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Sent: Tuesday, April 14, 2015 12:24 PM
To: Springer, Darren
Subject:
Attachments: H40 QA 4.14.docx; Energy Innovation Program 2 pager 1 21 15 FINAL.docx

http://www.leg.state.vt.us/jfo/fiscal_notes/2015_H_40%20Review.pdf

and

http://www.dpuc.state.ct.us/dockcurr.nsf/All/549B4FA6CECFEA1B85257E050060F056?OpenDocument

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H. 40 Q&A

Purpose of H.40

- **What is the purpose of this bill?** H. 40 will accomplish two major things. First, by transitioning from the current SPEED program to a new renewable energy program it avoids a potential 6% statewide rate impact that could happen if Vermont lost access to regional renewable energy credit (REC) markets for our projects. Second, it makes the most significant progress to-date on achieving Vermont's statutory energy and greenhouse gas goals. Vermont law (10 VSA 578 (a)(3)) calls for a reduction in greenhouse gas emissions of 75% by 2050. This bill achieves a quarter of the reduction necessary to meet that target. Vermont law (30 VSA 8005 (d)(4)) also calls for 75% of our electricity to come from renewable sources by 2032. This bill accomplishes that.

- **What other benefits does H. 40 provide?** In addition, H. 40 will create 1,000 new jobs over the life of the program according to Regional Economic Models Inc (REMI) modeling done by the Public Service Department, and will result in net customer savings of $275 million. All modeling calculations were done in "real" inflation-adjusted dollars. A Joint Fiscal Office memo dated Feb. 23, 2015 indicates "H. 40 offers an expansive program to achieve renewable electric power generation and use goals, avoid significant electric power rate increases from potentially unmarketable SPEED RECs, reduce fossil fuel consumption, and encourage community-scale distributed power generation in the State. While program review is still ongoing, initial JFO analysis indicates significant net potential economic and environmental benefits from the program, subject to fuel price and other program performance assumptions."

- **Will this bill avoid the risk a significant rate hike?** Yes. Connecticut's utility regulator issued a final decision on March 25, 2015, in a proceeding looking at whether there is "double-counting" of Vermont RECs in Connecticut as a result of the SPEED program. Connecticut regulators found "beginning January 1, 2017, the Vermont SPEED program may trigger a claim under Conn. Gen § 16-1(a)(20),"related to double-counting RECs, "however, the Authority concludes it is not necessary to make a final determination with respect to post-2017, particularly because legislative efforts under currently underway in Vermont to flesh out the impending post-2017 program." Connecticut has made clear that if Vermont moves forward with H. 40, our program "would be administered in a way that is entirely compatible with other state RPS programs," and avoid the rate risk that comes from having our RECs trigger a statutory claim for "double-counting" in Connecticut or other states.

- **How can our utilities keep selling RECs and still meet the requirements in H. 40?** Utilities will make individual economic decisions about which projects to sell RECs from and which to use for compliance in Vermont. In Tier One, there are already resources equivalent to about 45% renewable electricity statewide from which we do not currently sell RECs, such as Hydro-Quebec power, NYPA power (hydro) from New York, and in-state existing hydropower projects. Utilities will have flexibility to meet the requirements in the way that is most cost-effective.

Tier One – Total Renewable Electric Target

- **What counts in Tier One?** All renewable energy projects capable of delivering power to New England, existing or new, big or small, count towards Tier One's target of 55% renewable electricity in 2017 rising to 75% in 2032. That includes Hydro-Quebec, NYPA power from New York, and many other regional resources our utilities already contract for.

- **Why are the Tier One goals so high?** No state in the region has a Tier with as much flexibility as H.40's Tier One. The numbers of 55% in 2017 rising to 75% in 2032 are in current law now. This bill simply makes clear that meeting these numbers requires REC retirement consistent with other states in the region. Statewide we are already in the 45% range, and our utilities will be able to purchase RECs that qualify in this tier that currently sell for fractions of a penny per kilowatt hour.

- **What about utilities like Washington Electric or Burlington Electric that are 100% renewable generation?** H. 40 provides a provision that for 100% renewable utilities, if they continue to be 100% renewable by REC retirement, they can avoid new Tier Two requirements other than continuing to accept customer-sited net metering projects.

Tier Two – Distributed Renewable Generation

- **How many megawatts of distributed generation will Tier Two add?** The Department of Public Service estimates roughly 400 megawatts over the 16.5 year life of the program. That would include a mix of 5 megawatt and under renewable energy projects.

