



# ***Utility Solar Water Heating Initiative***

3236 Alcor Trail  
DePere, WI 54115

September 9, 2011

U.S. Environmental Protection Agency  
ENERGY STAR Program  
Washington, D.C.

Dear ENERGY STAR:

The Utility Solar Water Heating Initiative, USH<sub>2</sub>O, is pleased to submit comments to EPA regarding Draft 1 Version 2.0 ENERGY STAR Water Heaters specification. USH<sub>2</sub>O's comments focus on two areas:

- EPA's concerns about the SWH's cost-effectiveness, and
- EPA's request for ideas on more effective tools than ENERGY STAR labeling to encourage adoption of solar water heaters (SWH).

Established in 1992, USH<sub>2</sub>O is a coalition of 400 representatives from public and private utilities, states and the solar thermal industry who are working to implement successful utility solar thermal programs across the United States. USH<sub>2</sub>O members represent the leading solar thermal programs from both utilities and states, as well as the manufacturers and installers of the majority of solar thermal equipment nationwide.

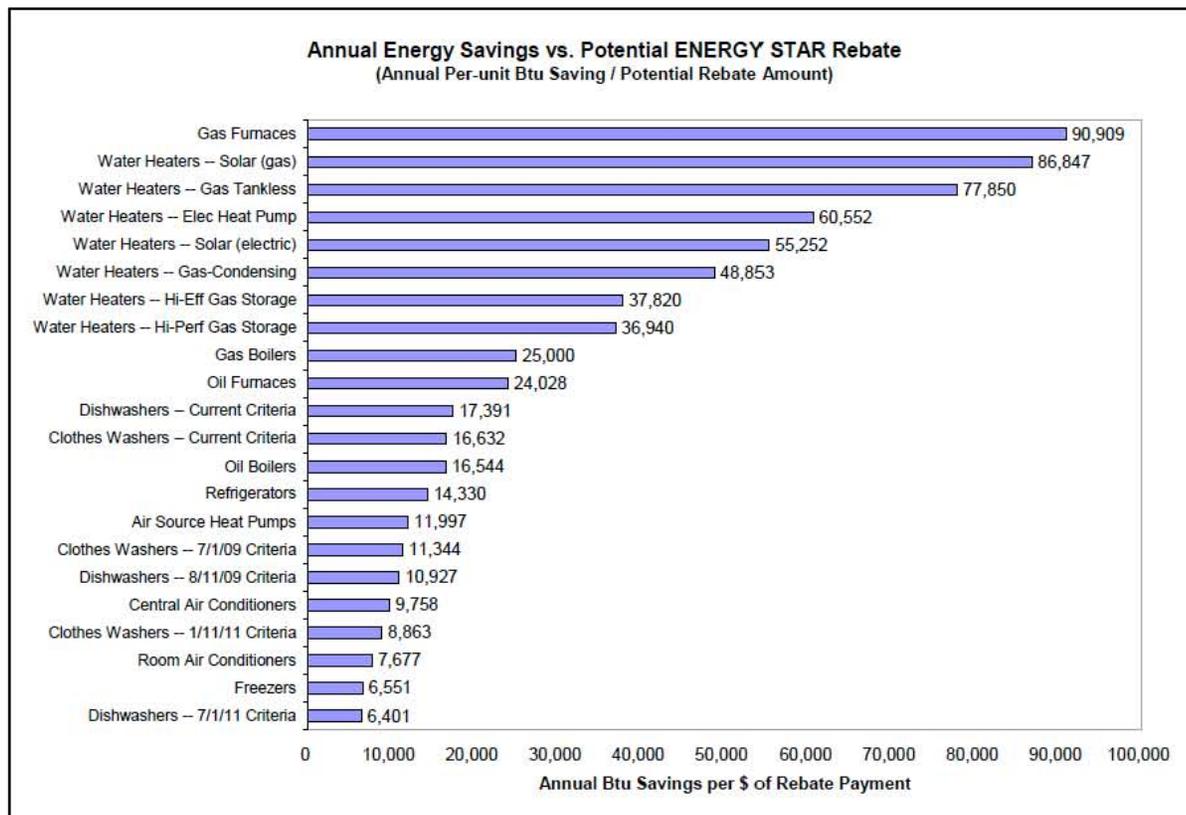
## **Cost Effectiveness of Solar Water Heating**

USH<sub>2</sub>O asserts that SWH is widely accepted as a mature, cost-effective solar technology. Compared to other water heaters that use fossil fuels, solar water heaters are more expensive, to be sure. However, as stated on the ENERGY STAR website, the label was established to both "reduce greenhouse gas emissions and other pollutants" as well as "make it easy for consumers to identify and purchase energy-efficient products."

