

# SRP data shows some solar customers save money with demand rates

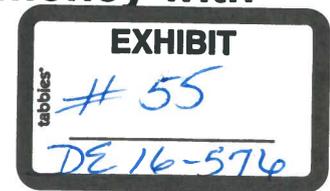
 **Ryan Randazzo**, The Republic | [azcentral.com](http://azcentral.com) 10:29 a.m. MST March 28, 2016



(Photo: Nick Oza/The Republic)

It's been more than a year since Salt River Project approved new "demand rates" for customers with rooftop solar panels, forcing customers to pay attention to how many appliances they run simultaneously.

Utility officials said a preliminary review of those customers' bills shows 14 percent of them are saving money, while others are ignoring the price penalty for using significant amounts of power during peak-demand hours and paying significantly higher bills.



The data from SRP is important because state utility regulators are considering demand rates for solar and non-solar customers of UniSource Energy Services, which serves Mohave and Santa Cruz counties, and the state's biggest utility, Arizona Public Service Co. is likely to request approval for them this summer.

Demand rates are based on the highest use of power during a single 30-minute time period during certain hours in the month. Regulators could use the SRP data to determine whether customers can adapt to the new rates.

Normally, customers are billed based on the total amount of power they use in a month. Time-of-use rates, which are common in Arizona but not throughout the country, charge higher rates during peak hours and lower rates during off-peak hours. Demand rates take that a step further, and base a large portion of a customer's monthly bill on how much power is used at once. Demand rates are common nationally for businesses, which have more control over major appliances, but not for homeowners.

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## How the new rate affects solar customers

Faced with that complexity, far fewer people are installing solar in SRP territory today compared with before the new rates took effect. That's because regardless of the amount of power they generate with solar, customers can set a high demand rate for the month if they don't operate their appliances carefully.

SRP officials in February 2015 decided demand rates were a better way to bill customers with rooftop solar.

The utility's managers said the rates were fair because solar customers previously would offset much of the power they consumed during the month through net metering, where they got credits for power sent to the grid. They said solar customers still require the full services of the power grid when their panels are not generating power and they are running multiple appliances and drawing electricity from SRP.

SRP analyzed the June to January bills of 190 customers who installed solar since the demand rate took effect. Officials found that the average customer in that group paid \$181 a month before solar, compared with \$122 a month with solar on the demand rate.

On the old net metering rate, SRP solar customers would have had bills averaging \$93, or \$29 less than under the demand rate, called E-27.

The \$29 differential between the new solar rates and old solar rates is less than the \$50 bill increase SRP expected. SRP officials said when the new rate was approved that customers could mitigate the bill impact by changing their behaviors.

"It's good news I think," said John Tucker, SRP's manager of pricing design. "We are getting less than the 50 bucks we expected."



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## On-peak vs. off-peak

SRP officials said one of the goals of the demand charge was to encourage customers to shift usage to off-peak hours, when demand across the power grid is low and there is surplus energy.

SRP's on-peak hours are weekdays from 1-8 p.m. in summer (May through September) and weekdays from 5-9 a.m. and 5-9 p.m. in winter (November through April).

SRP offers an online calculator to help customers understand demand (<http://www.srpnet.com/prices/home/calculator.aspx>). Based on the average appliances, running an air-conditioner and a dishwasher simultaneously results in about 5 kilowatts of demand. The demand fee varies by season. Five kilowatts brings a fee of \$68 in July and August, \$56 in the rest of summer, and \$22 in winter.

But switching on a pool pump, clothes dryer and refrigerator simultaneously with the AC and dishwasher will set a demand of about 13 kilowatts. That 30 minutes of use results in a \$265 demand fee in July and August. The cost would be \$217 during other summer months and \$79 in winter.

The basic service charge and charges for the total amount of electricity used would come on top of the demand charges.

SRP has found that about 14 percent of the E-27 customers actually save more money than if they were on the previous SRP solar plan by delaying the use of big appliances until off-peak hours.

Those customers set an average demand of 5.8 kilowatts on peak, but their energy use rises to 8 kilowatts shortly after 8 p.m., when the peak period ends, according to data from September only.

