

**CASE STUDY**

# Near Real-Time Energy Data Drives Targeted Customer Engagement & Grid-Edge Intelligence

Holy Cross Energy (HCE) is leading the responsible transition to a clean energy future. The Colorado-based electric co-op has set the goal of increasing the renewable electricity they provide to their members to 100% by 2030 and to offset their greenhouse gas emissions to net-zero by 2035 altogether.

**CHALLENGE**

**Holy Cross Energy wants to achieve 100% renewable power without sacrificing its members' affordability, safety, or reliability. To get there, the co-op is deploying more renewable energy resources and driving the adoption of Distributed Energy Resources (DERs) and smart electrification, which include electric vehicles, heating and cooling equipment, PV, and energy storage.**

To map their path toward a cleaner energy future, HCE needed data and visibility to understand how these changing energy resources will impact the grid. While AMI meter infrastructure delivered some insights, the co-op was keen to obtain near real-time energy data from electric meters and grid-edge voltage data to better analyze what was truly happening on the grid.

Additionally, HCE was looking to encourage its members to play an active role in this energy transition. As a mountain utility with a diverse geographic territory, HCE observes unique usage patterns and winter peaks driven by electric heating, increased visitor numbers, and snow management, including blowers and heat tape.



## SOLUTION

### Real-time energy data drives targeted customer engagement.

In addition to time-of-use rates, HCE offers programs that pay members for a measured reduction or increase in usage compared with their baseline during a limited number of demand response (DR) event hours.

The utility worked with Copper to provide its members with Copper's energy monitor and app to drive engagement through near real-time, personalized insights and energy usage tips.

Benefits for members include the ability to control energy costs and maximize their bill credits from HCE's Peak Time Payback (PTP) program. Participating members receive credits 60 times throughout the year as an incentive for adjusting their energy use during peak events.

As HCE monitored their members' energy usage, they discovered that the real-time, personalized insights provided by Copper made a big difference in members' behavior. Members who use Copper were twice as likely to comply with a prompt to reduce their energy usage voluntarily—whether they were enrolled

in the PTP program and had a personal financial incentive to do so or not.

These timely targeted messages significantly impact member behavior, which ultimately means lower peak time energy usage and lower cost to serve.

### Near real-time electric and voltage data enables situational awareness, grid orchestration, and future planning.

As HCE is working toward enhanced situational awareness and control of its changing grid, Copper provides near real-time energy data from behind the meter and grid-edge voltage data.

This allows HCE to see more granularly what's happening behind the substation, assess the effectiveness of DR events, and detect anomalies of DERs in real-time.

Ultimately, Copper provides the real-time data needed to better analyze and orchestrate the grid, cost-effectively manage supply and demand, and inform the co-op's future roadmap for achieving 100% renewable power by 2030.

## RESULTS

### Together, targeted customer engagement and grid-edge intelligence allow HCE to design the path to 2030.

With Copper, HCE leverages the participation of its members as collaborators rather than passive consumers of the utility. Additionally, the ability to see behind the meter equips them to manage the grid better.

**Load Shifting:** 2x peak usage reduction, compared to control group

**Member Satisfaction:** Relevant energy tips and behavioral DR gamification lead to lower energy bills and better engagement

**Visibility & Control:** Voltage detection behind the meter and grid-edge intelligence

**Agility:** Real-time data enables quicker analysis and intervention during anomalies and outages

**Sustainability:** Valuable reminders to members to conserve energy when it matters most to the grid creates immediate environmental impact

**Cost Savings:** 2x member participation in peak events further reduces power supply costs during periods of high demand