

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



OFFICE OF
AIR AND RADIATION

February 16, 2010

Dear Programmable Thermostat Stakeholders and Other Interested Parties:

At the close of last year, the U.S. Environmental Protection Agency (EPA) committed to sharing next steps for the Agency's work on programmable thermostats early in 2010. This letter relays those plans.

EPA remains interested in devices that aid consumers in controlling the climate in and the energy use of their homes and workplaces. Recent research and industry discussions indicate that today's programmable thermostat is evolving into a more usable, capable and connected device. When such devices are integrated into energy management systems, the user will benefit from enhanced control and energy management capabilities to include Internet and smartphone HVAC control and HVAC consumption data in both kWh and dollars. Armed with this information, the user will be empowered to take actions to reduce energy use and see the results in real-time.

Recognizing that such products and associated protocols are under development now, EPA is launching a specification development process for a Version 1.0 ENERGY STAR[®] specification for Climate Controls. This effort is anticipated to be a first step in EPA's ongoing work to monitor technology developments, collaborate with stakeholders, and develop a program strategy to help ensure that the deployment of energy management systems reduces energy consumption and carbon emissions, in large part, through easier to use, more flexible controls and increased energy awareness. Further, this specification development process represents an evolution of the Agency's work with stakeholders on programmable thermostats and is intended to replace all previous ENERGY STAR Programmable Thermostat specifications.

For purposes of this effort, EPA defines "Climate Controls" to be advanced thermostatic HVAC controls, designed to ensure maximum efficiency of HVAC systems in residential and small commercial applications while offering enhanced comfort and ease of use. Examples of key requirements that EPA will consider and discuss with interested stakeholders include: enhanced usability to simplify operation and facilitate energy-saving preferences; and communications capability/upgradeability with external devices for purposes of information and energy management. EPA invites your participation in the ENERGY STAR Climate Controls specification development process.

ENERGY STAR Background and Rationale

The ENERGY STAR Version 1.2 Programmable Thermostat specification was sunset on December 31, 2009. While EPA recognizes the potential for programmable thermostats to save significant amounts of energy, there continue to be questions concerning the net energy savings and environmental benefits achievable under the past ENERGY STAR Programmable Thermostat specification. The proposed Climate Controls specification will focus on both comfort and usability features with the intention of overcoming previous concerns with actual savings delivered.

In addition, as noted in other EPA communications, the Agency is committed to further improvements in usability. To this end, we are working with the U.S. Department of Energy (DOE) and other groups to develop usability metrics and benchmarks to allow for more refined evaluation of product usability. EPA intends to make use of a usability metric in the Climate Controls specification. The below milestones reflect EPA and DOE's plans to engage stakeholders in the development and testing of this metric.

Next Steps

Over the next few months, EPA will engage product manufacturers, utilities, and other interested parties to develop a set of ENERGY STAR Climate Controls requirements. EPA anticipates that these requirements will include:

- Enhanced usability to simplify operation and facilitate energy-saving preferences (demonstrated through use of DOE metric referenced above);
- Humidity sensing and control to enhance comfort and minimize energy consumption;
- Display of outdoor temperature data;
- Time varied setback recovery that achieves the programmed comfort setpoint at or near the scheduled start of the comfort period while minimizing energy consumption; and
- Communications capability or upgradeability.

The tentative schedule includes the following milestones:

Milestones	Dates
Draft 1 specification for stakeholder comment	March 2010
Stakeholder conference call hosted by EPA	April 2010
Draft 2 specification for stakeholder comment	May 2010
Stakeholder conference call hosted by EPA	June 2010
Draft Usability Metric for stakeholder comment and testing	July 2010
Stakeholder conference call hosted by EPA	August 2010
Final Draft specification for stakeholder comment	September 2010
Final Version 1.0 Climate Controls specification	October 2010

Specification and meeting materials will be distributed via email and posted on the ENERGY STAR Web site. To track EPA's progress with the development of this specification, please visit the Product Development Web site at: www.energystar.gov/productdevelopment (click on "New Specifications in Development" and navigate to "Climate Controls").

The exchange of ideas and information between EPA and stakeholders is critical to the success of ENERGY STAR. We hope you will actively participate in the ENERGY STAR specification development process for Climate Controls. If you know of others who may be interested in participating, please forward this announcement and encourage them to send their contact information to Dan Cronin, ICF, at dcronin2@icfi.com to be added to the stakeholder contact list.

Please direct any specific questions to Katharine Kaplan, kaplan.katharine@epa.gov or 202-343-9120, and Abigail Daken, daken.abigail@epa.gov or 202-343-9375, at EPA or Doug Frazee, ICF International, at dfrazee@icfi.com or 410-279-1093.

We look forward to working with you.

Sincerely,

A handwritten signature in cursive script that reads "Katharine Kaplan".

Katharine Kaplan
U.S. Environmental Protection Agency
ENERGY STAR for Climate Controls