Lessons learned from the Winter 2021-22 Attack on Net Metering in Florida

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This discussion paper assess the outcome of the latest attack on net metering and suggests a way to move forward.

The paper answers these questions: What happened? What did we learn? How does this relate to the climate crisis? What can/should we do now?

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What Happened?

Florida Power and Light (FPL) drafted the legislation -Renewable Energy (Solar Net Metering) - which ran thru the Florida house (HB 741) and senate (SB 1024), like a hot knife thru butter. It passed all committees as well as the whole house and senate (essentially on party lines).

This bill seeks to end the economic incentives homeowners currently receive for incurring the expense of installing solar panels on their rooftops. The solar rooftop industry, led by Florida's Solar Energy Industry Association (FlaSEIA), fought and negotiated with legislative leaders to soften the blow. Amendments to the original bill were adopted to protect current net metering contract-holders with a 20-year grandfather clause while establishing a "glide path" to net metering reimbursement rate reductions over the next 7 years. The bill kicks in at the start of 2023, when panel owners would start getting 75% credit instead of the current 100%. That would fall to 60% in 2026 and 50% in 2027, and then drop to the "cost avoided" (less than wholesale) rate in 2029.

Opponents to the bill unsuccessfully disputed the proponents' argument that non-solar utility customers are subsidizing roof-top solar producers. They pointed out that there has not been a single confirmed study supporting the assertion of a subsidy and called upon the legislature to use facts and data to guide their decision making. This bill will have a documented impact on Florida's solar rooftop industry. A recent study from the advocacy group Conservatives for Clean Energy shows the solar industry adds 40,000 jobs; $18.3 billion in economic impact; and $3.2 billion in household income for its workforce. That study also showed solar adds $10.6 billion to the state's gross domestic product. Under current assumptions, these economic benefits will be lost when net metering is phased out in 2029.

The governor's veto of HB 741 was great news. This bill was a disaster. It would have cost thousands of jobs in rooftop solar and made Florida's meager solar energy production even lower. The bill was not in the interest of the public who can now continue to go solar and make money off their own energy production.

What is important is to not go crazy in celebration, because the anti-net metering forces will return next year. Plus, and more importatnt we must move beyond net-metering. Even with net metering, Florida is on track to have only 2% rooftop solar, and total 25% solar contribution by 2030. And while net metering is a beneficial policy, it has shortcomings. At night or during cloudy days, the solar rooftop system (until it is equipped with battery storage) takes electricity from the grid. Grid electricity is generated, for the most part, with fossil fuels, which emit heat trapping gases. We tend to forget that the "net zero" concept is not that great. Instead of striving for net zero, we need to think of stopping all emissions. And we need to add batteries to our rooftop systems so they can store our excess power locally and provide for our homes when the sun isn't shining (or the grid isn't working).

Why bother with lessons learned?

Maybe it's the military mentality – after each major operation, we sit down and assess what happened and what we learned. The idea is to not forget any valuable lessons, in the interest of improving performance in the future.

In this case, the net metering battle may be over for another year, the war to establish Florida as the real sunshine state still rages – and we are losing.

Florida solar in context

FPL and other utility monopolies are quick to toot their horn about how great they are doing with solar power. Florida recently became #1 in the southeast in total solar capacity, owing to our large population. But Florida ranks second from last (ahead of only Alabama) in per capita solar production.

2022 Projections (MW)			
Utility Solar	Distributed (Rooftop)	Total Solar	Total Capacity
3,254	308	3,562	31,870
10.2%	1.0%	11%	100%
2029 Projections (MW)			
Utility Solar	Distributed (Rooftop)	Total Solar	Total Capacity
8,500	600	9,100	36,000
23.6%	1.7%	25%	100%

Source: FP&L, Southern Alliance for Clean Energy (SACE) 2018

Projections for solar in the future point out how meager the situation is overall, and how downright puny rooftop solar is, and will remain. Even with net metering incentives (these projections were made before Florida's legislature voted to kill net metering), rooftop solar will only reach a 1% contribution level this year. And by the end of the decade, rooftop penetration will not reach 2%. See the table below.

The scariest fact about Florida's solar future is how far short of climate needs the projections fall. By many accounts, we (as a nation, as a leader of the global community of wealthy nations) need to be replacing fossil fuels by 70-100% before the end of the decade. Instead, Florida will be at 25% solar contribution. Add that to the 20% contribution from nuclear power, and we are not even at 50% overall. We will be toast at the current trend, which has us passing the 1.5 degrees C threshold (for maintaining life as we know it) by about 2040.

Confirmed: Florida's elected officials disregard/deny the causes of global warming- and are allowed to get away with it -despite support for climate action

Most of us knew this going into the latest attack. But senate and house leaders confirmed during this latest legislative session that there is nothing in their soul that allow them to acknowledge that sea level rise and increasing temperatures are caused by the burning of fossil fuels.

Florida voters (or at least enough of them) are happy to elect a governor, senators and representatives who disregard the cause of global warming. This is especially true in our region – SW Florida. This fact makes clear that, for now, the election process is not a means to achieve our solar goals in Florida.

