



REV Comments to the Draft Comprehensive Energy Plan

Summary

REV appreciates the hard work of DPS staff in creating this draft on the compressed timeframe necessary to produce this work alongside the Vermont Climate Council's Climate Action Plan. REV acknowledges many of the aspirational goals of the draft CEP in transforming the transportation and weatherization sectors away from fossil fuel use such as setting a goal of 100% of light duty vehicles sales in Vermont be zero emission vehicles by 2035.

REV specifically would like to recognize DPS' commitment to greater equity throughout the draft including recognizing that, "As Vermont moves towards a cleaner energy future and develops the policies and programs to support those changes, it will be critical to do so through a lens of equity and justice to ensure that no Vermonter is left behind. This has historically not been the case."

However, REV believes the draft falls well short in moving Vermont towards a more independent and resilient energy future based on reliable in-state wind and solar power. There is no mention anywhere in the 266 pages of the draft Plan of utilizing new in-state wind resources to meet Vermont's future energy needs. In addition, the Plan fails to provide any support for increasing the amount of in state solar resources to meet the increased needs for power as Vermont moves forward on electrifying its transportation and weatherization sectors.

Exhibit 7-13 of the Plan shows that REC compliance for Tier I and Tier II combined resulted in a rate pressure of only 1.4% demonstrating the cost effectiveness of the RPS. To this end, REV recommends the final draft of the report correct this omission by recommending an increase of the Tier II goal to 25% in state renewable energy by 2032 at the latest.

Finally, REV does not agree with the draft Plan that "Under any reasonable measure, the existing siting process allows well-sited generation projects to be built in Vermont."

REV members have documented how the existing siting process is unpredictable and unnecessarily time consuming adding extra costs and uncertainty to the construction of solar projects for all but the smallest size projects. Serious reform of the siting process for solar projects is necessary if Vermont is going to meet its goals for in state renewable energy procurement.

In addition, while a relatively small number of petitions are denied when measured against the number of petitions approved, the impact of these decisions is outsized in terms of the chilling effect that they have on site-selection going forward. A simple statistical analysis of project approvals vs. denials, such as is reflected in the CEP, does not capture these chilling effects. When a project is denied, even after independent, expert analysis have deemed them well-sited, this leads developers to abandon otherwise promising sites—including sites in already-developed areas where forest and other wildlife impacts are minimal—because of the uncertainty they create.

Specific Areas of Concern for REV

1. CEP: The list under “many successes have been achieved” since the last CEP includes “400MW solar and 50MW storage” (Executive Summary Page 6).

REV Response: Given that no large-scale wind has been deployed in Vermont since the 2016 CEP was written and no more is being planned, deploying 400MW of solar over the last five years has not kept pace with the need for in state renewables to adequately combat the climate change crisis. REV estimates that to truly meet Vermonter’s needs for renewable energy as we move to fully electrify the thermal and weatherization sectors at least 200MW of new solar is needed each year until new large scale in state wind projects come on line.

2. CEP: Continued improvement of the Net Metering programs including review of siting and rates to better reflect development costs and relative contribution toward meeting targets and reducing cost shift to non-participating customers” (Executive Summary Page 6).

REV Response: REV wholeheartedly disagrees that changes 2.0, 2.1 and 2.2 to the net metering programs since the 2016 CEP can be considered improvements. The Department’s calculations in measuring the benefits of net metering consistently fail to incorporate many of the societal benefits of solar power.

In addition, the figure the Department cites for a cost shift fails to account for many of the benefits of generating behind the meter (BTM) solar energy. In a December 2020 report commissioned by REV, Synapse found that “Electricity produced from BTM solar reduces the need to run other power plants which reduces the amount of electricity that electric utilities need to buy and saves customers money. By avoiding the need to run the most expensive power plant, when BTM solar lowers the amount of electricity purchased, it also reduces the price all utilities pay.” Synapse estimated that BTM solar reduced wholesale energy market costs in New England by \$1.1 billion or 11.9 cents per kWh between 2014-2019.

In addition, Synapse found that BTM solar avoided 4.6m metric tons of carbon dioxide emissions in 2014-2019 and millions of pounds of criteria pollutants that negatively affect human health resulting in \$87m in public health benefits between 2014-2019.

Finally, using a \$112 per metric ton social cost of carbon, BTM solar provided \$515m in climate benefits between 2014-2019 equal to 6 cents per kWh.

All of these benefits should be considered when looking at a full societal value of BTM solar.

3. CEP: This CEP sets a goal in the electric sector to be fully decarbonized and at least 75% renewable by 2032 (Executive Summary Page 10).