Tucker said this is evidence they are aware of the time and which appliances are running, and they delay running appliances until the off-peak hours begin.

However, about 12 percent of the customers, or 22 total, paid \$50 or more a month than they would have under the old net metering rate schedule. These customers set an average on-peak demand of 8 kilowatts and off-peak demand of 8.9 kilowatts, essentially shifting very little of their major appliance use to off-peak hours, according to the September-only data.

## Solar companies adjust



Sun Valley Solar Solutions workers Robert Cogswell, on left, with Nemo Dunton installing solar panels on a home in Tempe, Az. Some solar installers continue to work in SRP territory despite new fees for solar customers that utility approved last year. They say they have figured out how to work with the new rate plan and continue saving customers money. (Photo: Nick Oza/The Republic)

The new demand fees at SRP have significantly slowed the number of solar installations in its territory, but some installers are coming back to the utility.

In October 2014, just before the new rates were proposed, SRP received 677 applications for solar interconnections. SRP approved the rates in February 2015, and in the next 11 months received only 333 applications. Customers who installed before Dec. 8, 2014 were allowed to remain on the old net metering plan.

Before the new rates, about 75 percent of the installations in SRP territory were solar leases, where customers make a monthly lease payment and don't own the panels. Ideally, the combined lease payment and monthly bill are less than the customer paid before installing solar.

But with demand rates in place, only about 25 percent of SRP's installations have been leases, Tucker said. Leases usually offer less in savings each month, and fewer customers are able to save at all with a lease and the demand rate. The nation's largest leasing company, SolarCity Corp., has essentially pulled out of the SRP territory and [is suing the utility over the rate \(/story/money/2015/03/03/solarcity-sues-srp-antitrust-violations/24318777/\)](#).

The companies selling solar to SRP customers for the most part are local firms. One of them is Sun Valley Solar Solutions, which installed 10 systems in the territory as of January and has a few dozen more on the way.

## Change your lifestyle, change your electricity bill

Sun Valley uses a "demand manager" to control when customers' air-conditioners operate to avoid a high demand rate. CEO Russ Patzer says the ideal customer has two air-conditioning units, which can be controlled so they don't operate simultaneously. Controlling other appliances is optional.

"We can always have one on and keep the house cool," he said. "We just don't let everything run at the same time. We will control as much as the customer wants. We have to do the AC. Everything else is customer choice. One thing is we will not control the stove. You can cook when you want to cook."

Patzer said getting customers to change their behavior is a challenge.

"Our whole point is we want something the customer doesn't have to think about," he said. "They don't have to have a comfort change or lifestyle change."

Because solar customers are no longer rewarded for producing large quantities of excess energy, Patzer said he doesn't install as many panels on a home as he did previously. Even with the additional cost of the demand manager, he said the average solar installation costs about \$18,000 now compared with about \$20,000 before in SRP territory.

"We are seeing return on investments in seven to nine years, if you paid cash for the system," he said.

His company offers leases through SunPower, but not in SRP territory with the demand rate.

## The future of solar power with SRP

Another Arizona company, American Solar and Roofing, began a test last year with SRP's demand rate. The company installed solar panels facing west, where they would capture more late-afternoon sunlight to generate power late in the day when people typically run the most appliances. The company also installed a battery system to store energy produced off-peak and dispatch it during peak hours to reduce demand.

President/CEO Joy Seitz said the company still is working on the software required to operate such a system, and is not yet ready to sell products that specifically target SRP's new rate.

Seitz said it is a positive development that companies such as Sun Valley are working in SRP territory, but she said that if other utilities in the state make drastic moves like SRP, it will put many out of business and destroy the local market.

"On the consumer side, with consumers being able to own their own solar system and control their own energy usage, that is not a success story today in SRP territory," she said. "I applaud them in all the other work they are doing, but that is not how you maintain a market and push solar forward."

As other state utilities such as Arizona Public Service Co. consider demand fees, Seitz said she hopes to see a much more gradual approach. Technology today is not widely available to address such fees, and consumers need time to learn how to manage them, she said.

"Consumers have to have a better understanding of how they use their energy," she said. "Until they understand the difference between usage and demand, we don't have it."

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