



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

August 28, 2012

Dear ENERGY STAR[®] Commercial Water Heater Manufacturer or Other Interested Party:

The U.S. Environmental Protection Agency (EPA) has launched the development of an ENERGY STAR specification for Commercial Water Heaters and is pleased to share with you the Draft 1 Version 1.0 ENERGY STAR Commercial Water Heater specification. The purpose of this letter is to:

- provide basic background information on the ENERGY STAR program,
- explain the program's interest in commercial water heaters, and
- highlight key topics from the draft 1 specification.

ENERGY STAR is a voluntary, public-private partnership. More than 1,700 manufacturers currently participate in the program, qualifying over 40,000 product models across more than 65 product categories, including a broad array of heating, ventilation and air-conditioning products. A complete list of ENERGY STAR products can be found at www.energystar.gov. More than 80% of Americans nationwide recognize the label, with more than 40% of households reporting that they knowingly purchased a qualified product within the past year.

EPA is committed to helping consumers save money and reduce their environmental impact. Through the ENERGY STAR program, the Agency focuses on driving efficiency in the growing number of products that consumers use each day, in both the residential and commercial sectors. The commercial sector accounts for about 12 percent of total energy consumption in the United States.

ENERGY STAR Opportunity

Commercial water heaters provide a promising opportunity for energy and energy cost savings due to the high-volume hot water demand of commercial water heaters and their continuous use in commercial applications. EPA's initial scoping assessment indicates that the market for commercial water heaters is growing, which is driven primarily by the construction of schools, restaurants and hospitals to meet demands of our growing population. Based on the Commercial Buildings Energy Consumption Survey (CBECS) and California data, EPA estimates that the current installed base for commercial water heaters is about 1 million units. According to Air-Conditioning, Heating, and Refrigeration Institute (AHRI) equipment shipment¹ data for the year 2011, shipments of commercial storage water heaters increased from the prior year by 3 and 8 percent, respectively, for electric and gas units.

EPA further estimates that the incremental cost associated with efficient commercial water heaters is on average \$750 and is paid back within 2 years through energy savings in applications such as multi-family housing, nursing homes, and restaurants. In addition, there is significant product performance differentiation among commercial water heaters, providing a good opportunity for a labeling program such as ENERGY STAR to highlight for purchasers the efficient products. Based on discussions with manufacturers, EPA estimates that about 25% of the market would meet the proposed requirements.

The Draft 1 Version 1.0 Commercial Water Heater specification proposes ENERGY STAR qualification requirements for commercial water heaters. Key elements of Draft 1 specification include:

¹ www.ahrinet.org

1. **Scope.** The proposed scope comprises commercial water heaters, which include gas storage, electric heat pump water heaters and gas instantaneous water heaters.

Point-Of-Use (POU) and solar commercial water heaters are excluded from the scope of the specification. Though POU units have the potential to offer savings, EPA sees education as a better route to capture these savings. There are complex calculations involved to determine if the unit is a better option than other available water heaters, making this product a difficult fit for a binary label like the ENERGY STAR. In addition, there are no industry supported metrics to determine the performance of the unit.

EPA understands that commercial solar water heaters are typically custom designed and built depending on the application. This makes it difficult to both establish standardized criteria and to achieve third party certification for these units. EPA further notes that there are currently no industry supported test methods or metrics to determine the performance of commercial solar water heaters.

EPA will continue to monitor the market for commercial water heaters for additional potential ENERGY STAR product types.

2. **Qualification Criteria.** For gas water heaters, EPA has proposed a performance level of 0.94 thermal efficiency and, where applicable, a maximum standby loss requirement, which is 16% more stringent than the federal standby loss requirement. The 0.94 thermal efficiency level harmonizes with existing industry programs such as Federal Energy Management Program (FEMP) and Consortium for Energy Efficiency (CEE). The EPA dataset indicates that approximately 26% of the current market achieves these levels of energy performance.

Due to the absence of a suitable test method to measure heat pump water heater efficiency, a placeholder is included for the efficiency criteria of electric water heaters. Requirements will be determined as soon as the Department of Energy (DOE), lead for the development of ENERGY STAR test methods, has identified and validated a test method. Once a final test method is available for use by the program, EPA will work with stakeholders to determine eligibility criteria for commercial electric water heaters, at which time those products will become eligible for the label.

3. **Test Methods.** For storage and instantaneous water heaters, EPA proposes the federal test method, 10 CFR Part 431.106. A placeholder is included for heat pump water heaters for the present time.

More details regarding EPA's rationale for proposing these requirements are included in note boxes throughout the draft specification document.

Comment Submittal

Stakeholders are encouraged to provide written comments for EPA consideration to Commercialwaterheaters@energystar.gov by **September 21, 2012**. All comments will be posted to the ENERGY STAR Product Development website unless the submitter requests otherwise.

EPA plans to host a stakeholder webinar on **September 10, 2012** from 1:00 pm to 3:00 pm ET to discuss the Draft 1 specification and address initial stakeholder comments and questions. Stakeholders are encouraged to inform EPA of any industry events that may conflict with this proposed date. Please RSVP to Commercialwaterheaters@energystar.gov by September 5, 2012.

To track EPA's progress in developing the ENERGY STAR Commercial Water Heaters specification, visit the Product Development website at www.energystar.gov/newspecs and click on "Commercial Water Heaters."

Please direct any specific questions to Abigail Daken at EPA, daken.abigail@epa.gov or 202-343-9375 or Sarah Medepalli, ICF International, at sarah.medepalli@icfi.com or 202-677-5201. Questions regarding test methods may be addressed to Ashley Armstrong, ashley.armstrong@ee.doe.gov or 202-586-6590. Thank you for your thoughtful review of this draft specification. I look forward to working with you over the next few months.

Sincerely,

A handwritten signature in cursive script, appearing to read "Abigail Daken".

Abigail Daken, Product Manager
ENERGY STAR for HVAC