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Rethinking electricity rates could reduce costs, pollution

By TUX TURKEL, Portland Press Herald Writer

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Most people know they can save money on a hotel room off-season. They know airline tickets cost less with a Saturday night stay-over. And they know they generally can have cheaper phone bills by calling long-distance on nights and weekends.

The reason is demand. Businesses charge more for supply when use is at its peak; less when resources aren't being taxed to the max. People recognize these so-called price signals, and adjust their behavior by shifting use to less expensive times.

But electricity rates have largely escaped this logic. People come home on a steamy summer afternoon, when most every power plant in the region is running at capacity, and turn on the air conditioner while tossing clothes in the dryer. Despite the high demand for power, customers pay the same price per kilowatt hour as they would if they were flipping on a porch light on a cool October evening.

This one-price-fits-all approach has some real shortcomings, according to U.S. Sen. Susan Collins. It requires electricity suppliers to maintain costly-to-run power plants that rarely start. In the Northeast, many of these plants are older, oil-fired generators that pollute the air and contribute to higher electric rates.

These conditions highlight fundamental flaws in the way electricity is produced and marketed, according to Collins, who has developed a growing interest in national energy issues. That's why the Maine senator is announcing a series of efforts in Congress to promote what utility experts call demand response - the idea of letting electricity customers react to changing prices, with the understanding that the cost of producing power varies at different times of the day.

These measures could have an impact in Maine, where residents pay above-average electric rates.

"Instituting demand response in our electricity markets," Collins said, "is one area that shows considerable promise for reducing electricity rates."

As part of her effort, Collins has asked the General Accounting Office to study the potential of demand response. The results are due in March. In some pilot studies, she says, consumers were able to save \$600 a year by shifting the time of day at which they used the most power.

Collins also sees clean air benefits. That would be welcome in Maine, which is downwind from many oil and coal-fired power plants. Cutting peak demand by just 5 percent could idle dozens of peak-demand power plants in the Northeast, most of which are more polluting than modern generators and cost three to 10 times as much to run. Nationally, she says, a 5 percent reduction in peak demand could eliminate the need for 40 new power plants.

Collins also is co-sponsoring legislation to encourage utilities to offer demand response programs to consumers.

Working with U.S. Sen. Jeff Bingaman of New Mexico, the lead Democrat on the Senate Energy Committee, she is offering an amendment to the Senate version of the federal energy bill to provide a \$30 tax credit for "smart meters." These high-tech electric meters let utilities record time-of-use data, so consumers can plan their energy usage.

Demand response is gaining attention around the country. It's a natural extension to restructuring electricity markets, as Maine and many other states have done. Utilities in several states are experimenting with the idea, although a spokesman for Central Maine Power Co. wasn't available to comment on interest here.

In states where demand response has been tried, results are mixed. That's because even though the concept is easy to understand, creating the specific market and regulatory conditions to make it work is more difficult.

"Demand response is still a relatively new kid on the block when it comes to energy policy," said Dan Delurey, executive director of the Demand Response and Advanced Metering Coalition in Washington, D.C.

It will take a mix of technology and policy for demand response to meet its potential, Delurey says. Utilities first have to install smart meters. Then, state regulators and energy marketers need to design time-of-day rates that are attractive to consumers.

In the state of Washington, Puget Sound Energy created a time-of-use program in 2001, during the West's highly-publicized energy crisis. More than 300,000 customers were put into a rate plan that was designed to save them money if they shifted their energy use away from peak times.

The program did cut energy use by 5 percent during peak hours. But unexpectedly, many customers in the time-of-use experiment actually paid more than their counterparts with traditional flat rates. By last fall, thousands of customers had quit the program. It was later suspended.

In Florida, a slightly different approach seems to be getting a better reaction.

Gulf Power of Pensacola has a program that features a "critical" rate of more than 30 cents a kilowatt hour, which is three to seven times normal rates. This super-high rate is

in place only during periods of extreme demand, less than 1 percent of the year. Customers are notified to dial up their air conditioners and turn off other energy-hungry appliances until the peak has passed. As a reward, participants save money on their bills.

One purpose of the GAO study requested by Collins will be to examine which programs work or don't work, and why. Delurey says Collins is on the right track with her proposals.

"She's one of the few policy makers who has drilled down into the details," he said. "She's ahead of the curve."

Electric rates in Maine have moderated in recent years, as energy and transmission services have been separated by the state's restructuring law. CMP's delivery charges have dropped on a schedule, but the region's energy prices are more volatile.

New England's wholesale electricity market, which is largely deregulated, has experienced periodic price spikes that can ultimately filter down to retail customers. Demand response can smooth out those spikes, according to Tom Welch, chairman of the Maine Public Utilities Commission. He supports Collins' request for the GAO to study demand response. "There's a lot of money that changes hands in the few hours of the year when the weather is hot," he said.

A Republican, Collins chairs the Committee on Governmental Affairs. She held hearings last year on what went wrong in California's energy market, hit by skyrocketing prices and power shortages in 2001.

One lesson, she says, is that poorly constructed electricity markets have the potential to raise prices. Making electric rates reflect the true cost at the time of use - just as hotel, airline and phone prices do - can give consumers a tool to control their bills.

"I hope we can now follow up on what the committee learned in the last session," she said, "and make progress toward identifying solutions that will lower electricity prices for consumers and businesses in Maine and across the nation."

Staff Writer Tux Turkel can be contacted at 791-6462 or at: tturkel@pressherald.com