

Alliant Energy Uncovers up to 9% Savings Potential in “Always On” Load

In 2018, Alliant Energy and Cadmus selected the Sense Home Energy Monitor to study how the disaggregation of energy consumption through machine-learning algorithms could inform the development of new energy-saving programs. The ongoing pilot focuses on investigating impacts in residential energy savings, customer engagement and behavior change, and demand response potential.

Approach

A sample of 100 homes was selected for each phase. In Phase 1, homes from rural and low- to middle-income zip codes, representing customers that are historically underserved by energy efficiency programs, and homes with slightly above average annual energy consumption were targeted. In Phase 2, the program was expanded to include homes in rural, suburban, and urban areas.

Sense Home Energy Monitors were installed in each participant's home and the Sense mobile app was downloaded so customers could see which devices were using power every day and how much each was costing.

In Phase 2, an additional device accessory from Sense was installed to provide Cadmus with circuit-level data to compare and validate the device detection provided by the Sense machine-learning algorithm.

For both phases Cadmus completed detailed billing analysis as well as online surveys designed to gather data about participants' satisfaction with the Sense monitor, the overall program, and Alliant Energy as well as behavioral changes made after starting the program.

Impact

Detailed analysis of device consumption during MISO peak days in summer 2019 revealed that after air conditioners, “always on” loads, refrigerators, and dryers were the highest contributors to peak load.

SAVINGS

8-9%

Potential, per home from “Always On”

CSAT

57%

Had improved opinion of Alliant Energy

ACTION

58%

Purchased at least one new energy-efficient

What's Next

Alliant Energy and Cadmus will enter the pilot's third phase in spring 2021. In Phase III, an additional 100 participants will be recruited and will receive proactive notifications intended to nudge further energy savings actions enabled by the Sense monitor and to assess sustained savings.

About: Alliant Energy provides regulated electric and natural gas service to approximately 960,000 electric and approximately 410,000 natural gas customers through its utility subsidiaries, Interstate Power and Light and Wisconsin Power and Light. Cadmus, a strategic and technical consultancy with a focus on energy, water, and transportation, conducted the study for Alliant Energy.