

November 4, 2011

2011 Comprehensive Energy Plan Comments  
C/o Edward Delhagen, Energy Program Specialist  
Department of Public Service  
112 State Street  
Montpelier, VT 05620-2601

Dear Mr. Delhagen,

VCE appreciates the opportunity to comment on the latest draft of the Comprehensive Energy Plan.

1) Graphics/Images –

Several of the icons/graphics being proposed for the sectors or areas of focus are confusing. The “thermal” graphic, for example, does not seem to clearly connote anything in particular. If “thermal” is connected to heating of buildings, that should be more obviously represented.

The “efficiency” graphic is connected to text that discusses all fuels, as it should, but the image is of a house merged with a light-bulb. This is counter to text message – a critical point, as VCE and many other organizations have been pushing for an “all fuels” efficiency utility. The current focus of Efficiency Vermont (EV) on electricity in general, and lightbulbs in particular, has been very successful, and does not need more publicity that “all fuels” does. The Plan can assist in supporting the push for efficiency in new areas by using graphics that highlight new areas of work for EV, perhaps with graphics that convey the concepts of “capture” or “savings” in a more general way, such as installation of solar hot water heating systems.

Two photos are also noteworthy. In the Foreword, the photo of turbines should either be home-sized or of the size that is currently being used in utility-scale developments – that is, 2 to 3 MW, as opposed to the much smaller turbines currently used in Searsburg. No one is using or deploying turbines that size right now.

On page 7, the visual is of a wind turbine. We would suggest using a solar panel/array instead.

2) Foreword by Governor Peter Shumlin

The reference to Hurricane Irene brings to mind Governor Shumlin’s comments at the Sheffield Wind ribbon cutting ceremony, where he linked the wind project’s ability to reduce CO2 emissions to Hurricane Irene as evidence that the storm was the result of climate change. VCE is not an organization made up of climate change doubters and we acknowledge we are experiencing weather extremes, but we also study history and note that Vermont has had major flooding events every 30 to 60 years throughout the 1700 and 1800’s. It could just as easily be argued that we were overdue for a major flooding event if one looks at the historical data. Vermont experienced major flooding events in 1770, 1830, 1869, 1913, 1927, as well as the hurricane of 1938. [source, “The Troubled Roar of the Waters” by Deborah Pickman Clifford &

Nicholas R. Clifford]. Historical evidence does not support a specific connection between climate change and Hurricane Irene's flooding of 2011.

Also at the Sheffield Wind ribbon cutting ceremony, Gov. Shumlin made reference to the need to address climate change (which he believes the wind project will do) to reduce the spread of invasive species. There is absolutely no question that the seven miles of new roads built on the mountain in Sheffield and the five miles of new roads being built on the mountain in Lowell will encourage the spread of invasive species into previously undeveloped lands. To eliminate the possibility, every piece of equipment brought onto the site should have been scrubbed, something that likely didn't happen. Even so, all the repeated trips by all kinds of vehicles onto the mountains for operations and maintenance mean that invasive species will be an ongoing and new problem on those mountains. Gov. Shumlin obviously means well but he needs an education in invasive species and their control. Utility-scale ridgeline wind projects in Vermont will increase the spread of invasive species, not reduce it.

3) Goals and Vermont-based Production – Specific Benefits Unclear and Undocumented  
The draft Plan is built around a goal of Vermont securing 90% of our energy needs from renewable sources by 2050, with the implication that a large by unspecified amount of that would come from in-state sources. However, the narrative of the draft provides little if any concrete justification or evidence to support this goal. There are vague references to job creation that will result from in-state generation, but no facts or figures to back up the claims. The justification for “safeguarding the environment” is that we should “lead by example” – but what will that “example” bring, in specific terms? How will the environment, specifically – air and water quality, land use and habitat – be saved or even improved if we achieve this goal, by that year? Why 90% – why not 85 or 100?

The discussion must include economics as well as resource protection. On page 4 of Volume 1, the draft states, “It is about creating knowledge and jobs – and building the underlying capacity to continue creating them.” How many jobs, at what cost? And how many of the jobs will be taken by Vermonters? Much of the construction and maintenance work on large-scale generation projects is done by specialized contractors that are based in other states and use specially trained staff. The Plan should outline the workforce training programs necessary to ensure that Vermonters can fill any jobs created.

Recent debates about the value of corporate tax incentives in generating jobs and business growth have documented that many of these programs produce very few jobs, and at very high costs to taxpayers. The final draft of the Plan should clearly demonstrate, using facts and figures, exactly what the benefits are – how many jobs there will actually be, what other specific benefits will result, and what the costs are.

Another example of unsubstantiated claims of benefits can be found in Volume 2, p. 12, where the draft Plan states:

“By relying on more local and renewable sources of energy, we not only improve our energy security and independence, and improve our economy by keeping energy dollars local, we also improve the factors that keep our working landscape viable, preserve our natural resources, and encourage development patterns and transportation systems that reduce our overall need for energy.”

Why does relying on local sources preserve natural resources and encourage development and transportation patterns that reduce the need for energy?

