



October 8, 2020

Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Dear Chairman Clark and Commissioners:

Vote Solar respectfully offers the following comments concerning the state of customer-sited renewable energy in Florida.¹ We thank the Commission for the opportunity to address these important issues at the workshop held on September 17, 2020, and we look forward to continued engagement with the Commission, electric utilities and other stakeholders to encourage rooftop solar investments in the state.

In these post-workshop comments, we

- (1) focus on the myriad reasons for the Commission to continue its support of current net metering rules;
- (2) suggest next steps, should the Commission feel it necessary to continue its inquiry into the status of customer-sited renewable energy;
- (3) point out ways that utilities can and should promote rooftop solar now without necessitating any rule changes; and
- (4) conclude by highlighting the urgent need for the Commission to enable complementary technologies such as energy efficiency, battery storage, and electric vehicles to further expand the suite of policy options available to regulators as you survey next generation customer offerings.

Net Metering Deserves Commission Support

Net metering, a popular, proven policy used in 42 states, allows families and businesses to get credit for the energy produced from their solar panels. The Florida legislature unanimously enacted solar net metering as part of broad energy reforms passed in 2008 (H.B. 7135). It did so to help address Florida's growing dependency on natural gas for electric production, minimize the volatility of fossil fuel costs, encourage investment within the state, reduce health-harming pollution, and make Florida a leader in new

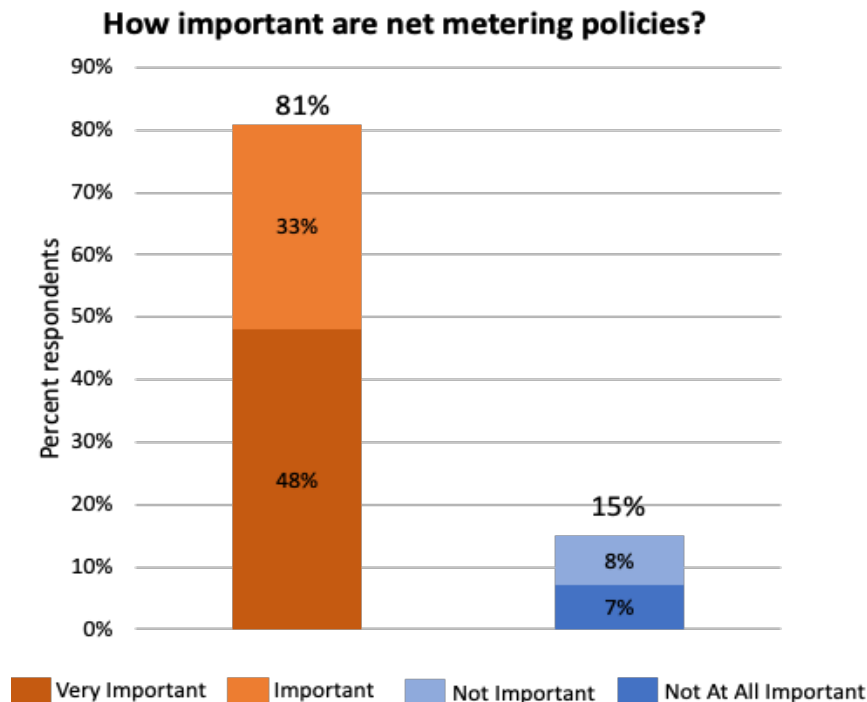
¹ Vote Solar is a 501(c)3 non-profit organization that works to lower solar costs and expand solar access. Vote Solar's mission is to make solar a mainstream energy resource across the U.S. For more information, please visit votesolar.org.

and innovative technologies. This bill was sponsored by Rep. Stan Mayfield (R) and Rep. Paige Kreegel (R), a self-described free market Republican. Then-Republican Governor Charlie Crist signed the bill. He touted its support for renewable energy and called it the “most comprehensive energy and economic development policy in the history of our state.”² Florida’s net metering law did not cap the number of rooftop solar customers that were eligible to participate.

The PSC adopted rules to govern utilities’ implementation of net metering in 2008. When the NEM rules were adopted, PSC Chairman Matthew M. Carter II stated:

“By making it more attractive for customers to use renewables, we are promoting fuel diversity and reliability and increasing development of renewable generation in Florida. Today’s approval will encourage eligible customers to reduce the electricity purchased from their utility - saving money for the customer and increasing grid capacity for the utility.”³

On September 17, 2020, the Commission initiated a workshop to evaluate the status of customer-sited renewable energy, over a decade after net metering was adopted. Over 16,000 emails were sent to ask the PSC to protect net metering - **more than any public response in the history of the Commission**. This outpouring of support from the public is consistent with recent polling that has demonstrated the importance of net metering to Floridians.



