

ACHIEVING DEMAND SIDE MANAGEMENT TARGETS RELIABLY & COST EFFECTIVELY

CHALLENGE

Utilities around the world face growing regulatory, environmental, and financial demands to forecast and manage energy demand reliably and economically. Associated demand side management (DSM) targets have traditionally been achieved through programs such as appliance and lighting rebates, paper-based usage reports to affect behavioral change, and demand response initiatives. It's increasingly hard, however, to achieve ever-increasing DSM goals cost effectively.

A NEW APPROACH: ENERGY DISAGGREGATION

Every appliance leaves its "fingerprint" on the home's energy consumption waveform. Extracting this fingerprint from the whole home's energy meter data without using any hardware sensors on individual appliances is known as energy disaggregation (or Non-Intrusive Load Monitoring). Data is collected through a utility's existing smart meter or by adding an inexpensive sensor and communications gateway device.

By disaggregating energy data and providing 24x7 web and mobile access, Bidgely provides groundbreaking insights and actionable recommendations to utility customers:

- Appliance-level energy usage and cost
- Real-time and historic energy consumption
- Neighborhood comparisons by home and appliance
- Bill dispute avoidance via notifications and alerts, e.g. high-usage
- Highly personalized recommendations that result in reduced average and peak demand.

Bidgely also provides software-as-a-service (SaaS) utility intelligence tools that enable utilities to segment and target households most appropriate for specific EE and DR programs. By enhancing a utility's understanding of when and where their customers use energy in their homes, and by alerting consumers to scale back energy use during periods of peak load, Bidgely drives DSM results more reliably and at lower expense than any other available solution.

CUSTOMER QUOTES

"Love, love, love the way you can smartly learn which appliances are using how much energy, without external input."

Bidgely Customer in
SDG&E Territory

QUANTIFYING THE ENERGY SAVINGS OF THE BIDGELY SOLUTION

Leveraging open Home Area Network (HAN) and Green Button (GB) data access in California, Bidgely conducted a study from July 2013 till December 2013, with the goal of quantitatively and objectively determining the energy savings of its energy disaggregation-based consumer engagement platform.

DATA COLLECTION

For HAN, Bidgely distributed in-home gateway devices to utility customers across California. The gateways stream data from the smart meter to Bidgely's cloudbased servers every few seconds. Consumers access the Bidgely solution using web and mobile apps.

For GB, consumers link their utility account to Bidgely, in similar fashion as a consumer connects his or her bank and credit card accounts to Mint.com for their financial advisory solution. Bidgely then automatically extracts their previous 12-month's energy consumption data and updates it every 24 hours thereafter.

STUDY PARTICIPANTS

A third party designed the study and utilized industry-standard randomized control and treatment (RCT) methods. Over 300 study participants were selected from consumers living in single-family homes with a monthly utility bill between \$50 and \$250, and who don't own an electric vehicle, solar panels, or use more than 60kWh of electricity per day. The sample size was ensured to be large enough for statistical significance. The treatment and the control group participants in the study were equally distributed geographically to avoid any weather-related biases.

RESULTS

Study participants who were exposed to the Bidgely solution showed an average reduction of 6% in household energy consumption over those who were not exposed. This represents an increase of over 300% compared to results typically achieved through traditional DSM programs. For full study results, please contact utilities@bidgely.com.

6%
average energy
savings

90%
used Bidgely's
application at least
once per week