

BEFORE THE MISSISSIPPI PUBLIC SERVICE COMMISSION

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MISS. PUBLIC SERVICE
COMMISSION

Docket No. 2021-AD-19

IN RE: ORDER ESTABLISHING DOCKET TO REVIEW THE EFFICACY AND FAIRNESS
OF THE NET METERING AND INTERCONNECTION RULES

**COMMENTS OF 2°MISSISSIPPI ON COMMISSION'S ORDER SEEKING
COMMENT**

COMES NOW 2°CMississippi and pursuant to the Mississippi Public Service Commission's ("Commission") Order Seeking Comment dated February 2, 2021, files these comments.

2°CMississippi appreciates the opportunity to comment on the efficacy, fairness, and functionality of the Mississippi Renewable Energy Net Metering Rule ("Net Metering Rule") and the Mississippi Distributed Generator Interconnection Rule ("Interconnection Rule"). 2°CMississippi is pleased that the Commission has started down the road for widespread net metering through the implementation of its 2015 rule, but as discussed in detail below, the rule does not adequately provide for community solar capacity that could be accessed by all Mississippians, particularly those on low and moderate income who are not homeowners. With the revisions suggested below, Mississippians can access solar energy at affordable rates.

2°CMississippi is a 501(c)3 nonprofit organization that provides creative ideas, scientific expertise and technical support to local governments, municipalities, communities and businesses interested in climate-kind strategies. It provides and promotes cost-effective strategies to minimize their carbon footprints through energy efficiency, access to renewable energy

sources, waste minimization, and resource conservation (with a special focus on carbon sequestration and carbon release prevention). 2°CMississippi is particularly interested in solar energy as an economically sound way for us to reduce our carbon footprint, and 2°CMississippi works with cities and community groups to maximize their ability to utilize alternative energy sources. With an expanded net metering rule that allows virtual option that makes community solar projects feasible, 2°CMississippi will share its expertise with municipalities like the City of Jackson to realize energy and cost savings for their inhabitants.

In addition to the comments provided below, 2°CMississippi respectfully requests that the Commission provide an opportunity for intervenors to submit reply comments to respond to other party comments. 2°CMississippi also supports the Commission holding a public hearing to allow for public comments on Net Metering and Interconnection Rules so that the general public has an opportunity to have their voices heard on these important issues.

2°CMISSISSIPPI'S RESPONSES TO COMMISSION QUESTIONS

2°CMississippi's comments are organized to respond, as applicable, to the 18 questions included in the Commission's February 2, 2021 Order Seeking Comment. 2°CMississippi's responses concentrate on the questions on which it has primary interest and expertise.

1. Have the Net Metering and Interconnection Rules been effective in creating meaningful access to renewable self-supply opportunities for Mississippi electric customers?

The current Net Metering and Interconnection Rules have not been effective in creating meaningful access to renewable self-supply opportunities. The current compensation model provides insufficient financial incentives for customers to access the market. Many customers are

also discouraged from considering on-site photovoltaic (PV) panels, because the current rule, in its hybrid form that combines avoided energy cost with two separate adders, makes it hard for most potential customers to predict their future costs and savings. The current rule also limits access to the renewable self-supply opportunities to single family residential customers whose dwellings are suitable for rooftop solar. A 2008 study by the National Renewable Energy Laboratory found that nationally only 22 to 27% of residential rooftops are suitable for on-site PV panels, because of structural, shading, or ownership issues. U.S. Department of Energy, A Guide to Community Shared Solar(DOE) (nrel.gov)(2012). This percentage is likely to be even lower for Mississippi with particularly high tree canopy density in urban areas. Hunter, The Latest Urban Tree Canopy Cover by State | DeepRoot Blog (2020).

Renewable energy sector has a nationally proven record of rapid growth and job creation. Due to limitations of the current rule, Mississippi is behind the curve on rooftop solar adoption, which prevents the spread of benefits from solar sector development across the state's economy. Nationally, clean energy jobs already outnumber fossil fuel jobs three-to-one. Marcacci, S., "Renewable Energy Job Boom Creates Economic Opportunity as Coal Industry Slumps." (2019), and the solar sector, specifically, has the potential to drive long term growth and job creation in Mississippi. In the last decade, job growth in just the solar sector was five times faster than the job growth in all other sectors. National Solar Jobs Census - The Solar Foundation (2021). The leading states, such as Florida, National Solar Jobs Census - The Solar Foundation (2021), and South Carolina, The Solar Foundation, South Carolina ranks 2nd in % solar job growth (2016), share regional similarities with Mississippi, suggesting that similar opportunities are available to the state, if adjustments to the current rule are introduced.

