

Background Logistics

In 2018, PG&E selected AEG to design and evaluate their Connected Home Bundle Pilot working with CLEAResult as the implementation contractor. The participant bundle included:

- 2 Aeotec Smart Switch 6 smart plugs,
- 4 Jasco Z-Wave Plus smart LED bulbs, and
- Mobile application.

The home connection leveraged a Vendor's cloud-based platform acting as a communication hub and an in-home gateway.

Overview of Analysis

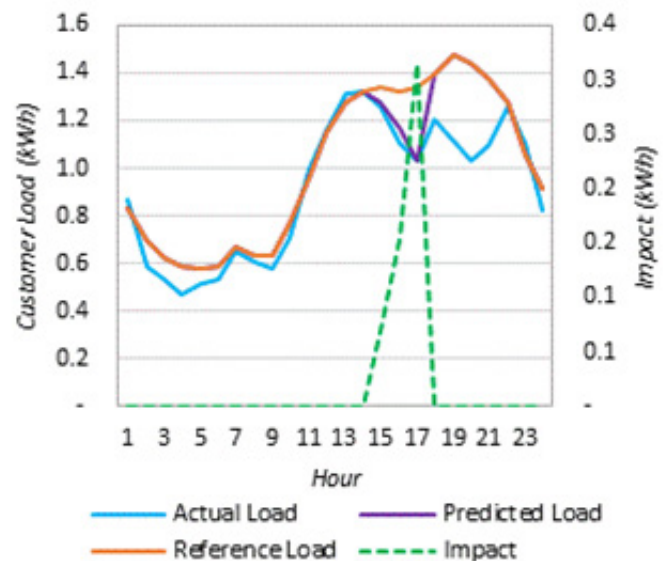
The pilot leveraged a within-subjects design to estimate impacts from DR events. Recruitment started in July of 2018 with a total of 153 participants, out of the original goal of 200. Once receiving and connecting devices, participants were asked to opt into the DR portion of the study.

DR events were called using an A/B group design, and were evaluated using a difference-in-difference regression-based approach (left).

Customer surveys were used to understand the customer experience with DR events, the installation and connection of the bundles, and overall satisfaction with the pilot.

Study goals included:

- Learn how customers install their connected product bundles and identify challenges,
- Set up platforms that allow the connected devices to respond to DR events,
- Assess satisfaction with product bundles,
- Estimate response during DR events using AMI data, and
- Determine if there were any increases or decreases in energy consumption.



Key Results & Applications

- Achieving full connectivity was challenging. Most issues were minor, but achieving a continuous wireless connection that enables data to flow from the PG&E meter to the hub was an unforeseen challenge.
- Energy shifting potential could target climate change, grid infrastructure, or emergency curtailment.
- A larger sample size was needed to see significant impacts, AEG recommends 300-500 customers.
- Utilities can build relationships with home security vendors that bundle energy management and safety.
- Customers liked the bundles but were not likely to invest in additional smart devices.

View the full report: <https://www.etcc-ca.com/reports/connected-home-bundle-field-study>