Why must the generation occur in-state, as opposed to regionally? Is it more secure (a term not defined) to have a long-term contract with an out-of-state company that is running a generation project in Vermont, as opposed to one that is based in New Hampshire or New York? If so, why? If we could effectively secure the electricity we need without using in-state resources, wouldn't that be an even better alternative?

For example, during the presentations at the public hearings, it was explained that \$1 in investment in efficiency programs yields over \$4 in returns. What is the figure for renewable generation? Vermonters need to see as much of that information as possible to help then choose between different sources, and for policy makers to be able to justify and defend the hard choices that need to be made.

We ask these questions not because we don't believe that there will be benefits from a shift away from a reliance on fossil fuels – obviously there will be, and we support the goal. But a serious discussion about getting to the goal has to include getting all the impacts and implications of the various options on the table. “Renewable” is not a monolithic, singular thing – there are many generation options that will claim that label. We have to know more about the implications of our possible choices before we make them. These implications – costs and benefits – should be more clearly spelled out in the final draft Plan.

#### 4) Longer-term goals, shorter-term developments

Given that the Plan's goal is almost 40 years away, it seems relevant to include a discussion of generation technology currently under development that might be available in 5, 10, or even 25 years, as well as relevant cost trends in developing generation projects.

Much of the draft report is presented in a static format, as though all the information we need for the next 40 years can be captured in a snapshot. An excellent example of this now-centric view is found in the discussion of costs of utility-scale wind generation – “New wind generation is the least expensive form of renewable energy electric generation to build in Vermont today.” (p. 137. Volume 2). This statement is questionable in its own right, but also ignores the very real trends in the industry that indicate that wind costs are rising due to reliance on steel, concrete and other components, while solar prices are coming down significantly. The economic realities in three years that will drive our decision making will be very different than those of today.

Trends in the industry that would impact cost-based analysis in future years should be prominently presented in the final Plan, and their implications should be discussed.

#### 5) Implications of 20 year capital investments

The large, utility-scale generation projects that are being considered in this plan (solar, wind, biomass, natural gas) are all multi-million dollar, 20 year capital investments. While there is no question that the growing threat of climate change requires significant, meaningful action, that urgency must be balanced with the fact that hasty decisions about projects of this scale could lead to regret and even more problems in the long run.

As is stated on page 76 of Volume 2:

There is, however, an excess of supply in our regional market at this time. Vermont remains tied to the regional power pool, so Vermonters will have access to the vast resources inside New England and neighboring areas through the wholesale markets.

If this is the case, wouldn't that temper the need to push for immediate increases in generation, increases that involve very large, long-term capital investments? We believe the answer to that question is "yes". For example, a few more years of study can resolve significant questions about appropriate levels of logging and the sustainability of biomass plants, both large and small. Changes in the price of solar in the coming years could chance the economics of large-scale solar generation, if current trends continue (see comment #3, above). Reliability of wind turbines on ridgelines is completely unknown but evidence from other countries indicates the technology has numerous problems requiring frequent maintenance and replacement parts, and overall the wind turbines last 10 to 15 years at best. We have embarked on an experiment with unknown consequences which the plan does not consider.

While time is of the essence, rushing to grab for solutions that may prove to be false "cures" in the end will not serve our state, or our environment, well.

#### 6) Consider Emissions goals, not Generation goals

As we have learned more about energy policy and the various tools that are available to government to impact development and behaviors, VCE has reached the conclusion that our goals should be focused on a reduction in greenhouse gas (GHG) emissions rather than production percentages. Attaining a certain percentage of generation from renewable sources may or may not correlate to a reduction in GHG.

Large investments in measures that are strongly advocated by particular interests, but which don't have strong GHG reduction potential, or which are not cost effective on a dollars per ton of GHG avoided at the present time, will not only fail to achieve the needed emission reductions, but will actually hamper progress overall, given that there will definitely be finite funds available for investment relative to the total cost.

The best way, and probably the only way, to ensure that the most cost effective measures occur, and are undertaken to an appropriate degree, is to offer financing and incentives based on a dollars per ton of avoided emissions basis.

A sensible approach would be for Vermont to begin by offering incentives worth \$10/ton of avoided emissions, monitor the results, and adjust the incentive level as needed. In practice, this would require that the emissions reduction potential of energy efficiency and renewable energy measures be evaluated, and for incentives and financing packages to be offered accordingly. But making such estimates is actually easy to accomplish, and is already being done routinely by Efficiency Vermont and other entities.

By focusing on GHG, we would naturally target the largest emitters of GHG first. That is the most effective, direct way to prioritize our actions.

7) “Community involvement” and “outreach”

The draft Plan contains multiple references to increases in “community involvement”, but does not get into specifics. To be fully involved and invested not only in the Plan and its goals but also in the “solutions” in their towns, community members need to have a voice in project development and permitting. The “path to 90%” should not run over communities and citizens, but be built with their active involvement, guidance, and input.

