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Testimony to Senate Finance – February 14, 2020

S. 267 – An Act Relating to the Renewable Energy Standard

Craig Kieny – Manager of Power Planning

Thank you for the opportunity to comment on S.267 - An Act Relating to the Renewable Energy Standard. We have a challenging task ahead. How can we best take action to address the climate crisis in a way that is equitable, sustainable, and meaningful? We need to elevate this as a priority, challenge ourselves, and ensure tangible action. VEC has evaluated S. 267 and will evaluate all other proposed legislation, through a lens of carbon reduction, cost effectiveness, and resiliency to ensure we are making meaningful and sustainable policy choices.

About VEC

VEC is a member-owned, not-for-profit cooperative, serving approximately 32,000 members. We strive to provide our members with safe, cost-effective, reliable, and environmentally responsible electric service. Our service territory is rural and relatively low-income. Forty-three percent of VEC's residential members are on fixed incomes, another 14 percent are unemployed or work less than full-time, leaving only 44 percent working full-time. In addition, VEC serves eight of the top ten Vermont towns, and three of the top five counties, with the highest poverty levels. The majority of the towns identified as having the highest energy burden in the October 2019 Vermont Energy Burden Report are towns served by VEC.

VEC's Power Supply and Implementation Successes

Because of the high concentration of low income members, VEC strives to implement least-cost principles in every decision we make, including how to increase the portion of renewable energy in our power supply portfolio. In 2019 the energy VEC purchased was from projects that were approximately 70 percent renewable and 85 percent carbon free, as shown in Chart 1 below.

In accordance with current regulations and within our fiduciary responsibility we navigate the Renewable Energy Certificate (REC) market in a way that brings the most value to our members. Through REC sales, VEC was able to reduce costs to members by over \$1.8 million in 2019. If VEC is limited in our ability to sell REC's rates will increase as a result. Chart 2 shows the projected final breakdown of environmental attributes for VEC's 2019 energy portfolio after accounting for the trading of RECs. The final result is that VEC will meet its Tier I 55 percent and Tier II 2.2 percent requirements, and be 73 percent carbon free.