2. What, if any, modifications to the Net Metering and Interconnection Rules could meaningfully increase customer access to renewable self-supply

2°CMississippi proposes two fundamental changes to the existing Net Metering and Interconnection Rules that remove barriers to market entry and increase the effectiveness of financial incentives to substantially increase market penetration.

First, 2°CMississippi advocates for simplifying and clarifying the rate structure by switching from the current hybrid (where the credit received by customers is a sum of avoided energy cost rate, plus 2.5 cents per kWh adder, plus 2 cents per kWh adder for first 1,000 qualified low income customers) to a simple, fair market, retail price. Such a solution increases cost effectiveness of solar investments and sets Mississippi on a growth path similar to successful states like Florida and South Carolina, which offer customers retail rates and lead the nation in solar job growth. National Solar Jobs Census - The Solar Foundation, *Id.* Increasing compensation from avoided cost to retail price has the potential to significantly increase market penetration. Chen, Berkeley Lab (2015). In 2020, out of six states with Net Metering (NEM) based on avoided cost (ND, NE, MO, MS, GA and RI), four (ND, NE, MO, MS) had market penetration below 0.1% with MO at 0.3% and RI at 0.6%. This is in stark contrast with the twenty-nine states that have NEM based on retail price and market penetration ranging from 0.1% to 6%! Net Metering by State (solarreviews.com)(2021); Congressional Research Service, Net Metering: In Brief (congress.gov)(2019). The potential comes with no risk of cost shifting to non-solar customers, because research shows that such shifts are never observed below 5%, and Mississippi's current market penetration is less than 0.1%! rap-lazar-gonzalez-smart-rate-design-july2015.pdf (raponline.org); Institute for Energy Innovation, Impact of NEM on Non-Solar Customers (msu.edu)(2017).

Second, 2°CMississippi advocates for extending the net metering rule to include a virtual option. Under the current rule, many customer types such as renters, municipalities, multi-unit residences, or customers who cannot or do not want to install on-site PV panels are excluded from net metering benefits and in turn prevented from market participation. Virtual net metering (VNEM) is a primary enabling policy supporting the growth of the community solar market, which is currently established, in different versions, across twenty states and Washington D.C. Heeter, O'Shaughnessy, Chan, Sharing the Sun: Understanding Community Solar Deployment and Subscriptions (2020). VNEM increases consumers' choices and supports creation of a long term, steady stream of revenues for municipalities, school districts and groups of individuals.

3. What, if any, modifications to the Net Metering and Interconnection Rules would incentivize increased participation by both net metering customers and industry providers such as developers, designers, installers and maintenance providers for distributed generation facilities?

Having real access to net metering as described *supra* in answer to question 2 will incentivize increased participation by net metering customers. Discussion of incentives to increase participation by industry providers is beyond the scope of expertise of 2°CMississippi.

4. What, if any, modifications to the Net Metering and Interconnection Rules should the Commission consider to increase low-income access to, and participation in, net metering?

Nationwide, 43 percent of housing with solar potential comes from low to moderate income (LMI) households, which comprise 31 percent of all residential rooftop potential. The cost of solar energy has systematically declined, but the rates of solar adoption show clear evidence of economic and racial disparities because LMI households as well as communities of color adopt solar at a much lower rate. Nationally, 90 percent of PV installations are located in

households with annual earnings above \$45,000. Communities with white majorities have about 21 percent more solar installations than communities of color. Sigrin, Wolske, Reames, Solar Energy Evolution and Diffusion Studies Webinars | Solar Research | NREL (2020).

Since only a fraction of the LMI market potential has been reached nationwide, and an even smaller fraction in Mississippi, there is a great potential for expanding market penetration by removing barriers to enter the solar market. Under the current net metering rule, the main barriers are affordability, rule complexity and limited access to an onsite market (single PV system ownership).

The Public Service Commission can simplify and clarify the rate structure by replacing the current hybrid formula (credit received by customers under the current rule is a sum of avoided energy cost rate, plus 2.5 cents per kWh adder, plus 2 cents per kWh adder for first 1,000 qualified low income customers) with a simple, fair market, retail price.

