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## Testimony to House Energy and Technology- April 10, 2019- **CORRECTED**

### H.423 An Act Relating in Public Institutions Using Net Metering

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#### About VEC

As a member-owned, not-for-profit cooperative, VEC's primary interest is to provide our members with safe, cost-effective, reliable, and environmentally responsible electric service. Our service territory is rural and relatively low-income. Thirty-nine percent of VEC's residential members are on fixed incomes and VEC serves eight of the top ten Vermont towns, and three of the top five counties, with the highest poverty levels. VEC works hard to meet the needs of lower-income Vermonters and support our rural businesses by keeping electric rates as low as possible and by not shifting costs to those who can least afford them. VEC has worked hard to not raise rates and has not had a rate increase since January 2014 and has had an average rate increase of less than 1% over the past 10 years.



**VEC's Co-op Community Solar opportunity is available to the public institutions identified in H.423 including the State of Vermont, municipalities, schools, nonprofits, and fire districts. Residential, small commercial, and public entity participants, may sponsor panels to provide solar energy credits equal to their annual bill charges.**

VEC offers cost-effective and economically sustainable renewable energy to all VEC members through VEC's Co-op Community Solar Program. Through this program, VEC is able to purchase renewable energy at market rates to the benefit of all VEC members. VEC members have the option of sponsoring panels and receiving fixed monthly credits on their electric bill for 10 or 20 years. Members have access to financing options and on-bill payment and can opt out of the program any time and for any reason. Members can choose from a wide range of participation levels, from just a small amount up to enough to cover their annual electric charges. They can participate even if they rent or do not have a suitable location to site solar panels. VEC currently has three Co-op Community Solar projects in operation with a total capacity of over seven megawatts.

**The VEC Co-op Community solar projects in Alburgh, Grand Isle, and Hinesburg, are sited and sized to optimize grid efficiency and to ensure cost effectiveness.**



## VEC Coop Community Solar

### About:

- Three projects currently operating: Alburgh 1 MW, Grand Isle 5 MW, Hinesburg 1.3 MW.
- Currently 28,400 panels with 3,641 sponsored to date (13%).
- VEC 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**—Opportunity for members who do not have suitable sites, don't own their home, or who 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 pro-rated portion of their sponsorship.
- **Affordable**—Financing option allows all income levels to go solar.

Excerpt: 10 year sponsorship option						Indicative Loan Terms @ 4.99% for 10 years**		
Panels*	Payment	Monthly Credit	Annual Credit	Total Program Credit	Total savings	Monthly loan payment	Total loan payment	Total savings
1	<b>\$234.75</b>	<b>\$2.72</b>	\$32.64	\$326.40	\$91.65	N/A	N/A	N/A
4	\$939.00	\$10.88	\$130.56	\$1,305.60	\$366.60	N/A	N/A	N/A
8	\$1,878.00	\$21.76	\$261.12	\$2,611.20	\$733.20	N/A	N/A	N/A
12	\$2,817.00	\$32.64	\$391.68	\$3,916.80	\$1,099.80	\$29.86	\$3,583.20	\$333.60
16	\$3,756.00	\$43.52	\$522.24	\$5,222.40	\$1,466.40	\$39.82	\$4,778.40	\$444.00
20	\$4,695.00	\$54.40	\$652.80	\$6,528.00	\$1,833.00	\$49.77	\$5,972.40	\$555.60
24	\$5,634.00	\$65.28	\$783.36	\$7,833.60	\$2,199.60	\$59.73	\$7,167.60	\$666.00
28	\$6,573.00	\$76.16	\$913.92	\$9,139.20	\$2,566.20	\$69.68	\$8,361.60	\$777.60
32	\$7,512.00	\$87.04	\$1,044.48	\$10,444.80	\$2,932.80	\$79.64	\$9,556.80	\$888.00

Excerpt: 20 year sponsorship option						Indicative Loan Terms @ 4.99% for 10 years**		
Panels*	Payment	Monthly Credit	Annual Credit	Total Program Credit	Total savings	Monthly loan payment	Total loan payment	Total savings
1	<b>\$412.54</b>	<b>\$3.12</b>	\$37.44	\$748.80	\$336.26	N/A	N/A	N/A
4	\$1,650.16	\$12.48	\$149.76	\$2,995.20	\$1,345.04	N/A	N/A	N/A
8	\$3,300.32	\$24.96	\$299.52	\$5,990.40	\$2,690.08	\$34.99	\$4,198.80	\$1,791.60
12	\$4,950.48	\$37.44	\$449.28	\$8,985.60	\$4,035.12	\$52.48	\$6,297.60	\$2,688.00
16	\$6,600.64	\$49.92	\$599.04	\$11,980.80	\$5,380.16	\$69.97	\$8,396.40	\$3,584.40
20	\$8,250.80	\$62.40	\$748.80	\$14,976.00	\$6,725.20	\$87.46	\$10,495.20	\$4,480.80
24	\$9,900.96	\$74.88	\$898.56	\$17,971.20	\$8,070.24	\$104.96	\$12,595.20	\$5,376.00
28	\$11,551.12	\$87.36	\$1,048.32	\$20,966.40	\$9,415.28	\$122.46	\$14,695.20	\$6,271.20
32	\$13,201.28	\$99.84	\$1,198.08	\$23,961.60	\$10,760.32	\$139.95	\$16,794.00	\$7,167.60