CHART 1

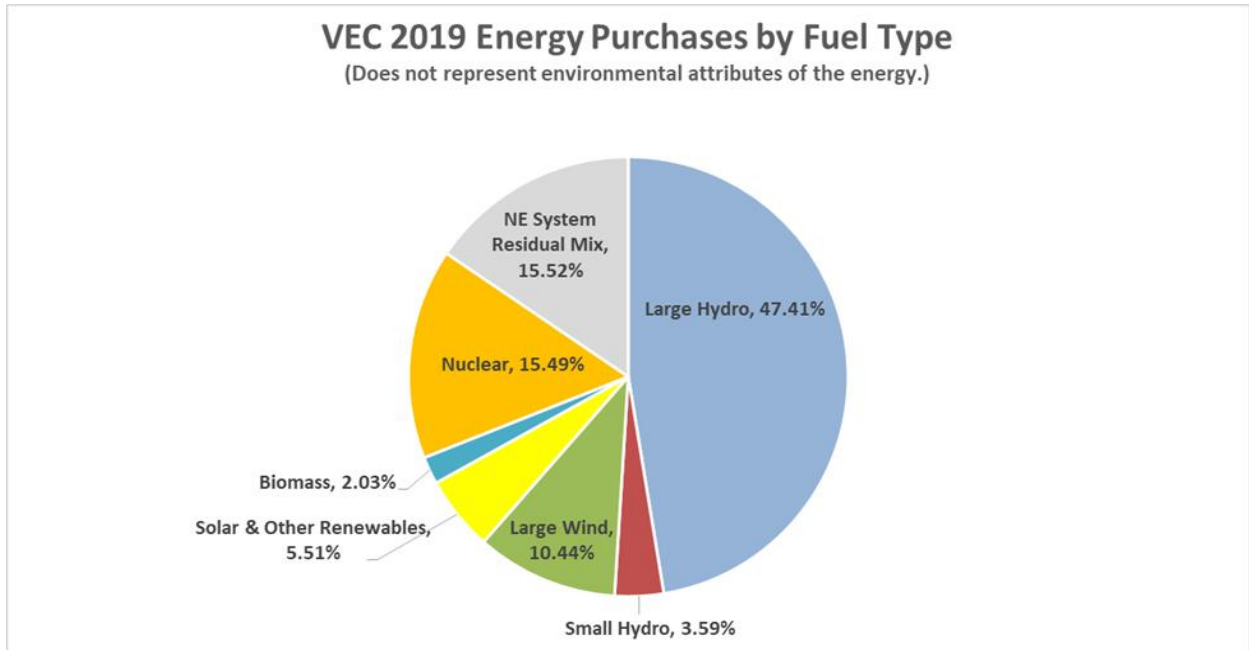
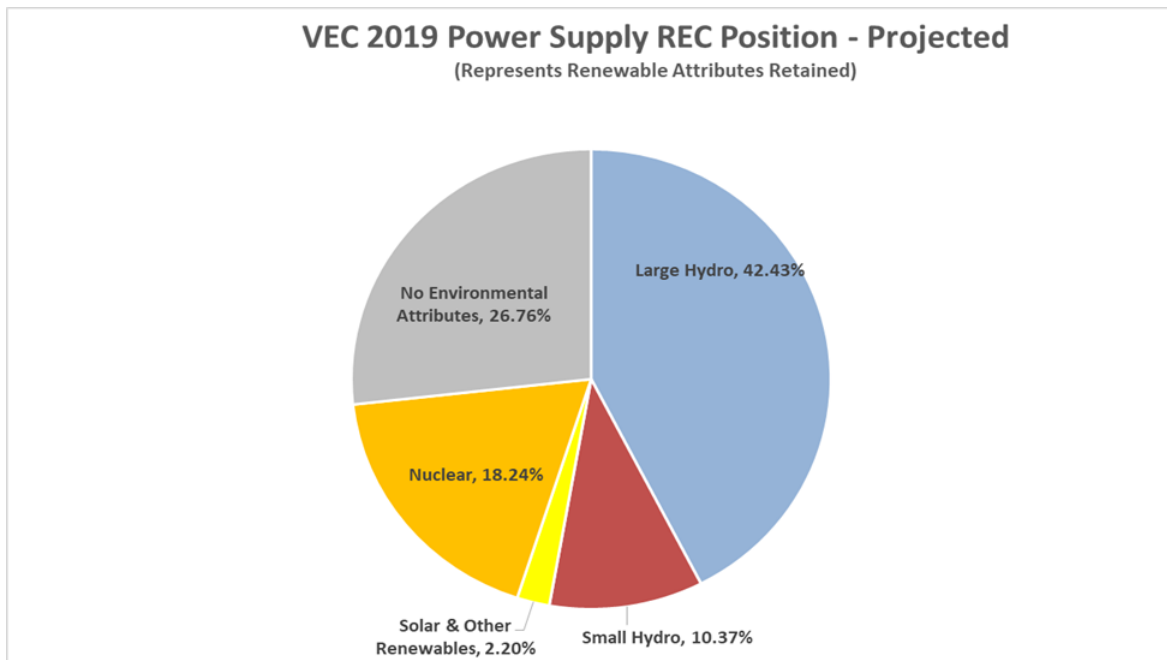