The “leverage point” (page 4, Volume 1) should not be “public outreach” or “education” – that is, informing people – but “public engagement” – that is, empowering people. We don’t need more fliers announcing hearings, or public officials standing in front of groups telling them about a proposed project and why it is so great. We need decision-making processes that don’t start at “yes” and go backwards but work collaboratively with communities from the start of the planning and permitting processes, even if that means the result for a particular project is “no”.

In the same section, the Plan states that, “if we make a regulatory change ... without supportive public outreach, we are unlikely to achieve the goal we had in mind.” Who is the “we” here, and whose “mind” is controlling the dialogue and the goal-setting? If the policy-makers come before the public with “their” “mind” already made up, then there will inherently be conflict and tension. The “we” must be inclusive, and what ends up being “in mind” should result from discussions that include a wide variety of options. This does not mean that “the people” control the process. But you can’t expect them to be happy, or feel represented, if they are presented with ideas that are essentially fully-formed and only then are they asked for their input.

8) Petitioner-funded mandatory mediation, stakeholder engagement

VCE has long-supported proposals for Intervenor Funding, which rely on funds put in escrow by the developer (“petitioner”) to support the legal and technical costs of municipal entities and citizens in the Section 248 process.

However, VCE does not support mandatory mediation. Mediation does not require engagement by all parties, or between them – it often consists of “shuttle diplomacy” by the mediator who seeks to hammer out a deal. Mediation has its role in some disputes, but in the context of large, contested cases, we oppose using mediation. Instead, we support using collaborative community-based stakeholder processes that require stakeholders to sit in the same room together and engage in a process of choosing experts in which all sides have some level of trust. Stakeholder processes build trust, create relationships, strengthen communities that might otherwise be divided, and result in better projects that communities will support. Overall costs for developers are reduced, and the potential for lengthy post-permitting litigation are greatly reduced.

To this end, the list of ways to incorporate “broad involvement” of Vermonters (Vol. 1, p. 4) should specifically include stakeholder engagement.

9) “Innovation” = mapping?

We suggest that the “Innovation and Expertise” section, which begins on page 8 of Part 1, is inaccurately titled. The activities discussed are not about innovation, but rather about mapping. It is certainly a very good idea to overlay existing data sets, but there is nothing inherently unique or innovative about combining data sources to provide one presentation.

The section also implies (and even argues) that conflicts that have arisen in the past regarding impacts from generation projects are about bad communication – that is, someone not knowing what is there. In fact, many of these conflicts have occurred because of a decision that the impacts that will be imposed on the landscape by the proposed projects are acceptable. We find the perspective embodied by this section to be fundamentally backwards. It is the new things being brought to the land – the generation project, the impacts from stormwater runoff, proposed harvesting of timber, etc. – not what already exists that will cause problems. We need to do a better job of understanding, preventing and remediating those impacts, not just draw more maps showing what we already know.

#### 10) Natural gas – Environmental impacts

The draft Plan has a heavy reliance on the use of natural gas, including potential new gas-fired plants, expansion of the pipeline, etc. However, the first section of the Plan does not mention the various negative impacts from extracting and transporting gas – fracking impacts on water and wastewater, air pollution around wells, and pipeline safety, for example. For this and other energy sources, full life cycle costs must be taken into account.

Whether the production is in-state, close by (upstate NY), or far away (Alberta), we believe that a discussion of the negative impacts of this particular source is necessary to help Vermonters make informed choices about just how much they want to rely on it in the future. These impacts were noted in passing in the public presentation, but should be fully explored in the final Plan. One such discussion can be found here: <http://www.scholarsandrogues.com/2011/10/26/will-fracking-save-the-world/>

#### 10) Smart grid – Opt out for meters

VCE is working with Department staff and utilities on crafting opt-out policies for Vermonters who may, for whatever reason, not want to have a wireless smart meter installed at their home or business. We remain concerned that not enough Vermonters will be aware of their options regarding opt out, and see the Plan as a good opportunity to educate the public and raise awareness.

On page 11 of Volume 1, there is a vague reference to “protection”, but no specifics are given – “state regulators are also working to ensure that consumer protection rules are in place when meters are deployed, so that privacy and other concerns are addressed proactively.” Likewise, page 74 of Volume 2 contains a reference to the ongoing PSB investigation – “The Public Service Board has opened a docket to address a number of AMI-related topics, including consumers’ privacy with respect to AMI data.” – but fails to mention the other key issues driving the discussion, security and health impacts from RF radiation from wireless meters. The phrase “opt out” appears to not be used in either document. The possibility (or in the case of CVPS, reality) of an opt out program is not mentioned.

These are critical oversights, and we hope that they will be corrected in the final draft. We request that specific references to opt out policies and costs be added to these sections.

#### 11) Energy Efficiency programs

The discussion of these programs (Vol. 1, pp. 5-7) and of strategies for efficiency and conservation does not mention the role Regional Planning Commissions have played in the use

of ARRA stimulus funds for efficiency and conservation, especially of municipally owned buildings. The Commissions role has been significant, and should be recognized.

Much of the strategy is based on existing programs that in our experience are not working as well as they could. Reliance on volunteer town energy committees cannot replace funded positions. The Rutland NeighborWorks program is a model worth looking at, as it has a paid outreach coordinator.

