

# Shadow over rooftop solar

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New Mexico's solar industry is gearing up for a major battle at the state Public Regulation Commission over Public Service Company of New Mexico proposals to charge customers with solar systems a new monthly fee.

PNM wants homeowners with small solar systems to pay what the utility says is their fair share for the fixed costs of maintaining the electric grid, which continues to provide electricity to them when the sun isn't shining. But industry representatives say the fee – which could range from about \$21 per month for small systems to \$36 or more for the larger ones that many homeowners are now installing – could undermine the economic benefits of going solar and knock the wind out of a burgeoning industry.



“This is the fight of the century for us,” said Kevin Goodreau, vice president for business development at Direct Power & Water Corp. in Albuquerque, which designs and manufactures racks and other components for solar systems. “We’ll fight it tooth and nail. I believe we can and will defeat this.”

PNM's effort to impose new fees is the latest in a broad push by utilities in many states to curb subsidies and incentives set up over the last eight years to help the solar industry get established. Utilities say the costs of going solar have dramatically declined, and it's now time for solar businesses and customers to bear more of the burden that they say is currently being shouldered by traditional electric consumers to keep the price of solar down.

## **Potential impact of solar fees**

- A typical customer buying a 6-kilowatt system today to produce about 12,000 kilowatt hours per year of electricity benefits from federal and state tax rebates that will reduce the system's total cost from about \$25,000 to \$15,000. That, in turn, lowers the customer's monthly payment for the system.
- Once installed, the system offsets most electricity from PNM. Some months it won't produce enough and the customer will still buy electricity from the company. Other months solar output will exceed consumption and the customer will sell the excess back to PNM.
- The customer receives a renewable energy credit, or REC, for each kilowatt hour of electricity produced, valued today at 3 cents. The customer also receives a credit on electric bills during some high-energy-use months in the summer to compensate for excess electricity the system produced during low-use seasons such as in spring. That process, called net metering, helps balance extra costs for buying electricity from PNM

during some months when home usage is higher than solar production, thus helping to balance out the overall annual costs and benefits of going solar.

- With RECs and net metering benefits, plus lower monthly loan repayments for systems thanks to tax rebates, the customer can expect to save an average of \$27 per month today on their electricity system costs compared to what they would otherwise pay to PNM.
- Once tax rebates decline or disappear after 2016, a new customer buying the same sized system could still expect to save about \$1.40 per month compared to buying all electricity from PNM.
- If PNM's proposed monthly fee on solar customers is approved, the 6-kilowatt system owner would pay \$36 per month to PNM. That would reduce the savings with today's subsidies from a \$27 per month gain to a \$9 per month loss. Without subsidies, it would turn the \$1.40 gain into nearly a \$35 per month loss.
- For a 3.5-kilowatt solar system that produces about 6,000 kilowatt hours of electricity annually, a customer could expect today to save about \$1.47 on their monthly bills after accounting for tax rebates on the system and REC and net-metering benefits during the year. Without subsidies, the customer would pay about \$32 per month more for their electricity than if buying it all from PNM, although the customer would be buffered against future PNM rate hikes, eventually reducing or eliminating the loss.
- If PNM's monthly fee is approved, the \$1.47 monthly gain that a 3.5-kilowatt system owner can expect with subsidies in place would turn into a \$19.53 monthly loss, and without subsidies, a \$53 monthly loss.

*Source: Affordable Solar modeling of average solar customer contracts. At a glance*

- PNM's solar customer program began in 2006 with REC payments for residential systems starting at more than 15 cents per kilowatt-hour. That has steadily decreased to 3 cents today and is projected to bottom out at 2.5 cents by year-end 2015.
- A total of 4,400 customers now have solar systems installed under PNM's program, including 1,600 who signed up since the beginning of 2013.
- Customer-sited PV today amounts to 38 megawatts of total generating capacity.
- PNM has made almost \$23 million in REC payments to customers since 2006.
- An agreement with intervenors in the state regulatory process to shut down half of the coal-fired San Juan Generating Station near Farmington by 2017 calls for adding another 3 MW per year of capacity to the solar REC program between 2017 and 2019, although it's unclear what price PNM would pay per REC if the additional capacity is approved by the PRC.

"It's a fairness issue," said PNM spokeswoman Susan Sponar. "The costs of solar are being picked up by other customers."

