

Re: ecobee comments on the Tentative Implementation Order**Date: 4/27/2020**

Thank you for the opportunity to comment on the Tentative Implementation Order. ecobee is providing comments as a leading developer of smart thermostats that recently launched a new thermostat optimization platform called [eco+](#) which is being released to all of its thermostats this quarter in the form of a free software upgrade.

Leading up to the release, ecobee contracted Demand Side Analytics, a third-party measurement and verification firm, to measure the additional energy and demand savings impacts of this software upgrade through a robust randomized encouragement design using nearly 250,000 ecobee devices. An executive summary of the full measurement and verification report can be found at <http://www.ecobee.com/ecoplusEMV>.

The results demonstrate that the energy efficiency features of eco+ deliver demand savings during the 2-6pm timeframe. The table below from the report provides the climate-specific demand savings of the energy efficiency features.

Table 4: Summer 2019 LATE Energy and Demand Savings with Margin of Error at 95% Confidence Level

Region	August Per-Device kWh	September Per-Device kWh	Total kWh	Peak kW Savings (Weekdays 2-6pm)
o1 Canada	19.0 ± 10.5	5.0 ± 11.8	23.9 ± 15.8	0.08
o2 Cold/Very Cold	22.2 ± 7.3	16.8 ± 6.5	38.9 ± 9.8	0.07
o3 Hot-Dry/Mixed-Dry	17.5 ± 16.2	10.9 ± 17.3	28.5 ± 23.7	0.02
o4 Hot Humid	56.3 ± 13.7	59.5 ± 11.6	115.9 ± 18.0	0.08
o5 Mixed Humid	33.9 ± 7.1	33.3 ± 6.7	67.2 ± 9.8	0.11
o6 Marine	26.6 ± 14.6	15.0 ± 10.4	41.6 ± 17.9	0.06

As the tentative implementation order states that the Commission prefers lasting peak demand reductions achieved by energy efficiency measures, ecobee believes this information is highly relevant. Currently, the Pennsylvania TRM attributes zero demand savings to connected thermostats as an energy efficiency measure and states that connected thermostats are expected to primarily save energy during off-peak hours so no peak demand savings are assigned to this measure. As the table above from the eco+ M&V report demonstrates, this is inaccurate.

If Pennsylvania moves towards demand response as a byproduct of energy efficiency, ecobee believes it is important to revise the Pennsylvania TRM to properly account for the demand savings of smart thermostats.

Thank you for taking our comments into consideration.