Utilities Amp Up Push To Slash Energy Use

California Pays Bonuses For Reducing Demand; A Switch in Light Bulbs

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SAN FRANCISCO -- California's biggest utility is making a huge financial bet on solving a light-bulb riddle: How much energy can it conserve by getting its customers to remove one sort of bulb and screw in another?

To cut energy costs and help reduce the emissions that cause global warming, utilities such as PG&E Corp. are facing an unusual imperative. They need to convince consumers to use less of their product. PG&E is staking its success on getting consumers to junk conventional incandescent light bulbs in favor of energy-efficient compact fluorescent lamps, commonly called CFLs -- corkscrew- or egg-shaped bulbs that use about a quarter as much electricity as regular bulbs and last several times as long.

California policy makers have set the most ambitious conservation targets in the U.S. The state's three major investor-owned electric utilities were told last summer to reduce their combined energy use by the equivalent of three power plants to earn big bonuses -- or face the possibility of big penalties if they fail.

Utilities across the country are watching for the results. About half of U.S. energy use flows through the nation's utilities, and a powerful combination of rising fuel costs and climate-change fears is putting increasing pressure on them to find ways to reduce the demand. Coal plants are causing environmental concerns, natural gas is subject to huge price swings, nuclear plants remain controversial and even wind farms are proving hard to site without opposition. So producing less energy has new appeal for utilities' bottom lines.

PG&E and other California utilities have poured millions into subsidizing CFL bulbs, with dramatic results in the marketplace: Bulbs that cost $5 to $10 in 1999 -- and can still cost several dollars elsewhere -- can be had in California for as little as 25 cents to 50 cents. Since small rebates and conservationist appeals never made much headway in the past, utilities paid manufacturers to offer cheap bulbs branded with the utilities' logos. Big retail chains agreed to sell the bulbs at steep discounts.

"It's a strange business," says PG&E's head of customer energy efficiency, Roland Risser. "You have to do gymnastics to get things moving forward."

Prices are so low, in fact, that California CFLs have been showing up on store shelves in other states, and on eBay -- meaning ratepayers in California are subsidizing some bulbs that go elsewhere.

Conservation Gains

PG&E's Pacific Gas & Electric unit stands to earn or lose up to $180 million over three years under the state's conservation plan, depending to a great degree on how many CFL bulbs its customers use. The utility is counting on lighting for more than half its state-ordered conservation gains, and is spending $116 million on making CFL bulbs cheap, plentiful and attractive enough to customers. There are obstacles: In addition to the expense when the bulbs aren't subsidized, they contain a tiny amount of toxic mercury, making them harder to dispose of when they burn out or break. Early ones also gave out a cold, bluish light, but they have vastly improved.

Some regulators are beginning to question PG&E's emphasis on light bulbs. "Is it really the best use of ratepayer money?" asks Dian Grueneich, a member of the California Public Utilities Commission, adding consumers might not need such big subsidies to switch bulbs. Some officials at the California Energy Commission are skeptical as well: PG&E is "too narrowly focused" on CFLs, said Sylvia Bender, deputy director of electricity supply analysis. Utilities can also employ other measures, such as getting more energy-efficient equipment into industrial plants and commercial buildings.

California regulators essentially are giving utilities a chance to earn as much profit by reducing energy as by producing it. The state has designated $2 billion in utility customers' payments to be spent over three years on conservation programs. The utilities need to spend that money to find ways to avoid another $2.7 billion in energy costs, by reducing demand enough that they can buy less power or build fewer plants. If they come close enough to the target, regulators award them a cut of the savings; if not, they pay a penalty.

Lighting makes up about 37% of the average energy use in a typical California home, according to the energy commission, and CFLs can slash that part of the bill by three-quarters. But because it's mostly used at night, in most areas of the country lighting has little effect on peak power demand -- a major reason utilities build power plants.

"They're fixated on cheap, small measures they can do, like give away light bulbs, even if there are more significant things they should be doing," says Barbara George, executive director of Women's Energy Matters, a nonprofit advocacy group based in Fairfax, Calif. She suggests more targeted measures, such as providing more energy-efficient air conditioning in areas with power-supply problems.

PG&E says it's trying dozens of things, from helping Safeway Inc. choose more efficient chicken rotisseries to offering to pay computer manufacturers to supply more efficient power-supply units in its territory. But the utility says it doesn't know of any single measure that provides a faster, cheaper return than swapping out light bulbs.

PG&E signed up nonprofit groups ranging from the Sierra Club to the Girl Scouts of America to help it hand out one million CFL bulbs for free last fall, and wants CFL bulbs in a quarter of all its customers' light sockets in a few years. Nationally, the Department of Energy has signed up dozens of utilities for a more modest goal: at least one compact fluorescent light in each U.S. home. Mr. Risser says that's too incremental for individual consumers to see results on their electric bill. "You've got to think big," he says.

PG&E's Pacific Gas & Electric unit, which serves one in 20 Americans, tumbled into bankruptcy protection as a result of the state's 2000-01 energy crisis, but has since bounced back with ambitions of becoming the nation's greenest utility company. "We're trying to establish a model for the rest of the nation and, maybe, the world," says Peter Darbee, PG&E's chief executive, who's become an outspoken critic of policies that he feels don't do enough to blunt climate change.