On the other hand, it seems the people support solar and action on climate. A Mason Dixon survey showed 84% of Florida voters support net metering. Polling by Yale Climate Communications tells us that 62 % of Floridians are worried about global warming. 72% support regulating CO2 as a pollutant. 64% think citizens should do more to address global warming.

We are reminded of net metering's shortcomings

At night or during cloudy days, the solar rooftop system (until such time as it is equipped with battery storage) takes electricity from the grid. The grid provides electricity generated, for the most part, with fossil fuels, which emit heat trapping gases – a practice we do not subscribe to, but it seems we have become accustomed to it. I am guilty of boosting how we make more energy than we use, while at the same time taking 4 or 5 thousand kWh of dirty power from FPL each year. Its easy to forget that the "net" zero concept is not that great. Instead of achieving net zero, we need to think of stopping/eliminating all emissions.

There are two alternative remedies to this shortcoming, and they are not mutually exclusive.

- Clean up the grid by achieving a low carbon portfolio standard. That way, we will not be doing any eco harm by taking juice from the grid during the evening and on cloudy days.
- Produce our own electricity and store it in batteries for use during the evening and on cloudy days. This option also will provide us security from grid power losses. Our own emergency power system.

Battery Storage is important

Utility grade solar, including battery storage is cost competitive with other means of electrical power generation. That's good news because we must achieve 100% zero emission energy. We must rid the grid of any use of natural gas, oil, or coal.

Rooftop solar batteries also have value, but they add to the cost of the rooftop investment. According to Ana Almerini in Solar Reviews, the finances for batteries depends on the type of net metering you have.

- **Full retail rate net metering** (what we have now in Florida)- If you were to purchase battery storage, instead of selling your excess power to utilities, it would be used in your home during non-sun hours. This would reduce your use of "dirty" grid power. But since you are forgoing the "free" energy available from the grid, this is not a financially beneficial arrangement. In addition to reducing your carbon footprint, battery storage pays off in the event of a power outage – you will have emergency power.
- **Avoided cost net metering** (what we will have in Florida in 2039)- Since your energy is worth more if stored for your own use, a battery makes financial sense in this situation. If you sold that excess energy back to the grid, you would make less money than if you stored and used the energy yourself.

If you are interested in using zero emission energy, a backup battery will help reduce your reliance on the "dirty" power from the grid, no matter your net metering arrangement. If you are interested in freedom from the grid, battery storage is your ticket to independence.

According to Ana Almerini in Solar Reviews, a typical 6 kW solar system would cost you about $18,000 before the federal tax credit, as of February 2022. If you included a 16 kWh LG Chem battery, which for example's sake costs $10,000 (although prices do vary), your total system cost would be $28,000 before any rebates or incentives.

Special Interest, stakeholders

The utility monopoly is not the only special interest in this fight. FlaSEIA played a leading role in the fight against the anti-net metering laws. FlaSEIA's work was instrumental in modifying the initial bills, which would have killed net metering immediately, to instead phase out retail net metering and adapt avoided cost rates over a 7-year period. We all owe FlaSEIA a debt of gratitude.

It's easy to categorize FlaSEIA as the good guys and FPL (and the other publicly owned utilities - POUs) as the bad guys. This is a dangerous stereotype because neither are dedicated by charter to the public's interests. FlaSEIA is dedicated to protecting and promoting the interests of the solar energy industry in Florida. FPL is dedicated to enriching their shareholders financially. Both provide jobs. Let's not forget that FPL's solar workers are people too – and they are reported to make union wages, which is a good thing.

As we move forward, we should recognize that FlaSEIA and FPL (and other POUs) are both stakeholders in this problem, who should be viewed as part of the solution, which is to rapidly expand solar power, both industrial grad and distributed (rooftop). It is not helpful to look at FPL as the enemy. We must take all stakeholder's interests into account. This includes the public welfare as we seek to solve the climate crisis while providing affordable and reliable electric power to our communities.

We have bigger fish to fry

The latest net metering fight has taken up an inordinate amount of time, energy, and capital over the past months. Energy and environment activists might have observed that all the oxygen has been sucked out of the room, with nothing left for other issues. It was a noble effort, and we cannot doubt the justification for this endeavor. After all, the net metering bill was ill-conceived, another case of our legislators favoring special interest over the public good.

In the context of the climate crisis, we have more significant causes to champion in terms of impact on the emissions of heat trapping gases. As mentioned before, rooftop solar provides less than 1% of generated electricity in the state. To have a hope of limiting global warming to 1.5 degrees C over pre-industrial levels, we must get our electrical power from almost 100% zero emission energy by end of decade. As shown in the table earlier, FPL and others are lucky to achieve 25% solar by 2029.

According to the Union of Concerned Scientists, the most powerful arrow in the state government's quiver is the **"low carbon electricity portfolio standard."** The standards require electric utilities to generate a certain percentage of their power from non-emitting sources by specific dates. Bill Gates, and other experts give broad support for this important policy.

By requiring a clear and firm target date, the laws offer certainty to investors and developers of non-emitting energy while helping utilities get away from carbon-based source of energy. [1] The Center for Biological Diversity report tells us that of the 10 states graded F in energy policy (including Florida), eight are lacking mandatory portfolio standards, policies that are key to creating a safe market for investing in utility grade and rooftop solar.

