new energy standards are warranted, then the MHCC should develop those standards on their own and reject the tainted DOE standards on principle. Mr. Weiss requested that the following statements go on record and are included in the minutes. MHARR does not approve of the ability to only address the committee during scheduled public comment windows and does not believe there is any legitimate basis to exclude MHARR from the discussion while it's happening. This action minimizes the impact of MHARR participation.

Review of the Department of Energy's Request for Information Regarding Manufactured Housing Energy Conservation Standards

MHCC comments on the Department of Energy's Request for Information Regarding Manufactured Housing Energy Conservation Standards as recorded during this meeting can be found in Appendix C.

The MHCC discussed the rule in general and then began to go through the requested issues from the RFI sequentially.

Issue A-1

The MHCC generally agrees that the IECC is not the appropriate baseline for manufactured homes and a detailed discussion followed centered around what the appropriate baseline is. Members of the MHCC

emphasized the fact that even though the members of the MHCC have changed multiple times since the DOE rule was first published for comment, the consensus of the MHCC has not changed and the MHCC is and has always been against the DOE rule.

Issue A-2

Both members of the public and MHCC expressed agreement that the energy standards in the HUD code should be updated but noted that HUD and the MHCC should be the driving force behind that update, not DOE. Further MHCC discussion revolving around what the appropriate baseline is in response to this issue.

Issue A-3

MHCC discussion centered on how many manufactured homes are being built which meet the ENERGY STAR requirements. MHCC expressed concerns that the federal tax incentives ending would decrease the percentage of homes built to the ENERGY STAR standards.

Issue B-4

MHCC discussion focused on how the DOE cost estimates could be affected by using what the MHCC agrees is an improper baseline, which likely artificially inflated the cost and energy savings.

Issue B-5

In alignment with previous MHCC comments, the MHCC agreed that the current climate zones listed in the HUD code are appropriate and are the correct path moving forward.

Issue B-6

The MHCC discussed the impacts of the previous financial estimates included in the DOE rule, and after this discussion, used the response contained in a written comment submitted by MHI as their baseline response to this issue.

Issue C-7

The MHCC used the response contained in a written comment submitted by MHI as their baseline response to this issue.

Issue C-8

The MHCC used the response contained in a written comment submitted by MHI as their baseline response to this issue.

Issue C-9

After a brief discussion, the MHCC postponed discussion of this issue until the January 28, 2026, teleconference.

Issue C-10

The MHCC used the response contained in a written comment submitted by MHI as their baseline response to this issue. After discussing this issue and potentially editing the baseline response, the MHCC postponed further discussion of this issue until the January 28, 2026, teleconference.

Issue D-11

The MHCC discussed the costs of goods in general and determined that they do not have a good scientific measure of any increase in the costs of goods and the information being requested in this issue. The MHCC postponed further discussion of this issue until the January 28, 2026, teleconference.

Issue D-12

The MHCC used the response contained in a written comment submitted by MHI as their baseline response to this issue.

Issue E-13

The MHCC used a response contained in previous MHCC comments submitted to HUD regarding this issue.

Public Comment Period

Leslie Gooch, MHI, thanked everyone for their hard work on the teleconference today. She emphasized the importance of this process and the major impact on the manufactured housing industry. MHI heard on the floor of the House recently that someone said manufactured housing was substandard, which MHI knows not to be true. MHI wants to ensure the energy standard gets updated, but that update should follow HUD's established rulemaking process. Ms. Gooch thanked everyone for their work and consideration of MHI comments, and for representing manufactured housing.

Mark Weiss, MHARR, thanked the members of the committee for their hard work. Mr. Weiss appreciated the opportunity to address the committee during the discussions throughout the meeting rather than only during the specified public comment periods. The energy standards for manufactured homes should remain in the authority of HUD. There is a shortage of affordable housing and manufactured homes are a key element in addressing that shortage.

Tara Brunetti, Acting Chairperson, thanked the committee for their work and encouraged even more participation during the continuation of this teleconference on the following day.

DFO Houton thanked everyone for their participation and noted she is looking forward to continuing this discussion during the next teleconference.

Kevin Kauffman, AO, provided a brief synopsis of the steps immediately following the MHCC meeting. He thanked them for their dedication, hard work, and recognized the outstanding and productive meeting.

Adjourn

The motion to adjourn the meeting was carried.

Wednesday, January 28, 2026

Call to Order

The Manufactured Housing Consensus Committee (MHCC) meeting was held via webinar on Tuesday and Wednesday, January 27 and 28, 2026. Kevin Kauffman, Administering Organization (AO) Home Innovation Research Labs, called the meeting to order, conducted roll call, and announced that a quorum was present. MHCC members, HUD staff, and participating members of the public each introduced themselves. See Appendix A for a list of meeting participants.

Introductions and Opening Remarks

DFO Houton welcomed everyone to the meeting. She said yesterday's meeting was terrific, and a lot of progress was made and noted there are only a few items remaining that still require MHCC attention.

Tara Brunetti, Acting Chair, welcomed everyone to the meeting and was excited to get into the discussion.

Public Comment Period

Lesli Gooch, MHI, thanked everyone and emphasized this is an important process. MHI views this process as critical and agrees HUD should be setting all the requirements for construction of manufactured homes built to the HUD code. The DOE authority was a rider attached to a must-pass bill which created a disconnect between HUD and DOE both having legislative authority. Ms. Gooch wants to ensure HUD remains in the driver's seat for controlling the building code for manufactured homes as they have for the last 50 years. Manufactured housing's track record shows they are the most innovative and energy efficient homes available. The availability of manufactured homes is critical to address the shortage of affordable housing. She knows everyone on the call is supportive of the cause but warned the committee to not lose sight of the role that HUD has. Ms. Gooch noted that a representative from DOE was not present at the meeting, which has been the case in other MHCC meetings on this topic. She indicated MHI's commitment to be a partner with the MHCC in the manufactured housing space.

Mark Weiss, MHARR, thanked the AO and the MHCC for their hard work on the previous teleconference. He encouraged the committee to include definitive statements requesting DOE withdraw the 2022 Final Rule. There should be a clear and concise statement from the MHCC.

Review of the Department of Energy's Request for Information Regarding Manufactured Housing Energy Conservation Standards

The MHCC comments on the Department of Energy's Request for Information Regarding Manufactured Housing Energy Conservation Standards as recorded during this meeting can be found in Appendix C.

Issue E-13

Ms. Brunetti, Acting Chair, recapped the work that was done at the previous teleconference and brought the committee's attention to Issue E-13.

The committee finalized language stating that DOE should withdraw its final rule, HUD should be the sole enforcement agency, and if DOE chooses to make suggestions, they should submit them through HUD's established rulemaking process.

Issue E-14

Phillip Copeland expressed concern that the enforcement aspect of the 2022 Final Rule is the most concerning issue from his standpoint representing the Producer category. Having unknowns regarding enforcement by an outside party other than HUD is very troubling and could have a long-reaching negative impact on the industry.

The committee reaffirmed their previous position that DOE should withdraw its proposed rule, and HUD should remain the sole enforcement agency. The MHCC included previous MHCC comments pertaining to the DOE enforcement of the 2022 Final Rule detailing concerns about enforcement costs, confusion from multiple regulatory bodies, and implementation challenges.

Issue D-11

Phillip Copeland led the discussion which focused on inflation and other concerns addressed by Issue D-11 and with the help of the rest of the MHCC a response was drafted. The comment expressed that inflation is still a concern, DOE's previous rates were not reflective of actual industry experience, and supply chain shortages have largely been resolved but DOE's restrictive implementation timelines could have future unknown impacts.

Issue C-10

A robust MHCC discussion was held regarding the appropriate payback period for any potential savings resulting from an increase in energy efficiency of manufactured homes. Concerns were raised by multiple members if 7-10 years was the more appropriate payback period as that is the typical length of homeownership.

Grant Beck shared his concerns that the MHCC response as drafted was too focused on the initial purchase price and indicated that more attention should be paid to the financial burden and ongoing costs associated with living in these homes. The MHCC comment as drafted was missing that vital piece and emphasized initial purchase price too much.

Issue C-9

The MHCC discussion focused on the impact of costs and how they adversely affect those seeking housing. The MHCC was in general agreement but struggled with the appropriate way to capture their thoughts as a comment or response to this item.

A few members raised questions regarding what percentage of new homes sold are replacing older housing stock and what percentage contribute to new communities.

The committee finalized language stating that the accuracy of assumptions matters, DOE's efforts to be accurate have been flawed, and DOE's analysis fails to recognize basic supply and demand factors in the housing market.

General Comments

The MHCC focused their efforts on drafting some generalized comments regarding the DOE RFI that were broader in scope than the narrower issues for which DOE was seeking feedback. The MHCC also used this time to go over their responses to each of the issues and make any final modifications to its responses.

MHCC Motion: Requesting the AO submit to HUD the comments as recorded at this meeting regarding HUD's Request for Information - Energy Standards for Manufactured Housing.

Maker: Jayar Daily **Second:** Joe Sullivan

The motion carried with 1 negative vote.

Public Comment Period

Leslie Gooch, MHI, said the involvement of the MHCC in the manufactured housing industry is invaluable. The MHCC can always count on MHI to be a resource for data and information. She closed her comments by thanking the committee, the AO, and HUD.

Mark Weiss, MHARR, thanked everyone for their time and effort on these teleconferences. He appreciates the MHCC's thoughtful comments on the DOE RFI which reflect the significant problems that are present in the 2022 DOE Final Rule and proposed enforcement regulations.

Wrap Up – DFO & AO

Kevin Kauffman, AO, provided a brief synopsis of the steps immediately following the MHCC meeting such as the review and approval of the minutes. He thanked them for their dedication, hard work, and recognized the outstanding and productive meeting.

DFO Houton shared her thanks for everyone coming together to parse out these issues and have a robust discussion. She informed the committee of the process that will occur once the MHCC comments are submitted to HUD. The comments will go through a clearance process and will then be sent to DOE through interdepartmental communication channels. She shared that she and her team have been in communication with DOE, and they are expecting comments from the MHCC. She closed by again thanking the members of the MHCC, the AO, and the members of the public for their efforts on the teleconference.

Tara Brunetti, Acting Chair, thanked everyone for their participation. She thought the input from the public was very helpful and finished by thanking HUD for pulling this meeting together and the AO for running the teleconferences.

Adjourn

The motion to adjourn the meeting was carried.

Certification of Minutes

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

Tara Brunetti
Manufactured Housing Consensus Committee Chair
Certified via email on February 23, 2026

Appendix A:
MHCC Attendance and Guests

MHCC Attendance January 27 and 28, 2026

	Name	Day 1 January 27, 2026	Day 2 January 28, 2026
General Interest / Public Official	Tara Brunetti	Y	Y
	Jim Hightower		
	Kaye Lawlis	Y	Y
	Shelonda Marie-Alves	Y	Y
	Randy Saunders	Y	Y
Producer	Phillip Copeland	Y	Y
	Jayar Daily	Y	Y
	Robert Gann		
	Leo Poggione	Y	Y
	Sean Roberts	Y	
User	Grant Beck	Y	Y
	David Kruczek	Y	Y
	Tim Sheahan	Y	Y
	Evon Smith		
	Joseph Sullivan	Y	Y

HUD Staff:

Geraldine Aguolu
Barry Ahuruonye
Wisam Alhajjaj
Dennaire Anderson
Cheryl Borgstrom
Adrian Browner
Frank Cassidy
Tommy Daison
Alan Field
Michael Hollar
Mary Jo Houton
Leo Huott
Janet Li
Sam Lupas
James Martin
Alastair Mcfarlane
Jason McJury
Glorianna Peng
Ruth Roman
Demetress Ross
Jun Shi
Angelo Wallace

AO Staff, Home Innovation Research Labs:

Kevin Kauffman
Tynica Stefun

Guests:

Dave Anderson
Nawroz Aziz
Joe Boros
Mark Bowersox
Darrick Brewer
Catherine Brown
Dell Brown
Cassandra Dumay
Lesli Gooch
Robert Gorleski
Don Hart
Jane Hofilena
Steven Kelso
Jeff Legault
Michael Moglia
Tara Mooney
Sarah Newman
Harry Odum
Carrie Paine
Teresa Payne
Jessica Prestholt
Matthew Rabkin
William Sherman
Jessica Simmons
Roger Sorensen
Heather Sullivan
Constance Talley
James Turner
Madeline Tweden
Pat Walker
Lynne Walshaw
Daniel Weber
Mark Weiss
John Weldy

Appendix B:
Written Public Comments

Public Comments Received for January 27 & 28, 2026 MHCC Meeting	
1	Madeline Tweden - MHI
2	Mark Weiss - MHARR

January 23, 2026

Home Innovation Research Labs
Attn: Kevin Kauffman
400 Prince Georges Blvd.
Upper Marlboro, Maryland 20774
mhcc@homeinnovation.com

RE: Docket No. FR-6549-N-02 Notice of Federal Advisory Committee Meeting
Manufactured Housing Consensus Committee (MHCC) January 27 – 28, 2026

Dear Mr. Kauffman,

The Manufactured Housing Institute (MHI) is pleased to provide comments to the Manufactured Housing Consensus Committee (MHCC) pursuant to Docket Number FR-6549-N-02 in response to the Department of Energy's (DOE) Request for Information (RFI) on Energy Conservation Standards for Manufactured Housing published in the Federal Register on September 3, 2025.

MHI appreciates the Department of Housing and Urban Development (HUD) for taking action for the MHCC to respond to DOE's RFI on Energy Conservation Standards for Manufactured Housing. This MHCC meeting represents an important opportunity to reconsider the approach DOE has taken towards energy conservation standards for manufactured housing. The manufactured housing industry supports timely updates to energy efficiency standards, but through the appropriate regulatory channel: The U.S. Department of Housing and Urban Development (HUD) and the MHCC. MHI and its members have consistently advocated for updates to the Manufactured Housing Construction and Safety Standards (MHCSS), including enhanced energy standards. The MHCC met in the fall of 2022 and drafted proposed energy standards for manufactured homes that MHI strongly supports. However, these advancements have been stalled because of conflicting statutory authority with the DOE since 2007.

MHI is the only national trade association that represents every segment of the factory-built housing industry. Our members include builders, suppliers, retail sellers, lenders, installers, community owners, community managers, and others who serve our industry, as well as 48 affiliated state organizations. Our industry is on track to build more than 100,000 homes this year, accounting for approximately 9 percent of new single-family home starts. These homes are produced by 37 U.S. corporations in 151 homebuilding facilities located across the country. Today, MHI's home builder members represent over 90 percent of all manufactured homes constructed.

Manufactured housing is the most affordable homeownership option for American families. Last year, the average price of a manufactured home was $123,300, compared to approximately $406,000 for a site-built home (excluding land). The average income for a manufactured home buyer was about $63,000, while the average income for a site-built home buyer exceeded $143,000.

Additionally, manufactured homes are already among the most energy-efficient homes built in the U.S. today—more efficient than most code-minimum site-built homes. Factory construction produces tighter building envelopes, consistent installation practices, dramatically reduced waste, and uniform application of energy-efficient components. When performance and energy use per square foot are compared, manufactured homes routinely outperform their site-built counterparts.

The DOE 2022 Final Rule, which has not yet taken effect, was based on flawed methodologies and inadequate consultation with HUD and the MHCC. The rule would impose substantial cost increases on manufactured homes that would price tens of thousands of households—particularly low- and moderate-income families households—out of homeownership. The RFI appropriately recognizes the need to reassess these standards in light of Executive Order 14192, recent updates to the International Energy Conservation Code (IECC), and changed economic conditions including inflation, supply chain challenges, and higher interest rates.

MHI has prepared comprehensive responses to each of the 14 issues identified in the RFI for the MHCC to review and consider. These detailed responses address the technical, economic, and regulatory questions raised by DOE. This cover letter summarizes the major themes and recommendations across our responses for the MHCC's consideration.

I. Baseline and Analytical Methodology

Neither the 2024 IECC nor the 2022 Final Rule are cost-effective for manufactured housing. The 2024 IECC imposes even more stringent requirements than the 2021 IECC, including lower window U-values (0.27-0.28 versus 0.30) that current manufactured housing window suppliers cannot meet in required quantities, with significant cost increases; skylight requirements that may not be achievable with products available from manufactured housing vendors; and mandatory energy efficiency credits (Section R408) that may require expensive upgrades such as heat pump water heaters, high-performance heat pumps, and tankless water heaters. The 2024 IECC is less cost-effective than the already problematic 2021 IECC. Both demonstrate why manufactured housing energy standards should be developed as part of HUD's MHCSS through consultation with the MHCC in accordance with 42 U.S.C. § 5403 (Section 604 of the Manufactured Housing Construction and Safety Standards Act).

MHCC previous comments: The MHCC did not accept the 2021 IECC window U factors which are less stringent than the 2024 IECC values. On page 14, Table 2 Tier 2 (multi-section) Building Thermal Envelope Prescriptive Requirements of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC recommended lower window U-factors

- Climate Zone 1 .50 versus .32
- Climate Zone 2 .35 versus .30
- Climate Zone 3 .32 versus .32

The reasoning provided was the following: "Reduction in insulation requirements in walls leads to being able to continue building homes with 2x4 walls in all Climate Zones. Maintains more consumer options and amenities such as: cathedral ceilings, natural lighting, and material availability. Maintains transportation height for most industry designs. Additional transportation height leads to extra costs for additional transportation vehicles. These values are much more consistent with our statutory requirements to maintain affordability while improving energy efficiency. The values shown in the table would lead to an average increase in energy efficiency of 22%. The DOE values did not provide any payback to the consumer based on additional construction costs."

DOE's analysis should use an incremental cost-effectiveness analysis rather than wholesale IECC adoption. Every step in making homes more energy efficient costs more and saves less due to diminishing returns. The proper analytical approach examines each incremental improvement in efficiency individually, with each improvement standing on its own merits. Once an energy measure begins to result in negative returns, it is no longer cost-effective to add additional measures. By combining all energy measures into a single package, as DOE did in the 2022 Final Rule, the least cost-efficient measures are masked by the benefits of the most cost-effective measures.

MHCC previous comments: The MHCC already agreed with an incremental analytical approach to determining cost-effectiveness. On page 1 (first bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC general comments, stated the following: "The MHCC agrees that the energy efficiency requirements need to be updated but believes the updates should be done incrementally. The recommended changes shown in this document accomplish this incremental approach."

The 2022 Final Rule should not be the baseline for analysis. The 2022 Final Rule has not yet been made effective and should be fully reconsidered as it was based on flawed methodologies and inadequate consultation with HUD and the MHCC. An updated analysis should focus on both MHCSS and current industry practices. Today's manufactured homes already consume significantly less energy than site-built homes due to their smaller size and factory-built construction efficiencies. Any baseline for analysis must also include all costs for compliance, testing, and enforcement, which the 2022 Final Rule entirely omitted—a major analytical deficiency that rendered DOE's cost-effectiveness determinations fundamentally flawed.

MHCC previous comments: The MHCC already agreed that the final rule was based on an IECC site-built construction Code that was not practical with factory-built housing. On page 1 (fourth bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC general comments, stated the following: "DOE provided an energy conservation standard which was based on site-built construction and applied it to a performance-based national code. If adopted as written, the final rule would adversely impact the entire Manufactured Housing program and cost increases associated with compliance would reduce prospective purchasers (especially minorities and low-income consumers) from durable, safe, high quality and affordable housing."

When considering baselines, participation in branded energy programs, do not fully capture the extent of energy-efficient manufactured homes. Manufacturers frequently exceed existing code requirements due to: efficiency features demanded by retailers and communities, regional climate expectations, utility program incentives, and continuous improvements in factory processes. Formal certification programs capture only a narrow subset of homes, partially due to high program costs. Many manufacturers deliver homes that exceed HUD envelopes even when they are not labeled under Energy Star 2.0, Zero Energy Ready, or Northwest Energy Efficient Manufactured homes. In other words: program participation data does not equal actual energy-efficiency levels. Even with the expiration of a federal tax credit, the market's energy-efficiency profile is unlikely to shift. Manufacturers do not build Energy Star homes because of the tax credit; they build to meet customer, retailer, and climate-driven expectations. The credit may influence labeling, but not the efficiency of the homes themselves.

DOE's reliance on a 30-year life-cycle cost analysis to justify the cost-effectiveness of its standards is fundamentally flawed for manufactured housing. Based on industry data, manufactured homebuyers typically sell their homes within seven to ten years of purchase. The original purchaser bears the full upfront cost burden and will only realize a fraction of the projected 30-year energy savings before selling the home. Moreover, it is highly unlikely that a homebuyer financing a manufactured home purchase will be able to recover the additional upfront costs when selling the home. Any future analysis must reflect the actual time horizon over which the original purchase will own the home and capture energy savings.

II. Affordability and Financial Impacts

MHI appreciates DOE's recognition in the RFI that financial conditions have changed significantly since the 2022 Final Rule and that the economic circumstances of manufactured home purchasers warrant careful consideration. The unique financing challenges facing manufactured housing purchasers must be comprehensively addressed in any future analysis.

For manufactured housing purchasers, upfront purchase price is the decisive affordability factor, not long-term operating costs. The industry serves predominantly lower- and moderate-income households who face significant barriers to homeownership. An increased purchase price creates immediate obstacles that theoretical future energy savings cannot overcome. First, higher purchase prices directly impact loan qualification: any homebuyer at or near a lender's debt-to-income (DTI) requirement (e.g., usually 43% for FHA loans) will no longer qualify for financing because of increased monthly loan payments, regardless of potential energy savings. Second, higher purchase prices require proportionately larger down payments and closing costs, which many lower-income households cannot afford. If a household cannot afford to purchase the home in the first place due to upfront cost increases, projected energy savings over a theoretical 30-year period are entirely irrelevant, as the family will never realize those savings and may be excluded from homeownership altogether.

MHCC previous comments: The MHCC already agreed that any energy efficiency rule must preserve affordability. On page 2 (second bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "The MHCC has a statutory obligation to consider the cost impacts of all recommended changes to the MHCSS and preserve affordability to increase American home ownership and this obligation is reflected in the recommended changes."

Rising interest rates have worsened affordability challenges and reduced the cost-effectiveness of long-term utility savings. Most analysts predict that we will not soon return to the era of lower interest rates that persisted from 2008 to 2022. Accordingly, DOE should base its analysis on an assumption that higher interest rates will persist, rather than relying on long-term historical averages that would incorporate the recent, historically unusual period of low rates.

Manufactured home purchasers face significant barriers to financing. Home-only loans, which comprise 78 percent of manufactured home purchases according to data submitted during DOE's Manufactured Housing Working Group process for the prior rulemaking, carry significantly higher interest rates (often 10 percent or higher) and shorter terms than traditional mortgages. Manufactured home purchasers also face higher application denial rates. The difference between home-only and land-home interest rates has dramatic implications for the cost-effectiveness of energy efficiency investments and monthly payment affordability.

Material costs and supply chain challenges must be fully considered. DOE's assumptions on material costs and inflation in the 2022 Final Rule were based primarily on 2014 data and have proven heavily inaccurate. DOE assumed a nominal construction cost increase of 2.3 percent annually from 2014 to 2023, but the actual cost increase from construction materials from 2015 to 2025 was 60.1 percent—an average annual rate of 4.3 percent. Future analysis must use realistic assumptions about inflationary pressures, current material costs, and supply chain constraints to preserve affordability.

DOE significantly underestimated the price sensitivity of manufactured housing consumers. The industry serves predominantly lower-income households for whom even modest price increases can eliminate homeownership opportunities. DOE's elasticity assumptions in the 2022 Final Rule substantially understated the number of households that would be priced out of the market by the rule's cost increases. Any future analysis must use realistic price elasticity assumptions and comprehensively assess impacts on housing access for vulnerable populations.

III. Consultation and Regulatory Coordination

The manufactured housing industry supports timely updates to energy efficiency standards through HUD's standard process for updating the MHCSS in consultation with the MHCC. The MHCC met in the fall of 2022 and drafted proposed energy standards for manufactured homes that MHI strongly supports. With over 50 years of experience working with stakeholders to promote quality, safe and affordable manufactured homes, HUD is the appropriate agency to lead the development of updated energy standards in consultation with the MHCC. Recent bills introduced in Congress support this approach of HUD as the primary regulator for manufactured housing and DOE operating in an advisory capacity on energy standards updates.

Section 413 of the Energy Independence and Security Act (EISA) Has Stymied Progress on Energy Efficiency for Manufactured Homes. This provision was never properly vetted by Congress through regular order and contains language impractical and ill-suited to manufactured housing. Specifically, this provision directed the DOE to establish energy efficiency construction standards for manufactured housing in contravention of long-standing authority of HUD to promulgate federal construction standards for manufactured homes via the MHCSS, which the agency has overseen for over 50 years. This duplicative agency mandate has created regulatory confusion, undermined the goal of advancing practical energy efficiency improvements that can save homeowners on the energy bills, while jeopardizing the availability and affordability of manufactured homes. Nearly two decades after Congress directed DOE to act, the agency's prolonged failure to implement a rule demonstrates the inherent challenges and impracticality of applying the EISA rider to manufactured housing. When DOE finally issued its recommendations, HUD declined to adopt them, further underscoring that the rider's language was never properly vetted and is ill-suited for the unique characteristics of manufactured housing.

Off-Site Construction Process of Manufactured Homes Requires Expertise Unique to HUD. DOE's 2022 final rule is fundamentally flawed and unworkable for off-site construction. Per Section 413, it relies on the International Energy Conservation Code (IECC) designed for site-built construction homes. This fails to account for the unique characteristics of factory-built housing in which the final location and orientation of the home is often not known at the time of production. It also fails to appreciate the precision, sequencing, and transportation requirements inherent to an efficient manufactured housing process.

Beyond its technical mismatch, the DOE rule lacks a viable framework for testing, compliance, and enforcement. This regulatory gap creates uncertainty for manufacturers and impedes progress on energy efficiency improvements while also driving up costs of America's most affordable home ownership option. Worse still, it introduces a conflicting set of standards alongside HUD's existing code, undermining the regulatory clarity and efficiencies that have governed manufactured housing for decades and threatening the production of affordable homes. The rule was developed without meaningful input from those who understand the manufactured housing industry or the needs of the families it serves. When HUD's MHCC reviewed the DOE rule, it concluded that DOE failed to consider the unique nature of off-site construction — despite repeated outreach from both the MHCC and industry stakeholders.

DOE itself delayed implementation of the rule pending further rulemaking. This breakdown further illustrates why Congress, through the Manufactured Home Construction and Safety Standards Act of 1974, vested HUD with sole authority over federal construction standards for manufactured housing.

MHCC previous comments: The MHCC already agreed that DOE does not fully understand the factory-built off-site construction process. On page 1 (fourth bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "DOE provided an energy conservation standard which was based on site-built construction and applied it to a performance-based national code. If adopted as written, the final rule would adversely impact the entire Manufactured Housing program and cost increases associated with compliance would reduce prospective purchasers (especially minorities and low-income consumers) from durable, safe, high quality and affordable housing."

The 2022 Final Rule demonstrated fundamental failures in consultation. DOE did not provide HUD or the MHCC with meaningful opportunities to review and provide input on DOE's technical analysis, supporting data, or draft proposals. The MHCC subsequently reviewed the 2022 Final Rule and explicitly refused to recommend wholesale adoption into the MHCSS. The MHCC concluded that DOE circumvented the standards development process prescribed in EISA, failed to adequately justify costs, and produced a rule that would adversely impact the entire manufactured housing program and reduce access to affordable housing for minorities and low-income consumers.

MHCC previous comments: The MHCC already agreed that DOE circumvented the EISA standards development process. On page 1 (third bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "The MHCC has reviewed the DOE Final Rule and has determined DOE circumvented the standards development process prescribed in EISA which requires cost justification and consultation with HUD."

The most effective approach would be for HUD to update its energy standards for manufactured homes with DOE serving in an advisory capacity. Rather than creating separate DOE energy standards that must then be reconciled with MHCSS requirements, DOE may provide recommendations to HUD in developing unified standards incorporated into the MHCSS. This approach would eliminate conflicts between DOE and HUD requirements, reduce confusion for manufacturers, leverage HUD's existing design approval and production inspection processes, and avoid duplicative enforcement mechanisms.

HUD's approach is the best way to ensure the timely adoption of improved energy efficiency standards for factory-built housing, and to preserve the availability of affordable manufactured homes for American households. With a 50-year track record in regulating standards for manufactured homes and a proven testing, compliance, and enforcement regime, HUD is the right agency to do this.

Testing, compliance and enforcement procedures must be comprehensively integrated with rules imposing substantive energy standards. Testing, compliance, and enforcement are essential aspects of a regulatory regime for energy standards and should not be developed separately as an afterthought as DOE attempted in its 2023 Enforcement Proposed Rule. The 2023 proposal illustrated the problems of developing enforcement separately: it proposed only enforcement mechanisms without any testing procedures or compliance pathways, and it relied on MHCSS documentation that was never designed to demonstrate compliance with DOE's separate standards. The most sensible approach is to incorporate energy conservation standards into the MHCSS through HUD's process of updating its construction standards and rely on HUD's existing, proven enforcement infrastructure.

MHCC previous comments: The MHCC already agreed that testing, compliance and enforcement procedures must be comprehensively integrated with rules imposing substantive energy standards. On page 2 (first bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "The MHCC previously recommended that DOE include the substantial cost of testing, enforcement, and regulatory compliance in its costing analysis. The final rule did not consider these costs. The recommended changes implemented into the MHCSS allow for testing, enforcement, and regulatory compliance within HUD's existing framework which helps minimize costs to manufacturers and ultimately consumers. However, there still may be a gap in enforcement between HUD's final standards and DOE's final rule, which may need to be resolved."

IV. Technical and Practical Considerations

MHI strongly supports the continued use of the three HUD climate zones rather than the IECC climate zones. EISA explicitly authorizes this approach, and it is both statutorily appropriate and practically necessary. The manufactured housing industry has operated under the MHCSS's three-zone system since 1976. This framework was specifically designed to account for the unique aspects of factory-built housing, including design, construction techniques, transportation constraints, and the need for homes to be marketable across broad geographic areas. Creating a separate climate zone system solely for DOE energy requirements would fragment the unified MHCSS regulatory structure and significantly increase compliance costs and complexity.

MHCC previous comments: The MHCC already agreed that the three HUD climate zones should be retained and not replaced by the IECC climate zones. On page 11 (§3280.506 (a)) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "The building thermal envelope must meet either the performance requirements of this section or the prescriptive requirements of section 3280.507," referencing the HUD climate zone map.

DOE must allow a longer implementation period. Given the substantial changes to design and manufacturing processes that would be required by standards based on the IECC, any new standards should allow an implementation period of 3-5 years, consistent with DOE's typical approach for single-appliance energy efficiency standards. This timeline is essential to allow manufacturers to update designs and manufacturing processes, ensure appropriate materials can be supplied, and work through practical challenges such as transportation constraints and the availability of components that meet new specifications while remaining viable for manufactured housing production methods.

Conclusion

MHI strongly supports reasonable energy efficiency improvements for manufactured housing that are cost-effective and preserve the affordability that makes manufactured housing accessible to millions of American families. However, standards must be developed through the appropriate regulatory channel: The U.S. Department of Housing and Urban Development. MHI and its members have consistently advocated for updates to the MHCSS, including enhanced energy standards, through the MHCC process of recommendations to HUD. Updates must be based on sound analytical methodologies that accurately reflect manufactured housing construction realities and consumer financial circumstances, and must be established within HUD's comprehensive regulatory framework to avoid conflicts and duplicative requirements.

The detailed responses attached to this letter demonstrate that neither the 2024 IECC nor the 2022 Final Rule (based on the 2021 IECC) meet these criteria. Both would impose costs that exceed benefits when properly analyzed using realistic assumptions about material costs, interest rates, consumer price sensitivity, and compliance burdens. The most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may offer.

MHI appreciates this opportunity to provide comprehensive input on these critical issues and stands ready to continue working collaboratively with HUD and the MHCC to develop appropriate energy conservation standards for manufactured housing. We welcome any questions regarding the responses provided herein.

Sincerely,

Lesli Gooch, Ph.D.
Chief Executive Officer

Appendix I: Comprehensive Responses for the Fourteen Issues

Issue A–1: Cost-effectiveness of 2024 Standards

> "DOE seeks data and information regarding basing standards on the most recent version of the IECC; in particular, whether standards based on the 2024 IECC would or would not likely be cost effective or that standards more stringent than 2024 IECC would or would not be cost effective. In addition, comments should describe the basis for their perspective on compliance cost and other costs borne by consumers (e.g., layout of housing less attractive or functional due to increased insulation), cost effectiveness, including a description of methodology or analytical assumptions."

Response:

Imposing standards from the 2024 International Energy Conservation Code (IECC) would not be cost-effective for manufactured housing and would substantially reduce affordability for the nation's most cost-efficient housing option, potentially jeopardizing homeownership for tens of thousands of Americans. Beyond direct financial costs, these standards could eliminate popular design features and limit consumer choice, reducing the appeal and functionality of manufactured homes.

Use of the IECC is Fundamentally Inappropriate for Manufactured Housing

The IECC was developed for site-built residential and commercial construction. It was not intended or designed to be implemented in the manufactured housing sector and fails to consider the unique construction methods, transportation demands, and regulatory framework of the manufactured housing industry. Both the 2022 Final Rule imposing the 2021 IECC standards and the 2024 IECC standards would mandate costly changes to factory-built production that are impractical or, in some cases, impossible to implement.

Manufactured housing is the only form of housing regulated by a federal building code. Unlike site-built homes, which are subject to different state and local regulations, manufactured homes are built to one uniform federal code—the Manufactured Home Construction and Safety Standards Act of 1974 (MHCSS). The MHCSS's single regulatory framework for home design and construction includes standards for quality, safety, energy efficiency, and durability. Imposing IECC standards creates fundamental conflicts with this existing regulatory structure.

Like the 2022 Final Rule, the imposition of the 2024 IECC would necessitate changes related to the building thermal envelope; air sealing; installation of insulation; duct sealing; heating, ventilation, and air conditioning (HVAC); service hot water systems; mechanical ventilation fan efficacy; and heating and cooling equipment sizing for manufactured homes. These standards contain requirements that raise critical issues with components and materials currently used in the production of manufactured homes and with the manufacturing processes themselves.

Insulation and Thermal Envelope

Imposing the IECC standards on manufactured housing creates significant practical challenges that will increase costs. For instance, the insulation requirements in both the 2022 Final Rule and the 2024 IECC will present significant design and material sourcing problems. Manufacturers are currently using R-11 insulation for most applications, which is predominantly used in walls and floors for Zones 1 and 2. Manufacturers typically prefer to use two layers of R-11 when additional floor insulation is needed. However, the 2022 Final Rule specified a lowest insulation value of R-13, which may cause supply issues for manufacturers that have ramped up to supply large quantities of R-11. Similar supply issues exist for R-20 and R-19 insulation, which is not currently produced in the large quantities necessary to meet manufactured housing demand.

Sourcing materials for the R-5 continuous exterior insulation required by the 2024 standards also presents significant challenges. It will be difficult to identify materials that meet both the 2024 IECC requirements and the current MHCSS requirements. Additionally, R-5 continuous installation would add labor costs to build door and window framing to match the insulation thickness. The standards have specific requirements for the perm rating of exterior wall assemblies, and the perm ratings of rigid foam insulation materials may lead to redundant vapor barriers and stud cavities that do not breathe properly. This represents a potential conflict between 2022 Final Rule or 2024 IECC standards and the current MHCSS that could compromise building durability and occupant health.

The higher R-values required in the floor by both the 2022 Final Rule and the 2024 IECC will necessitate batt insulation installed between the floor joists combined with a blanket below the joists. Most manufacturers do not currently use this floor insulation technique and would need to modify their production processes. Additionally, installing the required R-30 insulation into roof cavities over the top plate at the truss heel is infeasible due to the required thickness and limited space available. Modifying designs to accommodate this insulation requirement will add substantial cost. Most manufacturers keep 50 to 100 different home models in production at any given time, so design documents would have to be modified for each impacted model. Thereafter, manufacturers, DAPIAs, IPIAs, HUD, and State Administrative Agencies (SAAs) would have to approve the changes and retrain their personnel as needed, at substantial expense.

The 2024 IECC and the 2021 IECC also both assume the floor decking is part of the thermal envelope and require all floor penetrations to be sealed, which is sensible for site-built housing. However, the thermal envelope for manufactured housing extends to the bottom board. Sealing all the floor penetrations is not practical and would add unnecessary expense.

The 2024 IECC also increased the overall air sealing requirement, at various levels by climate zone. As stated in our prior comments, the testing requirements for both air sealing and duct leakage could add substantial cost, particularly for multi-section units if post-installation inspections are necessary. It is essential that these testing costs be considered in DOE's cost-benefit analysis.

