

ENERGY STAR Commercial Water Heaters Draft 1 Version 2.0 Comment Matrix

Topic	Stakeholder Comment Summary	EPA Response
<u>Gas-fired Water Heater Certification</u>		
Standby Loss for Gas-fired Instantaneous Water Heaters \geq 10 gallons	<p>Several commenters do not support the proposed standby loss criteria for gas-fired instantaneous water heaters greater than or equal to 10 gallons in storage volume. The commenters argue that there are unknowns regarding the standby loss test procedure for this category. It is a brand new test procedure and the commenters feel that more time is needed to collect thorough data on the standby loss performance of this category before EPA establishes criteria for it.</p> <p>One commenter questioned how any currently-certified ENERGY STAR models could meet the proposed standby loss criteria and certify to Version 2.0 without modification.</p>	<p>EPA understands that the test method for standby loss of flow-activated instantaneous water heaters was finalized only recently, and data are not yet available on model performance. Therefore, EPA has modified the requirement to apply only to storage-type instantaneous (as defined in 10 CFR Part 431, Subpart G §431.102), for which data are available from a closely analogous test method. EPA presumes that instantaneous models on the ENERGY STAR list that already list standby loss will meet this definition, and that data show that they will pass.</p>
Definition of Gas-fired Storage Water Heater	<p>One commenter suggests that EPA specify that gas-fired storage residential-duty commercial water heaters are excluded from scope of the specification. The commenter suggests that the scope of gas-fired storage water heaters could be limited to products greater than 105,000 Btu/h, instead of 75,000 Btu/h.</p>	<p>EPA acknowledges that gas-fired storage residential-duty commercial water heaters are excluded from scope of the ENERGY STAR Commercial Water Heaters specification. While they have been excluded by the clause referring products covered by other specifications, EPA will clarify by adding this product category explicitly to the Excluded Products section of the Commercial Water Heaters Version 2.0 specification.</p> <p>EPA does not plan to alter the definition of commercial gas-fired storage water heater. Per DOE's definition, not all gas-fired storage water heaters between 75,000 Btu/h and 105,000 Btu/h are residential-duty commercial water heaters.</p>
<u>Heat Pump Water Heater Certification</u>		
Support for including Commercial Heat Pump Water Heaters in Scope	<p>One commenter supports the inclusion of commercial heat pump water heaters in the ENERGY STAR specification, and states that there are opportunities for cost-effective energy savings.</p>	<p>Thank you for your comment. EPA appreciates the support for the commercial heat pump water heater product category.</p>
COPh for Commercial Heat Pump Water Heaters	<p>Two commenters support the inclusion of commercial heat pump water heaters and associated COPh criteria of \geq 3.0.</p>	<p>Thank you for your comments. EPA appreciates the support for the commercial heat pump water heater product category and the proposed COPh of 3.0.</p>
Commercial Heat Pump Water Heater System Performance Criteria	<p>One commenter suggests that EPA consider near- and long-term options for supporting stakeholders in system design, quality installation, and quality maintenance of commercial heat pump water heaters. The commenter suggests making it mandatory that these products provide fault detection, diagnostics, and performance reporting. The commenter also suggests a long-term option to include the development of design, installation, and maintenance guidance for heat pump water heater systems.</p>	<p>EPA appreciates the suggestions for near- and long-term options to ensure quality design, installation, and maintenance of commercial heat pump water heaters. EPA agrees that fault detection, diagnostics, and performance reporting aid in quality system operation. EPA has outlined four status and messaging reporting criteria in the Version 2.0 specification, though these are optional for ENERGY STAR certification.</p> <p>EPA will consider appropriate future actions regarding the promotion of quality design, installation, and maintenance through guidance material and marketing.</p>

