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Ms. Daken and Ms. Jantz-Sell,
Northeast Energy Efficiency Partnerships (NEEP) appreciate the opportunity to provide comments to ENERGY STAR on the Smart Home Energy Management Systems (SHEMS) Draft 1 Specification and Draft Method to Determine Field Performance. NEEP is incredibly supportive of ENERGY STAR and this effort, which we believe can play an important role in advancing the decarbonization of homes, particularly by helping to ensure that the smart devices being installed by service providers are those that will have the best energy savings and optimization potential. In our 2016 market transformation report on the smart energy home,¹ we identified a key strategy to success to “seriously engage with service providers in IoT space, especially home security.” As our research and the work reviewed by EPA shows, the service providers of the world are playing a very active role in the smart home space, but may not be doing so for energy optimization. The SHEMS effort spearheaded by EPA represents a critical step forward towards partnerships with and engagement of service providers to yield a better energy outcome. After review of the SHEMS materials and participating in the 4/12 webinar, we respectfully submits the following comments.

Definitions

NEEP recommends clarifying in the definition for smart power strip that “the smart power strip’s multiple outlets can be controlled individually or in a group by a wireless remote or app **with external communication** using Wi-Fi, Bluetooth, or other wireless communication protocols. Smart power strips incorporate either automated energy savings based on user interaction, or the ability to set timed events, or other trigger technologies such as Geo Fencing or IFTT. Smart power strips **must** have the ability to monitor and report energy use data from each outlet or the group of outlets.” Currently, there are many products available that may be marketed as “smart power strips” that have built-in controls, but lack the external communication chips and are therefore not remotely controllable or able to be incorporated into a greater home energy management system. Adding a few additional words to the definition would clarify which products do or do not meet EPA’s intention for smart power strips.

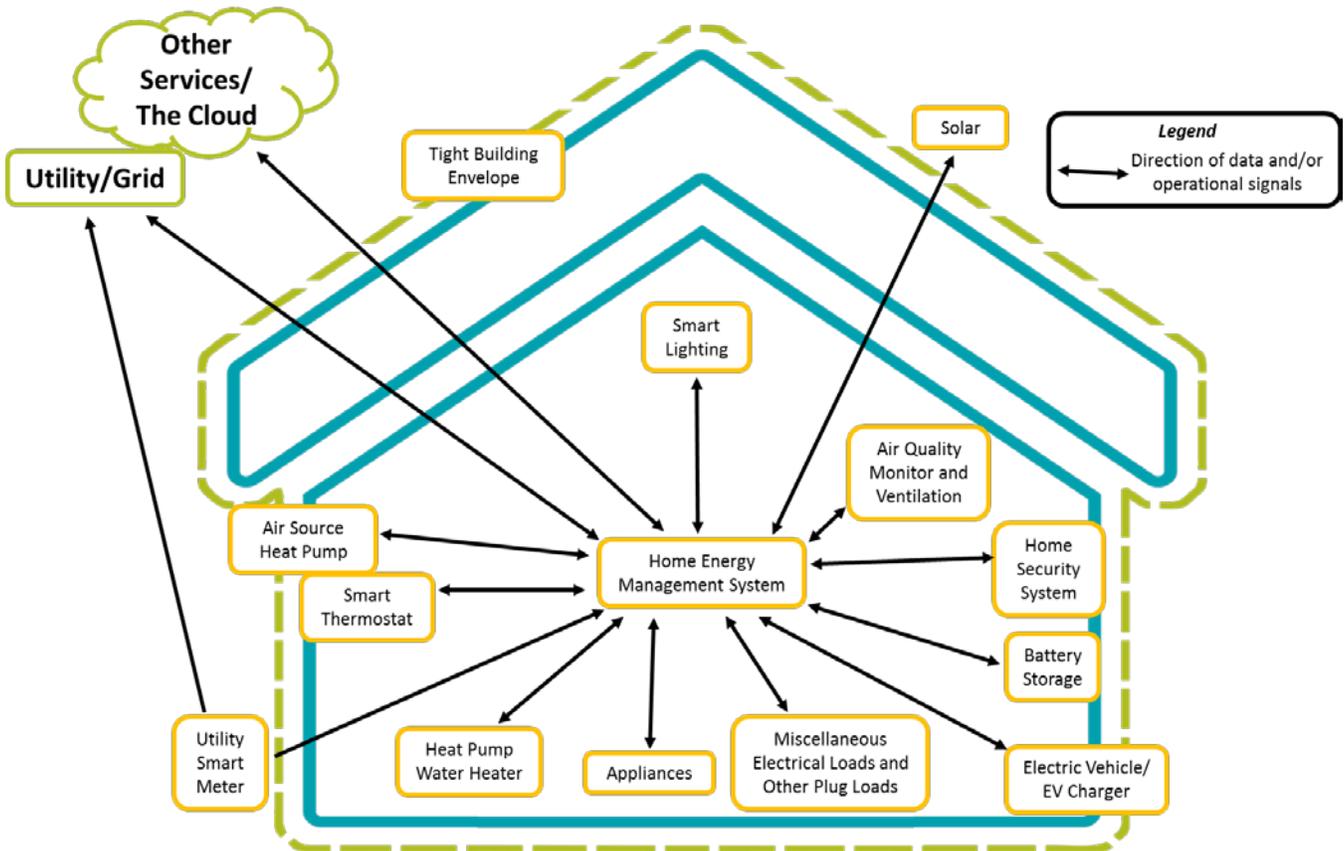
¹ <http://neep.org/smart-energy-home-strategies-transform-region>