Low Carbon Portfolio Standards allow utility companies to buy from all sources of low carbon electricity, including solar, wind, nuclear and small hydro-electric power. And because nuclear and small hydro-electric power can generate electricity 24/7, they are more reliable sources for filling electricity gaps. Not only that, but carbon emissions will be reduced since coal and natural gas won't be as needed to make up the difference. See the video at LCPS.

Another added benefit of this expanded list of available power sources is that by giving utilities more choices, they end up saving money… which inevitably lowers costs for the consumers.

It is important to recognize that the presence of a portfolio standard does not mean that it will drive distributed (rooftop)-solar growth specifically. This is because, unless the standard has a "carveout" for distributed solar, the percentage of zero-emission energy may be met totally by utility-scale solar. A carveout specifies that a certain portion of the portfolio goal be met through specific sources and ideally would include a generous distributed PV carveout.[2]

Land Use

Another important consideration for Florida becoming the real sunshine state is land use. The last thing we want to happen is more deforestation or wrecking of farms and pastures for industrial solar farms. Good soil management is as important for the mitigation of climate chance as the transition to zero emission energy. We must enhance our capability to take carbon our of the atmosphere and store in the soil. Therefore, solar farms sites should be selected to further that principle. Let's use the roofs of

[1] Union of Concerned Scientists, Cooler, Smarter pp. 222,223;234-235
[2] Greer Ryan *Throwing Shade* Center for Biological Diversity p. 8

parking garages and industrial buildings, former parking lots, closed landfills, or in despoiled phosphate mines and old roadways that cannot be reforested.

Several cooperatives have combined solar power with livestock grazing to employ "solar pastures," which use the land under and around the solar panels for livestock grazing. The livestock cut mowing costs while providing a natural fertilizer for the soils. This approach integrates solar power production with agriculture, diversifying the land use and providing added economic value to the community.

This is another reason rooftop solar is so valuable – it doesn't take up any additional land.

What to do?

Given the circumstances and acknowledging the goals of achieving a stable climate and social justice, what's a concerned Floridian to do?

First up, if you have rooftop solar, **consider adding battery storage.** It will reduce your carbon footprint because you will be taking less power from the "dirty" grid. The investment in batteries will also give you he capability to power your home with your solar array when the grid is down.

As far as public policy, we can apply two principles to guide our strategies going forward:

1. Spend our energy and resources in areas we can control.
2. Use leverage -to apply our resources where they can have the most impact.

We live in a state where elected officials have never (at least for the past decade or so) embraced rooftop solar. It doesn't matter the route cause (are they unenlightened? Or is it simply their allegiance to the utility monopolies and fossil fuel, that causes them to overlook the needs of the people, kind of like how the agricultural giants influence decisions on our soil and water resources?). No matter, that's life in Florida, let's suck it up and not waste too much time trying to influence legislation.

Leverage is the economic concept of applying your resources where they can have the most impact. Net metering is a worthy cause for jobs, saving on utility bills and our own carbon footprints. But in terms of impact on the climate crisis, we're talking 1% of total generated electricity. While every bit matters, it would be more meaningful to be talking about having an impact on 50-75% of generated electricity. As the Union of Concerned Scientists say, a **low carbon portfolio standard** is state government's best weapon against global warming.

How do we enact such a policy in a state where our leaders don't acknowledge the cause of global warming? Section 3 of Article XI of the Florida Constitution, with some limits, grants the people the right to initiate constitutional amendments. To place a **constitutional amendment** on the ballot, proponents must collect signatures equal to 8% of the total number of votes cast in the last presidential election. To be approved, a proposed amendment must garner a super-majority, which is equal to 60 percent or more of the vote.

Florida Veterans for Common Sense poised to lead/collaborate

FLVCS has long been advocating for policies that allow Florida to become the real sunshine state. FLVCS's underlying motivation comes from the threat that climate change poses to our national security.

FLVCS has begun meeting with local, regional, and state agencies and eco groups to help organize a statewide effort to put a low carbon portfolio standard in place in Florida. It will take a team effort because enormous resources will be required to get a constitutional amendment before the people and garner 60+ % of the vote.

Potential allies include, but are not limited to, Union of Concerned Scientists, the Center for Biological Diversity, League of Women Voters, Florida Conservation Voters, Sanibel Captiva Conservation Foundation, Audubon and perhaps the Sierra Club (if they are willing to shed their historical aversion to the use of nuclear power).

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Summary

The net metering battle is over this year, but it will resume in the future. This year's battle was taxing, and we have discovered three important lessons:

1. Rooftop solar customers have been reminded that besides making money on our PV systems, we can reduce our carbon footprint and enhance our resiliency against losing grid power by adding battery storage.
2. We can make Florida the real sunshine state by amending the state constitution to require implementation of a low carbon electric portfolio standard, requiring utilities to generate 70-100% of electricity from zero emission energy by 2030, including a generous carve out for rooftop solar.
3. The Florida legislature will likely be back next year with another attack on net-metering. We need to brace for it.