

Trisha A. Morgan

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From: Dillon Holmes <dillon@cambioenergy.com>
Sent: Monday, August 05, 2013 2:11 PM
To: Pierce-Web; Burns-Web; Stump-Web; BitterSmith-Web; RBurns-Web
Subject: My response to APS Proposals - E-01345A-13-0248

Mr. Pierce
Ms. Burns
Mr. Stump
Ms. Bitter Smith
Mr. Burns

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Analyzing the APS proposals to slash solar net metering

8/5/13 – Dillon Holmes

A great many of the letters, articles, and write-ups regarding the APS proposals to modify net metering have missed a number of important details. Below is my attempt to uncover the truth and reopen the discussion.

The APS Technical Conferences

Facts

Late last year, the Arizona Corporation Commission (ACC), which regulates APS, required that the utility host a series of Technical Conferences to determine the true financial effects of the successful Net Metering program which has dramatically boosted rooftop solar adoption in Arizona. APS complied and held several meetings earlier this year.

The idea behind the open forum was to involve other utilities, the solar industry, and the public to determine if the current program merited modification.

If you would like some net metering background, [click here](#) for a previous post.

Opinions

The Technical Conferences were largely a formality that ignored much of the opinions and recommendations from all parties other than APS themselves.

A number of audience members expressed well-researched, valid concerns and objections that were largely dismissed by APS staff with, "Your comments have been added to the record."

At no point was there ever a truly open discussion where either side of the aisle engaged the other in what today's society would consider a conversation or debate.

The Conclusion of the Technical Conferences

Facts

Last month APS submitted to the ACC their proposed solutions to what they have determined to be a problem with residential solar.

APS claims that residential solar customers avoid \$1,000 per year in infrastructure costs while still requiring the grid to function. Multiply this by the 18,000 current solar customers and that adds up to roughly \$18 million per year that APS says must be recovered through rate hikes. By their math, if you divide \$18 million by the 1.1 million non-solar customers, that is an expense of under \$17 per year per non-solar customer. However, APS claims that the average solar system costs APS \$20,000 over its lifetime.

There are several reports that argue the exact opposite effect, that solar actually saves all parties money due to a reduced need for power plant and transmission upgrades. ([Click here](#) for a copy of one such report.)

Opinions

APS cited their own study only, claiming that solar costs APS \$18 million per year which must be recovered in the form of rate hikes that disproportionately affect non-solar customers since they are provided all of their power from APS.

Likewise, the solar industry provided a report that concluded that the current net metering policies save APS \$34 million each year.

Though both studies are likely biased to at least some degree, only the APS report has been considered in the overall findings of the technical conferences. The APS response was simply that they do not agree with the competing report and have used only their own study to craft their proposed changes to the net metering program.

The APS Proposals

Facts

APS has proposed two solutions that will dramatically modify the way solar customers are compensated for the power produced by their systems.

1. The first proposed change is that solar customers be required to change their rate plan to one which includes demand charges. In other words, their solar system might offset a large percentage of their overall power consumption, but as long as there is an hour in a given month where their peak demand from the grid jumps (due to clouds or extreme heat requiring additional cooling), they are going to be paying the full demand charge as if they had practically no solar at all.

2. The second proposal by APS is shifting from net metering to net billing. Instead of receiving retail value credit (roughly 13 cents today averaged out) for power you temporarily send back to the grid, APS would like to pay the wholesale rate of power (around 5 cents or less). In the meantime they will take the extra power generated and instantly sell it to a neighbor at the retail rate. Likewise, when a solar customer needs that extra power back (such as at night or during a cloudy day), they will buy it back at a retail rate as well.

Additional Proposal: As a side note, APS has also suggested that they support an increase in upfront solar subsidies regardless of which of the two proposals is implemented. This same subsidy has been in place for years but has gradually diminished to almost zero. It has been funded through the Environmental Benefits Surcharge ([click here](#) for an APS description) and is assessed on all APS customer monthly bills regardless of whether or not they have solar.

Opinions

Either of the two APS proposals will hurt residential rooftop solar by creating a system less conducive to sustainable industry growth due to greater dependence on subsidies.

1. The first proposal simply transfers the variable cost of power over to a fixed cost that will become practically unavoidable due to the nature of demand. (APS already pulled this off for large commercial net metering last year and no one even noticed.) Solar cannot offset demand, so when APS transfers the cost from kilowatt hour (kWh) units of power (making them cheaper) to kilowatt (kW) demand charges (making them more expensive), solar customers will be paying almost as much as they were before they had solar.