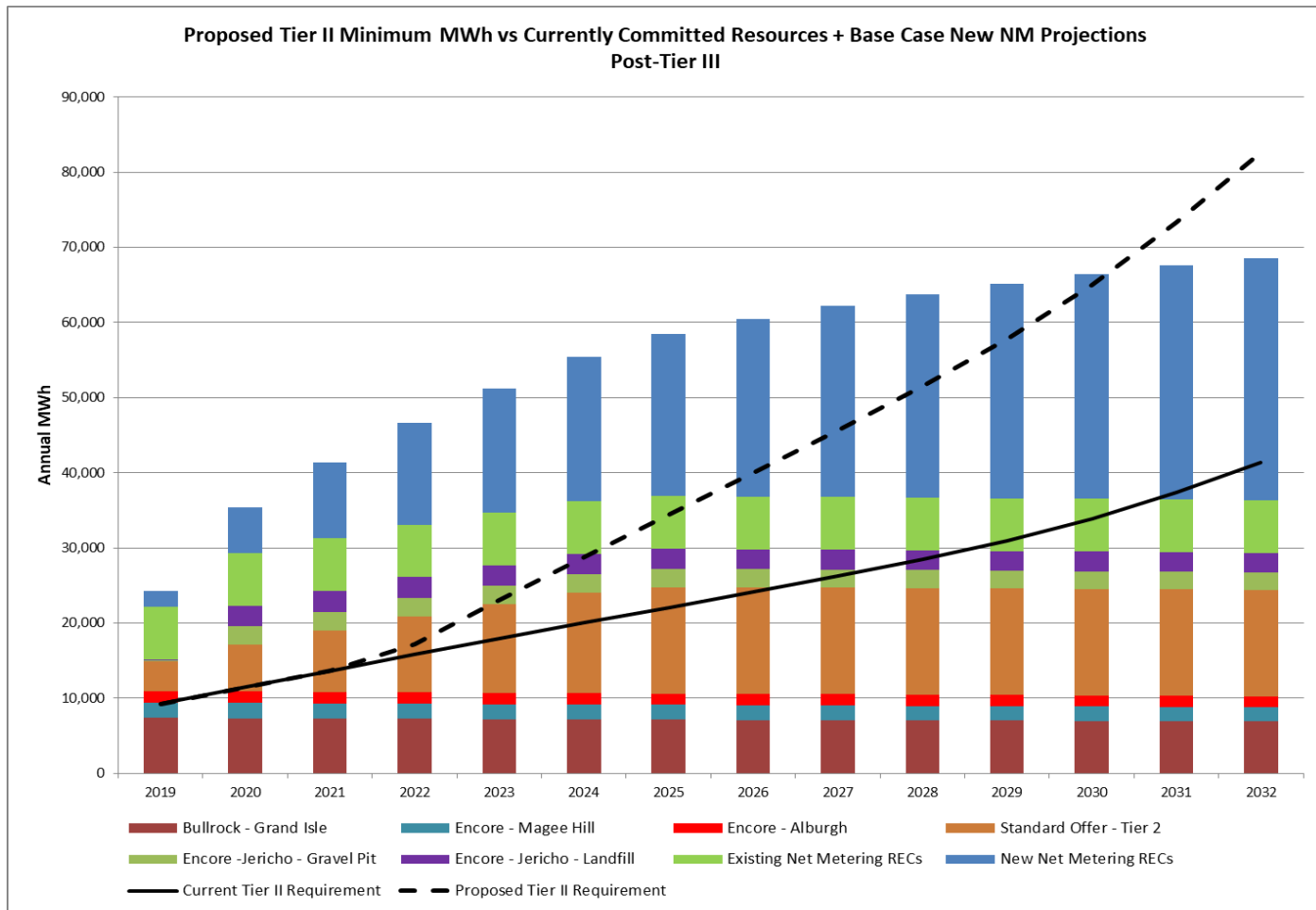
CHART 2



Current and Proposed Tier II Compliance

As amendments to the current RES requirements are evaluated, we urge you to consider whether the additional cost to ratepayers will make a meaningful difference in reducing carbon emissions or increasing the amount of local renewable energy generated. Chart 3 shows VEC's currently committed Tier II Resources compared to the projected current and proposed Tier II requirements, after accounting for Tier III load growth. It includes as a Tier II resource anticipated new net metering projects, at levels assumed in VEC's most recent Integrated Resource Plan filed with the PUC in July 2019.

CHART 3



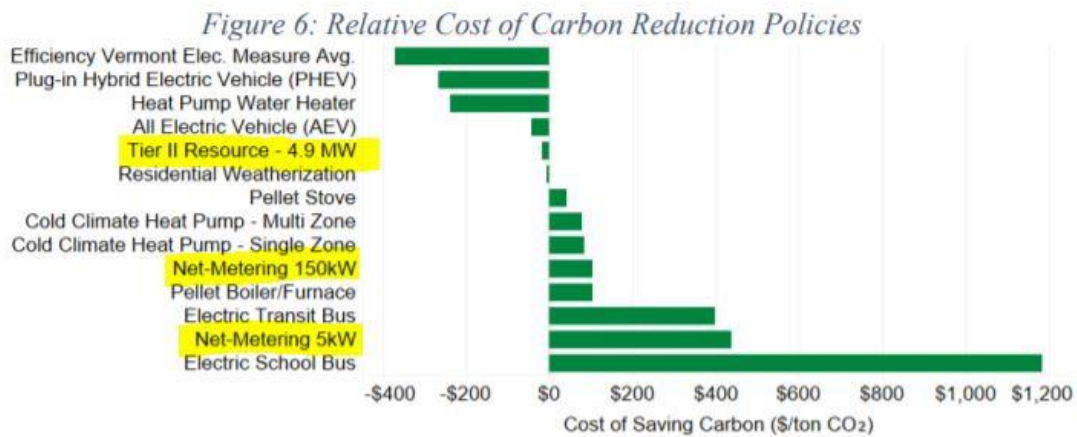
The data show that with VEC’s assumptions for new net metering:

- Under the current Tier II requirement (solid black line), VEC projects it already has enough committed Tier II resources to meet the RES Tier II requirement well beyond 2032; and
- Under the Tier II requirement as proposed in S.267, (dashed black line), VEC projects it already has enough committed Tier II resources to meet the RES Tier II requirement through 2030.

What this illustrates is that the increase in Tier II requirements proposed in this bill is attainable. What is equally important to highlight is that these increased requirements would come at a significant cost to VEC members, as detailed below.

Cost of Carbon Reduction

If carbon reduction is a policy priority, it is also important to note that different carbon reduction strategies come at different costs, as identified in figure below from the Department of Public Service's 2020 Annual Energy Report.



An example of a cost-effective approach has been demonstrated in VEC's Co-op Community Solar Program. In this program we are able to deliver cost-effective, local renewable energy without an associated cost shift. (See attached Co-op Community Solar Program summary). Co-op Community Solar was 60 percent less expensive than net metered energy at the time the cost was negotiated, and even with the changes to net metering rates, Co-op Community Solar is still 40 percent less expensive than net metering.



VEC Community Solar
Magee Hill, Hinesburg
Photo credit: Encore Renewable
Energy

Incremental Cost of Proposed RES Requirements

The table below summarizes the projected *incremental* cost to VEC of the Tier I and Tier II changes proposed in S.267 based on current market conditions.

New Tier II Supply at 9.0 Cents/kWh				New Tier II Supply at 14.0 cents/kWh			
	Incremental Cost to Comply with Proposed Total Renewable Requirement	Incremental Cost to Comply to Proposed RES Tier II Requirement	Total Incremental Cost to Comply to Proposed RES Requirements		Incremental Cost to Comply with Proposed Total Renewable Requirement	Incremental Cost to Comply to Proposed RES Tier II Requirement	Total Incremental Cost to Comply to Proposed RES Requirements
2020	\$0	\$0	\$0	2020	\$0	\$0	\$0
2021	\$0	\$0	\$0	2021	\$0	\$0	\$0
2022	\$80,966	\$0	\$80,966	2022	\$80,966	\$0	\$80,966
2023	\$49,073	\$0	\$49,073	2023	\$49,073	\$0	\$49,073
2024	\$163,378	\$45,626	\$209,004	2024	\$163,378	\$96,321	\$259,699
2025	\$171,391	\$194,464	\$365,854	2025	\$171,391	\$410,535	\$581,925
2026	\$246,284	\$353,949	\$600,233	2026	\$246,284	\$747,225	\$993,509
2027	\$252,826	\$526,289	\$779,115	2027	\$252,826	\$1,111,055	\$1,363,881
2028	\$423,918	\$716,887	\$1,140,805	2028	\$423,918	\$1,513,429	\$1,937,347
2029	\$346,974	\$935,382	\$1,282,357	2029	\$346,974	\$1,974,696	\$2,321,670
2030	\$553,148	\$1,196,777	\$1,749,924	2030	\$553,148	\$2,526,529	\$3,079,676
2031	\$571,164	\$1,517,937	\$2,089,101	2031	\$571,164	\$3,204,534	\$3,775,698
2032	\$464,923	\$1,859,691	\$2,324,613	2032	\$464,923	\$3,926,014	\$4,390,936
2033	\$515,025	\$1,931,345	\$2,446,370	2033	\$515,025	\$4,077,283	\$4,592,308
2034	\$567,334	\$2,002,357	\$2,569,691	2034	\$567,334	\$4,227,198	\$4,794,532
2035	\$620,840	\$2,069,465	\$2,690,305	2035	\$620,840	\$4,368,871	\$4,989,711
2036	\$673,942	\$2,128,239	\$2,802,181	2036	\$673,942	\$4,492,948	\$5,166,891
2037	\$724,691	\$2,174,073	\$2,898,764	2037	\$724,691	\$4,589,709	\$5,314,400
2038	\$769,716	\$2,199,189	\$2,968,904	2038	\$769,716	\$4,642,731	\$5,412,447