High-cost Appliances Necessitated by IECC Energy Credit System

The 2024 IECC requires homes to obtain additional energy credits from a set of options with different scoring based on climate zones. Several of the options are not applicable or feasible for manufactured housing. To meet these requirements, manufacturers would have to add expensive elements such as heat-pump water heaters, high-efficiency heat pumps, and/or 95% efficiency gas furnaces that will substantially increase costs for consumers, particularly for existing lower-cost home options.

HVAC Equipment Sizing Requirements

Both the 2024 IECC and the 2022 Final Rule require heating and cooling equipment to be sized in compliance with ACCA Manuals J and S. This requirement creates an untenable conflict with the MHCSS and the fundamental realities of manufactured home production and distribution. ACCA Manual J requires knowledge of the exact location and orientation of the home relative to the sun for cooling load analysis. However, manufacturers typically do not know where a home will be sited or its final orientation until after it is installed, often hundreds of miles from the production facility. This requirement is particularly problematic in Thermal Zone 3, where design parameters can vary substantially. ACCA Manual S establishes sizing limits that presume thermal loads are established for a specific location and building orientation, but the variation in design parameters within a single HUD thermal zone exceeds the sizing limits established by ACCA Manual S.

Furthermore, the MHCSS requires manufacturers to install furnaces that are "listed or certified by a nationally recognized testing agency for use in manufactured homes." The current supply of HUD-approved furnaces can be oversized by as much as 200 percent under the MHCSS because the United States is divided into three broad climate zones that can vary drastically within each zone. However, ACCA Manual S prohibits oversizing equipment by more than 40 percent. As a result, there are currently no furnaces available that are both rated for use under the MHCSS and that comply with Manual S/Manual J requirements. This conflict effectively eliminates the longstanding industry practice of manufacturing homes for stock inventory, which provides retailers with floor models and allows consumers to purchase and move into homes quickly. Requiring homes to be custom-ordered and sized for specific locations would substantially increase costs, extend delivery times, and reduce the flexibility that makes manufactured housing accessible to price-sensitive buyers.

Transportation Constraints and Practical Limitations

The changes required by both the 2022 Final Rule and the 2024 IECC will significantly affect the overall shipping height and width of homes. In some cases, these changes are substantial and create serious practical problems. For example, to meet the required U-value performance for Tier 2, Zone 3 homes, manufacturers would need to change from 2x6 floor joists to 2x8 floor joists, change from 2x4 exterior walls to 2x6 exterior walls, and increase the truss heel height from 3-1/2 inches to 5-1/2 inches. These changes increase the shipping height from 14 feet 4 inches to 14 feet 8 inches or more. The additional height could prevent shipping a home into areas of the country with low bridges, resulting in consumers having to settle for a different style of home or, more likely, being forced out of the housing market entirely due to lack of affordable housing options in their area.

Furthermore, homes that exceed maximum width or height may require an additional escort or pole car to accompany the transport, which could add thousands of dollars to the final price for the consumer. These transportation-related costs were not reflected in DOE's cost-benefit analysis in the 2022 Final Rule but represent real, substantial expenses that directly impact affordability.

Limitations on Consumer Design Choices

Beyond direct construction and material costs, the IECC standards would eliminate many architectural and design features that consumers value, significantly limiting the range of home styles and options that manufacturers can offer.

The increased insulation thickness requirements would make optional vaulted ceilings impossible to construct in many home designs. Currently, vaulted ceilings are a popular option that enhances the aesthetic appeal and perceived spaciousness of manufactured homes. Due to the R-38 ceiling insulation requirement and increased truss heel height, the attic space in some designs becomes too constrained to accommodate vaulted ceiling construction. This represents a significant loss of consumer choice and reduces the architectural appeal of manufactured homes.

Similarly, options for 8-foot or 9-foot wall heights and transom windows would be severely limited or eliminated. These features are important to consumers who desire homes with a more spacious feel and enhanced natural lighting. HUD recently updated exterior door requirements in the MHCSS to better accommodate the open floor plans preferred by consumers. The combination of thicker walls, deeper floor joists, and increased heel heights necessitated by the 2022 Final Rule and 2024 IECC would constrain the ability to offer these popular design features while staying within transportation height limits.

The necessity of using exterior walls instead of 2x4 walls results in heated and cooled interior space being reduced by approximately 27 square feet in a typical multi-section home. While this may seem modest, it represents a meaningful loss of usable living space for consumers purchasing homes that are already carefully designed to maximize functionality within standard dimensions.

Additionally, manufacturers may need to make floor plan changes to accommodate the additional insulation and structural modifications required by the standards. The industry has developed floor plans over decades based on the realities of manufactured housing construction, transportation, and installation. Forced redesigns to accommodate IECC requirements may result in less functional and less appealing layouts.

Window Limitations

To achieve the required U-values under the prescriptive pathway, manufacturers would need to significantly reduce the number of windows or use windows with much lower U-values (0.30 or better) than are currently standard. In some scenarios analyzed, manufacturers would need to eliminate windows almost entirely to meet performance requirements—creating homes that would fail to meet basic code requirements for egress, light, and ventilation.

Even with substantial changes to wall and floor construction, incorporating a reasonable number of windows requires upgrading to windows with a U-value of 0.30 or lower; the 2024 IECC sets a standard of 0.28 or 0.27 in some climate zones. The U-value for skylights was also lowered in the 2024 IECC. Windows and skylights meeting these standards are not readily available in the market for manufactured housing applications.

Miscellaneous Additional Requirements

In addition to the items mentioned above, the 2024 IECC would add cost in the following areas:

- Increased insulation requirements for hot water pipes (R-3 to R-7)
- Lower efficiency ratings and special switches required for bathroom exhaust fans.

The cost-effectiveness of these new requirements should be analyzed in consultation with the industry.

Competitive Disadvantage Relative to Site-Built Housing

These design limitations would reduce the appeal of manufactured housing relative to site-built homes, many of which are built to less stringent standards in jurisdictions that have not adopted the most recent IECC. DOE has a statutory obligation to publish a determination on the most recently published residential energy code, as compared to the previous version. State and local jurisdictions rely on these determinations to guide their code adoption processes in ways that benefit homeowners in terms of higher quality homes and lower energy bills. DOE's evaluation and determination does not consider manufactured housing. To date, only 10 states have adopted the 2021 IECC standards or higher. This creates a fundamental inequity where the most affordable housing option—manufactured housing—would face the most restrictive requirements, while more expensive housing options retain greater design flexibility.

Cost-Benefit Analysis Methodology

Any assessment of the cost-effectiveness of the 2024 IECC standards must avoid the analytical deficiencies of the prior DOE rulemaking efforts. Our responses to issues A-2 and B-4 provide greater detail on these deficiencies and recommended improvements. Importantly, DOE's analysis did not fully account for the costs associated with testing, certification, and enforcement. These compliance costs represent real expenses that will be passed on to consumers but were not included in DOE's cost-benefit calculations. The absence of these costs from the analysis rendered DOE's conclusions about cost-effectiveness incomplete and unreliable.

Upfront Financial Burden of the 2024 IECC is Significant

Mandating the 2024 IECC standards for manufactured housing would substantially increase costs and would directly undermine the goal of affordable homeownership. An analysis performed by Home Innovation Research Labs found that the adoption of the 2024 IECC could increase upfront costs for a typical site-built home by as much as $10,245 relative to 2018 standards.[1] The 2022 Final Rule estimated that costs would increase by over $5,000 for multi-section units, and we expect that the 2024 IECC would be even more costly.

These significant increases to the purchase price of a manufactured home will result in higher required down payments and higher monthly mortgage payments, reducing the number of households that can qualify for a mortgage to purchase a home based on the debt-to-income limits used by mortgage providers. For low- and moderate-income purchasers who rely on manufactured homes for attainable homeownership, even modest cost increases lead to loan denial, effectively pricing thousands of eligible families out of the market entirely.

Conclusion

Standards based on the 2024 IECC would not be cost-effective for manufactured housing when all costs are properly considered, including material cost inflation, compliance expenses, transportation challenges, and the loss of consumer design options. These standards would substantially increase the purchase price of manufactured homes while eliminating popular features that consumers value, making homeownership unattainable for tens of thousands of families annually.

The most constructive path forward is for HUD and the MHCC to develop energy efficiency improvements that are specifically designed for manufactured housing, that account for the unique aspects of factory-built construction, that preserve the affordable housing mission of the industry, and that maintain reasonable consumer choice, considering any input that DOE may have. Incremental improvements based on careful analysis of what is technically and economically feasible is the best way to keep the construction standards up to date and preserve access to homeownership for America's working families.

[1] Home Innovation Research Labs, "2024 IECC Cost Analysis for Single-Family Homes", January 13, 2025.https://www.nahb.org/-/media/NAHB/advocacy/docs/top-priorities/codes/code-adoption/2024-iecc-cost-analysis-hirl.pdf

Issue A–2: Appropriate baseline for analysis

> "DOE seeks input on the appropriate baseline to use in conducting further technical analysis in support of an updated manufactured housing energy conservation standards rulemaking. We seek information on the best representation of the current state of energy efficiency in manufactured housing to characterize the baseline— e.g., the HUD standards, the 2022 Final Rule efficiency levels, or another efficiency level."

Response:

To identify the most cost-effective energy standards for manufactured housing, an incremental approach should be applied—one that accounts for the diminishing cost savings associated with higher levels of energy-efficiency investment. In the 2022 Final Rule, DOE estimated energy savings by comparing homes built to the current HUD energy standards with homes meeting the 2021 IECC in select locations. At that time, most manufactured homes already exceeded the outdated HUD standards. As a result, the comparison produced an exaggerated difference in energy use and estimated costs between benchmarks that were not aligned with industry practice. These inflated "savings" were then used to justify excessive upfront energy conservation costs. In reality, energy improvements yield diminishing returns, and today's manufactured homes are already highly energy efficient.

Every step in making homes more energy efficient costs more and saves less. The biggest savings come from the first measures to improve performance. For example, adding R-5 insulation to a wall that is R-10 saves more energy than adding the same amount of insulation to a wall that is already R-20, but it costs the same. If you are aiming to optimize investment (i.e., find the lowest combination of construction and operating costs) the proper way to do the analysis is by examining each incremental improvement in efficiency individually. Each performance improvement must be cost justified and stand on its own. Once an energy measure begins to result in negative returns, it is no longer cost effective to add additional measures. DOE developed and promoted a Building Energy Optimization Tool that used this incremental approach to find the optimum investment. By combining all the energy measures together into a single figure, the slim benefits of adding the last, least cost-efficient measures, is subsumed in and masked by the benefits of adding the first, most cost-effective measures.

Today's manufactured homes already consume significantly less energy than site-built homes. According to the U.S. Energy Information Administration, "most energy end-uses are correlated with the size of the home. As square footage increases, the burden on heating and cooling equipment rises, lighting requirements increase, and the likelihood that the household uses more than one refrigerator increases. Square footage typically stays fixed over the life of a home and it is a characteristic that is expensive, even impractical to alter to reduce energy consumption."[2] According to the U.S. Census Bureau, the median size of a completed single-family house in 2020 was 2,261 square feet, while the median size of a manufactured home was 1,338 square feet. The significant difference is size correlates with a significant reduction in energy usage. A study of residential energy consumption showed that manufactured homes consume the least energy of all types of homes, at 59.8 million BTUs per household, compared to 94.6 million BTUs for single-family detached homes and 70 million BTUs for townhomes.[3]

[2] https://www.eia.gov/consumption/residential/reports/2009/square-footage.php
[3] https://www.eia.gov/consumption/residential/data/2015/c&e/pdf/ce1.1.pdf

Further, the controlled environment of the factory-built process not only offers consumers unmatched quality and affordability due to technological advancements and other advantages, but the industry is a pioneer in the development of processes that value efficiency and reduce waste. Our in-factory home builder members are constantly developing new initiatives and technologies, such as comprehensive recycling programs, to reduce waste. The factory-built process utilizes exact dimensions and measurements for most building materials, eliminating waste. Today's modern manufacturing plants are so efficient that nearly everything is reused or recycled such as cardboard, plastic, carpet padding, vinyl siding, scrap wood and much more. This stands in sharp contrast to the widespread use of commercial dumpsters at traditional site-built homes.

Finally, it would be inappropriate to use the 2021 IECC or 2022 Final Rule as the baseline for analyzing the implementation of the 2024 IECC standards. On July 2, 2025, DOE extended the compliance date for both Tier 1 and Tier 2 manufactured homes until after the publication of a final enforcement rule, which is still pending. The 2022 Final Rule has not been incorporated into the HUD Manufactured Housing Construction and Safety Standards (MHCSS), and these standards have not been broadly adopted by the industry. Additionally, most states have not adopted the 2021 or 2024 IECC standards for site-built homes.

Given the high level of energy efficiency prevalent in the manufactured housing industry and the current state of energy codes reflected in the states for site-built homes and in the MHCSS, an incremental analysis of individual standards is the best method to ensure the optimum cost-efficiency for consumers.

Additionally, the baseline for analysis should consider costs for compliance, testing, and enforcement (CTE) imposed by the new standards. The 2022 Final Rule did not include provisions for CTE and failed to include any CTE costs in their cost-benefit analysis. This was a major deficiency in the rule and artificially deflated the cost impact to the industry and consumers for such rule, negatively impacting the regulatory efficiencies that enable this industry to produce quality homes at affordable price points. Any such costs imposed on manufacturers will be passed on to consumers and may render the new standards not cost efficient.

Issue A–3: Impact of expiration of Energy Star tax credit.

> "While DOE typically considers existing standards to be the minimum baseline, DOE also typically takes into account any information that demonstrates current manufacturing practice results in a range of efficiencies available in the marketplace. For example, significant percentages of manufactured home shipments historically met the Energy Star criteria. Between 2020 and 2022, approximately 21 percent of buildings met the Energy Star criteria for manufactured homes, while in 2023 the fraction was 36 percent. DOE notes that in 2023 the Federal tax credits were increased from $1,000 to $2,500 for manufactured homes meeting Energy Star and certain researchers have postulated that the tax credit program influenced the 2023 results. DOE seeks input to best assess appropriate baseline efficiency levels reflective of what is observed in shipments in the manufactured housing market. Specifically, DOE seeks input on fractions of manufactured homes with building envelopes constructed effectively at the current HUD requirements for their HUD region, fractions that would meet the lower Uo 5 envelope requirements under the EnergyStar 2.0 criteria, and fractions currently constructed at the 2022 final rule Uo levels to best assess appropriate baseline efficiency levels reflective of what is observed in shipments in the manufactured housing market. As part of this request, DOE requests input on the impact of the expected expiration of the Federal tax credit on the fraction of shipments that meet Energy Star criteria."

Response:

The manufactured housing industry offers consumers a broad range of energy-efficient options, including homes built to the highest standards. New factory-built homes are not only as efficient as site-built homes, but in 2024 approximately 47 percent of manufactured homes were certified to meet Energy Star 2.0 standards. Many additional homes achieved comparable efficiency levels without formal certification because affordability is a critical consideration for homebuyers. Energy Star certification adds roughly $1,000 to the cost of a home, and manufacturers often choose to avoid this additional expense while still delivering homes with equivalent energy performance. Like site-built homes, manufactured homes incorporate energy-efficient features tailored to the climate conditions of the region where they will be located.

It is important to note that today's manufactured homes already meet high energy-efficiency standards, and improvements beyond these levels yield diminishing returns. While the federal tax credit for energy-efficient homes has influenced some purchasing decisions, manufacturers have consistently produced Energy Star-compliant homes even before the credit increase in 2023. As the credit expires, we expect some reduction in the share of certified homes due to higher price points for consumers, but the industry will continue to offer significant numbers of homes meeting Energy Star 2.0 standards. This reflects our ongoing commitment to energy efficiency while balancing affordability for consumers, which is the hallmark of manufactured housing.

Issue B–4: Changes to analytical approach

> "What analytical aspects related to DOE's May 2022 Final Rule should DOE consider re-examining as part of its ongoing consideration of energy efficiency standards for manufactured housing? This request for input encompasses whether DOE's analysis sufficiently addressed the cost- effectiveness of standards based on the then-current 2021 IECC when considering the code's impact on both the purchase price of manufactured housing and on total life-cycle construction and operating costs. See 42 U.S.C. 17071(b)(1). If changes are recommended, how should DOE reconsider how it addressed costs (even those that are hard to quantify) and the cost-effectiveness of the IECC criteria and what specific changes, if any, should DOE make to its assumptions or analyses to better address this in any future analysis for manufactured housing? As part of this request, DOE encourages commenters to provide specific supplemental supporting data regarding any changes that commenters may suggest."

Response:

The analytical approach used by the Department of Energy in the 2022 Final Rule was fundamentally deficient and produced deeply flawed conclusions regarding cost-effectiveness. The multiple methodological errors, inaccurate assumptions, and omitted costs render the 2022 Final Rule's cost-benefit analysis unreliable and inappropriate as a basis for energy conservation standards for manufactured housing. These deficiencies demonstrate that DOE is not the appropriate agency to lead the development of manufactured housing energy standards. Instead, these standards should be developed as part of HUD's Manufactured Housing Construction and Safety Standards (MHCSS) through consultation with the MHCC in accordance with 42 U.S.C. § 5403 (Section 604 of the Manufactured Housing Construction and Safety Standards Act), considering any input DOE may have.

Failure to Consider Unique Characteristics of Manufactured Housing

The analysis failed to adequately consider the unique characteristics of manufactured housing, including factory construction methods, transportation requirements, and the distinct regulatory framework under the MHCSS. Unlike site-built homes subject to varying state and local codes, manufactured homes are built to one uniform federal standard that integrates requirements for quality, safety, energy efficiency, and durability. The wholesale adoption of IECC standards developed for site-built construction ignores these fundamental differences and creates conflicts with existing MHCSS requirements that were not properly analyzed or resolved.

Inappropriate Use of 30-Year Life-Cycle Cost Analysis

The 30-year Life-Cycle Cost (LCC) approach used by DOE in the 2022 Final Rule is not an appropriate method to determine cost-effectiveness for an initial buyer of a manufactured home. This analytical flaw fundamentally distorts the cost-benefit calculation in several critical ways:

Based on MHI's industry data, manufactured homebuyers usually sell their homes within seven to ten years of purchase. The original purchaser—who bears the full upfront cost burden of energy efficiency improvements—will only realize a fraction of the projected 30-year energy savings before selling the home. Basing cost-effectiveness determinations on benefits that accrue over 30 years when the typical owner will only capture 7-10 years of those benefits grossly overstates the value proposition for the actual purchaser making the buying decision.

It is highly unlikely that a manufactured homebuyer financing the purchase of a new manufactured home will be able to recover the additional upfront costs of energy efficiency improvements at a future sale. The resale market for manufactured homes does not typically reflect or reward the incremental investment in energy efficiency features in a manner that would allow cost recovery.

The use of a 30-year analysis period obscures the fundamental affordability challenge these standards create. The increased upfront cost is borne immediately by purchasers who are disproportionately lower-income households, while the purported benefits are spread over three decades and largely accrue to subsequent owners. This temporal mismatch makes the 30-year LCC analysis particularly inappropriate for assessing whether standards are truly cost-effective from the perspective of the consumer making the purchase decision.

Failure to Account for Access to Financing

The analysis must consider the impact of upfront price increases on purchasers' eligibility for mortgage financing, regardless of projected energy savings. An increased home purchase price results in a proportionate increase in the homebuyer's debt burden. Debt-to-income ratio is a key determinant of loan qualification. For instance, FHA's customary debt-to-income (DTI) requirement is 43 percent. Therefore, any homebuyer at the edge of this 43 percent DTI requirement will no longer qualify for an FHA loan because of a price increase caused by new energy standards.

This impact is not theoretical. In 2024, 35 percent of denied loans for manufactured home purchases listed the applicant's debt-to-income ratio as a reason for denial.[4] Any theoretical savings projected by the rule are meaningless if the price increase causes the homebuyer to no longer qualify for a mortgage loan because they no longer meet DTI underwriting requirements. Any increase in purchase price will also necessitate a higher down payment, which may present a significant obstacle for many lower-income households who are already struggling to accumulate sufficient savings for homeownership.

These financing barriers disproportionately affect lower- and moderate-income families for whom manufactured homes represent the most affordable path, and often the only path, to homeownership. DOE's failure to adequately model these impacts represents a critical gap in the cost-effectiveness analysis.

Inaccurate Material Cost and Inflation Assumptions

DOE's assumptions on material costs and interest rates were calculated primarily in 2014 leading up to the 2016 Proposed Rule and have proven wildly inaccurate. These flawed assumptions fundamentally undermined the reliability of the cost-benefit analysis.

Most notably, DOE assumed a nominal construction cost increase of 2.3 percent annually from 2014 to 2023, but the actual cost increase from construction materials from 2014 to 2021 was 6.5 percent annually—nearly triple DOE's assumption. The actual construction materials cost increase from 2015 to 2025 was 60.1 percent, representing an average annual rate of 4.3 percent. This discrepancy between assumed and actual material cost inflation dramatically understates the true cost burden that the standards would impose on consumers.

[4] Source: 2024 Home Mortgage Disclosure Act Data.

Inaccurate Interest Rate Assumptions

DOE also assumed a 5 percent interest rate for land-home deals and a 9 percent interest rate for home-only deals. These assumptions were optimistic even when made and have become completely divorced from current market realities. The 30-year fixed mortgage rate went above 7% after the publication of the 2022 Final Rule and remains above 6%, while home-only loan interest rates may be as high as 11.5 percent for some borrowers—substantially higher than DOE's assumptions.

Higher interest rates have two critical effects. First, they increase the monthly payment burden on purchasers, straining debt-to-income ratios for loan qualifications and increasing ongoing costs. Second, higher discount rates reduce the present value of future energy savings, making the long-term cost-benefit calculation less favorable.

Impact of Correcting Material Cost and Interest Rate Assumptions

These errors are not minor technical details—they fundamentally alter the cost-effectiveness conclusions. In MHI's prior analysis, correcting only these two inputs to reflect actual cost inflation and actual interest rates and using DOE's own analytical model, approximately 95 percent of shipments had a negative cost-benefit outcome. Had DOE updated its cost calculations before the 2021 Proposed Rule and the Final Rule to reflect actual economic conditions, it would have determined that the assumptions it developed leading up to the 2016 Proposed Rule had proven wrong and that the standards were not cost-effective.

Failure to Include Testing, Compliance, and Enforcement Costs

DOE's 2022 Final Rule entirely omitted the costs of testing, compliance, and enforcement from its cost-effectiveness analysis—a critical analytical failure that rendered the entire cost-benefit determination fundamentally flawed. To properly consider the cost-effectiveness of increased energy standards, any increased costs for testing, compliance, and enforcement must be considered.

The 2022 Final Rule established stringent energy efficiency requirements based on the 2021 IECC but provided no testing procedures, compliance pathways, or enforcement mechanisms. As DOE itself acknowledged in the 2016 Proposed Rule, "[t]est procedures are necessary to provide for accurate, comprehensive information about energy characteristics of manufactured homes and provide for the subsequent enforcement of the standards." 81 FR 78734. Yet the Final Rule proceeded without establishing such procedures or accounting for their costs.

This omission is particularly egregious given that DOE was fully aware of the need for testing, compliance, and enforcement procedures but chose to defer development of those procedures while proceeding with the substantive standards. The result is a cost-effectiveness analysis that dramatically understated the true costs to be borne by manufacturers and ultimately by consumers.

Failure to Use Incremental Cost-Effectiveness Analysis

DOE's analytical approach of bundling all energy efficiency measures into a single package masked the diminishing returns of less cost-effective measures. Every step in making homes more energy efficient costs more and saves less due to diminishing returns. The proper analytical approach examines each incremental improvement in efficiency individually, with each improvement required to stand on its own cost-benefit merits.

By combining all energy measures into a single package, as DOE did in the 2022 Final Rule, the minimal or negative benefits of the least cost-efficient measures are hidden by the benefits of the most cost-effective measures. This approach inevitably leads to mandating efficiency improvements that fail the cost-effectiveness test when examined individually. Future analysis must evaluate incremental costs and benefits of each energy efficiency measure separately and establish standards at the point where additional measures cease to be cost-effective.

Failure to Properly Account for Consumer Price Sensitivity

DOE's price elasticity assumptions substantially understated the number of households that would be priced out of the manufactured housing market by the rule's cost increases. The industry serves predominantly lower-income households for whom even modest price increases can eliminate homeownership opportunities. Research and industry data demonstrate that manufactured housing consumers are significantly more price-sensitive than site-built home purchasers.

Any future analysis must use realistic price elasticity assumptions that properly reflect the income characteristics and financial constraints of the manufactured housing consumer base. The analysis must also comprehensively assess impacts on housing access for vulnerable populations, including lower-income families, seniors on fixed incomes, and first-time homebuyers.

Recommendations for Future Analytical Approach

Any future cost-effectiveness analysis for manufactured housing energy standards must:

- Use a time horizon that reflects actual homeownership periods (7-10 years) rather than an artificial 30-year period that bears no relationship to consumer decision-making or benefit realization.
- Include all costs for testing, compliance, and enforcement in the cost-effectiveness calculation, with realistic estimates based on consultation with HUD, the MHCC, and industry stakeholders.
- Use current, accurate data on material costs, construction inflation, and interest rates.
- Apply appropriate discount rates that reflect current financing costs and market interest rates.
- Comprehensively analyze impacts on mortgage qualification, including debt-to-income ratio effects and down payment requirements.
- Evaluate each energy efficiency measure incrementally rather than bundling all measures into a package, establishing standards at the point where additional measures cease to be cost-effective on their own merits.
- Use realistic price elasticity assumptions that properly account for the price sensitivity of manufactured housing consumers and assess impacts on housing access for lower-income households.
- Be led by HUD and the MHCC to ensure analytical assumptions and methodologies are appropriate for manufactured housing. In fact, the most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have.

Issue B–5: Climate Zones

> "DOE seeks comments on the appropriateness of using the HUD climate zones, and whether the use of the HUD climate zones continues to be appropriate."

Response:

MHI strongly supports use of the three HUD climate zones rather than the IECC climate zones. The use of HUD climate zones is both statutorily appropriate and practically necessary for the manufactured housing industry and should be maintained in any future rulemaking.

EISA explicitly provided DOE with the authority to "consider... the climate zones established in [HUD's] Manufactured Home Construction and Safety Standards... rather than the climate zones under the [IECC]." 42 U.S.C. 17071(b)(2)(B). DOE appropriately exercised this discretion in the May 2022 Final Rule, showing that it could recognize the fundamental differences between manufactured housing and site-built construction.

The manufactured housing industry has operated under the MHCSS's three-zone system since 1976. This regulatory framework was specifically designed to account for the unique aspects of factory-built housing, including design, construction techniques, transportation constraints, and the need for homes to be marketable across broad geographic areas. Shifting to a different climate zone system would create unnecessary regulatory complexity and confusion for manufacturers, retailers, installers, and consumers.

The use of HUD climate zones ensures consistency with the broader MHCSS requirements that govern all other aspects of manufactured home construction and safety. This harmonization is critical because:

- Manufacturers design and build homes to comply with an integrated set of MHCSS requirements, not just energy provisions in isolation
- Design Approval Primary Inspection Agencies (DAPIAs) review plans for compliance with the entire MHCSS
- In-Plant Primary Inspection Agencies (IPIAs) monitor manufacturing for compliance with all HUD standards
- State administrative agencies (SAAs) enforce the complete MHCSS framework

Creating a separate climate zone system would fragment this unified regulatory structure and significantly increase compliance costs and complexity.

Additionally, manufacturers typically build homes for broad regional markets that often span multiple states. The three HUD zones allow manufacturers to design homes that can be sold throughout large geographic areas, which is essential for maintaining inventory that retailers can sell to customers across their service areas, achieving production efficiencies through longer manufacturing runs, and providing consumers with reasonable choice and availability of home models.

Issue B–6: Access to Financing

> "DOE acknowledges that interest rates change over time and expects the interest rates used in the 2022 Final Rule will change as more data becomes available. DOE seeks comments regarding the previous financial findings regarding the economic impact of energy conservation standards on the ability of purchasers to buy manufactured homes. In stakeholders' experiences, are these findings reasonably accurate, and are there other data that DOE should examine, or other factors that DOE should consider? In addition, are the total costs of ownership accurately reflected in the analysis? Assuming that these findings are reasonably accurate, what role, if any, should they play in shaping potential amended standards that DOE may ultimately adopt for manufactured housing and why? If these findings do not appear accurate, what data supports the discrepancy, what specific shortcomings are indicated, and what assumptions/changes should DOE apply when determining the stringency and structure of energy conservation standards for manufactured housing?
>
> DOE also seeks input on the advisability of using current interest rates versus longer historical averages. DOE also seeks input on the advisability of continuing to use 30-year analytic time horizon in the analysis or whether the analytic time horizon should reflect average ownership of manufactured housing."

Response:

MHI appreciates DOE's recognition that financial conditions have changed significantly since the 2022 Final Rule and that the economic circumstances of manufactured home purchasers warrant careful consideration. The financial findings referenced in the RFI regarding interest rates, loan types, and consumer characteristics are generally accurate and consistent with MHI's experience and data. However, DOE's prior analysis did not adequately account for these financial realities or their implications for affordability and cost-effectiveness. Any future rulemaking must comprehensively address these factors and use realistic assumptions that reflect actual market conditions and consumer financial circumstances.

Most analysts predict that we will not soon return to the era of lower interest rates that persisted for most of 2008 to 2022. Accordingly, analysis must be based on an assumption that higher interest rates will persist, rather than relying on a longer-term historical average that would incorporate the historically unusual period of low rates seen after the global financial crisis.

Home-only loans for manufactured housing, which comprised 78% of new manufactured home purchases in 2024 according to the Manufactured Housing Survey, carry higher interest rates (often 10% or higher) and shorter terms. This significantly increases monthly payments, which must be reflected in a cost and affordability analysis. The difference between home-only and land-home interest rates has dramatic implications for the cost-effectiveness of energy efficiency investments. A consumer paying 10 percent interest on a home-only loan will require much greater energy savings to justify upfront efficiency investments compared to a consumer paying 6 percent on a land-home mortgage. An appropriate analysis should account for this reality.

The analysis also must recognize the impact of increased upfront costs on access to financing, regardless of projected utility savings. An increased home purchase price will cause a proportionate increase in the homebuyer's debt burden. FHA's customary debt-to-income (DTI) requirement is 43 percent. Therefore, any homebuyer at the edge of this 43 percent DTI requirement will no longer qualify for an FHA loan because of the higher price caused by the new energy standards. Any theoretical savings in the rule are meaningless if the price increase causes the homebuyer to no longer qualify for a mortgage loan, because they no longer meet DTI underwriting requirements. Any increase in purchase price will also necessitate a higher downpayment, which may be a significant obstacle for many lower income households.

DOE's prior emphasis on a 30-year period of analysis for life-cycle cost calculations was inappropriate. Based on industry data, manufactured home purchasers typically sell their homes within 7-10 years. The first owner bears the full upfront cost of efficiency investments but may not remain in the home long enough to recoup these costs through energy savings and is unlikely to recover the value of those future energy savings at resale. Additionally, if significant numbers of low- and moderate-income consumers cannot purchase homes at prices resulting from proposed standards, those standards are unaffordable regardless of theoretical long-term savings. A 7 - 10-year analysis period most accurately reflects the economic reality for the typical purchaser of manufactured homes.

Issue C–7: Affordability analytical approach

> "In the 2022 Final Rule analyses DOE analyzed "packages" of efficiency changes that reflected the 2021 IECC requirements. For the Tier 1 standards, DOE analyzed individual energy efficiency options to identify a package of options that totaled less than $750 and that yielded a positive cash flow in year 1 taking into account the increases in first-year loan cost and the down payment and the reductions in first year energy costs. (See 2022 Final Rule Technical Support Document, p. 6–3.) Further, in this analysis, DOE assumed the purchaser would use a chattel loan. DOE seeks comments on the appropriateness of this methodology for assessing affordability. Are there metrics DOE could use to assess the impact of standards on consumers other than the life-cycle cost analysis and the cash flow analysis? Are there other consumer impacts that the life-cycle cost and cash flow analysis should reflect, such as availability of other housing options using cross-price elasticities?
>
> For Tier 2, DOE considered a package of energy efficiency options that mirror the 2021 IECC, with adjustments made for the practicalities of manufacturing and transporting and setting homes up on-site. For example, because of the need to join sections in order to perform an envelope air-sealing test, DOE, working with the Manufactured Housing Working Group,10 came up with an alternative requirement based on visual assessment. Minimum ceiling R-values from the IECC were reduced in consideration of factory construction techniques when compared to site-built homes. In the analysis of options, DOE found R–20+5 exterior wall insulation to not be cost effective and reduced that requirement to R–21. For Tier 2, DOE analyzed the life-cycle cost effectiveness of standards. DOE seeks input on the appropriateness of the methodologies used in the 2022 Final Rule, including both the use of life-cycle cost and the first-year positive cash flow analyses, for analyzing possible updates to the 2022 Final Rule."

Response:

In the 2021 Proposed Rule, DOE established tiers based on list prices to establish different thresholds of energy standards, which MHI strongly opposed. Manufacturer list prices are not a clearly defined or uniform practice in the industry, and this approach would have created significant confusion and additional burden. Additionally, the initial price thresholds were set unreasonably low, grouping many homes that were affordable even to low-income purchasers in Tier 2. The final rule's revised approach distinguishing single section homes from multi-section homes was an improvement, and MHI supports special consideration to ensure affordability is preserved for the most cost-sensitive consumers. The majority of these homes are purchased with home-only loans, which the analysis should reflect.

For Tier 2 (multi-section homes), we reiterate that the analysis should assess cost effectiveness based on an incremental approach to identify the optimum standard.

Additionally, utility savings should be assessed over a 7-10 year period reflecting typical ownership for an initial purchaser. The initial purchaser, who bears the full upfront cost burden, will realize only a fraction of projected 30-year energy savings before selling the home. It is highly unlikely that a homebuyer financing a manufactured home purchase will recover additional upfront costs at resale. Cost-effectiveness analysis should therefore reflect the actual time horizon over which the original purchaser will own the home and capture energy savings, not a theoretical 30-year period.

Any affordability analysis must recognize the primary importance of upfront prices. Purchase price impacts occur immediately and create a binary outcome—the consumer either can or cannot complete the purchase. Operating cost savings accrue gradually over time and are only relevant to consumers who successfully complete the initial purchase. If a consumer is unable to obtain financing or is otherwise priced out by increased upfront costs, they lose access to all benefits of homeownership, including any energy savings. An appropriate analysis must therefore prioritize affordability at the point of purchase as the primary determinant of affordability for the low- and moderate-income consumers in the manufactured housing market.

The impact of any new standards on the home features and options that manufacturers will be able to offer to consumers should also be a consideration. For instance, the 2022 Final Rule made certain features such as vaulted ceilings more difficult if not impossible in certain existing product designs and also may necessitate floor plan changes to accommodate additional insulation. In addition to limiting consumer choice, these challenges may reduce the appeal of manufactured housing relative to site-built homes built to a lower standard. To mitigate these challenges, the Manufactured Housing Consensus Committee in accordance with 42 U.S.C. § 5403 (Section 604 of the Manufactured Housing Construction and Safety Standards Act) must fully assess these impacts. The most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have.

Issue C–8: Affordability impact

> "Manufactured housing owners tend to be lower-income compared to other homeowners and are also likely to finance their manufactured housing purchase using higher-rate chattel loans. As a result, the Department is particularly interested in specific comments, analysis, and data regarding the affordability of manufactured housing and how the requirements adopted in the 2022 Final Rule for both Tier 1 and Tier 2 manufactured homes will likely affect affordability, and which manufactured home purchasers may be most impacted."

Response:

Manufactured housing is an essential homeownership option for low-income households. Last year, the average price of a manufactured home was $123,300, compared to approximately $406,000 for a site-built home (excluding land). The average income for a manufactured home buyer was about $63,000, while the average income for a site-built home buyer exceeded $143,000. Manufactured homes are clearly more affordable, serving homebuyers with much lower incomes. To protect this crucial pathway for homebuyers, the importance of upfront pricing for home financing, the higher interest rates paid by purchasers using home-only loans, and the actual length of time that buyers will benefit from utility savings, must be considered in any analysis.

First, any home purchase price increase will result in a proportionate increase in the homebuyer's debt burden, which will affect their ability to qualify for financing. For instance, FHA's customary debt-to-income (DTI) requirement is 43 percent. Therefore, any homebuyer at the edge of this 43 percent DTI requirement would no longer qualify for an FHA loan because of an increased price caused by the new energy standards. An analysis by the National Association of Homebuilders found that a $1,000 increase in the median price of new homes would price an additional 115,593 households out of the market. Any theoretical savings in new energy standards are meaningless if the price increase causes the homebuyer to be denied for a mortgage loan because they no longer meet DTI underwriting requirements. Any increase in purchase price will also necessitate a higher downpayment and higher mortgage insurance premium, which may be a significant obstacle for many lower income households.