2. The second proposal means that when a customer temporarily sends power back to the grid (usually during peak hours), they will be immediately compensated for it at wholesale rates. Currently, when a customer sends power back to the grid, that power is added up and then netted out with the amount of power that they consume from APS on a monthly basis, so that the customer is charged only for what they actually use.

Typically, a customer overproduces power during peak hours when the kWh is most expensive. At that moment, APS sells that extra power to the neighbors at peak retail rates. Then, when power is inexpensive at night, that same solar customer will pull that power

back from the grid. In other words, APS will already have profited on the sale of that extra power during peak hours. When the solar customer wants it back, APS only has to give them off-peak power, saving APS money.

APS themselves said that either proposal will likely cost solar customers \$50-100 more each month, essentially slashing the energy savings that make solar such a sensible and desirable investment.

The snag is that APS is required to have more solar on the grid each year as mandated by the ACC, so they need a system that will not entirely annihilate the solar industry as their two base proposals would. Therefore, APS included in their proposal a word of support for upfront utility solar incentives to offset the reduced return-on-investment that would be consequential to their two core proposals.

Upfront solar subsidies are paid by all customers through the Environmental Benefits Surcharge, but APS's entire claim is that net metering in its current form results in additional unfair costs to non-solar customers. Then why is APS proposing to increase subsidies which are paid by the same body of people? If their plan is successful, APS will get their lost revenue back while still increasing the costs to non-solar customers through the Environmental Benefits Surcharge.

In other words, solar in today's form is costing APS too much money, which they then must charge to other customers as rate hikes to maintain historic revenue figures. (APS calls this an unfair "cost shift" from solar customers to non-solar customers.) Their proposed solution is to charge solar customers more while at the same time providing them greater upfront rebates to avoid snuffing out the industry entirely. The disconnect here is that upfront utility solar rebates are directly paid by customers. Not a single cent of an APS solar rebate is actually paid with APS dollars. No one is convinced the current claimed cost-shift even exists, but APS's new proposal will undoubtedly create one through increased subsidies paid by all customers.

When the ACC first mandated that APS provide 15% renewable energy by 2025 through the Renewable Energy Standard (RES), APS added the Environmental Benefits Surcharge to fund it through customer fees. In essence, APS installed a no-cost method of meeting their mandated standard.

However, they forgot to account for lost revenue due to the adoption of solar power. To remedy this, they have proposed a method that will both fund the RES requirement (as it has since its adoption) and recover lost revenue due to customers installing their own power plants.

Current system:

1. All rate payers pay less into the APS Environmental Benefits Surcharge.

Solar rebates are thankfully almost a thing of the past, meaning rate payers would no longer be subsidizing the upfront cost of solar through the APS Environmental Benefits Surcharge. This is wonderful and is already the case for commercial solar. (True renewable energy advocates recognize subsidies as a necessary evil on the road to creating a sustainable industry that will stand on its own.)

2. Every solar system installed results in less revenue for APS.

Intuitively, when a customer installs a solar system, they buy less power, and the power company makes less money. The solar homeowner has introduced competition into an industry dominated by a regulated monopoly.

Proposed System:

1. Rate payers pay more into the APS Environmental Benefits Surcharge.

APS claims to be concerned about solar customers costing non-solar customers money. However, they are proponents of charging all of their customers a greater surcharge in the form of a solar rebate. On the one hand APS complains that non-solar customers are subsidizing solar customers. On the other hand, APS proposes to increase solar subsidies paid by the same group of customers.

2. Every solar system installed has very little effect on APS revenue.

APS would like to butcher net metering to artificially shift variable power consumption costs to fixed unavoidable costs for solar customers. APS will stop losing money to solar. In fact, they will likely make more money from solar over time. Think about it: APS will recover most of their lost revenue, and solar panels will be on rooftops producing power that APS no longer needs to supply through the grid. They have found a way to benefit from their customers' solar investments.

Conclusion

APS claims non-solar customers pay more since the utility must raise their rates to offset lost revenue due to solar customers that provide power for themselves. The widely debated argument is whether APS is simply losing money by selling less power (mathematics proves this to be true), or APS is not being compensated properly for the use of their grid. They have not provided much legible evidence supporting the latter.

Understandably, APS does not want to lose money as they do in the current system. To protect themselves, they must craft a way to convince the majority of the state that more solar means bigger bills for everyone else. This will justify their bringing the above two proposed changes to the table.

