

SE Special
HD **Regulators; What Utilities Have Learned From Smart-Meter Tests... ..And why they aren't putting those lessons to use**

BY By Rebecca Smith
WC 1,509 words
PD 22 February 2010
SN The Wall Street Journal Online
SC WSJO
NGC The Wall Street Journal - Print and Online
GC CTGWSJ
PG In-Depth Reports
LA English
CY Copyright 2010 Dow Jones & Company, Inc. All Rights Reserved.

LP
Utilities have learned a lot about how smart meters can compel consumers to save electricity. Unfortunately, too often they aren't putting the knowledge to good use.

Smart meters are more precise than traditional meters in that they send readings on electricity usage to utility billing departments throughout the day. Not only do smart meters provide customers with a clearer picture of how they use electricity on a daily basis, they also make it possible for utilities to charge more for power when demand is highest—in the afternoon—and less when usage falls off—at night.

TD
By making variable pricing plans possible, smart meters are expected to play a big role in getting customers to reduce their peak-hour energy consumption, a key goal of utility executives and policy makers. Electricity grids are sized to meet the maximum electricity need, so a drop in peak demand would let utilities operate with fewer expensive power plants, meaning they could provide electricity at a lower cost and with less pollution.

Utilities have run dozens of pilot tests of digital meters and found that people cut power consumption the most when faced with higher peak-hour rates. But utility executives and regulators have been reluctant to implement rate plans that penalize people for too much energy use, fearing that if customers associate smart meters with higher bills, they will stall the technology's advance just as it is gaining traction. Only about 5% of U.S. electric meters are "smart" today, according to the U.S. Department of Energy, but that figure is expected to grow to about one-third in the next five years.

So, many utilities are trying an approach that is less controversial, but also less effective: offering rebates to customers who conserve energy in key periods of the day. By doing things like turning off clothes dryers and adjusting air conditioners on hot summer afternoons, customers earn credits that can reduce their electricity bills.

Preventing Rebellions

"Most CEOs struggle over this issue more than anything else," says Ted Craver, chief executive of Edison International, the Rosemead, Calif., parent of Southern California Edison, which is in the midst of a massive smart-meter rollout. "You could have a real rebellion" if smart meters push up customers' rates, especially if utilities' other capital expenses are increasing, he says.

Pacific Gas & Electric Co., a unit of PG&E Corp., got a taste of the public-relations risk last summer when it installed smart meters in Bakersfield, Calif., as part of a broad upgrade in its Northern California service territory. When customers—who weren't participating in any sort of experimental rate plan—received dramatically higher bills shortly afterward, they blamed the meters for what they assumed was faulty billing. The San Francisco utility investigated and concluded that the meters were functioning properly. It found that the higher bills were simply a case of unfortunate timing: An increase in conventional rates had taken effect just ahead of unseasonably hot temperatures.

"What it told us is that people aren't really knowledgeable about smart meters coming down the pike

and they don't pay much attention to rate changes," says Dian Grueneich, a member of the California Public Utilities Commission, which is monitoring the situation. "It told us there needs to be a lot of consumer education" before making big changes.

PG&E now has a voluntary program in which customers agree to pay higher peak rates of 60 cents a kilowatt-hour for no more than 15 days a year, in exchange for a discount of three cents a kilowatt-hour for electricity used at other times. So far some 26,000 customers have signed up.

To date, 16,000 to 18,000 people have participated in more than five dozen pilot tests involving smart meters and experimental rate plans, according to Ahmad Faruqui, a consultant with the Brattle Group who has helped utilities develop some of the programs. He says that while it is sometimes disheartening to see utility executives ignore their own findings, he understands the desire to move slowly until people become comfortable with smart-meter technology.

Pepco Holdings Inc. recently did a pilot test in Washington, D.C., of three rate plans designed to gauge how customers respond to different price signals. One plan pegged the price, which ranged from a penny to 37 cents a kilowatt-hour, to the wholesale cost of electricity. One charged a "critical peak price" of 75 cents a kilowatt-hour during certain hours on a handful of days, and 11 cents per kwh at other times. The final plan gave customers 75 cents for each kilowatt-hour of energy saved and charged 11 cents per kwh for power used.

