

VPIRG Comprehensive Energy Plan comments

November 4, 2011

In a time when elected officials around the country seem interested in seeing how little government can do to make the world a better place rather than how much, it's refreshing to see the ambitious vision set forth in the draft Comprehensive Energy Plan. The overall goal of 90% of Vermont's total energy coming from renewable sources by 2050 is exactly the kind of ambitious vision that our state, our country and our world need right now. While we believe there are both major and minor areas that need improvement, the CEP lays out the beginnings of a solid plan to reach that 90%.

Below, we lay out areas in which we want to commend the Department on its vision and the direction the Plan proposes taking the state, as well as the areas that need to be strengthened and directions we believe we should not go as a state.

Areas of the Plan that move our state in the right direction

Of the areas highlighted below, the five that rise to the top as especially important or key to setting our state on a path to 90% renewable energy by 2050 are the state's explicit goal of leading the nation; the recommendation that the state implement a real Renewable Portfolio Standard, requiring utilities to retire RECs; the recommendations to make going solar easier for Vermonters; the heating efficiency task force and funding recommendations; and the identification of preparing Vermont for EVs as a priority.

- **Vermont leadership identified as an explicit goal (p1):** On page one of Volume 2, the Department states the Plan is intended to "help lead Vermont, the region, and the nation into a sustainable, affordable renewable energy future." The fact that the Administration is explicitly setting Vermont achieving its leadership potential on renewable energy as a goal of the Energy Plan is incredibly encouraging.
- **Recommendation of a Renewable Portfolio Standard for Vermont (p161):** Choosing a real RPS over an expanded SPEED program will drastically cut the state's contribution to global warming¹ and eliminate the double counting of renewable generation capacity under contract by Vermont utilities. An RPS that also takes the best parts of the SPEED program, such as the long-term contract requirements that provide renewable developers with the kind of predictability they need, will provide a foundation upon which to build other innovative renewable electric programs.
- **The Department's recommendations around solar (see page numbers below):** These recommendations, in particular for residential systems, exemplify exactly the kind of creative thinking we need to see from state government if we're going to develop the kind of renewable energy future Vermonters want and Vermont needs. Facilitating renewable energy development and then getting out of the way and letting renewables happen is not only likely to

¹ Clean Energy States Alliance; Sustainable Energy Advantage. (2011). *Analysis of Renewable Energy Policy*.

prove a low-cost way to accelerate renewable energy development; it's also a common sense strategy that is largely untried nationally and could prove a potent example for other states.

- **Solar residential recommendations 2, 4, 8 (pp 131-32), commercial recommendation 4 (p 133):** Implementing ideas such as the Department's suggested statewide LiDAR mapping, on-bill payment for renewable energy installation and establishment of new solar-ready building standards will make possible more rapid deployment of distributed solar generation, a goal that VPIRG and the Department share. Doing so would also put Vermont in a leadership position – statewide on-bill payment of this type has, as of this summer, been passed only in New York State.²
- **Solar residential recommendations 1, 3, 7 (pp 131-32), net metering recommendations 1, 3 (p157):** All of these recommendations (moving net metering to Web-based permitting, extending the solar registration cap to 10 kW, lifting the 4% net metering cap for solar on residences and investigating extending registration beyond solar) would make adopting solar and other renewables easier for Vermonters. Buying a new car takes minutes to hours, from visiting the showroom to driving away from the dealership; getting solar installed on your home takes weeks or months. While streamlining government's role in the process of installing small-scale renewable energy is only one aspect of reducing the time and effort it takes to build those renewables, it's an important and simple one to deal with.
- **Building energy task force (p197) and funding source (p191) recommendations:** The recommendations to “identify a stable resource of funds...sufficient to develop a statewide comprehensive thermal efficiency program” and “create a task force to develop a detailed plan for facilitating a simple, integrated, and comprehensive statewide whole-building approach to thermal energy efficiency,” are spot on. Building energy efficiency, as the Department details, is a nut we as a state haven't cracked yet. A similar approach resulted in the creation of the now world-renowned (and incredibly effective) Efficiency Vermont, and we're excited to see the Department taking the challenge of thermal efficiency so seriously. We see building thermal efficiency as both an opportunity and a challenge that needs to be addressed sooner rather than later, for both Vermont's economy and the environment, but it's worth taking the time to get it right and we believe the path the Department lays out has the potential to do that.
- **Incorporating PEVs into utilities' Integrated Resource Plans (p84):** Electric vehicles are our society's best shot at getting off of oil and drastically slashing our transportation sector's global warming pollution. Electrifying Vermont's transportation sector will also save Vermonters hundreds of millions of dollars annually because electric motors are more efficient than internal combustion engines. We do, however, have to prepare for PEVs' large-scale adoption. Implementing a strong RPS is one important way to lay the groundwork for PEVs. The Department identifies another significant area for that preparation – integrating planning for PEVs into the IRPs Vermont utilities have to file with the Public Service Board. PEVs will increase the load on the electric grid and could potentially shift usage patterns as well. We believe the

