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1200 Pennsylvania Avenue NW  
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*Submitted via email to HVAC@energystar.gov*

**RE: Request for Comments: Proposal to Sunset ENERGY STAR Version 4.1 Specification for Furnaces**

Dear Director Bailey:

On behalf of the National Association of Home Builders (NAHB), I am submitting the following comments to the U.S. Environmental Protection Agency (EPA) on its proposal to sunset [ENERGY STAR Version 4.1 Specification for Furnaces](#) (effective December 30, 2024, with no new certifications accepted after December 30, 2023). This proposal to phase out the certification pathway to the ENERGY STAR label for residential furnaces was emailed as a [letter](#) to ENERGY STAR Residential Heating and Cooling Equipment Partners and other interested stakeholders on May 18, 2023.

NAHB is a Washington, D.C.-based trade association that represents more than 140,000 members and includes more than 700 affiliated state and local associations in all fifty states, the District of Columbia, and Puerto Rico. NAHB members design, construct, and supply single-family homes, build and manage multifamily projects, and remodel existing homes. In the single-family market, NAHB's members construct custom housing as well as homes for first-time home buyers, including low- and moderate-income families and individuals. NAHB's multifamily members build and manage rental housing for renters in market-rate, affordable, and federally assisted multifamily housing. Our members are proud to construct over 80 percent of the homes produced each year that provide shelter for this nation's families.

NAHB supports the goals of the EPA ENERGY STAR for Homes program to deliver energy-efficiency gains and utility savings to consumers in a cost-effective manner. For the past three decades, the ENERGY STAR program has reduced emissions from natural gas heating by incentivizing high performance energy technology. EPA should maintain consumer choice in its incentive programs by retaining high efficiency gas space heating equipment (in addition to high efficiency heat pump systems) as options for American homeowners.

**Eliminating high efficiency gas furnaces from ENERGY STAR specifications conflicts with the congressional intent of the Inflation Reduction Act.**

The Inflation Reduction Act (IRA) of 2022 extended several federal tax credits for energy efficiency. Among the qualifying home improvements to primary residences, the legislation included a credit of

\$150 for ENERGY STAR certified gas furnaces (except those certified for U.S. South only). Therefore, there is a clear congressional intent to incentivize high efficiency gas furnaces over the next 10 years for installations in existing homes. EPA should not be taking unilateral actions that are in direct conflict with the IRA provisions.

**The ENERGY STAR program’s goal is to improve the efficiency of existing homes – Removing the incentive for high efficiency gas furnaces is counterproductive to achieving that goal.**

According to the Home Innovation 2020 Annual Builder Practices Survey, 51 percent of all homes used natural gas as the primary heating fuel.<sup>1</sup> In colder climates, the share of natural gas heating is over 80 percent.<sup>2</sup> It is likely in many cases that homeowners will simply choose to continue using gas appliances for space heating because of the significant costs to replace gas space heating equipment with electric heat pump equipment (in addition to the potential need for electrical service upgrades). Without the IRA incentive, it is likely that homeowners that choose a gas furnace replacement will choose to install a standard efficiency non-condensing 80 AFUE (Annual Fuel Utilization Efficiency) gas furnace instead of upgrading to a condensing high efficiency (95 AFUE or higher) gas furnace.

The costs of electrification for existing gas homes will be prohibitive for most homeowners, particularly those in colder climates. A [2021 study](#) by Home Innovation Research Labs estimated the retrofit cost of electrification for an existing baseline gas house ranges between \$24,282 and \$28,491. These figures do not include the additional cost to substitute an induction cooktop (\$1,091 to \$1,157), install an electric vehicle charger circuit (\$1,266 to \$1,343), or install an electrical service upgrade (potentially a substantial additional cost in some cases). By comparison, the retrofit cost of gas equipment and appliances for an existing baseline gas house ranges between \$9,767 and \$10,359 using standard efficiency equipment, and between \$12,658 and \$13,425 using high efficiency equipment.<sup>3</sup>

The tables below show the study’s cost estimates specific to retrofitting the baseline house’s gas space heating equipment to standard efficiency and high efficiency gas furnaces (Table 1) and its space cooling equipment to standard efficiency and higher efficiency central air conditioners (Table 2) versus an installing an electric heat pump system for space heating and cooling, both in warmer and colder climates (Table 3). The retrofit costs for all of these potential equipment approaches are compared in Table 4. Given the substantial added costs of the electric heat pump approaches (up to twice as much as the traditional gas furnace and air conditioner approaches), it is important to maintain incentives for high efficiency gas furnaces in existing homes. The incentive will significantly increase the likelihood of a homeowner making the decision to install a condensing furnace.

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<sup>1</sup> Home Innovation Research Labs. “Cost and Other Implications of Electrification Policies on Residential Construction.” February 2021. <https://www.nahb.org/-/media/NAHB/nahb-community/docs/committees/construction-codes-and-standards-committee/home-innovation-electrification-report-2021.pdf>. Page 5, footnote 7.

<sup>2</sup> Ibid. Page 19.