REV Response: The CEP should recommend that 100% of Vermont’s electric sector be renewable by 2032 in order to help move Vermont off its reliance off fossil fuels.

4. CEP: The overall objective of vehicle electrification policies is to establish an economic and regulatory environment where market forces can move forward without the need for government support (Executive Summary Page 12).

REV Response: REV believes that only with a long term commitment of support from public entities will the electrification of the transportation sector be completed in time to address the climate crisis. As of January 1st, 2021 Vermont had 4,360 EVs. It is hard to see Vermont meeting either its 2025 goal of 47,000 EVs or 2030 goal of 120,000 EVs without massive public sector support for infrastructure and subsidies for EV purchases by low and middle income Vermonters.

5. CEP: More fuel-efficient combustion vehicles and lower carbon-intensity combustion fuels (like biofuels or renewable natural gas) could significantly reduce GHG emissions from combustion vehicles while the transportation sector electrifies. Low-carbon fuels could also potentially provide an alternative to combustion fuels for heavy-duty transportation modes, like long-haul trucking or aviation. (Executive Summary Page 13).

REV Response: Just like with light and middle duty vehicles, to adequately address the climate crisis, Vermont must lead the way in the electrification of heavy duty vehicles.

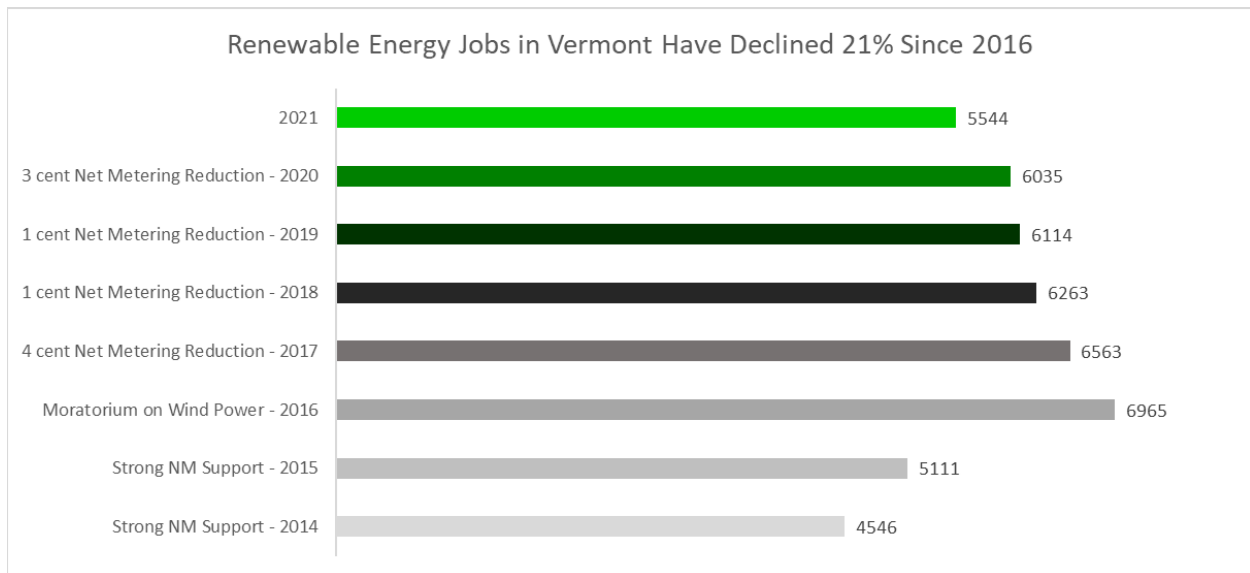
6. CEP: This Comprehensive Energy Plan calls for the formal consideration of a clean heat standard (Executive Summary Page 18).

REV Response: REV believes the creation of a clean heat standard will be a valuable tool in moving Vermont towards a fossil fuel free future but if and only if the credit market is structured in a way that generates credits truly based on fossil fuel reductions and avoids greenhouse gas accounting loopholes to tangibly reduce the use of fossil fuels across the home heating fuel market.

7. CEP: Even after accounting for the COVID-19 impacts on the state economy, which hit the clean energy industry less relative to overall statewide job losses, the number of clean energy jobs increased by 18% from 14,788 in 2014 to 17,502 in 2021 (Executive Summary Page 16).

REV Response: This statement fails to recognize that employment in the clean energy sector has decreased by 1,579 jobs since 2017 when 19,081 Vermonters were employed across the sector despite the increased need for Vermont to move faster off of fossil fuels to avert climate crisis.