<p>Commercial Heat Pump Water Heater Scope and Exclusions</p>	<p>One commenter is concerned that the ENERGY STAR specification excludes heat pump water heaters that provide water heating as well as space conditioning and suggests that EPA remove this exclusion.</p>	<p>EPA appreciates the comment and wishes to clarify that heat pump water heaters that provide water heating as well as space conditioning are not excluded from the specification. EPA expects that products certified under this specification would be sized for the water heating load, with space cooling as a co-benefit, albeit perhaps an important one. The intention of section 2B.c. of the Version 2.0 specification is to exclude products that are specifically designed and sized to meet a water heating as well as space conditioning load.</p>
<p>Commercial-duty Residential Heat Pump Water Heater Product Category</p>	<p>One commenter interprets the specification to exclude commercial heat pump water heaters that do not heat water to a thermostatically controlled temperature and suggests that EPA remove commercial heat pump water heaters as a subcategory of storage type water heaters. The commenter also asks EPA to clarify if heat pump water heaters that provide space conditioning are excluded from the specification. Aside from this, the commenter suggests adding a reporting requirement for combined efficiency of heat pump water heaters. This may help consumers better understand the relative performance of equipment that provides water heating and space conditioning.</p> <p>Several commenters do not support the proposed addition of the commercial-duty residential heat pump water heater category. One commenter cites that these type of "add-on" heat pumps are not suitable for application of the uniform energy descriptor test method. Another commenter suggests that the timing of this proposed addition is not appropriate, and one commenter does not support the product category given it is not in alignment with any federally-regulated product category.</p>	<p>Thank you for the comments regarding clarification of scope for commercial heat pump water heaters. EPA has removed commercial heat pump water heaters as a subcategory of storage type water heaters. Commercial heat pump water heaters are now listed as a stand-alone product category of commercial water heater in the ENERGY STAR specification to avoid confusion regarding the phrase "thermostatically controlled."</p> <p>As stated in the response above, EPA is not excluding heat pump water heaters that provide space conditioning, but considers any space cooling a co-benefit. EPA will not include combined efficiency as a reporting requirement at the moment, but will consider it for future revisions.</p> <p>In light of the difficulty of crafting a clear definition and defining an appropriate test method, EPA will forego inclusion of commercial-duty residential heat pump water heaters at this time. In addition, EPA recognizes these products are a small part of a nascent market. EPA looks forward to continuing the discussion of the variety of heat pump water heater designs and how best to include all of them in the future.</p> <p>That being said, EPA would like to address some misunderstandings in the specific objections raised by various stakeholders. First, it is typical for EPA to include products that are not yet Federally covered, reflecting the advantage of a voluntary program which can be more nimble such as with the suite of ENERGY STAR electronics products. This allows innovative products to be fairly recognized for superior performance. EPA action on test methods and codifying energy performance has sometimes been a critical factor in allowing DOE action later. When there is no DOE standard, EPA gathers data from a variety of sources to identify the performance of a typical unit.</p> <p>Second, EPA is able to categorize products somewhat differently than DOE does, based on how customers shop for products, rather than on the underlying technologies or the specifics of legislation. For instance, "Light-duty EPACT-covered water heaters" were included in the ENERGY STAR Residential Water Heater specification before the "Residential-duty commercial water heater" category existed in the CFR. EPA chooses this course when it avoids distortion of the market for efficient products.</p> <p>While no longer relevant at the moment, EPA looks forward to understanding more about the varieties of heat pump water heaters, their Federal test requirements, and how their performance can be appropriately tested and recognized.</p>