These incremental costs do not include any required infrastructure costs discussed by VELCO or the potential impact of increased risk introduced to VEC’s supply portfolio from:

- the sale of previously committed long-term contracts for base load power that would no longer be needed;
- the intermittency of many renewable resources which can result in the sale of excess resources when renewable output exceeds VEC’s load on an instantaneous basis as well as the need to purchase resources on the spot market when renewable resources are not generating.

With respect to the incremental Tier I requirement, enough renewable generation currently exists in the region to meet the proposed total renewable requirement in S.267; however, limiting what resources qualify would put unnecessary upward pressure on rates. Market rates

for existing renewables are approximately \$1.50/MWh more expensive than existing non-renewable generation in 2020. As other states in the region begin a shift to carbon-free and renewable portfolios, the cost of existing renewables is likely to increase. For modeling purposes, VEC has assumed the cost difference begins at \$1.50/MWh in 2020 and increases at \$0.50/MWh each year.

In order to meet the RES requirements in the most-cost-effective way possible, and remain competitive with other states in the region, Vermont utilities will need to have as many options available to them as possible in order to be in the best negotiating position. Limiting access to important regional resources, such as Hydro-Quebec, which other states in the region will likely be able to use to meet their carbon-reduction goals, would make it harder and more expensive for Vermont utilities to meet the proposed 100 percent renewable requirement.

Conclusions

If the legislature is interested in reducing carbon and increasing renewable energy generation in a way that is cost-effective and advantageous to the grid, the distribution utilities must be allowed to secure a diversity of low carbon and renewable resources. Restrictions on amounts and types of resources will be counter-productive.

We do not support the provision of S. 267 that would limit large hydro as an option for meeting the Total Renewable Requirement. Limiting large hydro could put Vermont at a competitive disadvantage compared to other states in the region that allow large hydro to contribute to meeting their renewable and carbon-free goals. This requirement would limit our negotiating options and flexibility, and could inflate the cost of meeting the goals.

Costs of resources must be market driven and reflect the value to the system. Utilities must be allowed to negotiate prices and locations for Tier II resources in order to reach goals in least-cost manner. VEC can create cost-effective programs provided we can negotiate the rate and minimize the cost that our members will have to pay in rates.



VEC Coop Community Solar

About:

- Three projects currently operating: Alburgh 1 MW, Grand Isle 5 MW, Hinesburg 1 MW.
- Currently have 175 members sponsor 4,800 panels.
- The co-op negotiated Power Purchase Agreements with private sector partners to develop, permit, and operate the projects.
- Co-op members sponsor panels (upfront payment) and obtain fixed monthly bill credits for either 10 or 20 years, depending on which term they sign up for.
- Residential, small commercial and public sector members can sponsor the equivalent of their annual electric charges. Larger commercial and industrial members are limited to 60/67 panels.
- Financing can be done independently or through our partner with an “on-bill” payment option.

Some Benefits:

- Cost-effective—Solar sponsorship provided at cost to bring direct value to participants as well as all co-op members.
- Well sited—projects are located at sites that we know will optimize grid efficiency.
- Renewable Energy—VEC retires the Renewable Energy Certificates for all sponsored panels, helping us meet the VT Renewable Energy Standard goals and requirements.
- Inclusive—Especially beneficial to members who do not have suitable sites, don’t own their home, or are not able or interested in making a long-term commitment.
- Exit Option—Participants can “opt out” of the program at any time for any reason and receive back the prorated portion of their sponsorship.
- Affordable—With financing option, allows all income levels to go solar.



Alburgh Project
(Photo credit: Encore
Renewable Energy)