Increasing demand-response program performance

Data science case study
April 16, 2021

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Key takeaways

With the E Source Audience of One solution, our client:

- Identified the best customers to focus on to optimize the performance and cost-effectiveness of the utility's five demand response (DR) programs as well as the overall portfolio
- Increased operational DR performance by 30%
- Saved valuable staff time—the tool enables on-demand or automated event scheduling, proactively identifies data-quality issues, and generates reports with the push of a button

The challenge

A major West Coast utility needed a better way to predict event-level reductions across its DR portfolio. It needed to balance intermittent production from solar resources, meet regulatory obligations, and fulfill its goal of using DR as a virtual power plant.

The utility had developed an in-house forecasting tool that based predictions of load-shedding performance on historical averages. The tool was useful but didn't provide the necessary accuracy. The utility needed a more granular, dynamic approach.

Do your customer programs need a performance boost?

Contact our team to learn more about our expertise and how we can help.

The solution

The key to more accurate forecasts? Modeling individual consumer behavior rather than depending on

annual program averages. The utility turned to E Source and its AI-powered suite of solutions to combine historical customer data, smart meter data, and the utility's proprietary cache of third-party consumer data and develop a granular, individual forecast for every customer enrolled in DR. E Source then aggregated those microforecasts to provide program-level predictions.

The results

With E Source's help, the utility boosted the performance of its DR programs by 30% and was provided with the precise data needed to apply DR more locally on the grid. The program runs daily during DR season to optimize the utility's portfolio of DR resources, comprising 350,000 customers.

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