

Providing Innovative Solutions and Options for Residential Customers

By ADAM COOPER, MIKE SHUSTER, and LISA WOOD

Across the United States, EEI's member companies—the nation's investor-owned electric companies—are partnering with technology companies to develop solutions to meet the evolving needs and expectations of residential customers. These solutions range from providing customers with more rate choices and payment options that make sense for them (e.g., pre-pay, flat-bill, time of use [TOU] rates, and more), to developing energy management solutions (e.g., energy efficiency and demand response) that offer energy grid operators flexible capacity resources and cost-effective ways to reduce carbon emissions.

Innovative Rates & Payment Options

Providing residential customers with rate choices and payment options that better align with their needs and expectations is driving measurable and dramatic increases in customer satisfaction.

For example, Georgia Power is using insights from smart meter data to offer multiple TOU rates, guaranteed fixed bills, and other options that provide residential customers more choice, certainty, and control over their energy bills. With enhanced visibility due to smart meter data and accurate load forecasting, Georgia Power can offer a flat bill option to a customer even before the customer starts service at a new residence. The flat bill is a fixed monthly bill that doesn't fluctuate over a 12-month

period and has no "true up" if usage exceeds expectations. It is attractive to customers who value bill certainty each month.

In 2020, Georgia Power launched Pay-by-Day, a billing and payment plan that is providing more than 80,000 customers with an option to manage their energy use and payments. Pay-by-Day combines the convenience of PrePay with a fixed daily price for electricity, based on a customer's projected consumption over an entire year.

Today, half of Georgia Power's residential customers are opting for "non-traditional" rates versus 5 years ago, when 90 percent of customers were on the traditional rate.

Energy Bundles

Pilot programs across the United States are demonstrating how personalized energy bundles benefit customers and electric companies.

In one pilot, the AES Corporation and Uplight are offering residential customers a one-step sign-up for a flat monthly bill that includes a clean energy subscription and energy optimization via a smart thermostat. Like other subscription models available in today's digital world, AES is using a mobile app to offer customers predictability, simplicity, and actionable insights.

Early results from similar pilots across the nation show that a personalized, flat bill bundled with smart thermostat energy optimization can reduce end-use energy

Smart meter data helps electric companies provide residential customers with rate choices that can include:

- EV Rates
- Flat Bills
- Nights & Weekends
- Pay-by-Day
- Pre-Pay
- Smart Usage TOU
- Traditional Residential Rates

consumption by an average of 6 percent annually. During the summer, when air conditioning demand is high, the program also enables electric companies to shift energy use out of a 3-hour, high-price, or high-carbon time period.

With advances in technology, bundling energy services with flat bills can be a triple win: participating customers get simplicity and predictability; nonparticipating customers get more affordable, clean, and reliable energy; and electric companies get access to new tools to manage the energy grid.

Enabling Demand Flexibility

Technology also is enabling demand-side management programs such as energy efficiency and demand response to serve as foundational carbon emission reduction tools.

For example, Arizona Public Service

The Institute for Electric Innovation focuses on advancing the adoption and application of new technologies that will strengthen and transform the energy grid. The Institute's members are investor-owned electric companies that represent about 70 percent of the U.S. electric power industry. The membership is committed to an affordable, reliable, secure, and clean energy future.



The Edison Foundation

INSTITUTE for ELECTRIC INNOVATION

DTE Energy



“Electric companies are empowering customers with awareness and control over their energy use and their carbon footprints.”

(APS) utilizes its Cool Rewards program to shift and to reduce customer energy use during peak periods by adjusting smart thermostats. As of September 2021, APS could dispatch an event across more than 40,000 customers via smart thermostats and reliably save about 70 megawatts of load, avoiding the dispatch of less-efficient and higher-carbon-emitting peaking plants.

Pre-enrolling customers in Cool Rewards through the APS online marketplace provides a one-stop shopping experience for customers and a flexible, reliable demand resource for APS. According to an Uplight 2021 case study, adding a pre-enrollment function to a smart thermostat program increases enrollment rates significantly.

Looking ahead, the U.S. market potential for smart thermostat programs has plenty of upside—less than 20 percent of U.S. households own smart thermostats today, whereas more than 75 percent have smart meters that would support programs like Cool Rewards.

A 2021 report by the Brattle Group, “The Customer Action Pathway,” concluded that customer-led actions, including demand-side management programs, private solar, and electric vehicles, have the potential to reduce greenhouse gas emissions by nearly twice as much as supply-side reductions alone will achieve by 2040.



DTE Energy customers interact with the Insight energy management app more than 1 million times per year.

Empowering Customers

Electric companies are empowering customers with awareness and control over their energy use and their carbon footprints. One example is DTE Energy’s Insight App developed in partnership with Powerley. Through the Insight app, customers can see and track how much energy they are using on a daily, weekly, or monthly basis. Today, more than 300,000 DTE Energy households—about 14 percent of DTE’s residential customers—use the Insight App as a home energy awareness and management tool, interacting with it more than 1 million times per year.

On average, customers engaging with the Insight App at least 25 times per calendar year realize 5 percent energy savings. And, some of these customers are reducing their carbon footprints by more than 10 percent. The Insight App also is supporting customer participation in DTE Energy’s TOU pilot, increasing enrollment in DTE’s voluntary renewable energy program (MIGreenPower), and providing information to customer service representatives that helps them resolve customer issues in real time.

The Bottom Line

Today’s residential customers are expecting electric companies to tailor service offerings to meet their needs. With technology such as smart meters, smart thermostats, customer engagement apps, and online marketplaces, electric companies increasingly are offering their residential customers innovative rate, payment, and energy management solutions that are providing triple-win results: personalized value for customers, flexibility for the energy grid, and reduced emissions for the environment. **EP**

ADAM COOPER is I&E senior director of research & strategy.

MIKE SHUSTER is I&E senior manager of energy research & partnerships.

LISA WOOD is E&E vice president of customer solutions and I&E executive director.