**Alburgh Project**  
(Photo credit: Encore Renewable Energy)

**Hinesburg Project**  
(Photo credit: Encore Renewable Energy)



# Net metering

## NM Continues at a Rapid Pace Under NM 2.0.

In 2017, the total number of applications and the total capacity in VEC service territory exceeded the totals during the previous three years combined. (For part of those three years, VEC's net metering program was closed because we had reached the statutory 15 percent cap). However, even taking that into consideration, the pace of applications in 2017 was in excess of anything we have previously seen. In 2018, with the program open the entire year, the trend continued with the total number of applications the same as 2017 but with a greater total capacity. In 2017, VEC started intervening in applications greater than 150kW that were located in the SHEI region due to the economic harm that would result to VEC ratepayers due to curtailments of existing renewable generation in the SHEI.

### 2017 VEC Net Metering Applications

2017	# of Applications	% of Applications	Total Capacity (kW)	% of Capacity	% of 2017 Peak (85.4 MW)
15kW or less	374	96%	2,593	<del>50%</del> 34%	
>15kW to 150kW	10	3%	327	<del>6%</del> 4%	
>150kW to 500 kW	5	1%	2,240	<del>43%</del> 62%	
Total	389		5,160		6.04%

### 2018 VEC Net Metering Applications

2018	# of Applications	% of Applications	Total Capacity (kW)	% of Capacity	% of 2017 Peak (85.4 MW)
15kW or less	366	94%	2,819	42%	
>15kW to 150kW	16	4%	786	12%	
>150kW to 500 kW	7	2%	3,041	46%	
Total	389		6,646		7.78%

### All VEC Net Metering Applications

	Accounts	Total Capacity (kW)	Avg kW	% of 2017 Peak (85.4 MW)
Original projects (pre-4/15/14)	351	3,343	9.52	3.89 %
2014 - 2016 (until VEC cap reached 11/15)	347	6,433	18.54	7.52 %
2017	389	5,160	13.26	6.04 %
2018	389	6,646	17.08	7.78 %
Total	1,476	21,582		25.23 %

## Large Net Metering Applications Continue to Make Up the Majority of the Application Capacity.

In 2017, projects larger than 150 kW were ~~1%~~ 4% of the total number of applications and ~~43%~~ 66% of the total capacity. In 2018, projects larger than 150 kW were ~~2%~~ 6% of the total number of applications and ~~46%~~ 58% of the total capacity.

## Utilities Must Take and Must pay Above Market Rates for the Energy Generated From Net Metering Projects.

There is no choice for the utility about whether to purchase energy from large net metering projects and no ability to negotiate the price we do pay. Under NM 2.0 the rate VEC is currently required to pay is approximately 33 percent more than the local renewable energy we purchase for our community solar projects through competitive power purchase agreements (PPAs). (Under NM 1.0 the cost difference was approximately 63 percent more).

Comparative Costs for a 500-kW NM Project v. Projects Developed Under Other Programs

		NM 1.0 (no RECs)	NM 2.0 (w/RECs)	PPA	Standard Offer
First 10 yrs	Price/kWh	\$0.190	\$0.15417	\$0.1163*	\$0.10126**
	Annual Cost	\$133,000	\$107,919	\$81,410	\$70,882
	Annual Subsidy	\$51,590	\$26,509		
	10-year subsidy	\$515,900	\$265,090		
Last 15 yrs	Price/kWh	\$0.15417	\$0.13417	\$0.1163*	\$0.10126**
	Annual Cost	\$107,919	\$93,919	\$81,410	\$70,882
	Annual subsidy	\$26,509	\$12,509		
	15-year subsidy	\$397,635	\$187,635		
	Lifetime Subsidy	\$913,535	\$452,725		

*\*Based on our three PPA projects that have already been developed. PPA rates for solar have since come down further.*

*\*\*Based on the 2018 Standard Offer award group for solar.*

## Net Metering Cost Shift

The large NM projects provide direct financial benefit to few members and shift the costs to all other Co-op members. In 2018, the five 500-kW projects online developed under NM 1.0 had only ten members subscribed to them. It was estimated that these five projects would cost the VEC membership an additional \$4.31 million in subsidy over a 25-year period, while the Co-op receives no renewable energy certificates (RECs) from them and therefore must consider them “null electricity”. Under NM 2.0, the membership as a whole continues to pay above market for large projects, albeit with the improvement that they are now generating power the Co-op can claim as renewable.

## In Summary

Our renewable energy goals can be achieved in a way that is cost effective, equitable, and sustainable. VEC does not support expanding net metering when there are more cost effective and equitable local renewable energy options available.

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