(Data Source: Public Opinion Strategies, 2019⁴)

² South Florida Business Journal, (2008, June). “Crist signs energy bill, FP&L plans solar projects. Retrieved at: <https://www.bizjournals.com/southflorida/stories/2008/06/23/daily24.html>.

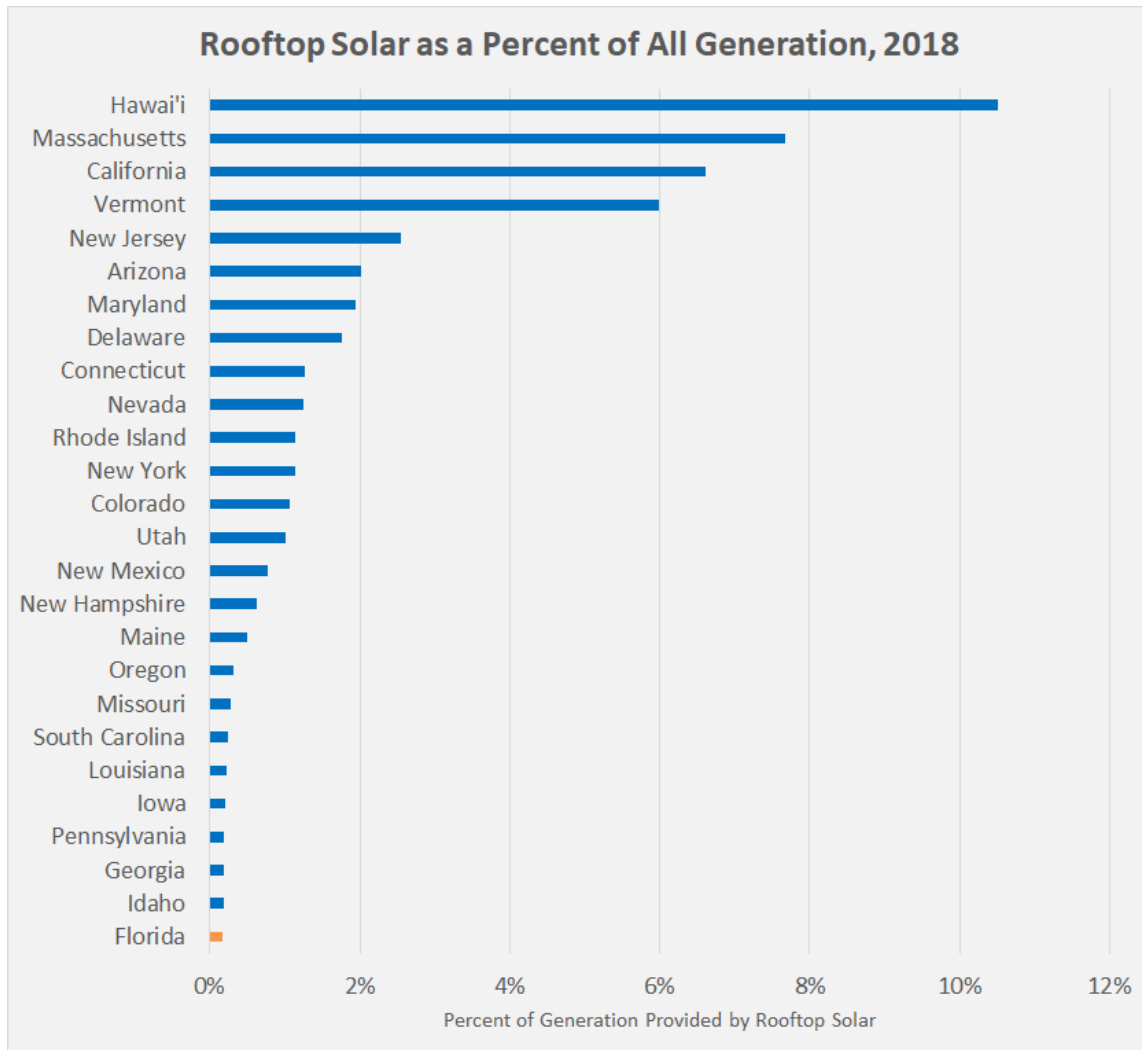
³ Florida Public Service Commission, (2008, September). “PSC Approves Net Metering Interconnection Agreements.” Retrieved at: <http://www.floridapsc.com/Home/NewsLink?id=437>.

