

# Solar switch forces utilities to shift priorities

**David R. Baker, San Francisco Chronicle, 10-27-13**

Sitting on a rooftop, soaking up sun, the humble solar panel may not look like a threat to a multibillion-dollar industry.

But some electric utility executives say it is. They even have a name for the nightmare scenario solar could create - the "death spiral."

They fear solar's rapid spread across homes and businesses, combined with the increasing efficiency of modern buildings and appliances, could slowly erode the utilities' ability to grow. California utilities get paid based on the value of the assets they own - the transmission lines, substations and wires. As more businesses and homeowners generate their own electricity, the utilities won't need to add as many of those assets as before.

At the same time, the costs of maintaining the electricity grid might fall on fewer and fewer nonsolar utility customers. The companies could compensate by tacking on fixed monthly charges for all customers, solar and nonsolar alike. But those new charges would jack up bills, and that could prompt more people to slap panels on their roofs.

The problem will only get worse if advanced battery packs become cheap enough for home use, parked in the basement by the water heater.

## **Fear of users leaving grid**

Mike Florio, a member of the California Public Utilities Commission, remembers listening to an irate solar homeowner at a hearing in San Diego, where utility executives had proposed a fixed charge.

"A gentleman came up and said, 'Well, I put in solar, and now the utility wants to hit me with a fixed charge,' " Florio said. " 'Guess I'll just put in storage with solar and get off the grid altogether.' That's the death spiral. That's what we don't want."

Most everyone who uses the term death spiral quickly acknowledges that it's overblown.

Solar installations are spreading at breakneck speed, with another added somewhere in the nation every four minutes, says the Solar Energy Industries Association. But the number of systems is still small, estimated by GTM Research to reach 399,111 by year's end.

Most of those systems will be in California. The state already has about 189,600 rooftop solar installations, according to the utility commission's statistics. But that represents a tiny fraction of all utility customers. California's biggest utility, Pacific Gas and Electric Co., counts 5.1 million electricity customers, 95,000 of whom have solar arrays.

Clearly, solar won't destroy the century-old utility business model overnight. But utilities aren't ignoring the challenge. They're keenly aware of what happened to the old, landline phone companies when cell phones arrived.

"The threat is absolutely there," said Josh Gerber, smart grid manager for San Diego Gas & Electric Co., speaking at the recent Verge technology conference in San Francisco. "There's a threat to the economic model

that currently exists and the way the utilities pay for the system itself. But at the same time, there's tremendous opportunity, obviously. And our goal is to seize that opportunity and not let it go by."

Many solar advocates say the utilities will evolve, rather than collapse.

"The model needs to change, and the only thing that can cause a change is competition," said Lyndon Rive, CEO of solar leasing company SolarCity in San Mateo. "It's going to force them to reduce their costs, give the consumer a better product, give the consumer more choices and become better companies in the process."

Tensions have already flared between the utility and solar industries.

In Sacramento, the two sides spent much of the year arguing about net metering, the system by which solar homeowners get paid for excess electricity that they feed onto the grid.

Utilities say solar homeowners shift some costs of grid maintenance onto nonsolar customers, and they want California to change its electricity rate structure to compensate. Solar companies say rooftop panels will save all utility customers money by lowering the need for new power plants and transmission lines.

The fight isn't over. Gov. Jerry Brown signed legislation in October authorizing the utilities commission to revamp rates and create a replacement for net metering. The commission is expected to take up both tasks next year.

"We look at this not as a real challenge to our shareholders or our business model - it's more an issue with the current rate structure we have in California," said Steven Malnight, PG&E's vice president of customer energy solutions. "If we can get the rate structure right and address some of these policy issues, there's going to be a bright future for solar."

In Arizona, the net metering dispute has turned toxic.

The Arizona Public Service utility recently confirmed donating money to groups that, in turn, financed television ads against net metering. One ad tried to link SolarCity and its competitor Sunrun - both from the Bay Area - to Fremont's bankrupt Solyndra, railing against "California-style corporate welfare." Solar companies call the ads a smear campaign.

### **Forcing utilities to adjust**

Edward Fenster, co-CEO of Sunrun, considers it a classic case of a disruptive technology taking on an entrenched monopoly. The utilities won't die, he says. But they will have to adjust.

"Utilities now have to face competition from their customers, because for the first time, their customers can cost-effectively own their own power plant," Fenster said. But he added, "There's a lot of opportunities in solar for utilities as well."

What might those opportunities look like?

Utilities could invest in solar generation, Fenster suggests. Indeed, PG&E Corp., the parent of Pacific Gas and Electric Co., did so under former CEO Peter Darbee, sinking about \$400 million into Sunrun and SolarCity. But current CEO Tony Earley, brought in to reform PG&E after the 2010 San Bruno pipeline explosion, stopped the solar investments soon after he arrived. Earley said the company needed to refocus on its priorities.

"Of course, Darbee lost his job, there's a new CEO, and that's the end of it," Fenster said. "There will be utility

CEOs who take this and run with it."

Another possibility, floated by former U.S. Energy Secretary Steven Chu, would have the utilities entering the solar leasing business themselves, offering it as another kind of service for customers. They could pair solar panels with at-home energy storage as battery prices decline.

"The details have to be worked out," Chu told The Chronicle in May. "But the main thing is you want the distribution companies to have a new growth industry. Otherwise, what's going to happen is like the Internet transforming the entertainment and publishing businesses."