² Tsui, B. (2009, July). *Greening With Envy*. Retrieved November 4, 2011, from theatlantic.com: <http://www.theatlantic.com/magazine/archive/2009/07/greening-with-envy/7498/>

Department has identified an important step the state can take to make sure Vermont is ready for rapid adoption of PEVs in the coming years. VPIRG has a number of other thoughts on steps necessary for that preparation – see “Funding for incentives for PEV adoption, exempting PEVs from sales tax” and “Require utility support for interconnection needs of PEV charging infrastructure” below.

- **Adjust tax policy to ensure sufficient transportation funding as we move to PEVs (p340):** As the Department recognizes, Vermont should align our tax policy to ensure that as electric vehicles come into service they pay their fair share of the transportation budget burden. Whatever the new funding structure Vermont decides on, and the Department suggests several possibilities, we should implement or phase in that new system quickly as PEV adoption starts over the next several years. Forcing the Department of Transportation to choose between increasing PEV adoption and retaining funds available primarily through the gas tax would benefit no one.
- **Building on our existing water and dam infrastructure to maximize the benefit of our current facilities (pp119-20):** VPIRG commends the Department’s recommendation that Vermont build on the dams, wastewater treatment facilities, etc. we already have in place. Fully utilizing what we already have is nearly always a smart step in the right direction, and VPIRG would love to see power generated by these systems where, as the Department proposes, potential environmental issues can be effectively addressed.
- **Solar residential recommendation 6 (p 132), continuing incentives:** The state incentives for small-scale solar installations have helped bring these systems to a price point that’s accessible to a significant percentage of Vermonters. We absolutely agree that these incentives should be continued – the market is just starting to mature – and also agree that they should eventually come down, though that incentive reduction should be accomplished slowly and carefully so as not to harm solar adoption or cause an abrupt upward shift in the price of solar to the end user. The state does, however, need to ensure longevity and predictability to the market by identifying a stable, long-term funding source for these incentives. Program funds that come and go on a regular basis keep businesses from hiring and growing.
- **Solar commercial recommendation 3 (p 133), solar on state buildings:** The state government should absolutely put solar on as many state buildings as possible. Not only would this save taxpayers money over the long term, but it would also set a strong example of the kind of action our state wants Vermonters to take themselves. If we aren’t willing to invest in renewable energy for our state buildings, how can we expect Vermonters to invest in it for their homes and businesses?
- **Annual clean energy contract program recommendation (p161):** Vermont’s pilot standard offer program proved quite successful, and expanding it into a longer-term clean energy contract program with annual allocations of 50 MW (p164) while learning from its challenges would be a significant step towards ensuring in-state renewable development. Such a program would complement a strong RPS and Vermont’s strong net metering laws well by spurring construction of mid-sized distributed generation facilities.
- **Reforming RGGI & decreasing RGGI allocation (pp94-95):** The Regional Greenhouse Gas Initiative was a good start on a serious goal – reducing global warming pollution around the

region and setting an example for other regions and the nation to do the same. The program should be reformed, as the Department suggests, and the cap lowered, to ensure real reductions in greenhouse gases.

