



Energy Clinic
Institute for Energy and the Environment
Vermont Law School • PO Box 96
South Royalton, VT 05068 • (802) 831-1151

November 1, 2019

Ms. Judith Whitney, Clerk
Vermont Public Utility Commission
112 State Street
Montpelier, VT 05702

RE: 19-0855-RULE, Response to August 22, 2019 Request for Additional Information

Dear Commissioners:

The Energy Clinic at Vermont Law School (Energy Clinic) provides these written comments in response to the Vermont Public Utility Commission's (PUC) August 22, 2019 Request for Additional Information in Case No. 19-0855-RULE relating to the PUC's review of its net metering rules, PUC Rule 5.100. the Request for Additional Information seeks input on (A) Net-Metering Compensation Structure (questions 1-15); (B) Preferred Sites (questions 16-20); and (C) Administrative Issues.

The Energy Clinic's primary purpose in submitting these comments is to join many municipalities, regional planning commissions, and the renewable energy community in supporting retention of the joint letter of support as a category of "preferred sites" under PUC Rule 5.103; we address this issue first. In section 2, we provide information relating to the Net-Metering Compensation Structure, and urge the PUC to give appropriate weight to the environmental and greenhouse gas reduction benefits associated with net metering projects. Thank you for the opportunity to provide comments.

1. Preferred Sites

The Energy Clinic continues to oppose the PUC's proposal to eliminate the joint letter of support as a category of "preferred sites" under PUC Rule 5.103.¹ The PUC proposes to eliminate the joint letter of support because of its concern that the joint letter of support process does not ensure adequate notice and opportunity for input from the public in designating preferred sites. Specifically, the PUC is concerned that Rule 5.103 lacks standards or criteria and procedures for local bodies to follow before designating a site as preferred.²

To the contrary, our experience suggests that the joint letter of support enhances public participation in identifying locally preferred sites and, as a result, support for locally sited

¹ See, 19-0855-RULE, Energy Clinic comments of May 17, 2019.

² See, 19-0855-RULE, *PUC Request for Additional Information*, August 22, 2019, at page 4.

projects. The joint letter of support is an important and effective tool for ensuring well-planned and locally supported siting of clean distributed energy in Vermont.

A. The joint letter of support enhances local participation in siting decisions; locally supported projects should be encouraged, not penalized.

The joint letter of support is one of a number of recent legislative and regulatory measures intended to address an important public policy concern: local opposition to renewable energy siting in Vermont.³ These measures followed a period of intense public discontent with the certificate of public good process - which many perceived as dismissive of local concerns - and directed more locally inclusive decision-making to encourage well-sited projects that are locally accepted. Category 7 of the list of “preferred sites” under PUC Rule 5.103 provides a pathway for communities to have meaningful input in the siting process by identifying a range of local sites suitable for renewable energy siting and to vet local concerns in advance of the certificate of public good process. Based on our observations, this process enhances public acceptance and support for locally sited projects and reduces the likelihood of local opposition to projects. The definition of “preferred site” as currently drafted rightly attributes value, through the positive siting adjutor, to locally supported projects.

Both the municipal plan and the joint letter of support are equally important tools for designating locally preferred sites. The municipal plan cannot identify all potentially preferred sites given its necessarily broad and static designation of preferred sites. Reliance on this process alone would result in the exclusion of many excellent sites for distributed energy resources because it is not practical under the municipal planning process to evaluate and designate each of these specific locations. For example, the municipal plan would likely not identify certain portions of a parcel of land that might be ideal for solar siting but where the parcel as a whole may not be, such as the homestead or a sloped and unproductive portion of agricultural land with good setbacks and natural screening. Such sites may have significant local benefits and strong local support and should be encouraged, not penalized, through the siting adjutor. The joint letter of support is an important and appropriate tool for identifying these types of preferred sites and an effective, more nimble and flexible supplement to the designation of preferred sites in the municipal plan.

One illustrative example that we offer is the Boardman Hill Solar project, which was developed under the pre-2017 net metering rules and would not be financially feasible under today’s rules unless the project could pursue a joint letter of support. The Boardman Hill Solar project was one of the first projects that the Energy Clinic worked with and consists of a 150 kW community solar array sited on the homestead portion of a Vermont Land Trust preserved local farm. The Boardman Hill Solar project leases the land from the local farm, which also participates in ownership of the array along with other community members. The project has substantial setbacks from its property boundaries, provides revenue to support a local farm, and was recognized with a Governor’s Award for Environmental Excellence and as VECAN project of the year. These types of locations would be impractical to designate as preferred sites under the municipal planning process, but can be effectively designated through the joint letter of support

³ For example, changes to the certificate of public good requirements arose out of Acts 56 and 174, including minimum setbacks and compliance with local screening ordinances and bylaws; intervention as of right for municipal planning commissions and legislative bodies and regional planning commissions; and a new “substantial deference” standard under section 248(b)(1), orderly development.

process. If the PUC eliminates the joint letter of support, this type of project would incur a 3 cents/kWh penalty in perpetuity making the project financially infeasible.