- **How many acres of solar would it take to meet Tier Two if only solar was used?** The Department expects a mix of technologies, and for a significant amount of solar to continue to be located on rooftops. If *only* ground-mounted solar was used, the Department projects 2,800 acres of land would be utilized out of over 1 million acres available in Vermont for agricultural or other purposes.

- **Why is Tier Two important?** Tier Two provides for in-state, distributed generation on a community scale. This can provide real benefits for our grid. For example VELCO found in 2014 that it was able to defer $400 million in transmission projects in Vermont due in part to distributed generation and efficiency lowering peak demand. That alone saved Vermonters $16 million since we pay 4% of regional transmission costs. Distributed renewable generation also provides economic and jobs benefits, reduces line losses, cleaner air and reduced greenhouse gas emissions.

- **Is there a phase-in?** Tier Two requirements do not start until 2017, and there is a phase-in starting with projects built in the second half of 2015 to meet the first-year 2017 targets.

Tier Three – Energy Transformation Projects

- **What is Tier Three?** Tier Three sets a requirement for utilities to help save their customers money by reducing fossil fuel use. Increasingly with the use of ground source (geothermal) heat pumps and cold-climate air source heat pumps electricity is being utilized today in Vermont for clean heating and cooling. We also have some Vermonters using electricity to power their plug-in electric vehicles. The electric utility business model is changing, and the opportunity to save customers money by using new, highly efficient clean heating technologies is real. According to the latest fuel price report from the Department of Public Service a customer heating with a cold-climate heat pump can do so at about half the cost of heating with propane, and even at today's low oil prices a heat pump customer can still save nearly 25 percent on their heating bill compared to oil.

- **How do we know Tier Three can work?** Utilities are already running programs that qualify for Tier Three, and have four primary tools – 1. Leasing, 2. On-Bill Financing, 3. Marketing/Bulk Discount Partnerships, and 4. Direct Investment. For example, Green Mountain Power already has a heat pump lease program. They also partner with Neighborworks and Efficiency Vermont on their eHome program which provides whole home retrofits with energy savings paying for the financing. Washington Electric Cooperative already offers customers a solar water heating discount. Stowe Electric, GMP, and Burlington Electric are all already investing in electric vehicle recharging stations. Everything mentioned here all qualifies for Tier Three, and there are many more possibilities.

- **What do Tier Three requirements mean?** Tier Three requirements are expressed in terms of a percentage of sales, but really they are a fossil fuel reduction target for utilities. In year one, statewide, installing approximately 1,000 heat pumps and weatherizing 1,000 homes, for example, could satisfy the targets. The requirements do not kick in until 2017, but projects in 2015 and 2016 will also count toward the first year target to give a gradual ramp up for utilities.

- **How does Tier Three create downward pressure on rates?** Tier Three includes the use of electric technologies such as ground source or cold-climate air source heat pumps, and electric or plug-in vehicles. These technologies can help reduce fossil fuel use. And if we are using those kilowatt hours strategically during off-peak times, we can fill valleys in the electric demand curve and reduce rates for all customers. As David Hallquist of Vermont Electric Cooperative put it, the grid is a piece of capital equipment. If we can use that piece of capital equipment more efficiently to get more units out of it without having to buy new capital equipment, each unit of electricity comes down in cost.

- **What if a utility cannot meet Tier Three?** A utility can "bank" excess credit in Tier Three to use for future years. A utility that makes a good faith effort to run a program, but does not achieve its goals in a given year, can petition the Board to avoid paying an alternative compliance payment, and instead agree to do a little extra in future years. A utility that sees a significant potential rate impact from Tier Three, which to be clear we do not expect, can petition the Board to reduce or eliminate the utility's target in a given year. And utilities can decide to do additional distributed generation in lieu of Tier Three projects, at their discretion.

Utility Regulatory Issues

- **What is an alternative compliance payment (ACP)?** An alternative compliance payment is the most common tool used by the states that have an RPS (29 states so far) to cap costs for the program and ensure compliance. All of the other states in New England have RPS policies with ACPs. An ACP tells utilities they should never pay more for RECs than the alternative compliance payment, and limits the leverage suppliers of renewable projects have to drive up prices. In H. 40 the ACP for Tier One is set very low, at 1 cent per kilowatt hour since we know qualifying RECs are available for a tenth of that price. Tier Two is relatively similar to New England Class 1 (premium new renewable energy), and the ACP for Tier Two and Tier Three is set at 6 cents per kilowatt hour. This is expected to be lower when it begins in 2017 than what other states provide in their Class 1, but is comparable.