Extending the net metering rule to include a virtual option opens access to the community solar business model, also commonly called “shared solar,” “solar gardens,” or “roofless solar”, that refers to an offsite distributed solar PV system that multiple customers jointly own or participate in for energy use. Community solar solutions extend solar market penetration towards currently excluded LMI categories of customers such as renters and multi-unit residences. Significantly, about 32 percent of Mississippians (and 50% of Jacksonians) live in rented housing. Berkeley Lab conducted a study based on the “Tracking the Sun 10” dataset that included 61 percent of all residential PV installations. They make the case that allowing renters to access the solar market has the potential to substantially increase LMI’s share in solar market penetration. The potential impact of extending solar access to multi-unit residences is illustrated by the impact of The California Solar Initiative's Multifamily Affordable Solar Housing (MASH)

Program that since 2008 established 480 projects statewide, providing access to cost-saving solar energy to tens of thousands of tenant units. CSI Multifamily Affordable Solar Housing (MASH) Program (ca.gov)(2021).

Mississippi is one of five states with an energy burden varying from 11 to 14 percent, the highest in the nation. VNEM set with a fair market price can provide substantial long-term savings on energy bills, which will serve to offset Mississippi's high burden. U.S. Department of Energy, WIP-Energy-Burden_final.pdf (2018).

5. What, if any, modifications to the Net Metering and Interconnection Rules should the Commission consider to better enable commercial and industrial enterprises to self-supply?

2°CMississippi's interests lie with LMI communities, and it does not have information to add for this question.

6. What, if any, modifications should be made to the annual reporting requirements of the current Net Metering Rule?

2°CMississippi does not have information to add for this question.

7. Should the Commission modify or remove the existing cap(s) on total installed net metering capacity?

2°CMississippi supports removal of both the system-size caps limits of 20kW for residential and 2MW for non-residential customers, as well as the program cap of 3% of the utility's total system peak demand. Both types of caps restrict solar market growth.

The program cap effectively restricts the solar market penetration, providing a financial barrier to market access after the cap is reached. The very presence of a system cap discourages long-term investments in the Mississippi solar markets by large solar installers, effectively limiting future growth, both in terms of GDP and job creation.

While 2°CMississippi has a strong preference for eliminating the caps, in the event the Commission chooses to retain the system cap, 2°CMississippi requests that the current NEM rule be reevaluated before the cap is reached. At that time, the Commission can consider raising or eliminating the cap in order to prevent sudden collapse of the solar market in the state.

8. Should the Commission modify the timing or manner in which net metering customers are credited or compensated for excess energy exported to the grid?

As stated *supra* in answer to question 2, 2°CMississippi proposes replacing the current hybrid (avoided cost rate, plus 2.5 cents per kWh adder, plus 2 cents per kWh adder LMI) with a retail price with the unused credits rolling over to the following month with no time limits. The same compensation scheme is proposed to be a part of VNEM, *supra* at question 4.

9. What measures or mechanisms could most equitably reduce the upfront cost burdens faced by customers interested in self-supply through net metering?

Extending the existing rule to include virtual net metering will allow for installation of larger solar systems, which are more cost effective. Several recent studies (some of which were cited in the “Community Solar Report” commissioned by Entergy) show substantial cost reduction resulting from economies of scale, where the larger the solar system, the lower average cost per watt. Brehm and Blank, Progress and Potential for Community-Scale Solar - RMI (2018); Community Solar (epa.gov); Solar Cost (solarreviews.com)(2021). Additionally, VNEM reduces upfront costs associated with house alterations and long-term project maintenance. According to the Lawrence Berkeley National Laboratory, the cost of solar installation is over 30% lower when moving from 2 to 10kW systems. In addition, the upfront cost can be reduced under VNEM when land or roof space for solar installations is donated or rented at a nominal rate. 2°CMississippi is currently aware of at least one municipality (Intervenor City of Jackson,

Mississippi) interested in providing land for solar installations benefiting low-income community solar projects. 2°CMississippi believes that other municipalities in Mississippi as well as private landowners may also be interested in such initiatives if VNEM makes it legally possible.

10. What role, if any, should the Mississippi Public Utilities Staff serve in reviewing facilities studies for Level 2 and/or 3 interconnections?

2°CMississippi has no information to present in answer to this question.