B. Any mandatory standards, criteria, or procedures should be narrowly tailored to ensuring adequate notice and opportunity for input from the public.

Locally designated preferred sites, including through the joint letter of support process, enhance opportunities for public engagement in siting decisions. The PUC's concern that the joint letter of support process under PUC Rule 5.103 lacks standards or criteria and procedures for local bodies to follow before designating a site as preferred does not warrant eliminating or overly restricting municipal and regional discretion to designate preferred sites through joint letters of support.

The joint letter of support should continue to be the responsibility of all three of the local planning body, the regional planning body, and the local legislative body. Each body has a unique and important role in local planning and the involvement of all three ensures robust determinations with maximum opportunities for public participation.

Our experience with local and regional planning commissions and local legislative body suggests that these local bodies are skilled in determining what information is important, and they are committed to properly noticed, open, and participatory public processes. We have observed them to ask important questions about location, setbacks, current use of the property, and importantly have sought input from neighbors. The municipal and regional bodies are uniquely situated to make these important determinations and deserve the flexibility to assess and weigh the impacts and make a determination about preferred siting without being second-guessed by more distant and less locally knowledgeable authorities.

We believe that mandatory standards, criteria, or procedures should be avoided; if the PUC does decide to impose mandatory standards, criteria, or procedures, those should be narrowly tailored to ensuring adequate notice and opportunity for input from the public. However, some municipal and regional bodies may appreciate a set of optional standards, criteria, or procedures to help structure their joint letter of support process. The PUC could use stakeholder responses to questions 16 through 19 to help formulate such guidance.

2. Net Metering Compensation Structure

The PUC's Request for Additional Comments states that the PUC needs more detailed information about the current costs and benefits of net metering, whether the current net-metering compensation system is creating a cost shift, and about the effect of the program on rates before the PUC can decide whether to amend the net-metering rule's compensation structure.⁴ The Energy Clinic supports a comprehensive, data driven, independent analysis of the costs and benefits of net metering in considering whether to amend the current net metering compensation structure.

⁴ See, 19-0855-RULE, *PUC Request for Additional Information*, August 22, 2019, at page 2.

A. *The PUC should conduct a thorough, transparent, and independent value of solar study that adequately measures environmental and greenhouse gas reduction benefits*

While questions 1 through 15 are an important starting point in making this assessment, the PUC should be mindful that in many jurisdictions cost shifting and rate impacts associated with net metering have been grossly overstated.⁵ The PUC should not amend the net-metering rate structure to address perceived cost shifting without first conducting a thorough, transparent, and independent value of distributed solar study.

A number of recent value of solar studies in other jurisdictions have identified the multitude of benefits provided by distributed solar, including distribution, transmission and capacity benefits along with significant environmental and greenhouse gas reduction benefits.⁶ These studies reveal a number of best practices that the PUC should apply in conducting its analysis, including transparency of methodology and inputs, granular assessments accounting for location on the distribution grid and temporal generation profiles, sufficient data collected over a substantial period of time, not averages and discount rates, a blend of Ratepayer Impact Measures (RIM) and Societal Cost Test (SCT) or Total Resource Cost Test (TRC), and an analysis of both long-term and short-term rate impacts.⁷ Stakeholder responses to the PUC's Request for Additional Information are unlikely to accord with such best practices and therefore should not be relied upon as a basis for changing the net metering structure.

The PUC should be particularly mindful to adequately measure and weigh the environmental and greenhouse gas reduction benefits associated with net metering. Given the environmental challenges we face from climate change, now is not the time to reduce the overall compensation structure for net metering and distributed solar. Locally, Vermont has much more to do to meet our energy and climate goals. Vermont's most recent Comprehensive Energy Plan identifies our preeminent renewable energy goal to be 90% renewable by 2050. Additionally, we have established the statutory goals to reduce our state greenhouse gas emission by 25 percent below 1990 levels by 2012 and 50 percent by 2028. Vermont has made little progress toward reaching

⁵ Barbose G., *Putting the Potential Rate Impacts of Distributed Solar into Context*, January 2017, Lawrence Berkley National Laboratory, <https://emp.lbl.gov/publications/putting-potential-rate-impacts> (last accessed 10/31/2019), at 10. See also, Martin N., Rabago, K., *Retail Rate Impacts of Distributed Solar, Focus on New England*, Energy Climate Center, March 20, 2017, <https://digitalcommons.pace.edu/environmental/11/> (last accessed 10/31/2019).