But industry leaders say PNM and other utilities are greatly exaggerating those costs and ignoring the benefits that customer-owned photovoltaic systems bring to the grid. Many accuse the utilities of simply trying to end competition from "distributed generation," which refers to people who now get their electricity from their own solar generating systems rather than large centralized plants.

"They just don't believe in distributed generation," Goodreau said. "They want all of the electricity generation on their side of the fence to charge customers. I believe the real intent here is to cripple our industry."

The industry says its rooftop solar business can survive the decline and eventual elimination of tax breaks and other subsidies for PV systems after 2016, but not if the additional fees and other measures proposed by PNM are approved.

### **New fee, end of 'banking'**

Under PNM's proposals, filed with the PRC this month as part of a new rate case, customers would be charged \$6 per month for every kilowatt of installed solar capacity on their homes. That would help pay for grid operating and maintenance costs that solar customers pay less for as their electric consumption declines, said Gerard Ortiz, PNM vice president for regulatory affairs.

"Those costs are now spread among customers who don't have PV," Ortiz said.

The new fee would only affect future customers who install solar PV after Dec. 31, 2015. Current solar owners and those who install systems next year would be grandfathered in, said Kumiko Styes, PNM's customer solar program manager.

The utility also wants to eliminate what it calls the "banking" option for solar customers, which allows them to get credited at retail rates of between 9 and 15 cents for every kilowatt hour of solar electricity they sell back to the grid when their PV systems produce more than they use. That sell-back program, which matches what PNM charges its customers for electricity, is called "net metering."

Generally, solar owners generate that excess electricity in low-use months in the spring, as winter heating costs wind down and before air conditioners kick in. If the solar owner is credited for net metering in the same month that excess electricity is generated, it would only be worth about 2 or 3 cents per kwh of electricity sold back to the grid. That's because PNM will only pay the solar owner for avoided fuel costs, or the fuel savings that come from having to produce less electricity from power plants that month.

But by "banking" those net metering credits until the summer when consumption is up and electricity prices are higher, solar owners can get credit for that excess generation at much higher retail rates.

Finally, PNM proposes to reduce the incentive payments, or renewable energy credits, that it currently offers solar customers to compensate them for helping the utility meet state mandates to add renewable electricity to the grid. Under that program, PNM pays a renewable energy credit of currently 3 cents for every kilowatt-hour of electricity PV owners produce.

However, PNM now wants to eliminate REC payments for net-metered electricity once the banking option disappears because it would instead immediately credit customers for avoided fuel costs each month for any excess electricity produced.

### **Running the numbers**

Solar industry leaders say PNM's proposed changes would undermine the economic benefits of installing PV systems because the margins are already extremely tight.

Solar installers and their customers rely on federal tax rebates of 30 percent and 10 percent, respectively, to offset the total cost of a system. They then factor in REC payments and net metering to allow customers to either break even or slightly reduce their monthly bills as they pay off loans to buy and install systems, said Patrick Griebel, general manager at the Affordable Solar Group in Albuquerque and a board member of the Renewable Energy Industries Association.

"I've done preliminary modeling and the numbers don't work with PNM's proposals," Griebel said. "It could kill the industry, because typical customers are 'green, but,' meaning they want to do the right thing but the numbers need to make sense."

With federal and state tax rebates, residential solar systems generally cost about \$9,000 for a 3.5-kilowatt system that produces about 6,000 kilowatt-hours of electricity per year, and about \$15,000 for a 6-kilowatt system producing about 12,000 kwh annually.

PNM says most homeowners install 3.5-kilowatt systems, which would mean a \$21 monthly charge if the PRC approves the \$6-per-kilowatt fee PNM wants. But Griebel said most homeowners today are actually opting for 6- to 7-kilowatt systems, which would mean monthly charges of \$36 to \$42.

Moreover, the federal tax rebate for purchasing a solar system is scheduled to drop to 10 percent on Dec. 31, 2016, and the state tax rebate is supposed to disappear. In addition, renewable energy credit payments have been steadily declining and are scheduled to bottom out at 2.5 cents per credit by year-end 2016.

As a result, solar companies are counting primarily on net metering – the money homeowners get for selling

excess electricity to PNM – to even out the costs and benefits of solar systems by 2017.

