

TO: Public Service Commission  
attn.: [LTan@psc.state.fl.us](mailto:LTan@psc.state.fl.us)

June 18, 2015

FROM: Sam C, Brevard County

REF: Request for Comments, Solar Energy in Florida

Please answer the following questions:

1. What policies or programs would be most effective at promoting demand-side solar energy systems (i.e., programs effective on the customer side of the meter)?

*- Net metering is non-negotiable for sustainment of and growth of the solar industry. If net metering goes, the solar industry will suffer irreparably (limited solar thermal will continue to scratch by). It would be best to standardize net metering across the state to include coops and municipality-owned electric companies. The net metering program and interconnection created by the PSC is effective, sustainable, and fair. The fact that the Utilities want to eliminate net metering without any serious consideration should be a bright red flag for all to see. See additional comments below.*

*- commercial solar systems must also be exempt from increased tax appraisal as is currently the case for residential systems. This is fair and reasonable since banks, consumers, and the general public has not yet recognized any additional value from a solar system on a premises. (For example, a bank will not increase appraised value to a property because it has a solar system. Also, there is no data for Florida that shows that homes with solar systems sell for higher prices.)*

2. What policies or programs would be most effective at promoting supply-side solar energy systems (i.e., utility or third-party owned)?

*- simply allow 3<sup>rd</sup> party electricity sales as is proposed in the ballot initiative. This seems fair and equitable and consistent with trends across the country. Do not restrict the size of these systems (net metering guidelines are appropriate).*

*I am surely in favor of utility-scale solar. It is not the most economical way to clean up our energy mix but it should be part of our mix.*

In providing comments on the above items, please address each of the following factors, as appropriate:

a) Can the policies or programs be implemented under current Florida statutes?

- yes for net metering. Allow no encroachment on this program.*
- no for tax appraisal, but bills have been presented that can be passed to allow this.*
- no for 3<sup>rd</sup> party sales*

b) Can the policies or programs be implemented under current FPSC rules? If not, what changes or additions to the rules would be needed?

- yes for net metering*
- no for commercial tax appraisal exemption*
- no for 3<sup>rd</sup> party electricity sales*

c) What are the impacts of the policies or programs on system reliability?

*- at current solar penetration level (<2% total), only positive impact. More research must be done to evaluate at what penetration level solar systems interconnected to the grid will impact grid reliability. There are numerous studies available from all stakeholders; most suggest that modest solar penetration will have primarily positive effects on grid reliability.*

d) What are the impacts of the policies or programs on system fuel diversity?

- *it appears that Florida's current fuel diversity is extremely low: ~70% natural gas. This direction is myopic and dangerous. Fracking is fraught with controversy with known and unknown hazards. A single natural gas fracking disaster that excites national furor will subject Florida rate payers to potentially volatile electricity rates and/or fuel shortages. Such heavy reliance on fossil fuel generation, especially a single fuel, surely makes no sense in today's social, environmental, and political climate. This is particularly true when one considers that natural gas is only cleaner than coal, but by no means clean. Floridians want and need to keep our environment clean!*

e) Identify the cost-effectiveness of the policies or programs compared to traditional forms of generation.

- *the recent solar pilot program and associated \$2/watt rebate was not at all effective in some regards and very effective in others. \$2 was the wrong number if the intent was to increase the amount of solar installed in Florida; 25 or 50 cents would have been sufficient, thereby increasing installations by 4x or 8x. It was very effective in raising awareness of solar energy among those who are interested. The program seems to have been an effective catalyst for generating meaningful conversation, study, and analysis of solar energy for Florida. Again, it had a destabilizing and confusing effect on the solar market in Florida.*

- *net energy metering (net metering) at this point, seems to be an effective, simple, and elegant solution for Florida at current solar penetration levels (~1% distributed). Further study must be conducted to evaluate if there is a tipping point and if so, where. California enjoys 5% solar penetration with little effect on grid stability.*

- *surely it will soon be revealed whether Floridians believe that 3<sup>rd</sup> party sales is a fair proposition or monopoly ownership of electricity generation is more fair. This ballot initiative when passed, and the expected resultant market, will involve NO rebates, NO further incentives, NO additional burden on non-solar ratepayers, and NO taxes on anyone.*

f) Identify specific costs associated with the policies or programs and who will bear these costs.

- *it appears that the current anti-net metering argument focuses on who will bear the cost of reduced sales revenues and maintenance of the grid and infrastructure. This is a contrived argument given current (or any reasonable projection of) solar penetration levels. It becomes a less credible argument if you choose to consider that a solar customer will always pay for administration costs and their meter. The argument loses additional credibility when you consider that only 3.69 cents/kWh is the number in question (non-fuel charge – ECRC – CPRC - ECCR). The argument leaves you scratching your head in wonderment when we further consider we are talking about 1% of the ratepayers. The Utilities' claim that they are most concerned with keeping rates low for ratepayers is incongruous with their actions. For example, it is not possible to claim utility-scale solar systems are cheapest (compared to distributed generation) when ratepayers foot the entire bill for these plants. The math is simple:*

*500MW utility scale solar @ \$3.00/watt = \$1.5BB cost to ratepayers (plus salaries, maintenance, etc.)*

*500MW roof-top solar @ \$2.85/W = \$0.00 cost to ratepayers.*

*Let's look at utility-scale solar plants:*

- *A consistent argument heard is that utility scale solar is cheaper than distributed solar (roof-top, at ratepayer level). This is false, inarguably, for several reasons:*

*1. three of the most recent utility PV projects cost between \$2.80 - \$3.41 /watt (Antelope Valley, Agua Caliente, and Desert Sunlight). There are many companies in Florida today that charge well under \$3.00/watt for fully installed systems.*

2. Utility solar plants must be manned and operated, incurring ongoing operational costs for salaries, benefits, insurance, maintenance, etc.