⁶ See, for example, the table of value of solar studies in the 2017 Lawrence Berkley report, *Id.*, at 12. The report highlights the disparities between the results in these studies, which can be attributed to differences in (1) scope of costs and benefits considered; (2) the methods and assumptions used to evaluate the benefits; and (3) differences in the market and regulatory conditions of the regions analyzed. See also, Barbose G., Miller J., Sigrin B., Reiter E., Cory K., McLaren J., Seel J., Mills A., Darghouth N., and Satchwell A, 2016, *On the Path to SunShot: Utility Regulatory and Business Model Reforms for Addressing the Financial Impacts of Distributed Solar on Utilities*. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-65670, <http://www.nrel.gov/fy16osti/65670.pdf> (last accessed 10/31/2019); Larsen J., Herndon W., *What Is It Worth? The State of the Art in Valuing Distributed Energy Resources*, January 2017 at 19, <https://www.energy.gov/sites/prod/files/2017/01/f34/What%20Is%20It%20Worth--The%20State%20of%20the%20Art%20in%20Valuing%20Distributed%20Energy%20Resources.pdf> (last accessed 10/31/2019).

⁷ See e.g. Larsen and Herndon 2017, *Id.*; Keyes J., and Rabago K., *A Regulator's Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation*, Interstate Renewable Energy Council, Inc., October 2013; Trabish H., *Research Spotlight: Solar cost shift negligible, DER valuation efforts advancing slowly*, February 10, 2017.

those goals.⁸ According to Vermont's own greenhouse gas emissions inventory released by the Vermont Department of Environmental Conservation in June 2018:⁹

"Greenhouse gas (GHG) emissions estimates in Vermont continued to rise for calendar year 2015, increasing from 9.45 million metric tons CO₂ equivalent (MMTCO₂e) in 2014 to 9.99 MMTCO₂e in 2015. This increase puts Vermont approximately 16% above the 1990 baseline value of 8.59 MMTCO₂e and adds to the difficulty of reaching the statewide goal of 50% below 1990 emissions levels by 2028 (Figure 1)."

One of the primary reasons for this increase in electric sector GHG emissions is the growth of residual system mix emissions which are by definition from the unclaimed, most polluting power sources in the region and this growth is directly tied to the out of state sale of RECs from Vermont resources. Earlier this year Vermont's failure to meet its GHG reduction goals was prominently reported in the Boston Globe noting that 14 years later Vermont's lofty goals "has yielded not so much cleaner air, but embarrassment."¹⁰

While utilities such as Green Mountain Power can claim to be 90% carbon free when you look at the details of their energy supply you see a different story. GMP's reported 2018 energy supply mix shows that the utility supply portfolio is only 1.7% solar,¹¹ which barely meets their Tier 2 obligations and given the enormity of the climate challenge can at best be described as a paltry amount. Some Vermont utilities that claim to be 90% or even 100% carbon free are creating a false perception that they are renewable energy leaders. In reality, Vermont utilities have been leaders in selling their renewable energy credits for the vast majority of their solar, wind and biomass resources to Massachusetts and Connecticut to meet those states' renewable goals and have purchased in their place bargain basement RECs from older vintage and other resources that do not qualify as renewable resources in most New England states. This practice is doing little to incent the development of new renewable energy resources, unlike the leading policies of our neighbors in Massachusetts and New York. With this in mind, the Energy Clinic strongly cautions against allowing utilities that provide their customers "100% renewable energy" to propose alternative net-metering tariffs (question 14).

Our failure to meet our greenhouse gas reduction goals underscores the vital importance of attributing adequate value to the environmental and greenhouse gas reduction benefits associated with net metering projects when weighing the costs and benefits of the program and determining the appropriate compensation structure.

⁸ See, <https://vtdigger.org/2019/10/02/climate-change-vermont-will-not-meet-its-2028-emissions-goals-now-what/> (last accessed 10/31/2019)

⁹ See, https://dec.vermont.gov/sites/dec/files/aqc/climate-change/documents/_Vermont_Greenhouse_Gas_Emissions_Inventory_Update_1990-2015.pdf (last accessed 10/31/2019).

¹⁰ See, <https://www.bostonglobe.com/metro/2019/01/28/vermont-perhaps-nation-most-progressive-state-spike-emissions-forces-officials-consider-drastic-action/10lUjXlilrkXyyz7uRwLMJ/story.html> (last accessed 10/31/2019).

¹¹ See, <https://greenmountainpower.com/2018/12/13/fuel-mix/> (last accessed 10/31/2019).

B. The PUC should provide a financial incentive for customers to reduce Vermont's greenhouse gas emissions through the adoption of renewable energy over and above the Renewable Energy Standard

In light of the above, which highlights the inadequacy of the current Renewable Energy Standard in reducing Vermont's greenhouse gas emissions, the net metering rules should provide a strong incentive, not a disincentive, for Vermonters to adopt renewable energy sources that reduce the state's overall greenhouse gas emissions.