But if PNM's monthly fees are approved, most customers who buy solar systems after 2015 will wind up paying more on their monthly bills than they did when just buying electricity from PNM, particularly after federal and state tax rebates decline or disappear. That would discourage potential customers from buying systems in the future, Griebel said.

A typical Affordable Solar customer who buys a 6-kilowatt system today with tax rebates, RECs and net-metering benefits can expect to save about \$27 per month compared to what they pay to PNM now for electricity, Griebel said. If you take away the tax rebates and renewable energy credits but maintain current net-metering benefits, that same customer would still save about \$1.40 per month.



Patrick Griebel of Affordable Solar says PNM's proposed fee structure could kill the rooftop solar industry.

“Now add (PNM's proposed) \$36 surcharge to their bill and that puts a 6-kilowatt customer in the hole by nearly \$35 per month,” Griebel said.

For a 3.5-kilowatt system, the numbers are worse. With today's subsidies, a typical Affordable Solar customer with a system that size can expect to save about \$1.47 today compared to what they now pay PNM. Once tax rebates for system purchases fall away in 2017, that customer would end up paying about \$32 more per month than what they pay to PNM today, Griebel said. But they will be shielded from PNM rate hikes that are expected in the next few years, thus narrowing the difference between monthly costs for a solar system vs. staying on PNM's grid.

With PNM's proposed solar fees, however, the 3.5-kilowatt customer would see their monthly bill climb to \$53 more than they now pay the utility, making it much more difficult to justify buying a solar system at that size even if PNM's rates go up.

And, if PNM's proposal to eliminate net-metered banking is approved, the economics for those systems simply collapse, Griebel said.

PNM's Sponar replied in an email to the **Journal** that customers with photovoltaic systems will still be getting financial benefits from net metering and renewable energy credit payments.

“This is a fairness issue,” she wrote in an email to the **Journal** . “A central question is whether other electric customers should continue to pay for PV systems on other customers' homes and businesses.”

### **Fight brewing**

Regina Wheeler, CEO of Positive Energy Solar, which installs PV systems throughout New Mexico, said the industry has focused on making the economics work as RECs decline and federal and state subsidies drop or disappear, but says PNM's proposals would derail those efforts.

“It would probably cut our business in half,” Wheeler said. “It would knock us back at least a couple of years, because it basically zeroes out the economic benefits. We would downsize for sure and be in a much slower growth mode.”

The Renewable Energy Industries Association, clean-energy advocates and environmentalists all plan to fight PNM's solar proposals at the PRC.

Most will demand that an independent, third party be commissioned to research distributed solar generation, because the industry believes PNM is greatly overstating the costs and understating the benefits. PNM, for example, only recognizes avoided fuel costs as a positive gain, but solar supporters say PV also offsets investments in new power plants, transmission and infrastructure, while bringing environmental benefits that reduce costs for utilities to comply with federal regulations on fossil-fuel generation.

In addition, PNM itself sells the excess, net-metered energy it gets from distributed generation back to other customers at retail rates, and it doesn't recognize that in its cost analysis, just savings from avoided fuel.

"If and when the PRC looks at the issue, we believe they'll find the value of distributed generation is greater than the cost," Griebel said.

The industry also questions the basic premise that by consuming less of PNM's electricity, solar customers should be charged more to pay for fixed costs.

And like all PNM customers, solar owners who continue to draw electricity from the grid will also see their fixed monthly charge on utility bills increase in 2016 if PNM's new rate-case proposals are approved by the PRC. That proposed rate hike would increase the monthly fixed fee from \$5 now for the average residential customer to \$12.80 to help PNM cover costs for maintaining and operating the grid as electricity use declines from energy efficiency programs.

"PNM is taking a fairly radical position that customers don't have a right to buy less of their product," Griebel said. "If kids move out and go to college and the parents start using less electricity, should they get a surcharge for that too? We believe that's a slippery slope and a fundamentally flawed argument."

National solar groups are expected to intervene against PNM at the PRC. That includes The Alliance for Solar Choice, or TASK, an industry organization established to fight similar utility cases emerging in states across the country.

"Utilities nationwide are trying to alter rooftop solar programs because it threatens their profits," said TASK spokeswoman Susan Glick. "We've seen almost two dozen utility cases like PNM's in about 20 different states get defeated, and we plan to intervene in the PNM rate case as well."