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Mike here you go!
Thanks,
Darren

Sent from my iPad

H. 40 Q&A

Benefits 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)) says we want to reduce greenhouse gas emissions by 75% by 2050. This bill achieves a quarter of the reduction necessary to meet that target. Vermont law (30 VSA 8005 (d)(4)) also says we want 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. It does this while also providing a net ratepayer benefit by the end of the program in 2032.

- **Who is in favor of the bill?** During testimony in the House Natural Resources and Energy Committee the following organizations testified in general support of the bill (some with their own requests or caveats which the committee attempted to address where possible): The Department of Public Service, IBM, Vermont Electric Cooperative, Washington Electric Cooperative, Green Mountain Power, Burlington Electric Department, Stowe Electric, Vermont Fuel Dealers Association, The Vermont Chamber of Commerce, Renewable Energy Vermont, VPIRG, The Vermont Natural Resources Council, The Conservation Law Foundation, The Building Performance Professionals Association of Vermont, Efficiency Vermont, and the American Lung Association Northeast. VPPSA representing the smaller municipal utilities did not take a firm position on the bill but asked for flexibility in Tier Three which they received, and for the ability to aggregate and partner to meet the bill's requirements, which they also received.

SPEED Issues

- **Why can't we just do Tier One to fix the SPEED/double-counting issue?** The two main things that the Department of Public Service has heard from our counterparts in the region is that to have a program that passes muster, and preserves our access to the regional renewable energy credit (REC) market which provides $50 million in revenue for our utilities, we need a program that includes comparable REC retirement to others in region and that we need to be clear about marketing claims related to projects. Tier One and Tier Two, combined, are reasonably similar to RPS program designs in other states. Tier Three is added in Vermont to save customers money and help lower rate impacts.

- **Will this bill avoid the risk a significant rate hike?** Yes. There is currently a regulatory proceeding in Connecticut about whether Vermont renewable energy credits (RECs) should continue to count toward the Connecticut RPS, because some projects also count towards Vermont's SPEED program. H. 40 transitions Vermont from the SPEED program immediately, ending any ambiguity over "double-counting" and preserving our access to the regional REC market. Currently our utilities derive roughly $50 million in revenue from sale of RECs, equivalent to a 6% rate benefit. The Department of Public Service has filed H. 40 in the docket in Connecticut and they have not yet made a decision. It is possible they are waiting to see if Vermont will fix this issue by passing H. 40 and avoid the risk of losing access to regional REC markets.

- **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, which could include selling higher-value RECs to benefit ratepayers while purchasing replacement lower value RECs to meet Tier One. Burlington Electric and Washington Electric Coop already do exactly that. For Tier Two the requirements entirely apply to new projects, and will not affect existing REC sales.

- **Are renewable energy projects cost-effective?** The price for renewable energy projects is competitive with conventional generation. In Vermont's Standard Offer program, for example, prices have decreased 60% since 2010 and the latest bids for solar contracts came in under 12 cents per kilowatt-hour for local generation near customers that does not require long-distance transmission to carry it to where it will be used. Or consider the Lowell wind project, which produces energy at 9.3 cents per kilowatt hour, or Green Mountain Power's Hydro-Quebec contract at around 6 cents per kilowatt hour, or in-state utility-owned hydropower projects that produce power at less than 4 cents per kilowatt hour. Compare all of that with regional wholesale market prices, which are largely tied to the price of distant centralized natural gas power plants. Those prices on the ISO-New England grid rose 55% in 2013 and another 18% in 2014 and are now at an annual average cost of over 7.5 cents per kilowatt hour just to generate the power. That does not account for the price to transmit it to Vermont, or the capacity obligation utilities pay for to ensure reliability, or the price for utilities to distribute the power.