Customers can do this by retaining the RECs from their net metering projects and ensuring those RECs are not transferred or traded outside of Vermont. The PUC's Request for Additional Comments notes the PUC's responsibility to ensure customers have a meaningful option to retain ownership of renewable attributes:¹²

"The rule is also supposed to allow for access to the net-metering program for all customers who want to participate, balance the pace of deployment with the effect of the program on rates, and allow customers to retain ownership of renewable attributes."

The current net metering compensation structure does not effectively "allow customers to retain ownership of renewable attributes" given the steep penalties that customers face if they do not transfer their RECs to the utility (a negative \$0.03/kWh for the life of the facility and loss of \$0.01/kWh adder for 10 years). This flawed compensation structure is one reason why Vermont is not developing solar beyond the extremely modest Tier 2 goal and not demonstrating better progress on our greenhouse gas reduction goals. As a result, utilities are using the vast majority of Vermont's net metering production to meet their Tier 2 requirement with a number of unfortunate policy, including:

- 1) A significant consumer and environmental protection concern since these net metering customers often have not been adequately informed that their net metered solar is being transferred for utility Renewable Energy Standard compliance and does not reduce the customers' own carbon footprint
- 2) Preventing net metering from being additional renewable energy beyond the Tier 2 requirement in contrast to how customer owned resources have traditionally been treated under net metering as additional solar beyond minimum state mandates.
- 3) Allowing utilities to sell the RECs out of state from Vermont Standard Offer and utility purchased power agreement contracts even though the public perception has been that these resources were developed to meet Vermont goals and would lead to additional real greenhouse gas reductions for Vermont.

We recommend that PUC provide the same compensation to net metering customers who agree to retain ownership of their RECs and agree not to transfer those RECs out of state as the rules provide to customers that elect to transfer their RECs to the utility for RES compliance. This would appropriately recognize and compensate customers for the desperately needed greenhouse gas reduction benefits those net metering projects contribute toward both Vermont's 90% renewable energy goal and additional GHG reductions toward Vermont's GHG reduction goals.

¹² See, 19-0855-RULE, *PUC Request for Additional Information*, August 22, 2019, at page 2.

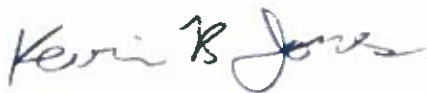
C. Cost Shifting is a complex question; the PUC should be wary of utility attempts to solely attribute cost shifting and rate impacts to distributed solar

Finally, cost shifting is a complex question and the PUC should be wary of utility attempts to solely attribute increased rates to distributed solar. Utilities do not generally own or rate base distributed solar and there is a natural bias in the utility model for resources that they don't own. Furthermore, the principle of avoiding single-issue ratemaking should be applied to this case and we should not allow utilities to engage in "single technology ratemaking." There are many changes underway on the utility distribution system, particularly on the customer side of the meter. All kinds of technologies are being deployed that have varying impacts on customer costs including distributed solar, battery storage, and vehicle electrification. Focusing on a perceived negative impact of one of these technologies (in this case distributed solar) without looking more comprehensively on what is happening across all of the technologies and between the technologies would result in the same fallacy of results that has precluded most regulatory jurisdictions from allowing single issue ratemaking.

Previous analysis by organizations such as Opower have found that while customers with net metered solar may tend to use less electricity than the typical residential customer their analysis found that customers with electric vehicles tend to use significantly more electricity than the typical customer. Most interestingly, their analysis found that customers who have EV's and net metered solar have usage that looks very similar to the typical customer, directly contradicting the utility claim that customers with solar are causing cost shifting when you look more holistically across all of the distributed technologies.¹³ Furthermore, while utilities regularly criticize solar as a cause of cost shifting, we don't hear the same concern that EV owners who plug in at night and pay flat rates are cross subsidizing non-EV owning residential ratepayers. With the growth of home battery systems, the impact of distributed technologies is increasingly hard to generalize about and provides further evidence that we should not jump to conclusions about the impacts of cost shifting. Any customer with solar, EV charging, and a Tesla powerwall has seen through the snapshot of their Tesla App that these distributed technologies result in interesting opportunities to more efficiently take advantage of a largely underutilized distributed grid. The PUC should not in haste change compensation for one technology, particularly with our need to continue to add solar to transition to a lower carbon electric grid.

Thank you for your consideration. Please feel free to contact us if you have any questions regarding these comments.

Sincerely,



Kevin B. Jones, PhD
Director and Professor of Energy Law and Policy

¹³ <https://www.greentechmedia.com/articles/read/this-is-what-tesla-owners-are-doing-while-you-sleep>