11. In light of the Commission's recent approval of advanced metering infrastructure (AMI) for Entergy and Mississippi Power Company, are bi-directional meters still needed for effective net metering?

The bi-directional meters are needed only if there are two different rates for imported and exported energy. As stated above, 2°CMississippi proposes unification of these rates by implementing retail price for exported energy, rendering bi-directional meters unnecessary. Bi-directional meters should be avoided to reduce cost inflation.

12. To the extent a commenter proposes a new or different compensation scheme, please explain how that proposal would directly affect a Mississippi customer's ability to self-supply. Answers to this question should include any relevant studies, surveys, financial modeling or other specific data-driven evidence supporting the position.

See responses to questions 2, 4 and 8 *supra*.

13. Should the Net Metering Rule incorporate uniform rules or standards applicable to community solar projects and, if so, in what way and to what extent?

Yes. The details and language of incorporating community solar solutions that 2°CMississippi is supporting are specified in the “Mississippi Shared Renewable Energy Systems” document submitted and developed by the Sierra Club.

14. Should the Commission continue to condition a customer's receipt of the additional compensation allowed by the non-quantifiable benefits adder on the customer's voluntary transfer of their REC ownership?

RECs are tradable commodities and as such constitute an asset, with a revenue-generating potential. This potential can be realized through state or national markets. Under the current rule, RECs are sold to utility companies at 2 cents per REC. 2°CMississippi believes that RECs should remain the property of the producer (the owner of the net metered installation), who bore the investment risk, because REC's hold expected future value that substantially exceeds \$0.02. Current REC values for existing markets in the US range from \$7.50 in Ohio to \$440.00 in DC. Energysage, 2020 SREC Prices.

15. Should the Commission permit meter aggregation by a single net metering customer's owner?

2°CMississippi strongly supports extending the current rule to include net meter aggregation (NEMA) by a single net metering owner, which could be a part of the more general VNEM. NEMA expands solar market penetration to include entities that have multiple solar systems, such as schools, municipalities or businesses that occupy multiple buildings, as well as agricultural systems that may have large energy usage on one side of one meter while generation on the customer side of another meter. 2°CMississippi suggests that clearly stating that the NEM/VNEM rates include customers owning multiple meters will increase market penetration and remove unnecessary costs of single customers installing multiple meters.

16. How could the Net Metering Rule most effectively and accurately incorporate new or developing distributed energy resources, such as battery storage?

2°CMississippi strongly supports incorporating new and developing distributed energy resources into the NEM/VNEM rule by allowing customers with efficient systems to receive 100% of the NEM/VNEM credits. Pairing battery storage with proposed NEM/VNEM assures that customers receive retail price credits for energy stored in batteries leading to meaningful savings. Image-ONE.png (1021×836) (netdna-ssl.com)(2018). Pairing battery storage with NEM/VNEM provides customers with flexibility of energy consumption which is particularly beneficial for consumers with uneven power usage or high demand charges. Solar & Storage Rates — CA Solar & Storage Association (calssa.org)(2021). It also increases resilience in case of grid malfunction and failure, as recent examples from California, California's energy emergency: (energy-storage.news(2020), and Texas, Kuznia, Texas-sized power outages Solar& storage (powerhome.com(2021), illustrate.

17. What role, if any, should the Commission's Joint Solar Safety and Net Metering Working Group Continuing forward?

2°CMississippi has not been a part of this working group, but based on opinions of participants, the group provides a great opportunity to coordinate and inform all partners.

18. What measures and mechanisms should the Commission consider to better enable schools, state and local government bodies, and other non-profit or tax-exempt entities to participate in net metering?

Schools, state and local government bodies, and other non-profit or tax-exempt entities will benefit greatly from both retail price and extending the current rule to include net meter aggregation (NEMA) by a single net metering owner, which could be a part of the more general VNEM. Supportive arguments for this statement are discussed *supra* in previous answers.

This, the 5th day of April, 2021.

Respectfully submitted,
2°CMississippi



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CERTIFICATE OF SERVICE

I, Beth L. Orlansky, counsel for 2°CMississippi do hereby certify that in compliance with RP6.122(2) of the Commission's Public Utilities Rules of Practice and Procedure (the "Rules"):

(1) An electronic copy of the filing has been filed with the Commission via e-mail to the following address: efile.psc@psc.state.ms.us

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This the 5th day of April, 2021.



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