The measurement of progress and tracking of results is all well and good, but it does not outline a way to do it. One possibility is to utilizing the GIS mapping capabilities of RPCs, and track the structures that have been weatherized on a town by town basis. Done statewide, this could be a powerful tool to measure progress, and be a way of tracking and coordinating all the various weatherization programs so they all go into the RPC databases.

The innovation and expertise section also does not offer any specifics. For instance, fuel dealers could move into solar hot water installations and save enormous amounts of fossil fuels. The financing section also does not mention possibilities for financing of renewable installations like PV and Solar hot water heating systems, and the potential for utilities, VSECU, and other credit unions to support investment in renewables. It is the big up front costs that are a deterrent to these technologies. If they can be financed as easily as a snowmobile or ATV, people will do it. The reference to a utility on-bill payment is discriminatory against people who are not utility customers. Efficiency Vermont's programs are only available to utility customers and if this is expanded to all-fuels, it is even more discriminatory.

## 12) Biomass and Biofuels

The section in Volume 1 on biomass and biofuels section contains what might be called irrational exuberance without much substance. Yes, we want to use our forests for energy, but beyond that the plan is a little too much of a cheerleader without acknowledging the potential downsides such as increased air pollution from electric generation, damage to forests from whole tree harvesting, and the overall question of our forests' capacity. The goal of the plan, if implemented, could result in massive degradation of air quality and forest health.

## 13) Transforming Transportation, Fostering Smart Land Use

This section in Volume 1 has as primary components more Park and Rides, and a transition to electric vehicles. Park and Rides seems to be a very effective way to encourage car-pooling, and the expansion of those areas is an excellent tool. The transition to electric vehicles is laudable as a goal, and called out as a lynchpin of the plan. But what happens if: 1) the cost of electric vehicles remains high; 2) the cost of batteries remains high; 3) the battery life does not match the life of the vehicle; or, 4) consumers do not accept the technology because of fears or because it is not affordable? The plan needs to be realistic and should include some qualifiers.

Surprisingly absent from this section of Volume I of the Plan is a discussion about mass transit, such as the potential for the western rail corridor to serve as a commuter line from Bennington to Burlington and back, and/or as part of the Amtrak system that could also be useful for in-state transportation to reduce Vehicle Miles Traveled. The bus networks need to be better aligned so their schedules match up. There are many initiatives and possibilities to get people out of their cars and onto trains and buses that would benefit from a mention in Volume 1 of the Plan.

#### 14) Natural Gas (Heating Our Homes and Businesses)

This section seems to conflict with the Plan's overall goal of getting off fossil fuels, but it is based on a reality that may be difficult for some Vermonters to swallow. It should be noted that previous attempts to construct natural gas pipelines in Vermont, in 1988 and again in 1998, met with strenuous opposition from the public. The section of the Plan that calls for a robust public engagement process for the system expansion would be more complete if it referred to previous failed attempts, and the need to do a better public engagement process because of historical failures.

The notion of constructing a gas turbine electric plant seems to be thrown in at the end, and as part of the expansion plan. Since Vermont's largest load is in Chittenden County, the Plan would benefit from a discussion about the best location for a new gas power plant. Does it depend on an expansion of the existing system? The way the Plan is laid out, it seems to be part of that. What about building a new gas plant closest to the largest users, and where the gas already exists?

#### 15) Strategy for Electricity and Renewable Energy

This section, beginning on page 7, spells out the premise of the Plan, which is to replace all petroleum-based fuels with renewable fuels, trading "volatile, high-cost, and environmentally harmful petroleum-based fuels with renewable electricity." Though not spelled out specifically in this section, this premise is based on the assumption that we have reached a place in history where oil reserves will rapidly diminish and the costs will continue to rise.

However, the Plan does not address what happens if Peak Oil does not occur. Recent news stories

[http://online.wsj.com/article/SB10001424052970203658804576637392455424656.html?mod=googlenews\\_wsj](http://online.wsj.com/article/SB10001424052970203658804576637392455424656.html?mod=googlenews_wsj)

<http://www.npr.org/2011/09/25/140784004/new-boom-reshapes-oil-world-rocks-north-dakota>, give reason to consider that fracking for oil will be a "game changer", just as fracking has been for natural gas. One premise of this Plan is based on the rising cost of oil, which is based on diminishing reserves. If that doesn't happen, if oil does not increase in cost or diminish in quantity, and if domestic reserves increase, what happens to the assumptions in this Plan?

The Plan should acknowledge other possibilities going forward. Additionally, the Plan is premised on the need to eliminate the use of fossil fuels to address climate change. While that is a laudable goal, the marketplace is still encouraging mountain top removal, fracking for oil and natural gas, deep water drilling for oil, tar sands oil, and seemingly-endless extraction of fossil fuels. Without a carbon tax on a national level, or cap and reward system or some program that factors in the actual costs to the environment of fossil fuel consumption, there seems to be no realistic reason to believe that the nation is planning to get off fossil fuels any time soon.

