

July 9, 2019

Ms. Taylor Jantz-Sell and Ms. Abigail Daken  
US Environmental Protection Agency  
Ariel Rios Building 6202J  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Dear Ms. Jantz-Sell and Ms. Daken:

The Consortium for Energy Efficiency (CEE) respectfully submits the following comments in response to Smart Home Energy Management Systems (SHEMS) Draft 2 Specification, released by the Environmental Protection Agency (EPA) on June 11, 2019. This letter reiterates concerns previously conveyed in response to the SHEMS Discussion Guide and Draft 1 proposal.

CEE is the binational organization of energy efficiency program administrators and a staunch supporter of the ENERGY STAR® Program. CEE members are responsible for ratepayer-funded efficiency programs in 38 US states, the District of Columbia, and four Canadian provinces. In 2017, CEE members directed over 70 percent of the \$8.9 billion in energy efficiency and demand response program expenditures in the two countries. These comments are offered in support of the local activities CEE members carry out to actively leverage the ENERGY STAR brand. CEE consensus comments are offered in the spirit of strengthening ENERGY STAR, so it may continue to serve as the national marketing platform for energy efficiency.

CEE highly values the role ENERGY STAR plays in differentiating energy efficient products and services that the CEE membership supports locally throughout the US and Canada. We appreciate the opportunity to provide these comments.

# CEE Members Are Increasingly Tasked with Meeting Integrated Demand Side Management Objectives

While meeting energy efficiency regulatory goals remains a crucial, well-funded, and common purpose for providing consumers with energy management solutions, many CEE members indicate that kWh and therm savings independent of time and location may not warrant, by themselves, continued program investment. This evolution is driven by new regulatory objectives, such as deployment of distributed energy resources that are clean but create new grid considerations. CEE members increasingly seek to serve a broader range of objectives related to societal, utility system, and customer focused objectives. CEE's members have determined that an integrated approach to the home (products and services, traditional efficiency, interoperability and open platforms for communication, demand response, actionable information to change energy-related behaviors) is required to fully realize the opportunity afforded by connected devices.

EPA's current approach of applying three different approaches to device and system connectivity, 1) thermostats, lighting, and appliances, 2) home energy management systems, and 3) large load products, could inhibit CEE members from being able to consistently leverage the portfolio of ENERGY STAR products within integrated demand side management (IDSM) programs. Some members have discovered that while ENERGY STAR thermostats serve their energy efficiency objectives, they are insufficient in enabling customers to participate in demand response programs and in at least one instance, have contributed to increased system peak in communities with TOU rates. As programs become increasingly integrated, members are likely to support products and systems that can serve multiple objectives. For these reasons, CEE members are very supportive of the philosophy contained in the recently released *ENERGY STAR Connected Criteria for Large Load Products Discussion Guide* as it would likely serve multiple IDSM objectives. If EPA has interest in expanding the philosophy proposed in the *Large Load Products Discussion Guide* to all ENERGY STAR labeled products, CEE would welcome the opportunity to support EPA in this endeavor. To proceed, CEE supports hosting a stakeholder meeting to discuss the use of ENERGY STAR connected criteria and product finder as a behind-the-scene tool for IDSM programs.

# Given Documented Energy Savings, it is Premature for EPA to Proceed with a SHEMS Specification

Many studies have been conducted which demonstrate potential benefits derived from energy efficiency, load management, and behavior change enabled by smart, connected products and associated management services. While the results of these studies are promising, there is a wide range in the savings documented and each study comes with its own set of limitations and caveats. CEE members that have administered pilots for home energy management have cautioned CEE that cost-effective energy savings may not be realized in all applications or user scenarios, especially in instances where initial results are based on a single, non-statistically significant study. It appears possible that energy savings will need to be paired with load management and energy saving behavior measures in order to represent a viable, cost-effective option for voluntary programs.

Given the complexity of variables that factor into savings for any given home energy management system, the confidence associated with claimable savings relies on vetted studies that demonstrate in-field performance of such systems. To conclusively demonstrate cost-effective energy savings potential, additional studies and data will be critical. As this is a remaining challenge, CEE members are eager to work with EPA to identify and support new research and pilots as well as data reporting requirements that will help credibly document the associated savings. Ideally, these pilots would begin to incorporate time-dependent valuation of energy saved.