⁴ <https://www.cleanenergyconservatives.com/wp-content/uploads/2019/02/Florida-Clean-Energy-Survey.pdf>

Florida-grown, home-powered rooftop solar grows our economy, creates local jobs that can't be outsourced, and helps families control their electric bills. That's why the legislature unanimously decided in 2008 to protect solar rights. Those rights still need and deserve protection today.

Rulemaking is Premature

Customer-sited rooftop solar represents just one segment of the total solar market, which also includes community and utility-scale projects. In 2019, the Florida Public Service Commission reported that almost 60,000 Floridian households and businesses had gone solar, installing over 507 megawatts. This means that only half a percent of all Florida's electric customers have rooftop solar systems.

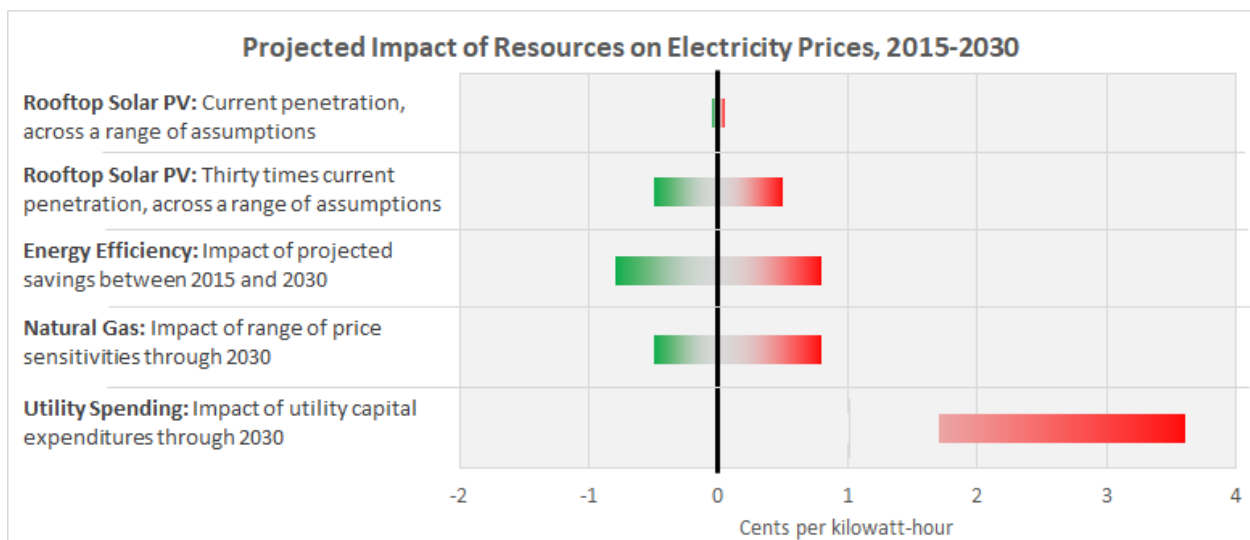


(Data Source: U.S. EIA)

In terms of rooftop solar’s penetration on the grid, Florida ranks 26th in the country. Florida has only a fraction of the amount of rooftop solar generation compared to Massachusetts, California, Vermont, Arizona, and Maryland, to name just a few states.⁵

Even the recent gains that Florida’s solar market has made appear to be facing headwinds now due to COVID, similar to the rest of the economy. Florida’s clean energy industry lost nearly 30,000 jobs in March and April alone.⁶ Investing in clean energy projects is a tried and true path for revitalizing the economy that has created jobs in the past, and can put Floridians back to work again today. In fact, 75% of Americans polled by George Mason University agree that clean energy investments should be prioritized over fossil fuel bailouts in a COVID response package.⁷