Idle state vs. Standby state: I think there could be further wordsmithing to improve the distinction between idle and standby states. As currently defined, their differences are muddled.

Regarding Open Standards definitions, OpenADR is mentioned later in the document but not referenced here. I think adding a “but not limited to” to the list of standards agencies would be helpful.

Additional Required Platform Capabilities

NEEP applauds the additional required platform capabilities currently included in the specification and strongly urges EPA to consider expanding those capabilities. While smart water heaters and dynamic prices are very important, there is a missing opportunity to include electric vehicle supply equipment integration. As outlined in NEEP’s 2019 report on the Smart Energy Home Driving Residential Building Decarbonization², the full vision of the smart energy home of the future is included below; while several other components of a home including on-site generation, battery storage, and smart appliances are part of the full vision, EVSE is already an ENERGY STAR specification with many products already offered with connected functionality; NEEP suggests this be an additional component of the V1.0 specification for required platform capabilities.



² <https://neep.org/smart-energy-home-driving-residential-decarbonization>



Connected Device Requirements Idle and Standby Power Requirements:

NEEP is supportive of the base package proposed by draft 1 of this specification. For device power limits, it would be helpful to include the smart thermostat standby limits. We understand that these are dictated by the smart thermostat specification, but it would be a helpful reminder of the potential total standby power draw of a SHEMS package.

Optional Encouraged Devices

NEEP finds the list of optional encourages devices relatively comprehensive, though as a current ENERGY STAR processes are considering adding additional connected criteria for large loads such as CAC/HP and Water Heaters, I would recommend adding language referencing integration with any ENERGY STAR connected devices, as that list may grow faster than this specification is updated.

Regarding reporting, I would recommend an open text field for “optional additional device integration” where service providers can list with comma delineation the other devices they may integrate with, but would only be one field of data for management purposes. Collecting and making this data public in the V1.0 specification is very important to help inform subsequent specifications based on the information reported.

In the case of solar inverters and battery storage, NEEP encourages ENERGY STAR to develop specifications for those products to ensure quality and transparency of high quality, efficiency products, as is done with the other product categories listed.

Demonstrating Field Performance

NEEP is fully supportive of ENERGY STAR’s efforts to calculate and grant certification based on actual field performance. Additionally, the option data reporting requirements will be critical to grow the programs into the future, and NEEP is very supportive of EPA’s approach to request this optional information. It is possible that efficiency programs that may want to use the SHEMS program as a basis for their rebates may look to the optional criteria to determine which systems and partners to fund; strongly encouraging service providers to include optional information is very important.

Data Reporting Template

In review of the data reporting template, it appears that the bulk of reporting is deemed optional. Given the critical role the smart thermostat plays in the achievement of energy savings for SHEMS, it seems prudent that the climate zone information be required, not optional, as it may help better understand the savings achieved from the smart thermostats, particularly if the service provider operates in different parts of the country at different levels.

Additionally, I would recommend adding an “Other devices the SHEMS Package can integrate with” as one of the data fields to be collected.



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Finally, we'll note that NEEP recently released a report that touches on many of the specific questions within the discussion guide, [The Smart Energy Home: Driving Residential Building Decarbonization](#). ENERGY STAR is and must continue to serve in a leading role in recognition of high performing products, and NEEP looks forward to continuing to support ENERGY STAR's efforts into the future. Please don't hesitate to contact us with any follow up questions or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Claire Miziolek', with a horizontal line extending from the end of the signature.

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