<sup>3</sup> Ibid. Page 25.

**Table 1: Retrofit Cost of Gas Equipment for an Existing Gas Baseline House:  
 Gas Furnace (GF) Installation – Standard Efficiency 80 AFUE vs. High Efficiency 96 AFUE (in \$)<sup>4</sup>**

Component	80 AFUE GF install	96 AFUE GF install
Demo and install GF (labor)	377	377
GF materials (estimate)	220	220
(1) 80 AFUE GF	837	--
(2) 96 AFUE GF	--	1,425
GF vent piping: PVC, 2 in. diameter	--	346
GF 2 in. concentric vent kit	--	66
<b>TOTAL</b>	<b>1,434</b>	<b>2,434</b>
<i>Note: Cost estimates are before location adjustment factors are applied</i>		
<i>Source: Home Innovation Research Labs (2021)</i>		

**Table 2: Retrofit Cost of Cooling Equipment for an Existing Gas Baseline House:  
 Central Air Conditioner (AC) Installation – Standard Efficiency 14 SEER vs. Higher Efficiency 16 SEER (in \$)<sup>5</sup>**

Component	14 SEER AC install	16 SEER AC install
Demo and install AC system (labor)	943	943
AC materials (estimate)	220	220
Reclaim old refrigerant	69	69
Install new refrigerant piping	261	261
Coil	483	483
(1) 14 SEER AC	1,337	--
(2) 16 SEER AC	--	1,481
<b>TOTAL</b>	<b>3,313</b>	<b>3,457</b>
<i>Note: Cost estimates are before location adjustment factors are applied</i>		
<i>Source: Home Innovation Research Labs (2021)</i>		

**Table 3: Retrofit Cost of Electrification for an Existing Gas Baseline House:  
 Heat Pump System Installation – Warmer Climates vs. Colder Climates (in \$)<sup>6</sup>**

Component	Heat Pump system install (Climate Zones 2 & 4)	Heat Pump system install (Climate Zones 5 & 6)
Demo gas furnace	234	234
Heat Pump (labor)	825	825
Heat Pump misc. materials (estimate)	220	220
(1) Heat Pump system: 19 SEER, 10 HSPF, rated 7°F	7,513	--
(2) Heat Pump system: 19 SEER, 10 HSPF, rated -13°F	--	9,517
<b>TOTAL</b>	<b>8,792</b>	<b>10,796</b>
<i>Note: Cost estimates are before location adjustment factors are applied and do not include potential additional costs for electrical service upgrades</i>		
<i>Source: Home Innovation Research Labs (2021)</i>		

<sup>4</sup> Ibid. Page 41-42. Appendix B: Electrification Retrofit Costs.

<sup>5</sup> Ibid. Page 41-42. Appendix B: Electrification Retrofit Costs.

<sup>6</sup> Ibid. Page 39-40. Appendix B: Electrification Retrofit Costs.

**Table 4: Summary of Retrofit Costs for Equipment Approaches for an Existing Gas Baseline House:  
Gas Furnace and Central Air Conditioner vs. Heat Pump Systems (in \$)**

Equipment Retrofit Approach	Total Retrofit Cost
80 AFUE GF + 14 SEER AC	4,747
80 AFUE GF + 16 SEER AC	4,891
96 AFUE GF + 14 SEER AC	5,747
96 AFUE GF + 16 SEER AC	5,891
Heat Pump system: 19 SEER, 10 HSPF, rated 7°F (CZ 2&4)	8,792
Heat Pump system: 19 SEER, 10 HSPF, rated -13°F (CZ 5&6)	10,796

*Note: Cost estimates are before location adjustment factors are applied and do not include potential additional costs for electrical service upgrades*

*Source: Home Innovation Research Labs (2021)*

**The ENERGY STAR for Homes program specifies that gas space heating equipment is ENERGY STAR labeled – The IRA provides incentives for homes pursuing ENERGY STAR for Homes certification.**

A prerequisite for qualifying for the 45L tax credit is the ENERGY STAR for Homes program. The IRA increased the size of this tax credit while increasing the stringency of the requirements to qualify. The ENERGY STAR for Homes program includes specifications for both mixed-fuel homes and electric homes. Congress approved this incentive for this program – a clear intent to provide incentives for mixed-fuel homes.

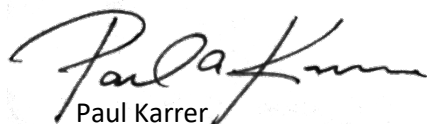
NAHB urges EPA to provide homeowners one of the two following options:

- 1) Maintain ENERGY STAR labeled high efficiency gas furnaces in ENERGY STAR Version 4.1 Specifications, or
- 2) Clarify that a minimum Annual Fuel Utilization Efficiency for high efficiency gas furnaces (currently set at 95 AFUE) meets the program requirements for the ENERGY STAR for Homes program.

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Thank you for your consideration of our recommendations above. Should EPA staff have questions or would like to discuss these comments further, please contact me at 202-266-8300.

Sincerely,



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