Since 2016 there has been an annual scaling back of Net Metering incentives combined with increased difficulty in permitting of Net Metering projects. As a result, Vermont has suffered job losses every year in renewable energy employment since 2016 totaling 1,421 less jobs or a 21% decrease. The graph below, with information from the CEDF Jobs Report, clearly shows the trend.



8. CEP: Vermont should also consider whether “unlocking” another 600 MW of in-state PV is the best use of \$500 million, in terms of achieving its energy and emissions goals. For a sense of scale, a \$500 million transmission investment translates to roughly a 6% increase in electric rates – and this does not include the sub-transmission and distribution-level costs to interconnect this much more solar, along with any ratepayer costs for the production from that solar. (Page 4-13).

REV Response: The Plan does not make it clear where the \$500m price tag comes from and therefore it is impossible to determine if this number is accurate given possible economies of scale, whether reforms of the PUC permitting process would bring down the price of installation, etc.

9. CEP: The fact that solar output no longer coincides with the most expensive hours for utilities to purchase energy to serve customers, combined with alternative mechanisms through which utilities can purchase distributed solar at significantly lower costs than the current net-metering rates, means there is now a cost shift whereby non-net-metered customers are subsidizing those customers who have the means to net-meter. In 2019, Vermonters paid more than \$40 million more for net-metering than if this solar generation had been procured through bilateral contracts between solar developers and utilities. This amount reflects the higher compensation that was paid in prior years and which Vermonters are still paying. (Page 7-25).

REV response: REV believes this cost shift is grossly overstated. According to the Department’s REMI inputs and outputs spreadsheet, for the average Vermonter the Net Metering ratepayer investment adds 0.37% to the total electric bill which equates to \$0.34 each month.

And as stated in response to #2 above, the figure the Department cites for a cost shift fails to account for many of the benefits of generating behind the meter (BTM) solar energy. In a December 2020 report commissioned by REV, Synapse found that “Electricity produced from BTM solar reduces the need to run other power plants which reduces the amount of electricity that electric utilities need to buy and saves

customers money. By avoiding the need to run the most expensive power plant, when BTM solar lowers the amount of electricity purchased, it also reduces the price all utilities pay.” Synapse estimated that BTM solar reduced wholesale energy market costs in New England by \$1.1 billion or 11.9 cents per kWh between 2014-2019.

In addition, Synapse found that BTM solar avoided 4.6m metric tons of carbon dioxide emissions in 2014-2019 and millions of pounds of criteria pollutants that negatively affect human health resulting in \$87m in public health benefits between 2014-2019.

Finally, using a \$112 per metric ton social cost of carbon, BTM solar provided \$515m in climate benefits between 2014-2019 equal to 6 cents per kWh.

All of these benefits should be considered when looking at a full societal value of BTM solar.

10. CEP: As a consequence of these system changes, the value of a new net-metering resource has declined – in part because new solar-only net-metering systems only produce energy during daylight and therefore cannot reduce customers’ load during the new evening peaks. (Page 7-25).

REV Response: Every kWh of solar power that is generated in Vermont replaces fossil fuels being burned in New England to generate power.

11. CEP: In addition to issues around grid constraints, concerns have been raised regarding whether existing policies and programs appropriately protect natural resources when assessing the environmental impact of a potential new generation facility. This has been raised particularly as relates to forest conversion for energy development. Recent data compiled by ANR indicates that, between July 1, 2017, and July 31, 2021, 46% of net-metering applications reviewed by ANR have required some amount of forest conversion even with the preferred site incentives intended to steer generation facilities away from undeveloped fields and forests.

As Vermont continues to deploy renewable resources, it will be critical to ensure they are sited in a way that maximizes both greenhouse gas reductions and renewable energy production. And, especially, that deployment of renewable resources in the name of reducing greenhouse gases isn’t counterproductive to that goal or detrimental to the ecological functioning of Vermont’s natural landscapes. Policies should continue to favor energy development that avoids and minimizes conversion of natural lands and reuses or adds new compatible uses to previously developed lands. (Page 7-33).

REV Response: REV appreciates the opportunity to more directly discuss the cutting of trees. While we acknowledge some trees are cleared each year for solar installations – the scale of the clearing is by all standards insignificant compared to the annual conversion for other forms of development that, unlike renewable energy, are not permitted under a regulatory program requiring a demonstration of “public good”.