Their cunning solution is simple: win the hearts and minds of non-solar customers by claiming that the current method is costing them money. Then propose a solution that will make APS more money. But this alone would kill solar, and APS is required to have more solar on the grid each year as mandated by the ACC. So at the same time they are gaining support from non-solar customers by claiming to save them money, APS must also increase upfront solar rebates, thus quietly taxing all customers more money to subsidize solar installations.

Not only will APS stop losing money to solar, they will likely make money from solar at the expense of those that have actually invested in clean technology. The new solar rate plans will dramatically reduce the negative impact solar has on APS total revenues. But the sun is still shining and solar panels will still be producing the same amount of power they always have. In other words, APS has won back their lost revenue and they don't even have to produce all that energy they once did before solar came about. For that reason, their bottom line profits will grow with every new residential solar installation.

APS claims that solar customers are "shifting costs" onto non-solar customers when really solar customers are just costing APS in lost revenue. With the new proposals, APS will shift the costs from themselves onto their rate payers...all of their rate payers.

APS continually claims solar has a bright future in Arizona, and if their plan works it would be the brightest future ever imaginable...but only for APS.

Their plan is both ingenious and miserably devastating.

APS's proposals fail to solve anything. Here are the questions that APS never answered and an explanation of what we need now.

8/5/13 – Dillon Holmes

This post is meant to follow my [previous post](#) analyzing the effects of the APS proposals.

The Technical Conferences hosted by APS failed to meet the intent of the mandate by the Arizona Corporation Commission (ACC). The discussion was biased and the educated opinions of the audience were largely ignored.

Here is what we need now.

Solar owners do not wish to cause undue hardship on anyone. A true solar advocate favors solar over conventional energy because it brings clean energy and sustainability to Arizona.

We of all people advocate the gradual reduction of subsidies such that solar may one day stand on its own two feet. If there is a flaw in the sustainability model of solar, it is in our own collective best interest to determine where the problem lies so that we may find a solution that benefits all parties and ensures an actual "bright future" for solar and clean energy in Arizona.

For that reason, the solar industry embraced the APS Technical Conferences with open arms. We were hopeful that this would shed some light on the true effects of net metering, but our goals have not been met. Our questions have not been answered, and we have only strayed further from the path to a sustainable energy future, one that has potential to blaze the trail for bordering states presented with the same situation.

We want to know the truth.

How much is solar benefiting or costing our utility companies?

Why won't APS show us their numbers?

APS ignores solar studies in favor of their own, but this is to be expected. Both are likely biased at least somewhat. APS tell us that solar customers are costing them \$18 million each year and growing, but we have not seen a single line of the formula that leads them to this figure. Solar studies have determined the opposite effect, that solar is saving utilities almost twice that each year.

We need to sit down with both studies and dig through them line by line to determine where the discrepancies are so that we can uncover the truth.

If solar is costing APS \$1,000 per year per system in lost infrastructure costs, how much is lost due to reduced power generation revenue?

Of the entire bundled rate of retail power, what percentage is power sales and what percentage is grid infrastructure?

Is this proportionally in line with the \$1,000 solar claim by APS?

Is this ratio in line with other utilities in the region?

If APS is going to propose dramatic changes to our rate structures then we deserve to know the whole truth. I have a feeling APS has chosen this \$1,000 per solar customer per year figure to offset not only their lost fixed costs but also their lost variable revenue from power sales. They have made no effort to show stakeholders how they have come up with these numbers. Surely they don't expect us simply to trust them in their position.

If APS is so concerned with solar customers costing non-solar customers in the form of rate hikes, why then are they proposing increased upfront subsidies which tax the same body of people?

Why hasn't APS suggested an amount for the upfront subsidy increase?

Who would be responsible for determining this amount, and how would we do so without seeing the math behind the rest of APS's claims?

Solar advocates are sick of this gridlock. If there is a problem, we want to determine what it is so that we may fix it forever. But it is apparent that the APS proposed changes miss the mark. Perhaps we will determine that solar saves the utility money or perhaps we will determine the opposite, but we are not going to get there until we have an open and honest discussion, one which we have not been afforded at this point.

Dillon Holmes
Cambio Energy, Inc.
Office: [480.389.4140](tel:480.389.4140)
Cell: [623.239.2080](tel:623.239.2080)
dillon@cambioenergy.com
www.cambioenergy.com



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