

# North American Gas Heat Pump Collaborative

Thank you for allowing the North American Gas Heat Pump Collaborative (“Collaborative”) the opportunity to comment on the Draft 1 Version 4.0 of the ENERGY STAR Residential Water Heater Specification released October 28, 2020.

In late 2019, fourteen natural gas utilities and program administrators formed the Collaborative. These organizations are listed at the end of this letter and represent 31% of US and Canadian households that have gas service. Many of these same utilities have supported activities to develop gas heat pump technology, and they now see the opportunity to start conditioning the market and designing incentive programs that will accelerate market adoption when the products become widely available, anticipated to be as early as 2022.

**The mission of the Collaborative is to develop and implement activities to accelerate the adoption of gas heat pump (GHP) technologies in North America.** The Collaborative is committed to making gas heat pump technology standard practice. In general, we plan to do this by developing utility programs, supporting manufacturers and trade ally networks, and creating common messages and specifications.

**The energy savings potential and greenhouse gas reduction effects of GHP technology is of significant importance and interest to the Collaborative utilities.** Gas heat pumps have efficiencies greater than 100% and result in less cost to society than reducing GHG with other technologies<sup>1</sup>. In addition, fuel diversity is important for a stable, low-cost energy future. The first area of focus for the Collaborative is priming the market for GHP water heaters and the second area will be residential combination (space and water heating) units.

## Comments

We encourage EPA to consider the following general comments for inclusion in the ENERGY STAR Residential Water Heater Specification Version 4.0:

- Natural gas remains a viable and cost-effective energy source for efficient water heating, as demonstrated by several products currently on the market
- ENERGY STAR can continue driving efficiency innovation by creating a higher tier and/or category that reflects GHP water heater levels of performance

For future specification revisions, the Collaborative recommends that EPA consider all available gas water heating technologies and their impacts on savings potential and consumer payback when considering sunsetting these product categories, integrate criteria for gas storage water

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<sup>1</sup> “Opportunities for Reducing Greenhouse Gas Emissions through Emerging Natural Gas Direct-use Technologies”, American Gas Foundation, prepared by Enovation Partners, December 2019.

heaters with a UEF > 1, and explore setting a “Most Efficient” level for gas and electric water heaters.

The following details the Collaborative’s reasoning behind the above comments.

**7) C. Future Specification Revisions: EPA is monitoring the savings potential and consumer payback offered by ENERGY STAR gas storage and gas instantaneous water heaters. If more significant energy savings at a lower initial investment do not materialize, EPA will consider sunsetting those product categories.**

- **The Collaborative recommends EPA consider all available gas water heating technologies and their impacts on savings potential and consumer payback when considering sunsetting these product categories.**

In the past several years, products have emerged for both gas storage and gas tankless equipment that can meet the ENERGY STAR® savings criteria while offering lower initial investment. Currently available ENERGY STAR® gas storage tanks with non-powered dampers and gas tankless equipment capable of operating on ½” gas supply lines can avoid significant retrofit installation costs (AO Smith 2020, GTI 2019)<sup>2,3</sup>. Achieving the efficiency level for gas storage without the need for an electrical outlet will save on installation costs. Additionally, the ability to install a tankless water heater without a costly gas supply line upgrade will reduce first cost. Both technologies therefore suggest favorable outcomes for savings potential and consumer payback, thus justifying continuation of product categories for gas water heaters.

**7) Future Specification Revisions (Other):**

- **The Collaborative recommends that EPA integrate criteria for gas storage water heaters with a UEF > 1 in future specification revisions.**

Based on our collaborative members and their work with industry, utility partners, and energy efficiency organizations, we believe that products meeting this requirement will be available on the market in two to three years and will further address EPA’s concerns regarding savings and consumer payback.

Technologies are already under development with compelling cost effectiveness propositions over traditional, baseline gas scenarios (Brio and GTI 2019).<sup>4</sup> For instance, gas heat pump water heaters are not only capable of greater energy savings than older gas technologies; they can be fed by the same gas pipes already installed for those older technologies. Products are expected to increase in efficiency as the technology matures

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<sup>2</sup> <https://www.aosmithatlowes.com/products/water-heaters/gas-water-heaters/g12-ut5040nvr/>

<sup>3</sup> <https://neea.org/resources/lab-testing-of-tankless-water-heater-systems>

<sup>4</sup> [https://www.gti.energy/wp-content/uploads/2020/09/Gas-Heat-Pump-Roadmap-Industry-White-Paper\\_Nov2019.pdf](https://www.gti.energy/wp-content/uploads/2020/09/Gas-Heat-Pump-Roadmap-Industry-White-Paper_Nov2019.pdf)

over time, with UEFs increasing to 1.2 and beyond. The upfront savings of using existing infrastructure combined with improved energy efficiency allow this technology to overcome consumer payback barriers.

The Collaborative includes such criteria in the Advanced Water Heater Specification (Gas) to help prime the market (NEEA 2019).<sup>5</sup> By recognizing this technology, EPA can further encourage manufacturers to accelerate new gas technologies and significant energy savings. As EPA did in 2007 with electric water heating, the Collaborative recommends an early start to integration of this emerging technology.

- **The Collaborative encourages EPA to explore setting a “Most Efficient” level for gas and electric water heaters in the future.**  
Water heating technology and efficiency continues to improve; having a “Most Efficient” distinction aligns with EPA’s goal of “recognizing products that deliver cutting edge energy efficiency along with the latest in technological innovation.”

## Summary

Thank you again for the opportunity to submit comments on this draft specification. To recap, the Collaborative submits the following considerations for future specification revisions:

- Recommendation that EPA consider all available gas water heating technologies and their impacts on savings potential and consumer payback when considering sunsetting these product categories.
- Recommendation that EPA integrate criteria for gas storage water heaters with a UEF > 1 in future specification revisions.
- Encouragement for EPA to explore setting a “Most Efficient” level for gas and electric water heaters in the future.

Please contact Ross English (renglish@resource-innovations.com) at Resource Innovations with questions about our comments and suggestions.

Sincerely,

Jim Jerozal, Director of Energy Efficiency Strategy, Nicor Gas  
Chair, North American Gas Heat Pump Collaborative

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<sup>5</sup> <https://neea.org/img/documents/Natural-Gas-Advanced-Water-Heating-Specification.pdf>

## Members of the Collaborative

- ATCO
- Enbridge Gas Inc.
- FortisBC
- Intermountain Gas Company
- APGA Research Foundation
- National Fuel
- New Jersey Natural Gas
- Northwest Energy Efficiency Alliance
  - Northwest Natural Gas
  - Avista
  - Cascade Natural Gas
  - Puget Sound Energy
  - Energy Trust of Oregon
- ONE Gas
- Peoples Gas & North Shore Gas
- Southern California Gas Company
- Southern Company Gas
  - Atlanta Gas Light
  - Chattanooga Gas
  - Nicor Gas
  - Virginia Natural Gas
- South Jersey Industries
  - Elizabethtown Gas
  - South Jersey Gas
- Spire Energy