Under California's plan, the utilities would be awarded cash equal to 12% of the costs they avoid if they meet or exceed their targets; the combined figure could range from $324 million to $450 million. Each utility earns those bonuses -- or penalties -- based on its own performance, which it has to document for regulators. They can win partial payments for coming close to their energy-saving goals, but if they miss by too much they start getting docked. For instance, if they each fall short by half, the penalties would total $234 million. The public utilities commission recently signaled it may lower the bar, however, making it easier to qualify for big bonuses -- and less likely utilities will pay penalties.

In PG&E's third-quarter earnings call, Mr. Darbee said the utility sees its bonus pay as a core part of its earnings, not as a frill. PG&E now has 85 programs aimed at helping customers cut energy use, employing 462 people, it says. That's twice the number focused on that effort a few years ago. Mr. Risser says he has seen energy efficiency come and go as a priority in the past three decades, but says the issue has more traction now because of statewide efforts to cut greenhouse-gas emissions.

Subsidized Sales

PG&E subsidized the sale of 7.6 million compact fluorescent bulbs last year, and this year expects to raise that to as many as 20 million, enough to fill 10% of the light sockets in Northern California homes. To overcome resistance from people who remember CFLs when they were bulkier and produced a harsh, jail-cell glare, Mr. Risser's team made a display box containing four lit bulbs behind lamp shades. They sometimes tote it to public meetings, or ask visitors if they can spot the CFLs. Most people are stymied because the hue and intensity of the CFLs and incandescent bulbs are comparable.

Another potential hurdle for consumers is the mercury content in CFLs: It is about 1/100 the amount in a mercury thermometer, but enough for regulators to advise airing out a room for 15 minutes if one breaks. Most states allow them to be disposed of within double bags inside household trash, but some require they be recycled and handled as hazardous material.

Retail chains have come to see their role in selling CFLs as a way to cement their own green bona fides. In October, Safeway ran a special promotion for PG&E in which it offered 23-watt CFL bulbs, which provide the illumination of 100-watt incandescent bulbs, at four bulbs for a dollar. The bulbs flew off the shelves.

Consumers knew they were getting a bargain: PG&E bulb boxes are labeled, "We've lowered the price of this item." But they may not have known they were subsidizing an $8 subsidy per pack through their electric bills. About 20 states have rebate programs, but in the 30 states that don't, it's not uncommon to see CFL bulbs selling for $5 to $7 apiece.

That creates an arbitrage opportunity for those able to buy them on the cheap and then mark them up for resale elsewhere, including on eBay. State utility regulators are investigating whether there's an organized effort to divert the bulbs out of state. PG&E says the overall effect is small, despite its October giveaway of one million bulbs.

Feit Electric Co., a closely held bulb manufacturer in Pico Rivera, Calif., agreed to support the giveaway by supplying PG&E with 500,000 light bulbs at a price barely above its cost, because PG&E is such an important customer. "Utilities are transforming the market for compact fluorescents," says Aaron Feit, company president.

Greenlite Lighting Corp. supplied an additional 275,000 bulbs. Tom Cohen, Greenlite's director of sales, said his firm saw some of its bulbs being resold on eBay and wrote **eBay** Inc. to complain. But he added, "There's not much we can do about it." An eBay spokesman said a listing wouldn't likely be removed if the item is owned legitimately and the sale doesn't violate intellectual-property rights, but couldn't say whether eBay was investigating.

To give away the bulbs, PG&E enlisted nonprofit organizations including environmental groups, churches, unions and the Girl Scout Council of Northern California. Then PG&E asked suppliers to deliver the bulbs to thousands of locations, including the homes of Girl Scout troop leaders. "It was a bit of a logistical nightmare," says Kourtney Preston, national utility program specialist for Feit.

One Girl Scout used her giveaway bags of CFLs as goodie bags for children attending her birthday party. Another of PG&E's helpers, 8-year-old Skylar Figueira-Vines of Brownie Troop 30091 in Pinole, Calif., said she found it easier to give away bulbs than sell nuts, one of the troop's yearly fund raisers. "Some people are allergic to nuts but nobody's allergic to light bulbs," she said.

Even the Sierra Club, which has had a rocky relationship with PG&E at times over energy and environmental issues, helped -- after a vigorous debate. Some members didn't want the venerable environmental organization to be seen as serving the utility's ends. The nonprofit groups were asked to gather names and addresses of bulb recipients, so PG&E can put them in an electronic database -- which it will use to prove to regulators that it deserves its bonus payment.

The system has spurred some criticism that utilities are focused on programs they can most easily claim credit for, and are expending major efforts in putting their fingerprints on everything.

Impact on Earnings

In November, the utilities asked the commission to allow them to begin booking earnings based on estimates of energy savings even though results won't be fully audited until 2010. They also are trying to limit the commission's ability to take back money later if it's shown they missed their goals. A new commission proposal would let them pocket millions of dollars even if they only achieve 65% of the goals, down from 85% in an earlier decision. Consumer advocates accuse the commission of caving in to utility demands.

Mr. Risser says PG&E is looking forward to the day when there are so many CFL bulbs in use that California can adopt legislation -- already proposed -- to phase out the sale of most incandescent bulbs. He figures it'll happen when a quarter of all sockets contain CFLs. "If we get that level of penetration, no one can say it's a fad," he says.