



*Formerly Home Performance Coalition*

Washington, DC | Pittsburgh, PA | Berkeley, CA  
(844) 370-5748 | [www.building-performance.org](http://www.building-performance.org)

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Abigail Daken  
Taylor Jantz-Sell  
Energy Star Program Environmental Protection Agency

Dear Ms. Daken and Ms. Jantz-Sell

Thank you for the opportunity to provide comment on the Energy Star Program Draft 2 Specification for Smart Home Energy Management System (SHEMS), for the “Draft Partner Commitments,” “Eligibility Criteria, Draft 2 Version 1.0,” and “Draft 2 Method to Determine Field Performance.”

I am writing to you on behalf of the Building Performance Association.<sup>1</sup> As discussed in our comments on the Draft 1 specification, we have been deeply engaged in the evaluation and use of the “Smart Home” to advance residential energy efficiency for a number of years.<sup>2</sup>

The Building Performance Association is encouraged by the progress made so far in the development of this specification and applauds the Environmental Protection Agency’s Energy Star Program for recognizing the important potential of smart energy technology to improve the energy performance of homes.

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<sup>1</sup> The Building Performance Association has been newly created to combine the Home Performance Coalition (HPC), Efficiency First, and Home Energy Magazine to better advance the home and building performance industry through advocacy, education, community building and publications.

<sup>2</sup> The Building Performance Association, and its predecessors the Home Performance Coalition (HPC) and the National Home Performance Council (NHPC), have co-hosted regular Home Energy Management Systems Working Group meetings with the Northeast Energy Efficiency Partnership (NEEP) for five years. Our team managed the first Smart Home sessions at Affordable Comfort Institute (ACI) before it merged into HPC which has held tracks for four years on the Smart Home that have also tracked its evolution. In October 2018, HPC published [Redefining Home Performance in the 21st Century](#) and in April of 2019 HPC hosted the first [SmartOnSmart Workshop](#) to further engage contractors and programs on the benefits of integrating smart technologies into residential energy efficiency upgrades to maximize home energy performance.

## **Comments**

In addition to the below specific comments and questions on the draft, the Building Performance Association again references the October 2018 recommendations in [Redefining Home Performance in the 21st Century: How the Smart Home Could Revolutionize the Industry and Transform the Home-to-Grid Connection](#). In particular, we want to re-emphasize the importance of incentivizing interoperability so that there is flexibility to integrate with the many different energy-using devices in the home which will improve the usefulness and viability of SHERMS for achieving energy savings. Interoperability is not just an issue of devices within a package communicating with each other, but also the need for common languages and data standards so that SHERMS can be used by the industry to measure and monitor building performance upgrades. With this specification there is opportunity for Energy Star to press for manufacturers to find commonality in their systems so that—for the broader integration of SHERMS with existing energy data modeling and evaluation methodologies—data sharing and gathering would be more seamless.

We also believe that it will be important for contractors to be engaged and trained in Energy Star certified SHERMS given that homeowner behavioral interactions are critical to achieving savings with SHERMS and recognizing the important role that contractors play in educating and sharing energy savings opportunities with homeowners. The Building Performance Association team is already engaged with the development of SmartOnSmart training for contractors and, as noted below, we and our SmartOnSmart partners would be eager to work with EPA on developing guidance for contractors.

## **Partner Commitments**

1.1. – 5) Given that the definition of Smart Home Service Provider does not mention installers, we would like clarification that the following commitment, “Partner shall not market competing package offerings not meeting the ENERGY STAR Eligibility Requirements as energy management packages,” does not apply to installation providers such as home performance or HVAC contractors who may offer to install SHERMS but will also provide different thermostats to customers that are not Energy Star or are proprietary to specific HVAC units.

1.1 – 6) We appreciate the inclusion of #6 along with EPA’s recognition that individual installations may deviate from the package as certified based on consumer preference. In further support of helping consumers make informed choices, the Building Performance Association believes it is important to offer appropriate guidance for the professionals who will be performing installations and educating homeowners. As we mentioned in our comments on Draft 1 Version 1.0, we assume that home performance contractors (a significant part of our membership) would be among the professionals that would install Energy Star SHERMS packages. Home performance and HVAC contractors are the primary conduits for sharing energy saving opportunities with the homeowners – they manage the largest energy using device (HVAC) and work with homeowners to consider their energy consumption and comfort. We therefore urge EPA to consider developing guidance for those installation professionals to

ensure the efficacy of Energy Star certified SHEMS packages. The Building Performance Association and our SmartOnSmart partner would be happy to work with EPA on designing the appropriate criteria.

## Eligibility Criteria, Draft 2 Version 1.0

### 2) DEFINITIONS

- Installation professional – in our comments on Draft 1 Version 1.0 we pointed out that the specification has no definition of who can install the SHEMS and we urged the development of appropriate guidance for installation professionals. Draft 2 clarifies that EPA “will not seek to specify a mode by which the required devices must be sold or installed” and we appreciate that the SHEMS process is looking to ensure that there is flexibility in the guidelines. However, as described above, we do also urge EPA to consider developing appropriate guidance for the home performance and HVAC contractors who will be installing SHEMS packages and educating homeowners, given that proper installation and education are important to the efficacy of SHEMS.