SWH's value proposition is a combination of reducing environmental impact and saving energy and money on bills. SWH displaces from 40-90% or more of the non-renewable fuel and associated greenhouse gases. This superior environmental performance comes with a higher up-front installed cost. USH<sub>2</sub>O therefore supports ENERGY STAR's intent to use a "technology neutral" approach in labeling water heaters. SWH should not be compared with units that use fossil fuels because SWH provides environmental benefits simply not available from the other units.

Another measure of cost-effectiveness is how much savings is leveraged from incentives. In an analysis conducted in 2009 by U.S. Department of Energy's Energy

Efficiency and Renewable Energy Office<sup>1</sup>, SWH (offsetting natural gas) was found to be the second most effective technology in savings/rebate amount (see figure below).



### **ENERGY STAR Labeling of SWH**

USH<sub>2</sub>O strongly supports continuing the ENERGY STAR label for SWH for the following reasons. As documented below,

- **U.S. solar thermal sales are growing** at an annual rate of 6% since 1991.
- **Utility interest in SWH is expanding.** Utilities offer 78 SWH rebate programs in 23 states.
- **Adoption of ENERGY STAR labeling in incentive programs has begun.** In the two years since launching the ENERGY STAR label for SWH, incentive programs in at least 11 states have used the ENERGY STAR label in their programs.

U.S. SWH sales is growing. Navigant Consulting's recent analysis<sup>2</sup> of the U.S. solar thermal market shows that since 1991, there has been a 6% compounded annual growth rate in shipments of U.S. solar thermal collectors. SWH is responsible for 51-

<sup>1</sup> State Energy Efficient Appliance Rebate Program (SEEARP), American Recovery and Reinvestment Act (ARRA), Funding Opportunity Number: DE-FOA-0000119, U.S. DOE, July 14, 2009; Appendix B Table: Annual Energy Savings vs. Potential ENERGY STAR Rebate

<sup>2</sup> Solar Water Heating Supply Chain Market Analysis: Study for the City of Milwaukee, Navigant Consulting, September 2010; see [http://city.milwaukee.gov/ImageLibrary/Groups/cityMilShines/Documents/2010/SOLAR\\_THERMAL\\_KEYNOTE.pdf](http://city.milwaukee.gov/ImageLibrary/Groups/cityMilShines/Documents/2010/SOLAR_THERMAL_KEYNOTE.pdf)

61% of the total number of systems shipped and 70% of the total solar thermal market value.

This growth is largely due to an expanding number of SWH incentive programs from states and utilities. As of July 2011, the Database of State Incentives for Renewable Energy (DSIRE)<sup>3</sup> lists 126 SWH rebate programs in 40 states plus Washington D.C., Puerto Rico and the U.S. Virgin Islands. Utilities offer 78 SWH rebate programs in 23 states.

DSIRE also documents that of the 29 states (plus D.C. and Puerto Rico) that have renewable portfolio standards (RPS), SWH is eligible in 14 of them. Of the 16 states (plus D.C.) that have solar/distributed generation provision in their renewable portfolio standards, six allow solar thermal as a qualifying technology.

In looking specifically at the use of the ENERGY STAR label in incentive programs, at least 11 states provided SWH ENERGY STAR incentives<sup>4</sup> when they had funds through the American Recovery and Reinvestment Act. Since the ENERGY STAR label for SWH was only introduced in 2009, USH<sub>2</sub>O recommends allowing more time to allow this adoption process to continue. Since it takes a significant amount of time to affect change in utilities and states, it's premature to judge the level of adoption.

Given this level of activity in the SWH market, USH<sub>2</sub>O strongly supports continuing the ENERGY STAR label for SWH. When deciding which type of water heater to purchase, consumers need one consistent tool to compare their options. Excluding SWH from ENERGY STAR could send a confusing message to consumers. In essence, this exclusion could convey to consumers that SWH technology does not perform well when it comes to saving energy and avoiding emissions. Yet those are the very two attributes that consumers associate with SWH.

Thanks again for the opportunity to submit comments on this vital issue. We look forward to working with ENERGY STAR as the decision-making process moves forward.

Sincerely,



Chip Bircher  
USH<sub>2</sub>O Coordinator

---

<sup>3</sup> See <http://www.dsireusa.org/solar/index.cfm?ee=1&RE=1&spf=1&st=1>

<sup>4</sup> Approved Energy Efficient Appliance Rebate Programs, U.S. Department of Energy, Energy Efficiency and Renewable Energy; see <http://www.energysavers.gov/financial/70022.html>