It is also clear that at the low level of solar adoption that exists in Florida today, rooftop solar is having negligible impact on customers’ rates. Researchers at the Lawrence Berkeley National Lab sought to better understand the role of distributed solar power in electricity rates. They found that the influence of distributed solar is negligible on electricity prices, and may well actually *improve* electricity rates. This is because of the value solar brings to the grid – especially at 10% solar penetration. (Florida rooftop solar adoption is only at 0.5% penetration today). In contrast, new capital investments in expensive gas transmission and generation and unnecessary grid upgrades are expected to substantially increase rates for all customers (by up to as much as 20% in Florida) between now and 2030.⁸



(Data source: Lawrence Berkeley National Laboratory)

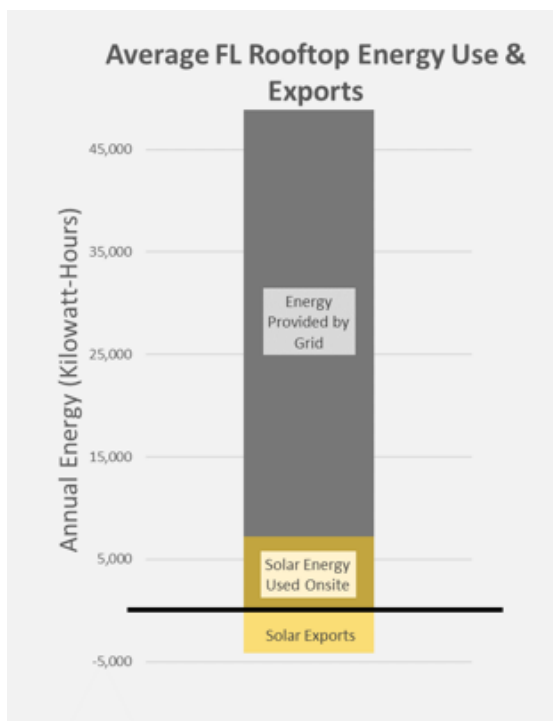
⁵ United States Energy Information Administration (US EIA) Form 861.

⁶ This includes energy efficiency and renewable energy jobs. Source: BW Research Partnership, (2020, May). “Memorandum: Clean Energy Employment Initial Impacts from the COVID-19 Economic Crisis, April 2020.” Retrieved at: <https://e2.org/wp-content/uploads/2020/05/Clean-Energy-Jobs-April-COVID-19-Memo-FINAL.pdf>

⁷ ClimateNexus Polling, Yale Program on Climate Change Communication, George Mason University Center for Climate Change Communication. (2020, April). National Poll Toplines. Retrieved at: <https://climatenexus.org/wp-content/uploads/2015/09/Coronavirus-National-Poll-Toplines-and-Crosstabs-FINAL.pdf>.

⁸ Barbose, G., (2017, January). Putting the Potential Rate Impacts of Distributed Solar into Context. Lawrence Berkeley National Laboratory. Retrieved at: <https://emp.lbl.gov/sites/default/files/lbnl-1007060.pdf>.

Rooftop solar customers have been demonstrated to pay electric bills that are sufficient to cover what it costs utilities to provide them electric service - and myriad studies have illustrated this fact time and again.⁹ This is likely the case in Florida. Commission data show that solar owners import more energy than they export back to the grid every year - meaning that even after adding solar, these customers continue to purchase electricity from the grid, similar to other energy conservation technologies. Seventy percent of the solar generated never crosses the customer's meter onto the grid at all -- meaning it is a pure conservation measure.



(Data Source: Florida Public Service Commission, *Interconnection and Net Metering of Customer-Owned Renewable Generation*, 2019)

On average, statewide, residential customers pay about \$1600/year for electricity. Even after adding solar as a conservation measure, the average solar homeowner still pays more than the average residential customer -- because they were larger than average users before, and their systems are only meeting part of

⁹ For example, a study commissioned by the California Public Utility Commission found that net metering customers were in fact paying 133% of the costs they generate (Retrieved at: https://s3.amazonaws.com/dive_static/editorial/NEMReportWithAppendices.pdf). Another study commissioned by the Public Utilities Commission of Nevada found that net metering customers had provided \$36 million of net benefits to non-NEM customers (Retrieved at: http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2015_THRU_PRESENT/2016-8/14179.pdf). And the Oklahoma Commission rejected utility attempts to penalize net metering customers after testimony demonstrated that residential DG customers were paying more than the cost to serve them, providing a subsidy to non-DG residential customers, not the other way around. See also Responsive Testimony of Mark E. Garrett to the Corporation Commission of Oklahoma, Cause No. PUD 201500273 (Mar. 31, 2016); Final Order, Corporation Commission of Oklahoma, Cause No. PUD 201500273 (Mar. 20, 2017) (Retrieved at: <http://imaging.occeweb.com/AP/Orders/occ5360859.pdf>); The Alliance for Solar Choice v. Public Service Commission of Wisconsin, Dane County Circuit Court, Case No. 15-CV-153, Final Order (Nov. 20, 2015) (Retrieved at: <http://imaging.occeweb.com/AP/CaseFiles/occ5245850.pdf>) (overturning PSC imposition of demand charges on rooftop solar customers).