CEE appreciates EPA including requirements with the intended objective of supporting members' ability to pilot and demonstrate value associated with a SHEMS. We see the following additions as improvements to the proposal.

- Requirements for grid services capabilities
- Additional platform capabilities to support water heater control and time of use pricing
- Requirements for reporting of compatibility with any additional encouraged devices

Even so, we continue to believe it would be premature to move forward with a home energy management specification launch, unless the necessary rigor and data can be provided to demonstrate an incremental energy savings benefit to the consumer over a currently labeled product or service, such as communicating thermostats. We remain strongly opposed to EPA's approach of launching a Version 1 specification to provide the opportunity to collect data and enable the development of a metric which will more

definitively identify savings. CEE believes there are alternative strategies to enable EPA collection of data with reduced risk to the ENERGY STAR brand and we would be happy to support EPA in the development and implementation of these data collection efforts.

CEE would support service providers piloting this concept in limited jurisdictions in partnership with CEE members.

## **CEE is Concerned with EPA Adding Credibility to the Marketing Phrase “Smart Home” Given the Limited Set of Devices and Capabilities Specified**

As stated in CEE comments in response to the SHEMS Discussion Guide, the naming of an ENERGY STAR home energy management proposal should accurately represent the scope and amenity delivered to consumers.

We believe the scope of the current proposal remains too limited to be accurately characterized as a “smart” or “home” service or solution. In the draft 1 specification, EPA acknowledged that the “The ENERGY STAR SHEMS specification is tailored to current market circumstances by requiring a **limited set** of popular smart home devices”. While we support EPA’s vision to “grow to provide a national framework for complete home energy management systems that work seamlessly with the grid”, we strongly oppose attaching the phrase “Smart Home” to the current proposal.

Prematurely labeling services as “smart” that primarily focus on occupancy sensing and fail to address load management and energy saving behavior change is likely to undermine medium-term efforts by utilities to promote an Integrated Home. CEE members have defined an integrated home as efficient, enabled load management capabilities (including price responsiveness), and capable of two-way communication with the utility distribution system and other third parties providing energy management services. It anticipates that consumers will expect seamless interoperability and builds off new non-energy amenity and convenience to deliver a clean energy solution.

We appreciate that EPA acknowledges the importance of grid service requirements in the draft 1 specification, but as this criteria doesn’t align with [CEE Principles of Connectivity](#), it falls short of meeting CEE member needs. It is essential that EPA eliminate barriers for authorized third parties to leverage connected products as a grid resource by requiring translation to open standards within the physical premises of the home.

CEE members have carefully built the ENERGY STAR brand from the ground up and with this proposal, EPA risks damaging this shared asset by attaching ENERGY STAR’s

credibility to a limited “Smart Home” service or solution. If EPA were to employ a name that accurately represents the current proposal, and sufficient incremental energy savings were achievable, CEE members would likely support the approach of proceeding with a limited scope in the near term.

## Addressing Energy Management Services Could Lay the Groundwork for a Future Smart Home Identity

We believe that the current SHEMS proposal represents Energy Management Services enabled by connected home devices and has the potential to deliver new energy savings to customers. We suggest that EPA deliver on consumer expectations of ENERGY STAR and connected devices, with the intent of supporting the longer-term vision developed by CEE members. If in the future, the scope of the home energy management systems is broadened and can collectively address energy efficiency, load management, interoperability, and a minimum set on non-energy amenity expected by consumers across all the major end uses in the home, it may become appropriate for EPA to make use of phrase “Smart.”

CEE would once again like to thank EPA for the opportunity to comment on ENERGY STAR® Smart Home Energy Management Systems Draft 2. As the voice for the US and Canadian Program Industry, CEE will continue to inform ENERGY STAR and its stakeholders of the progress on our member’s IDSM framework and would willingly participate in an all stakeholder discussion to map out the Program’s future in service to public purpose and in light of the new digital economy. Please contact CEE Senior Program Manager Eileen Eaton at 617-337-9263 with any questions about these comments.

Sincerely,



Ed Wisniewski  
Executive Director