Uniform Energy Factor Test Method for Commercial-duty Residential Heat Pump Water Heater	Several commenters express concern that DOE's uniform energy descriptor test method does not cover the proposed commercial-duty residential heat pump water heater product category. The commenters state that the test procedure only covers heat pump products with an integrated storage tank, and even so, that there are no energy conservation standards for these type of products.	While no longer relevant at the moment, EPA looks forward to understanding more about the varieties of heat pump water heaters, their Federal test requirements, and how their performance can be tested and recognized.
Definition of Commercial-duty Residential Heat Pump Water Heater	Two commenters suggest that the definition of commercial-duty residential heat pump water heater is too broad and/or ambiguous.	EPA appreciates the comments regarding the definition of commercial-duty residential heat pump water heater. EPA will not be adopting the product category and, therefore, will be removing the definition from the Version 2.0 specification. In the future, when the timing is right to include this product category, EPA will work with industry and DOE to ensure the definition is clear.
DOE Rulemakings for Commercial Water Heaters	One commenter urges EPA to review DOE's Enforcement Policy for Certain Commercial Water Heaters, published on October 20, 2017, as it may impact certain product categories in the draft specification. Also, the commenter suggests that, given the timing of upcoming DOE rulemakings, EPA should wait to adopt the commercial-duty residential heat pump water heaters category for ENERGY STAR.	Thank you for your comment. EPA has considered the timing of forthcoming DOE rulemakings in making its decision not to adopt the commercial-duty residential heat pump water heater product category in Version 2.0.
Gas Heat Pump Water Heaters	One commenter recommends that EPA consider the potential to include gas heat pump water heaters in the scope of the specification. The commenter specifies that though these products are not currently in scope for DOE test procedures, they may be able to be tested in a manner consistent with test procedures for heat pump water heaters or other gas heating equipment.	EPA appreciates the recommendation to include gas heat pump water heaters in the specification, but does not feel that now is the appropriate time to do so. Similar to commercial-duty residential heat pump water heaters, this product category is small and does not have clearly defined test procedures. In theory, if a gas heat pump water heater meets the scope of a gas-fired storage or instantaneous water heater and could be tested to produce a thermal efficiency rating, there is nothing preventing it from being certified as ENERGY STAR.
General / Miscellaneous		
Support for Draft 1 Version 2.0	Two commenters offer general support for the Draft 1 Version 2.0 specification.	Thank you for your general support for the Draft 1 Version 2.0 specification.
Safety Requirements	One commenter supports EPA's proposed removal of safety requirements from the specification.	Thank you for your comment.

Reporting Requirements	<p>Two commenters are not supportive of the proposed reporting requirements (i.e., fault detection and display, performance reporting, energy savings reporting, and predictive maintenance alerts). One commenter cites that these functions aid in how consumers use the water heater, but do not alter the rated efficiency of the product. One commenter suggests that these technologies can add significant cost and do not necessarily add value in driving efficiency advancements of commercial water heaters.</p>	<p>EPA has a strong interest in helping consumers identify products with innovative features that increase amenity and provide additional opportunities for energy savings, or may in the future. It is not unusual for EPA to identify such features, such as connected refrigerators that can warn residents when the door is left open or light fixtures that can detect when the room is empty and turn themselves off. These cases reflect EPA's focus on the overall delivered energy performance of products, without sacrifice in performance.</p> <p>However, EPA acknowledges the difficulty manufacturers may have if items that are reporting only for ENERGY STAR purposes are adopted as requirements by other entities that are less familiar with the market. To address this, EPA has modified its proposal, bringing it more in line with standard practice for such functionality in other specifications, by making the reporting of these capabilities optional. Thus, the specification can serve as a definition of these particular capabilities, and provides the option for partners to use the Product Finder as a tool to help consumers find products with these capabilities.</p>
Warranty Requirements	<p>One commenter does not support any warranty requirements in the specification given that they have no direct correlation to energy efficiency. Though if warranty requirements are maintained for commercial heat pump water heaters, the commenter would rather the requirement be 3 years on the compressor and 1 year on parts.</p>	<p>Through further review of additional market information and discussion with stakeholders, EPA learned that for commercial water heaters, the market is typically supplying warranties that address product reliability concerns purchasers may have. Therefore, EPA has removed the warranty requirements.</p>
Follow-up to EPA Questions Posed in Draft 1 Webinar	<p>One commenter provided EPA with follow-up to questions proposed during the Draft 1 stakeholder webinar. The commenter suggests that high efficiency commercial products are chosen for commercial installations where the upfront cost is justified through short payback. Also, the commenter states that when switching from tank type to tankless installs, a larger number of tankless units are required account for the loss in "dump load".</p>	<p>Thank you for responding to the questions that EPA had posed during the Draft 1 stakeholder webinar. It is appreciated.</p>