North American Gas Heat Pump Collaborative
TECHNOLOGY FOR A CLEANER FUTURE

May 16, 2024

Ann Bailey, Director
ENERGY STAR Labeling Branch
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460
HVAC@energystar.gov

RE: ENERGY STAR Version 5.0 Furnace Specification Comments of the North American Gas Heat Pump Collaborative

Dear Director Bailey:

Thank you for the opportunity to comment on the proposed updated ENERGY STAR furnace specification. This letter outlines the position of the North American Gas Heat Pump Collaborative ("Collaborative") on this proposal.

The Collaborative comprises 15 gas and dual fuel utilities and energy efficiency organizations who recognize the vital role that gas heat pump technologies play in decarbonization. Our members represent over 33 million customers in the U.S. and Canada and are focused on providing diverse solutions to equitably decarbonize with considerations for local and regional policies, climate, customer affordability, existing infrastructure, and grid composition to maximize carbon emissions reductions.

The Collaborative's mission is to accelerate the adoption of innovative technologies that advance energy efficiency and facilitate the decarbonization of North America's gas network through market transformation initiatives. We are working to accelerate the commercialization of gas heat pump (GHP) technology which exceeds efficiencies of 100%. As part of this, we recognize the influential role ENERGY STAR® labelling has in both development and adoption of high efficiency technologies.

The Collaborative and ENERGY STAR® share the desire to decarbonize and lower emissions. We see natural gas as a path to decarbonization with less cost to consumers and increased reliability.

On behalf of our members and their customers, the NAGHPC has developed the following feedback:

- Commend ENERGY STAR for considering previous comments on the gas furnaces specification sunset and instead proposing an updated furnace specification.
- Propose adding an advanced tier that includes GHPs within the updated specification from ENERGY STAR similar to Consortium for Energy Efficiency's Gas-Fired Forced Hot Air Specification from the CEE Residential Heating and Cooling Systems Initiative put out in 2021 because the majority of initial GHP installations will be forced hot air.
- Advocate for the inclusion of gas heat pumps in the updated specification because GHPs are highly efficient, align with the intent of ENERGY STAR, and are already a recognized product by the federal government.
- There are negative consequences, particularly to low and moderate -income consumers, to not including GHPs in the ENERGY STAR specification.
- An effective date of 2026 is too rapid and should be shifted to 2028 to allow energy efficiency programs to adjust.

The Collaborative commends ENERGY STAR for proposing an updated furnace specification so the ENERGY STAR label can continue to increase adoption of efficient gas appliances and lower emissions across the country. The Collaborative appreciates ENERGY STAR's revisions to the draft furnace specification. The label is an indication to customers and contractors of verified product performance within and across product classes. From 2015 to 2021, the market for ENERGY STAR® gas appliances, including furnaces, water heaters, and dryers, increased significantly. Shipments of ENERGY STAR furnaces grew by 123% during this period, with a market share rise from 26% in 2015 to 41% in 2021.

Gas heat pumps should be included in the ENERGY STAR Version 5.0 specification by following the Consortium for Energy Efficiency's (CEE) method for creating test requirements and specifications.[1] The Collaborative recommends ENERGY STAR create an advanced tier that GHPs would qualify for given their high efficiency. While GHPs have the capability of both space and water heating, forced hot air space heating is their primary use. The Collaborative advocates for a Gas-Fired Forced Hot Air specification. A separate Gas-Fired Boiler (Hydronic) specification can be a separate specification that does not lie under the same ENERGY STAR Version 5.0 specification. The Collaborative suggests following CEE's method to create test methods. In particular, the Collaborative suggests using the ANSI Z21.40.4 *Performance Testing and Rating of Gas-Fired, Air Conditioning and Heat Pump Appliances*. There is a precedent to using ANSI standards to certify measures and the Collaborative suggests utilizing this established and tested standard to simplify and streamline the specification. CEE also engaged with stakeholders to develop the Gas-Fired Forced Hot Air specification, including utilities, manufacturers, and industry groups. They reached consensus through using this approach.