Additionally, home-only loans for manufactured housing, which comprised 78% of new manufactured home purchases in 2024, carry significantly higher interest rates and shorter terms. This significantly increases monthly payments, which must be reflected in a cost and affordability analysis. Future utility savings should be discounted at a similar rate, enabling an accurate comparison of the financing impact of increased upfront costs with the projected savings.

Finally, based on MHI's industry data, buyers usually sell their homes within seven to ten years of purchase, and it is unlikely that a manufactured homebuyer financing the purchase of a new manufactured home would recover upfront costs required by higher energy standards at a future sale. To optimize affordability for consumer's, the actual savings that a typical initial purchaser would realize should be all that is considered.

Issue C–9: Lending and Purchasing Modeling

> "In the 2022 Final Rule the Department took into account the impact of price sensitivity of manufactured home purchasers when estimating the shipments of products by applying an estimate of price elasticity to percentage changes in the up-front price of manufactured homes. Lenders and home purchasers often take into account costs and benefits beyond the simple up-front cost when making lending or purchasing decisions. including default risks and changes in the features of manufactured housing. The Department seeks input concerning whether there is a more comprehensive way to model lending behavior and purchasing behavior rather than simply first-cost, particularly when considering that DOE's assessment of the financing mechanisms typically relied upon and the energy benefits that accrue from energy efficiency standards."

Response:

DOE's current approach to modeling lending behavior and purchasing decisions—which relies primarily on price elasticity applied to upfront cost increases—is inadequate and likely understates the negative market impacts of energy conservation standards on manufactured housing. A more comprehensive analytical framework that accounts for the multiple factors that influence both lender willingness to extend credit and consumer ability to purchase homes is necessary. This framework must recognize the unique characteristics of the manufactured housing finance market and the particular vulnerabilities of the low- and moderate-income consumers this industry serves.

DOE's current methodology applies an elasticity coefficient to estimate how changes in home purchase prices affect shipments (sales). Specifically, the Department applies a price elasticity estimate to the percentage change in upfront price to project the percentage change in shipments. This approach has several significant limitations.

First, price elasticity captures only the relationship between price and quantity demanded, treating all price changes as equivalent regardless of the source of the price increase (e.g., material costs vs. regulatory requirements), the financial circumstances of buyers (income, credit score, existing debt), the financing options available (home-only vs. land-home, interest rates), and whether the price increase moves consumers across critical qualification thresholds. Traditional elasticity models assume that all consumers who are willing to pay the higher price can obtain financing and complete purchases. This assumption does not hold in the manufactured housing market, where consumers face substantial barriers to financing, debt-to-income ratios create hard qualification thresholds, and down payment requirements may be prohibitive for low-income consumers.

Elasticity estimates are typically derived from historical data reflecting specific market conditions. The manufactured housing market has experienced dramatic changes in recent years, including substantial increases in baseline home prices, rising interest rates, persistent inflation, and supply chain disruptions. Consumers may be increasingly price-sensitive when baseline prices are already elevated and financing costs are high. Historical elasticity estimates may not adequately capture this dynamic sensitivity.

DOE's elasticity-based approach likely substantially understated the number of consumers who would be priced out of manufactured housing by its ill-conceived energy conservation standards. In the 2022 Final Rule, DOE estimated that approximately 5,000 families annually would be unable to afford a manufactured home as a result of the standards. This estimate was based on applying a price elasticity of demand of -0.76, meaning a 1% price increase would result in a 0.76% decrease in quantity demanded. HUD has previously identified studies estimating the price elasticity of demand for manufactured housing at -2.4. Based on this alternative price sensitivity, the price increases could affect more than three times as many families as DOE estimated.

These elasticity-based estimates, regardless of which coefficient is used, may fail to capture consumers who would be priced out not because they are unwilling to pay the higher price, but because they cannot qualify for financing at the higher price point. Lenders use debt-to-income (DTI) ratios as qualification criteria. FHA's customary maximum DTI is 43 percent. This creates a hard threshold: consumers above this ratio cannot obtain FHA-backed financing regardless of their willingness to pay higher prices. Because manufactured home purchasers have substantially lower incomes than site-built homebuyers, a larger fraction of manufactured home purchasers are likely to be near DTI qualification limits.

Any analysis should explicitly account for the fact that price increases will prevent some consumers from qualifying for financing—an effect that simple elasticity models do not adequately capture and that may be particularly severe for the low- and moderate-income consumers who constitute the manufactured housing market.

Without such considerations, it was impossible for DOE to accurately assess whether proposed standards meet EISA's cost-effectiveness requirement or fulfill the Department's obligation to consider impacts on purchase prices and total ownership costs. It is imperative to ensure that updated energy efficiency standards preserve manufactured housing as an affordable option for the American families who depend on this critical housing resource.

Issue C–10: Defining Affordability

> "DOE has previously viewed "affordability" as a combination of up-front cost, which may price out some number of potential homeowners at time of purchase, as well as operating costs, which will affect all manufactured housing owners over a longer time horizon. HUD and prominent industry organizations generally define housing affordability in terms of a percentage of income. The Department seeks comments that provide information on how to weigh these components in defining affordability, with consideration for economic factors such as income, and with a particular focus on affordability for lower-income consumers."

Response:

MHI appreciates DOE's recognition that affordability encompasses both upfront costs and operating costs. For affordable homeownership, the upfront purchase price is the most critical determinant of housing affordability for manufactured home purchasers because it directly determines whether consumers can access financing and complete a purchase. Increased upfront costs of both Tier 1 and Tier 2 manufactured homes are important for lower-income consumers as both single-section and multi-section manufactured homes currently provide affordable homeownership opportunities for very low, low and moderate-income households.

Upfront price is the key determinant of affordability.

For prospective manufactured home purchasers, the upfront purchase price is the primary factor determining affordability. Lenders evaluate consumers' ability to afford monthly payments using debt-to-income (DTI) ratios. Higher purchase prices result in higher monthly loan payments, which increase DTI ratios. Consumers whose DTI ratios exceed lender thresholds (typically 43% for FHA loans, for instance) cannot obtain financing. Even modest price increases can push marginal borrowers over qualification thresholds, completely eliminating their ability to achieve homeownership.

The upfront price also impacts down payments, which are typically 10% of purchase price for manufactured homes. The 2022 Final Rule's projected price increases of $3,914 to $5,289 for Tier 2 homes would require an additional $391 to $529 in additional cash at closing. For low-income purchasers with limited savings, finding this additional funding may be a significant barrier.

Purchase price impacts occur immediately and create a binary outcome—the consumer either can or cannot complete the purchase. Operating cost savings accrue gradually over time and are only relevant to consumers who successfully complete the initial purchase. If a consumer is priced out of homeownership by high upfront costs, they lose access to all the benefits of homeownership, including any energy savings.

Manufactured housing is critical for low-income homebuyers.

Housing affordability is conventionally measured using HUD's standard that housing is "affordable" when households pay no more than 30 percent of their income for housing costs. These monthly housing costs are driven primarily by purchase price, which determines mortgage or loan payments—typically 80-85% of base housing costs before utilities.

Using this definition, manufactured homes currently provide affordable homeownership opportunities for a wide range of low- and moderate-income households. HUD defines "low-income" households as those earning 80% or less of area median income (AMI). The national median household income is approximately $84,000, making the low-income threshold $67,200.

A typical $84,800 single-section manufactured home financed with 10% down at 9% interest results in direct monthly housing costs of approximately $900 (including loan payment, taxes, and insurance). For this to be affordable under HUD's 30% standard requires annual income of only $36,000—well below the low-income threshold of $67,200 and even below the "very low-income" threshold of $42,000. Single-section manufactured homes are thus affordable for households with incomes well below low-income thresholds, making them accessible to very low-income households who have virtually no other homeownership options.

Multi-section manufactured homes have an average price of $154,000. A typical multi-section home financed similarly results in total monthly housing costs of approximately $1,550. This requires an annual income of $62,000 for affordability—below HUD's low-income threshold. Multi-section manufactured homes are affordable for low-income households, providing a pathway to homeownership with more space and features comparable to site-built homes.

By contrast, the median price of a new site-built home is approximately $410,000, requiring income of $110,000 or more for affordability—well beyond low-income households. Rising costs and interest rates have been particularly difficult for first-time homebuyers. A recent report by the National Association of Realtors found that first-time buyers now make up only 21% of home purchases, a historic low.[5] For these households, manufactured housing is often the only realistic pathway to affordable homeownership in safe, modern homes built to current standards.

The current affordability of manufactured housing makes this sector critical to the nation's affordable housing infrastructure. Manufactured housing serves approximately 22 million Americans in 8.5 million homes and produces 90,000-113,000 new homes annually, which is 9-11% of new single-family starts. Manufactured housing residents are disproportionately low- and moderate-income households, including elderly persons on fixed incomes and rural residents with limited housing options.

Conclusion

Affordability in the manufactured housing context is fundamentally determined by purchase price, which controls whether consumers can obtain financing and achieve homeownership. Manufactured homes currently provide the only realistic pathway to homeownership for many low- and moderate-income families, with both single-section and multi-section homes affordable under standard HUD measures for low-income households.

In establishing energy conservation standards, preserving affordability by giving primary weight to purchase price impacts, using realistic financial assumptions reflecting actual borrowing costs and qualification criteria, focusing analysis on 10-year time horizons reflecting typical ownership, and explicitly modeling how many consumers will be unable to obtain financing due to increased prices is imperative. Standards that significantly increase purchase prices—even if theoretically cost-effective over 30 years—may be inappropriate if they price significant numbers of consumers out of the homeownership that manufactured housing uniquely provides to low- and moderate-income American families.

[5]https://www.nar.realtor/newsroom/first-time-home-buyer-share-falls-to-historic-low-of-21-median-age-rises-to-40

Issue D–11: Costs of materials

> "The cost of efficiency improvements directly affects the affordability of any standard DOE might adopt. To avoid short-term cost fluctuations, DOE's engineering analyses supporting appliance efficiency rulemakings will commonly use 5-year averages in prices of materials such as structural steel that fluctuate with world markets. In doing so, the analyses smooth out some of the effects of transitory price shocks, without removing the shocks from the data. DOE seeks input on appropriate methods for establishing costs for major cost categories such as insulation, softwood lumber, window products, and other major components that may impact the cost effectiveness of energy conservation standards for manufactured housing. Certain stakeholders have also highlighted the impact of inflation and recent supply shortages on the construction and manufactured housing industry. Has cost inflation related to materials needed for manufactured housing eased? Are there residual supply chain shortages for materials needed to construct manufactured housing? Are changing tariff structures expected to impact costs or materials availability? How should DOE conduct sensitivity analysis incorporating different price scenarios systematically to offer better analysis?"

Response:

The accuracy of material cost assumptions is fundamental to a proper cost-effectiveness and affordability analysis for new energy conservation standards. DOE's material cost and interest rate assumptions in the 2022 Final Rule were calculated primarily in 2014 for the 2016 Proposed Rule and have proven substantially inaccurate. Most notably, DOE assumed a nominal construction cost increase of 2.3 percent annually from 2014 to 2023, but the actual cost increase for construction materials from 2015 to 2025 was 60.1 percent—an average annual rate of 4.3 percent, nearly double DOE's assumption. This significant underestimation of material cost inflation increased the inaccuracy of DOE's cost-benefit analysis and understated the number of households who would be priced out of homeownership by the standards.

The Manufactured Housing Consensus Committee is the best resource for assessing the availability and suitability of materials necessary to meet any proposed standards. In fact, the most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have. The standards in the 2022 Final Rule and in the 2024 IECC would require manufacturers to use different components, including insulation materials, windows, skylights, mechanical equipment, and appliances, all of which must be practicable for the unique production methods, transportation demands, and space limitations inherent in manufactured housing construction. Not all materials suitable for site-built construction are viable for manufactured housing. Formal coordination with industry on these issues is essential to fully consider availability, supply chain capacity, lead times, and the practical implementation challenges that could further increase costs beyond DOE's engineering estimates.

Finally, given the substantial changes to design and manufacturing processes required by the 2022 Final Rule and any future updates, new standards should allow an implementation period of 3-5 years, as is typical for appliance efficiency standards. This extended timeline is necessary to allow manufacturers sufficient time to update designs and manufacturing processes, secure reliable sources for new materials, and work through supply chain adjustments—all of which will help moderate cost impacts and preserve affordability for consumers.

Without accurate material cost assumptions—properly coordinated with realistic interest rate assumptions and discount rates that reflect actual manufactured housing financing conditions—it is impossible to establish cost-effective standards or accurately assess impacts on the affordability that manufactured housing uniquely provides to low- and moderate-income American families.

Issue D–12: Time period for cost-effectiveness analysis

> "The Department also seeks comment on whether cost- effectiveness analyses should be performed over the expected life of manufactured homes, or over some other time period, for example that reflecting the average time period that the original owner of the home will live in the home and benefit from the efficiency improvements. Since any subsequent owners of the home will continue to receive the energy benefits for the entire life of the home, is it reasonable to model the economic benefits of the improvements to energy efficiency of the home over any lifetime less than the expected 30-year life of the home, and if so, what are the arguments for doing so? Or should DOE also analyze the consumer discounting of the future decrease in energy consumption seen in used energy efficient goods such as cars and appliances? Is this a life- cycle cost question or is this an affordability question?"

Response:

The 30-year Life-Cycle Cost approach used by DOE in the 2022 Final Rule is not an appropriate method to determine cost-effectiveness for an initial buyer of a manufactured home. Based on MHI's industry data, buyers usually sell their homes within seven to ten years of purchase. This ownership period is significantly shorter than the 30-year analysis period DOE employed. For the initial purchaser financing the home—the person who pays the higher upfront cost mandated by energy efficiency standards—a 30-year payback period is economically meaningless.

Based on input from industry partners, we have found that buyers will not recoup energy efficiency costs at resale. As suggested in the RFI language, this is consistent with evidence on cost recovery of high-efficiency features in the used vehicle market, where the higher upfront costs of more energy efficient vehicles are associated with faster price depreciation.[6] An appropriate assumption based on available data is that manufactured homebuyer will not recover increased upfront energy efficiency costs when they sell the home 7-10 years later.

Additionally, mortgage qualification impacts must be analyzed separately from life-cycle cost considerations, as these represent distinct but equally important dimensions of affordability. An increased home purchase price will result in a proportionate increase in the homebuyer's debt burden. For prospective homebuyers, a key qualification for financing will be the borrower's debt-to-income ratio. Therefore, any homebuyer at the edge of a lender's DTI requirement (e.g., typically 43% for FHA loans) will no longer qualify for the loan because of the higher price caused by the new energy standards. Any theoretical savings in the rule are meaningless if the price increase causes the homebuyer to no longer qualify for a mortgage loan. Any increase in purchase price will also necessitate a higher downpayment, which may be a significant obstacle to completing a purchase for many lower income households.

[6] Roberson, L. et al., "Battery-Powered Bargains? Assessing Electric Vehicle Resale Value in the United States," *Environmental Research Letter* (2024)

Issue E-13: HUD Consultation

> "EISA requires DOE to consult with the Secretary of HUD, who may seek input from the Manufactured Housing Consensus Committee (MHCC). In the prior rulemaking process, which eventually led to the 2022 Final Rule, DOE met with HUD on multiple occasions and attended and presented at MHCC meetings. DOE consulted with HUD on pathways to compliance and enforcement of the energy conservation standards toward the objective of aligning with HUD's current inspection and enforcement processes and reducing regulatory burden and duplication of effort. In addition, as part of the rulemaking process, DOE empaneled and took input from a Manufactured Housing Working Group. The rulemaking process itself also provides an additional avenue for consultation through which industry stakeholders and the general public can review rulemaking documents, supporting analysis, and provide input. Consultation with HUD also occurs during interagency clearance required by Executive Order 12866. DOE intends to continue consultation with HUD as it considers whether to amend its energy conservation standards for manufactured housing. Given HUD's historic and ongoing role in the regulation of manufactured housing generally, DOE seeks input on how DOE can best identify synergies with existing HUD processes and standards, while still satisfying DOE's statutory mandate to establish standards for energy efficiency in manufactured housing.
>
> How can DOE operationalize or amend this rule in a manner that reduces compliance burden on manufacturers?"

Response:

MHI appreciates DOE's stated intent to consult with the industry and HUD and reduce regulatory burden on manufacturers. However, DOE's consultation efforts during the prior rulemaking were perfunctory and did not come close to being considered meaningful engagement with industry, HUD or the Manufactured Housing Consensus Committee (MHCC). Industry participants were never consulted and repeatedly raised concerns about the absence of substantive, decision-level DOE participation in the MHCC process and the lack of alignment with HUD's established inspection and enforcement framework. These deficiencies resulted in standards developed without meaningful consultation with HUD or the MHCC and without consideration of factory-built construction techniques, alternative compliance paths, or cost-effectiveness for homebuyers.

The manufactured housing industry supports modernized energy efficiency standards through the proper regulatory channel—HUD's preemptive Manufactured Home Construction and Safety Standards (MHCSS)—with MHCC input. In fact, the MHCC convened in late 2022 and drafted proposed HUD Code energy standards tailored to the realities of manufactured home construction, and MHI strongly supports those proposals. There was no meaningful DOE participation at that meeting and no one from the DOE with decision making authority over the rulemaking attended.

Unfortunately, HUD action to advance energy efficiency improvements has been hindered by conflicting statutory authority created by EISA Section 413. Legislation now advancing in Congress would resolve this conflict and restore regulatory clarity by repealing Section 413 and nullifying DOE's 2022 rule, allowing HUD to move forward with meaningful updates while DOE retains an advisory role.

Unworkability of Section 413 of EISA

Section 413 of the 2007 EISA was never properly vetted by Congress through regular order and contains language impractical and ill-suited to manufactured housing. Specifically, this provision directed the DOE to establish energy efficiency construction standards for manufactured housing in contravention of long-standing authority of HUD to promulgate federal construction standards for manufactured homes via the MHCSS, which the agency has overseen for over 50 years. This duplicative agency mandate has created regulatory confusion, undermining efforts to advance practical energy efficiency improvements that can save homeowners on the energy bills and jeopardizing the availability and affordability of manufactured homes.

Nearly two decades after Congress directed DOE to act, the agency's prolonged failure to implement a rule demonstrates the inherent challenges and impracticality of applying the EISA rider to manufactured housing. When DOE finally issued its recommendations, HUD declined to adopt them—further underscoring that the rider's language was never properly vetted and is ill-suited for the unique characteristics of manufactured housing.

Legislation is advancing through Congress[7] to rescind this flawed directive and restore a streamlined, effective regulatory framework under HUD while DOE retains input in an advisory role. This will allow for timely, practicable updates to energy efficiency standards consistent with the federal construction code for manufactured housing while preserving affordability for American households.

DOE's 2022 final rule is fundamentally flawed and unworkable for off-site construction. Per Section 413, it relies on the International Energy Conservation Code (IECC) designed for site-built construction homes. This fails to account for the unique characteristics of factory-built housing in which the final location and orientation of the home is often not known at the time of production. It also fails to appreciate the precision, sequencing, and transportation requirements inherent to an efficient manufactured housing process.

Beyond its technical mismatch, the DOE rule lacks a viable framework for testing, compliance, and enforcement. This regulatory gap creates uncertainty for manufacturers and impedes progress on energy efficiency improvements while also driving up costs of America's most affordable home ownership option. Worse still, it introduces a conflicting set of standards alongside HUD's existing code, undermining the regulatory clarity that has governed manufactured housing for decades and threatening the production of affordable homes. The rule was developed without meaningful input from those who understand the manufactured housing industry or the needs of the families it serves. When HUD's MHCC reviewed the DOE rule, it concluded that DOE failed to consider the unique nature of off-site construction — despite repeated outreach from both the MHCC and industry stakeholders.

DOE itself delayed implementation of the rule pending further rulemaking. This breakdown further illustrates why Congress, through the Manufactured Home Construction and Safety Standards Act of 1974, vested HUD with sole authority over federal construction standards for manufactured housing.

[7] H.R. 5184, Affordable HOMES Act and H.R. 6644, Housing for the 21st Century Act

Deficiencies in consultation in the prior rulemaking

EISA explicitly requires DOE to consult with the Secretary of HUD, who may seek further counsel from the MHCC, before establishing energy conservation standards for manufactured housing. 42 U.S.C. 17071(a)(2). This consultation requirement reflects Congress's recognition that:

- HUD has been the primary regulatory authority for manufactured housing since 1974
- HUD possesses unique expertise in the design, construction, and regulation of factory-built housing
- The MHCC brings together producers, users, and public officials with specialized knowledge of manufactured housing
- Energy conservation standards must be integrated with HUD's comprehensive regulatory framework for manufactured housing

While DOE met with HUD and attended MHCC meetings during the rulemaking process leading to the 2022 Final Rule, these interactions did not constitute the meaningful consultation that EISA requires.

At the formative stages of the rulemaking, DOE developed its proposed approach without substantive input from HUD or the MHCC. By the time DOE presented its proposals to these bodies, the fundamental framework was already established, leaving little room for meaningful input on whether the IECC-based standards were appropriate and cost-effective for manufactured housing.

The MHCC was given only a preview of a small portion of the proposed rule approximately two months before publication, which raised many concerns about both affordability and feasibility. The MHCC was not provided an opportunity to review and comment on DOE's technical analysis, cost-effectiveness determinations, or enforcement approach before the rule was proposed.

Throughout the rulemaking, DOE suggested it might rely on HUD to enforce DOE's standards but never formalized this arrangement or confirmed HUD's willingness and capability to enforce standards that differ from those HUD would develop through its own processes.

The inadequacy of DOE's consultation became apparent when HUD convened the MHCC in 2022 to consider aligning the MHCSS with DOE's 2022 Final Rule. After thorough review, the MHCC explicitly rejected wholesale adoption of the DOE standards and instead recommended incremental improvements that would achieve significant energy efficiency gains while maintaining affordability and accounting for manufactured housing construction realities. No one from the DOE with decision making authority attended this convening.

In its recommendations to HUD, the MHCC concluded that DOE "circumvented the standards development process prescribed in EISA which requires cost justification and consultation with HUD." The MHCC noted that "DOE provided an energy conservation standard which was based on site-built construction and applied it to a performance-based national code" and that "if adopted as written, the final rule would adversely impact the entire Manufactured Housing program, and cost increases associated with compliance would reduce prospective purchasers (especially minorities and low-income consumers) from durable, safe, high quality and affordable housing."

Aligning with HUD's Regulatory Framework

The most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have. This approach is the best way to ensure the timely adoption of improved energy efficiency standards for factory-built housing, and to preserve the availability of affordable manufactured homes for American households. With a 50-year track record in regulating standards for manufactured homes and a proven testing, compliance, and enforcement regime, HUD is the right agency to do this.

The MHCC's recommendations to HUD provide a strong foundation for this approach, which would reduce regulatory burden on manufacturers, minimize costs to consumers, avoid conflicting requirements, and result in more appropriate standards that reflect the expertise of the agencies and stakeholders with the deepest knowledge of manufactured housing.

Issue E-14: Enforcement Procedures

> "DOE published a NOPR in December 2023 to establish enforcement procedures for its energy conservation standards for manufactured housing. These procedures were not included in the May 2022 final rule, where the Department established its standards, and were published separately via the later NOPR. However, while DOE received comments on the NOPR and proposed enforcement procedures, it never finalized such procedures by issuing a final rule. In considering whether to further amend its energy conservation standards for manufactured housing, should DOE more comprehensively incorporate enforcement procedures into updated standards or continue in separately issuing enforcement procedures? How might such enforcement standards leverage the enforcement program administered by HUD?
>
> DOE encourages stakeholders to review and submit comments on the issues listed previously and on other issues that they believe warrant DOE's consideration in any potential future rulemaking on energy conservation standards for manufactured housing."

Response:

To minimize negative impacts on consumers and the manufactured housing industry, clear and sensible enforcement procedures should be included in any new energy standards rule. The 2022 Final Rule and the 2023 Enforcement Proposed Rule demonstrated fundamental flaws that must be avoided in any future approach. Most critically, any enforcement procedures must be comprehensively integrated with the substantive energy standards themselves—not developed separately as an afterthought. The most effective approach would be to incorporate energy conservation standards into the MHCSS and rely on HUD's existing, proven enforcement infrastructure.

Deficiencies in the 2023 Enforcement Proposed Rule

The proposed rule illustrated the problems that result from developing enforcement procedures separately from substantive standards and without meaningful consultation with HUD and the MHCC:

No Testing or Compliance Procedures: The Enforcement Proposed Rule proposed only enforcement mechanisms (investigation and penalties) without any testing procedures or compliance pathways. As DOE itself acknowledged in the 2016 Proposed Rule, "[t]est procedures are necessary to provide for accurate, comprehensive information about energy characteristics of manufactured homes and provide for the subsequent enforcement of the standards." 81 FR 78734. An enforcement-only regime leaves manufacturers uncertain on the appropriate steps to demonstrate compliance.

Reliance on Misaligned Documentation: The Enforcement Proposed Rule relied on manufacturers maintaining and submitting documentation required under the MHCSS—documents that were never designed to demonstrate compliance with DOE's separate energy standards. As MHI explained in prior comments on the enforcement NOPR, none of the MHCSS records (DAPIA approvals, quality assurance manuals, Subpart I determinations, on-site construction records) are designed to demonstrate compliance with the 2022 Final Rule, which materially differs from the MHCSS.

Undefined Standards: The enforcement proposed rule provided no guidance on how DOE would interpret and apply MHCSS documents to determine compliance with the Energy Rule. It offered no standards, measurements, testing procedures, interpretive materials, or safe harbors—only the threat of civil penalties for violations determined through DOE's subjective review of documents created for a different purpose.

Vague and Excessive Penalties: The enforcement proposed rule relied on EISA's civil penalty of "1 percent of the manufacturer's retail list price", a term that does not exist in the manufactured housing industry and that manufacturers cannot calculate with reasonable certainty. The NOPR further provided that each day of noncompliance and each unit sold would constitute separate violations, potentially resulting in civil penalties many times the cost of manufacturing a home, without identifying when "noncompliance" begins or providing any opportunity to resolve issues before penalties multiply.

Substantial Hidden Costs: Despite DOE's claim that the enforcement NOPR would impose no additional costs because it relied on existing MHCSS documentation, the reality is that manufacturers would need to incur substantial expense to retrofit their designs and quality assurance manuals to address requirements that differ from the MHCSS. These costs—which DOE never analyzed—would be passed to consumers.

The Need for Integrated Standards and Enforcement

The problems with the December 2023 enforcement proposed rule stemmed directly from DOE's decision to exclude testing, compliance, and enforcement provisions from the 2022 Final Rule. This approach was fundamentally flawed.

As MHI and the MHCC repeatedly emphasized throughout rulemaking, DOE's failure to include costs of testing, compliance, and enforcement in its life-cycle cost analysis rendered that analysis incomplete and inaccurate. Standards cannot be determined to be cost-effective without accounting for all compliance costs.

When DOE finalized energy standards without specifying how compliance would be demonstrated or tested, manufacturers were left unable to prepare. Any preparations manufacturers made after May 2022 were speculative because they had no guidance on what DOE's ultimate enforcement approach would require.

DOE's bifurcated approach—finalizing standards in May 2022 but not proposing enforcement procedures until December 2023—created massive uncertainty and made it impossible to establish appropriate implementation timelines. The standard DOE practice of providing 3-5 year implementation periods for single appliances should apply with even more force to comprehensive standards affecting entire home construction, but the implementation timeline cannot even begin to run until manufacturers know what compliance requires.

Leveraging HUD's Existing Enforcement Infrastructure

Rather than continuing attempts to create a separate DOE enforcement mechanism, HUD and the MHCC should develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have. This will ensure that HUD's existing enforcement infrastructure applies to any updated energy efficiency standards, preserving regulatory efficiencies.

Since 1974, HUD has administered a comprehensive enforcement program for manufactured housing including:

- Design Approval Primary Inspection Agencies (DAPIAs) that review and approve home designs
- Production Inspection Primary Inspection Agencies (IPIAs) that monitor manufacturing
- State Administrative Agencies (SAAs) that handle consumer complaints and enforcement
- The Institute for Building Technology and Safety (IBTS) providing additional oversight
- Established procedures for investigating violations and imposing penalties
- The HUD certification label that provides manufacturers with clear evidence of compliance

Unlike the IECC, which was developed for site-built construction, HUD's enforcement system was specifically designed for factory-built housing and accounts for the unique aspects of manufactured home design, construction, transportation, and installation.

HUD's system provides multiple checkpoints and layers of review—from initial design approval through ongoing production monitoring. This comprehensive approach is far superior to DOE's proposed enforcement-only mechanism that provides no guidance on how to achieve compliance.

Every manufactured home built under the MHCSS bears a HUD certification label confirming compliance. This label provides manufacturers, retailers, installers, consumers, and enforcement agencies with clear, objective evidence that a home meets applicable standards. DOE's enforcement NOPR had no comparable certification mechanism.

Leveraging HUD's existing infrastructure would minimize additional costs to manufacturers and consumers. Creating a parallel DOE enforcement system would impose duplicative costs, require manufacturers to work with multiple agencies on related issues, and create potential conflicts if DOE and HUD enforcement approaches differ.

Conclusion

The December 2023 enforcement proposed rule demonstrated that enforcement procedures cannot be developed separately from substantive standards. Any future approach must comprehensively integrate testing, compliance, and enforcement with the energy standards themselves, with all associated costs included in cost-effectiveness analysis.

HUD and the MHCC should develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have. This will ensure that HUD's existing enforcement infrastructure applies to any updated energy efficiency standards, preserving regulatory efficiencies. The implementation period provided should be 3-5 years, similar to the implementation period provided for single appliances.

This integrated approach would reduce regulatory burden on manufacturers, minimize costs to consumers, avoid conflicting requirements, ensure manufacturers have clear pathways to compliance, and produce more effective enforcement.

Manufactured Housing Association for Regulatory Reform

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December 1, 2025

VIA FEDERAL EXPRESS AND ELECTRONIC SUBMISSION

Appliance and Equipment Standards Program
U.S. Department of Energy
Building Technologies Office
Mailstop EE-5B
1000 Independence Avenue, S.W.
Washington, D.C. 20585-0121

Re: Supplemental Comments -- Request for Information -- Manufactured Housing Energy Conservation Standards – Docket No. EERE-2009-BT-BC-0021

Dear Sir or Madam:

The following comments are submitted as a supplement to the comments originally filed in this docket on November 24, 2025 by the Manufactured Housing Association for Regulatory Reform (MHARR).

In those comments, MHARR asserts that the underlying rulemaking in this docket, i.e., U.S. Department of Energy (DOE) "energy conservation" standards for manufactured homes (and a related enforcement procedures proposed rule), must be withdrawn and repealed because a key cost-benefit/Regulatory Impact Analysis (RIA) input into that rule,[1] the Social Cost of Carbon (SCC) construct and related materials produced by the federal Interagency Working Group on the Social Cost of Greenhouse Gasses (IWG), were repudiated and repealed by Executive Order 14154, issued on January 20, 2025.

Insofar, however, as DOE, in this docket (or in subsequent litigation) may attempt to assert or maintain that the SCC values and related IWG "support" documents were not used or relied upon in connection with the subject manufactured housing energy standards, it is important to note that in litigation contemporaneous with the development and publication of the final standards rule herein,[2] federal agencies – including DOE – filed an affidavit affirmatively asserting that an

[1] It should be noted that implementation of the DOE manufactured housing energy standards rule has repeatedly been delayed by DOE and that the energy standards rule has never been enforced or implemented. Similarly, the enforcement procedures rule has been proposed but has not been implemented as a final rule or enforced.

[2] The DOE standards rule was published in the Federal Register on May 31, 2022. The affidavit described below was filed with the U.S. District Court for the Western District of Louisiana on February 19, 2022.

injunction against the use of SCC values in federal rulemaking,[3] would require the withdrawal and re-evaluation (including new cost-benefit and RIA analyses) for multiple rules then pending, specifically including the final DOE manufactured housing energy standards rule.

Specifically, a federal affidavit filed in State of Louisiana v. Biden, 2:21-ev-01074 (W.D. La.) and submitted by the Deputy Administrator of the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB), a White House agency,[4] states:

> "In my capacity as OIRA's Deputy Administrator … I understand that the Preliminary Injunction [against use of or reliance upon SCC values] would impede a variety of agency rulemakings and actions. In particular, agencies would be required to redirect resources to revise already-drafted proposed rules, regulatory impact analyses, and other analyses in support of other agency actions, including in instances where a draft rule that incorporates the Working Group's Interim Estimates has already been submitted to OMB for review under E.O. 12866. I understand that a significant number of agency rules and actions would need to be postponed or reworked as a result of the Preliminary Injunction.
>
> "Based upon information made available to me in my official capacity, the Department of Energy has initially identified approximately twenty-seven rulemaking that will be so affected….[5]

(Emphasis added). The Declaration then goes on to state, specifically, with respect to the DOE standards rule herein:

> "[B]ecause the manufactured housing standards will have significant economic costs … DOE is required by EO 12866 to quantify the costs and benefits of alternatives in an RIA to accompany publication of the final standards. If DOE cannot continue to use the Interim Estimates for purposes of its EO 12866 analysis, and in the development of a record to support their rulemaking under DOE's statutory criteria for setting energy efficiency standards, the development of a new adequate presentation of all the relevant costs and benefits could complicate DOE's ability to satisfy its requirements under EO 12866 and statute in time to meet the court-ordered deadline.[6]

(Emphasis added).

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[3] A preliminary injunction barring use of the SCC values was, in fact, entered by the District Court on February 11, 2022.

[4] See, Declaration of Dominic J. Mancini Submitted in Support of Defendants' Motion for a Stay Pending Appeal, attached as Exhibit 1, hereto..

[5] Id. at p. 10, paragraphs 17 and 18.

[6] DOE, at that time, was subject to a consent decree entered in litigation styled Sierra Club v. Granholm, 1:cv-17-02700 (D.D.C.) requiring the issuance of DOE manufactured housing energy conservation standards by May 16, 2022. Id. at p. 12, paragraph 20.

These statements, together with those contained in the final rule itself, as published in the Federal Register and as highlighted by MHARR in a Supreme Court Amicus Curiae Brief,[7] leave no doubt whatsoever that SCC values were utilized by DOE in the manufactured housing energy conservation standards rulemaking prior to the District Court injunction and continued to be used by DOE in that rulemaking insofar as the District Court injunction was stayed pending appeal by the Fifth Circuit U.S. Court of Appeals on March 16, 2022.

Consequently, the SCC and IWG work products were integral to the development of the manufactured housing energy standards rule and its related statutorily-required RIA and cost-benefit analysis. Given that fact, and given the fact that the SCC and IWG "support" documents have now been withdrawn again and repudiated by EO 14154, the foundation and basis for DOE's cost-benefit analysis in connection with the May 31, 2022 manufactured housing "energy conservation" standards rule (and related enforcement procedures rule) are no longer valid, applicable or legitimate. Accordingly, both rules should be withdrawn and repudiated as asserted by MHARR in its original comments in this matter.

Sincerely,

Mark Weiss
President and CEO

cc: Hon. Donald J. Trump
Hon. Susan Wiles
Hon. Chris Wright
Hon. Russell Vought

[7] See, Brief of Manufactured Housing Association for Regulatory Reform as Amicus Curiae in Support of Applicants, attached hereto as Exhibit 2.

EXHIBIT 1

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF LOUISIANA
LAKE CHARLES DIVISION

THE STATE OF LOUISIANA, *et al.*, Plaintiffs, v. JOSEPH R. BIDEN, JR., in his official capacity as President of the United States, *et al.*, Defendants.	Case No. 2:21-cv-01074-JDC-KK

DECLARATION OF DOMINIC J. MANCINI SUBMITTED IN SUPPORT OF DEFENDANTS' MOTION FOR A STAY PENDING APPEAL

Pursuant to 28 U.S.C. § 1746, I, Dominic J. Mancini, declare the following to be true and correct:

1. I am the Deputy Administrator of the Office of Information and Regulatory Affairs (OIRA) of the Office of Management and Budget (OMB), which is an office within the Executive Office of the President. I have held the position of Deputy Administrator since 2013. As part of my duties, in the absence of a confirmed Administrator of OIRA, I have often been delegated the duties of the Administrator, and I am currently serving in the capacity. In addition, I have held various positions with OIRA, including serving as Branch Chief for natural resources and the environment, and as the Economist for health, transportation, and general government. Prior to joining OIRA, I worked as an economist at the Food and Drug

Administration, preparing regulatory impact analyses for economically significant regulations. I have degrees in economics and finance from the University of Florida, and a PhD in economics from the University of North Carolina at Chapel Hill.

2. I understand that, in the above-captioned case, the Court has entered a Preliminary Injunction that, among other things, prohibits federal agencies "from adopting, employing, treating as binding, or relying upon" the work product of the Interagency Working Group on the Social Cost of Greenhouse Gases (the "Working Group" or "IWG"), and any estimates of the social cost of greenhouse gases that are based on "global effects" or that "do[] not utilize discount rates of 3 and 7 percent." I submit this declaration in support of the Defendants' motion for a stay pending appeal in the above-captioned case. I make the statements herein based upon my personal knowledge and information made available to me in my official capacity.