- **Strengthening energy efficiency standards for commercial buildings (pp212-13):** VPIRG supports the Department's proposal requiring commercial buildings to meet "uniform and transparent above-code standards." Energy efficiency pays off not only for the owner or operator of the commercial buildings in question but also for the state, and commercial builders should absolutely be required to do better than the minimum needed to meet code.
- **Instituting a feebate program (p329):** VPIRG has supported in the past, and continues to support, the idea of reducing the cost of vehicles such as PEVs, whose adoption would benefit the state, by adding a fee to the cost of significantly less efficient vehicles, such as large SUVs and luxury vehicles. Doing so would provide an incentive for consumers to purchase the vehicles Vermont wants to see adopted and a disincentive for them to purchase less sustainable vehicles at the same time, accelerating Vermont's transition to a renewable transportation sector. In addition, a relatively small fee could provide a significant incentive for PEVs early on, when PEV sales will be lowest and will need the greatest incentive to build momentum. We're encouraged that the Department is putting this sort of program out as something to consider.
- **Creating community green zones (p162):** While the devil is in the details, something like the Department's suggested community green zone program where "communities share the benefits and the costs of project development" seems well worth investigation. Such a program could potentially provide opportunities to not only get green energy built but to also engage Vermonters and communities all around the state very directly in that effort, which could have additional intangible benefits for other efforts to get Vermonters to adopt renewable energy and efficiency technologies. VPIRG recommends a work group be set up in 2012, to report to the Governor and legislature at the beginning of 2013, to determine what this idea could look like in practice to best benefit Vermont, Vermonters and Vermont communities.
- **Requiring net-zero buildings by 2030 (p210):** VPIRG supports the goal of having all new buildings be net-zero. Whether we need to wait until 2030 to make that happen in an economically sound manner is an open question, but we're excited to see the Department recommending a serious move in that direction.
- **Total Energy Standard study proposal (p174):** Ultimately, energy is energy. While there would likely be significant challenges to implementing an RPS-style standard across all energy categories, this is the kind of outside-the-box thinking Vermont needs to be doing if we're going to be the kind of national leader on green energy we have the potential to be. We're excited to see the Department recommending serious consideration of this kind of big idea.
- **Wind power recommendation 5 (p145):** Wind power needs to be part of Vermont's electric mix if we're serious about renewable energy. The current ban on wind turbines on state lands is not only unnecessary but also sends the message that wind power is somehow worse than other development that benefits the state, such as the Department's example of telecommunication towers. Lifting that ban, as the Department suggests, is absolutely the right call.

Areas of the Plan that need to be improved

Of the areas highlighted below, the ones that are the most worrying to VPIRG are the timeline of the RPS recommendation, the slow pace of distributed generation development the Plan lays out and recommends, the proposal to allow large hydroelectric to qualify for new renewable electricity requirements, the proposed reduction or elimination of the 50% efficiency standard on new biomass electric/CHP plants, the proposal of a new natural gas electric generation facility in the state and the door the Plan leaves open for waste incineration as an acceptable electric source.

- **Unclear RPS target date (pp78, 161):** If we are going to transition our transportation and (to a lesser extent) heating sectors to electricity in an attempt to reduce our environmental impact, Vermont needs to rapidly transition to a largely renewable electric grid. The Department's recommendation for an RPS is unclear – while the plan talks about modeling of a 75% RPS by 2025, it also implies a recommendation of that same 75% by 2032. We ask for clarity on this, and recommend an RPS of 80% by 2025.
- **Overly conservative distributed generation growth estimate (p155):** While we agree that “the goals set forth in this plan will benefit from deployment of in-state distributed generation technology” (p79), the 30 MW of new distributed generation the plan suggests should be developed in the next 20 years will fail to develop our local industry sufficiently, will fail to create a meaningful number of clean energy jobs and does not match Vermonters' strong desire and support for this type of energy. It also seems a significant underestimation of where the state's grid is already headed, given the growth curve we've seen for these technologies over the past decade. Significant growth in in-state, distributed generation should be both encouraged and planned for at a more significant level than the current draft does.
- **Leaving the door open for large hydro to be included in a new renewable requirement (pp124, 126):** Nothing is gained by allowing large-scale hydro to qualify for new renewable energy requirements, except perhaps a windfall for large hydro developers, which do not require an incentive to build their facilities in a cost-effective manner. If the primary goals of an RPS are to support the regional development of renewable energy and to support local related economic development, large hydro could be included in the existing renewable requirement, but it should not be in any new renewable requirement.
- **Suggesting the possibility of a “small” 150 MW natural gas plant (p78):** A plant of this size alone could produce 20% of Vermont's current electricity demand. There is plenty of natural gas electric generation capacity in New England; we should not be building additional plants here or elsewhere. New generation should be renewable. In addition, the purported global warming benefits of gas compared to the effects of other fossil fuels have legitimately been called into question.^{3,4}
- **Reducing the 50% efficiency requirement on biomass electric/CHP plants (pp100-01, 105):** Vermont has a limited capacity to sustainably harvest and use additional biomass, and we have

³ Howarth, R. W., Santoro, R., & Ingraffea, A. (2010). *Methane and the greenhouse-gas footprint of natural.*

⁴ Wigley, T. (2011). Coal to Gas: The Influence of Methane Leakage. *Climate Change Letters* .

more potential uses for that biomass than we can fill with the amount we have sustainably available. Priority for biomass usage should be given to, as the plan suggests, “displacing the more expensive fossil fuels through thermal applications” (p236). Lifting or reducing the current 50% efficiency standard on new biomass electric/CHP plants would make less biomass available for its more economically and environmentally desirable heating uses. We also recommend the state consider a requirement that current biomass electric plants be converted to CHP facilities within five years and if they don’t than they lose their “renewable certification”.

