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STATE OF VERMONT

PUBLIC UTILITY COMMISSION

Case No. 22-0334-INV

re: Biennial update of the net metering program

COMMENTS AND RECOMMENDATIONS OF SOLAFLECT ENERGY
RE: BIENNIAL UPDATE OF THE NET-METERING PROGRAM

Solaflect Energy provides the following comments to the Vermont Public Utility Commission ("Commission") regarding proposed updates to the net-metering program.

Specific recommendations include the following (with supporting data and arguments to follow):

- Acknowledge the reality of climate change, and the fact that the policies promoted by the Vermont Department of Public Service and endorsed by the Vermont Public Utility Commission are creating a massive and completely unacceptable cost-shift onto our children and grandchildren.
- Eliminate the production meter.
- Eliminate a limit on the amount of solar installed and utilized upon a residential or commercial property.
- Eliminate the highly corrosive structure of the REC adjustors.
- Ensure that Vermonters receive accurate information about their energy sources. The current GMP website as of April 25, 2022 (https://greenmountainpower.com/energy-mix/) does not match their compliance filing with the Department of Public Service. They have nuclear as 32% of their energy mix both before and after REC sales. They hide the fact that 17% of their energy mix is from the purchase of nuclear "attributes", as clearly seen in their compliance filing.
- Acknowledge that net metering customers are the vanguard of addressing climate change in Vermont.

Acknowledge Climate Change and the required investment

The current policies endorsed by the PUC assume climate failure.

The energy mix of Green Mountain Power is 97% based upon twentieth century facilities, primarily Seabrook and Millstone nuclear power plants (approximately 50 years old, and 32% of their post-REC energy mix), HydroQuebec (average age of 40 years old) and even older US hydro facilities (together 65%). It is utter nonsense (and we use those words advisedly) to claim that accounting tricks with twentieth century facilities impact climate change in any way, shape or form; they absolutely do not. These "environmental attributes" could neither be certified as RECs by the largest certifier in the US (Green-E), which requires that renewable facilities are no more than 15 years old, nor are they consistent with the "additionality" requirements of the Paris Climate agreements. If nothing changes from the last century, nothing changes for the climate. It doesn't matter how "attributes" or "electricity" from 20th century facilities is distributed. It is great that we have this resource, but NEW renewable generation is required to address climate change. New England's electricity is 46% fossil, and our fair share would be to replace this 46% with renewable generation. In fact, Vermont is the second most land abundant state east of the Mississippi, and renewable generation is land intensive. Vermont should actually host more than its fair share of renewable generation.

Both the spreadsheet that we have submitted with this document, and the CADMUS (Pathways Analysis: Modeling Results; Presentation to Vermont Climate Council; November 2, 2021, CADMUS, page 24) report show that Vermont needs to build (or procure) NEW renewables of over 200 MW of solar or 57 MW of wind (or some combination) per YEAR for the next 20 years (to meet the additional 5 TWh of electricity that will be required with electrification) or 30 years (to also replace Vermont's share of the 46% of New England electricity generated by fossil fuels). According to the Vermont Department of Public Service (their submission to the PUC, page 28), Vermont met 15% of this rate in 2020 and 19% in 2021. In addition, 100% of the progress in 2020 was made through net metering, and 74% of the progress in 2021 was net metering. It is absolutely clear that the utilities have no incentive to address climate change. However, Vermont households and businesses are investing to address climate change DESPITE the PUC policies. Unfortunately, the PUC has continually lengthened the payback period, which has made it increasingly difficult for moderate income Vermonters to participate (although they absolutely want to). Vermont is badly failing to address climate change in the electric sector.

The Department has repeatedly referred to HydroQuebec or offshore wind as the future savior. However, the additional documents submitted with this document clearly show that the increase in electricity demand in Quebec has *exceeded* the total amount of new HydroQuebec production over the last decade. Furthermore, the attached documents also demonstrate that the most optimistic estimates of offshore wind in New England do not produce enough electricity to replace the 46% fossil fuels currently used to generate New England's electricity, to say nothing of the doubling of electricity required if transportation and heating is electrified. The only solution for our children

and grandchildren is to dramatically increase the construction of renewable generation facilities. The next generation will not look kindly at the actions that the PUC has taken to date.