Vermont can lead, but the leadership needs to be based on the real world, and if this Plan is put into action and the assumptions of expensive, depleted oil do not pan out, Vermont could find itself with extremely expensive energy while making virtually no difference nationally in efforts to address global warming. By not taking those possibilities into consideration, this Plan does a

disservice to Vermonters. There is a path laid out, but there are other paths we could take, and those should at least be identified.

Another possibility in terms of electricity is that for a variety of reasons, Vermonters may choose to disconnect from the electric grid. This may occur because people do not want wireless smart meters on their homes, or because the cost of photovoltaics becomes affordable, or because they do not want to do business with Gaz-Metro, or a combination of reasons. Communities could choose to establish a micro-grid that is disconnected from the VELCO grid. From a technology perspective, this is already possible. A town center could have some community solar orchards, a few medium-sized wind turbines, and power their entire community. This is the vision many Vermonters have, and the Plan does not reflect it well.

#### 16) Regulatory Policies and Structures

This section (p. 7) says, without saying it, that Vermont plans to rely on large wind facilities to meet renewable energy goals. There are references to mandatory mediation (addressed elsewhere in our comments) and “sometimes controversial in-state generation projects” which are obviously intended primarily for large wind and perhaps biomass projects.

By failing to call out the controversies explicitly, the public is left with business as usual, with some minor modifications. If this new energy paradigm is to succeed, it must be accompanied by a new process for deploying technologies being pushed by largely out-of-state and international developers that may be found to be inappropriate for Vermont. Vermonters are begging for a model that is inclusive of our communities, that does not divide them, but serves our needs rather than the needs of foreign corporations and utilities. This Plan fails to recognize that if it is enacted as written, we will likely see more communities divided, at great expense financially and socially, for decades to come.

The Innovation and Expertise section must include our human population, not just wildlife and natural resources, but innovation in public processes, expertise in facilitation and community building. Otherwise we will lose Vermont as we know it, not just the landscape, pure water and unfragmented wildlife habitat, but also our rare and critical sense of community that exists in very few places in the U.S. For instance, where is the mapping program that identifies people living in the sacrifice zone of big wind turbines?

The Finance and Funding section mentions solar hot water, which belongs in the efficiency section. PACE will work if it is a statewide program, otherwise towns with dysfunctional governments (and there are many) will not have the benefit that more progressive towns have. The town PACE system is discriminatory. CEDF must build some credibility. The last funding round was disastrous from a public trust perspective, with a Board member receiving millions of dollars in benefits, and with a lottery system that placed no priorities on good or bad projects. Green Zones are a good idea, and perhaps should be accompanied by Wind Free Zones so that people who do not want to or cannot live near wind turbines can choose to live in an area that will not be faced with that technology. The helter skelter, hit or miss nature of wind energy development is creating enormous stress in the areas targeted by wind developers.

### 17) Transmission and Regional Market Strategies

This section (pp. 9-10) neglects one of our greatest and growing resources, the potential for photovoltaics to reduce load on the regional grid. This is going to happen, it's just a question of when solar panels are sold at Wal-Mart and become widely affordable, either by price reductions or improved financing options or both. The regional grid is important, but its growth is likely to diminish as individuals and businesses respond to markets and invest in their own generation, used when and where it is produced. This is inevitable. Reliability of the grid declines as the grid grows and becomes more interconnected. PV systems are ultimately reliable – all that is lacking for people to disconnect entirely is a technological solution like the Bloom Box fuel cell or improved batteries for the 10% of the year that is cloudy.

The transmission section says Vermont should support development of transmission projects capable of bringing renewable energy from its source to market throughout the region, but does not discuss the cost of such a strategy. Transmission costs for renewable energy deployment in New England are expected to double the cost of renewables, something that needs to be discussed because it is a huge number, in addition to the billions of dollars being spent on reliability.

ISO-NE needs to regionalize not only new transmission, but also new generation as the Plan calls for, and in addition efficiency and conservation. The Plan should advocate for an expansion of regionalizing not just generation, but must include efficiency and conservation.

### 18) Implementation

This administration seems comfortable with a top-down approach, with implementation being dictated from above. That is not necessarily what the Plan suggests, nor what is reflected by language such as “all Vermonters will help determine the success of the plan,” but is how this administration appears to be operating. If this continues, we are very concerned about the impact on our communities and on individual rights. If current trends continue, forcing new pipelines, transmission lines, and electric generating plants into our communities seems to be what is likely ahead, rather than identifying community-based solutions.

### 19) Volume 2 – Various Subjects

p. 15. 1.3.5. Energy and Human Health. Should mention health problems associated with big wind turbines.

p. 16 PHIA's should be conducted for Sheffield and surrounding communities and for Lowell and Georgia Mountain and surrounding communities to address wind turbine noise and health.

