



Vermont Agency of Natural Resources

Office of Planning

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October 7, 2021

Holly R. Anderson, Clerk

Vermont Public Utility Commission

112 State Street – 4th Floor

Montpelier, VT 05620-2701

Re: Reply Comments, 19-0855-RULE

Dear Ms. Anderson:

The Vermont Agency of Natural Resources (“Agency”) offers the following reply to the September 24, 2021 comments of Renewable Energy Vermont (“REV”) in Case No. 19-0855-RULE.

REV contends that the three options to curb forest conversion presented by the Agency at the August 24, 2021 workshop, “effectively ban solar installations requiring any tree clearing.” The Agency is not proposing a ban on forest conversion for all solar installations. The Agency presented three options to eliminate or reduce forest conversion for Category II and III net-metering systems— those net-metering systems that must be on a preferred site or receive a superior siting adjustor for being on a preferred site. In its post-workshop comments, the Agency recommended that the Commission pursue option 2: prohibit *excessive* forest conversion at preferred sites. This approach, in general, appears to have the support of the Vermont Association of Planning and Development Agencies (“VAPDA”) and Vermonters for a Clean Environment.¹

REV states that solar generation avoids the production of more carbon than an equivalent area of forest sequesters and that a 500-kW AC solar array offsets up to 30.5 times the carbon of an equivalent forested area based on the Environmental Protection Agency’s Greenhouse Gas Equivalencies Calculator. REV does not disclose the parameters of this

¹ See September 24, 2021 comments of VAPDA at 2 and Vermonters for a Clean Environment at 2. The Agency notes that VAPDA’s comments mention a proposed alternative definition of excessive forest conversion by the Two Rivers-Ottawquechee Regional Commission that has not been filed in this docket.

hypothetical 500-kW solar array (*e.g.*, kilowatt hours, operational life, area of forest converted) and the Agency is unable to verify REV's claim about the 30.5 multiplier. The Agency's own research indicates that, on average, an acre of Vermont's forests stored 389 metric tons of carbon dioxide equivalent and sequestered an additional 1.3 metric tons of carbon dioxide equivalent in 2018 across the five carbon pools of forests.² These figures differ from those used in the Greenhouse Gas Equivalencies Calculator.

Regardless, the Agency acknowledges that, at present, solar photovoltaic ("PV") systems that involve forest conversion, over their design lifetimes and assuming they displace electricity generated by fossil fuels, can result in lower net greenhouse gas emissions than the forests they convert store and sequester. But a solar array with no forest conversion, all else equal, yields significantly less emissions than an array that involves forest conversion.³ Further, forests provide many more values than carbon storage and sequestration, including biodiversity, wildlife habitat, water supply and quality protection, flood control and protection, scenic beauty, and forest products. The Agency believes these other values, some of which will increase in importance with climate change, also merit consideration in deciding whether and how to modify Rule 5.100's preferred siting framework to reduce forest conversion.

REV argues that considering forest clearing for solar PV generation as forest conversion is inappropriate. The Agency disagrees. While solar PV systems 150-kW and greater must be decommissioned once no longer in service, these systems plainly convert land from one use (forest) to another (solar array) for 20 or more years. Further, the Agency doubts that all such systems will revert to forest and not be recommissioned for energy generation or repurposed for other uses once no longer in service.

Finally, REV states that the Air Quality and Climate Division ("AQCD") should be contributing to this rulemaking. AQCD, a division of the Agency's Department of Environmental Conservation, has, along with other divisions and programs across the Agency's three departments, contributed to and supports the Agency's recommendation regarding forest conversion at preferred net-metering sites.

Thank you for the opportunity to file reply comments. Please contact me if the Agency can be of further assistance regarding the issues discussed at the August 24, 2021 workshop.

² Vermont Department of Forests, Parks, and Recreation, *Vermont Forest Carbon Inventory*, 2021. Available online at: <https://fpr.vermont.gov/forest/climate-change/forest-carbon>.

³ See Agency's September 24, 2021 comments at 3, citing the lifecycle greenhouse gas assessment for the Battle Creek I solar project.

Respectfully submitted,

/s/ Kevin Anderson

Kevin Anderson

Regulatory Policy Analyst

Vermont Agency of Natural Resources

cc: Service List (by ePUC only)