their usage needs. **The data we have are clear: solar customers are still paying electric bills sufficient to cover utilities' fixed costs of serving them.** Florida utilities have not presented any data to the contrary.

Given the very low adoption rate of rooftop solar in Florida today and for the foreseeable future, any proposal to initiate a rule modification on these issues is clearly premature. We encourage policymakers to be thoughtful and deliberate when engaging in these often-contentious debates. Below are several core principles that can guide a fair and productive conversation at a future time:

- **Gather all relevant information.** A series of transparent, data-rich and robust technical workshops and collaborative stakeholder processes should form the backbone of any discussion of rooftop solar policy, and precede any rulemaking process. Utilities should be required to gather and share data on solar adoption, solar customer usage patterns, cost of service information, and other key information that will equip all stakeholders to rely on hard facts, not overused talking points.¹⁰ This open process has been critical to helping find common ground in other states.
- **Everyone gets a seat at the table.** Any policy conversation about rooftop solar should be open to every member of the public, with opportunity for both written and oral comments. Customer voices and perspectives should be front and center.
- **Put customers first.** The chief concern of policymakers should be protecting and empowering customers' choices. Customers' ability to control their electric usage in their own homes through technology investments should always be protected. Where utilities' profit-making incentives are out of sync with customer value, be it related to solar, energy efficiency or other technologies, those incentives should be re-aligned to match modern customer needs.
- **Understand the role of new technologies.** Rooftop solar is at the vanguard of a long list of emerging technologies, including battery storage, electric vehicles, smart homes, and other distributed energy resources. Any discussion of rooftop solar should consider the interplay of these other technologies in terms of both customer engagement and grid value.

While we reiterate that Florida's low adoption of rooftop solar makes any formal rulemaking unneeded for the foreseeable future, if the Commission finds that further inquiries into rooftop solar policy are warranted, Vote Solar respectfully proposes two important next steps: (1) data collection and analysis, as discussed above; and (2) the development and execution of a robust and inclusive stakeholder process.

A robust and inclusive stakeholder process can enable information sharing and ensure that everyone has a seat at the table. The first step is to develop the process *in conjunction with* the stakeholders most affected by the policy, to include ratepayer advocates, solar industry members, environmental justice community members, solar customers and environmental advocates. The process should include a series of workshops on technical issues, including long-run marginal costs and T&D planning; relevant cost and benefit components; rate structures; and an overview of recent net metering reforms in states like South Carolina. In addition to the technical workshops, the Commission should hold a fully inclusive workshop

¹⁰ Vote Solar recommends the following data collection and analysis in order to ensure a complete view of the costs and benefits of customer sited rooftop solar: a minimum of one year's worth of hourly usage data for customers with and without solar, their rate schedules, meter type, interconnection date, hourly interval load data and system sizes; customer demographic data; and data on battery storage and electric vehicle adoption by these customers.

to hear directly from Floridians who would be impacted by any proposed rule modification, including those with existing solar panels, customers interested in going solar, and folks working in the solar industry.

Utilities can do more to promote rooftop solar now

Even without any amendments to the Commission rule governing customer-sited renewable energy, there are things that utilities can do now to promote rooftop solar. We list just a few recommendations here.

→ Utilities should voluntarily lower the insurance requirements for Tier 2 systems

The current rule states that utilities' interconnection agreements must contain "[a] requirement for general liability insurance for personal and property damage, or sufficient guarantee and proof of self-insurance, in the amount of no more than \$1 million for Tier 2, and no more than \$2 million for Tier 3. The investor-owned utility shall not require liability insurance for Tier 1." Rule 25-6.065(5)(e). Not a single participant in the workshop, including the regulated utilities, could point to any existing rationale for the rule to distinguish between a 9 kilowatt system and an 11 kilowatt system in this manner.