Given the market-driven nature of energy in Vermont, suggesting that the state “prioritize” thermal uses is an empty gesture if the efficiency requirements on new electric facilities are simultaneously lifted; the state would be hard pressed to allow new biomass usage on anything other than a first-come, first-served basis, which could very well mean little if any Vermont biomass ends up getting used for heating.

- **Opening the door to burning landfill waste for electricity (p112):** The Plan suggests opening the door to the burning of landfill waste as fuel for electricity. This would be counterproductive to Vermont’s goals around global warming pollution reduction, environmental protection, air quality, waste reduction and development of true renewable technologies, and VPIRG strongly opposes any move in this direction.

“Cutting-edge” incineration plants (which are what plasma gasification plants are) have been shown to emit the same toxic chemicals, heavy metals and global warming pollution as other incinerators.⁴ Incinerators cause more global warming pollution than coal or oil plants, provide an incentive to keep waste from being recycled or composted, and create far fewer jobs than do recycling programs that process the same amount of waste. They generate only a small fraction of the energy that would be saved by recycling or composting waste rather than burning it.^{5,6} Even in the exceedingly unlikely event that incineration technology manages to someday create “environmentally sound” incineration, Vermont should never “use landfill waste for direct fuel” (p112). Incineration, in all its forms, is a bad investment that benefits virtually no one other than the owner of the plant.

- **Lacking clarity on the tax burden for residential solar electric systems (p131):** The Department proposes a \$ per kWh tax rate be set for commercial- (p133) and utility-scale (p134) solar electric. We support those moves and recommend that same clarity and predictability be extended to residential solar systems. In addition, we recommend that renewable infrastructure installed at the residential level (solar panels, PEV charging infrastructure, etc.) be exempt from property taxes.
- **Focusing on small wind turbines over more efficient ones (p144):** The Department recommends that wind power be developed with a “particular focus on community and small-scale projects.” While we fully support continued development of in-state wind power, as the Department recommends, focusing on smaller, less efficient wind turbines would be counterproductive to the goal of building renewable energy capacity in Vermont. Larger wind

⁵ Ciplet, D. (2009). *An Industry Blowing Smoke*. Global Alliance for Incinerator Alternatives.

⁶ Platt, B., Ciplet, D., Bailey, K. M., & Lombardi, E. (2008). *Stop Trashing the Climate*. Institute for Local Self-Reliance.

turbines (1.5-3 MW) are significantly more efficient and produce power much more cheaply than do their smaller counterparts. Community and small-scale wind should be a part of Vermont's electricity picture, and we should foster that development, but not at the expense of larger, more efficient wind projects.

