May 16, 2024

Ann Bailey, Director
ENERGY STAR Labeling Branch
U.S. Environmental Protection Agency (EPA)
1201 Constitution Ave NW
Washington, DC 20004
Submitted via email to HVAC@energystar.gov

Re: Proposed ENERGY STAR Version 5 Furnace Specification

Dear Director Bailey,

Thank you for the opportunity to provide comments on ENERGY STAR's proposed Version 5 furnace specification. ENERGY STAR has been and continues to be a successful, flagship, and trusted energy efficiency program from the U.S. federal government for decades. The program has resulted in trillions of kilowatt-hours saved, reduced energy bills for households, and millions of tons of climate pollution reductions. We are grateful for your work and leadership in the efficiency field and look forward to working with you on ENERGY STAR's evolution during this critical juncture in the energy transition.

Furnace Version 5 Specification Proposal vs Furnace Specification Sunset Proposal

In partnership with dozens of other organizations, experts, and community leaders, RMI enthusiastically supported ENERGY STAR's proposal from May 2023 to sunset gas furnaces from the product certification program.[1] As ENERGY STAR serves as a voluntary program with a mission to inform consumers about efficient products to meet household needs and given that clean technologies and products like air-source heat pumps deliver heat 2.2 – 4.5 times more efficiently than ENERGY STAR gas furnaces[2], the sunset proposal was and remains technically sound.

Combustion-based fossil fuel appliances are inherently and dramatically less efficient than efficient electric alternatives that utilize heat pump technology, and we believe the ENERGY STAR program should reflect that reality as quickly as possible by sunsetting fossil fuel heating appliances and supporting the utilization of more efficient appliances across the program. This includes the ENERGY STAR sunset of furnaces between now and the 2028 effective date of the latest Department of Energy (DOE) final standard for non-weatherized furnaces.

Heat pump technology has evolved and matured in the market over the ENERGY STAR program's 30+ year history, signaling the technology's ability to carry the ENERGY STAR

[1] https://www.energystar.gov/sites/default/files/asset/document/Rewiring%20America%20et%20al.%20Comments_0.pdf

[2] https://rmi.org/now-is-the-time-to-go-all-in-on-heat-pumps/

program moving forward. Cold-climate heat pumps deliver heat efficiently at temperatures well below freezing and are now widely available.[3] Meanwhile, for the third year in a row heat pump sales are out-pacing gas furnace sales, with heat pump shipments nearing one million units during the first 3 months of 2024 according to data from the Air-Conditioning, Heating, and Refrigeration Institute.[4] Further, the move away from fossil fuel appliances in the product program would enhance ENERGY STAR's commitment to serving as a foundational tool to reduce and avoid climate pollution as analysis shows that replacing a gas furnace with a heat pump will reduce greenhouse gas emissions in all the 48 contiguous US states.[5]

We also recognize that the EPA must balance numerous considerations when proposing and evaluating program changes and that the newly proposed increased efficiency specification of 97 AFUE for furnaces should deliver savings when compared to existing AFUE specifications by promoting slightly more efficient products and would address some concerns raised by stakeholders regarding the original sunset proposal. While we firmly believe sunsetting gas furnaces is the most logical path forward, should EPA not be prepared to fully sunset fossil fuel heating systems from the product certification program, a 97 AFUE specification across all climate zones and geographies, as proposed in April 2024, would be a logical step forward for efficiency gains.

Furnace Version 5 Specification Proposal Effective Date

Also, if the EPA finalizes a 97 AFUE for Version 5 of the furnace standard and forgoes the sunset proposal, we believe the effective date should be moved forward to 2025 rather than the proposed 2026 timeframe. A 2025 implementation timeline is feasible, would deliver another year's worth of pollution reduction and energy savings, and is in line with historic ENERGY STAR decisions to alter product specifications.

Feasibility of 2025 Implementation: According to EPA's proposal materials, there are approximately 500 furnaces on the market that already meet the proposed 97 AFUE specification, which is more than other major appliance product categories such as residential dishwashers, residential clothes washers, residential clothes dryers, and gas water heaters. This means there will be ample product availability for consumers. Further, the Department of Energy recently finalized a new minimum efficiency standard for non-weatherized consumer furnaces of 95 AFUE, effective in the later half of 2028.[6] DOE's analysis shows that manufacturers, consumers, and the market can shift to this minimum standard in just over four years from now. With analysis demonstrating that the market shift to a minimum standard of 95 AFUE, EPA's *voluntary* ENERGY STAR program, which does not place any mandates on consumers or manufacturers, can feel confident that the 97 AFUE specification is feasible three years prior to the effective date of the DOE standard.