BACKGROUND

3. The Office of Information and Regulatory Affairs ("OIRA") is a statutory part of the Office of Management and Budget ("OMB") within the Executive Office of the President. OIRA is the Federal Government's central authority for, among other things, the review of Executive Branch regulations.

4. Executive Order ("EO") 12866, issued on September 30, 1993, assigned OIRA the responsibility of coordinating interagency Executive Branch review of significant regulations before publication. This ensures agency compliance with the principles in EO 12866, which include providing meaningful public comment opportunities, considering alternatives to the rulemaking, and assessing both costs and benefits.

OIRA review helps to ensure that agencies disclose and carefully consider the consequences of rules, including both benefits and costs, before they proceed.

5. Specifically, EO 12866 established a detailed regulatory-review process to be coordinated by OMB and OIRA in which all agencies, except "independent regulatory agencies," must participate. EO 12866 § 3(b). For significant regulatory actions, EO 12866 requires an assessment of the anticipated costs and benefits of the agency's proposal. *See id.* § 6(a)(3)(B), (C). The Executive Order directs an agency to provide OIRA with a written explanation of why it opted for the proposed action and how it best meets the need for the action. *See id.* § 6(a)(3)(B)(i)–(ii), (C)(iii). OIRA then reviews the agency's action. *See id.* § 6(b)(2). If an agency proposes or finalizes a significant rule that requires a more-detailed analysis of costs and benefits, one product of this process, often called a Regulatory Impact Analysis ("RIA"), is published alongside it. *See id.* § 6(a)(3)(E).

6. Such regulatory analysis provides a formal means of organizing the evidence on the key effects—both good and bad—of the various alternatives that should be considered in developing regulations. Among the purposes are (1) to learn if the quantitative and qualitative benefits of an action are likely to justify the costs; (2) to promote accountability to the public; and (3) to discover which of various possible alternatives would produce the highest net benefits, both in a formal, quantitative manner, as well as when taking qualitative effects into account. Sometimes careful analysis can show that a less stringent alternative is best; sometimes more stringency will be shown to be justified; sometimes a creative option will emerge.

CIRCULAR A-4

7. OMB guidance, in particular Circular A-4, "is designed to assist analysts in the regulatory agencies by defining good regulatory analysis" when developing RIAs that comply with EO 12866. Office of Mgmt. & Budget, *Circular A-4*, at 1 (2003). Among other things, Circular A-4 emphasizes that agencies "should monetize quantitative estimates whenever possible." *Id.* at 27. Furthermore, as Circular A-4 explains, a good cost-benefit analysis will monetize more than just direct effects: Agencies should include "any important ancillary benefits and countervailing risks." *Id.* at 26. In addition, and importantly, Circular A-4 emphasizes that agencies "cannot conduct a good regulatory analysis according to a formula. Conducting high-quality analysis requires competent professional judgment. Different regulations may call for different emphases in the analysis, depending on the nature and complexity of the regulatory issues and the sensitivity of the benefit and cost estimates to the key assumptions." *Id.* At 3.

8. In circumstances where estimated costs and benefits of regulations may accrue well into the future, Circular A-4 describes how agencies should adjust the estimated impacts, taking into account these longer time horizons for future effects—namely, by choosing appropriate discount rates (including those that account for "intergenerational effects")[1] and selecting an end point "far enough in the future to encompass all the significant benefits and costs likely to result from the rule." *Id.* at 31–32.

[1] A discount rate is an interest rate used to convert future monetary sums into present-value equivalents. *See* OMB, *Circular A-4*, at 31–32.

9. Circular A-4 specifically recommends that agencies provide estimates of costs and benefits using both a 3% and 7% discount rate.[2] Though Circular A-4 recommends agencies consider a consumption-based discount rate of 3% and a capital-based discount rate of 7% as "default . . . approximation[s]," Circular A-4 first explains that the "analytically preferred method" for discounting "is to adjust all the benefits and costs to reflect their value in equivalent units of consumption and to discount them at the rate consumers and savers would normally use." *Id.* at 33. Since 2010, the Interagency Working Group has noted that its estimates of climate damages are in "consumption-equivalent units" and that a "consumption rate of interest," like 3%, "is the correct discounting concept to use when future damages from elevated temperatures are estimated in consumption-equivalent units." IWG, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis* 23 (2010). In other words, the "analytically preferred method" for discounting the social cost of greenhouse gases, where the integrated assessment models used in the calculation express their results in consumption units, is to focus on consumption-based rates and *not* to use the capital-based 7% rate.

10. This is especially true for rules with intergenerational effects, for which Circular A-4 recommends agencies consider further sensitivity analysis assessing

[2] A consumption-based rate reflects the value at which society trades off present for future consumption, and is thought to be most appropriate when regulations primarily and directly affect private consumption, such as through higher consumer prices for goods and services. The rate of return on long-term government debt is often used as an approximation for the social rate of time preference and the consumption-based discount rate. A capital-based rate reflects the opportunity cost of capital and is thought to be most appropriate if regulatory requirements crowd out private investment opportunities and potential future returns on such investments. An average before-tax rate of return to private capital in U.S. markets is often used as an approximation. *Circular A-4* at 33.

impacts "using lower but positive discount rate[s]." *Circular A-4*, at 36. Specifically, Circular A-4 discusses the many reasons why it may be appropriate for analyses to include the presentation of long-term impacts using lower discount rates, and also explicitly discusses the circumstances in which rates at or lower than 3% could be appropriate for RIAs. These include, as discussed in the Circular, ethical considerations for intergenerational analysis and the impact of discount-rate uncertainty across time that could lead to an emphasis on lower or declining rates. *Id.* at 35-36. While not discussed directly with respect to discount rates, A-4 also points out that the "uncertain knowledge of how some economic activities might affect future climate change" is a likely source of such longer-term uncertainty. *Id.* at 38. In short, for the many reasons cited in Circular A-4, RIAs that include analyses using discount rates of lower than 3% may be appropriate.

11. Circular A-4 also provides guidance to agencies on how to determine the proper scope of analysis for a given regulatory action. The default recommendation is for agencies first to "focus on benefits and costs that accrue to citizens and residents of the United States." *Id.* at 15. Circular A-4 also gives agencies the discretion to evaluate the global impacts of regulation, however, stating that "[w]here you choose to evaluate a regulation that is likely to have effects beyond the borders of the United States, these effects should be reported separately." *Id.* at 15. In addition, in the section in Circular A-4 calling for analysis showing that Federal regulation is appropriate, it states that "the role of Federal regulation in facilitating U.S. participation in global markets should also be considered. Harmonization of U.S. and

international rules may require a strong Federal regulatory role. Concerns that new U.S. rules could act as non-tariff barriers to imported goods should be evaluated carefully." *Id.* at 6. In short, similar to discount rates that vary from the 3 and 7 percent defaults, RIAs that include an analysis of global impacts are consistent with Circular A-4.

12. In addition, in the case of climate change, it is reasonable for agencies to conclude that the global impacts of greenhouse gases—a global pollutant which is being regulated around the world; where non-U.S. emissions affect U.S. citizens; and where U.S. emissions affect assets owned by U.S. companies abroad, the millions of U.S. citizens living abroad, U.S. military personnel stationed abroad, U.S. companies' key foreign trading partners and international supply chains, and geopolitical security—would be a legitimate and appropriate focus for analysis, under the criteria established in Circular A-4.

13. Although Circular A-4 constitutes OMB's guidance on best practices for regulatory analysis, that content of Circular A-4 is not mandated by any statute or regulation.[3] Circular A-4 outlines recommendations and a set of standardized methods for agencies conducting RIAs. In practice, there is necessarily variation on how agencies apply and adapt the methodologies described in Circular A-4 to a particular regulatory action, and Circular A-4 recognizes the need for that variation.

[3] The Regulatory Right-to-Know Act requires OMB to issue guidelines to standardize the most plausible measures of costs and benefits for the purposes of accounting of regulatory costs and benefits in OMB's annual reports to Congress on the total costs and benefits of Federal rules and paperwork. 31 U.S.C. § 1105. Although Circular A-4 addresses that requirement and thus was issued partly pursuant to the Regulatory-Right-to-Know Act, Circular A-4 clarifies in its introduction that its guidance on regulatory analysis (as discussed in text) is provided pursuant to EO 12866.

Regulations take a wide variety of forms and address many different issues; as a result, RIAs will necessarily vary on a case-by-case basis. By outlining recommended practices, Circular A-4 helps facilitate the analytical procedures called for in EO 12866, which in turn helps bolster the analytical and evidence-based foundations for regulatory policymaking.

14. More specifically, the recommendations set forth in Circular A-4 must always yield to any specific statutory requirements or conditions. Accordingly, during our reviews of significant regulatory actions, OIRA does not represent or treat Circular A-4's individual provisions as a legally binding requirement on Executive Branch agencies, and I am unaware of any court having previously compelled adherence to Circular A-4 or any particular interpretation of Circular A-4.

15. By restricting agencies' approach to economic analyses, the Preliminary Injunction has the potential to substantially undermine the purposes of regulatory analysis, and undercuts Circular A-4's accommodation and encouragement of the exercise of agencies' expert judgment, including in the choice of discount rate and scope of analysis. Circular A-4 is meant to support agencies taking a rigorous approach to analyzing the impacts of regulatory actions, which necessarily requires that agencies, in consultation with OIRA, deploy their expertise and judgment in case-specific contexts. Circular A-4 explains that, because of its "special role in the rulemaking process" as a tool to inform the public and government decisionmakers about the effects of alternative actions, regulatory analysis should meet "minimum quality standards" and be "based on the best reasonably obtainable scientific,

technical, and economic information available." *Circular A-4*, at 17. Tying agencies' hands and preventing their selection of the best available data and methodological assumptions—including, for example, on the choice of discount rates—has the potential to undermine confidence in the quality of the regulatory analyses.

IMPACT OF THE COURT'S FEBRUARY 11, 2022 ORDER ON ONGOING EXECUTIVE BRANCH AGENCY ACTIVITIES

Impact on Agency Rulemakings And Other Actions

16. The Preliminary Injunction prohibits Defendant agencies from "adopting, employing, treating as binding, or relying upon" any work product by the IWG and any estimates of the social cost of greenhouse gas emissions that are "based on global effects," "do[] not utilize discount rates of 3 and 7 percent," or "otherwise do[] not comply with Circular A-4." OMB understands this injunction to require all affected RIAs addressing greenhouse-gas effects for pending agency rulemakings and published proposed rules to be re-done so that they either do not employ any estimate of the social cost of greenhouse gas emissions, or so that they use estimates that are developed using the court-ordered parameters.[4] OMB similarly understands this injunction to require any other affected not yet finalized agency actions relying upon any work product by the IWG to be re-done so that they either do not employ any estimate of the social cost of greenhouse gas emissions, or so that they use estimates that are developed using the court-ordered parameters.

[4] OMB understands the injunction to apply prospectively, and therefore not to reach agency actions that have already been finalized.

17. In OIRA's above-described role in coordinating interagency review of significant regulations, I have insight into the effect of the February 11, 2022 Preliminary Injunction ("the Preliminary Injunction") on the ongoing rulemaking and related activities of Executive Branch agencies. Agencies have also provided to OIRA additional details about the extent of likely effects to their rulemakings and other activities. In my capacity as OIRA's Deputy Administrator and based on such information, I understand that the Preliminary Injunction would impede a variety of pending agency rulemakings and actions. In particular, agencies would be required to redirect resources to revise already-drafted proposed rules, regulatory impact analyses, and other analyses in support of other agency actions, including in instances where a draft rule that incorporates the Working Group's Interim Estimates has already been submitted to OMB for review under E.O. 12866. I understand that a significant number of agency rules and actions would need to be postponed or reworked as a result of the Preliminary Injunction.

18. Based upon information made available to me in my official capacity, the Department of Energy has initially identified approximately twenty-one rulemakings that will be so affected; the EPA has initially identified approximately five; the Department of Transportation has initially identified approximately nine; and the Department of the Interior has initially identified approximately three. The Department of Transportation has also initially identified approximately sixty records of decision or environmental impact analyses required by the National Environmental Policy Act (NEPA) that will be so affected; and the Department of the

Interior has initially identified approximately twenty-seven such NEPA-mandated analyses.

19. For example, OIRA is currently reviewing a proposed rule from the Bureau of Land Management ("BLM") on Waste Prevention for oil and gas leases on public lands.[5] As BLM has explained, the goal of the proposed rule is to reduce the waste of natural gas, and BLM has projected an associated reduction in methane emissions.[6] The proposed rule follows a 2018 rescission of an earlier rule governing the waste of natural gas from onshore Federal and Indian oil and gas leases. The 2018 rescission rule relied on an estimate of the social cost of methane that considered only "domestic" climate effects occurring strictly within U.S. geographic borders. 83 Fed. Reg. 49,184 (Sept. 28, 2018). In 2020, the U.S. District Court for the Northern District of California found that the domestic-only estimate of the social cost of methane had arbitrarily "fail[ed] to consider important aspects of the problem" by "ignor[ing]," for example, how methane emissions would affect foreign assets owned by U.S. companies, U.S. citizens and military personnel living or stationed abroad, effects to U.S. companies through foreign trading partners and international supply chains, and geopolitical security. *California v. Bernhardt*, 472 F. Supp. 3d 573, 613 (N.D. Cal. 2020). If BLM uses a domestic-only estimate of the social cost of methane, which fails to consider these direct impacts to U.S. welfare that methane emissions will cause through climate effects occurring outside U.S. borders, I understand that BLM would risk violating the California district court's order.

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[5] *See* https://www.reginfo.gov/public/do/eoDetails?rrid=220412.
[6] *See* https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202110&RIN=1004-AE79.

20. The Department of Energy ("DOE") is under a court-ordered deadline to issue final energy conservation standards for manufactured housing by May 16, 2022. *Sierra Club v. Granholm*, No. 1:cv-17-02700-EGS (D.D.C. Mar. 15, 2021) (order on consent decree). To finalize those standards, DOE must complete its review under NEPA, and the 45-day comment period on the draft environmental impact statement ("EIS") will end in approximately two weeks. 87 Fed. Reg. 2430 (Jan. 14, 2022). In the draft EIS on the alternative standards being considered for manufactured housing, DOE directs the public to review its recent presentations of the various alternatives' climate effects using SC-GHG estimates, to "help the public . . . understand or contextualize the potential impacts of GHG emissions" and to "inform a comparison of alternatives." DOE, *Draft Environmental Impact Statement for Proposed Energy Conservation Standards for Manufactured Housing* at 3-13 (2022). I understand that public commenters specifically requested DOE to present estimates of the SC-GHG in the DEIS to contextualize the alternatives. *Id.* at A-8. Contextualizing alternatives for the public is a key requirement under NEPA. 42 U.S.C. § 4332(2)(C)(iii). If DOE cannot employ the Interim Estimates to help contextualize the climate effects of alternative standards in the final EIS, and needs to develop new, additional analysis to help properly contextualize those effects, I understand it could complicate concluding the environmental review in time to meet the court deadline. Similarly, because the manufactured housing standards will have significant economic costs, cost savings, and other effects, DOE is required by EO 12866 to quantify the costs and benefits of alternatives in an RIA to accompany

publication of the final standards. If DOE cannot continue to use the Interim Estimates for purposes of its EO 12866 analysis, and in the development of a record to support their rulemaking under DOE's statutory criteria for setting energy efficiency standards, the development of a new adequate presentation of all the relevant costs and benefits could complicate DOE's ability to satisfy its requirements under EO 12866 and statute in time to meet the court-ordered deadline.

21. Similarly, I understand, based on information provided to OIRA, that DOI had already incorporated the Working Group's Interim Estimates into its NEPA analysis associated with several planned and potential oil and gas lease sales. For some of these lease sales, the NEPA materials had already been subjected to a public comment period, and the agency had finalized its responses to comments and revised its Environmental Assessments to address the public comments as appropriate. For example, with respect to planned onshore oil and gas lease sales, revising the NEPA analysis would be a burdensome and time-consuming process for the BLM, and, following those revisions, the Agency anticipates subsequently recirculating the revised analyses for 30 days public comment pursuant to agency practice and guidance. Furthermore, in other related contexts, some federal courts have faulted agencies for not considering the SC-GHG in their NEPA analyses if other costs and benefits, like royalties from coal and oil, have already been monetized. *E.g.*, *WildEarth Guardians v. Bernhardt*, No. CV 17-80-BLG-SPW, 2021 WL 363955, at *9 (D. Mont. Feb. 3, 2021) (explaining that "although NEPA does not require federal agencies to engage in a cost-benefit analysis, when an agency chooses to quantify the

I certify under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed this 19th day of February, 2022

DOMINIC J. MANCINI

EXHIBIT 2

No. 21A658

IN THE
SUPREME COURT OF THE UNITED STATES

STATE OF LOUISIANA, et al.,
Applicants,

v.

JOSEPH R. BIDEN, JR., in his official capacity as President of the United States, et al.,
Respondents.

ON APPLICATION TO VACATE AN ORDER OF THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT STAYING AN INJUNCTION ISSUED BY THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF LOUISIANA PENDING APPEAL

BRIEF OF MANUFACTURED HOUSING ASSOCIATION FOR REGULATORY REFORM AS AMICUS CURIAE IN SUPPORT OF APPLICANTS

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INTEREST OF AMICUS CURIAE[1]

The Manufactured Housing Association for Regulatory Reform (MHARR) is a Washington, D.C.-based national trade organization representing the views and interests of producers of manufactured housing regulated by the United States Department of Housing and Urban Development (HUD) pursuant to the National Manufactured Housing Construction and Safety Standards Act of 1974 (1974 Act),[2] as amended by the National Manufactured Housing Improvement Act of 2000 (42 U.S.C. 5401, et seq.) (2000 reform law), and subject to energy-related regulation by the United States Department of Energy (DOE) pursuant to Section 413 of the Energy Independence and Security Act of 2007 (EISA). MHARR was founded in 1985 and its members include independent producers of manufactured housing from all regions of the United States.[3]

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[1] No counsel for any party authored this brief in any part, and no person or entity other than amicus made a monetary contribution to fund its preparation or submission.

[2] The 1974 Act defines a "manufactured home" as "a structure, transportable in one or more sections, which, in travelling mode, is eight body feet or more in width or forty body feet or more in length, or, when erected on site, is three hundred twenty or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes plumbing, heating, air conditioning and electrical systems contained therein . . . ." 42 U.S.C. 5402(6).

[3] MHARR's members include "small businesses" as defined by the United States Small Business Administration and "small entities" for purposes of the Regulatory Flexibility Act (5 U.S.C. 601, et seq.).

MHARR has an interest in the application because Executive Order 13990 (EO13990) and the Social Cost of Greenhouse Gas Estimates (SC-GHG Estimates), which are being used by DOE in rulemaking, will impose increased costs on MHARR's members and, as a direct result, low and moderate-income consumers of manufactured homes.

ARGUMENT

I. DOE has and is Currently Using the SC-GHG Estimates in Rulemaking.

In response to Applicants' challenge of EO13990 and the SC-GHG Estimates in the United States District Court for the Western District of Louisiana, Respondents argued that the SC-GHG Estimates were not being used and, if they were, the SC-GHG Estimates had no material impact on any regulatory process. In other words, Respondents claimed that the SC-GHG Estimates—if used—were for only informational purposes despite EO13990's *use* directive.[4] Considering, however, that DOE has and is currently using the SC-GHG Estimates in rulemaking, Respondents' previous representations are verifiably false.

On August 26, 2021, DOE published a Supplemental Notice of Proposed Rulemaking (SNPR) in the Federal Register, to establish for the first time, "Energy Conservation Standards for Manufactured Housing" pursuant to Section 413 of the Energy Independence and Security Act of 2007 (EISA). In the SNPR, DOE provides that it "estimates the monetized benefits of the reduction in emissions of CO_2, CH_4, and N_2O by using a measure of the social cost . . . of each pollutant (e.g., SC-CO_2)." *See* Energy Conservation Program: Energy Conservation Standards for Manufactured Housing,

[4] It goes without saying that Respondents, which are the source of the SC-GHG Estimates, should know whether the SC-GHG Estimates are being used and, if so, in what way.

Supplemental Notice of Proposed Rulemaking, https://www.govinfo.gov/content/pkg/FR-2021-08-26/pdf/2021-17684.pdf (August 26, 2021). DOE writes the following:

> DOE *used* the estimates for the social cost of greenhouse gases (SC-GHG) from the most recent update of the Interagency Working Group on Social Cost of Greenhouse Gases, United States Government (IWG) working group from "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990." (February 2021 TSD). DOE has determined that the estimates from the February 2021 TSD, as described more [fully] below, are based upon sound analysis and provide well founded estimates for DOE's analysis of the impacts of the reductions of emissions anticipated from the proposed rule.
>
> The SC-GHG estimates in the February 2021 TSD are interim values developed under Executive Order (E.O.) 13990 for *use* until an improved estimate of the impacts of climate change can be developed based on the best available science and economics. The SC-GHG estimates *used* in this analysis were developed over many years, using a transparent process, peer-reviewed methodologies, the best science

> available at the time of that process, and with input from the public.[5]

Id. at 47815 (emphasis added).

On April 4, 2022, DOE published its *final* environmental impact statement (EIS) analyzing the impacts related to DOE's proposed energy conservation standards for manufactured homes. *See* Final Environmental Impact Statement for Proposed Energy Conservation Standards for Manufactured Housing,https://www.energy.gov/sites/default/files/2022-04/final-eis-0550-energy-conservatin-standards-manufactured-housing-2022-04.pdf (April 2022). In the EIS, DOE writes the following related to greenhouse gases (GHG):

> With regard to GHGs, current emissions provided a baseline against which reductions associated with the proposed energy conservation standards

[5] Notably, DOE does not assert that the SC-GHG Estimates *were subject to public comment*, which is required given that the SC-GHG Estimates constitute a "legislative rule" in that EO13990 directs agencies—such as DOE—to employ specific numerical values (i.e., the SC-GHG Estimates) in rulemaking. *See United States v. Riccardi*, 989 F.3d 476, 487 (6th Cir. 2021) (action dictating a "specific numeric amount" is a legislative rule) (collecting cases); *see also Children's Hospital of the King's Daughters, Inc. v. Azar*, 896 F.3d 615, 623 (4th Cir. 2018) (concluding that "[b]ecause the policy amounts to a legislative rule, the APA required that agency promulgate the policy through notice-and-comment rulemaking"). Rather than comply with the law, EO13990 pulled an "end around" that resulted in the issuance of the SC-GHG Estimates despite no (1) statutory authority, (2) notice-and-comment procedures, or (3) pre-enforcement judicial review.

can be compared. To support such an analysis, the benefits of reducing GHG emissions can be monetized by *using* a measure of the social cost (SC), which represents the monetary value of the net harm to society associated with a marginal increase in GHG-specific emissions in a given year, or the benefit of avoiding that increase. Estimates of the social costs of greenhouse gases (SC-GHG) provide an aggregated monetary measure (in current U.S. dollars) of the future stream of damages associated with an incremental metric ton of emissions and associated physical damages (e.g., temperature increase, sea level rise, infrastructure damage, health effects) in a particular year. *In this way, SC-GHG estimates can help the public and Federal agencies understand or contextualize the potential impacts of GHG emissions and, along with information on other potential environmental impacts, can inform a comparison of alternatives.*

In principle, the SC-GHG includes the value of all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk and natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem

> services. The SC-GHG reflects the societal value of reducing emissions of the gas in question by one metric ton. The Interagency Working Group on the Social Cost of Greenhouse Gases (IWG SCGHG 2021) has published estimates of the global social benefits of CO2, CH4, and N2O reductions in its *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates* under Executive Order 13990. The values *used* in DOE's analyses to estimate SC-CO2, SC-CH4, and SC-N2O were generated *using* the values in that report, which represents the latest interagency update.
>
> The SC-GHG estimates *used* to contextualize potential impacts of DOE's proposal are presented in Figures 3.2-2, 3.2-3, and 3.2-4.

Id. at 3-13 through 3-14 (emphasis added). DOE also specifically notes in the EIS that "[o]n March 16, 2022, the Fifth Circuit Court of Appeals (No. 22-30087) granted the federal government's emergency motion for stay pending appeal of the February 11, 2022, preliminary injunction issued in *Louisiana v. Biden*, No. 21-cv-1074-JDC-KK (W.D. La.)." *See Id.* at n. 40. The DOE thereafter writes that it "will revert to its approach prior to the injunction and

present monetized benefits where appropriate and permissible under law." *Id.* (emphasis added).[6]

Considering the foregoing, DOE, contrary to Respondents' previous representations, has and is currently using the SC-GHG Estimates in rulemaking.

II. DOE's Proposed Energy Conservation Standards for Manufactured Housing, Which Rely on the SC-GHG Estimates, Will Impose Increased Costs for MHARR's Members and, as a Direct Result, Low and Moderate-Income Consumers of Manufactured Homes.

In support of the application, Applicants argue that the SC-GHG Estimates, by design, "drive up the cost side of every regulatory action even touching greenhouse gas emissions" and specifically mention "the design of manufactured housing" as a

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[6] DOE's use of the SC-GHG Estimates to, in its words, "present monetized benefits," clearly reflects—contrary to Respondents' claim—that the SC-GHG Estimates are not merely for informational purposes but are playing a material part in federal agency decision-making. *See Sierra Club v. Sigler*, 695 F.2d 957, n. 16 (5th Cir. 1983) (cost-benefit analysis "has become a common tool in legislative and administrative decision[-]making") (emphasis added); *see also* Executive Order 12866 at Section I(b)(6) ("Each agency shall assess both the costs and the benefits of the intended regulation and, recognizing that some costs benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs.").

sector that will experience "new hidden costs." See Application to Vacate at 18. The argument is absolutely correct. DOE's proposed energy conservation standards for manufactured housing, which rely on the SC-GHG Estimates, will impose increased costs for MHARR's members and, as a direct result, low and moderate-income consumers of manufactured homes. So, there is a real "social cost" associated with the SC-GHG Estimates and, absent court intervention, it will be disproportionately paid by millions of America's working poor and minorities by denying them access to affordable housing.[7]

In developing the proposed energy conservation standards for new manufactured housing, DOE considered three approaches that are referred to as "action alternatives" in the EIS. *See* Final Environmental Impact Statement for Proposed Energy Conservation Standards for Manufactured Housing,https://www.energy.gov/sites/default/files/2022-04/final-eis-0550-energy-conservatin-standards-manufactured-housing-2022-04.pdf (April 2022) at 2-1. Additionally, DOE purportedly evaluated "the alternative of taking no action" only in accordance with National Environmental Policy Act (NEPA). *Id.*[8] These "action alternatives" are described by DOE as follows:

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[7] MHARR does not necessarily dispute that there is a "cost of carbon." However, that cost—whatever it may be—should not be recouped in such a way that it disparately impacts low and moderate-income consumers.

[8] DOE notes that "[i]n accordance with NEPA, [it] is also evaluating the alternative of taking no action, which serves as the baseline against which potential consequences of the action

• **Alternative A**: Tiered standards based on price. Tier 1 standards would apply to homes at or below a manufacturer's retail list price threshold; Tier 2 standards would apply to homes priced above the threshold.

• **Alternative B**: Tiered standards based on size. Tier 1 standards would apply to single-section homes; Tier 2 standards would apply to multi-section homes.

• **Alternative C**: Untiered standards. These standards would apply to all homes regardless of price or size.

• **Alternative D**: No action. No change from the existing HUD Code.

Id. Under "action alternatives" A, B, and C, DOE would establish energy conservation standards that are specific to, *inter alia*, the following climate zones:

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alternatives can be compared." *See id.* at 2-1. NEPA requires that federal agencies consider alternatives to recommended actions, including "no action" at all. *See Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228 (9th Cir. 1988) (citing *Calvert Cliffs' Coordinating Committee, Inc. v. United States Atomic Energy Commission*, 449 F.2d 1109, 1114 (D.C. Cir. 1971)). Compared to the other alternatives, DOE appears to have given little, if any, actual consideration to Alternative D, which, as noted *infra* at n. 9, is admittedly the *only* approach that does not result in a cost increase for purchasers of manufactured homes.

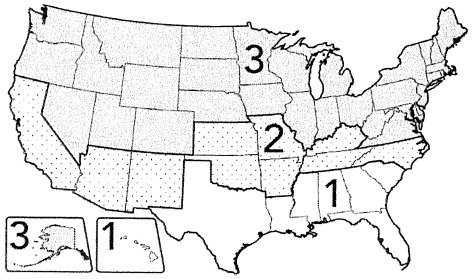

Figure 460.101 Climate Zones

Id. While DOE allegedly evaluated all of the alternative actions, it has identified Alternative C (the untiered standards) as the *preferred* alternative. *See id.* at C-6.[9] Assuming DOE adopts Alternative C, MHARR's members and consequently low and moderate-income consumers of manufactured homes will be directly harmed by way of price increases that will exclude *millions* of households from the

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[9] Alternative A and B would likewise result in cost increases for MHARR's members and low and moderate-income consumers of manufactured homes. The cost increases would only be less depending on the purchase price of the manufactured home (under Alternative A) or whether the manufactured home is a single section or double section (under Alternative B). Only under Alternative D (no action) would the purchase price not increase for manufacture homes. *See* Final Environmental Impact Statement for Proposed Energy Conservation Standards for Manufactured Housing, https://www.energy.gov/sites/default/files/2022-04/final-eis-0550-energy-conservatin-standards-manufactured-housing-2022-04.pdf (April 2022) at 4-64 (noting that under Alternative D, "[t]he purchase price for manufacture homes *would not increase* because of energy conservation standards, and the availability and demand for manufactured homes would not decrease due to energy conservation standards") (emphasis added).

manufactured housing market and thus from homeownership altogether. Indeed, based on DOE's August 26, 2021 Supplemental Notice of Proposed Rulemaking (SNPR) in the Federal Register, a consumer can expect the following purchase price increases for a manufactured home under Alternative C, depending on his or her climate zone:[10]

ZONE 1:	$4,143.00
ZONE 2:	$6,167.00
ZONE 3:	$5,839.00
NATIONAL AVERAGE	**$5,289.00**

Based on the DOE's October 26, 2021 Notice of Data Availability (NODA) in the Federal Register, a consumer can expect the following purchase price increases for a manufactured home under Alternative C, depending on his or her climate zone:[11]

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[10] The amounts calculated by DOE are attributable to the alleged retail level purchase price impact of the proposed standards themselves. They do not include and do not attempt to estimate either: (1) the cost and purchase price impact of regulatory compliance costs resulting from the amended energy standards, including but not limited to costs of testing, enforcement and other regulatory compliance expenses; or (2) the increased cost of financing all such additional costs. Increased financing costs will fluctuate, but generally will be highest for lower-income/higher-risk borrowers.

[11] *See* Energy Conservation Program: Energy Conservation Standards for Manufactured Housing, Notice of Data Availability, https://www.govinfo.gov/content/pkg/FR-2021-10-26/pdf/2021-23188.pdf (October 26, 2021).

ZONE 1:	$4,131.00
ZONE 2:	$6,149.00
ZONE 3:	$5,822.00
NATIONAL AVERAGE	**$5,267.00**

Importantly, because of these crippling price increases, millions of low to moderate-income consumers will be unable to afford a manufactured home and presumably homeownership all together. To be sure, as recently as August 2014, the National Association of Home Builders (NAHB) estimated that increasing the price of a single section manufactured home by $1,000 would "price out" 347,901 households. NAHB further estimated that increasing the price of a double section manufactured home by $1,000 would "price out" 315,585 households. *Id.*[12] Applying these numbers

[12] This price increase will impact minority communities the hardest. May 2021 data published by the Consumer Financial Protection Bureau (CFPB) shows that "only a minority (27 percent) of consumers who applied for a loan to purchase a manufactured home succeeded in obtaining financing" and that 50 percent of chattel (i.e., manufactured home titled as personal property) purchase loan applications "were denied." *See* Consumer Financial Protection Bureau's Office of Research and Mortgage Markets, *Manufactured Housing Finance – New Insights from the Home Mortgage Disclosure Act Data*, https://files.consumerfinance.gov/f/documents/cfpb_manufactured-housing-finance-new-insights-hmda_report_2021-05.pdf (May 2021). Moreover, the 50 percent rejection level for manufactured home personal property loans – representing nearly 80 percent of the entire manufactured housing new home market according to the United States Census Bureau statistics – *disproportionately* affected minority communities. As noted by CFPB, "Black and African American borrowers are the only racial group that are . . . overrepresented in chattel lending compared to site-built." *Id.* With "Black and African

to the price increase imposed under Alternative C, the number of households that will be excluded from purchasing a manufactured home is staggering.

Based on DOE's August 26, 2021 SNPR, the following number of households will be excluded from purchasing a manufacturing home (either single section or double section) based on the price increases imposed under Alternative C, depending on his or her climate zone:

	Single	*Double*
ZONE 1	895,497	1,306,640
ZONE 2	1,676,883	1,944,979
ZONE 3	1,620,871	1,841,533
NATIONAL AVERAGE	**1,361,684**	**1,668,071**

Based on DOE's October 26, 2021 NODA, the following number of households would be excluded from purchasing a manufacturing home (either single section or double section) based on the price increases imposed under Alternative C, depending on his or her climate zone:[13]

American borrowers" already subject to disproportionately-high purchase loan rejection rates within the manufacturing housing market, purchase price increases will inevitably result in (1) even higher loan rejection rates for personal property loans; (2) even greater disproportion in loan rejection rates for minority communities and specifically Black and African Americans; and (3) a corresponding decrease in homeownership for minority communities and particularly Black and African Americans.

[13] There will undoubtedly be societal and other "downstream"

	Single	*Double*
ZONE 1	893,062	1,302,855
ZONE 2	1,672,012	1,939,302
ZONE 3	1,616,000	1,836,171
NATIONAL AVERAGE	**1,357,510**	**1,661,133**

Considering the foregoing, the proposed energy conservation standards for manufactured housing, which rely on the SC-GHG Estimates, will impose increased costs on MHARR's members and, as a direct result, low and moderate-income consumers of manufactured homes. Additionally, due to the increased costs, millions of consumers will be denied access to affordable housing.

CONCLUSION

For the reasons set forth in the application and those stated herein, the Court should grant the application and vacate the United States Court of Appeals for the Fifth Circuit's stay pending appeal of the preliminary injunction entered by the United

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consequences of the proposed energy conservation standards, which, again, rely on the SC-GHG Estimates, including (but not limited to) a higher degree of homelessness in the United States. In this regard, HUD has previously estimated the cost of homelessness to taxpayers to be approximately $40,000 per homeless person, per year. *See* Politifact, HUD Secretary Says a Homeless Person Costs Taxpayers $40,000 a Year, https://www.politifact.com/factchecks/2012/mar/12/shaun-donovan/hud-secretary-says-homeless-person-costs-taxpayers/ (March 12, 2012).

States District Court for the Western District of Louisiana.

Respectfully submitted,

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Counsel for Manufactured Housing Association for Regulatory Reform

Dated: May 9, 2022

Manufactured Housing Association for Regulatory Reform

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November 24, 2025

VIA FEDERAL EXPRESS AND ELECTRONIC SUBMISSION

Appliance and Equipment Standards Program
U.S. Department of Energy
Building Technologies Office
Mailstop EE-5B
1000 Independence Avenue, S.W.
Washington, D.C. 20585-0121

Re: Request for Information -- Manufactured Housing Energy Conservation Standards – Docket No. EERE-2009-BT-BC-0021

Dear Sir or Madam:

The following comments are submitted on behalf of the Manufactured Housing Association for Regulatory Reform (MHARR). MHARR is a Washington, D.C.-based national trade association representing the views and interests of producers of manufactured housing regulated by the U.S. Department of Housing and Urban Development (HUD) pursuant to the National Manufactured Housing Construction and Safety Standards Act of 1974 (42 U.S.C. 5401, et seq.) (1974 Act) as amended by the Manufactured Housing Improvement Act of 2000 (2000 Reform Law) and subject to potential energy-related regulation by the U.S. Department of Energy (DOE) pursuant to section 413 of the Energy Independence and Security Act of 2007 (EISA) (42 U.S.C. 17071). MHARR was founded in 1985. Its members include independent manufactured housing producers from all regions of the United States.[1]

I. INTRODUCTION

On September 3, 2025, DOE published a Request for Information (RFI) seeking "public input regarding certain aspects of its energy conservation standards for manufactured housing."[2] (Emphasis added). DOE initially published a final rule adopting manufactured housing "energy conservation" standards on May 31, 2022,[3] although the enforcement compliance date for those

[1] MHARR's members are all "small businesses" as defined by the U.S. Small Business Administration (SBA) and are "small entities" for purposes of the Regulatory Flexibility Act (5 U.S.C. 601, et seq.).

