

So smart.

Empowering the consumer at Sioux Valley Energy



Ted Smith and Debra Sommers display the information packets sent to participating Sioux Valley Energy members.

By Tracie Bettenhausen

If you knew the exact time of day it would happen, how would you deal with a sudden spike in the cost of your electricity?

If you knew your electricity would cost five times more during four hours of your day, would you hold off on doing your dishes or laundry or adjust your furnace or air conditioner by a few degrees?

Would you put up with some inconvenience to save money on your electricity bill?

That is what Sioux Valley Energy wanted to find out. They're a member of Basin Electric through both East River Electric Power Cooperative and L&O Power Cooperative.

The cooperative had been discussing the idea of a new metering system for a few years, and when federal grants became available for smart grid projects, Debra Sommers, director of customer and employee relations, and Ted Smith, director of engineering and operations, were put to the task. "During the application process for the stimulus grants, we started to come up with ideas. When we were notified in late 2009 that we were successful in getting our grant, our ideas really just gelled," Smith says.

"We wanted to find out if you could effectively change consumer's behaviors so they can save money on their bills," Sommers says.

Sioux Valley Energy went to their member advisory council to see how consumers might accept a critical peak pricing rate experiment. After getting positive feedback, they decided to get started.

The method

The critical peak pilot project events would be limited to Monday through Friday, 4 p.m. to 8 p.m. The testing period was June, July and August 2011.

The experiment allowed for 35 critical peak events throughout the testing period. Because the summer was so mild, there were only 12 events: five days in June, five days in July and two days in August.

Smith and his team determined manually when the next day would contain a peak pricing period. "We had some tools to use. For example, Basin Electric does a forecast for East River Electric, and we get a copy of what East River's forecasted load is going to be," Smith says. "We take into

The savings

Smith says his family saved up to \$30 in a month on the program. "It was a fairly good savings, by doing what I think are fairly easy, common sense kind of things."

Sommers says 88 percent of the voluntary group members saved money, about \$17.50 on average. In the involuntary group, 83 percent saved about \$15 on average.

In energy savings, voluntary residential consumers saved the most (24 percent). Voluntary farm and ranch consumers saved 19 percent.

Sommers says these savings are good for the consumer, but they're also good for the cooperative as a whole. "Sioux Valley Energy is billed by East River Electric and L&O Power based upon our highest demand for the month. So, whichever half-hour in which we're using the most power, that's how we get billed. If our members are able to respond to that critical peak event and it matches up to our billing peak, hopefully we've lowered our billing peak, too, and save on our power bill. It should be a win-win."

The feedback

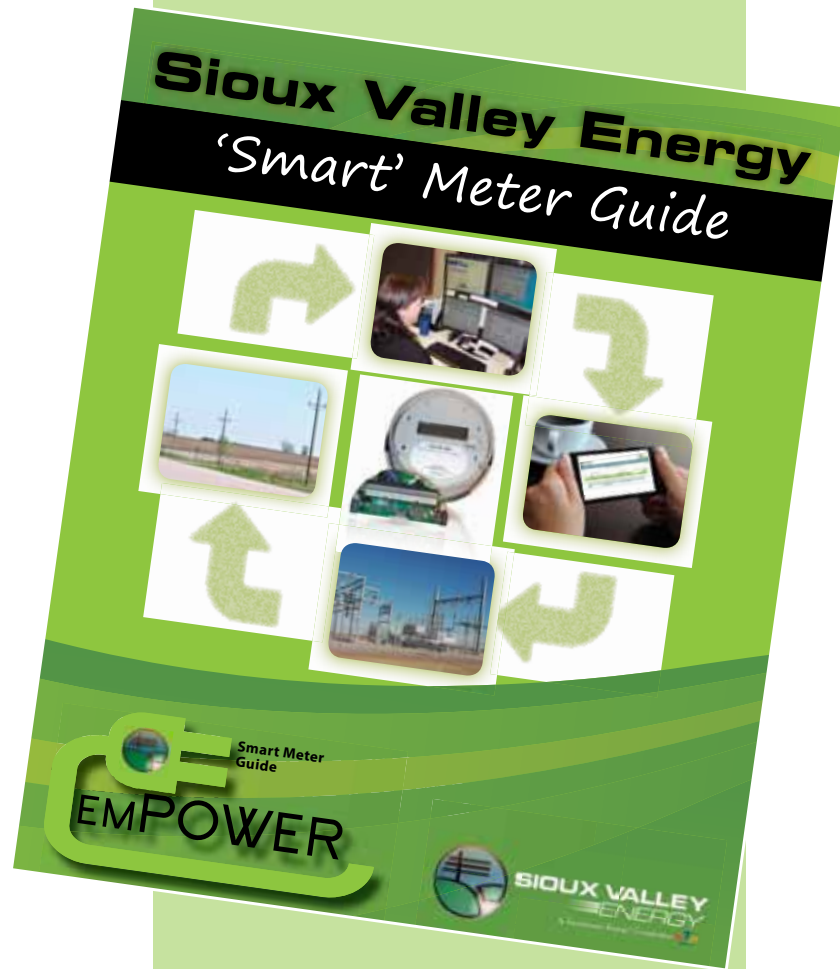
During the hottest days of July, there was some grumbling among participants who chose to save energy on their air conditioning. "We did get some customer complaints during those five days we called for critical peaks," Sommers says. "I saw some member fatigue there."

But overall, Sommers and Smith were happy with the response they received, and the number of surveys returned when the experiment was over. They're currently compiling the results for communication.

Smith says Sioux Valley Energy plans to experiment again during the summer of 2012, and work has started toward a wintertime critical peak pricing experiment.



The in-home display received notification about critical peak events 24 hours in advance.



EMPOWERing their members

Sioux Valley Energy's experiment was marketed under their EMPOWER smart meter guide. As the cooperative has been installing smart meters, consumers are given access to an online guide that helps them track their electricity usage.

The Personal Energy Management online system gives 24-hour online access to monthly, daily and hourly electric usage. It allows consumers to create energy markers to show when changes have been made – for example, the addition of a new appliance or the start of a new conservation effort.

"We wanted to empower our members with information and knowledge, the tools to really conserve on their electric bill," Sommers says.

To date, Sioux Valley Energy has installed 16,000 smart meters on their system, with about 9,000 to go.