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[3] https://neep.org/blog/neep-finalizes-version-40-cold-climate-air-source-heat-pump-specification
[4] https://www.ahrinet.org/system/files/2024-05/March%202024%20Statistical%20Release.pdf
[5] https://rmi.org/now-is-the-time-to-go-all-in-on-heat-pumps/
[6] 88 Fed. Reg. 87,502 (Dec. 18, 2023).

Energy Savings and Pollution Reduction: Transitioning away from fossil fuel heating is widely recognized as one of the pillars of the energy transition and the effort to curb pollution in line with mid-century climate targets. While the Version 5 furnace proposal from ENERGY STAR does not align with rigorous, widely-accepted decarbonization roadmaps like DOE's National Blueprint for the Buildings Sector[7]—which finds that the country needs a 10x increase in fossil-to-efficient electric fuel conversions for heating—nor the IEA's Net-Zero Roadmap—which finds that the use of fossil gas for heating must be essentially eliminated by mid-century[8]—it is critical for ENERGY STAR to make progress via efficiency gains as quickly as it deems possible. A 97 AFUE specification beginning in 2025 may help ensure that fewer less-efficient fossil gas furnaces are installed, avoiding unnecessary, locked-in emissions and energy consumption for the lifetime of the appliance.

Historic ENERGY STAR Revision Schedule: According to EPA's records[9], the most recent major revision to the AFUE standards for ENERGY STAR's furnace specification—Version 2 to Version 3—included an effective date approximately 20 months after the notice of Specification Revision Launch and 17 months after the first Draft for Version 3 was released.

Most recently, ENERGY STAR notified the public of its intention to revise its product certification for furnaces in May 2023. Using the revision announcement-to-effective date schedule for Version 2 to Version 3, this proposed Version 5 of the furnace specification that also adjusts the AFUE specifications should go into effect during the first quarter of 2025.

Table 1: ENERGY STAR Furnace Specification Revision Timeline, Version 2 – Version 3

AFUE Revision	**Revision Process Initiation Date**	**Effective Date**	**Weeks Between Initiation and Effective Date**
Version 2 – Version 3	June 9, 2010	February 1, 2012	86

Table 2: ENERGY STAR Furnace Specification Revision Timeline

AFUE Revision (proposed)	**Revision Process Initiation Date**	**Weeks Between Version 2 – Version 3 Initiation and Effective Date**	**Effective Date** (based on historical precedent)
Version 4.1 – Version 5	May 18, 2023	86	January 9, 2025

[7] https://www.energy.gov/eere/articles/decarbonizing-us-economy-2050
[8] https://iea.blob.core.windows.net/assets/9a698da4-4002-4e53-8ef3-631d8971bf84/NetZeroRoadmap_AGlobalPathwaytoKeepthe1.5CGoalinReach-2023Update.pdf
[9] https://www.energystar.gov/products/spec/furnace_specification_version_4_0_pd

Conclusion and Future Revisions

The ENERGY STAR program is proof that energy efficiency is one of our most effective, inclusive, and important tools to see us through the energy transition. EPA must continue to evolve the program to reflect science and to best implement its goals of saving energy, saving consumers' money, and reducing pollution. It will most effectively do so as it embraces efficient electric appliances that perform better than combustion-based, fossil fuel appliances that deliver the same services—HVAC, water heating, clothes drying, and cooking equipment.

Should EPA finalize the proposed Version 5, 97 AFUE specification for furnace products, we encourage the agency to indicate its intention to revisit its original proposal to sunset the furnace specification in the coming years as the 2028 effective date of DOE's final minimum non-weatherized furnace efficiency standard of 95 AFUE approaches. Voluntary efficiency programs such as ENERGY STAR and incentive programs will need to be re-evaluated and revised as all new furnaces on the market will utilize condensing technology, the most efficient technology for furnace products.

Thank you again for your work and the opportunity to comment. Please reach out if you have any questions regarding our comments.

Respectfully,

David Smedick
Federal Policy Manager
Carbon-Free Buildings Program
RMI