[2] See, 90 Federal Register, No. 168 (September 3, 2025) "Public Input on Energy Conservation Standards for Manufactured Housing" at P. 42544.

[3] See, 87 Federal Register, No. 104 (May 31, 2022) "Energy Conservation Standards for Manufactured Housing" at p. 32728, et seq.

standards has been successively delayed by DOE via regulatory action.[4] DOE subsequently published a proposed rule to establish regulations for testing, compliance and enforcement of those standards on December 26, 2023.[5] No final rule pertaining to the enforcement of the May 31, 2022 manufactured housing energy conservation standards has ever been issued or published by DOE.[6]

As is explained by the September 3, 2025 RFI, the RFI seeks "public input … to help guide DOE's further refinement of certain aspects of its standards for manufactured housing, as well as supporting technical analysis, including anticipated costs and benefits."[7] (Emphasis added). The RFI then poses 14 specific issues, questions and inquiries concerning the pending standards on which DOE seeks additional input. Significantly, however, the RFI states that "DOE is also revisiting the 2022 Final Rule in light of [Executive Order] 14192, 'Unleashing Prosperity Through Deregulation,' and … seeks stakeholder input on reducing [the] regulatory burden of these regulations."[8]

On behalf of the smaller, independent, *entrepreneurial* manufactured housing producers that it represents in Washington, D.C., MHARR, which has strenuously, consistently and inalterably opposed the baseless, destructive "climate change" ideology-driven DOE manufactured housing "energy" standards in both concept and substance since day-one of their fraudulent development and imposition,[9] has only one comment to offer. As is explained in greater detail below, these unnecessary, excessive, extreme and unduly costly standards, in a country with an affordable housing shortage numbering in the millions of units,[10] and in the context of a presidential administration with a stated fundamental commitment to the elimination of needless

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[4] See, 90 Federal Register, supra at pp. 42545-42546 for a summary of DOE regulatory actions regarding the compliance date for the subject standards.

[5] See, 88 Federal Register, No. 246 (December 26, 2023) "Energy Conservation Standards for Manufactured Housing; Enforcement" at p. 88844, et seq.

[6] DOE acknowledges in the RFI that it is "still reviewing" comments on the enforcement Notice of Proposed Rulemaking. See, 90 Federal Register, supra at p. 42546, col. 1.

[7] See, 90 Federal Register, supra at p. 42544, col. 1.

[8] Id. At p. 42545, col. 2-3.

[9] The fraudulent initiation and development of the DOE manufactured housing "energy conservation" standards, through a corrupted "negotiated rulemaking" process, the results and products of which were carried forward through the entire DOE rulemaking in this matter, notwithstanding facile and gratuitous assertions to the contrary by DOE – as well as DOE's utter failure to substantively consult with HUD and with the statutory Manufactured Housing Consensus Committee, as directed by EISA section 413 -- is described in detail by MHARR in its August 8, 2016 comments and attachments in this docket, which MHARR hereby incorporates and included in these comments as if restated in full. These issues are further addressed and detailed in subsequent comments filed by MHARR in this matter, which it also incorporates by reference herein including, without limitation, the following: (1) MHARR's October 25, 2021 comments and attachments on Energy Conservation Standards for Manufactured Housing; (2) MHARR's November 22, 2021 comments and attachments on Energy Conservation Standards for Manufactured Housing; (3) MHARR's May 4, 2022 comments and attachments on Energy Conservation Standards for Manufactured Housing; (4) MHARR's April 13, 2023 comments and attachments on Energy Conservation Standards for Manufactured Housing; (5) MHARR's January 24, 2024 comments and attachments on enforcement regulations regarding Energy Conservation Standards for Manufactured Housing; (6) MHARR's May 31, 2025 comments and attachment on Energy Conservation Standards for Manufactured Housing.

[10] In a March 2025 report, the National Low Income Housing Coalition concluded that the United States faces a national shortage of 7.1 million affordable housing units.

and destructive regulation,[11] should not be the subject of "fine-tuning," tinkering around the edges, or "refinement" of any kind. Instead – and in accordance with the fundamental regulatory principles set forth by the President -- these standards, including their alleged "enforcement" component, should be jettisoned – withdrawn, repealed and permanently consigned to oblivion in their entirety. In addition, the Administration should fully support and seek the repeal of any conceivable legislative authority underlying this abusive overreach that would needlessly deny Americans the affordable mainstream homeownership that they so desperately need.[12]

II. COMMENTS

The May 31, 2022 DOE manufactured housing "energy conservation" standards must be withdrawn and repealed. The reasons for that conclusion are beyond debate and are factually (and legally) unassailable.

A. The DOE Standards Are Required by Law to be Cost-Justified

First, it is beyond debate that any manufactured housing energy conservation standards adopted by DOE were (and are) affirmatively required by federal law to be cost-justified including, but not limited to, the initial purchase price of the home. Specifically, section 413 of the Energy Independence and Security Act of 2007 – the authorizing legislation for the DOE standards – states, in relevant part:

> "The energy conservation standards established under this section shall be based on the most recent version of the International Energy Conservation Code (including supplements), except in cases in which the Secretary finds that the code is not cost-effective, or a more stringent standard would be more cost-effective, based on the impact of the code on the purchase price of manufactured housing and on total life-cycle construction and operating costs."[13]

(Emphasis added).

An affirmative cost-benefit impact is also mandated by Executive Order 12866, "Regulatory Planning and Review," (September 30, 1993) which provides, in relevant part:

> "Each agency shall assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs."[14]

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[11] See, e.g., Executive Order 14192, "Unleashing Prosperity Through Deregulation," January 31, 2025.

[12] See, e.g., H.R. 5184, the "Affordable Housing Over Mandating Energy Efficiency Standards Act of 2025, introduced by Rep. Erin Houchin

[13] See, 42 U.S.C. 17071 (b)(1).

[14] See, Executive Order 12866, "Regulatory Planning and Review" (September 30, 1993, Section 1(b)(6).

Section 413's statutory mandate, in turn, is specifically enforceable against DOE pursuant to the Administrative Procedure Act (APA), which directs federal courts to "hold unlawful and set aside agency action … found to be arbitrary, capricious and an abuse of discretion, or otherwise not in accordance with law."[15]

B. The Pending Standards Were Deemed Cost-Justified by DOE Based on the "Social Cost of Carbon" Metric

Second, it is beyond debate that the May 31, 2022 DOE manufactured housing energy conservation standards published by DOE (with respect to both standard tiers) were affirmatively determined and found by DOE to be cost-justified[16] and "beneficial" based on a purported cost analysis that included substantive and substantial inputs and values derived directly from the Social Cost of Greenhouse Gasses (SCC) metric developed by the federal Interagency Working Group on the Social Cost of Greenhouse Gasses (IWG), including, without limitation, inputs, values and analyses contained in the IWG's February 2021 "Technical Support Document: Social Cost of Carbon, Methane and Nitrous Oxide."[17] Accordingly, the May 31, 2022 final rule as published in the Federal Register states:

> "DOE estimates the value of climate benefits from a reduction in greenhouse gasses using four different estimates of the social cost of CO2…. Together these represent the social cost of greenhouse gasses (SC-GHG). DOE used interim SC-GHG values developed by an Interagency Working Group on the Social Cost of Greenhouse Gasses…."

The May 31, 2022 notice then specifically cites, as the source of these "values," the February 2021 IWG Technical Support Document.[18] These so-called "values" are then netted (together with other illusory alleged "benefits") against the extreme costs of the DOE standards – as demonstrated by MHARR in its previous comments on the DOE standards – to produce a warped and fraudulent alleged net "benefit" for consumers, while totally ignoring the massive individual and collective impacts of the exclusion of millions of Americans from homeownership due to the standards' extreme impact on the purchase price of manufactured housing (measuring in the thousands of dollars per home -- and even more now, due to subsequent inflation -- notwithstanding contrary baseless assertions by DOE).

Ultimately, however, the DOE standards were deemed cost-justified and lawful based in substantial (and unavoidable) part on the SCC metric and its related "values."

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[15] See, 5 U.S.C. 706 (2)(A).

[16] See, 87 Federal Register, supra, at p. 32735, col. 1: "DOE has determined that the conservation standards in this final rule are cost-effective when evaluating the impact of the standards on the purchase price of the home and on the total life-cycle and operating costs."

[17] Id. at p. 32733, col. 1 and footnote 5 therein specifically referencing "Interagency Working Group on Social Cost of Greenhouse Gasses, Technical Support Document: Social Cost of Carbon, Methane and Nitrous Oxide. Interim Estimates under Executive Order 13990.".

[18] See, 87 Federal Register, supra at p. 32733, n. 5.

C. Any Regulatory Reliance on the SCC Metric and Related Materials is Affirmatively Prohibited by Executive Order 14154

Third, there is absolutely no current basis for the utilization of – and DOE reliance on – the SCC metric and related materials and/or documents in connection with the cost-benefit evaluation and analysis of the May 31, 2022 DOE standards, and any previous utilization or reliance on such metrics and materials is no longer valid or permissible, insofar as all of those metrics, analyses, studies and so-called support documents, have been eliminated and specifically repudiated as of January 20, 2025, through Executive Order (EO) 14154, "Unleashing American Energy." In relevant part, that EO states:

> "The calculation of the 'social cost of carbon' is marked by logical deficiencies, a poor basis in empirical science, politicization, and the absence of a foundation in legislation."

In accordance with this determination, the EO further states:

> "In all federal permitting adjudications or regulatory processes, all agencies shall adhere only to the relevant legislated requirements for environmental considerations and any considerations beyond these requirements are eliminated."

(Emphasis added). Based on these conclusions, EO 14154, among other things, disbands the IWG and further states:

> "any guidance, instruction, recommendation or document issued by the IWG is hereby withdrawn as no longer representative of government policy, including: [(b)(iii)] the Technical Support Document of February 2021 (Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990); and [(b)(iv) estimates of the social cost of greenhouse gasses, including the estimates for the social cost of carbon, the social cost of methane and the social cost of nitrous oxide based, in whole or in part, on the IWG's work or guidance."

(Emphasis added).

Accordingly, and based upon current law and policy, DOE's May 31, 2022 final standards' cost-benefit analysis relies and is based upon invalid, repudiated and withdrawn inputs that have no – and had no – indicia of scientific or policy validity when developed and relied upon by DOE. Therefore, the May 31, 2022 final DOE standards are inherently and irretrievably "arbitrary, capricious and an abuse of discretion" in their total failure to legitimately quantify and consider cost impacts as directed by statute.

As a result, and pursuant to the DOE administrative review referenced by the RFI, the May 31, 2022 final standards should be withdrawn and not merely, modified, amended, or "updated."

D. DOE has Already Acknowledged that the SCC Metric is Inherently Flawed

The analysis and conclusions set forth above, moreover, are buttressed and supported by DOE's own research and analysis of the SCC metric. In a July 23, 2025 report, DOE's Climate Working Group characterized the SCC metric and approach as "flawed," stating:

> "This report supports a more nuanced and evidence-based approach for informing climate policy that explicitly acknowledges uncertainties. The risks and benefits of a climate changing under both natural and human influences must be weighed against the costs, efficacy and collateral impacts of any 'climate action' .... An approach that acknowledges both the potential risks and benefits of CO2, rather than relying on flawed models and extreme scenarios, is essential for informed and effective decision-making."

(Emphasis added).

Up until this point in the DOE manufactured housing energy rulemaking, all that there *has been* is reliance on "flawed models" and hyper-ventilation over "extreme scenarios." There is no way to correct this inalterably flawed and corrupted rulemaking on the present regulatory record.

Accordingly, the entire May 31, 2022 final standards rule, the December 26, 2023 proposed enforcement rule, and all components and aspects of each, should be withdrawn, repealed and repudiated. Both of those rules are fundamentally, fatally and irretrievably flawed and cannot be rescued by tinkering around the edges.[19]

III. CONCLUSION

For all of the foregoing reasons, MHARR seeks and supports the repeal and withdrawal of the May 31, 2022 DOE manufactured housing "energy conservation" standards and the proposed December 26, 2023 DOE manufactured housing energy conservation enforcement and compliance regulations. Further, MHARR supports pending congressional consideration and approval of the repeal of section 413 of the Energy Independence and Security Act of 2007. MHARR, therefore,

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[19] An additional independent grounds for withdrawing the May 31, 2022 standards is illustrated by the Executive Order, "Directing the Repeal of Unlawful Regulations" issued on April 6, 2025. That EO directs federal agencies to "identify ... unlawful and potentially unlawful regulations ... and begin plans to repeal them." Among other things, the EO directs the repeal of regulations that are (or have become) unlawful under ten recent Supreme Court decisions, including Loper Bright Enterprises v. Raimondo, 603 U.S. 369 (2024). That decision ended the concept of Chevron deference to the interpretation of ambiguous statutes by federal regulatory agencies. MHARR maintains that the May 31, 2022 final rule and final standards violate EISA section 413 insofar as the May 31, 2022 final rule is based upon multiple, compounded, cumulative, baseless "interpretations" of section 413 and its alleged intent by DOE. Those baseless interpretations, as fully explained in prior MHARR comments within the administrative record, include but are not limited to, distortions, manipulation and de facto re-writing of certain aspects of the International Energy Conservation Code (IECC) in a futile effort to conform that Code – which was not developed for manufactured housing – to the unique construction of manufactured housing as mandated by federal law. For this reason as well, the May 31, 2022 standards cannot be salvaged or legitimized under any theory.

urges DOE and the U.S. Department of Housing and Urban Development to take no further action regarding any such standards or related mandates.

Sincerely,

Mark Weiss
President and CEO

cc: Hon. Donald J. Trump
Hon. Susan Wiles
Hon. Chris Wright
Hon. Tim Scott
Hon. French Hill
Hon. Erin Houchin
Hon. Russell Vought
HUD Code Manufactured Housing Industry Members

1.888.602.4663 | MHCC@HUD.GOV | MHCC@HOMEINNOVATION.COM

Appendix C:
MHCC Comments on the DOE Public Input on Energy Conservation Standards for Manufactured Housing

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MHCC Comments on the DOE Public Input on Energy Conservation Standards for Manufactured Housing

Docket Number: EERE-2009-BT-BC-0021
RIN: 1904-AG10

On January 27-28, 2026, HUD's Manufactured Housing Consensus Committee (MHCC) met via teleconference to review the *Public Input on Energy Conservation Standards for Manufactured Housing*. As a result of their review and deliberations, the following comments, captured in blue text below, on the Request for Information were developed and are being submitted to HUD on behalf of the MHCC.

General Comments

- The DOE 2022 Final Rule was based on flawed methodologies and inadequate consultation with HUD and the MHCC.
- The MHCC has changed members over the years, however the response to the DOE rule has not changed. The MHCC does not believe that the IECC should be used as a baseline for MH.
- DOE's previous rulemaking efforts seem to demonstrate large analytical, enforcement, and feasibility flaws, relative to what HUD and the MHCC has been able to accomplish with regards to construction, transportation, and installation which are key components of the manufactured homes industry.
- Additional regulations add unnecessary cost to new units and further, the MHCC believes that DOE should withdraw the proposed Enforcement Rule and Final Energy Standards Rule.
- The 2022 final rule and IECC based approaches are unworkable, unaffordable, and incompatible with the manufactured housing industry. HUD-Led MHCC rulemaking is the only viable path and required based upon the law.
- Based on the current DOE Final Rule and Enforcement proposal, DOE appears to have chosen to circumvent current federal code development processes despite previous MHCC communications, and/or has failed to understand the Manufactured Housing processes and the program that has made it the well-established affordable housing industry.
- The MHCC agrees that the energy efficiency requirements need to be updated but believes the updates should be done incrementally using HUD's established rulemaking procedures for manufactured housing for review and incorporation into the MHCSS.

A. Recent Updates to the IECC

Under EISA, DOE is required to update energy conservation standards following any revision to the IECC. 45 U.S.C. 17071(b)(3). Since the IECC was updated in August 2024, DOE has a legislative requirement to review energy conservation standards for manufactured housing. Under EISA, DOE is required to consider the design and factory construction techniques, the IECC standards, and cost effectiveness given the impact on purchase price and on total life-cycle construction and operating costs. 45 U.S.C. 17071(b)(1); 45 U.S.C. 17071(b)(3)(2).

Because manufacturers are not yet required to comply with the 2022 Final Rule, the Department finds that the requirement to analyze the cost-effectiveness of the IECC 2024 standard presents a question as to the proper baseline for further technical analysis. At present, manufacturers are required to comply with existing HUD requirements related to the energy efficiency of manufactured homes. Typically, when DOE performs an energy conservation standard analysis, the existing standards provide the minimum efficiency level against which proposed efficiency requirements are analyzed.

Issue A-1:

DOE seeks data and information regarding basing standards on the most recent version of the IECC; in particular, whether standards based on the 2024 IECC would or would not likely be cost effective or that standards more stringent than 2024 IECC would or would not be cost effective. In addition, comments should describe the basis for their perspective on compliance cost and other costs borne by consumers (*e.g.,* layout of housing less attractive or functional due to increase insultation), cost effectiveness, including a description of methodology or analytical assumptions.

MHCC Response or Comment:

Standards based on the 2024 IECC would not be cost-effective for manufactured housing when all costs are properly considered, including material cost inflation, compliance expenses, transportation challenges, and the loss of consumer design options. These standards would substantially increase the purchase price of manufactured homes while eliminating popular features that consumers value, making homeownership unattainable for tens of thousands of families annually.

The most constructive path forward is for HUD and the MHCC to develop energy efficiency improvements that are specifically designed for manufactured housing, that account for the unique aspects of factory-built construction, that preserve the affordable housing mission of the industry, and that maintain reasonable consumer choice, considering any input that DOE may offer. Incremental improvements based on careful analysis of what is technically and economically feasible is the best way to keep the construction standards up to date and preserve access to homeownership for America's working families.

Consistent with previous MHCC comments submitted on this matter, the MHCC believes that the energy efficiency requirements from the IECC, as currently proposed, are not the appropriate resource to be used in updating Manufactured Housing energy requirements as the IECC wasn't developed or intended for Manufactured Housing. Below is a list of topics that all impact cost where the MHCC believes the use of the IECC is fundamentally inappropriate for manufactured housing:

- Insulation and Thermal Envelope
    - Current DOE recommendations based on IECC do not align with industry standards from a procurement perspective related to how R-values are achieved.

    - There is a cost to the industry in going to material suppliers for changing standard purchased materials to meet revised code requirements.
- High-cost Appliances Necessitated by IECC Energy Credit System
- HVAC Equipment Sizing Requirements
    - Manufactured Housing is not constructed or permitted on a per address or home location basis which makes the IECC HVAC equipment sizing criteria ineffective.
    - If calculations are required on a per address basis, it will impact cost, timing, and potential installation expenses of equipment.
- Transportation Constraints and Practical Limitations
    - Changes to the geometry of the building envelope will in many cases lead to transportation costs increases associated with additional escorts, detours, delays, and/or routing studies.
    - Additional height could prevent shipping a home into areas of the country with low bridges, resulting in consumers having to settle for a different style of home or, more likely, being forced out of the housing market entirely due to lack of affordable housing options in their area.
- Limitations on Consumer Design Choices
    - The increased insulation thickness requirements would make optional vaulted ceilings impossible to construct in many home designs. Currently, vaulted ceilings are a popular option that enhances the aesthetic appeal and perceived spaciousness of manufactured homes. Due to the R-38 ceiling insulation requirement and increased truss heel height, the attic space in some designs becomes too constrained to accommodate vaulted ceiling construction. This represents a significant loss of consumer choice and reduces the architectural appeal of manufactured homes.
    - Similarly, options for 8-foot or 9-foot wall heights and transom windows would be severely limited or eliminated. These features are important to consumers who desire homes with a more spacious feel and enhanced natural lighting. HUD recently updated exterior door requirements in the MHCSS to better accommodate the open floor plans preferred by consumers. The combination of thicker walls, deeper floor joists, and increased heel heights necessitated by the 2022 Final Rule and 2024 IECC would constrain the ability to offer these popular design features while staying within transportation height limits.
    - The necessity of using 2x6 exterior walls instead of 2x4 walls results in heated and cooled interior space being reduced by approximately 27 square feet in a typical multi-section home. While this may seem modest, it represents a meaningful loss of usable living space for consumers purchasing homes that are already carefully designed to maximize functionality within standard dimensions.
    - Additionally, manufacturers may need to make floor plan changes to accommodate the additional insulation and structural modifications required by the standards. The industry has developed floor plans over decades based on the realities of manufactured housing construction, transportation, and installation. Forced redesigns to accommodate IECC requirements may result in less functional and less appealing layouts.
- Window Limitations

    - To achieve the required U-values under the prescriptive pathway, manufacturers would need to significantly reduce the number of windows or use windows with much lower U-values (0.30 or better) than are currently standard. In some scenarios analyzed, manufacturers would need to eliminate windows almost entirely to meet performance requirements—creating homes that would fail to meet basic code requirements for egress, light, and ventilation.
    - Even with substantial changes to wall and floor construction, incorporating a reasonable number of windows requires upgrading to windows with a U-value of 0.30 or lower; the 2024 IECC sets a standard of 0.28 or 0.27 in some climate zones. The U-value for skylights was also lowered in the 2024 IECC. Windows and skylights meeting these standards are not readily available in the market for manufactured housing applications.
    - Supply chain cost increases associated with changes to standard or baseline windows due to more restrictive energy requirements.
- Cost-Benefit Analysis Methodology
    - DOE's analysis did not fully account for the costs associated with testing, certification, and enforcement. These compliance costs represent real expenses that will be passed on to consumers but were not included in DOE's cost-benefit calculations. The absence of these costs from the analysis rendered DOE's conclusions about cost-effectiveness incomplete and unreliable.
- Upfront Financial Burden of the 2024 IECC is Significant
    - Mandating the 2024 IECC standards for manufactured housing would substantially increase costs and would directly undermine the goal of affordable homeownership. An analysis performed by Home Innovation Research Labs found that the adoption of the 2024 IECC could increase upfront costs for a typical site-built home by as much as $10,245 relative to 2018 standards. The 2022 Final Rule estimated that costs would increase by over $5,000 for multi-section units, and we expect that the 2024 IECC would be even more costly.
    - These significant increases to the purchase price of a manufactured home will result in higher required down payments and higher monthly mortgage payments, reducing the number of households that can qualify for a mortgage to purchase a home based on the debt-to-income limits used by mortgage providers. For low- and moderate-income purchasers who rely on manufactured homes for attainable homeownership, even modest cost increases lead to loan denial, effectively pricing thousands of eligible families out of the market entirely.

The MHCC supports the rationale for this list which is provided in the comments submitted by MHI, which can be found in Appendix A.

Issue A-2:

DOE seeks input on the appropriate baseline to use in conducting further technical analysis in support of an updated manufactured housing energy conservations standards rulemaking. We seek information on the best representation of the current state of energy efficiency in manufactured housing to characterize the baseline—*e.g.,* the HUD standards, the 2022 Final Rule efficiency levels, or another efficiency level.

MHCC Response or Comment:

Modern manufactured homes consistently meet or exceed current HUD energy-efficiency standards, with a significant portion of the industry building well above the minimum requirements. One manufacturer on the committee indicated that all homes they produce are at least 25% more efficient than current HUD code minimums. The anecdotal evidence provided by this individual manufacturer is not necessarily representative of the industry as a whole.

The industry has already invested considerable effort—through detailed deliberation, cost analyses, and coordinated work with this committee to support the development of an updated HUD energy standard. Given the broad alignment around the MHCC's recommended framework, we recommend using the MHCC proposal as the foundational target for any future rulemaking or revisions.

Issue A-3:

While DOE typically considers existing standards to be the minimum baseline, DOE also typically takes into account any information that demonstrates current manufacturing practice results in a range of efficiencies available in the marketplace. For example, significant percentages of manufactured home shipments historically met the Energy Star criteria. Between 2020 and 2022, approximately 21 percent of buildings met the Energy Star criteria for manufactured homes, while in 2023 the fraction was 36 percent. DOE notes that in 2023 the Federal tax credits were increased from $1,000 to $2,500 for manufactured homes meeting Energy Star and certain researchers have postulated that the tax credit program influenced the 2023 results.[4] DOE seeks input to best assess appropriate baseline efficiency levels reflective of what is observed in shipments in the manufactured housing market. Specifically, DOE seeks input on fractions of manufactured homes with building envelopes constructed effectively at the current HUD requirements for their HUD region, fractions that would meet the lower Uo [5] envelope requirements under the EnergyStar 2.0 criteria, and fractions currently constructed at the 2022 final rule Uo levels to best assess appropriate baseline efficiency levels reflective of what is observed in shipments in the manufactured housing market. As part of this request, DOE requests input on the impact of the expected expiration of the Federal tax credit on the fraction of shipments that meet Energy Star criteria.

MHCC Response or Comment:

In 2024-2025 approximately 47 percent of manufactured homes were certified to meet or exceed the Energy Star 2.0 standards. Many of these homes would likely meet the 2022 final rule Uo levels.

As the credit expires, the MHCC expects some reduction in the share of certified homes due to higher price points for consumers, but the industry will continue to offer significant numbers of homes at least meeting Energy Star 2.0 standards. This reflects the industry's ongoing commitment to energy efficiency while balancing affordability for consumers, which is the hallmark of manufactured housing.

The 45L tax incentive materially increased the volume of homes constructed to ENERGY STAR and ZERH standards. However, participation in these programs is expected to decline in response to the upcoming elimination of 45L benefits.

B. May 2022 Final Rule's Analytical Assumptions

The May 2022 Final Rule incorporated analytical assumptions to determine the minimum level of efficiency for which DOE seeks further stakeholder input through the current RFI, as described in the itemized paragraphs below. These assumptions spanned a variety of issues, such as: affordability; the use of HUD climate zones; the price elasticity value to use in DOE's calculation of potential shipment impacts; whether to include certification,

compliance, and enforcement costs as part of DOE's analysis; the availability of windows that meet the U-value and Solar Heat Gain Coefficient (SHGC) and the availability of doors and insulation that meet U-values required by the 2022 Final Rule; and whether the tightening of a manufactured home's building envelope with regard to air leakage would impact indoor air quality by increasing the likelihood of trapping pollutants inside the building and other issues that are relevant.

Issue B-4:

What analytical aspects related to DOE's May 2022 Final Rule should DOE consider re-examining as part of its ongoing consideration of energy efficiency standards for manufactured housing? This request for input encompasses whether DOE's analysis sufficiently addressed the cost-effectiveness of standards based on the then-current 2021 IECC when considering the code's impact on both the purchase price of manufactured housing and on total life-cycle construction and operating costs. *See*42 U.S.C. 17071(b)(1). If changes are recommended, how should DOE reconsider how it addressed costs (even those that are hard to quantify) and the cost-effectiveness of the IECC criteria and what specific changes, if any, should DOE make to its assumptions or analyses to better address this in any future analysis for manufactured housing? As part of this request, DOE encourages commenters to provide specific supplemental supporting data regarding any changes that commenters may suggest.

EISA explicitly stated that DOE could establish efficiency standards based on the climate zones used by HUD rather than the climate zones embodied in the IECC standards. 42 U.S.C. 17071(b)(2)(B). The 2022 May Final Rule utilized the HUD climate zones to reduce the complexities and burden faced by manufacturers, and to reduce the potential confusion faced by consumers if the energy standards were based on different climate zones than other HUD requirements. 87 FR 32728, 32761.

MHCC Response or Comment:

The analytical approach used by the Department of Energy in the 2022 Final Rule was fundamentally deficient and produced deeply flawed conclusions regarding cost-effectiveness. The multiple methodological errors, inaccurate assumptions, and omitted costs render the 2022 Final Rule's cost-benefit analysis unreliable and inappropriate as a basis for energy conservation standards for manufactured housing. These deficiencies demonstrate that DOE is not the appropriate agency to lead the development of manufactured housing energy standards. Instead, these standards should be developed as part of HUD's Manufactured Housing Construction and Safety Standards (MHCSS) through consultation with the MHCC in accordance with 42 U.S.C. § 5403 (Section 604 of the Manufactured Housing Construction and Safety Standards Act), considering any input DOE may have.

- Failure to Consider Unique Characteristics of Manufactured Housing
- Inappropriate Use of 30-Year Life-Cycle Cost Analysis
- Failure to Account for Access to Financing
- Inaccurate Material Cost and Inflation Assumptions
- Inaccurate Interest Rate Assumptions
- Impact of Correcting Material Cost and Interest Rate Assumptions
- Failure to Include Testing, Compliance, and Enforcement Costs
- Failure to Use Incremental Cost-Effectiveness Analysis
- Failure to Properly Account for Consumer Price Sensitivity
- Recommendations for Future Analytical Approach

- Utilization of invalid or inappropriate alleged benefit inputs
- Impact of increasing energy costs

The MHCC supports the rationale for this list which is provided in the comments submitted by MHI, which can be found in Appendix A.

Issue B-5:

DOE seeks comments on the appropriateness of using the HUD climate zones, and whether the use of the HUD climate zones continues to be appropriate.

In further researching the manufactured housing market, DOE has examined additional information from a variety of sources. Of note is information from the Urban Institute which released a report in 2023 that analyzed mortgage data from the Home Mortgage Disclosure Act database covering 2022 mortgage data.[6] The 2023 Urban Institute report detailed the characteristics of manufactured housing consumers and the market for manufactured home financing from 2022. Key findings from the report include:

- Manufactured homeowners tend to have lower incomes than their counterparts who own site-built homes:

○ homeowners with chattel [7] loans had median incomes of $60,000;

○ homeowners with manufactured housing mortgage loans had median incomes of $65,000;

○ homeowners of site-built homes had median incomes of $101,000.

- Manufactured-housing purchasers used chattel loans in 42 percent of purchases requiring loans.
- Personal property (chattel) loans included a significant fraction (25.3 percent) of loans in which the consumers also owned (purchased) the land.
- Median loan amounts were:

○ Personal property (chattel) loans—$95,000;

○ Real property (*i.e.,* mortgage) manufactured housing loans—$175,000;

○ Site-built home loans—$305,000.

- Median interest rates reported were 8.0 percent for chattel loans, 5.5 percent for manufactured home real property loans, and 5.0 percent for site-built home mortgages.
- Denial rates among loan applications for chattel loans were 65.5 percent of applications, compared to 43 percent of manufactured home real property loan applications, and 10.4 percent of site-built home mortgage applications.

This data suggest that manufactured housing purchasers face substantial constraints in receiving financing compared to traditional site-built home purchasers. In turn, these constraints may make purchasers of manufactured homes more price-sensitive to potential changes that would impact the costs to construct (and purchase) a manufactured home.

U.S. Census Bureau American Housing Survey data analyzed and referenced by the National Association of Home Builders (NAHB) [8] found that 36.6 percent of single-section manufactured home owners spend more than 30 percent of their income on housing, or in other words, 36.6 percent are considered to be *cost burdened.*[9] The percentage of multi-section homeowners that are cost burdened, at 28.4 percent, is roughly similar to the single-family homeowner group (27.6%).

Manufactured homeowners who finance their homes tend to pay higher interest rates than their site-built home counterparts. Chattel financing is typically offered to purchasers at a significantly higher interest rate than the rates offered to their site-built home counterparts. However, approximately one-quarter of manufactured homeowners with chattel loans own or are purchasing the land on which the manufactured home is sited and could potentially be eligible for mortgage financing but used a chattel loan. Relevant factors in the decision making include the willingness of lenders to make smaller personal property loans than mortgage lenders, the possibility that personal property lenders may be willing to loan money to people with lower credit scores than mortgage lenders, and the possibility the homeowner doesn't want to encumber the land with a lien. The Urban Institute report also noted there is a tradeoff between lower origination costs with significantly higher interest rates (chattel loans) and higher origination costs with significantly lower interest rates and greater consumer protections (mortgage).

MHCC Response or Comment:

The MHCC strongly supports using the current HUD climate zones for the purpose of this standard.

Issue B-6:

DOE acknowledges that interest rates change over time and expects the interest rates used in the 2022 Final Rule will change as more data becomes available. DOE seeks comments regarding the previous financial findings regarding the economic impact of energy conservation standards on the ability of purchasers to buy manufactured homes. In stakeholders' experiences, are these findings reasonably accurate, and are there other data that DOE should examine, or other factors that DOE should consider? In addition, are the total costs of ownership accurately reflected in the analysis? Assuming that these findings are reasonably accurate, what role, if any, should they play in shaping potential amended standards that DOE may ultimately adopt for manufactured housing and why? If these findings do not appear accurate, what data supports the discrepancy, what specific shortcomings are indicated, and what assumptions/changes should DOE apply when determining the stringency and structure of energy conservation standards for manufactured housing? DOE also seeks input on the advisability of using current interest rates versus longer historical averages. DOE also seeks input on the advisability of continuing to use 30-year analytic time horizon in the analysis or whether the analytic time horizon should reflect average ownership of manufactured housing.

MHCC Response or Comment:

MHCC appreciates DOE's recognition that financial conditions have changed significantly since the 2022 Final Rule and that the economic circumstances of manufactured home purchasers warrant careful consideration. The financial findings referenced in the RFI regarding interest rates, loan types, and consumer characteristics are generally accurate and consistent with *MHI's* experience and data. However, DOE's prior analysis did not adequately account for these financial realities or their implications for affordability and cost-effectiveness. Any future rulemaking must comprehensively address these factors and use realistic assumptions that reflect actual market conditions and consumer financial circumstances.

Most analysts predict that we will not soon return to the era of lower interest rates that persisted for most of 2008 to 2022. Accordingly, analysis must be based on an assumption that higher interest rates will persist, rather than relying on a longer-term historical average that would incorporate the historically unusual period of low rates seen after the global financial crisis.

Home-only loans for manufactured housing, which comprised 78% of new manufactured home purchases in 2024 according to the Manufactured Housing Survey, carry higher interest rates (often 10% or higher) and shorter terms. This significantly increases monthly payments, which must be reflected in a cost and affordability analysis. The difference between home-only and land-home interest rates has dramatic implications for the cost-effectiveness of energy efficiency investments. A consumer paying 10 percent interest on a home-only loan will require much greater energy savings to justify upfront efficiency investments compared to a consumer paying 6 percent on a land-home mortgage. An appropriate analysis should account for this reality.

The analysis also must recognize the impact of increased upfront costs on access to financing, regardless of projected utility savings. An increased home purchase price will cause a proportionate increase in the homebuyer's debt burden. FHA's customary debt-to-income (DTI) requirement is 43 percent. Therefore, any homebuyer at the edge of this 43 percent DTI requirement will no longer qualify for an FHA loan because of the higher price caused by the new energy standards. Any theoretical savings in the rule are meaningless if the price increase causes the homebuyer to no longer qualify for a mortgage loan, because they no longer meet DTI underwriting requirements. Any increase in purchase price will also necessitate a higher downpayment, which may be a significant obstacle for many lower income households.

DOE's prior emphasis on a 30-year period of analysis for life-cycle cost calculations was inappropriate. Based on industry data, manufactured home purchasers typically sell their homes within 7-10 years. The first owner bears the full upfront cost of efficiency investments but may not remain in the home long enough to recoup these costs through energy savings and is unlikely to recover the value of those future energy savings at resale. Additionally, if significant numbers of low- and moderate-income consumers cannot purchase homes at prices resulting from proposed standards, those standards are unaffordable regardless of theoretical long-term savings. A 7-10-year analysis period most accurately reflects the economic reality for the typical purchaser of manufactured homes.

C. Affordability

DOE's analysis for its May 2022 Final Rule considered the economic impacts of the proposed standards on individual manufactured home purchasers. DOE's 2022 Final Rule established separate minimum efficiency standards for single- and multi-section homes, and within each of these two home classes with requirements varying across three geographic regions.

Under the statutory provision requiring the Department to develop standards for manufactured housing, the May 2022 final standards were generally based on the then-current version of the IECC (*i.e.,* the 2021 IECC). In the 2022 Final Rule, DOE found a set of standards based on the 2021 IECC to be cost effective. Because of the emphasis placed on affordability by stakeholders previously commenting on the rulemaking documents, the 2022 Final Rule placed an incremental cost ceiling of $750 on the changes made to the single section manufactured homes. This was roughly based on an amount that DOE's analysis of financing costs and energy benefits determined to result in a positive return on investment in the first year, across all HUD zones, for the

average purchaser. While standards more stringent than those adopted by DOE for single-section homes may also have been life-cycle cost effective for the average purchaser, such stricter standards may not have met the $750 incremental cost ceiling used for Tier 1. While DOE's analysis focused on standards based on the 2021 IECC, it also considered the consequent impact on the purchase price of manufactured housing and on total life-cycle construction and operating costs. However, DOE recognizes the approach may not have explicitly considered all relevant factors regarding the potential impacts of the final standard. Consequently, in this RFI, DOE is seeking comments on a variety of issues related to these factors to help further inform the Department's views regarding the economic impacts related to its energy conservations standards for manufactured housing, including how they may impact the use of the IECC.