The creation of both a Gas-Fired Forced Hot Air specification (for GHPs) and a Gas-Fired Boiler (Hydronic) specification would also assist states in their TRM processes. These buckets are easily used to encompass new technologies like gas heat pumps and could allow for standardization between state and federal specifications. These specifications also allow for gas-fired forced hot air systems like GHPs to be easily added to the TRM, rather than creating a completely new specification for a more niche product category. ENERGY STAR has already recognized other standards to certify other product categories, such as with electric heat pumps. Additionally, the ANSI ICC 700 National Green Building Standard® provides compliance incentives for the installation of natural gas heat pumps.[2]

Gas heat pumps provide highly efficient, reliable, and low emission optionality for consumers which aligns with ENERGY STAR objectives. GHPs align with the intent of ENERGY STAR to "increase market awareness and promote innovation" in highly energy efficient products. GHPs are a new highly efficient product which would benefit from assistance in market deployment and commercialization. Like other heat pump technologies, gas heat pumps have efficiencies of over 100%. In fact, GHPs can be efficient up to 140%. Unlike electric heat pumps, gas systems use refrigerants with low or no global warming potential (GWP), thereby rendering gas heat pumps even more climate-friendly than some alternative technologies. In some areas, natural gas heated homes consume less energy than homes with high-efficiency electric air source heat pumps. While electric applications can have a higher "site" rated energy efficiency, the full-fuel cycle energy requirements—the energy used or lost in energy extraction, processing, transportation, conversion, and distribution, including the generation and transmission of electricity—are often lower for natural gas than electric applications, including

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[1] CEE. January 2021. CEE Residential Heating and Cooling Systems Initiative. https://cee1.my.salesforce.com/sfc/p/#1U0000011m3T/a/7V000000Myah/AOtNYOCesb3W3dnNpW2HqaE9_nnQX0CX2MOeGPcwRT8.

[2] American National Standards Institute. 2020. ICC700 National Free Building Standard.

air-source heat pumps.[3] Shifting consumers to a highly efficient gas equipment, including GHPs, enables immediate GHG emissions reductions without relying on the slow improvement in many jurisdictions of the source energy of the electric grid towards renewables. It also avoids emissions from high GWP refrigerants found in conventional electric heat pumps. Finally, fuel diversity is important for a stable, low-cost energy future. Allowing options for customer choice is critical for consumers to be able to select appliances that best meet their needs.

There are negative consequences, particularly to low and moderate -income consumers, to not including GHPs under the ENERGY STAR® label. Not applying the ENERGY STAR label could lead to a decrease in adopting higher-efficiency gas equipment in this customer base, as consumers may opt for lower-efficiency options due to first-cost burdens. This is especially important because ENERGY STAR certification will allow units to be eligible for Inflation Reduction Act of 2022 (IRA) incentives.[4] GHPs are eligible for the Energy Efficient Home Improvement tax credit. With first cost burden assisted through incentives, GHPs will also have a lower monthly energy cost compared to other technologies. This is especially true because households that use natural gas for heating, cooking and clothes drying save an average of $1,068 per year compared to homes using electricity for those applications.[5] The American Gas Association also estimates that residential prices of natural gas will remain less than electricity until at least 2050.

The effective date of 2026 is too rapid and should be shifted to 2028 to allow energy efficiency programs enough time to adjust. The EPA noted that once public comments are received mid-May 2024, there will still be many months before a new specification is proposed by ENERGY STAR. The finalization of the specification in Q4 2024 is far too rapid for utilities and programs to adequately prepare. Utility energy efficiency programs typically run on three- year cycles. The Collaborative suggests an effective timeline of 2028 to provide this typical cycle time horizon. 2028 is also when federal furnace standards will change. This could streamline the impact to the market and avoid market confusion.

The Collaborative is confident that gas heat pump technology will be a reliable and low emission solution for customers as the market develops and matures in the coming years.

Thank you again for the opportunity to submit comments on this draft specification. Please contact Jaclyn Kahn (jkahn@resource-innovations.com) with questions about our comments.

Sincerely,

Alan García, Senior Director at NW Natural, Customer Lifecycle Management
Chair, North American Gas Heat Pump Collaborative

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3 National Research Council. 2009. Review of Site (Point-of-Use) and Full-Fuel-Cycle Measurement Approaches to DOE/EERE Building Appliance Energy-Efficiency Standards: Letter Report. Washington, DC: The National Academies Press.
4 Public Law No. 117-169.
5 American Gas Association. June 2023. AGA Fact Sheet. https://playbook.aga.org/affordable/.

Members of the Collaborative

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- CenterPoint Energy
- Enbridge Gas
- FortisBC
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