- **What about Vermont rates compared to the region?** Because of our vertically-integrated utilities, and our focus through SPEED and Standard Offer and other policies on stably-priced long-term contracts, Vermont is in a favorable position compared to other states in the region that have deregulated and are more exposed to the volatility of the energy marketplace. Take

our largest utility, Green Mountain Power. They have reduced rates two of the last three years, including a 2.46% rate decrease in 2014. Compare that to National Grid in Massachusetts which announced a 37% rate increase in the last few months. Or Public Service New Hampshire with a 6% increase, or Liberty Utilities in New Hampshire with a 100% rate increase. Or United Illuminating with a 35% rate increase and Connecticut Light and Power with a 20% increase. Vermont is the only state in New England where residential, commercial, and industrial rates have all come down year-over-year from 2013-to-2014 according to the latest data from the Energy Information Administration. And our industrial rates are now the second-lowest in the region, next to Maine.

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 practices in the region. Statewide we are already in the 45% range on average, and our utilities will be able to purchase RECs that qualify in this tier for fractions of a penny per kilowatt hour. Further, by increasing our use of renewable electricity, we create a cleaner grid that offers more benefit when it comes to powering new clean heating technologies such as cold-climate heat pumps.

- **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 life of the program (15 years, plus 1.5 year ramp up in 2015 and 2016). That would include a mix of 5 megawatt and under solar projects, along with other technologies such as hydro, farm and food waste digester projects, biomass combined heat and power, etc.

- **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, however if only ground-mounted solar was used, the Department would project 2,800 acres of land would be utilized out of over 1 million acres available in Vermont for agricultural or other purposes today.

- **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 offers economic and jobs benefits, reduces line losses, and brings environmental benefits including cleaner air and reduced greenhouse gas emissions. Tier Two will support new net metering and Standard Offer projects, as well as utility-owned or utility-contracted projects.

- **How does net metering count?** New net metering projects starting in the second half of 2015 where the utility owns and retires the RECs will count toward the Tier Two requirement. The customer will retain the choice of whether or not to provide the RECs to the utility, but if the customer does not elect to keep them they will go to the utility for projects that are installed during the remainder of the current net metering program, which runs through the end of 2016. The bill also provides direction to the Public Service Board for the net metering redesign they are undertaking for 2017, which the legislature will review next year. H. 40 says to the Board that in the future, 2017 and beyond, customers should retain the choice of keeping or transferring the RECs, but if a customer keeps the RECs they may not be providing the utility and its ratepayers as much value for the net metering project, and therefore their net metering compensation may be reduced by an appropriate amount to account for that.

- **Why can't the net metering customer keep the credit and then you can simply reduce the utility's requirements or allow the utility to count it anyway?** The purpose of this bill is in part to ensure consistency with regional REC practices and eliminate any concerns about double-counting or marketing issues. Ambiguity about who owns the credit is not helpful, and we cannot introduce a new type of double-counting in trying to fix existing problems. The most straightforward way to account for net metering is to say the utility has to own and retire RECs to meet its goals. Net metering customers retain the option of keeping RECs if they desire to.

- **What if a utility cannot meet its Tier Two requirements, and is there a phase-in?** Tier Two requirements do not start until 2017, and utilities will be able to use projects installed starting in the second half of 2015 and all of 2016 and 2017 to meet the first year target. The bill provides that in a given year if a utility cannot meet its requirements in Tier Two using 5 megawatt and under projects, and proves that by issuing an RFP for projects and the market does not deliver, they can petition the Public Service Board to allow them to use a larger project that otherwise

qualifies for Tier two. They could do that instead of paying an alternative compliance payment. This provision was important to Vermont Electric Cooperative.

Alternative Compliance Payment

- **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 ensure the requirement is real and not voluntary. All of the other states in New England have RPS policies with ACPs. It acts as well as a cost cap, essentially telling utilities they should never pay more for RECs than the alternative compliance payment, and limiting 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 that paying the ACP was the prudent choice in order to recover the cost.