Issue C-7:

In the 2022 Final Rule analyses DOE analyzed "packages" of efficiency changes that reflected the 2021 IECC requirements. For the Tier 1 standards, DOE analyzed individual energy efficiency options to identify a package of options that totaled less than $750 and that yielded a positive cash flow in year 1 taking into account the increases in first-year loan cost and the down payment and the reductions in first year energy costs. (See 2022 Final Rule Technical Support Document, p. 6-3.) Further, in this analysis, DOE assumed the purchaser would use a chattel loan. DOE seeks comments on the appropriateness of this methodology for assessing affordability. Are there metrics DOE could use to assess the impact of standards on consumers other than the life-cycle cost analysis and the cash flow analysis? Are there other consumer impacts that the life-cycle cost and cash flow analysis should reflect, such as availability of other housing options using cross-price elasticities?

For Tier 2, DOE considered a package of energy efficiency options that mirror the 2021 IECC, with adjustments made for the practicalities of manufacturing and transporting and setting homes up on-site. For example, because of the need to join sections in order to perform an envelope air-sealing test, DOE, working with the Manufactured Housing Working Group,[10] came up with an alternative requirement based on visual assessment. Minimum ceiling R-values from the IECC were reduced in consideration of factory construction techniques when compared to site-built homes. In the analysis of options, DOE found R-20+5 exterior wall insulation to not be cost effective and reduced that requirement to R-21. For Tier 2, DOE analyzed the life-cycle cost effectiveness of standards. DOE seeks input on the appropriateness of the methodologies used in the 2022 Final Rule, including both the use of life-cycle cost and the first-year positive cash flow analyses, for analyzing possible updates to the 2022 Final Rule.

MHCC Response or Comment:

In the 2021 Proposed Rule, DOE established tiers based on list prices to establish different thresholds of energy standards, which the MHCC strongly opposed. Manufacturer list prices are not a clearly defined or uniform practice in the industry, and this approach would have created significant confusion and additional burden. Additionally, the initial price thresholds were set unreasonably low, grouping many homes that were affordable even to low-income purchasers in Tier 2. The final rule's revised approach distinguishing single section homes from multi-section homes was an improvement, and the MHCC supports special consideration to ensure affordability is preserved for the most cost-sensitive consumers. The majority of these homes are purchased with home-only loans, which the analysis should reflect.

For Tier 2 (multi-section homes), we reiterate that the analysis should assess cost effectiveness based on an incremental approach to identify the optimum standard.

Additionally, utility savings should be assessed over a 7-10 year period reflecting typical ownership for an initial purchaser. The initial purchaser, who bears the full upfront cost burden, will realize only a fraction of projected 30-year energy savings before selling the home. It is highly unlikely that a homebuyer financing a manufactured home purchase will recover additional upfront costs at resale. Cost-effectiveness analysis should therefore reflect the actual time horizon over which the original purchaser will own the home and capture energy savings, not a theoretical 30-year period.

Any affordability analysis must recognize the primary importance of upfront prices. Purchase price impacts occur immediately and create a binary outcome—the consumer either can or cannot complete the purchase. Operating cost savings accrue gradually over time and are only relevant to consumers who successfully complete the initial purchase. If a consumer is unable to obtain financing or is otherwise priced out by increased upfront costs, they lose access to all benefits of homeownership, including any energy savings. An appropriate analysis must therefore prioritize affordability at the point of purchase as the primary determinant of affordability for the low- and moderate-income consumers in the manufactured housing market.

The impact of any new standards on the home features and options that manufacturers will be able to offer to consumers should also be a consideration. For instance, the 2022 Final Rule made certain features such as vaulted ceilings more difficult if not impossible in certain existing product designs and also may necessitate floor plan changes to accommodate additional insulation. In addition to limiting consumer choice, these challenges may reduce the appeal of manufactured housing relative to site-built homes built to a lower standard. To mitigate these challenges, the Manufactured Housing Consensus Committee in accordance with 42 U.S.C. § 5403 (Section 604 of the Manufactured Housing Construction and Safety Standards Act) must fully assess these impacts. The most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have.

For the 2022 Final Rule analysis of the Tier 1 standard (single-section manufactured homes), DOE assumed that a home would be financed with a home-only (or chattel) loan. Home-only loans tend to have shorter terms and higher interest rates than land-home (or mortgage) financing.
In 2024, single-section manufactured home shipments made up 43 percent of total home shipments, or 45,200 homes. While historically it is more likely that a single-section home may be financed with a home-only loan product, in August 2025, Freddie Mac - followed shortly after by Fannie Mae - announced the adoption of single-section and single-section CrossMod® homes into their existing mortgage financing programs for manufactured homes. In anticipation of homebuilders actively pursuing this new market opportunity, DOE should model the energy cost savings for single-section homes meeting the DOE standard financed with a mortgage.

Issue C-8:

Manufactured housing owners tend to be lower-income compared to other homeowners and are also likely to finance their manufactured housing purchase using higher-rate chattel loans. As a result, the Department is particularly interested in specific comments, analysis, and data regarding the affordability of manufactured housing and how the requirements adopted in the 2022 Final Rule for both Tier 1 and Tier 2 manufactured homes will likely affect affordability, and which manufactured home purchasers may be most impacted.

MHCC Response or Comment:

An analysis by the National Association of Homebuilders found that a $1,000 increase in the median price of new homes would price an additional 115,593 households out of the market. Any theoretical savings in new energy standards are meaningless if the price increase causes the homebuyer to be denied for a mortgage loan because they no longer meet DTI underwriting requirements. Any increase in purchase price will also necessitate a higher downpayment and higher mortgage insurance premium, which may be a significant obstacle for many lower income households.

Home-only loans for manufactured housing, which comprised 78% of new manufactured home purchases in 2024, carry significantly higher interest rates and shorter terms. This significantly increases monthly payments, which must be reflected in a cost and affordability analysis. Future utility savings should be discounted at a similar rate, enabling an accurate comparison of the financing impact of increased upfront costs with the projected savings.

Finally, based on MHI's industry data, buyers usually sell their homes within seven to ten years of purchase, and it is unlikely that a manufactured homebuyer financing the purchase of a new manufactured home would recover upfront costs required by higher energy standards at a future sale. To optimize affordability for consumer's, the actual savings that a typical initial purchaser would realize should be all that is considered.

Issue C-9:

In the 2022 Final Rule the Department took into account the impact of price sensitivity of manufactured home purchasers when estimating the shipments of products by applying an estimate of price elasticity to percentage changes in the up-front price of manufactured homes. Lenders and home purchasers often take into account costs and benefits beyond the simple up-front cost when making lending or purchasing decisions. including default risks and changes in the features of manufactured housing. The Department seeks input concerning whether there is a more comprehensive way to model lending behavior and purchasing behavior rather than simply first-cost, particularly when considering that DOE's assessment of the financing mechanisms typically relied upon and the energy benefits that accrue from energy efficiency standards.

MHCC Response or Comment:

As previously commented by the MHCC, the MHCC believes that deadweight loss would be significantly higher than DOE's estimate as many potential consumers will be priced out of the market. For example, NAHB published a study in 2021(NAHB Priced-Out Estimates for 2021), estimating that a $1,000 increase in the median new home price ($346,757) would price 153,967 households out of the market. The MHCC believes that an increase of $1,000 would have a more significant impact on manufactured housing.

The fundamentals flaws of the DOE analysis have not changed. The DOE analysis also does not recognize the basic supply and demand status of housing in the United States, and how the shortage of housing has driven up prices dramatically.

Issue C-10:

DOE has previously viewed "affordability" as a combination of up-front cost, which may price out some number of potential homeowners at time of purchase, as well as operating costs, which will affect all manufactured housing owners over a longer time horizon. HUD and prominent industry organizations generally define housing

affordability in terms of a percentage of income.[11] The Department seeks comments that provide information on how to weigh these components in defining affordability, with consideration for economic factors such as income, and with a particular focus on affordability for lower-income consumers.

MHCC Response or Comment:

Affordability in the manufactured housing context is fundamentally determined by purchase price, which controls whether consumers can obtain financing and achieve homeownership. Manufactured homes currently provide the only realistic pathway to homeownership for many low- and moderate-income families, with both single-section and multi-section homes affordable under standard HUD measures for low-income households.

In establishing energy conservation standards, preserving affordability by giving primary weight to purchase price impacts, using realistic financial assumptions reflecting actual borrowing costs and qualification criteria, focusing analysis on 10-year time horizons reflecting typical ownership, and explicitly modeling how many consumers will be unable to obtain financing due to increased prices is imperative. Standards that significantly increase purchase prices—even if theoretically cost-effective over 30 years—may be inappropriate if they price significant numbers of consumers out of the homeownership that manufactured housing uniquely provides to low- and moderate-income American families.

D. Other Analytical Issues

Issue D-11:

The cost of efficiency improvements directly affects the affordability of any standard DOE might adopt. To avoid short-term cost fluctuations, DOE's engineering analyses supporting appliance efficiency rulemakings will commonly use 5-year averages in prices of materials such as structural steel that fluctuate with world markets. In doing so, the analyses smooth out some of the effects of transitory price shocks, without removing the shocks from the data. DOE seeks input on appropriate methods for establishing costs for major cost categories such as insulation, softwood lumber, window products, and other major components that may impact the cost effectiveness of energy conservation standards for manufactured housing. Certain stakeholders have also highlighted the impact of inflation and recent supply shortages on the construction and manufactured housing industry. Has cost inflation related to materials needed for manufactured housing eased? Are there residual supply chain shortages for materials needed to construct manufactured housing? Are changing tariff structures expected to impact costs or materials availability? How should DOE conduct sensitivity analysis incorporating different price scenarios systematically to offer better analysis?

MHCC Response or Comment:

The accuracy of material cost assumptions is fundamental to a proper cost-effectiveness and affordability analysis for new energy conservation standards. The DOE efforts to be accurate in these assessments were flawed and did not reflect reality by a large measure.

Inflation, while moderating, is still a concern for the industry and the rates previously used by DOE were not reflective of the actual rates experienced by the industry. Historically the industry attempts to minimize the influence of inflation by structured material contracts, but such contracts require clear knowledge of materials needed along with projected usage rates. The DOE Final Rule and its limited implementation timeline make these types of contracts and projected usage rates difficult.

The MHCC believes that most of the supply chain issues due to COVID have mostly been resolved, however pricing on commodity materials are no longer fixed for long periods of time. Many vendors now adjust pricing monthly. The limited implementation timeline could have future unknown impacts on the supply chain.

The MHCC supports the rationale, which is provided in the comments submitted by MHI, which can be found in Appendix A.

Issue D-12:

The Department also seeks comment on whether cost-effectiveness analyses should be performed over the expected life of manufactured homes, or over some other time period, for example that reflecting the average time period that the original owner of the home will live in the home and benefit from the efficiency improvements. Since any subsequent owners of the home will continue to receive the energy benefits for the entire life of the home, is it reasonable to model the economic benefits of the improvements to energy efficiency of the home over any lifetime less than the expected 30-year life of the home, and if so, what are the arguments for doing so? Or should DOE also analyze the consumer discounting of the future decrease in energy consumption seen in used energy efficient goods such as cars and appliances? Is this a life-cycle cost question or is this an affordability question?

MHCC Response or Comment:

The 30-year Life-Cycle Cost approach used by DOE in the 2022 Final Rule is not an appropriate method to determine cost-effectiveness for an initial buyer of a manufactured home. Based on MHI's industry data, buyers usually sell their homes within seven to ten years of purchase. This ownership period is significantly shorter than the 30-year analysis period DOE employed. For the initial purchaser financing the home—the person who pays the higher upfront cost mandated by energy efficiency standards—a 30-year payback period is economically meaningless.

Based on input from industry partners, we have found that buyers will not recoup energy efficiency costs at resale. As suggested in the RFI language, this is consistent with evidence on cost recovery of high-efficiency features in the used vehicle market, where the higher upfront costs of more energy efficient vehicles are associated with faster price depreciation. An appropriate assumption based on available data is that manufactured homebuyer will not recover increased upfront energy efficiency costs when they sell the home 7-10 years later.

Additionally, mortgage qualification impacts must be analyzed separately from life-cycle cost considerations, as these represent distinct but equally important dimensions of affordability. An increased home purchase price will result in a proportionate increase in the homebuyer's debt burden. For prospective homebuyers, a key qualification for financing will be the borrower's debt-to-income ratio. Therefore, any homebuyer at the edge of a lender's DTI requirement (e.g., typically 43% for FHA loans) will no longer qualify for the loan because of the higher price caused by the new energy standards. Any theoretical savings in the rule are meaningless if the price increase causes the homebuyer to no longer qualify for a mortgage loan. Any increase in purchase price will also necessitate a higher downpayment, which may be a significant obstacle to completing a purchase for many lower income households.

E. Other Issues

Issue E-13:

EISA requires DOE to consult with the Secretary of HUD, who may seek input from the Manufactured Housing Consensus Committee (MHCC). In the prior rulemaking process, which eventually led to the 2022 Final Rule, DOE met with HUD on multiple occasions and attended and presented at MHCC meetings. DOE consulted with HUD on pathways to compliance and enforcement of the energy conservation standards toward the objective of aligning with HUD's current inspection and enforcement processes and reducing regulatory burden and duplication of effort. In addition, as part of the rulemaking process, DOE empaneled and took input from a Manufactured Housing Working Group. The rulemaking process itself also provides an additional avenue for consultation through which industry stakeholders and the general public can review rulemaking documents, supporting analysis, and provide input. Consultation with HUD also occurs during interagency clearance required by Executive Order 12866. DOE intends to continue consultation with HUD as it considers whether to amend its energy conservation standards for manufactured housing. Given HUD's historic and ongoing role in the regulation of manufactured housing generally, DOE seeks input on how DOE can best identify synergies with existing HUD processes and standards, while still satisfying DOE's statutory mandate to establish standards for energy efficiency in manufactured housing. How can DOE operationalize or amend this rule in a manner that reduces compliance burden on manufacturers?

MHCC Response or Comment:

HUD, by statute, is the body responsible for the development and enforcement of manufactured housing standards. Therefore, the MHCC recommends the following:

- DOE should withdraw the proposed Enforcement Rule and Final Energy Standards Rule.
- HUD should remain the sole enforcement agency for manufactured housing built under the MHCSS.
- If DOE chooses to make suggested changes to the HUD code, they shall submit suggested changes to HUD through HUD's established rulemaking procedures for manufactured housing for review and incorporation into the MHCSS.

Issue E-14:

DOE published a NOPR in December 2023 to establish enforcement procedures for its energy conservation standards for manufactured housing. These procedures were not included in the May 2022 final rule, where the Department established its standards, and were published separately via the later NOPR. However, while DOE received comments on the NOPR and proposed enforcement procedures, it never finalized such procedures by issuing a final rule. In considering whether to further amend its energy conservation standards for manufactured housing, should DOE more comprehensively incorporate enforcement procedures into updated standards or continue in separately issuing enforcement procedures? How might such enforcement standards leverage the enforcement program administered by HUD?

MHCC Response or Comment:

As previously stated, in Issue E-13, the MHCC believes that DOE should withdraw the proposed Enforcement Rule and Final Energy Standards Rule.

The MHCC continues to stand by the previous MHCC comment submitted associated with the enforcement of the DOE Final Rule. Those comments are listed below.

On February 15-16, 2024, HUD's Manufactured Housing Consensus Committee (MHCC) met via teleconference to review the *DOE Proposed Rule: Energy Conservation Program: Energy Conservation Standards for Manufactured Housing; Enforcement*. As a result of their review and deliberations, the following comments on the Proposed Rule were developed and are being submitted to HUD on behalf of the MHCC.

The MHCC rejects the Proposed Rule as written and would reject a final rule that is based upon the Proposed Rule.

- The DOE Proposed Rule fails to identify how compliance is achieved and implementing a separate compliance path would be devastating to the industry as the Manufactured Housing Program, 24 CFR parts 3280 and 3282, establishes procedures for compliance.
- The MHCC previously recommended that DOE include the substantial cost of testing, enforcement, and regulatory compliance in its costing analysis. The Proposed Rule claims a minimal cost increase, which is not accurate. The MHCC believes that the actual cost, which would be substantial and burdensome for third party inspection agencies, SAAs, manufacturers, HUD, and the end consumer, must be included in the life cycle analysis.
    - The current documentation listed by DOE, in §460.306, will not substantiate compliance with the DOE Energy Rule.
    - The DOE Energy Rule calls out certain ambiguous threshold requirements not commonly referenced in the manufactured housing industry thus potentially requiring the creation of new and very costly compliance verification processes.
- As written in the Proposed Rule, an additional governmental body would now be enforcing compliance, which could lead to confusion or potential conflicts.
- The civil penalties listed are arbitrary and based upon a "manufacturer's retail list price" which is not defined in the Proposed Rule, or a term used in the manufactured housing industry.
    - It is unclear how multiple instances of the same noncompliance would be handled on a singular unit.
    - The rule states the following:

      "(c) For violations of § 460.302(a)(1), each day of noncompliance shall constitute a separate violation."

      It is unclear what date would be considered the initial violation. The civil penalty could quickly add up to more than 100% of the cost of the home, and if a mistake is carried over to multiple homes, the civil penalty could compound quickly. This has the potential to jeopardize the solvency of a manufacturing facility.
- This rule serves to undermine HUD's effective longstanding enforcement authority and can negatively impact HUD's federal preemption.
- In §460.306, DOE attempts to request designs approved by the DAPIA. Under the DAPIA's current regulatory obligation and limitations, these designs will only address construction standards adopted under 24 CFR 3280, the DOE standards will not be evaluated by a DAPIA as DOE lacks authority under 24 CFR Part 3282. Under DOE's current proposal, this will lead to unjust enforcement on manufacturers.
- The approval of new rules or future versions of current rules from multiple agencies could lead to inconsistencies in content or timing between rules.

- It is unclear as to the frequency of DOE investigations for compliance and the burden this will place on manufacturers, SAAs, IPIAs, DAPIAs, HUD, and other stakeholders that have obligations under current regulatory requirements.

HUD, by statute, is the body responsible for the development and enforcement of manufactured housing standards. Therefore, the MHCC recommends the following:

- DOE should withdraw the proposed Enforcement and Energy rule.
- HUD should remain the sole enforcement agency for manufactured housing built under the MHCSS.
- With implementation of the MHCC Working Document from October 18-20, 2022 and November 15-17, 2022 MHCC Meetings, showing changes made to the MHCSS based on Department of Energy's (DOE) Energy Conservation Program: Energy Conservation Standards for Manufactured Housing, allow for testing, enforcement, and regulatory compliance within HUD's existing framework which helps minimize costs to manufacturers and ultimately consumers.
    - Once implemented, there will be no need for DOE enforcement.
    - The MHCSS already contains enforcement provisions, established for over five decades, as part of 24 CFR 3282, which helps minimize costs to manufacturers and ultimately consumers.
- DOE abide by the 2007 EISA which requires direct consultation through HUD and the MHCC and submit this and any future proposed rules to HUD through HUD's established rulemaking procedures for manufactured housing for review and incorporation into the MHCSS.

Based on the current DOE enforcement proposal, DOE appears to have chosen to circumvent current federal code development processes despite previous MHCC communications, and/or has failed to understand the Manufactured Housing processes and the program that has made it the well-established affordable housing industry.

DOE encourages stakeholders to review and submit comments on the issues listed previously and on other issues that they believe warrant DOE's consideration in any potential future rulemaking on energy conservation standards for manufactured housing.

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Appendix A: MHI Comments Submitted in Response to Docket Number: EERE-2009-BT-BC-0021 RIN: 1904-AG10

January 23, 2026

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RE: Docket No. FR-6549-N-02 Notice of Federal Advisory Committee Meeting
Manufactured Housing Consensus Committee (MHCC) January 27 – 28, 2026

Dear Mr. Kauffman,

The Manufactured Housing Institute (MHI) is pleased to provide comments to the Manufactured Housing Consensus Committee (MHCC) pursuant to Docket Number FR-6549-N-02 in response to the Department of Energy's (DOE) Request for Information (RFI) on Energy Conservation Standards for Manufactured Housing published in the Federal Register on September 3, 2025.

MHI appreciates the Department of Housing and Urban Development (HUD) for taking action for the MHCC to respond to DOE's RFI on Energy Conservation Standards for Manufactured Housing. This MHCC meeting represents an important opportunity to reconsider the approach DOE has taken towards energy conservation standards for manufactured housing. The manufactured housing industry supports timely updates to energy efficiency standards, but through the appropriate regulatory channel: The U.S. Department of Housing and Urban Development (HUD) and the MHCC. MHI and its members have consistently advocated for updates to the Manufactured Housing Construction and Safety Standards (MHCSS), including enhanced energy standards. The MHCC met in the fall of 2022 and drafted proposed energy standards for manufactured homes that MHI strongly supports. However, these advancements have been stalled because of conflicting statutory authority with the DOE since 2007.

MHI is the only national trade association that represents every segment of the factory-built housing industry. Our members include builders, suppliers, retail sellers, lenders, installers, community owners, community managers, and others who serve our industry, as well as 48 affiliated state organizations. Our industry is on track to build more than 100,000 homes this year, accounting for approximately 9 percent of new single-family home starts. These homes are produced by 37 U.S. corporations in 151 homebuilding facilities located across the country. Today, MHI's home builder members represent over 90 percent of all manufactured homes constructed.

Manufactured housing is the most affordable homeownership option for American families. Last year, the average price of a manufactured home was $123,300, compared to approximately $406,000 for a site-built home (excluding land). The average income for a manufactured home buyer was about $63,000, while the average income for a site-built home buyer exceeded $143,000.

Additionally, manufactured homes are already among the most energy-efficient homes built in the U.S. today—more efficient than most code-minimum site-built homes. Factory construction produces tighter building envelopes, consistent installation practices, dramatically reduced waste, and uniform application of energy-efficient components. When performance and energy use per square foot are compared, manufactured homes routinely outperform their site-built counterparts.

The DOE 2022 Final Rule, which has not yet taken effect, was based on flawed methodologies and inadequate consultation with HUD and the MHCC. The rule would impose substantial cost increases on manufactured homes that would price tens of thousands of households—particularly low- and moderate-income families households—out of homeownership. The RFI appropriately recognizes the need to reassess these standards in light of Executive Order 14192, recent updates to the International Energy Conservation Code (IECC), and changed economic conditions including inflation, supply chain challenges, and higher interest rates.

MHI has prepared comprehensive responses to each of the 14 issues identified in the RFI for the MHCC to review and consider. These detailed responses address the technical, economic, and regulatory questions raised by DOE. This cover letter summarizes the major themes and recommendations across our responses for the MHCC's consideration.

I. Baseline and Analytical Methodology

Neither the 2024 IECC nor the 2022 Final Rule are cost-effective for manufactured housing. The 2024 IECC imposes even more stringent requirements than the 2021 IECC, including lower window U-values (0.27-0.28 versus 0.30) that current manufactured housing window suppliers cannot meet in required quantities, with significant cost increases; skylight requirements that may not be achievable with products available from manufactured housing vendors; and mandatory energy efficiency credits (Section R408) that may require expensive upgrades such as heat pump water heaters, high-performance heat pumps, and tankless water heaters. The 2024 IECC is less cost-effective than the already problematic 2021 IECC. Both demonstrate why manufactured housing energy standards should be developed as part of HUD's MHCSS through consultation with the MHCC in accordance with 42 U.S.C. § 5403 (Section 604 of the Manufactured Housing Construction and Safety Standards Act).

MHCC previous comments: The MHCC did not accept the 2021 IECC window U factors which are less stringent than the 2024 IECC values. On page 14, Table 2 Tier 2 (multi-section) Building Thermal Envelope Prescriptive Requirements of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC recommended lower window U-factors

- Climate Zone 1 .50 versus .32
- Climate Zone 2 .35 versus .30
- Climate Zone 3 .32 versus .32

The reasoning provided was the following: "Reduction in insulation requirements in walls leads to being able to continue building homes with 2x4 walls in all Climate Zones. Maintains more consumer options and amenities such as: cathedral ceilings, natural lighting, and material availability. Maintains transportation height for most industry designs. Additional transportation height leads to extra costs for additional transportation vehicles. These values are much more consistent with our statutory requirements to maintain affordability while improving energy efficiency. The values shown in the table would lead to an average increase in energy efficiency of 22%. The DOE values did not provide any payback to the consumer based on additional construction costs."

DOE's analysis should use an incremental cost-effectiveness analysis rather than wholesale IECC adoption. Every step in making homes more energy efficient costs more and saves less due to diminishing returns. The proper analytical approach examines each incremental improvement in efficiency individually, with each improvement standing on its own merits. Once an energy measure begins to result in negative returns, it is no longer cost-effective to add additional measures. By combining all energy measures into a single package, as DOE did in the 2022 Final Rule, the least cost-efficient measures are masked by the benefits of the most cost-effective measures.

MHCC previous comments: The MHCC already agreed with an incremental analytical approach to determining cost-effectiveness. On page 1 (first bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC general comments, stated the following: "The MHCC agrees that the energy efficiency requirements need to be updated but believes the updates should be done incrementally. The recommended changes shown in this document accomplish this incremental approach."

The 2022 Final Rule should not be the baseline for analysis. The 2022 Final Rule has not yet been made effective and should be fully reconsidered as it was based on flawed methodologies and inadequate consultation with HUD and the MHCC. An updated analysis should focus on both MHCSS and current industry practices. Today's manufactured homes already consume significantly less energy than site-built homes due to their smaller size and factory-built construction efficiencies. Any baseline for analysis must also include all costs for compliance, testing, and enforcement, which the 2022 Final Rule entirely omitted—a major analytical deficiency that rendered DOE's cost-effectiveness determinations fundamentally flawed.

MHCC previous comments: The MHCC already agreed that the final rule was based on an IECC site-built construction Code that was not practical with factory-built housing. On page 1 (fourth bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC general comments, stated the following: "DOE provided an energy conservation standard which was based on site-built construction and applied it to a performance-based national code. If adopted as written, the final rule would adversely impact the entire Manufactured Housing program and cost increases associated with compliance would reduce prospective purchasers (especially minorities and low-income consumers) from durable, safe, high quality and affordable housing."

When considering baselines, participation in branded energy programs, do not fully capture the extent of energy-efficient manufactured homes. Manufacturers frequently exceed existing code requirements due to: efficiency features demanded by retailers and communities, regional climate expectations, utility program incentives, and continuous improvements in factory processes. Formal certification programs capture only a narrow subset of homes, partially due to high program costs. Many manufacturers deliver homes that exceed HUD envelopes even when they are not labeled under Energy Star 2.0, Zero Energy Ready, or Northwest Energy Efficient Manufactured homes. In other words: program participation data does not equal actual energy-efficiency levels. Even with the expiration of a federal tax credit, the market's energy-efficiency profile is unlikely to shift. Manufacturers do not build Energy Star homes because of the tax credit; they build to meet customer, retailer, and climate-driven expectations. The credit may influence labeling, but not the efficiency of the homes themselves.

DOE's reliance on a 30-year life-cycle cost analysis to justify the cost-effectiveness of its standards is fundamentally flawed for manufactured housing. Based on industry data, manufactured homebuyers typically sell their homes within seven to ten years of purchase. The original purchaser bears the full upfront cost burden and will only realize a fraction of the projected 30-year energy savings before selling the home. Moreover, it is highly unlikely that a homebuyer financing a manufactured home purchase will be able to recover the additional upfront costs when selling the home. Any future analysis must reflect the actual time horizon over which the original purchase will own the home and capture energy savings.

II. Affordability and Financial Impacts

MHI appreciates DOE's recognition in the RFI that financial conditions have changed significantly since the 2022 Final Rule and that the economic circumstances of manufactured home purchasers warrant careful consideration. The unique financing challenges facing manufactured housing purchasers must be comprehensively addressed in any future analysis.

For manufactured housing purchasers, upfront purchase price is the decisive affordability factor, not long-term operating costs. The industry serves predominantly lower- and moderate-income households who face significant barriers to homeownership. An increased purchase price creates immediate obstacles that theoretical future energy savings cannot overcome. First, higher purchase prices directly impact loan qualification: any homebuyer at or near a lender's debt-to-income (DTI) requirement (e.g., usually 43% for FHA loans) will no longer qualify for financing because of increased monthly loan payments, regardless of potential energy savings. Second, higher purchase prices require proportionately larger down payments and closing costs, which many lower-income households cannot afford. If a household cannot afford to purchase the home in the first place due to upfront cost increases, projected energy savings over a theoretical 30-year period are entirely irrelevant, as the family will never realize those savings and may be excluded from homeownership altogether.

MHCC previous comments: The MHCC already agreed that any energy efficiency rule must preserve affordability. On page 2 (second bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "The MHCC has a statutory obligation to consider the cost impacts of all recommended changes to the MHCSS and preserve affordability to increase American home ownership and this obligation is reflected in the recommended changes."

Rising interest rates have worsened affordability challenges and reduced the cost-effectiveness of long-term utility savings. Most analysts predict that we will not soon return to the era of lower interest rates that persisted from 2008 to 2022. Accordingly, DOE should base its analysis on an assumption that higher interest rates will persist, rather than relying on long-term historical averages that would incorporate the recent, historically unusual period of low rates.

Manufactured home purchasers face significant barriers to financing. Home-only loans, which comprise 78 percent of manufactured home purchases according to data submitted during DOE's Manufactured Housing Working Group process for the prior rulemaking, carry significantly higher interest rates (often 10 percent or higher) and shorter terms than traditional mortgages. Manufactured home purchasers also face higher application denial rates. The difference between home-only and land-home interest rates has dramatic implications for the cost-effectiveness of energy efficiency investments and monthly payment affordability.

Material costs and supply chain challenges must be fully considered. DOE's assumptions on material costs and inflation in the 2022 Final Rule were based primarily on 2014 data and have proven heavily inaccurate. DOE assumed a nominal construction cost increase of 2.3 percent annually from 2014 to 2023, but the actual cost increase from construction materials from 2015 to 2025 was 60.1 percent—an average annual rate of 4.3 percent. Future analysis must use realistic assumptions about inflationary pressures, current material costs, and supply chain constraints to preserve affordability.

DOE significantly underestimated the price sensitivity of manufactured housing consumers. The industry serves predominantly lower-income households for whom even modest price increases can eliminate homeownership opportunities. DOE's elasticity assumptions in the 2022 Final Rule substantially understated the number of households that would be priced out of the market by the rule's cost increases. Any future analysis must use realistic price elasticity assumptions and comprehensively assess impacts on housing access for vulnerable populations.

III. Consultation and Regulatory Coordination

The manufactured housing industry supports timely updates to energy efficiency standards through HUD's standard process for updating the MHCSS in consultation with the MHCC. The MHCC met in the fall of 2022 and drafted proposed energy standards for manufactured homes that MHI strongly supports. With over 50 years of experience working with stakeholders to promote quality, safe and affordable manufactured homes, HUD is the appropriate agency to lead the development of updated energy standards in consultation with the MHCC. Recent bills introduced in Congress support this approach of HUD as the primary regulator for manufactured housing and DOE operating in an advisory capacity on energy standards updates.

Section 413 of the Energy Independence and Security Act (EISA) Has Stymied Progress on Energy Efficiency for Manufactured Homes. This provision was never properly vetted by Congress through regular order and contains language impractical and ill-suited to manufactured housing. Specifically, this provision directed the DOE to establish energy efficiency construction standards for manufactured housing in contravention of long-standing authority of HUD to promulgate federal construction standards for manufactured homes via the MHCSS, which the agency has overseen for over 50 years. This duplicative agency mandate has created regulatory confusion, undermined the goal of advancing practical energy efficiency improvements that can save homeowners on the energy bills, while jeopardizing the availability and affordability of manufactured homes. Nearly two decades after Congress directed DOE to act, the agency's prolonged failure to implement a rule demonstrates the inherent challenges and impracticality of applying the EISA rider to manufactured housing. When DOE finally issued its recommendations, HUD declined to adopt them, further underscoring that the rider's language was never properly vetted and is ill-suited for the unique characteristics of manufactured housing.

Off-Site Construction Process of Manufactured Homes Requires Expertise Unique to HUD. DOE's 2022 final rule is fundamentally flawed and unworkable for off-site construction. Per Section 413, it relies on the International Energy Conservation Code (IECC) designed for site-built construction homes. This fails to account for the unique characteristics of factory-built housing in which the final location and orientation of the home is often not known at the time of production. It also fails to appreciate the precision, sequencing, and transportation requirements inherent to an efficient manufactured housing process.

Beyond its technical mismatch, the DOE rule lacks a viable framework for testing, compliance, and enforcement. This regulatory gap creates uncertainty for manufacturers and impedes progress on energy efficiency improvements while also driving up costs of America's most affordable home ownership option. Worse still, it introduces a conflicting set of standards alongside HUD's existing code, undermining the regulatory clarity and efficiencies that have governed manufactured housing for decades and threatening the production of affordable homes. The rule was developed without meaningful input from those who understand the manufactured housing industry or the needs of the families it serves. When HUD's MHCC reviewed the DOE rule, it concluded that DOE failed to consider the unique nature of off-site construction — despite repeated outreach from both the MHCC and industry stakeholders.

DOE itself delayed implementation of the rule pending further rulemaking. This breakdown further illustrates why Congress, through the Manufactured Home Construction and Safety Standards Act of 1974, vested HUD with sole authority over federal construction standards for manufactured housing.

MHCC previous comments: The MHCC already agreed that DOE does not fully understand the factory-built off-site construction process. On page 1 (fourth bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "DOE provided an energy conservation standard which was based on site-built construction and applied it to a performance-based national code. If adopted as written, the final rule would adversely impact the entire Manufactured Housing program and cost increases associated with compliance would reduce prospective purchasers (especially minorities and low-income consumers) from durable, safe, high quality and affordable housing."

The 2022 Final Rule demonstrated fundamental failures in consultation. DOE did not provide HUD or the MHCC with meaningful opportunities to review and provide input on DOE's technical analysis, supporting data, or draft proposals. The MHCC subsequently reviewed the 2022 Final Rule and explicitly refused to recommend wholesale adoption into the MHCSS. The MHCC concluded that DOE circumvented the standards development process prescribed in EISA, failed to adequately justify costs, and produced a rule that would adversely impact the entire manufactured housing program and reduce access to affordable housing for minorities and low-income consumers.

MHCC previous comments: The MHCC already agreed that DOE circumvented the EISA standards development process. On page 1 (third bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "The MHCC has reviewed the DOE Final Rule and has determined DOE circumvented the standards development process prescribed in EISA which requires cost justification and consultation with HUD."

The most effective approach would be for HUD to update its energy standards for manufactured homes with DOE serving in an advisory capacity. Rather than creating separate DOE energy standards that must then be reconciled with MHCSS requirements, DOE may provide recommendations to HUD in developing unified standards incorporated into the MHCSS. This approach would eliminate conflicts between DOE and HUD requirements, reduce confusion for manufacturers, leverage HUD's existing design approval and production inspection processes, and avoid duplicative enforcement mechanisms.

HUD's approach is the best way to ensure the timely adoption of improved energy efficiency standards for factory-built housing, and to preserve the availability of affordable manufactured homes for American households. With a 50-year track record in regulating standards for manufactured homes and a proven testing, compliance, and enforcement regime, HUD is the right agency to do this.

Testing, compliance and enforcement procedures must be comprehensively integrated with rules imposing substantive energy standards. Testing, compliance, and enforcement are essential aspects of a regulatory regime for energy standards and should not be developed separately as an afterthought as DOE attempted in its 2023 Enforcement Proposed Rule. The 2023 proposal illustrated the problems of developing enforcement separately: it proposed only enforcement mechanisms without any testing procedures or compliance pathways, and it relied on MHCSS documentation that was never designed to demonstrate compliance with DOE's separate standards. The most sensible approach is to incorporate energy conservation standards into the MHCSS through HUD's process of updating its construction standards and rely on HUD's existing, proven enforcement infrastructure.

MHCC previous comments: The MHCC already agreed that testing, compliance and enforcement procedures must be comprehensively integrated with rules imposing substantive energy standards. On page 2 (first bullet) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "The MHCC previously recommended that DOE include the substantial cost of testing, enforcement, and regulatory compliance in its costing analysis. The final rule did not consider these costs. The recommended changes implemented into the MHCSS allow for testing, enforcement, and regulatory compliance within HUD's existing framework which helps minimize costs to manufacturers and ultimately consumers. However, there still may be a gap in enforcement between HUD's final standards and DOE's final rule, which may need to be resolved."

IV. Technical and Practical Considerations

MHI strongly supports the continued use of the three HUD climate zones rather than the IECC climate zones. EISA explicitly authorizes this approach, and it is both statutorily appropriate and practically necessary. The manufactured housing industry has operated under the MHCSS's three-zone system since 1976. This framework was specifically designed to account for the unique aspects of factory-built housing, including design, construction techniques, transportation constraints, and the need for homes to be marketable across broad geographic areas. Creating a separate climate zone system solely for DOE energy requirements would fragment the unified MHCSS regulatory structure and significantly increase compliance costs and complexity.