Clearly, utilities have the discretion to lower their insurance requirements from \$1 million dollars to *any* amount lower than that -- for example, to a standard \$100,000 insurance policy held by the vast majority of homeowners. We encourage the Commission to urge utilities to take this voluntary step now. The current \$1 million insurance requirement effectively caps system sizes, which especially impacts homeowners with electric vehicles who need larger solar systems to match their increased charging demand.

→ Utilities should market rooftop solar net metering offerings in parallel with their community solar subscription programs

Vote Solar supports programs like community solar that expand options for customers to access solar power. However, we do not view these options as in opposition to each other; rather, we would hope to see utilities encouraging customers to participate in both their community solar offerings and net metering programs. Utilities are aggressively marketing their community solar offerings to customers today, but are not offering comparable marketing for rooftop solar programs like net metering. We recommend that the Commission urge these utilities to co-market these programs along with net metering offerings.

→ Utilities can streamline interconnection to make it easier for customers to go solar

For example, utilities can make it easier for new homes to interconnect solar systems and receive permission to operate (PTO) by allowing builders to remain the application until the application is approved and permission to operate is granted. This allows builders to sign interconnection agreements on behalf of homeowners, preventing delays that have been known to occur.

There is an Urgent Need to Enable Solar-Complementary Technologies

While much of the conversation at the workshop specifically focused on solar PV technologies, we want to conclude our comments by highlighting the urgent need for the Commission to enable complementary technologies such as energy efficiency, battery storage, and electric vehicles to further expand the suite of policy options available to regulators and electric utilities as we survey the possibility of next generation customer offerings.

The Commission should focus now on strengthening complementary technologies that can maximize solar value, reduce energy burdens, and to enable innovative customer offerings in the future.

Solar as Energy Conservation

The Commission recently reaffirmed its net metering policy in 2019 in the FEECA proceeding, finding that “the installation of demand-side renewable energy systems continues to grow without any utility incentives,” indicating that the net metering program “is an effective means of encouraging the development of demand-side renewable energy systems that allow participants to offset their energy usage.”¹¹ The Commission continues to rely on net metering to satisfy its dual statutory obligations to promote renewable energy under both FEECA (Florida’s efficiency statute that requires the setting of goals related to demand-side renewable energy) and the net metering statute.

As the Commission assesses the need for modifications to the FEECA rule, we want to emphasize the interrelationship between conservation measures and behind-the-meter solar. The legislative structure of FEECA enables incentives for utilities to meet goals for both demand-side renewable energy and energy efficiency programs. More and more, utilities are exploring the interplay between various conservation technologies that can complement each other and maximize grid value, such as time-of-use rates, smart thermostats, controllable appliances and solar. Giving utilities incentives to work *with* their customers and the solar industry to extract this value is the key to unlocking the full benefits of distributed energy resources for all customers. For example, the recent settlement reached in South Carolina enables Duke Energy to treat solar incentives as an energy efficiency investment made by the utility, in combination with time of use rates, a modest minimum bill, demand response participation and smart thermostats.¹² Taking this kind of holistic approach can create win-wins for electric utilities and for all customers.

Solar as Bill Relief for Low Income Customers

To date, solar has not been as easily accessible to our most vulnerable neighbors and community members. Solar adoption is growing among middle-income families due to decreasing technology costs

¹¹ Florida Public Service Commission, (2019, November). Final Order Approving Numeric Conservation Goals. Docket Nos: 20190015-EG, 20190016-EG, 20190017-EG, 20190018-EG, 20190019-EG, 20190020-EG, 20190021-EG. Retrieved at: <http://www.floridapsc.com/library/filings/2019/11134-2019/11134-2019.pdf>.

¹² <https://www.utilitydive.com/news/duke-solar-industry-breakthrough-settlement-aims-to-end-rooftop-solar-cost/585124/#:~:text=A%20landmark%20settlement%20between%20Duke,The%20proposal%2C%20released%20Sept.>

and expanded financing options in the market, with 61% of rooftop solar adopters having annual incomes below \$100,000.¹³ But only a quarter of solar adopters have incomes below the area median income.

This means low-income families who are most in need have yet to gain equal access to the solar technologies that will lower their energy bills. Net metering is an important way to defend the rights of those who wish to go solar, but it's only a partial solution for ensuring that all Floridians have the ability to go solar if they wish. A fairer energy system should seek to *expand* the ability for Floridians to become solar households. This will take concerted efforts on the part of all stakeholders to overcome barriers that currently exist to low-income households accessing solar savings.