1.3.8. The deliberative polling process gave inaccurate or insufficient information especially about wind energy. It is still being used 4 or 5 years after the fact to promote utility scale wind (GMP repeats the poll outcome in every press release), but the information that was provided to participants ignored impacts to water quality and downplayed impacts to habitat. The value of the poll should be minimized, and it should be noted that technologies have changed since the poll was done, and Vermonters now know more about the impacts specific to ridgeline development.

p. 82. 3.3.2.3. The plan seems to want to ignore a discussion about big wind energy impacts while at the same time relying heavily on a major build-out of large wind turbines to meet the RPS and renewable electricity and transportation goals. An example is in this section, where there is a list of questions. The deficiency throughout the plan is especially noticeable in this section where a solar farm is mentioned as having an effect on an historic town center and tourism, but neglects a similar question about wind turbines which are far more problematic for historic and tourist resources. Add in a question, “How do big wind turbines on ridges impact tourism and second home markets?”

pp. 127-134. Solar: PV. This section should be expanded to include a discussion of micro-grids and the ability of communities to produce locally distributed electricity and disconnect from the grid. A Recommendation should be added to develop siting standards that respect Vermont’s aesthetics.

p. 134, 3.3.2.8.4. Wind Energy. The Plan refers to projects currently proposed or under construction, and says they have a combined capacity of 166.5MW or 7% of Vermont’s total electric portfolio. Exhibit 3-30 lists those projects, and the total Project Capacity adds up to 162.5MW (not sure where the other 4 MW comes from). However, the Plan neglects to acknowledge that it is using nameplate capacity rather than output. There is no question that wind turbines located on Vermont’s ridgelines will not produce anywhere near the nameplate capacity, but will produce at most approximately 1/3, or 55.5MW. That is not 7% of Vermont’s total electric portfolio. We trust that the Plan will be very upfront about the difference between nameplate and realistic output. Assuming a 33% capacity factor is generous, and likely will not be achieved, but it is more accurate that the information presented in the Plan.

p. 136-7 – “In-state” generation

Given the comment in the draft Plan that Deerfield and Sheffield Wind might sell some of their power out of state, how can the Department count all the production from those projects as in-state? This leads to other questions about possible future development of generation projects – what assurances are there that electricity generated by projects located in Vermont will be sold to Vermont utilities? If Vermont becomes a host and nothing more, what benefits are there for us?

p. 137 – Lists concerns about wind energy development

The list neglects noise and human health concerns, impacts on wildlife, impacts on water resources, impacts on neighboring property values, appropriate setbacks, all of which are major concerns for Vermonters. Please add them to this list.

The Plan makes the statement that once installed, “operating costs are relatively low.” That is not our understanding, especially for ridgeline wind projects in cold climates. O&M costs are rising dramatically, and the Clipper turbines used in Sheffield are especially problematic in Cohocton and Lackawanna, NY, with frequent need to replace gearboxes, repair blades, requiring constant maintenance and rebuilding. The Vestas turbines chosen by GMP for the Lowell wind project are new and essentially they are experimental. Nobody knows what their performance will be high up on a cold mountain.

The Plan’s reference to GMP’s Searsburg’s capacity factor notes that it apparently improved from 23.4% to 30.6%. However, GMP has admitted that it eliminated one broken turbine (which collapsed in 2008) from its calculations, so those numbers are skewed and are not based on 11

turbines. You can't just reduce the number to 10 to calculate the annual capacity factor. Please carefully examine and revise, as necessary, the numbers provided to ensure they accurately portray the facility's production.

Costs and "today": The Plan asserts that, "New wind generation is the least expensive form of renewable energy electric generation to build in Vermont today." We believe this statement to be incorrect, and hope that others with expertise in the area will provide comments to the Department that explain why. The statement will certainly not be true in a relatively short period of time, given the timeframe of the Plan and goal-setting that is almost 40 years out. In fact, the costs of any generation option today are only marginally relevant to a planning process that extends over such a long time period.

p. 138. Language on this page indicates that during Vermont's winter when sunlight is diminished, average wind speeds measure at an annual high. Do you have some statistics to back that up? Vermont experiences cloudy months primarily November through January. But our coldest months also coincide with many bright, clear blue sky days where the sun shines and produces electricity from PV arrays.

Reduced Emissions: The claim of reduced GHG emissions is one that Vermonters who are educated about wind energy cannot find studies to support. Are the life cycle costs of constructing the turbines taken into consideration? How many gallons of fossil fuels went into the development of the Sheffield project, and the Lowell project where the project sites are loaded with diesel-fueled heavy machinery spewing tons of carbon into the air? The picture created by wind energy development in Vermont is giving renewable energy a bad name, leaving a bad impression in many Vermonters' minds.

As we have stated numerous times in many different format and forums, we are still awaiting scientific evidence that generation from utility-scale wind results in reduced GHG emissions. The draft Plan provides no basis for the calculations presented. Please provide more detail to explain the basis for the assumptions in the Plan.

RECs: We appreciate the discussion about RECs presented. However, to be completely accurate, the description should also state that not only do those who buy the RECs gain the credit, the sellers lose the credit. This fact has not been made clear to Vermonters over the years, and the Plan provides an opportunity to clarify exactly how the REC process works. We also hope the Plan will support changes to ensure that Vermont utilities cannot claim a "green" label for projects where the RECs have been sold.

