Chad Farrell Testimony before VT SNRE, March 31, 2021
S.119

First of all, I want to begin by thanking the committee for allowing me to provide these comments. I also want to recognize the challenge that the pandemic has created for the legislative community and thank you all for your continued service during this challenging time.

My name is Chad Farrell and I am the Founder and CEO of Encore Renewable Energy based here in Vermont. We are innovators in community scale clean energy and an emerging regional leader in full-service community scale renewable energy services, with a proven track record in project development from concept to completion. We are a values-led Benefit Corporation focused on triple bottom line outcomes, and we specialize in reclaiming undervalued real estate for clean energy generation and storage.

We have delivered over 80 community scale solar projects in VT, ranging from 50kW to 5MW, a total of over 60MW and over $100M in economic activity in VT and are and have actively worked with VPPSA, VEC, GMP and BED to help support their renewable energy goals and mandates. We are active in both community scale solar and energy storage project development work – both short duration as well as long duration storage.

Given our B Corp nature, we are proud of our achievements as they relate to both environmental as well as social issues. On the environmental side, our work has created the equivalent of enough energy to power 35,000 average New England homes, avoided the combustion of over 180M pounds of coal, and is the equivalent of over 280M automobile miles being offset.

On the social side, we have embraced the power of diversity, moving from a company that was 100% white males 5 years ago to one that now nearly 50% women and includes two professionals who identify as black, indigenous or people of color.

We are now active in neighboring markets in the northeast, most notably ME, NY and increasingly PA, responding to positive market signals in some of the other jurisdictions as VT has become somewhat stagnant from a legislative / policy standpoint as well as more difficult from a regulatory and permitting perspective.

My comments will be reflective of our position in the clean energy market, which is focused on the larger scale projects as compared to the residential focus of others in VT.

Encore is a direct result of the solid policy put forth by this committee and others. We began our clean energy journey in 2009 in response the creation of the 50MW Standard Offer or feed-in-tariff program – which to Sen McDonalds comment last week was the jumpstart that the renewable energy industry in VT required. Despite working for over a year to get 5 brownfield sites under control and submitted into the program, we unfortunately did not win the lottery

for any of those contracts, though did end up working with one contract winner, serving as the developer for one of those early projects. And while our Standard Offer experience was unfortunately limited, we quickly realized that the recrafted virtual net metering program offered another avenue for clean energy deployment in VT and thus business opportunity for Encore and the many professionals in other companies that support our work. In short, it was good policy at the time and has allowed many Vermont homeowners, businesses and institutions to participate in the burgeoning clean energy economy and save money while doing so. And it also caused our utilities to engage around the incorporation of distributed generation resources into our energy supply portfolios. For example, we have already dealt with a number of issues that newer markets such as Maine are just wading through now, all while the climate clock continuing to tick.

However, back to net metering - the program is limited to 500kW, and as corporate and institutional interest in renewable energy and decarbonization increases we need additional tools in the toolbox to respond to this demand for projects of larger scale and therefore larger impact for decarbonization goals. One example of this interest is the hundreds of higher education institutions in the country, including a number in VT who have signed onto the American College & University Presidents' Climate Commitment, with the goal of achieving complete decarbonization by 2030.

Middlebury College project – cornerstone of Energy 2028 decarb goals – additionality!

Glavel project

Community solar interest – not community scale, but a residential subscription model for folks that either can't afford the cost of a customer sited solar project but also for folks who rent, have shady properties and/or who live in more densely populated areas of the state.

Strong evolution of market over past 5-6 years

Aggregator business model now mature

LMI components in many other states' programs

But now onto the Bigger picture and an attempt to respond to the questions that the committee put before the witnesses for this particular round of testimony:

FIRST: How would your organization define "Vermont's renewable energy generation challenge(s)?

1. Difficult regulatory / permitting environment – but not focus of this bill

2. Limited options for deployment:

Standard Offer was <10MW/yr (less than 0.2% of the state's power usage), and many projects never got built

Net metering program has been significantly cut back / curtailed,
Some by preferred sites but more so by 500kW per customer cap and now increased interconnection costs and lower net metering credit values, the combination of which is increasingly causing these projects to not pencil. In fact, we are no longer actively originating any net metering projects in VT, as the risk far outweighs the reward at this point.

PURPA opportunities do not exist in VT – 7 year contract term is simply not financeable

Bilateral PPAs – decent opportunity, but limited and slow and risky – in fact, we have lost money on one of these deals recently

Special contracts such as Midd and Glavel – risky, really slow

SECOND: Is it to address how Vermont can make more progress on fulfilling its Tier 2 obligations in the most cost-effective manner? Is it to address energy burden and social inequity by developing RE for low-income Vermonters? Is it to sustain the state's workers in our clean energy economy?