Further, unlike other development, the solar installations impacting 50+ acres per year are actually helping protect the over 4 million acres of forest in Vermont from the growing impacts of climate

change. Our top priority should be that warming temperatures, drought, extreme weather events, invasive species, and even human migration pose a more irreversible impact to Vermont forests.

REV believes to the extent that forest fragmentation and clearing is a relevant discussion for Vermonters, the effort should be first directed at the major drivers of those impacts. While the acreage is not verified, even 204 acres of forest impact from solar development over four years has a de minimus impact on Vermont's 4.5 million acres of forest and must be considered in light of the GHG reduction value achieved by the tree cutting.

- Solar represents an insignificant component (and is a temporary impact) of the 1,500 acres/year in Vermont lost to residential and commercial development as cited in the 2017 Harvard study "Wildlands and Woodlands"
- By necessity, solar arrays are collocated with development requiring utility public infrastructure and not located in the center of forests, as construction away from utility lines and roads is cost prohibitive.

12. CEP: There is no reasonable argument to effectively exclude existing renewable resources that have served Vermonters for decades, and any revised RES should consider the earlier portfolio requirements and goals that informed utilities' owned resources and long-term contracts. (Page 7-35).

REV Response: Yes, there is a reasonable argument- additionality. Additionality is a cornerstone of any climate change policy. Additionality means that energy resources must result in "reductions in emissions that are additional to any that would occur in the absence of the certified project activity" Kyoto Protocol Article 12, paragraph 5(c).

Old hydro attributes/offsets have no additionality and therefore have no environmental integrity, and fail to conform with the requirements of the UN Framework Convention on Climate Change, the Paris Agreement and the Global Warming Solutions Act.

13. CEP: Offshore wind and other resources that generally produce during times of high winter loads are increasingly available and a portfolio standard that prioritizes GHG reductions should send a clear signal that such resources – that produce electricity when the grid is most stressed and thus most carbon-intensive – are prioritized. (Page 7-36).

REV Response: REV has seen no evidence that resources such as off shore wind are "increasingly available" to serve Vermont's energy needs and ask that the Department provide examples when of off-shore wind projects will be available to Vermont and how much energy the Department expects these projects to provide by a date certain. REV's understanding is that off shore wind projects now being considered will not deliver power to Vermont before 2030.

Moreover, any off-shore wind projects that do eventually become available to serve Vermont's energy needs will necessarily require transmission over great distances through a transmission grid that is increasingly vulnerable to the ongoing, escalating effects of global warming and the weather extremes it causes. In urging a reliance on as-yet unbuilt generation resources hundreds of miles from Vermont, the CEP fails to account for the incidence of grid-threatening weather events such as ice storms. With more and more Vermonters electrifying their transportation and home heating to reduce GHG emissions, Vermont state policy must ensure in-state renewable generation as a hedge against the kind of

catastrophic grid instability seen throughout the country as a result of climate-changed weather extremes. Otherwise, this CEP charts a course that risks leaving Vermonters immobile, in the cold and dark.

14. CEP: No mention of future in state wind anywhere in the report.

REV Response: REV believes in state wind is a critical component of Vermont's renewable energy future and for addressing the climate crisis. Wind power serves as a complement to Vermont solar network by generating its power in the evening and at night as well.

Unfortunately, Vermont's Public Utilities Commission has written the most restrictive statewide sound standard for wind power in the country – effectively banning new wind projects in Vermont. This standard was not based on the scientific evidence around the public health effects of sound from wind turbines. For example, wind turbines are required to be roughly *100 times quieter* than the FAA's "strictest" sound level for the F-35s.

Collectively, Vermont's 67 large scale wind turbines contribute 149MW of clean, reliable renewable energy to Vermont's fight against climate change. The four turbines from the Georgia Mountain site in Milton alone generate 10% of the Burlington Electric Department's power.

15. CEP: When examining only those projects that impact a land area greater than one acre, the vast majority of projects have received siting approval from the PUC. Under any reasonable measure, the existing siting process allows well-sited generation projects to be built in Vermont. (Page 7-30).

REV Response: There are many examples of how the existing siting process is unpredictable and unnecessarily time consuming adding extra costs and uncertainty to the construction of solar projects for all but the smallest size projects. Serious reform of the siting process for solar projects is necessary if Vermont is going to meet its goals for in state renewable energy procurement.

For example:

- In the filing by MHG Solar to build a 500kW project on Richville Road in Manchester, the PUC's hearing officer states in his report that "The Project would have an undue adverse impact on aesthetics or on the scenic or natural beauty of the area because the Project would be out of character with its surroundings and would significantly diminish the scenic qualities of the area such that it would offend the sensibilities of an average person." The report states that "The duration of the view for drivers [on Richville Road] would be approximately 26 seconds" and that "approximately ten residences or businesses near or adjacent to the Project site would have visibility of the Project" though the report does not provide a citation for this last claim.