Revenue and job claims must be offset by losses to neighboring landowners, whose businesses and properties may not maintain value. Several businesses located next to one wind project that is under development depend on a wilderness experience that will no longer exist. Visitors to Crystal Lake in Barton are reported to uniformly "hate" the Sheffield wind turbines. How many years does a property have to be on the market without selling before there is evidence that wind turbines destroy property values? This section must include an honest discussion about not just the potential benefits but also the very real damages that can result from wind energy development on ridges. Based on our visits to wind projects in the Northeast, the formula for long-term jobs is one full-time job per ten turbines. With Sheffield and Lowell, 16 + 21 turbines

= 37 turbines, or about four full-time jobs for Vermonters. Wind energy is not a job creator. More likely it is a job destroyer.

p. 139. Aesthetics. The PSB has abandoned Vermont's aesthetics. We have heard numerous reports about the night lighting of the Sheffield turbines. People are seriously upset about it, even people who thought they were pro-wind. We can learn from what is built already, but we are concerned that this administration is totally focused on building more wind energy without taking a thoughtful look at existing projects and evaluating the impacts they are having on the area's economy and communities.

p. 140 – in-house experts for aesthetics

Every single consultant used by developers and the DPS for utility-scale wind projects considered by the PSB has been challenged by citizens as unqualified, biased, or both. If DPS pursues this path, or the “longer-term contractual relationship” option mentioned, please consider starting your recruitment process by establishing how such an individual will secure the trust and respect of the communities involved. The “usual suspects” will not get the job done, and will only lead to more conflict (and expenses for neighbors and “host” communities).

p. 140 – Environment

The list of impacts in this section is incomplete. Please add the following:

- stormwater runoff during construction and operation
- disruption of headwater streams and wetlands
- disruption of surface and groundwater flows

Also, we would suggest that impact from noise and flicker, except for any impacts to animals and the natural environment, should be addressed in a separate section.

The plan states that “all of the impacts are carefully assessed during the CPG process.”

Unfortunately that is not a true statement. Based on our experiences, the PSB listens only to developers' experts, and ignores the expert witness testimony provided by interveners. There is a solid track record of the PSB's bias, to the point that in every case where projects have been approved, many of the communities, towns, groups who intervened say “it was as though we weren't even there.” The environmental and public health issues are extraordinarily serious, and are being swept under the rug by the PSB. We have the worst setbacks from property lines in the country, noise standards that are at a level where harm is known to occur to human health, mitigation for bats that is nowhere near as protective as it could be, and extraordinary damage is occurring to wildlife habitat and water resources.

p. 141 3.3.2.8.4.9 This section minimizes the very real issues associated with integrating wind energy into the regional grid.

pp. 142-143. 3.3.2.8.4.10 This section ignores the growing opposition to wind energy development throughout New England. The Department of Energy has funded two workshops this year that we attended and participated in. Both workshops were intended to assist wind developers in doing a better job of engaging with the public, because DOE recognizes that they are disrupting and dividing communities and if they continue the way they are operating, the goals for wind energy development in the region will not be met. We see no evidence that wind energy developers are changing how they do business as a result of the workshops. It is

therefore not clear that wind energy will be a growing resource in the regional market, as the Plan states on p. 143.

p. 145. Recommendation 5. We strongly disagree with the recommendation that ANR should rescind its wind project moratorium on public lands.

p. 147. 3.3.2.8.5.1. Natural Gas Electric Generation. The Plan suggests constructing small or midsized natural gas electric generation plants strategically located to enhance system reliability and help defer transmission upgrades, but does not say what those possible locations might be. Previous Plans suggested Rutland as a possible location for a baseload plant. Is there a reason why specific locations are not mentioned?

While natural gas does produce lower emissions than coal or oil burning plants, in the 1998 effort to construct two natural gas plants in southwestern Vermont, the developers sought a waiver of the NOx offset provision of the Clean Air Act. The Plan would benefit from a discussion about whether the size plant(s) being proposed would require a similar waiver, and also a general discussion would be helpful about how a new natural gas plant would fit into the region's air quality requirements.

p. 148. It is not clear why Recommendation (2) is in the Electric Supply and Demand section. That seems to imply that a new natural gas plant should be sited in an area that is currently not served by natural gas. As with the comment above, it would be helpful to see a discussion about the specific areas that meet the criteria identified, such as to enhance system reliability, defer transmission upgrades, or as an anchor to enable expansion. The vagueness of the plan leaves it all up in the air, while it is quite likely that the knowledge exists to identify specific locations in Vermont that would benefit from a new natural gas peaker plant.

pp. 157-159 3.3.2.9.2. Interconnection Standards. This section should include a discussion about Micro-Grids.

p. 160. SPEED and RPS. Does the discussion that says “utilities are on pace to add a total of 17% new renewable energy by 2013” allow utilities to get credit for nameplate capacity of wind projects, as opposed to the actual output? An example from recent news stories: Sheffield Wind came on-line, with a nameplate capacity of 40 MW. Burlington Electric Department said in news stories that it was purchasing 16 MW of the output. However, the capacity factor of the Sheffield Wind project will be roughly 1/3 the total output, or about 13MW, so there is no way that BED can purchase 16 MW. The actual output of the wind plants needs to be used, not the nameplate capacity.

p. 162 The paragraph that begins, “Finally, based on comments received in preparation of the plan, we believe there is strong interest in community-scale projects...” is offered almost as a footnote. This section should be greatly expanded because it reflects what we have been hearing Vermonters call for over the last decade. The Plan neglects this aspect of our renewable energy potential in favor of utility-based, large-grid renewable energy deployment. We recommend enlarging this section to discuss the specifics of technologies and interconnections (like Micro-Grids) that could empower communities throughout Vermont. This should be the meat of the electricity Plan, rather than the vague but evident desire to meet the renewable energy goals with many utility scale wind projects.