The marginal emissions in Vermont are at least 905 lbs CO_2 per MWh produced (see attached documents). With that number, the installation of heat pumps has no climate value until Vermont's policy towards the construction of renewable generation is fundamentally changed.

Eliminate the Production Meter

Vermont currently has a 34% tax on self-consumed solar energy, and the Department proposal is a 39% tax on solar energy (negative 5 cent REC adjuster, negative 1 cent site adjuster, 1 cent energy efficiency tax; 7 cents out of 18 cents = 39%). We should have a carbon tax; it is insane to have a solar tax of this magnitude. Self-consumption of solar is going to dramatically increase over the next few years with the increased penetration of home batteries and EVs. If an individual purchases the equipment, produces the electricity, and consumes the electricity, why should the state charge a 39% tax on this production? It is absolutely no different that saying that if someone grows three bushels of organic tomatoes in their home garden, they should give the state more than a bushel of tomatoes for the privilege of growing them. If they are willing to trade the 3.0 bushels of organic tomatoes, they can get 2.5 bushels of chemically grown tomatoes from Central America that were picked last month (i.e. they forfeit the home grown quality, which is no different than giving away the RECs to the utility; there is only a 17% tax then).

Historically, there were few viable options for homeowners to own their own power supply. That is rapidly changing. 74% of Vermonters own their own home. Within a few decades, a comparable percentage will also want to own their own power supply. This will create a fundamental shift in the nature of the grid, in the same way that cell phones fundamentally changed communication from landlines. The PUC needs to become forward thinking rather than reactionary and backward looking. Individual Vermonters are the leaders in addressing climate change.

Finally, neither a private business (the utility) nor the State should have any access to private information about generation and consumption of electricity (i.e. the production meter). The interest of the utility and State should be limited to the meter at the interface between the home and the grid. The current situation with a production meter is no different than having a state official or an employee of the local grocery store visiting your backyard garden to see how many carrots and tomatoes you have planted and/or harvested.

Eliminate the 15 kW cap on residential solar

An increasing number of consumers have purchased EVs and heat pumps, and now have an interest in expanding their solar installations beyond 15 kW. The interest of the State and the utility should be limited to what happens at the interface of the grid and the household (the net meter). A large portion of the technological experimentation that is going to solve the climate crisis is happening at the consumer level. We have many examples of customers doing exactly this, by installing additional sensors, using clever software, and monitoring their energy usage

closely. These early adopters are going to find the solutions that will eventually become available to everyone. The interaction with the grid requires regulation, but behind the meter does not.

Alter the structure of the RECs

From the GMP spreadsheet submitted for this biennial update, there have been approximately 3,500 CPG applications, and the vast majority have transferred their RECs to GMP. Legally, this means that these customers are consuming residual mix. We challenge the PUC to find a single customer in Vermont that has spent thousands of dollars upon a new solar system, and then brags to their neighbor that they have installed a new residual mix system at their house. Any public policy that incents lying is bad public policy. We also challenge the PUC to find any school of public policy in the United States that claims that it is good public policy to create a structure that encourages a nod-nod wink-wink system of lying. A brewer in Vermont has recently made public statements about solar energy that are almost certainly illegal (they have transferred the RECs and therefore are not legally solar) if challenged by another brewer. This is corrosive public policy. On multiple occasions, alternative structures have been proposed to the Department and PUC that avoid this situation.

Tell the truth

It should be clear on utility websites that they are purchasing nuclear and HydroQuebec "attributes" from twentieth century facilities. The GMP energy mix page does not agree with their compliance filing; the Department and PUC should require the truth. This has been pointed out to the Department, but they have not required any change.

Individuals will solve climate change

Vermont residents are very concerned about climate change, and they will lead the transition required. In fact, the energy transition is impossible without the participation of residents and businesses, as they must purchase EVs and heat pumps, upgrade their electrical systems, and install additional insulation or efficiency measures. Our customers are ten times more likely to purchase an EV, buy a heat pump, and make efficiency improvements to their homes than the average Vermonter. There is a direct correlation from the initial purchase of solar, to increased monitoring of energy usage, increased attention to our messaging about climate alternatives, and increased interest in addressing the climate issue. Climate change cannot be effectively addressed without engaging Vermont residents in the process. Nothing engages them more than producing their own power.

Nothing is LESS helpful than penalizing and disincenting them by effectively levying a tax on the installation of renewable energy.