



November 11, 2021

Ms. Abigail Daken  
EPA Manager, ENERGY STAR HVAC Program  
U.S. Environmental Protection Agency and U.S. Department of Energy  
E-mail: [WaterHeaters@energystar.gov](mailto:WaterHeaters@energystar.gov)

Re: Comments on the ENERGY STAR® Program Requirements Product Specification for Residential Water Heaters Eligibility Criteria Draft 1 Version 5.0. as published on October 5, 2021.

Dear Ms. Daken,

A. O. Smith Corporation, with global headquarters in Milwaukee, Wisconsin since 1874, applies technology and energy-efficient solutions to products manufactured and marketed worldwide. Listed on the New York Stock Exchange (NYSE:AOS), the company is one of the world's largest manufacturers of residential and commercial water heating equipment and boilers, as well as a leading manufacturer of water treatment and air purification products. A. O. Smith appreciates the opportunity to submit these comments to the U.S. Environmental Protection Agency ("EPA") regarding its request for comment on the ENERGY STAR® ("Energy Star") Program Requirements Product Specification for Residential Water Heaters Eligibility Criteria Draft 1 Version 5.0. ("Draft") as published on October 5, 2021. A. O. Smith is pleased to continue its work with the EPA in further developing the next Energy Star specification for residential water heaters. While supportive of the Draft's specification for electric storage water heating equipment and its optional connectivity requirements, A. O. Smith does not support the proposed criteria for gas-fired water heaters and recommends that EPA amend the Draft before finalizing the 5.0 specification.

### **Overview**

A. O. Smith generally supports the Administration's policy goals that are intended to help reduce economy-wide greenhouse gas emissions as well as initiatives that will pragmatically decarbonize the built environment. A. O. Smith has made its own commitments, while at the same continuing its industry leadership by providing policy makers a series of recommendations in a white paper entitled "*Electrification of Space and Water Heating in Buildings*" that outlines a series of pragmatic building decarbonization pathways for space and water heating applications.<sup>1</sup> One of those recommendations is that high-efficiency gas-fired water heating equipment should remain available for residential and

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<sup>1</sup> See generally, <https://www.aosmith.com/decarbonization/>

commercial consumers taking into consideration different regional climate considerations, fuel-mix of regional and local electricity generation and distribution grids, and the commercial availability of equivalent heat pump water heating product solutions to meet the intended utility (the provision of hot water) to consumers. As a general proposition, Energy Star, along with its industry partners, will continue to play an important role in incentivizing the continued adoption of highly efficient water heating equipment, which will not only assist in reducing greenhouse gas emissions, but also help millions of households and business owners save money on their monthly energy bills.

Lastly, the success of the Energy Star program is in large part based on the premise that it provides trusted and credible information that highlight products that deliver real consumer savings, while continually adapting to a changing marketplace without favoring one technology over another.<sup>2</sup> It is this unbiased foundational principle, and the information flowing from it, that consumers and businesses rely on to make well-informed decisions. Moreover, the Energy Star program is premised upon providing information on products that are commercially available, which affords consumers and small business owners the ability to compare products from competing manufacturers. When coupled with financial incentives that Energy Star program partners like regulated utilities may extend to those products bearing the ENERGY STAR® mark, the market transformation impacts of consumers moving to high-efficiency appliances is the true value of the Energy Star program. It is on this latter point that A. O. Smith believes the Draft’s recommendations for gas-fired storage water heating equipment departs from the Energy Star program’s core principles by favoring heat pump technology and gas-fired condensing instantaneous technology on the one hand, while not recognizing higher efficiency gas-fired storage technologies on the other. As a result, the Draft specification, if finalized in its current form, will have the unintended consequence of pushing consumers to “like-for-like” (e.g., standard efficiency) when replacing their gas-fired heating equipment, resulting in less GHG reductions and energy savings, while simultaneously making the ENERGY STAR® mark less meaningful in the marketplace.

### **Product Performance Requirements for Gas-Fired Water Heaters**

According to the EPA, in 2019, more than 3,600 products from over 280 manufacturers were recognized as “ENERGY STAR Most Efficient,” a distinction for products that deliver cutting-edge energy efficiency along with the latest in technological innovation.<sup>3</sup> Underlying this distinction is the fundamental premise that these “most efficient” products are commercially available in the marketplace. In contrast, the Energy Star program is not a research and development program, but one designed to assist consumers with information on highly efficient products that they can actually purchase. Therefore, the absence of product availability should – in A. O. Smith’s view – be a prerequisite in determining if an Energy Star specification for a given product is justified.