MHCC previous comments: The MHCC already agreed that the three HUD climate zones should be retained and not replaced by the IECC climate zones. On page 11 (§3280.506 (a)) of the MHCC Working Document from October 18-20 and November 15-17, 2022 Meetings, the MHCC stated the following: "The building thermal envelope must meet either the performance requirements of this section or the prescriptive requirements of section 3280.507," referencing the HUD climate zone map.

DOE must allow a longer implementation period. Given the substantial changes to design and manufacturing processes that would be required by standards based on the IECC, any new standards should allow an implementation period of 3-5 years, consistent with DOE's typical approach for single-appliance energy efficiency standards. This timeline is essential to allow manufacturers to update designs and manufacturing processes, ensure appropriate materials can be supplied, and work through practical challenges such as transportation constraints and the availability of components that meet new specifications while remaining viable for manufactured housing production methods.

Conclusion

MHI strongly supports reasonable energy efficiency improvements for manufactured housing that are cost-effective and preserve the affordability that makes manufactured housing accessible to millions of American families. However, standards must be developed through the appropriate regulatory channel: The U.S. Department of Housing and Urban Development. MHI and its members have consistently advocated for updates to the MHCSS, including enhanced energy standards, through the MHCC process of recommendations to HUD. Updates must be based on sound analytical methodologies that accurately reflect manufactured housing construction realities and consumer financial circumstances, and must be established within HUD's comprehensive regulatory framework to avoid conflicts and duplicative requirements.

The detailed responses attached to this letter demonstrate that neither the 2024 IECC nor the 2022 Final Rule (based on the 2021 IECC) meet these criteria. Both would impose costs that exceed benefits when properly analyzed using realistic assumptions about material costs, interest rates, consumer price sensitivity, and compliance burdens. The most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may offer.

MHI appreciates this opportunity to provide comprehensive input on these critical issues and stands ready to continue working collaboratively with HUD and the MHCC to develop appropriate energy conservation standards for manufactured housing. We welcome any questions regarding the responses provided herein.

Sincerely,

Lesli Gooch, Ph.D.
Chief Executive Officer

Appendix I: Comprehensive Responses for the Fourteen Issues

Issue A–1: Cost-effectiveness of 2024 Standards

> "DOE seeks data and information regarding basing standards on the most recent version of the IECC; in particular, whether standards based on the 2024 IECC would or would not likely be cost effective or that standards more stringent than 2024 IECC would or would not be cost effective. In addition, comments should describe the basis for their perspective on compliance cost and other costs borne by consumers (e.g., layout of housing less attractive or functional due to increased insulation), cost effectiveness, including a description of methodology or analytical assumptions."

Response:

Imposing standards from the 2024 International Energy Conservation Code (IECC) would not be cost-effective for manufactured housing and would substantially reduce affordability for the nation's most cost-efficient housing option, potentially jeopardizing homeownership for tens of thousands of Americans. Beyond direct financial costs, these standards could eliminate popular design features and limit consumer choice, reducing the appeal and functionality of manufactured homes.

Use of the IECC is Fundamentally Inappropriate for Manufactured Housing

The IECC was developed for site-built residential and commercial construction. It was not intended or designed to be implemented in the manufactured housing sector and fails to consider the unique construction methods, transportation demands, and regulatory framework of the manufactured housing industry. Both the 2022 Final Rule imposing the 2021 IECC standards and the 2024 IECC standards would mandate costly changes to factory-built production that are impractical or, in some cases, impossible to implement.

Manufactured housing is the only form of housing regulated by a federal building code. Unlike site-built homes, which are subject to different state and local regulations, manufactured homes are built to one uniform federal code—the Manufactured Home Construction and Safety Standards Act of 1974 (MHCSS). The MHCSS's single regulatory framework for home design and construction includes standards for quality, safety, energy efficiency, and durability. Imposing IECC standards creates fundamental conflicts with this existing regulatory structure.

Like the 2022 Final Rule, the imposition of the 2024 IECC would necessitate changes related to the building thermal envelope; air sealing; installation of insulation; duct sealing; heating, ventilation, and air conditioning (HVAC); service hot water systems; mechanical ventilation fan efficacy; and heating and cooling equipment sizing for manufactured homes. These standards contain requirements that raise critical issues with components and materials currently used in the production of manufactured homes and with the manufacturing processes themselves.

Insulation and Thermal Envelope

Imposing the IECC standards on manufactured housing creates significant practical challenges that will increase costs. For instance, the insulation requirements in both the 2022 Final Rule and the 2024 IECC will present significant design and material sourcing problems. Manufacturers are currently using R-11 insulation for most applications, which is predominantly used in walls and floors for Zones 1 and 2. Manufacturers typically prefer to use two layers of R-11 when additional floor insulation is needed. However, the 2022 Final Rule specified a lowest insulation value of R-13, which may cause supply issues for manufacturers that have ramped up to supply large quantities of R-11. Similar supply issues exist for R-20 and R-19 insulation, which is not currently produced in the large quantities necessary to meet manufactured housing demand.

Sourcing materials for the R-5 continuous exterior insulation required by the 2024 standards also presents significant challenges. It will be difficult to identify materials that meet both the 2024 IECC requirements and the current MHCSS requirements. Additionally, R-5 continuous installation would add labor costs to build door and window framing to match the insulation thickness. The standards have specific requirements for the perm rating of exterior wall assemblies, and the perm ratings of rigid foam insulation materials may lead to redundant vapor barriers and stud cavities that do not breathe properly. This represents a potential conflict between 2022 Final Rule or 2024 IECC standards and the current MHCSS that could compromise building durability and occupant health.

The higher R-values required in the floor by both the 2022 Final Rule and the 2024 IECC will necessitate batt insulation installed between the floor joists combined with a blanket below the joists. Most manufacturers do not currently use this floor insulation technique and would need to modify their production processes. Additionally, installing the required R-30 insulation into roof cavities over the top plate at the truss heel is infeasible due to the required thickness and limited space available. Modifying designs to accommodate this insulation requirement will add substantial cost. Most manufacturers keep 50 to 100 different home models in production at any given time, so design documents would have to be modified for each impacted model. Thereafter, manufacturers, DAPIAs, IPIAs, HUD, and State Administrative Agencies (SAAs) would have to approve the changes and retrain their personnel as needed, at substantial expense.

The 2024 IECC and the 2021 IECC also both assume the floor decking is part of the thermal envelope and require all floor penetrations to be sealed, which is sensible for site-built housing. However, the thermal envelope for manufactured housing extends to the bottom board. Sealing all the floor penetrations is not practical and would add unnecessary expense.

The 2024 IECC also increased the overall air sealing requirement, at various levels by climate zone. As stated in our prior comments, the testing requirements for both air sealing and duct leakage could add substantial cost, particularly for multi-section units if post-installation inspections are necessary. It is essential that these testing costs be considered in DOE's cost-benefit analysis.

High-cost Appliances Necessitated by IECC Energy Credit System

The 2024 IECC requires homes to obtain additional energy credits from a set of options with different scoring based on climate zones. Several of the options are not applicable or feasible for manufactured housing. To meet these requirements, manufacturers would have to add expensive elements such as heat-pump water heaters, high-efficiency heat pumps, and/or 95% efficiency gas furnaces that will substantially increase costs for consumers, particularly for existing lower-cost home options.

HVAC Equipment Sizing Requirements

Both the 2024 IECC and the 2022 Final Rule require heating and cooling equipment to be sized in compliance with ACCA Manuals J and S. This requirement creates an untenable conflict with the MHCSS and the fundamental realities of manufactured home production and distribution. ACCA Manual J requires knowledge of the exact location and orientation of the home relative to the sun for cooling load analysis. However, manufacturers typically do not know where a home will be sited or its final orientation until after it is installed, often hundreds of miles from the production facility. This requirement is particularly problematic in Thermal Zone 3, where design parameters can vary substantially. ACCA Manual S establishes sizing limits that presume thermal loads are established for a specific location and building orientation, but the variation in design parameters within a single HUD thermal zone exceeds the sizing limits established by ACCA Manual S.

Furthermore, the MHCSS requires manufacturers to install furnaces that are "listed or certified by a nationally recognized testing agency for use in manufactured homes." The current supply of HUD-approved furnaces can be oversized by as much as 200 percent under the MHCSS because the United States is divided into three broad climate zones that can vary drastically within each zone. However, ACCA Manual S prohibits oversizing equipment by more than 40 percent. As a result, there are currently no furnaces available that are both rated for use under the MHCSS and that comply with Manual S/Manual J requirements. This conflict effectively eliminates the longstanding industry practice of manufacturing homes for stock inventory, which provides retailers with floor models and allows consumers to purchase and move into homes quickly. Requiring homes to be custom-ordered and sized for specific locations would substantially increase costs, extend delivery times, and reduce the flexibility that makes manufactured housing accessible to price-sensitive buyers.

Transportation Constraints and Practical Limitations

The changes required by both the 2022 Final Rule and the 2024 IECC will significantly affect the overall shipping height and width of homes. In some cases, these changes are substantial and create serious practical problems. For example, to meet the required U-value performance for Tier 2, Zone 3 homes, manufacturers would need to change from 2x6 floor joists to 2x8 floor joists, change from 2x4 exterior walls to 2x6 exterior walls, and increase the truss heel height from 3-1/2 inches to 5-1/2 inches. These changes increase the shipping height from 14 feet 4 inches to 14 feet 8 inches or more. The additional height could prevent shipping a home into areas of the country with low bridges, resulting in consumers having to settle for a different style of home or, more likely, being forced out of the housing market entirely due to lack of affordable housing options in their area.

Furthermore, homes that exceed maximum width or height may require an additional escort or pole car to accompany the transport, which could add thousands of dollars to the final price for the consumer. These transportation-related costs were not reflected in DOE's cost-benefit analysis in the 2022 Final Rule but represent real, substantial expenses that directly impact affordability.

Limitations on Consumer Design Choices

Beyond direct construction and material costs, the IECC standards would eliminate many architectural and design features that consumers value, significantly limiting the range of home styles and options that manufacturers can offer.

The increased insulation thickness requirements would make optional vaulted ceilings impossible to construct in many home designs. Currently, vaulted ceilings are a popular option that enhances the aesthetic appeal and perceived spaciousness of manufactured homes. Due to the R-38 ceiling insulation requirement and increased truss heel height, the attic space in some designs becomes too constrained to accommodate vaulted ceiling construction. This represents a significant loss of consumer choice and reduces the architectural appeal of manufactured homes.

Similarly, options for 8-foot or 9-foot wall heights and transom windows would be severely limited or eliminated. These features are important to consumers who desire homes with a more spacious feel and enhanced natural lighting. HUD recently updated exterior door requirements in the MHCSS to better accommodate the open floor plans preferred by consumers. The combination of thicker walls, deeper floor joists, and increased heel heights necessitated by the 2022 Final Rule and 2024 IECC would constrain the ability to offer these popular design features while staying within transportation height limits.

The necessity of using exterior walls instead of 2x4 walls results in heated and cooled interior space being reduced by approximately 27 square feet in a typical multi-section home. While this may seem modest, it represents a meaningful loss of usable living space for consumers purchasing homes that are already carefully designed to maximize functionality within standard dimensions.

Additionally, manufacturers may need to make floor plan changes to accommodate the additional insulation and structural modifications required by the standards. The industry has developed floor plans over decades based on the realities of manufactured housing construction, transportation, and installation. Forced redesigns to accommodate IECC requirements may result in less functional and less appealing layouts.

Window Limitations

To achieve the required U-values under the prescriptive pathway, manufacturers would need to significantly reduce the number of windows or use windows with much lower U-values (0.30 or better) than are currently standard. In some scenarios analyzed, manufacturers would need to eliminate windows almost entirely to meet performance requirements—creating homes that would fail to meet basic code requirements for egress, light, and ventilation.

Even with substantial changes to wall and floor construction, incorporating a reasonable number of windows requires upgrading to windows with a U-value of 0.30 or lower; the 2024 IECC sets a standard of 0.28 or 0.27 in some climate zones. The U-value for skylights was also lowered in the 2024 IECC. Windows and skylights meeting these standards are not readily available in the market for manufactured housing applications.

Miscellaneous Additional Requirements

In addition to the items mentioned above, the 2024 IECC would add cost in the following areas:

- Increased insulation requirements for hot water pipes (R-3 to R-7)
- Lower efficiency ratings and special switches required for bathroom exhaust fans.

The cost-effectiveness of these new requirements should be analyzed in consultation with the industry.

Competitive Disadvantage Relative to Site-Built Housing

These design limitations would reduce the appeal of manufactured housing relative to site-built homes, many of which are built to less stringent standards in jurisdictions that have not adopted the most recent IECC. DOE has a statutory obligation to publish a determination on the most recently published residential energy code, as compared to the previous version. State and local jurisdictions rely on these determinations to guide their code adoption processes in ways that benefit homeowners in terms of higher quality homes and lower energy bills. DOE's evaluation and determination does not consider manufactured housing. To date, only 10 states have adopted the 2021 IECC standards or higher. This creates a fundamental inequity where the most affordable housing option—manufactured housing—would face the most restrictive requirements, while more expensive housing options retain greater design flexibility.

Cost-Benefit Analysis Methodology

Any assessment of the cost-effectiveness of the 2024 IECC standards must avoid the analytical deficiencies of the prior DOE rulemaking efforts. Our responses to issues A-2 and B-4 provide greater detail on these deficiencies and recommended improvements. Importantly, DOE's analysis did not fully account for the costs associated with testing, certification, and enforcement. These compliance costs represent real expenses that will be passed on to consumers but were not included in DOE's cost-benefit calculations. The absence of these costs from the analysis rendered DOE's conclusions about cost-effectiveness incomplete and unreliable.

Upfront Financial Burden of the 2024 IECC is Significant

Mandating the 2024 IECC standards for manufactured housing would substantially increase costs and would directly undermine the goal of affordable homeownership. An analysis performed by Home Innovation Research Labs found that the adoption of the 2024 IECC could increase upfront costs for a typical site-built home by as much as $10,245 relative to 2018 standards.[1] The 2022 Final Rule estimated that costs would increase by over $5,000 for multi-section units, and we expect that the 2024 IECC would be even more costly.

These significant increases to the purchase price of a manufactured home will result in higher required down payments and higher monthly mortgage payments, reducing the number of households that can qualify for a mortgage to purchase a home based on the debt-to-income limits used by mortgage providers. For low- and moderate-income purchasers who rely on manufactured homes for attainable homeownership, even modest cost increases lead to loan denial, effectively pricing thousands of eligible families out of the market entirely.

Conclusion

Standards based on the 2024 IECC would not be cost-effective for manufactured housing when all costs are properly considered, including material cost inflation, compliance expenses, transportation challenges, and the loss of consumer design options. These standards would substantially increase the purchase price of manufactured homes while eliminating popular features that consumers value, making homeownership unattainable for tens of thousands of families annually.

The most constructive path forward is for HUD and the MHCC to develop energy efficiency improvements that are specifically designed for manufactured housing, that account for the unique aspects of factory-built construction, that preserve the affordable housing mission of the industry, and that maintain reasonable consumer choice, considering any input that DOE may have. Incremental improvements based on careful analysis of what is technically and economically feasible is the best way to keep the construction standards up to date and preserve access to homeownership for America's working families.

[1] Home Innovation Research Labs, "2024 IECC Cost Analysis for Single-Family Homes", January 13, 2025.https://www.nahb.org/-/media/NAHB/advocacy/docs/top-priorities/codes/code-adoption/2024-iecc-cost-analysis-hirl.pdf

Issue A–2: Appropriate baseline for analysis

> "DOE seeks input on the appropriate baseline to use in conducting further technical analysis in support of an updated manufactured housing energy conservation standards rulemaking. We seek information on the best representation of the current state of energy efficiency in manufactured housing to characterize the baseline— e.g., the HUD standards, the 2022 Final Rule efficiency levels, or another efficiency level."

Response:

To identify the most cost-effective energy standards for manufactured housing, an incremental approach should be applied—one that accounts for the diminishing cost savings associated with higher levels of energy-efficiency investment. In the 2022 Final Rule, DOE estimated energy savings by comparing homes built to the current HUD energy standards with homes meeting the 2021 IECC in select locations. At that time, most manufactured homes already exceeded the outdated HUD standards. As a result, the comparison produced an exaggerated difference in energy use and estimated costs between benchmarks that were not aligned with industry practice. These inflated "savings" were then used to justify excessive upfront energy conservation costs. In reality, energy improvements yield diminishing returns, and today's manufactured homes are already highly energy efficient.

Every step in making homes more energy efficient costs more and saves less. The biggest savings come from the first measures to improve performance. For example, adding R-5 insulation to a wall that is R-10 saves more energy than adding the same amount of insulation to a wall that is already R-20, but it costs the same. If you are aiming to optimize investment (i.e., find the lowest combination of construction and operating costs) the proper way to do the analysis is by examining each incremental improvement in efficiency individually. Each performance improvement must be cost justified and stand on its own. Once an energy measure begins to result in negative returns, it is no longer cost effective to add additional measures. DOE developed and promoted a Building Energy Optimization Tool that used this incremental approach to find the optimum investment. By combining all the energy measures together into a single figure, the slim benefits of adding the last, least cost-efficient measures, is subsumed in and masked by the benefits of adding the first, most cost-effective measures.

Today's manufactured homes already consume significantly less energy than site-built homes. According to the U.S. Energy Information Administration, "most energy end-uses are correlated with the size of the home. As square footage increases, the burden on heating and cooling equipment rises, lighting requirements increase, and the likelihood that the household uses more than one refrigerator increases. Square footage typically stays fixed over the life of a home and it is a characteristic that is expensive, even impractical to alter to reduce energy consumption."[2] According to the U.S. Census Bureau, the median size of a completed single-family house in 2020 was 2,261 square feet, while the median size of a manufactured home was 1,338 square feet. The significant difference is size correlates with a significant reduction in energy usage. A study of residential energy consumption showed that manufactured homes consume the least energy of all types of homes, at 59.8 million BTUs per household, compared to 94.6 million BTUs for single-family detached homes and 70 million BTUs for townhomes.[3]

[2] https://www.eia.gov/consumption/residential/reports/2009/square-footage.php
[3] https://www.eia.gov/consumption/residential/data/2015/c&e/pdf/ce1.1.pdf

Further, the controlled environment of the factory-built process not only offers consumers unmatched quality and affordability due to technological advancements and other advantages, but the industry is a pioneer in the development of processes that value efficiency and reduce waste. Our in-factory home builder members are constantly developing new initiatives and technologies, such as comprehensive recycling programs, to reduce waste. The factory-built process utilizes exact dimensions and measurements for most building materials, eliminating waste. Today's modern manufacturing plants are so efficient that nearly everything is reused or recycled such as cardboard, plastic, carpet padding, vinyl siding, scrap wood and much more. This stands in sharp contrast to the widespread use of commercial dumpsters at traditional site-built homes.

Finally, it would be inappropriate to use the 2021 IECC or 2022 Final Rule as the baseline for analyzing the implementation of the 2024 IECC standards. On July 2, 2025, DOE extended the compliance date for both Tier 1 and Tier 2 manufactured homes until after the publication of a final enforcement rule, which is still pending. The 2022 Final Rule has not been incorporated into the HUD Manufactured Housing Construction and Safety Standards (MHCSS), and these standards have not been broadly adopted by the industry. Additionally, most states have not adopted the 2021 or 2024 IECC standards for site-built homes.

Given the high level of energy efficiency prevalent in the manufactured housing industry and the current state of energy codes reflected in the states for site-built homes and in the MHCSS, an incremental analysis of individual standards is the best method to ensure the optimum cost-efficiency for consumers.

Additionally, the baseline for analysis should consider costs for compliance, testing, and enforcement (CTE) imposed by the new standards. The 2022 Final Rule did not include provisions for CTE and failed to include any CTE costs in their cost-benefit analysis. This was a major deficiency in the rule and artificially deflated the cost impact to the industry and consumers for such rule, negatively impacting the regulatory efficiencies that enable this industry to produce quality homes at affordable price points. Any such costs imposed on manufacturers will be passed on to consumers and may render the new standards not cost efficient.

Issue A–3: Impact of expiration of Energy Star tax credit.

> "While DOE typically considers existing standards to be the minimum baseline, DOE also typically takes into account any information that demonstrates current manufacturing practice results in a range of efficiencies available in the marketplace. For example, significant percentages of manufactured home shipments historically met the Energy Star criteria. Between 2020 and 2022, approximately 21 percent of buildings met the Energy Star criteria for manufactured homes, while in 2023 the fraction was 36 percent. DOE notes that in 2023 the Federal tax credits were increased from $1,000 to $2,500 for manufactured homes meeting Energy Star and certain researchers have postulated that the tax credit program influenced the 2023 results. DOE seeks input to best assess appropriate baseline efficiency levels reflective of what is observed in shipments in the manufactured housing market. Specifically, DOE seeks input on fractions of manufactured homes with building envelopes constructed effectively at the current HUD requirements for their HUD region, fractions that would meet the lower Uo 5 envelope requirements under the EnergyStar 2.0 criteria, and fractions currently constructed at the 2022 final rule Uo levels to best assess appropriate baseline efficiency levels reflective of what is observed in shipments in the manufactured housing market. As part of this request, DOE requests input on the impact of the expected expiration of the Federal tax credit on the fraction of shipments that meet Energy Star criteria."

Response:

The manufactured housing industry offers consumers a broad range of energy-efficient options, including homes built to the highest standards. New factory-built homes are not only as efficient as site-built homes, but in 2024 approximately 47 percent of manufactured homes were certified to meet Energy Star 2.0 standards. Many additional homes achieved comparable efficiency levels without formal certification because affordability is a critical consideration for homebuyers. Energy Star certification adds roughly $1,000 to the cost of a home, and manufacturers often choose to avoid this additional expense while still delivering homes with equivalent energy performance. Like site-built homes, manufactured homes incorporate energy-efficient features tailored to the climate conditions of the region where they will be located.

It is important to note that today's manufactured homes already meet high energy-efficiency standards, and improvements beyond these levels yield diminishing returns. While the federal tax credit for energy-efficient homes has influenced some purchasing decisions, manufacturers have consistently produced Energy Star-compliant homes even before the credit increase in 2023. As the credit expires, we expect some reduction in the share of certified homes due to higher price points for consumers, but the industry will continue to offer significant numbers of homes meeting Energy Star 2.0 standards. This reflects our ongoing commitment to energy efficiency while balancing affordability for consumers, which is the hallmark of manufactured housing.

Issue B–4: Changes to analytical approach

> "What analytical aspects related to DOE's May 2022 Final Rule should DOE consider re-examining as part of its ongoing consideration of energy efficiency standards for manufactured housing? This request for input encompasses whether DOE's analysis sufficiently addressed the cost- effectiveness of standards based on the then-current 2021 IECC when considering the code's impact on both the purchase price of manufactured housing and on total life-cycle construction and operating costs. See 42 U.S.C. 17071(b)(1). If changes are recommended, how should DOE reconsider how it addressed costs (even those that are hard to quantify) and the cost-effectiveness of the IECC criteria and what specific changes, if any, should DOE make to its assumptions or analyses to better address this in any future analysis for manufactured housing? As part of this request, DOE encourages commenters to provide specific supplemental supporting data regarding any changes that commenters may suggest."

Response:

The analytical approach used by the Department of Energy in the 2022 Final Rule was fundamentally deficient and produced deeply flawed conclusions regarding cost-effectiveness. The multiple methodological errors, inaccurate assumptions, and omitted costs render the 2022 Final Rule's cost-benefit analysis unreliable and inappropriate as a basis for energy conservation standards for manufactured housing. These deficiencies demonstrate that DOE is not the appropriate agency to lead the development of manufactured housing energy standards. Instead, these standards should be developed as part of HUD's Manufactured Housing Construction and Safety Standards (MHCSS) through consultation with the MHCC in accordance with 42 U.S.C. § 5403 (Section 604 of the Manufactured Housing Construction and Safety Standards Act), considering any input DOE may have.

Failure to Consider Unique Characteristics of Manufactured Housing

The analysis failed to adequately consider the unique characteristics of manufactured housing, including factory construction methods, transportation requirements, and the distinct regulatory framework under the MHCSS. Unlike site-built homes subject to varying state and local codes, manufactured homes are built to one uniform federal standard that integrates requirements for quality, safety, energy efficiency, and durability. The wholesale adoption of IECC standards developed for site-built construction ignores these fundamental differences and creates conflicts with existing MHCSS requirements that were not properly analyzed or resolved.

Inappropriate Use of 30-Year Life-Cycle Cost Analysis

The 30-year Life-Cycle Cost (LCC) approach used by DOE in the 2022 Final Rule is not an appropriate method to determine cost-effectiveness for an initial buyer of a manufactured home. This analytical flaw fundamentally distorts the cost-benefit calculation in several critical ways:

Based on MHI's industry data, manufactured homebuyers usually sell their homes within seven to ten years of purchase. The original purchaser—who bears the full upfront cost burden of energy efficiency improvements—will only realize a fraction of the projected 30-year energy savings before selling the home. Basing cost-effectiveness determinations on benefits that accrue over 30 years when the typical owner will only capture 7-10 years of those benefits grossly overstates the value proposition for the actual purchaser making the buying decision.

It is highly unlikely that a manufactured homebuyer financing the purchase of a new manufactured home will be able to recover the additional upfront costs of energy efficiency improvements at a future sale. The resale market for manufactured homes does not typically reflect or reward the incremental investment in energy efficiency features in a manner that would allow cost recovery.

The use of a 30-year analysis period obscures the fundamental affordability challenge these standards create. The increased upfront cost is borne immediately by purchasers who are disproportionately lower-income households, while the purported benefits are spread over three decades and largely accrue to subsequent owners. This temporal mismatch makes the 30-year LCC analysis particularly inappropriate for assessing whether standards are truly cost-effective from the perspective of the consumer making the purchase decision.

Failure to Account for Access to Financing

The analysis must consider the impact of upfront price increases on purchasers' eligibility for mortgage financing, regardless of projected energy savings. An increased home purchase price results in a proportionate increase in the homebuyer's debt burden. Debt-to-income ratio is a key determinant of loan qualification. For instance, FHA's customary debt-to-income (DTI) requirement is 43 percent. Therefore, any homebuyer at the edge of this 43 percent DTI requirement will no longer qualify for an FHA loan because of a price increase caused by new energy standards.

This impact is not theoretical. In 2024, 35 percent of denied loans for manufactured home purchases listed the applicant's debt-to-income ratio as a reason for denial.[4] Any theoretical savings projected by the rule are meaningless if the price increase causes the homebuyer to no longer qualify for a mortgage loan because they no longer meet DTI underwriting requirements. Any increase in purchase price will also necessitate a higher down payment, which may present a significant obstacle for many lower-income households who are already struggling to accumulate sufficient savings for homeownership.

These financing barriers disproportionately affect lower- and moderate-income families for whom manufactured homes represent the most affordable path, and often the only path, to homeownership. DOE's failure to adequately model these impacts represents a critical gap in the cost-effectiveness analysis.

Inaccurate Material Cost and Inflation Assumptions

DOE's assumptions on material costs and interest rates were calculated primarily in 2014 leading up to the 2016 Proposed Rule and have proven wildly inaccurate. These flawed assumptions fundamentally undermined the reliability of the cost-benefit analysis.

Most notably, DOE assumed a nominal construction cost increase of 2.3 percent annually from 2014 to 2023, but the actual cost increase from construction materials from 2014 to 2021 was 6.5 percent annually—nearly triple DOE's assumption. The actual construction materials cost increase from 2015 to 2025 was 60.1 percent, representing an average annual rate of 4.3 percent. This discrepancy between assumed and actual material cost inflation dramatically understates the true cost burden that the standards would impose on consumers.

[4] Source: 2024 Home Mortgage Disclosure Act Data.

Inaccurate Interest Rate Assumptions

DOE also assumed a 5 percent interest rate for land-home deals and a 9 percent interest rate for home-only deals. These assumptions were optimistic even when made and have become completely divorced from current market realities. The 30-year fixed mortgage rate went above 7% after the publication of the 2022 Final Rule and remains above 6%, while home-only loan interest rates may be as high as 11.5 percent for some borrowers—substantially higher than DOE's assumptions.

Higher interest rates have two critical effects. First, they increase the monthly payment burden on purchasers, straining debt-to-income ratios for loan qualifications and increasing ongoing costs. Second, higher discount rates reduce the present value of future energy savings, making the long-term cost-benefit calculation less favorable.

Impact of Correcting Material Cost and Interest Rate Assumptions

These errors are not minor technical details—they fundamentally alter the cost-effectiveness conclusions. In MHI's prior analysis, correcting only these two inputs to reflect actual cost inflation and actual interest rates and using DOE's own analytical model, approximately 95 percent of shipments had a negative cost-benefit outcome. Had DOE updated its cost calculations before the 2021 Proposed Rule and the Final Rule to reflect actual economic conditions, it would have determined that the assumptions it developed leading up to the 2016 Proposed Rule had proven wrong and that the standards were not cost-effective.

Failure to Include Testing, Compliance, and Enforcement Costs

DOE's 2022 Final Rule entirely omitted the costs of testing, compliance, and enforcement from its cost-effectiveness analysis—a critical analytical failure that rendered the entire cost-benefit determination fundamentally flawed. To properly consider the cost-effectiveness of increased energy standards, any increased costs for testing, compliance, and enforcement must be considered.

The 2022 Final Rule established stringent energy efficiency requirements based on the 2021 IECC but provided no testing procedures, compliance pathways, or enforcement mechanisms. As DOE itself acknowledged in the 2016 Proposed Rule, "[t]est procedures are necessary to provide for accurate, comprehensive information about energy characteristics of manufactured homes and provide for the subsequent enforcement of the standards." 81 FR 78734. Yet the Final Rule proceeded without establishing such procedures or accounting for their costs.

This omission is particularly egregious given that DOE was fully aware of the need for testing, compliance, and enforcement procedures but chose to defer development of those procedures while proceeding with the substantive standards. The result is a cost-effectiveness analysis that dramatically understated the true costs to be borne by manufacturers and ultimately by consumers.

Failure to Use Incremental Cost-Effectiveness Analysis

DOE's analytical approach of bundling all energy efficiency measures into a single package masked the diminishing returns of less cost-effective measures. Every step in making homes more energy efficient costs more and saves less due to diminishing returns. The proper analytical approach examines each incremental improvement in efficiency individually, with each improvement required to stand on its own cost-benefit merits.

By combining all energy measures into a single package, as DOE did in the 2022 Final Rule, the minimal or negative benefits of the least cost-efficient measures are hidden by the benefits of the most cost-effective measures. This approach inevitably leads to mandating efficiency improvements that fail the cost-effectiveness test when examined individually. Future analysis must evaluate incremental costs and benefits of each energy efficiency measure separately and establish standards at the point where additional measures cease to be cost-effective.

Failure to Properly Account for Consumer Price Sensitivity

DOE's price elasticity assumptions substantially understated the number of households that would be priced out of the manufactured housing market by the rule's cost increases. The industry serves predominantly lower-income households for whom even modest price increases can eliminate homeownership opportunities. Research and industry data demonstrate that manufactured housing consumers are significantly more price-sensitive than site-built home purchasers.

Any future analysis must use realistic price elasticity assumptions that properly reflect the income characteristics and financial constraints of the manufactured housing consumer base. The analysis must also comprehensively assess impacts on housing access for vulnerable populations, including lower-income families, seniors on fixed incomes, and first-time homebuyers.

Recommendations for Future Analytical Approach

Any future cost-effectiveness analysis for manufactured housing energy standards must:

- Use a time horizon that reflects actual homeownership periods (7-10 years) rather than an artificial 30-year period that bears no relationship to consumer decision-making or benefit realization.
- Include all costs for testing, compliance, and enforcement in the cost-effectiveness calculation, with realistic estimates based on consultation with HUD, the MHCC, and industry stakeholders.
- Use current, accurate data on material costs, construction inflation, and interest rates.
- Apply appropriate discount rates that reflect current financing costs and market interest rates.
- Comprehensively analyze impacts on mortgage qualification, including debt-to-income ratio effects and down payment requirements.
- Evaluate each energy efficiency measure incrementally rather than bundling all measures into a package, establishing standards at the point where additional measures cease to be cost-effective on their own merits.
- Use realistic price elasticity assumptions that properly account for the price sensitivity of manufactured housing consumers and assess impacts on housing access for lower-income households.
- Be led by HUD and the MHCC to ensure analytical assumptions and methodologies are appropriate for manufactured housing. In fact, the most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have.

Issue B–5: Climate Zones

> "DOE seeks comments on the appropriateness of using the HUD climate zones, and whether the use of the HUD climate zones continues to be appropriate."

Response:

MHI strongly supports use of the three HUD climate zones rather than the IECC climate zones. The use of HUD climate zones is both statutorily appropriate and practically necessary for the manufactured housing industry and should be maintained in any future rulemaking.

EISA explicitly provided DOE with the authority to "consider... the climate zones established in [HUD's] Manufactured Home Construction and Safety Standards... rather than the climate zones under the [IECC]." 42 U.S.C. 17071(b)(2)(B). DOE appropriately exercised this discretion in the May 2022 Final Rule, showing that it could recognize the fundamental differences between manufactured housing and site-built construction.

The manufactured housing industry has operated under the MHCSS's three-zone system since 1976. This regulatory framework was specifically designed to account for the unique aspects of factory-built housing, including design, construction techniques, transportation constraints, and the need for homes to be marketable across broad geographic areas. Shifting to a different climate zone system would create unnecessary regulatory complexity and confusion for manufacturers, retailers, installers, and consumers.

The use of HUD climate zones ensures consistency with the broader MHCSS requirements that govern all other aspects of manufactured home construction and safety. This harmonization is critical because:

- Manufacturers design and build homes to comply with an integrated set of MHCSS requirements, not just energy provisions in isolation
- Design Approval Primary Inspection Agencies (DAPIAs) review plans for compliance with the entire MHCSS
- In-Plant Primary Inspection Agencies (IPIAs) monitor manufacturing for compliance with all HUD standards
- State administrative agencies (SAAs) enforce the complete MHCSS framework

Creating a separate climate zone system would fragment this unified regulatory structure and significantly increase compliance costs and complexity.

Additionally, manufacturers typically build homes for broad regional markets that often span multiple states. The three HUD zones allow manufacturers to design homes that can be sold throughout large geographic areas, which is essential for maintaining inventory that retailers can sell to customers across their service areas, achieving production efficiencies through longer manufacturing runs, and providing consumers with reasonable choice and availability of home models.

Issue B–6: Access to Financing

> "DOE acknowledges that interest rates change over time and expects the interest rates used in the 2022 Final Rule will change as more data becomes available. DOE seeks comments regarding the previous financial findings regarding the economic impact of energy conservation standards on the ability of purchasers to buy manufactured homes. In stakeholders' experiences, are these findings reasonably accurate, and are there other data that DOE should examine, or other factors that DOE should consider? In addition, are the total costs of ownership accurately reflected in the analysis? Assuming that these findings are reasonably accurate, what role, if any, should they play in shaping potential amended standards that DOE may ultimately adopt for manufactured housing and why? If these findings do not appear accurate, what data supports the discrepancy, what specific shortcomings are indicated, and what assumptions/changes should DOE apply when determining the stringency and structure of energy conservation standards for manufactured housing?
>
> DOE also seeks input on the advisability of using current interest rates versus longer historical averages. DOE also seeks input on the advisability of continuing to use 30-year analytic time horizon in the analysis or whether the analytic time horizon should reflect average ownership of manufactured housing."

Response:

MHI appreciates DOE's recognition that financial conditions have changed significantly since the 2022 Final Rule and that the economic circumstances of manufactured home purchasers warrant careful consideration. The financial findings referenced in the RFI regarding interest rates, loan types, and consumer characteristics are generally accurate and consistent with MHI's experience and data. However, DOE's prior analysis did not adequately account for these financial realities or their implications for affordability and cost-effectiveness. Any future rulemaking must comprehensively address these factors and use realistic assumptions that reflect actual market conditions and consumer financial circumstances.

Most analysts predict that we will not soon return to the era of lower interest rates that persisted for most of 2008 to 2022. Accordingly, analysis must be based on an assumption that higher interest rates will persist, rather than relying on a longer-term historical average that would incorporate the historically unusual period of low rates seen after the global financial crisis.

Home-only loans for manufactured housing, which comprised 78% of new manufactured home purchases in 2024 according to the Manufactured Housing Survey, carry higher interest rates (often 10% or higher) and shorter terms. This significantly increases monthly payments, which must be reflected in a cost and affordability analysis. The difference between home-only and land-home interest rates has dramatic implications for the cost-effectiveness of energy efficiency investments. A consumer paying 10 percent interest on a home-only loan will require much greater energy savings to justify upfront efficiency investments compared to a consumer paying 6 percent on a land-home mortgage. An appropriate analysis should account for this reality.