- **Overly modest clean energy contract proposal (p164):** While we're excited about the potential of a standard offer/clean energy contract program to both foster the renewable energy sector in Vermont and build community-scale renewables all around the state, we urge the Department to recommend a significantly more substantial program than the 50 MW mentioned as a minimum in the Plan. Combined with the Department's suggestion of the program being conducted through an annual allotment (which, again, VPIRG strongly supports – see above), a 50 MW program would mean 5-10 MW/year for 5-10 years. A program of that size would be enough to provide a boon to a handful of developers each year, but it would not be enough to provide a foundation for the renewable energy sector in Vermont the way a larger clean energy contract would. VPIRG recommends a 500 MW clean energy contract program: 50 MW/year for 10 years.
- **Interim building construction goal that doesn't set us on a path to zero-energy buildings (p210):** The goal of getting to 100% zero-energy buildings for new construction by 2030 is a good one, but we're worried the interim goal of 60% of new homes meeting Energy Star requirements by 2020 isn't strong enough to set us on a path to get there, and it may be unduly burdensome at the same time. No one knows what Energy Star will require of homebuilders in 2020, or what non-energy requirements will be layered on top of the essential efficiency requirements the Department is, presumably, aiming for. We recommend the Department's recommendation be changed to 60% Energy Star compliant, *or of at least equivalent electric and thermal efficiency*, and that an additional layer of 30% zero-energy buildings by 2020 be added. If we're attempting to get to 100% by 2030, it would be good to have an interim goal of some lower percentage before then.
- **Too low a goal for PEV adoption (pp314, 327):** On page 314, the Department cites a study conducted at the University of California, Berkeley, estimating that PEVs will "comprise...24% of all light-vehicles in the US by 2030." On page 327, the Department says the Agency of Transportation has set a goal of either 20% or 25%. Given the projection that EVs will be near a quarter of the light vehicle fleet nationally, as well as Vermont's rural nature, we should be aiming higher. VPIRG recommends a goal of at least 40% of the fleet being EV by 2030 (see attached Excel document, "VPIRG PEV growth illustration to 2030").
- **Insufficient investment in cost-effective electric efficiency incentives (p66):** While we agree with the Department that a 100% incentive for efficiency measures does not make sense, we are not close to hitting the 100% incentive level. The Department cites a \$4.60 benefit for every \$1 invested; clearly, we're not at the point where additional investment doesn't make sense. Vermont can, and should, get significantly closer to the threshold of "all cost-effective potential efficiency measures." Efficiency is the least expensive way of dealing with our electric usage, and we are not taking full advantage of that fact as a state.
- **Not recommending implementation of building energy disclosure (pp205-09):** The Department lays out a compelling case for requiring the disclosure of building energy efficiency at or near

the time of sale: “The time of sale of a building presents an opportunity to educate potential buyers about the energy use of a home or a commercial building through building energy disclosure information. This information could be useful to potential buyers as a means of comparing energy efficiency levels of various buildings and to provide a clear idea of what their future energy costs might be for those buildings. This can also encourage investment in efficiency...[and] can also be a tool to provide homeowners a monetized value of their energy improvements.” Building energy disclosure would be a valuable tool to accelerate the adoption of energy-saving upgrades in Vermont, and VPIRG would like to see the Department recommend building energy disclosure for all the reasons the Department lays out.

- **Using an auction mechanism for an expanded standard offer/clean energy contract program (p164):** VPIRG urges the Department to set up whatever mechanism is used for clean energy contract bidding/selection carefully, balancing cost savings with the bottom-line goals of the program: increasing both the use of in-state renewable energy and the certainty for developers that is required to make that happen. While an auction has some obvious appeal, it could also end up adding red tape and uncertainty to the process for developers, delaying project deployment. Auction mechanisms also increase the possibility that the winning bids will be too low for the projects to actually get built. The relatively small-scale projects that are included in our standard offer program auctions can require a lot of expensive application work that could keep out small developers.
- **Paying too high a premium for existing renewables (pp80, 98):** While VPIRG certainly supports the Department’s recommendation to “maintain existing Qualifying Facilities provided that the plants can be operated cost-effectively compared to new renewable energy generation” (p80), we encourage the Department to make clear that such facilities should not be paid a premium for their power, as if they were new renewables. It makes sense to pay a premium for new renewables, given the societal benefits of creating them. On the other hand, since existing renewables do not need the same premium to continue to operate, we shouldn’t give it to them. Most of these facilities have already received public support to be built, and they are fully capitalized.
- **Allowing aesthetic concerns to dominate wind siting processes (pp82, 139-40):** On page 139 of the draft CEP (continuing onto page 140), the Department asks, “given Vermont’s narrow ridgelines, should projects within view of the Long Trail, or of a historic downtown, or of a popular mountaintop from a given distance categorically fail the aesthetics review?” Here’s the right answer: no. We need, as a state, to develop clean, renewable energy sources such as wind and solar to reduce our dependence on foreign oil and fossil fuels. Giving, or considering giving, such weight to aesthetic concerns should not be on the table at all, given what is at stake. If you add up all the ridgelines visible from historic downtowns, the Long Trail and every other mountaintop, you realize that the Department is functionally asking the question, “Should we consider categorically rejecting wind power in all of Vermont?”
- **Allowing utilities too much sway over regulations governing their profits (p85):** While VPIRG supports distributed utility planning (DUP) and performance-based ratemaking (PBR), we need to be careful to not allow utilities too much sway over exactly how these (particularly PBR) are implemented. Moving from cost-of-service ratemaking to PBR would substantively affect how

Vermont utilities make a profit, and allowing those same utilities significant sway over what that move looks like raises a red flag; we need to be sure consumer and state interests, not utility interests, are front and center in this.