As John Farrell writes on page 46 of his piece, "Democratizing the Electricity System, A Vision for the 21st Century Grid" (full text included with the submission of these comments):

The technical barriers to the transformation are surmountable. In the short run, much more distributed generation can be added to the existing grid system without substantial difficulty. In the long run, new technical expertise and cheaper energy storage will transform the static, centralized grid into a dynamic and primarily decentralized renewable energy system.

While the transformation is a technical one, the largest barriers are political. From the federal to the state to the local level, policies shield the legacy electric grid from a democratic transformation. New policies are needed to level the playing field for local, distributed generators. Rules are needed to change the historic paradigm of a few large-scale, fossil fuel power plants supplying a grid connected by long-distance transmission lines. Rules are also needed to prevent regulators from forcing the same paradigm on inherently distributed renewable energy production. These rule changes range from ending perverse and unnecessary incentives for new high-voltage transmission lines to transforming federal incentives to cash and production-based payments to tearing down interconnection barriers to the democratization of the grid.

The need for new rules is ultimately driven by the need for a new energy model. If new wind and solar power plants are built in the outdated, centralized model with significant new infrastructure, it will preclude local ownership and the spreading of economic benefits. Without these local benefits, the centralized strategy generates more resistance than a distributed system, a bane in both politics and electricity systems.

The urgency of action on global climate change only magnifies the disadvantages of pursuing a centralized model of renewable energy development. Community-based and distributed renewable energy production builds a political constituency to support the expansion of renewable energy and the retirement of fossil fueled generation, helping step away from a carbon-based electricity system...

p. 170. Reference to improving the CEDF's website reminds us to point out that the PSB website is very poor. It has gone through several iterations in the last six years, such that if one wants to follow the dockets for all five wind projects that the PSB has considered, it requires going to three separate URLs. Once there, the information is woefully inadequate. Initial filings are generally posted, but the complete record does not exist for any of the wind energy cases. While this doesn't specifically fit into anything written in the Plan, we recommend that the Plan include a recommendation to put some resources into making the PSB website work.

p. 171. 3.3.2.9.6. Regulatory System – Recommended Improvements. We support revising the regulatory system to improve the ability of the public to participate effectively. The PSB process favors developers and utilities who have seemingly-unlimited resources, often supported by Federal grants or other incentives that place an enormous burden on towns and people who have interests affected.

We disagree with the Department's opinion that Intervenor Funding will increase the intensity and duration of litigation. We recommend a carrot and stick approach, whereby a developer can

either choose to participate in a developer-funded community-based stakeholder process, or, if the developer decides not to do so, then the developer should be required to put up Intervenor Funding so that communities and people with particularized interests can participate without the enormous stress involved in the current process. As stated earlier, we object to the proposal to require mediation. If mediation is used, we recommend changing the Plan language to say that “Applicant funding of mediation should be required.” If the applicant isn’t paying for it, who is?

Overall, the attitude expressed in this section is that “the PSB is handling it”. As VCE has expressed in the past to Department staff and leadership, citizens and “host” communities have found the PSB process to be cumbersome, opaque, unresponsive, expensive, and legalistic. The decisions handed down show little if any understanding or consideration of the issues brought before the Board by any parties other than the regulated community and regulators. Outside voices seem unwelcomed and ignored. Citizens have lost faith in the Board and the process. This is not about being disappointed or frustrated in “not getting our way” – it is a reaction to a process and an entity that routinely short-circuits due process and seems to be happy to operate on the schedule and the priorities stated by developers. The PSB is, indeed, “handling” things. That’s how citizens feel – “handled”. See here <http://vtdigger.org/2011/11/02/smith-state-regulators-remain-deaf-to-wind-energy-concerns/> for specific examples.

We appreciate the suggestion that RPCs and town energy committees should develop and approve specific energy siting policies that the PSB can consider, but since the PSB can also ignore those plans, we suggest that the recommendation should be to require the PSB to find that specific regional and town plan language should be binding. Also, please note that town energy committees currently do not play a role in the creation of town plans, and so the section should be revised to note that RPCs and town planning commissions should work on specific siting language.

p. 176. Thermal Energy. There is reference to a possible imposition of a renewable fuels standard (RFS) but no context. By whom? State? Federal?

p. 296. Typo – “trail” should be “rail”.

Thank you for the opportunity to comment on the latest draft Plan. We look forward to future conversations with Department staff about these important issues in the coming months.

Sincerely,



Annette Smith  
Executive Director