Tier Three – Energy Transformation Projects

- **What is Tier Three?** Tier Three builds on existing utility efforts and 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 less than 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. For example, Green Mountain Power already has a heat pump lease program. They also partner with Neighborworks and Efficiency Vermont on their eHome program. The first

customer for that program, the Borkowski family from Rutland who were guests in the House chamber during the Governor's Inaugural speech, got their home weatherized, two cold-climate heat pumps installed, solar panels on their garage roof, and efficient lighting and appliances. They financed all of the improvements on their GMP electric bill with no upfront payment, and they are now saving money and are more comfortable in their home. The savings pays for the financing. And they have reduced their oil use by around 90 percent. 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. Partnership with fuel dealers, contractors and other private vendors is a part of the program. That is why the Vermont Fuel Dealers Association and the Building Performance Professionals Association came in with general support for H. 40.

- **What tools do utilities have to meet Tier Three?** Utilities have four primary tools. They can offer leasing programs (GMP does this), they can offer on-bill financing programs (Burlington Electric and GMP do this already), they can do marketing partnerships that bring discounted products to customers (Washington Electric solar hot water discount), or they can make direct investments (Stowe electric charging station, for example). The bill requires partnership with non-profit and private sector partners, and utilities get credit for projects only if they are additional to what is already happening through regulated efficiency utilities like Efficiency Vermont and Vermont Gas, and additional to state funded programs like low-income weatherization.

- **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 primarily during off-peak times, we can fill valleys in the electric demand curve and actually 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 comes down in cost. So if I put in a heat pump, and pay more for electricity but save even more on my oil bill, that is good for me. And if I put in the right kind of heat pump, and weatherize my home, and work with my utility to make sure I don't drive up peak demand and cause the utility to have to buy more poles or wires or generation, I pay a little more for electricity and cover more of the fixed costs, and my neighbor can pay a little less. So it is good for my neighbor too.

- **What if a utility cannot meet Tier Three?** Thanks to good work from Representatives Hebert and Gamache, and others on the House Natural Resources and Energy Committee, there is a significant amount of flexibility in 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. This is truly unprecedented regulatory flexibility, and ensures that Tier Three will work as intended. In addition the Department will be required to report to the legislature and committees of jurisdiction annually in January of every year about the costs and benefits of the program, and the rate impacts, and make any recommendations necessary to ensure the program is working as intended.

- **Will there be a big administrative burden for implementing Tier Three?** No. There are efficient programs and businesses already in operation that can partner with utilities to help them meet this tier (such as Efficiency Vermont, Neighborworks, and the Efficiency Excellence Network). The Public Service Department already has the processes and expertise to evaluate utility programs, measure their results, and verify utility claims; they use this process for Efficiency Vermont, Burlington Electric, and Vermont Gas programs today. Building off of existing structures and knowledge about efficiency measures also allows utilities to have confidence that they will get the credit they expect when they complete a project.

- **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.

- **Does Tier Three make Efficiency Vermont redundant?** No.

    - The bill does not directly address Efficiency Vermont's activities. Efficiency Vermont's primary work (and the bulk of its budget) centers on electric energy efficiency, which is not the focus of Tier Three. Tier Three is focused on thermal efficiency and clean heating and transportation technologies. Although Efficiency Vermont does some work in these areas, it is commonly acknowledged that Vermont has lacked adequate funding to fully

address thermal efficiency. H. 40 brings new tools to that effort through partnerships led by our distribution utilities. All Tier Three projects would be additional to the work Efficiency Vermont does, not in place of it.

- Our electric efficiency programs have been our least expensive energy resource and help save customers even more money by avoiding transmission charges and the need to build more power plants, enlarge or build new substations, and re-conductor lines. We continue to have cost-effective opportunities for electric energy efficiency and if we stopped pursuing those we would pay more for electricity than we do now. Efficiency Vermont's efforts since the year 2000 have made it possible for Vermont to use 13% less electricity today than would be the case otherwise.