Need to increase Tier 2, double at a minimum, to increase local energy resiliency, prepare for a future dominated by distributed, inverter-based generation resources and storage.

But need lower cost tools to do so, so we don't have to defend against $900M cost estimates that assume everything will be net metering.

Need to provide avenues for LMI customers, apartment and condo dwellers, etc. (community solar)

Need to sustain the clean energy economy – a cornerstone for the future VT economy - Young VTers interest in climate emergency is intense – I have read a number of thoughtful pieces by concerned and sometimes even scared younger VTers, fearful that the adults in the room in state capitols and in DC are not moving fast enough considering the impact on their future lives of the decisions we are making today. We can either help to create the jobs they want or watch them leave for markets that do.

THIRD: And who should own these new assets? Finance them? Will DUs put out RFPs to own their own generation? Or, will DUs put out RFPs for PPAs and only be the off-taker? Outside of net metering, what opportunities are there for developers to lead on RE generation? And at what scale do we want to build such facilities?

While some assets could be owned by utilities (and we have supported a few of these projects), Vermont needs a vibrant clean energy market supported by innovative private sector companies with access to low-cost capital to move fast enough to benefit from the economic potential of the energy transition while doing our part to respond to the climate crisis.

Also, GMP is the only utility in VT with an appetite for the tax credits that are and will continue to be the cornerstone of the capital stack required to bring these projects to life at the most cost competitive rates possible.

Finally, renewable energy project development is fraught with risk, from concept all the way to commissioning. Subjecting rate payers to the risk that we in the development community have learned to navigate would not seem to be the best use of utility resources.

Outside of net metering and in a scenario where standard offer goes away, there are not many opportunities for the private sector to lead on renewable deployment.

And scale definitely helps with offtake or PPA pricing. If we want to deliver lower cost renewables, we need more scale than 500kW.

FINALLY: And as we think about this, let's also think about where we are now, and where we want to be in five and ten years.

Decade(s) of Disruption (2010's and 2020s)

Profound changes will continue:

Solar: $2.50/W when Encore did its first project, now low to mid $0.30's

80% decline in price between 2010 and 2020

Another 70% price decline predicted for 2020 – 2030

Wind: 40% reduction in costs 2010 – 2020

Another 40% reduction predicted 2020 – 2030

Lithium Ion Battery

90% decline in price 2010 – 2020

Another 80% decline predicted 2020 - 2030

BUT: transmission costs are increasing

By end of 2020's local, distributed generation could be cheaper than TX

Load going up – EVs HPs

Capital markets are engaged, Third party financed rollout of HPs and EVs, using PPA models – the disruption continues.

I am of the view that Projections are really low for EV adoption

We now have more Energy Storage opportunity – the bacon / kale of energy, makes everything better, helps smooth out generation profile of inverter-based generation technologies such as solar and wind and providing energy security for VTers – good example at the larger scale is recent GMP Panton "islanding" project recently in the news.

SO, given the trends in renewable energy pricing, the need for climate resilience and in order to fully embrace a decarbonized future for our transportation and thermal needs, Vermont has got to look beyond it's ski tips on our energy future. It's a lot like skiing or bike riding, if you look down at your feet you crash – we've got to look ahead to where we want to go and take strides to get there. I respectfully ask you all to urgently look ahead now 5, 10, 15 years and act quickly to get us on a path for a more resilient, energy distribution system, one that is more compatible to the bi-directional flow of electrons and one that is supported by storage to address shifting daily and seasonal load patterns.

We will have to upgrade the grid and have a once in a generation opportunity to secure federal infrastructure funding to mitigate some of that cost and get us beyond the “who pays” conundrum (developers or rate payers).

Finally and in conclusion, I believe that VT needs to regain our early mover advantages in the clean energy market as a tool for not only energy resilience and security in the future but also for job creation and economic opportunity for Vermonters of all ages, especially the younger generations among us who are passionate about responding to the climate crisis that will have a greater impact on them than folks of my age and older. I can’t tell you how many amazingly well qualified, smart and passionate young folks respond to any and all job postings we put out there. They want to be part of the solution and are focused on fixing the climate that has been wrecked by more than 50 years of short-sighted policy that only focuses on the single bottom line. If we want to continue to engage, attract and retain those folks in the VT economy, VT absolutely needs to cultivate a robust clean energy economy. This bill, perhaps in my view with additional legislation further enabling energy storage deployment in VT, provides another avenue for that work, another tool in the toolbox, another opportunity to build on our successes of the last decade and move forward towards our now legislatively mandated clean energy goals.

Thank you very much for the opportunity to share my thoughts with the Committee this morning and I would be more than happy to respond to questions from the Committee this morning or at any time moving forward.

Thanks again.