As the EPA is undoubtedly aware, currently there are no commercially available gas-fired storage water heaters certified to the U.S. Department of Energy for distribution in commerce in the United States at the Draft’s proposed minimum efficiency level criteria of  $\geq 1.0$  UEF.<sup>4</sup> Moreover, the gas-fired water heating technology most commonly associated with meeting a  $\geq 1.0$  UEF – gas absorption or adsorption – is still nascent, and to date, has not reached economic thresholds for commercial adoption as a readily-available market alternative for consumers seeking to replace their

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<sup>2</sup> <https://www.energystar.gov/about?s=mega>

<sup>3</sup> *Ibid.*

<sup>4</sup> See generally, <https://www.regulations.doe.gov/ccms>

gas-fired storage water heater with a more efficient gas-fired storage water heater. EPA concedes in its preamble to the Draft's specification that the proposed gas-fired storage water heater level ***could*** (emphasis added) be met with developments in technologies like gas heat pump water heaters thus recognizing the aspirational potential of the technology rather than its current commercial availability.

There are however gas-fired storage products that could be incentivized that utilize damper technology, among others, that offer both increased energy savings and measurable avoided greenhouse gas emissions. These technologies currently have greater potential market availability – and technical feasibility – versus gas heat pump technology. Consistent with the foregoing observations, A. O. Smith recommends that EPA drop the proposed  $\geq 1.0$  UEF for gas-fired storage and residential duty storage water heaters as neither are justified at this time.

Conversely, the Draft's proposed criteria for Gas-Fired Instantaneous Water Heaters at  $\geq .95$  UEF, which incentivizes high-efficiency condensing technology, is arguably justified given the commercial availability of products for consumers to purchase. However, setting a minimum  $\geq .95$  UEF, would, based on current market data, remove many high-efficiency models for consumers that are either more economical or with applications the better suit their needs. Therefore, A. O. Smith would recommend that EPA set the criteria at  $\geq .93$  UEF, which would continue to incentivize condensing technology, while at the same time allow for product differentiation, and afford consumers broader choices taking into consideration different regional installation needs, applications, and costs, as well as address equity concerns with consumers in low-to-moderate income communities.

#### **Product Performance Requirements for Electric Water Heaters:**

A. O. Smith was pleased to see that EPA has proposed no changes for electric water heaters from the version 4.0 specification and continues to support the criteria as appropriate.

Consistent with this position, A. O. Smith also supports the Draft's optional "Connected Product Criteria", including, but not limited to, the minimum load shifting values. A. O. Smith would however recommend that EPA remove the option of recognizing OADR under the "DR Communications Protocols" criteria and instead limit recognition to the CTA 2045 standard, which reflects the consensus position of the water heating industry, and which has begun being codified into the law by some States.<sup>5</sup> Finally, A. O. Smith recommends that EPA continue to monitor the development and implementation of industry consensus standards in the evolving, and fluid, demand response technology marketplace and ensure that any future changes to its Connected Product Criteria, including potentially making the criteria mandatory in a future Product Specification, align to those standards to avoid duplicative and differing standards, which could cause unnecessary confusion for manufacturers, utilities, and DRMS providers.

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<sup>5</sup> Oregon and Washington.

**Conclusion**

A. O. Smith appreciates the opportunity to provide this feedback to EPA on the Draft Version 5.0 Specification Program Requirements for Residential Water Heaters. Should EPA have any additional questions or need additional information, please do not hesitate to contact me as we would welcome the opportunity to further work together on the Draft as well as the Energy Star water heater program.

Best Regards,

A handwritten signature in black ink, appearing to read "Joshua C. Greene". The signature is fluid and cursive, with a long horizontal stroke at the end.

Joshua C. Greene  
Corporate Vice President, Government and Industry Affairs  
A. O. Smith Corporation  
Global Headquarters  
11270 West Park Place  
Milwaukee, WI 53224  
[jcgreene@aosmith.com](mailto:jcgreene@aosmith.com)