Suggestions for additions to the plan

- **Standards for pellet manufacturing:** Ensuring that all wood pellets meet high quality standards is essential to the technology's future success in Vermont's heating market. There is no quality standard for wood pellets made in Vermont – wood pellet providers are self-regulated – so homeowners and businesses have no guarantee that the pellets they buy will burn cleanly and efficiently. Austria was the first nation to adopt pellet standards, and, as a result of this standardization, the market for pellet fuels developed there at a booming rate.⁷ With pellet fuel standards in place, manufacturers can design better heating systems that are easy to use and require less maintenance. Vermont should adopt the equivalent of the European standard to support market development of wood pellets and pellet heating systems.
- **Neighborhood comparison on utility bills:** While Vermont has developed some of the most effective electric efficiency programs in the world, one tactic we haven't tried (to VPIRG's knowledge) is the idea of "social proof," applied to customers' electric bills. Essentially, this is the idea that giving utility customers information about where their energy use falls relative to that of their neighbors (typically on their utility bill) provides an incentive for individual customers to reduce their use. Put another way, people want to keep up with the Joneses' energy conservation; neighborhood comparison gives them peer information (anonymously, of course) so they can do that. It's proven quite effective. In a pilot program in Sacramento, customers receiving information about where their energy use fell relative to their neighborhood reduced their energy by use over 2%.⁸ Vermont should consider implementing a similar program.
- **Shared interconnection costs (p117):** On page 117, the Department recommends creating "greater statewide consistency with the interconnection process and procedures." VPIRG would like to suggest the Department take that one step further and recommend statewide sharing of interconnection costs incurred by most, but not all, new, in-state renewable generation. Vermonters have an interest in seeing more clean, renewable energy such as wind and solar being built in our state, as well as an interest in ensuring a reliable electric supply. Both of those interests would be served by some reasonable sharing of the interconnection costs for new renewables across the state.
There are numerous sites around the state that are ideal for renewable generation but that are currently not economically feasible because the interconnection costs are borne by the

⁷ Egger, C., Ohlinger, C., Auinger, B., Brandstatter, B., Richler, N., & Dell, G. (2010). *Biomass Heating in Upper Austria*.

⁸ Livingston, D. (2011, June 23). *New York Passes Historic Green Jobs Financing Law*. Retrieved November 4, 2011, from longislandpress.com: <http://www.longislandpress.com/2011/06/23/new-york-passes-historic-green-jobs-financing-law/>

developer. There are a number of ways cost sharing could be implemented to balance facilitating renewable development with ratepayers' burdens. These include restrictions based on total cost of a given interconnection, size/capacity of the proposed renewable facility, distance from current T&D to the proposed renewable facility or some combination of these factors.

- **Require utility support for interconnection needs of PEV charging infrastructure:** The state should require electric utilities to make necessary grid upgrades to support installation of charging infrastructure by homeowners and businesses. Given the enormous benefits of transitioning our light-vehicle fleet to PEVs, these costs should be shared among ratepayers.
- **Funding for incentives for PEV adoption, exempting PEVs from sales tax:** The state should consider whether or not a small surcharge on gasoline would be an appropriate way to generate money to increase the use of electric vehicles. Another option for such funding would be a surcharge on electric bills. In the short term, exempting PEVs from sales tax would be a low-cost way of incentivizing early adoption and getting the ball rolling the right direction on PEVs.
- **Recommend a ban on hydraulic fracturing in Vermont:** Hydraulic fracturing, or hydrofracking, as a method of mining natural gas has a whole slew of problems, from lifecycle global warming pollution potentially worse than that of coal to drinking water contamination to massive amounts of toxic wastewater that current wastewater treatment plants are completely unprepared to deal with.⁹ Currently, there is no hydrofracking being done in Vermont. We should keep it that way; the Department should recommend a complete ban on any future hydrofracking in Vermont.
- **Expand PACE to cover group net metering and commercial buildings:** Given the potential PACE has as a financing mechanism, which as the Department flagged can be one of the major challenges to getting renewables build and efficiency measures installed, eligibility for PACE financing should be expanded to buy-in to group net metered projects, as well as commercial projects. We would need to do this carefully so as not to reduce the availability of funds for the residential customers it was originally intended to serve.

⁹ Food & Water Watch. (2011). *The Case for a Ban on Gas Fracking*.