

## Bennington County Regional Commission – Comments on the Draft Vermont Comprehensive Energy Plan (CEP)

General: The CEP presents a wealth of information on numerous important topics related to energy supply, demand, efficiency, and conservation, but does not impart a strong sense of why the plan is important. It lays out a number of goals that are referenced at points throughout, but merely keeping those goals in mind doesn't convey a unifying theme that would pull all of the sections together. The CEP also feels a bit uneven in how the various chapters advance recommended actions (whether they be called pathways or strategies or whatever); some sections are quite specific and provide clear direction while other sections either lack such actions or include only restatements of preceding discussions with indications that ideas referenced should be "considered."

The CEP should clearly note that Vermont is facing a future that, if residents enjoy a good quality of life and if businesses are to prosper, requires genuine transformative change. We have to do more than simply identify new ways to do the same things that we have been doing. In short, the CEP should – in a calm, but definitive way – be clear as to the urgency of the situation. Without major changes, lifestyles and economies heavily reliant on fossil fuels will suffer due to future supply disruptions and prices that will be unaffordable to many. Of course, there is the overarching issue of climate change and related impacts, too, which the CEP notes is a central premise of the Climate Action Plan – but something worth further emphasizing in the CEP, too.

Energy Data: The CEP does an excellent job of describing the importance of the various categories of energy data that are essential for local, regional, and statewide planning, and points to current shortcomings and challenges with collecting the data for all of the geographies where it is needed. While presenting some ideas for remedying the situation, the plan isn't particularly forceful in stating what should, or must, be done. These data problems will, at the very least, make it extremely difficult to produce effective, and Act 174 compliant, local and regional energy plans in coming years.

Transportation and Land Use: The CEP dedicates a lot of space to the important goal of electrification of the state's vehicles, particularly light duty/passenger vehicles. The plan provides a good overview of the issue and pathways toward achieving uptake of EVs consistent with achievement of energy goals, although perhaps at the expense of a more thorough treatment of transportation solutions that are more long-term and enduring: notably, the land use transformations that must happen over time and the changes needed to promote and facilitate those changes. One note on EV infrastructure: the CEP discusses various issues and priorities for deployment of charging equipment (EVSE infrastructure). For the greatest impact, and to address grid stability issues, it would seem that highest priority should be placed on funding for charging stations in downtowns, village centers, and especially at multi-family residential properties and workplaces. Such deployment would allow for the most rapid increase in EV ownership and use by Vermonters and also would allow charging during daytime hours (at workplaces or for the increasing number of people who work from home). An important note is that incentives to encourage charging during the times when distributed generating resources are producing at maximum levels (daylight, especially given Vermont's tilt toward solar generation) should be implemented. Providing high-speed charging at minimum intervals along state highways is a good objective, and will

both curb range anxiety and accommodate longer-distance travelers, especially tourists, but its importance relative to home and workplace charging feels overstated in the CEP.

The CEP recognizes the importance of focusing growth in compact centers and reviews the multiple ways that such a development pattern advances transportation/energy objectives. The barriers to new development in these walkable centers are noted, although there could be more presented in the way of tangible recommendations for addressing these challenges. The fundamental and persistent problem is the lack of adequate (often, any) infrastructure, particularly water and wastewater systems, in many/most of the state's village centers. The need for grant funding to support planning, design, and construction of right-sized systems in these areas is essential. Moreover, the CEP could note that this infrastructure is needed to accommodate new growth, as past priorities for funding have focused heavily on remediation of environmental problems. Such infrastructure investment would reinforce numerous local, regional, and state planning goals, while providing the ability to effect the type of long-term transformation that will endure beyond the days when EVs are no longer the "solution" to our transportation energy challenges.

The need for energy-efficient transportation infrastructure, particularly facilities to allow for safe and convenient travel by pedestrians and bicyclists in and between compact settlement areas, is critical. The CEP certainly could recommend a reevaluation of state funding priorities for transportation capital investments given the overriding importance of these "alternative" transportation modes to achieving transportation energy objectives. One important mechanism for providing this infrastructure, as the CEP notes, is the "Complete Streets" law that is intended to require consideration of all users of public highways whenever an investment is made in those rights-of-way. This process could be particularly beneficial in improving and expanding bike-ped infrastructure in and between compact settlements (especially along and adjacent to state highways). Unfortunately, Complete Streets is not regularly followed (and seems to be at best an afterthought in project development planning). A CEP recommendation that a fixed percentage of the budget for any state highway project be allocated to Complete Streets improvements would be helpful in addressing the argument that such work is not feasible because of budget constraints. A second activity that the state could take to improve Complete Streets implementation would be to dedicate a staff position in the VTrans Bike-Ped program to review of all state and state-funded transportation projects to ensure that Complete Streets opportunities are identified and implemented. This change would allow the Bike-Ped program to move beyond its current status as largely one of administering relatively small grant programs. A Complete Streets coordinator also could conduct badly needed outreach and training for municipalities.