3. 100% of the cost for utility solar plants is borne by the ratepayers vs. 0% of the cost for distributed solar generation.

4. Utility solar plants are less efficient than roof-top plants, primarily because of higher maintenance failure rates and loss of power through transmission.

To illustrate, let's assume Duke Energy's plans to install "500MW of solar in the next 10 years" costs \$3.00/watt (today's dollars). This \$1.5BB spent on a program even as poorly designed as the recent rebate program would net 750MW of solar deployment. A properly designed solar rebate program would result in 3GW (that's gigawatts!) of solar deployment. Leveraging private dollars is a far more powerful way to deploy solar. Add in additional benefit of thousands more jobs and revenues created throughout the state and the discussion becomes even more one-sided. (There is currently a \$5BB solar manufacturing plant under construction in upstate NY. This plant will employ 5000 people temporarily and 3000 people permanently.)

NOTE: I am NOT in favor of rebate programs for solar. I use this as an example only.

g) Identify how the policies or programs will be fair, just, and reasonable across the general body of ratepayers.

- given that Floridians are beginning to demand less pollution and more action to combat global warming and rising sea levels, doing nothing or moving backwards is not an option. The fairest way to move forward and to keep pace with the rest of the country and world is to gather credible evidence from those who have begun using more renewables, learn from their mistakes, and tailor our programs so they will best fit the needs of Florida. There are plenty of small steps we can take in the meantime that will still move us towards the cleaner environment we all want.

- Net metering must remain intact; any efforts to reduce this program should be stymied immediately.

- A level playing field surely seems like the ultimate in fairness, as is the intent of the 3<sup>rd</sup> party sales ballot initiative.

- Allow those who want solar to have it. They will be the ones bearing the risk and costs associated with the deployment of "new" technologies.

- do not allow the utilities to dictate Florida's energy policy. Give them their fair and equal say in this process while affording all Floridians and stake-holders equal input. This is the only way to make progress.

3. Are there any other policies or programs that could promote the development and deployment of solar energy systems in Florida?

- It appears to me that the ballot initiative allowing 3<sup>rd</sup> party solar sales is a good idea, all tolled. There are billions of dollars of manufacturing, distribution, and integration eagerly waiting for Florida to become solar-friendly. (SolarCity is spending \$5BB near Buffalo to build a solar manufacturing facility. This facility will create 5000 new jobs, including 3000 permanent jobs.)

- stay away from rebate programs; Floridians have little toleration for them and they destabilize the industry. They also promote the false belief that solar is too expensive and must rely on rebate programs.

Additional comments:

There are a host of reasons that there must be incentives (not necessarily monetary) for the promotion of alternate sources of energy. The discussion, both nationally and state-wide, is not about whether or not we move towards renewable energy generation, but how and when. The movement, which started out as experimental ideas in the 40s and 50s, has evolved well into the execution phase. To entertain discussion

that moves Florida backwards in this progression is simply dangerous and counter-productive. Just as we have moved beyond serious debate about whether or not global warming is happening and we have graduated to figuring out potential solutions, we are making similar progress with regards to renewable and solar energy. Below are several discussions we have heard in Florida and have been debunked:

- Florida does not have enough sunshine for solar energy to be cost-effective. (Several decades of measured data from the Atmospheric Science Data Center easily proves that the amount of solar energy available in Florida, not only is 80% of the BEST that is available anywhere on the planet, but is also 20-30% better than other parts of the country that have seen greater and successful deployment of solar systems.)
- "Solar is too expensive." I can easily demonstrate how a roof-top solar system will return its entire cost in 6 - 7 years, with NO incentive other than the federal ITC. Additionally, I can easily show how a solar investment outpaces a typical investment portfolio by a large margin. Finally, using a 25-year LCOE, solar energy is among the cheapest sources of energy available (~\$0.08/kWh, conservatively, and not counting carbon and health costs).
- Utility scale solar plants are cheaper than distributed solar generation.
- New generation is cheaper than conservation.
- Roof-top solar plants place an undue burden on non-solar ratepayers.
- Solar systems are unfair to the poor.
- Rebate programs will not help solar deployment.
- The quality of roof-top solar plants is low.

At bottom in this discussion is HOW we move towards greater renewable energy generation, not IF. I see it as a responsibility of the Public Service Commission to consider the wants of Floridians. It is clear that Floridians want clean energy and the ability to choose their energy sources, all presented on a level playing field.

It is disingenuous for the Utilities to make argument about the burden on ratepayers solar customers may have when the argument has not been validated at any level, let alone at present or conceivable levels of solar penetration. Further, it is absurd to formulate state policy based on the current presentations from the utilities. The preponderance of state-wide support and national example clearly sides with aggressive renewable deployment and generation. Claims of grid instability are nonsensical; even California with 25% renewable generation (5% solar), is just now beginning to experience the issues that the Utilities are claiming occur at 2%! Additionally, the claim that non-solar customers or "the poor" will be paying a disproportionate share of grid maintenance is academic and not supported by any credible evidence; in fact, data from more progressive solar states indicate the opposite appears to be true. Net metering is a bargain compared to building more plants, polluting the air, utility-scale solar plants, or even DSM plans (which have inexplicably been gutted).

Please feel free to contact me directly if you have any questions or if I can help in any way.

Sincerely,  
Sam C