- **What happens if a utility pays the ACP?** H. 40 would direct any payments made to go to the Clean Energy Development Fund to support energy transformation projects in the service territory of the utility paying. When Vermont passed the SPEED program, it established an RPS that would have taken effect if SPEED goals were not met. The SPEED goals were met and that RPS never took effect. That RPS would have similarly directed ACP payments to the Clean Energy Development Fund. Utilities would have to show paying the ACP was the prudent choice in order to recover the cost.

- **Will utilities make an increased profit because of H. 40?** Utilities earn a profit on the value of their capital investments, not their power supply costs. REC sales and purchases are treated as power supply costs, so neither Tier One nor Tier Two will create any changes in utility profits. There are some activities in Tier Three (such as direct utility ownership of an electric vehicle charging station) that are capital investments, and would therefore impact the potential profits for utilities. Other activities, such as incentive payments for installing a pellet boiler, are akin to REC purchases and should not add to a utility's capital base; these activities would not impact a utility's profits.

Energy Innovation Program

The proposed Energy Innovation Program (EIP) would replace the current SPEED program. The EIP would run from 2017-2032.

It is designed to grow the share of Vermont's electricity consumption that comes from renewable energy sources, to support new community-scale distributed generation, and to promote innovative projects that reduce fossil fuel use and save Vermonters money.

The proposal includes three tiers:

- ***Total Renewable Electric Requirement***[1] – 55% of sales in 2017 rising to 75% by 2032. These numbers are already in law, but the EIP would make clear that the law requires renewable energy credit (tracking on NEPOOL GIS or equivalent) retention. All existing or new renewable electric sources qualify to meet this target.

- ***Distributed Generation*** – 1% of sales in 2017 rising to 10% by 2032. The proposal will include a distinct subset target for new community-scale distributed generation projects. Projects in-service starting mid-2015 would be eligible, and new net metering and Standard Offer projects would count if renewable energy credits are retired by the Vermont utility. As part of the Act 99 net metering redesign process, customers would have option of receiving incentive and providing renewable credits to meet DG tier, or keeping credits with incentive reduced by appropriate value.

- ***Energy Innovation Projects*** – 2% of sales (BTU equivalency) in 2017 rising to 12% in 2032. This tier sets targets for utility-led or utility-partnership projects that reduce customer fossil fuel consumption and save money, such as weatherization, biomass heat, cold-climate heat pumps, etc. Projects in-service in 2015 or later would count, and measurement and verification of the various measures would be done through a Public Service Board process. Projects only count in this tier if they are "additional" to those already happening through existing regulatory programs or state funding. Utilities would have four primary tools to meet this tier: Leasing programs; On-bill financing; marketing partnerships; and direct investments.

[1] The EIP also includes a Renewable Energy Achievement provision to recognize that some utilities have gone above and beyond in procuring renewable generation under the SPEED program. For eligible utilities, the provision would require 100% renewable electricity to be provided each year through Tier 1, and except for accepting new net metering would not require additional power procurement through the DG Tier.

Importantly, Public Service Department modeling shows that through smart and coordinated program design, the EIP as a policy over its lifetime would offer a net benefit for ratepayers. This is accomplished through flexible program design, by retaining Vermont's ability to sell renewable energy credits into regional markets to benefit ratepayers, and through strategic electrification initiatives from Energy Innovation Projects such as cold-climate heat pumps. The positive economic benefits of the EIP contrasts with a potential rate risk from maintaining the status quo amidst concerns about Vermont's ability to continue to sell renewable energy credits into the regional market under the current SPEED program.

	Rate Impact		
	2017	2024	2032
Current policy risk	+6.0%		
Renewable Portfolio Std.	+1.0%	+2.5%	+3.9%
Energy Innovation Program	+0.4%	+0.5%	-0.6%

Public Service Department modeling also projects the EIP could:

- Create over 1,000 new jobs;
- Add over 400 megawatts of new distributed generation;
- Provide weatherization or cold-climate heat pumps to over 85,000 homes and businesses;
- Support thousands of new biomass or bioheat systems;
- Save Vermonters a net of $275 million on energy bills; and
- Cut greenhouse gas emissions by approximately 15 million metric tons by 2032, on track to achieve a quarter of the emission reduction needed for Vermont's 2050 goal;

The Department is very pleased to be able to present this policy proposal to legislators and the public, and looks forward to its consideration during the legislative session.