Results showed that people responded most when threatened with the 75-cent-per-kwh peak pricing. Those customers cut their overall energy consumption between 22% and 34%, depending on whether they also had programmable thermostats that could automatically change temperature settings. Customers offered rebates reduced their usage 9% to 15%—again, with the deeper cuts among those who had smart thermostats.

Despite evidence that sticks are better motivators than carrots, the utility intends to offer rebates in the future in an effort to change behavior. "Our general sense is that consumers would prefer a rate structure with no downside," says Steven Sunderhauf, a program manager for Pepco. "From a purist's standpoint, I may prefer critical peak pricing because it gets the boldest response...but using rebates will help people get comfortable with smart meters."

Offering Protections

In addition to fearing a customer rebellion, utility executives and regulators worry that the introduction of peak pricing for the hottest or coldest days of the year could harm vulnerable members of society. Many experts feel that not enough research has been done to protect those who aren't able to change their electricity usage.

"I'm mindful that an elderly person with medical equipment can't say, 'I'm not going to run the equipment at the 'peak' time,'" says Kevin DelGobbo, a Connecticut utilities commissioner. "We have to be careful with these rate structures."

The same holds true for commercial customers—some may not have the option of cutting usage on weekday afternoons.

Last summer, Connecticut Light & Power Co., a subsidiary of **Northeast Utilities Service Co.**, gave new meters to 3,000 residential and business customers, testing three types of rates. Like other utilities, it found that homes facing the highest peak-hour pricing—\$1.60 per kwh at certain times—responded the most, cutting peak use 16% to 23%, depending on whether they had other aids like smart thermostats. Commercial customers, in a similar test, cut their demand far less, only 7%.

That was instructive, says Jessica Brahaney Cain, director of CL&P's smart-grid planning, because it told the utility that many commercial customers don't have the option of cutting usage during times of peak demand. "A restaurant has to use its ovens," she says. "A dentist has to use his drills."

One surprise, says Ms. Cain, was that almost all of the customers who participated in the pilot test reported more satisfaction with the Berlin, Conn., utility than those who didn't. They liked that the meters gave them greater insight into how they use electricity, she says.

CL&P expects to file a plan for mass-meter deployment and new dynamic-pricing plans by the end of March. It plans to offer rebates for conservation, at least in the beginning.

Better Tools

Southern California Edison says it also plans to adopt a rebate strategy by the end of the year, even

though it won't have all its meters in place until 2012.

"If customers do nothing, they'll get the same bill they otherwise would get," says Lynda Ziegler, senior vice president for customer service at the Edison International unit. Those that cut peak consumption will get a credit of 75 cents to \$1.25 for each kilowatt-hour of reduction. The main concern of regulators, she says, is making sure meter readings are accurate.

The utility chose rebates over penalties partly because a law passed during the California energy crisis a decade ago limits its ability to involuntarily switch people to higher peak-hour pricing plans right now. A new law may allow it after 2013.

But the utility also concluded that it wouldn't be fair to really crank up peak pricing until homeowners have greater access to automation tools such as smart appliances and controllers. In the future, devices will contain computer chips and software so they can go into energy-saving mode in response to a signal sent from the utility or another energy manager that higher prices are kicking in.

Ms. Smith is a Wall Street Journal staff reporter in San Francisco. She can be reached at rebecca.smith@wsj.com.

IN i1 : Energy

NS e1202 : Interest Rates | c314 : Pricing | genv : Environmental News | c31 : Marketing/Market Research | ccat : Corporate/Industrial News | e12 : Economic/Monetary Policy | ecat : Economic News | gcat : Political/General News | ncat : Content Types | nfact : Factiva Filters | nfcpin : FC&E Industry News Filter

RE usa : United States | namz : North American Countries/Regions

IPD Ted Craver Dian Grueneich Ahmad Faruqui Steven Sunderhauf Kevin DelGobbo Jessica Brahaney Cain Lynda Ziegler JR: Energy Feb 10

PUB Dow Jones & Company, Inc.

AN Document WSJO000020100221e62m0040n