

Renew Home

Renew Home
2201 Broadway Ste. 702
Oakland, CA 94612

April 22, 2025

Submitted Via E-Filing

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

RE: Reply Comments in Support of Connected Thermostat Optimization, Docket No. M-2025-305286

Dear Secretary Chiavetta:

Thank you for the opportunity to submit reply comments in strong support of the inclusion and prioritization of Connected Thermostat Optimization within the Act 129 Phase V Energy Efficiency and Conservation Program, as outlined in Tentative Implementation Order (TIO) for Docket Number M-2025-3052826. Renew Home agrees with the recognized value of Connected Thermostat Optimization for achieving Act 129's peak load reduction goals as identified in the Statewide Evaluators' Phase V Demand Response Potential Study. Moreover, as described below, the actual potential is significantly larger and the associated costs are substantially lower.

Connected Thermostat Optimization is the concept of making small, often imperceptible adjustments that result in large load reductions when aggregated. Personalization is key to increasing savings and ensuring a reliable energy resource while protecting customer comfort and control. Renew Home Energy Shifts (similar to Connected Thermostat Optimization) are increasingly personalized to account for weather, home performance and personal preferences, and are often so subtle they aren't noticeable.

By helping households save without sacrificing comfort and meeting each household where they are, Renew Home aims to unlock wider and more frequent use of these features. When personalized shifts happen across a large number of devices at times when it matters most, it adds up to a lot of savings for households — and predictable, flexible, and reliable capacity for the grid.

Renew Home is building the most customer centric energy management platform and millions of households are already using this to help save and manage energy use. We are building an

Renew Home

at-scale virtual power plant to optimize grid reliability and stability without creating new infrastructure.

The Realistic Achievable Potential (RAP) is available on an accelerated timeline.

The Phase V Demand Response Potential Study outlines statewide RAP participation goals of 185,448 customers in the summer and 55,242 customers in the winter by PY22 (2031). These goals underestimate the existing connected thermostat load. In April 2025, Renew Home alone has more than 100,000 customers signed up for connected thermostat optimization statewide in Pennsylvania, ready for daily dispatches as soon as Summer 2025. More than 24,000 homes have heat pumps or electric resistance heating and could participate in daily adjustments this coming heating season statewide. These numbers will grow with the statewide addition of ecobee thermostats and other capable thermostats, showing that RAP participation goals should be much higher.

Customer comfort and satisfaction are keys to maximizing peak load reduction.

Connected Thermostat Optimization depends on high satisfaction and minimal disruption to customer comfort. Because the interventions are near daily, they need to be smaller, and less noticeable, staying in line with customer preferences. Renew Home uses personalization to ensure customer comfort is maintained, reducing customer fatigue and opt-outs.

While it is true that event-based Demand Response can lead to larger per-user load impacts, these interventions are more noticeable and limit participation. That said, the potential study's impact estimates of 0.16-0.22 kW in the summer and 0.54-0.72 kW in the winter are likely too low. By using Connected Thermostat Optimization with personalization, per-user impacts could be much higher. While daily adjustments eliminate non-event like-days for measurement and verification (M&V), randomized control trials can accurately measure impacts and can allow customers to participate by turning on existing features of their devices with minimal hurdles. Ultimately, 100,000s of customers participating in Connected Thermostat Optimization will have a larger impact than fewer customers participating in event-based demand response programs.

Total program costs are likely much lower

The kW-yr cost estimates in the potential study are too high for daily optimization. Assuming startup costs of \$500,000, annual per-customer fees of \$30 to \$55, and a conservative estimate of 0.3 kW impacts per customer with 200,000 customers, it will cost \$9,000,000 for 60MW, or a cost of \$150 kW-yr, as opposed to the +\$200 kW-yr implied in the potential study.

Connected Thermostat Optimization offers a significant, cost-effective opportunity to achieve Act 129's peak load reduction goals. By leveraging personalization and daily, often imperceptible adjustments, we can unlock greater participation and impact than estimated in the potential study, ensuring customer comfort while providing reliable grid capacity. Prioritizing and scaling this approach will lead to substantial savings, grid stability, and a more efficient energy future.

Renew Home

We applaud the PUC for this opportunity to comment and for including Connected Thermostat Optimization as an allowable DR pathway in the TIO. Connected Thermostat Optimization is a proven, verifiable daily load shift DR method. The PUC should maintain the technology neutral approach described in the TIO to maximize program flexibility and creativity toward electric distribution company goal achievement.

Will Baker
Director of Market Innovation
Renew Home
will.baker@renewhome.com