Solar and Battery Storage

Two unique characteristics set solar apart from other energy technologies: First, they require no fuel, and second, they are located close to the energy user. Solar-powered systems with backup energy storage can continue to provide critical services, even when the electric grid isn't working. This makes them a crucial part of resilient communities. And, as energy storage technologies continue to proliferate, the power that solar provides can be spread over more hours of the day.

Resilient power is vital to healthy and safe communities in Florida. Tropical storms batter Florida coasts each year. They can cause extended electricity shut offs. When Hurricane Michael hit in 2018, 182,000 customers remained without grid power for over a week.¹⁴ For older or medically vulnerable residents, any power outage can precipitate a crisis. This is particularly important for the Sunshine state, which has the highest percentage of senior citizens in the U.S. and the second highest number of Medicare recipients that are electricity-dependent due to medical conditions.¹⁵

When households and institutions like schools, hospitals, and nursing homes get access to solar and backup energy storage, they're able to provide essential services to their community members, even in the midst of an emergency. With the right policies in place, those systems are cost-effective.¹⁶ Solar power paired with storage can be a lynchpin for reducing climate vulnerability in Florida, especially as Floridians contend with increasingly extreme weather events.

Florida's largest utility, Florida Power and Light has almost 4.4 million residential customers. And as of 2019, only 552 of those customers had solar plus battery storage systems on their homes. We can do more to protect our residents from the dangers of power outages. Solar plus battery systems are the clean and safer alternative to diesel generators. Nationwide, these generators cause 20,000 emergency room visits and 80 deaths each year from carbon monoxide poisoning.¹⁷

¹³ Lawrence Berkeley National Lab Solar Demographics Trends and Analysis (2018 data)
<https://emp.lbl.gov/projects/solar-demographics-trends-and-analysis>

¹⁴ Clean Energy Group (2019, April). Resilient Southeast: Exploring Opportunities for Solar + Storage in Miami, FL. Retrieved at: <https://www.cleangroup.org/wp-content/uploads/Resilient-Southeast-Miami.pdf>.

¹⁵ US Department of Health and Human Services (2020, August). HHS emPOWER Map 3.0. Retrieved at: <https://empowermap.hhs.gov/>.

¹⁶ Clean Energy Group.

¹⁷ Churchill, S., (2020, February). Resilient Clean Energy for California. *Vote Solar*. Retrieved at: <https://votesolar.org/usa/california/updates/resilientca/>.

Net metering is one of the most important policies enabling customers to invest in these energy secure systems for emergency back-up power, but net metering alone isn't sufficient to unlock the benefits of energy storage. Additional policy tools will be needed to adequately capture the value of these back-up power systems and satisfy the growing demand among consumers for secure, reliable and clean electricity.

Solar and Electrification

We are just beginning to understand the opportunities afforded by combining rooftop solar with electric cars. Like energy storage technologies, EVs could play a valuable role on the grid by matching load to low-cost, low-carbon supply by charging at times of high solar production. Innovative utility rate design and demand response offerings could reward customers for this behavior, creating benefits for customers and the system overall. As electrification of transportation grows in Florida, we encourage a holistic approach that understands EVs as energy resources and seeks to synergize with a broader ecosystem of distributed energy technologies.

Conclusion

As rooftop solar continues to proliferate in Florida, we reiterate that the goal of any review of customer-sited renewable policy should not be to limit consumers' access to solar power. Rather, utilities should be supporting these customers' investments, and also asking how we can mobilize this private investment *even more* to maximize benefits for all customers.

Regulated utilities will have an important role in helping to maximize that value, be it through interconnection, rate design or other means. Where utilities' profit-making incentives are out of sync with customer value, be it related to solar, energy efficiency or other technologies, those incentives should be realigned to match modern customer needs.

Re-aligning utility incentives and programs with the emerging distributed and renewable energy grid is no small task, and the best way to ensure this is done in the public interest is in conversation with a broad group of stakeholders. We urge the Commission to take a customer-focused approach to distributed energy resources, taking into account how solar adoption can serve as an opportunity to reframe utilities' opportunities and incentives to partner with customers to serve the public interest, providing a cleaner, more resilient grid.

Sincerely,

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