### 4) ELIGIBILITY CRITERIA

- 4.1-E) The Building Performance Association appreciates the clarification added to Draft 2 Version 1.0 indicating that energy-saving device control actions implemented through hard, soft, and suggested triggers are required as a default. This again brings up the importance of behavioral interactions with these systems, and the important role that contractors could play in ensuring SHEMS Energy Star viability.
- 4.1-D) We appreciate that “including meter data” was added to the list of examples in Draft 2. Another recommendation in [Redefining Home Performance in the 21st Century](#) is to **Improve data access, data transfer policies, and increase data sharing**. As mentioned in our previous comments, platforms that provide access to utility meter data help translate that information for homeowners which is vital to increasing homeowner understanding of their energy use. Therefore, we recommend that services that provide homeowners with access to their meter data receive additional support from EPA.
- 4.2-B) The ability to control devices based on time of use (TOU) rates is excellent and we applaud EPA’s decision to maintain this requirement in the specification. **Implement Time of Use Pricing** is another recommendation in our report. We would like to reiterate our recommendation that EPA gather data regarding where SHEMS are being installed to be able to report to states on the up-take of SHEMS in their states. This information would be very useful to public utility commissions and energy policymakers who may be considering the viability of different rate structures. Through the field performance reporting requirements, we recommend that EPA collect and share anonymized state-level implementation numbers of SHEMS so that state policymakers will understand the availability of devices to advance innovation in smart grid and connected home policies.
- 4.3 In our comments on Draft 1 Version 1.0 we encouraged EPA to find methods to incentivize interoperability, which is key for building packages of combined devices and

services. EPA's Comment Response Document explains that the "specification is intentionally designed to address interoperability through its focus on partnering with service providers that are already managing the interoperability and security of their systems." However, the concern remains that if it is left to service providers to manage interoperability, it will be difficult for new actors to enter the space and crowd out innovation. There is opportunity for Energy Star to press for manufacturers to find commonality in their systems so that data sharing and gathering would be more seamless.

#### 6) EFFECTIVE DATE

- Given the pace of technological advancement we support the requirement that "When the specification is updated to a new version such as Version 2.0 partners must recertify to maintain certification of their package" so that there is a shelf life. We understand the process "to develop a metric to evaluate savings from different systems for Version 2.0" is expected to take two years, and we recommend that EPA undertake a review every 18 months or two years to ensure that the specification has evolved with the market.
- The Building Performance Association appreciates the anticipation of revisions and recommends for clarity that EPA refer to the first SHEMS label as 2019-V1. If it is revised in 2021, that version would be 2021-V2. In this way, contractors, real estate agents, and homeowners will know if their system needs updating and a service professional will know the differences between the versions.

#### 7) FUTURE CRITERIA REVISIONS

- We support the inclusion of Home Performance eXtensible Markup Language (HPXML), and the ways that SHEMS service providers might interact with it, as a topic to be examined in ongoing work and/or future revisions. HPXML is important because its common set of definitions facilitates the quick and easy transfer of home-related data between different market actors—including contractors, program administrators, implementers, government, evaluation consultants, and other information trading partners. As mentioned in our comments on Draft 1 Version 1.0, the Building Performance Association manages the HPXML process and would be happy to work with EPA on the appropriate references within SHEMS.

#### **Draft 2 Method to Determine Field Performance**

- Because the Method to Determine Field Performance requires service providers to report installations by climate zone, our recommendations for collecting data on state-specific SHEMS penetration should be possible. While some of the information may be anecdotal at first, with the proliferation of SHEMS it could provide valuable insight into home energy use.
- The Building Performance Association also urges EPA to ensure that the Field Performance methodology syncs with the current and ongoing work to value energy

savings in the home so that the industry has unified metrics. As mentioned in our comments on Draft 1, our primary observation is the need for these systems to be able to integrate into existing energy data modeling. There has been a great deal of on-going work to advance data transfer standards (HPXML), the development of a taxonomy of measures that can be utilized in program and multiple listing services (MLS), and other work to ensure secure and clear home energy data evaluation. This is all needed to ensure the proper valuation of energy savings data, not only during demand response but as a result of home upgrades. We look forward to a time when SHERMS can assist programs in measuring and monitoring building performance upgrades and providing additional incentives to homeowners and contractors due to measured performance.

In closing, we remain encouraged by the draft SHERMS program requirements and appreciate the opportunity to continue to comment and engage with the Environmental Protection Agency as these guidelines are finalized. Please do not hesitate to contact me if you have any questions or concerns.

Sincerely,



Kara Saul Rinaldi  
Vice President of Government Affairs, Policy and Programs  
Building Performance Association  
[kara.saul-rinaldi@building-performance.org](mailto:kara.saul-rinaldi@building-performance.org)  
202.276.1773