This is contrary to Department's own aesthetic expert who concluded the project would not have an undue adverse effect on aesthetics, "The Department stated that the Project does not raise any significant issues under the substantive criteria of Section 248 that are within the scope of the Department's review and recommend that the project should be approved."

- In net metering cases, the PUC is required to issue a final order within 90 days of the “last substantive filing of a party.” 30 V.S.A. § 8010(f). In practice however, in cases before the PUC, no one knowing when the last substantive filing will be because the PUC can always ask for additional information at any point in time. In addition, for all other generation projects, including rooftop solar and other net-metering registrations, there is no such deadline in statute so the PUC has been effectively able to delay many decisions adding expense and uncertainty to the projects.

It is important to note that a proposal for decision is just that – a proposal and not a final order. Once the hearing officer issues a proposal for decision, there’s an opportunity for written comments and oral argument before the PUC. If the PUC decides it wants more information or additional comments after the proposal for decision issues, then the 90 day clock does not even start until those additional filings are made.

In other words, you cannot go into a case and know with any reasonable certainty or predictability when the 90 day clock for a final order starts to run because the PUC has no hard timelines in requesting additional information and no consequences for delaying action on a case by repeatedly asking parties for more information.

- Similarly, the Commission’s hearing officer denied a CPG for a 500kW project on a 3.62 acre parcel in a “commercial business district” in Bradford. The site was a “preferred site” under the state’s net-metering program because the solar array would have been located directly adjacent to a commercial business that would be allocated more than 50% of the net-metering system’s electrical output, i.e., an instance of building generation directly next to load. No tree clearing would have been required for construction of the solar array. It was to be sited in a heavily-developed area behind a Hannaford’s shopping plaza and next to an existing auto parts supply warehouse, self-storage facility, and the aforementioned commercial off taker convenience store and gas station. The site was also near a highway interchange.

The hearing officer denied the project because he reasoned that it would unduly interfere with the orderly development of the region and would have an undue adverse effect on aesthetics.

On aesthetics, the hearing officer ruled against the Project even though he acknowledged in findings that the “site does not possess a high scenic quality.” His basis for the ruling hinged on visibility to motorists travelling on the adjacent and nearby roads, which had been designated as “scenic” in the Town Plan notwithstanding the other forms of substantial commercial development also visible to motorists on the same stretch of road. He similarly sited the “limited visibility” from a small number of nearby residences that also looked out on the existing, extensive commercial development surrounding the proposed site. In making his conclusion, the hearing officer disregarded the testimony of the Department’s own independent aesthetics expert that concluded that “Petitioner is proposing a Project that will be in character with its surroundings and not be considered offensive to an average person.”

On orderly development of the region, the hearing officer denied the Project in essence because the Town and Regional Planning Commission urged that the privately-owned land was in an important commercial district that they hoped would be developed for other commercial purposes such as retail, hospitality, or office space. In testimony, the Town specifically cited a “Tractor Supply Company” retail store as an example of a preferred alternative that would be

consistent with the goals for the district set forth in the Town Plan. The hearing officer adopted this point of view even though the record evidence showed that there would still be several other vacant parcels suitable for commercial retail development in the commercial district even if the Project were approved.

Once again, the hearing officer disregarded the Department's own independent expert witness who rightly pointed out that:

“Not allowing solar on the site does not guarantee the privately held land will be developed in another manner. The purpose of this review and report is to determine if the Project itself would unduly impact the orderly development or the aesthetics of the area and *not to determine if the proposed Project site is better suited for more intense development*. It is our opinion that the Project would not violate a clear written community standard intended to preserve the aesthetics or scenic beauty of the area that was in place at the time of application.”

While these and other cases may represent a relatively small number of denials when measured against the number of other petitions approved, the impact of these decisions is outsized in terms of the chilling effect that they have on site-selection going forward. Because the Department is not staffed currently by anyone with experience on the development-side of renewable energy generation, it may not be equipped to analyze the effectiveness of the existing regulatory process on its own. A simple statistical analysis of project approvals vs. denials, such as is reflected in the CEP, does not capture these chilling effects. Based on independent, expert analysis, these projects were well-sited and yet they were denied CPGs. These denials lead developers to abandon otherwise promising sites—including sites in already-developed areas where forest and other wildlife impacts are minimal—because of the uncertainty they create.