

To: Lee Eng Tan, Senior Attorney, Office of the General Counsel

From: Joseph Sierra, Owner Crabjoe Electric LLC

I wish to thank the FPSC, its staff, and Mr. Tan for the opportunity to reply to questions that could effect positive change regarding the implementation of photovoltaics (PV) throughout the state. This is a very important discussion as it relates to our Investor Owned Utilities (IOU) and their comparative model on electrical generation, transmission, and distribution of electrical energy to their customers.

As personal disclosure, I want it known to all who may read my comments that I am not an attorney nor am I familiar with FPSC rules under Florida statutes. I am a state certified electrical contractor who has been working on various solar projects for 10 years and it is with this expertise that my comments are relevant.

Perhaps if staff would have specified policies and programs germane to the issues, a layman like myself would be able to properly respond. I can not address questions on rules or whether policies can be implemented under current law. I only know that any alteration to current programs can happen with proper directive from the Florida Legislature and the Governor.

In addressing these points it is important to note that changes or fulfillment of policies must be realized in a holistic manner so that no one issue can stand alone without bearing relevance on its entirety.

With regard to the questions proposed, I believe the FPSC would be wise to study other states' successes. The current policy of net metering should remain as is with utilities paying an equal amount for PV production in relation to the amount they charge customers for electricity. Homeowners and businesses that employ PV should never have this policy revoked or diminished because they have paid up front costs to install these systems. As the price of PV continues to decline, and more PV is installed, the need to build new traditional power plants will become obsolete. In the meantime, additional PV will aid utilities with peak energy shaving that coincides with solar irradiation.

Any programs that support energy efficiency should also continue to be implemented. For the most part, homeowners and businesses are contributing their own resources to increase efficiency. They are doing this primarily to reduce their utility bill. It is not appropriate for utilities to ask for rate increases just because consumption has declined and investors are getting a smaller return. This acts like a penalty against everyone—especially those who can't afford to employ energy efficiency. Any rate increases that the utilities enact should be diverted into building a smart grid with energy storage capabilities and improving the infrastructure of transmission and distribution lines.

I believe that this shift of charging customers for new traditional power plants to a more distributive, smart grid will be looked favorably by both the utilities and the rate payers. It is a shift away from large centralized power plants to a smaller, smarter distributive energy paradigm. Lawmakers should promote this kind of system by giving incentives to utilities to make this shift possible. Utilities should not be burdened with

the entirety of this transformation any more than ratepayers- this has to be a concerted effort in order to make this conception a reality. Government has to do its role too for it will take legislation and the FPSC to regulate and monitor. This would be a new type of infrastructure and this investment would last many years and employ many people.

Third party owned systems have always been a contentious issue in the state of Florida. I believe that anyone who wants PV installed should have the choice to install or lease that energy. Power Purchase Agreements (PPA) are becoming more popular in the U.S. and should be tried as a pilot program by IOUs in Florida. Also Community Solar projects are in the rise for those communities that can't have traditional solar energy for various reasons including the shading effects of trees and multi-use housing which would make traditional PV extremely difficult to do. The idea behind Community Solar is that individuals can buy a portion of an array and in effect get a reduction on their electricity bill. Businesses that have large roofs or property and can't use all of their solar production should be able to sell their excess power to a close neighbor thusly lessening the demand on the utility grid. Large, empty warehouses can be used for power production to supplement the grid and at the same time enable the taxpayer of that property to reap the benefits of the sun. Mini malls and stores can benefit from a shared roof of PV panels to help lessen their utility bill thus making their businesses more profitable and competitive.

Again, to promote third party ownership, the legislature must act. This is a law that desperately needs to change especially for commercial, retail businesses. No incentives or rebates are needed to do this-just change the law.

In relation to any other policies that may promote solar development, I would say that educating the public is paramount. With some regret, little has been done by the FPSC in this regard. When a commissioner complains that there is not enough sunlight in Florida, and that it rains half the time, does not bode well for the commission or the people of Florida. When this same commissioner boldly states in front of a Florida House Subcommittee that solar is much more expensive than nuclear, he does so with impunity and no statistical evidence. This kind of attitude and indifference is especially harmful to the FPSC and shows an ignorance to the facts.

The truth is the voters of Florida overwhelmingly support solar expansion and production. If the FPSC is serious about "promoting the development and deployment of solar energy in Florida" they should help by elevating this discussion beyond meaningless and mindless talking points.

The promotion of solar should be a shared commitment with the people of Florida, those who represent the people, and the FPSC. Since solar policies shifted from the Governor's office to the Department of Agriculture and Consumer Services, there has been little or no work done to promote solar development. The IOUs have done their part in creating large, utility solar fields. Even they have seen the benefits of adding solar to their energy diversity portfolio. However, the individual or business still appears to have an uphill battle with some utilities in the state who are reluctant to give up on their old "charge first, maybe install later" paradigm.

There should also be a conscientious effort to promote the use of electric vehicles (EV) and their necessary charging systems which can be supplemented by PV. Hydrogen Fuel Cells can also benefit from some form of concentrated solar to separate the hydrogen molecules from water. PV can also be used as back-up generation after a

natural disaster. These are just a few of many ideas that can be helpful when promoting solar to the public. All of these programs and policies could be greatly enhanced if it were not for the lack of political will.

In conclusion, PV systems require little maintenance, have no moving parts, and will still produce with diffuse sunlight. Just because Florida is not New Mexico is not an excuse for negating solar production. Reliability, affordability, and efficiency will improve with time and technological advances. Battery and energy storage is also improving and with the proper incentives to utilities/ private companies we can make this a clean future for generations to come.

It is not going to be cheap to achieve these goals, however we can not and should not continually use fossil fuels as our main source of power generation. There is no doubt that we will be using these expendable fuels for some time but solar definitely diversifies the energy portfolio. As more and more solar is developed, the costs will continue to fall. Typical PV systems are warranted for 25-30 years and will cost much less when they need to be replaced.

The price of fossil fuels has always been volatile. Fossil fuels contribute to greenhouse gasses, degradation of our water and air quality, and unfortunately promote excessive extraction that further degrades our environment. Wars are fought for their possession. How many wars have been fought over solar panels? Please ask yourselves what the cost would be if solar is not even contemplated.

Thank you very much for your consideration.

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