Another significant problem with development of critical bike-ped infrastructure that must be overcome to address transportation energy challenges is the inefficient and costly permitting system for such projects, most of which should be true "categorical exclusions" – to avoid reviews and permitting processes that really are unnecessary and inappropriate for such projects.

Thermal/Buildings: This section of the CEP is clear and includes specific recommendations for action that can make a difference in this crucial sector. The state has faced ongoing challenges in motivating sufficient interest in weatherization programs, and to some extent, conversions to alternative fuels and heating/cooling systems. A related concern is the shortage of a sufficient workforce to deliver these

building energy efficiency improvements. The suggested “Clean Heat Standard” certainly creates a pathway to improve progress toward attainment of related thermal energy goals, and the CEP might also include recommendations for action in this area even if the CHS does not prove viable for some reason(s). In particular, it makes sense to find a way to support fossil fuel dealers in a diversification and eventual transition of their businesses into “energy service providers” that sell a full range of energy efficiency services and products. As noted, there is a severe workforce shortage and fuel dealers have an existing workforce, not to mention an established customer base centered on thermal energy. Given that state energy goals indicate further erosion of their historic revenue source (selling fossil fuels), with sufficient incentives these businesses are the most logical source of workers and technical expertise to address thermal energy needs.

Renewable Energy: Concur with other observations and comments about the apparent shift in priorities presented on renewable energy development (related especially to a greater focus on reducing greenhouse gas emissions) in the CEP – and the future need to modify regional and local energy plans to be consistent with new policies and targets. In any event, given the discussion of grid constraints in the CEP it will be particularly important for the regional planning commissions and municipalities to work with utilities to improve renewable energy resource maps. The regional commissions and local governments are not likely to develop the expertise to integrate grid dynamics with their land use maps, so for this geographical analysis to be useful, it will be important for the state to dedicate sufficient resources to enable the necessary level of analysis.

The CEP’s relative lack of emphasis on in-state renewable energy generation is somewhat concerning; previous plans (including regional energy plans) had noted the greater certainty and control afforded by relying on a significant amount of in-state generation (while noting that a large share of existing and future electricity would have to be supplied from external sources). This CEP includes extensive discussions of environmental concerns and additional constraints to renewable energy development (energy resources which, while badly needed, already are challenging to develop). There also seems to be a lack of discussion of similar environmental (especially GHG emission and carbon sequestration) impacts of non-energy development; the unfortunate effect of which is to unfairly, and ironically, demonize renewable energy development.

It is also worth noting that imported renewable electricity has impacts at its point of production – the repeated concern over tree cutting for solar projects in Vermont, expressed in the CEP, really isn’t balanced with comparable concerns over loss of forests elsewhere, particularly the millions of acres of forestland lost to inundation in Quebec and Labrador for Hydro Quebec projects.

The CEP makes mention of sources of renewable electricity other than solar, particularly noting the higher capacity factor associated with virtually all other renewables. It also points out the inherent challenges of relying heavily on an energy source that produces little electricity in the winter and none after the sun sets each day. It would seem to make sense that the CEP should more clearly recognize the value of other sources of renewable electricity, particularly wind, which doesn’t consume as much land as solar, is overall more productive throughout the day and year, and which is (arguably) less environmentally damaging than other options (hydro dams, biomass combustion,...), but which also presents some unique challenges regarding location and transmission constraints. The CEP could

explore the potential for greater in-state development of this resource, and what would need to be done to address, if not eliminate, those concerns.

Miscellaneous Notes: In a few places the CEP seems to brush over the actual “renewable” nature of liquid biofuels. Despite the fact that technology has improved the situation in recent years, many of these fuels (particularly ethanol) are characterized by large amounts of embedded fossil fuels thanks to the high energy costs of obtaining and processing the feedstock into a usable fuel. The CEP also seems to celebrate low-biofuel content products such as biodiesel blends without really assessing the long-term prospects for advancing to 100% (and sustainably produced) liquid biofuels. The biofuels discussion would be better balanced with a greater discussion of the use of woody biofuels for heating (expanding the discussion of advanced wood heating systems).

The CEP could dedicate a section to the importance of individual behavioral change. 200,000 households making small decisions that individually save 5 gallons of gasoline and 30 kWh of electricity every month are crucial – and, in aggregate, could have a huge impact on energy use in Vermont.

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