The analysis also must recognize the impact of increased upfront costs on access to financing, regardless of projected utility savings. An increased home purchase price will cause a proportionate increase in the homebuyer's debt burden. FHA's customary debt-to-income (DTI) requirement is 43 percent. Therefore, any homebuyer at the edge of this 43 percent DTI requirement will no longer qualify for an FHA loan because of the higher price caused by the new energy standards. Any theoretical savings in the rule are meaningless if the price increase causes the homebuyer to no longer qualify for a mortgage loan, because they no longer meet DTI underwriting requirements. Any increase in purchase price will also necessitate a higher downpayment, which may be a significant obstacle for many lower income households.

DOE's prior emphasis on a 30-year period of analysis for life-cycle cost calculations was inappropriate. Based on industry data, manufactured home purchasers typically sell their homes within 7-10 years. The first owner bears the full upfront cost of efficiency investments but may not remain in the home long enough to recoup these costs through energy savings and is unlikely to recover the value of those future energy savings at resale. Additionally, if significant numbers of low- and moderate-income consumers cannot purchase homes at prices resulting from proposed standards, those standards are unaffordable regardless of theoretical long-term savings. A 7 - 10-year analysis period most accurately reflects the economic reality for the typical purchaser of manufactured homes.

Issue C–7: Affordability analytical approach

> "In the 2022 Final Rule analyses DOE analyzed "packages" of efficiency changes that reflected the 2021 IECC requirements. For the Tier 1 standards, DOE analyzed individual energy efficiency options to identify a package of options that totaled less than $750 and that yielded a positive cash flow in year 1 taking into account the increases in first-year loan cost and the down payment and the reductions in first year energy costs. (See 2022 Final Rule Technical Support Document, p. 6–3.) Further, in this analysis, DOE assumed the purchaser would use a chattel loan. DOE seeks comments on the appropriateness of this methodology for assessing affordability. Are there metrics DOE could use to assess the impact of standards on consumers other than the life-cycle cost analysis and the cash flow analysis? Are there other consumer impacts that the life-cycle cost and cash flow analysis should reflect, such as availability of other housing options using cross-price elasticities?
>
> For Tier 2, DOE considered a package of energy efficiency options that mirror the 2021 IECC, with adjustments made for the practicalities of manufacturing and transporting and setting homes up on-site. For example, because of the need to join sections in order to perform an envelope air-sealing test, DOE, working with the Manufactured Housing Working Group,10 came up with an alternative requirement based on visual assessment. Minimum ceiling R-values from the IECC were reduced in consideration of factory construction techniques when compared to site-built homes. In the analysis of options, DOE found R–20+5 exterior wall insulation to not be cost effective and reduced that requirement to R–21. For Tier 2, DOE analyzed the life-cycle cost effectiveness of standards. DOE seeks input on the appropriateness of the methodologies used in the 2022 Final Rule, including both the use of life-cycle cost and the first-year positive cash flow analyses, for analyzing possible updates to the 2022 Final Rule."

Response:

In the 2021 Proposed Rule, DOE established tiers based on list prices to establish different thresholds of energy standards, which MHI strongly opposed. Manufacturer list prices are not a clearly defined or uniform practice in the industry, and this approach would have created significant confusion and additional burden. Additionally, the initial price thresholds were set unreasonably low, grouping many homes that were affordable even to low-income purchasers in Tier 2. The final rule's revised approach distinguishing single section homes from multi-section homes was an improvement, and MHI supports special consideration to ensure affordability is preserved for the most cost-sensitive consumers. The majority of these homes are purchased with home-only loans, which the analysis should reflect.

For Tier 2 (multi-section homes), we reiterate that the analysis should assess cost effectiveness based on an incremental approach to identify the optimum standard.

Additionally, utility savings should be assessed over a 7-10 year period reflecting typical ownership for an initial purchaser. The initial purchaser, who bears the full upfront cost burden, will realize only a fraction of projected 30-year energy savings before selling the home. It is highly unlikely that a homebuyer financing a manufactured home purchase will recover additional upfront costs at resale. Cost-effectiveness analysis should therefore reflect the actual time horizon over which the original purchaser will own the home and capture energy savings, not a theoretical 30-year period.

Any affordability analysis must recognize the primary importance of upfront prices. Purchase price impacts occur immediately and create a binary outcome—the consumer either can or cannot complete the purchase. Operating cost savings accrue gradually over time and are only relevant to consumers who successfully complete the initial purchase. If a consumer is unable to obtain financing or is otherwise priced out by increased upfront costs, they lose access to all benefits of homeownership, including any energy savings. An appropriate analysis must therefore prioritize affordability at the point of purchase as the primary determinant of affordability for the low- and moderate-income consumers in the manufactured housing market.

The impact of any new standards on the home features and options that manufacturers will be able to offer to consumers should also be a consideration. For instance, the 2022 Final Rule made certain features such as vaulted ceilings more difficult if not impossible in certain existing product designs and also may necessitate floor plan changes to accommodate additional insulation. In addition to limiting consumer choice, these challenges may reduce the appeal of manufactured housing relative to site-built homes built to a lower standard. To mitigate these challenges, the Manufactured Housing Consensus Committee in accordance with 42 U.S.C. § 5403 (Section 604 of the Manufactured Housing Construction and Safety Standards Act) must fully assess these impacts. The most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have.

Issue C–8: Affordability impact

> "Manufactured housing owners tend to be lower-income compared to other homeowners and are also likely to finance their manufactured housing purchase using higher-rate chattel loans. As a result, the Department is particularly interested in specific comments, analysis, and data regarding the affordability of manufactured housing and how the requirements adopted in the 2022 Final Rule for both Tier 1 and Tier 2 manufactured homes will likely affect affordability, and which manufactured home purchasers may be most impacted."

Response:

Manufactured housing is an essential homeownership option for low-income households. Last year, the average price of a manufactured home was $123,300, compared to approximately $406,000 for a site-built home (excluding land). The average income for a manufactured home buyer was about $63,000, while the average income for a site-built home buyer exceeded $143,000. Manufactured homes are clearly more affordable, serving homebuyers with much lower incomes. To protect this crucial pathway for homebuyers, the importance of upfront pricing for home financing, the higher interest rates paid by purchasers using home-only loans, and the actual length of time that buyers will benefit from utility savings, must be considered in any analysis.

First, any home purchase price increase will result in a proportionate increase in the homebuyer's debt burden, which will affect their ability to qualify for financing. For instance, FHA's customary debt-to-income (DTI) requirement is 43 percent. Therefore, any homebuyer at the edge of this 43 percent DTI requirement would no longer qualify for an FHA loan because of an increased price caused by the new energy standards. An analysis by the National Association of Homebuilders found that a $1,000 increase in the median price of new homes would price an additional 115,593 households out of the market. Any theoretical savings in new energy standards are meaningless if the price increase causes the homebuyer to be denied for a mortgage loan because they no longer meet DTI underwriting requirements. Any increase in purchase price will also necessitate a higher downpayment and higher mortgage insurance premium, which may be a significant obstacle for many lower income households.

Additionally, home-only loans for manufactured housing, which comprised 78% of new manufactured home purchases in 2024, carry significantly higher interest rates and shorter terms. This significantly increases monthly payments, which must be reflected in a cost and affordability analysis. Future utility savings should be discounted at a similar rate, enabling an accurate comparison of the financing impact of increased upfront costs with the projected savings.

Finally, based on MHI's industry data, buyers usually sell their homes within seven to ten years of purchase, and it is unlikely that a manufactured homebuyer financing the purchase of a new manufactured home would recover upfront costs required by higher energy standards at a future sale. To optimize affordability for consumer's, the actual savings that a typical initial purchaser would realize should be all that is considered.

Issue C–9: Lending and Purchasing Modeling

> "In the 2022 Final Rule the Department took into account the impact of price sensitivity of manufactured home purchasers when estimating the shipments of products by applying an estimate of price elasticity to percentage changes in the up-front price of manufactured homes. Lenders and home purchasers often take into account costs and benefits beyond the simple up-front cost when making lending or purchasing decisions. including default risks and changes in the features of manufactured housing. The Department seeks input concerning whether there is a more comprehensive way to model lending behavior and purchasing behavior rather than simply first-cost, particularly when considering that DOE's assessment of the financing mechanisms typically relied upon and the energy benefits that accrue from energy efficiency standards."

Response:

DOE's current approach to modeling lending behavior and purchasing decisions—which relies primarily on price elasticity applied to upfront cost increases—is inadequate and likely understates the negative market impacts of energy conservation standards on manufactured housing. A more comprehensive analytical framework that accounts for the multiple factors that influence both lender willingness to extend credit and consumer ability to purchase homes is necessary. This framework must recognize the unique characteristics of the manufactured housing finance market and the particular vulnerabilities of the low- and moderate-income consumers this industry serves.

DOE's current methodology applies an elasticity coefficient to estimate how changes in home purchase prices affect shipments (sales). Specifically, the Department applies a price elasticity estimate to the percentage change in upfront price to project the percentage change in shipments. This approach has several significant limitations.

First, price elasticity captures only the relationship between price and quantity demanded, treating all price changes as equivalent regardless of the source of the price increase (e.g., material costs vs. regulatory requirements), the financial circumstances of buyers (income, credit score, existing debt), the financing options available (home-only vs. land-home, interest rates), and whether the price increase moves consumers across critical qualification thresholds. Traditional elasticity models assume that all consumers who are willing to pay the higher price can obtain financing and complete purchases. This assumption does not hold in the manufactured housing market, where consumers face substantial barriers to financing, debt-to-income ratios create hard qualification thresholds, and down payment requirements may be prohibitive for low-income consumers.

Elasticity estimates are typically derived from historical data reflecting specific market conditions. The manufactured housing market has experienced dramatic changes in recent years, including substantial increases in baseline home prices, rising interest rates, persistent inflation, and supply chain disruptions. Consumers may be increasingly price-sensitive when baseline prices are already elevated and financing costs are high. Historical elasticity estimates may not adequately capture this dynamic sensitivity.

DOE's elasticity-based approach likely substantially understated the number of consumers who would be priced out of manufactured housing by its ill-conceived energy conservation standards. In the 2022 Final Rule, DOE estimated that approximately 5,000 families annually would be unable to afford a manufactured home as a result of the standards. This estimate was based on applying a price elasticity of demand of -0.76, meaning a 1% price increase would result in a 0.76% decrease in quantity demanded. HUD has previously identified studies estimating the price elasticity of demand for manufactured housing at -2.4. Based on this alternative price sensitivity, the price increases could affect more than three times as many families as DOE estimated.

These elasticity-based estimates, regardless of which coefficient is used, may fail to capture consumers who would be priced out not because they are unwilling to pay the higher price, but because they cannot qualify for financing at the higher price point. Lenders use debt-to-income (DTI) ratios as qualification criteria. FHA's customary maximum DTI is 43 percent. This creates a hard threshold: consumers above this ratio cannot obtain FHA-backed financing regardless of their willingness to pay higher prices. Because manufactured home purchasers have substantially lower incomes than site-built homebuyers, a larger fraction of manufactured home purchasers are likely to be near DTI qualification limits.

Any analysis should explicitly account for the fact that price increases will prevent some consumers from qualifying for financing—an effect that simple elasticity models do not adequately capture and that may be particularly severe for the low- and moderate-income consumers who constitute the manufactured housing market.

Without such considerations, it was impossible for DOE to accurately assess whether proposed standards meet EISA's cost-effectiveness requirement or fulfill the Department's obligation to consider impacts on purchase prices and total ownership costs. It is imperative to ensure that updated energy efficiency standards preserve manufactured housing as an affordable option for the American families who depend on this critical housing resource.

Issue C–10: Defining Affordability

> "DOE has previously viewed "affordability" as a combination of up-front cost, which may price out some number of potential homeowners at time of purchase, as well as operating costs, which will affect all manufactured housing owners over a longer time horizon. HUD and prominent industry organizations generally define housing affordability in terms of a percentage of income. The Department seeks comments that provide information on how to weigh these components in defining affordability, with consideration for economic factors such as income, and with a particular focus on affordability for lower-income consumers."

Response:

MHI appreciates DOE's recognition that affordability encompasses both upfront costs and operating costs. For affordable homeownership, the upfront purchase price is the most critical determinant of housing affordability for manufactured home purchasers because it directly determines whether consumers can access financing and complete a purchase. Increased upfront costs of both Tier 1 and Tier 2 manufactured homes are important for lower-income consumers as both single-section and multi-section manufactured homes currently provide affordable homeownership opportunities for very low, low and moderate-income households.

Upfront price is the key determinant of affordability.

For prospective manufactured home purchasers, the upfront purchase price is the primary factor determining affordability. Lenders evaluate consumers' ability to afford monthly payments using debt-to-income (DTI) ratios. Higher purchase prices result in higher monthly loan payments, which increase DTI ratios. Consumers whose DTI ratios exceed lender thresholds (typically 43% for FHA loans, for instance) cannot obtain financing. Even modest price increases can push marginal borrowers over qualification thresholds, completely eliminating their ability to achieve homeownership.

The upfront price also impacts down payments, which are typically 10% of purchase price for manufactured homes. The 2022 Final Rule's projected price increases of $3,914 to $5,289 for Tier 2 homes would require an additional $391 to $529 in additional cash at closing. For low-income purchasers with limited savings, finding this additional funding may be a significant barrier.

Purchase price impacts occur immediately and create a binary outcome—the consumer either can or cannot complete the purchase. Operating cost savings accrue gradually over time and are only relevant to consumers who successfully complete the initial purchase. If a consumer is priced out of homeownership by high upfront costs, they lose access to all the benefits of homeownership, including any energy savings.

Manufactured housing is critical for low-income homebuyers.

Housing affordability is conventionally measured using HUD's standard that housing is "affordable" when households pay no more than 30 percent of their income for housing costs. These monthly housing costs are driven primarily by purchase price, which determines mortgage or loan payments—typically 80-85% of base housing costs before utilities.

Using this definition, manufactured homes currently provide affordable homeownership opportunities for a wide range of low- and moderate-income households. HUD defines "low-income" households as those earning 80% or less of area median income (AMI). The national median household income is approximately $84,000, making the low-income threshold $67,200.

A typical $84,800 single-section manufactured home financed with 10% down at 9% interest results in direct monthly housing costs of approximately $900 (including loan payment, taxes, and insurance). For this to be affordable under HUD's 30% standard requires annual income of only $36,000—well below the low-income threshold of $67,200 and even below the "very low-income" threshold of $42,000. Single-section manufactured homes are thus affordable for households with incomes well below low-income thresholds, making them accessible to very low-income households who have virtually no other homeownership options.

Multi-section manufactured homes have an average price of $154,000. A typical multi-section home financed similarly results in total monthly housing costs of approximately $1,550. This requires an annual income of $62,000 for affordability—below HUD's low-income threshold. Multi-section manufactured homes are affordable for low-income households, providing a pathway to homeownership with more space and features comparable to site-built homes.

By contrast, the median price of a new site-built home is approximately $410,000, requiring income of $110,000 or more for affordability—well beyond low-income households. Rising costs and interest rates have been particularly difficult for first-time homebuyers. A recent report by the National Association of Realtors found that first-time buyers now make up only 21% of home purchases, a historic low.[5] For these households, manufactured housing is often the only realistic pathway to affordable homeownership in safe, modern homes built to current standards.

The current affordability of manufactured housing makes this sector critical to the nation's affordable housing infrastructure. Manufactured housing serves approximately 22 million Americans in 8.5 million homes and produces 90,000-113,000 new homes annually, which is 9-11% of new single-family starts. Manufactured housing residents are disproportionately low- and moderate-income households, including elderly persons on fixed incomes and rural residents with limited housing options.

Conclusion

Affordability in the manufactured housing context is fundamentally determined by purchase price, which controls whether consumers can obtain financing and achieve homeownership. Manufactured homes currently provide the only realistic pathway to homeownership for many low- and moderate-income families, with both single-section and multi-section homes affordable under standard HUD measures for low-income households.

In establishing energy conservation standards, preserving affordability by giving primary weight to purchase price impacts, using realistic financial assumptions reflecting actual borrowing costs and qualification criteria, focusing analysis on 10-year time horizons reflecting typical ownership, and explicitly modeling how many consumers will be unable to obtain financing due to increased prices is imperative. Standards that significantly increase purchase prices—even if theoretically cost-effective over 30 years—may be inappropriate if they price significant numbers of consumers out of the homeownership that manufactured housing uniquely provides to low- and moderate-income American families.

[5]https://www.nar.realtor/newsroom/first-time-home-buyer-share-falls-to-historic-low-of-21-median-age-rises-to-40

Issue D–11: Costs of materials

> "The cost of efficiency improvements directly affects the affordability of any standard DOE might adopt. To avoid short-term cost fluctuations, DOE's engineering analyses supporting appliance efficiency rulemakings will commonly use 5-year averages in prices of materials such as structural steel that fluctuate with world markets. In doing so, the analyses smooth out some of the effects of transitory price shocks, without removing the shocks from the data. DOE seeks input on appropriate methods for establishing costs for major cost categories such as insulation, softwood lumber, window products, and other major components that may impact the cost effectiveness of energy conservation standards for manufactured housing. Certain stakeholders have also highlighted the impact of inflation and recent supply shortages on the construction and manufactured housing industry. Has cost inflation related to materials needed for manufactured housing eased? Are there residual supply chain shortages for materials needed to construct manufactured housing? Are changing tariff structures expected to impact costs or materials availability? How should DOE conduct sensitivity analysis incorporating different price scenarios systematically to offer better analysis?"

Response:

The accuracy of material cost assumptions is fundamental to a proper cost-effectiveness and affordability analysis for new energy conservation standards. DOE's material cost and interest rate assumptions in the 2022 Final Rule were calculated primarily in 2014 for the 2016 Proposed Rule and have proven substantially inaccurate. Most notably, DOE assumed a nominal construction cost increase of 2.3 percent annually from 2014 to 2023, but the actual cost increase for construction materials from 2015 to 2025 was 60.1 percent—an average annual rate of 4.3 percent, nearly double DOE's assumption. This significant underestimation of material cost inflation increased the inaccuracy of DOE's cost-benefit analysis and understated the number of households who would be priced out of homeownership by the standards.

The Manufactured Housing Consensus Committee is the best resource for assessing the availability and suitability of materials necessary to meet any proposed standards. In fact, the most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have. The standards in the 2022 Final Rule and in the 2024 IECC would require manufacturers to use different components, including insulation materials, windows, skylights, mechanical equipment, and appliances, all of which must be practicable for the unique production methods, transportation demands, and space limitations inherent in manufactured housing construction. Not all materials suitable for site-built construction are viable for manufactured housing. Formal coordination with industry on these issues is essential to fully consider availability, supply chain capacity, lead times, and the practical implementation challenges that could further increase costs beyond DOE's engineering estimates.

Finally, given the substantial changes to design and manufacturing processes required by the 2022 Final Rule and any future updates, new standards should allow an implementation period of 3-5 years, as is typical for appliance efficiency standards. This extended timeline is necessary to allow manufacturers sufficient time to update designs and manufacturing processes, secure reliable sources for new materials, and work through supply chain adjustments—all of which will help moderate cost impacts and preserve affordability for consumers.

Without accurate material cost assumptions—properly coordinated with realistic interest rate assumptions and discount rates that reflect actual manufactured housing financing conditions—it is impossible to establish cost-effective standards or accurately assess impacts on the affordability that manufactured housing uniquely provides to low- and moderate-income American families.

Issue D–12: Time period for cost-effectiveness analysis

> "The Department also seeks comment on whether cost- effectiveness analyses should be performed over the expected life of manufactured homes, or over some other time period, for example that reflecting the average time period that the original owner of the home will live in the home and benefit from the efficiency improvements. Since any subsequent owners of the home will continue to receive the energy benefits for the entire life of the home, is it reasonable to model the economic benefits of the improvements to energy efficiency of the home over any lifetime less than the expected 30-year life of the home, and if so, what are the arguments for doing so? Or should DOE also analyze the consumer discounting of the future decrease in energy consumption seen in used energy efficient goods such as cars and appliances? Is this a life- cycle cost question or is this an affordability question?"

Response:

The 30-year Life-Cycle Cost approach used by DOE in the 2022 Final Rule is not an appropriate method to determine cost-effectiveness for an initial buyer of a manufactured home. Based on MHI's industry data, buyers usually sell their homes within seven to ten years of purchase. This ownership period is significantly shorter than the 30-year analysis period DOE employed. For the initial purchaser financing the home—the person who pays the higher upfront cost mandated by energy efficiency standards—a 30-year payback period is economically meaningless.

Based on input from industry partners, we have found that buyers will not recoup energy efficiency costs at resale. As suggested in the RFI language, this is consistent with evidence on cost recovery of high-efficiency features in the used vehicle market, where the higher upfront costs of more energy efficient vehicles are associated with faster price depreciation.[6] An appropriate assumption based on available data is that manufactured homebuyer will not recover increased upfront energy efficiency costs when they sell the home 7-10 years later.

Additionally, mortgage qualification impacts must be analyzed separately from life-cycle cost considerations, as these represent distinct but equally important dimensions of affordability. An increased home purchase price will result in a proportionate increase in the homebuyer's debt burden. For prospective homebuyers, a key qualification for financing will be the borrower's debt-to-income ratio. Therefore, any homebuyer at the edge of a lender's DTI requirement (e.g., typically 43% for FHA loans) will no longer qualify for the loan because of the higher price caused by the new energy standards. Any theoretical savings in the rule are meaningless if the price increase causes the homebuyer to no longer qualify for a mortgage loan. Any increase in purchase price will also necessitate a higher downpayment, which may be a significant obstacle to completing a purchase for many lower income households.

[6] Roberson, L. et al., "Battery-Powered Bargains? Assessing Electric Vehicle Resale Value in the United States," *Environmental Research Letter* (2024)

Issue E-13: HUD Consultation

> "EISA requires DOE to consult with the Secretary of HUD, who may seek input from the Manufactured Housing Consensus Committee (MHCC). In the prior rulemaking process, which eventually led to the 2022 Final Rule, DOE met with HUD on multiple occasions and attended and presented at MHCC meetings. DOE consulted with HUD on pathways to compliance and enforcement of the energy conservation standards toward the objective of aligning with HUD's current inspection and enforcement processes and reducing regulatory burden and duplication of effort. In addition, as part of the rulemaking process, DOE empaneled and took input from a Manufactured Housing Working Group. The rulemaking process itself also provides an additional avenue for consultation through which industry stakeholders and the general public can review rulemaking documents, supporting analysis, and provide input. Consultation with HUD also occurs during interagency clearance required by Executive Order 12866. DOE intends to continue consultation with HUD as it considers whether to amend its energy conservation standards for manufactured housing. Given HUD's historic and ongoing role in the regulation of manufactured housing generally, DOE seeks input on how DOE can best identify synergies with existing HUD processes and standards, while still satisfying DOE's statutory mandate to establish standards for energy efficiency in manufactured housing.
>
> How can DOE operationalize or amend this rule in a manner that reduces compliance burden on manufacturers?"

Response:

MHI appreciates DOE's stated intent to consult with the industry and HUD and reduce regulatory burden on manufacturers. However, DOE's consultation efforts during the prior rulemaking were perfunctory and did not come close to being considered meaningful engagement with industry, HUD or the Manufactured Housing Consensus Committee (MHCC). Industry participants were never consulted and repeatedly raised concerns about the absence of substantive, decision-level DOE participation in the MHCC process and the lack of alignment with HUD's established inspection and enforcement framework. These deficiencies resulted in standards developed without meaningful consultation with HUD or the MHCC and without consideration of factory-built construction techniques, alternative compliance paths, or cost-effectiveness for homebuyers.

The manufactured housing industry supports modernized energy efficiency standards through the proper regulatory channel—HUD's preemptive Manufactured Home Construction and Safety Standards (MHCSS)—with MHCC input. In fact, the MHCC convened in late 2022 and drafted proposed HUD Code energy standards tailored to the realities of manufactured home construction, and MHI strongly supports those proposals. There was no meaningful DOE participation at that meeting and no one from the DOE with decision making authority over the rulemaking attended.

Unfortunately, HUD action to advance energy efficiency improvements has been hindered by conflicting statutory authority created by EISA Section 413. Legislation now advancing in Congress would resolve this conflict and restore regulatory clarity by repealing Section 413 and nullifying DOE's 2022 rule, allowing HUD to move forward with meaningful updates while DOE retains an advisory role.

Unworkability of Section 413 of EISA

Section 413 of the 2007 EISA was never properly vetted by Congress through regular order and contains language impractical and ill-suited to manufactured housing. Specifically, this provision directed the DOE to establish energy efficiency construction standards for manufactured housing in contravention of long-standing authority of HUD to promulgate federal construction standards for manufactured homes via the MHCSS, which the agency has overseen for over 50 years. This duplicative agency mandate has created regulatory confusion, undermining efforts to advance practical energy efficiency improvements that can save homeowners on the energy bills and jeopardizing the availability and affordability of manufactured homes.

Nearly two decades after Congress directed DOE to act, the agency's prolonged failure to implement a rule demonstrates the inherent challenges and impracticality of applying the EISA rider to manufactured housing. When DOE finally issued its recommendations, HUD declined to adopt them—further underscoring that the rider's language was never properly vetted and is ill-suited for the unique characteristics of manufactured housing.

Legislation is advancing through Congress[7] to rescind this flawed directive and restore a streamlined, effective regulatory framework under HUD while DOE retains input in an advisory role. This will allow for timely, practicable updates to energy efficiency standards consistent with the federal construction code for manufactured housing while preserving affordability for American households.

DOE's 2022 final rule is fundamentally flawed and unworkable for off-site construction. Per Section 413, it relies on the International Energy Conservation Code (IECC) designed for site-built construction homes. This fails to account for the unique characteristics of factory-built housing in which the final location and orientation of the home is often not known at the time of production. It also fails to appreciate the precision, sequencing, and transportation requirements inherent to an efficient manufactured housing process.

Beyond its technical mismatch, the DOE rule lacks a viable framework for testing, compliance, and enforcement. This regulatory gap creates uncertainty for manufacturers and impedes progress on energy efficiency improvements while also driving up costs of America's most affordable home ownership option. Worse still, it introduces a conflicting set of standards alongside HUD's existing code, undermining the regulatory clarity that has governed manufactured housing for decades and threatening the production of affordable homes. The rule was developed without meaningful input from those who understand the manufactured housing industry or the needs of the families it serves. When HUD's MHCC reviewed the DOE rule, it concluded that DOE failed to consider the unique nature of off-site construction — despite repeated outreach from both the MHCC and industry stakeholders.

DOE itself delayed implementation of the rule pending further rulemaking. This breakdown further illustrates why Congress, through the Manufactured Home Construction and Safety Standards Act of 1974, vested HUD with sole authority over federal construction standards for manufactured housing.

[7] H.R. 5184, Affordable HOMES Act and H.R. 6644, Housing for the 21st Century Act

Deficiencies in consultation in the prior rulemaking

EISA explicitly requires DOE to consult with the Secretary of HUD, who may seek further counsel from the MHCC, before establishing energy conservation standards for manufactured housing. 42 U.S.C. 17071(a)(2). This consultation requirement reflects Congress's recognition that:

- HUD has been the primary regulatory authority for manufactured housing since 1974
- HUD possesses unique expertise in the design, construction, and regulation of factory-built housing
- The MHCC brings together producers, users, and public officials with specialized knowledge of manufactured housing
- Energy conservation standards must be integrated with HUD's comprehensive regulatory framework for manufactured housing

While DOE met with HUD and attended MHCC meetings during the rulemaking process leading to the 2022 Final Rule, these interactions did not constitute the meaningful consultation that EISA requires.

At the formative stages of the rulemaking, DOE developed its proposed approach without substantive input from HUD or the MHCC. By the time DOE presented its proposals to these bodies, the fundamental framework was already established, leaving little room for meaningful input on whether the IECC-based standards were appropriate and cost-effective for manufactured housing.

The MHCC was given only a preview of a small portion of the proposed rule approximately two months before publication, which raised many concerns about both affordability and feasibility. The MHCC was not provided an opportunity to review and comment on DOE's technical analysis, cost-effectiveness determinations, or enforcement approach before the rule was proposed.

Throughout the rulemaking, DOE suggested it might rely on HUD to enforce DOE's standards but never formalized this arrangement or confirmed HUD's willingness and capability to enforce standards that differ from those HUD would develop through its own processes.

The inadequacy of DOE's consultation became apparent when HUD convened the MHCC in 2022 to consider aligning the MHCSS with DOE's 2022 Final Rule. After thorough review, the MHCC explicitly rejected wholesale adoption of the DOE standards and instead recommended incremental improvements that would achieve significant energy efficiency gains while maintaining affordability and accounting for manufactured housing construction realities. No one from the DOE with decision making authority attended this convening.

In its recommendations to HUD, the MHCC concluded that DOE "circumvented the standards development process prescribed in EISA which requires cost justification and consultation with HUD." The MHCC noted that "DOE provided an energy conservation standard which was based on site-built construction and applied it to a performance-based national code" and that "if adopted as written, the final rule would adversely impact the entire Manufactured Housing program, and cost increases associated with compliance would reduce prospective purchasers (especially minorities and low-income consumers) from durable, safe, high quality and affordable housing."

Aligning with HUD's Regulatory Framework

The most constructive path forward is for HUD and the MHCC to develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have. This approach is the best way to ensure the timely adoption of improved energy efficiency standards for factory-built housing, and to preserve the availability of affordable manufactured homes for American households. With a 50-year track record in regulating standards for manufactured homes and a proven testing, compliance, and enforcement regime, HUD is the right agency to do this.

The MHCC's recommendations to HUD provide a strong foundation for this approach, which would reduce regulatory burden on manufacturers, minimize costs to consumers, avoid conflicting requirements, and result in more appropriate standards that reflect the expertise of the agencies and stakeholders with the deepest knowledge of manufactured housing.

Issue E-14: Enforcement Procedures

> "DOE published a NOPR in December 2023 to establish enforcement procedures for its energy conservation standards for manufactured housing. These procedures were not included in the May 2022 final rule, where the Department established its standards, and were published separately via the later NOPR. However, while DOE received comments on the NOPR and proposed enforcement procedures, it never finalized such procedures by issuing a final rule. In considering whether to further amend its energy conservation standards for manufactured housing, should DOE more comprehensively incorporate enforcement procedures into updated standards or continue in separately issuing enforcement procedures? How might such enforcement standards leverage the enforcement program administered by HUD?
>
> DOE encourages stakeholders to review and submit comments on the issues listed previously and on other issues that they believe warrant DOE's consideration in any potential future rulemaking on energy conservation standards for manufactured housing."

Response:

To minimize negative impacts on consumers and the manufactured housing industry, clear and sensible enforcement procedures should be included in any new energy standards rule. The 2022 Final Rule and the 2023 Enforcement Proposed Rule demonstrated fundamental flaws that must be avoided in any future approach. Most critically, any enforcement procedures must be comprehensively integrated with the substantive energy standards themselves—not developed separately as an afterthought. The most effective approach would be to incorporate energy conservation standards into the MHCSS and rely on HUD's existing, proven enforcement infrastructure.

Deficiencies in the 2023 Enforcement Proposed Rule

The proposed rule illustrated the problems that result from developing enforcement procedures separately from substantive standards and without meaningful consultation with HUD and the MHCC:

No Testing or Compliance Procedures: The Enforcement Proposed Rule proposed only enforcement mechanisms (investigation and penalties) without any testing procedures or compliance pathways. As DOE itself acknowledged in the 2016 Proposed Rule, "[t]est procedures are necessary to provide for accurate, comprehensive information about energy characteristics of manufactured homes and provide for the subsequent enforcement of the standards." 81 FR 78734. An enforcement-only regime leaves manufacturers uncertain on the appropriate steps to demonstrate compliance.

Reliance on Misaligned Documentation: The Enforcement Proposed Rule relied on manufacturers maintaining and submitting documentation required under the MHCSS—documents that were never designed to demonstrate compliance with DOE's separate energy standards. As MHI explained in prior comments on the enforcement NOPR, none of the MHCSS records (DAPIA approvals, quality assurance manuals, Subpart I determinations, on-site construction records) are designed to demonstrate compliance with the 2022 Final Rule, which materially differs from the MHCSS.

Undefined Standards: The enforcement proposed rule provided no guidance on how DOE would interpret and apply MHCSS documents to determine compliance with the Energy Rule. It offered no standards, measurements, testing procedures, interpretive materials, or safe harbors—only the threat of civil penalties for violations determined through DOE's subjective review of documents created for a different purpose.

Vague and Excessive Penalties: The enforcement proposed rule relied on EISA's civil penalty of "1 percent of the manufacturer's retail list price", a term that does not exist in the manufactured housing industry and that manufacturers cannot calculate with reasonable certainty. The NOPR further provided that each day of noncompliance and each unit sold would constitute separate violations, potentially resulting in civil penalties many times the cost of manufacturing a home, without identifying when "noncompliance" begins or providing any opportunity to resolve issues before penalties multiply.

Substantial Hidden Costs: Despite DOE's claim that the enforcement NOPR would impose no additional costs because it relied on existing MHCSS documentation, the reality is that manufacturers would need to incur substantial expense to retrofit their designs and quality assurance manuals to address requirements that differ from the MHCSS. These costs—which DOE never analyzed—would be passed to consumers.

The Need for Integrated Standards and Enforcement

The problems with the December 2023 enforcement proposed rule stemmed directly from DOE's decision to exclude testing, compliance, and enforcement provisions from the 2022 Final Rule. This approach was fundamentally flawed.

As MHI and the MHCC repeatedly emphasized throughout rulemaking, DOE's failure to include costs of testing, compliance, and enforcement in its life-cycle cost analysis rendered that analysis incomplete and inaccurate. Standards cannot be determined to be cost-effective without accounting for all compliance costs.

When DOE finalized energy standards without specifying how compliance would be demonstrated or tested, manufacturers were left unable to prepare. Any preparations manufacturers made after May 2022 were speculative because they had no guidance on what DOE's ultimate enforcement approach would require.

DOE's bifurcated approach—finalizing standards in May 2022 but not proposing enforcement procedures until December 2023—created massive uncertainty and made it impossible to establish appropriate implementation timelines. The standard DOE practice of providing 3-5 year implementation periods for single appliances should apply with even more force to comprehensive standards affecting entire home construction, but the implementation timeline cannot even begin to run until manufacturers know what compliance requires.

Leveraging HUD's Existing Enforcement Infrastructure

Rather than continuing attempts to create a separate DOE enforcement mechanism, HUD and the MHCC should develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have. This will ensure that HUD's existing enforcement infrastructure applies to any updated energy efficiency standards, preserving regulatory efficiencies.

Since 1974, HUD has administered a comprehensive enforcement program for manufactured housing including:

- Design Approval Primary Inspection Agencies (DAPIAs) that review and approve home designs
- Production Inspection Primary Inspection Agencies (IPIAs) that monitor manufacturing
- State Administrative Agencies (SAAs) that handle consumer complaints and enforcement
- The Institute for Building Technology and Safety (IBTS) providing additional oversight
- Established procedures for investigating violations and imposing penalties
- The HUD certification label that provides manufacturers with clear evidence of compliance

Unlike the IECC, which was developed for site-built construction, HUD's enforcement system was specifically designed for factory-built housing and accounts for the unique aspects of manufactured home design, construction, transportation, and installation.

HUD's system provides multiple checkpoints and layers of review—from initial design approval through ongoing production monitoring. This comprehensive approach is far superior to DOE's proposed enforcement-only mechanism that provides no guidance on how to achieve compliance.

Every manufactured home built under the MHCSS bears a HUD certification label confirming compliance. This label provides manufacturers, retailers, installers, consumers, and enforcement agencies with clear, objective evidence that a home meets applicable standards. DOE's enforcement NOPR had no comparable certification mechanism.

Leveraging HUD's existing infrastructure would minimize additional costs to manufacturers and consumers. Creating a parallel DOE enforcement system would impose duplicative costs, require manufacturers to work with multiple agencies on related issues, and create potential conflicts if DOE and HUD enforcement approaches differ.

Conclusion

The December 2023 enforcement proposed rule demonstrated that enforcement procedures cannot be developed separately from substantive standards. Any future approach must comprehensively integrate testing, compliance, and enforcement with the energy standards themselves, with all associated costs included in cost-effectiveness analysis.

HUD and the MHCC should develop updated energy efficiency requirements that are incorporated into the MHCSS, considering any input that DOE may have. This will ensure that HUD's existing enforcement infrastructure applies to any updated energy efficiency standards, preserving regulatory efficiencies. The implementation period provided should be 3-5 years, similar to the implementation period provided for single appliances.

This integrated approach would reduce regulatory burden on manufacturers, minimize costs to consumers, avoid conflicting requirements, ensure manufacturers have clear pathways to compliance, and produce more effective enforcement.