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SE Energy (A Special Report)

HD Consumers --- In the Dark: The monthly utility bill typically reveals little; And that's a missed opportunity for reducing energy demand

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LP Utilities are turning to a new tool to help consumers conserve energy and cut costs: the monthly bill.

For many consumers, the **utility** bill offers little more information than the total due -- not even a breakdown of that figure, which includes not only fuel charges but often a dozen or more other costs, including delivery charges, taxes, and charges for special programs like pollution controls on power plants or subsidies for low-income households.

TD The problem with such a simple bill is that it doesn't give consumers any way to calculate how much they can save by cutting back on their energy use, or which measures on their part will save them the most. And that blunts a major incentive for conservation.

Now, many utilities are in the process of revamping their bills to give consumers detailed information, along with basic tips on how to reduce energy consumption. Some are going even further, testing advanced meters that allow consumers to monitor online the energy usage of the furnace, the air conditioner and other household appliances continuously, so that they can adjust their settings accordingly.

It's an uneven transition. Many utilities say they're still trying to figure out what information consumers need and how best to present it. But more are making the effort as they face growing complaints from consumers about energy prices and increasing pressure from regulators to help reduce energy consumption.

What is it consumers are missing? For starters, without an itemization of charges, consumers can't tell how much of their monthly expense is fixed and how much is within their control. Also, without knowing how much they're paying for each unit of **gas** and electricity they consume, it's difficult for them to know whether they could get more benefit, for example, from buying a new Energy Star refrigerator or replacing a funky, old **gas** furnace. And without knowing how the prices of **gas** and electricity change according to levels of usage, consumers can't gauge exactly how much any conservation effort on their part will save them.

Consider the bill the Georgia Power unit of Southern Co. sends to its residential customers. It simply breaks down the total amount to be paid into two components -- taxes, and a service charge that lumps all other costs together.

Now consider what those customers could do with more information. Georgia Power charges its residential customers 4.657 cents a kilowatt hour for the first 650 units of electricity consumed, year round. The price rises to 7.738 cents for the next 350 kilowatt hours in the summer, but drops to 3.998 cents for those next units in the winter. Above 1,000 kilowatt hours, the price rises even more in the summer, to 7.976 cents, and drops even more in the winter, to 3.931 cents. In other words, a person who used 1,200 kilowatt hours of electricity a month would pay about 40% more in the summer than in the winter.

That means that measures that cut summertime electricity use, like buying more-efficient air conditioners or keeping the house a couple of degrees warmer, have more **value** to the consumer than measures that reduce wintertime use, like cutting back on lighting or **electric** heating. Knowing

the rate tiers also would allow people to figure out how much they could save by cutting their use by, say, 10%. But the current bill doesn't make any of that clear.

Georgia Power says it hasn't offered detailed bills because its customers and regulators haven't asked it to do so. But the **utility** says it is looking for better ways to communicate with customers and sees the bill as an underutilized tool.

Many other utilities already have made changes. DTE Energy Co., parent of Detroit Edison Co., revamped its bills to itemize charges and spell out its rate tiers. Vectren Corp., a **utility** based in Evansville, Ind., recently added charts to its bills so customers can quickly see how their **gas** and electricity use has varied over a 13-month period. The **utility** also added weather data showing the average temperatures for the current billing period, prior month and year-earlier period, so customers can get a sense of what role weather played.

"We felt there was a real need to help consumers understand their personal consumption better," says Jeff Whiteside, a Vectren vice president.

Southern California Edison, a unit of Edison International, tapped bill consultants and focus groups to come up with a more readable, useful format for its bills. For instance, consumers told the **utility** they find the different rate tiers confusing, so the new bill will include a simple graph that shows where a household's usage falls in the tiers and how close it is to lower-cost tiers, as an incentive to conserve.

Lynda Ziegler, the **utility**'s senior vice president of customer service, says the **utility** aims to customize bills eventually by suggesting steps customers can take to conserve energy, based on their particular usage patterns. "This is something we want to continually refine," she says.

Over the next few years, consumers in many markets will receive much greater detail on their energy use than they do today, as utilities install advanced meters that can measure a household's consumption continuously and communicate with devices in the home to measure and even control the energy use of furnaces, air conditioners and other individual appliances.

The ability to measure each household's energy use throughout the day -- rather than simply capturing a usage total once a month, as most meters now do -- would allow utilities to charge different prices for peak and off-peak use, something they already do with many business customers. The idea would be to encourage consumers to spread out their energy use or reduce it outright so that utilities could avoid building costly new plants to handle peak demand -- plants that consumers ultimately pay for. New bills could show consumers what they're paying at different times of the day, giving them the information they would need to adjust their consumption.

Advanced meters also can allow consumers to go online and find out how much juice the refrigerator is using or how much **gas** the furnace is burning. Some consumers can already do this in pilot programs. Eventually, utilities aim to give consumers the ability to adjust the settings of their appliances and energy systems online, and to see immediately how those adjustments affect their costs and the **utility**'s carbon footprint.

Utilities have tried smart-meter pilot programs for years, but few gained much momentum until recently. With energy prices surging and concerns over global warming growing, there's more incentive now to develop advanced meters. Utilities say they're still feeling their way forward on this front, as they are with more-detailed bills. "There's still work to be done to figure out what people want to see," says Jim Rainear, general manager of energy services for Duke Energy Corp. The **utility** is conducting smart-meter pilot programs in North Carolina, South Carolina and Ohio.

Duke Energy also is exploring a number of other ways to encourage energy efficiency. For instance, by midyear it hopes to have an online tool available that will allow people to log in and answer a questionnaire about the details of their energy use. The **utility** will then use that information, along with its own record of the customer's energy use, to help it suggest conservation measures.

Chicago-based Commonwealth Edison Co., a unit of Exelon Corp., already has moved in that direction. Its customers can go online and conduct home energy audits based on personal information and even compare usage against people who live in similar homes. ComEd and Duke reached the same conclusion: "We have got to get more personalized," says Casey Mather, Duke's director of mass-market strategy.

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