

From: Springer, Darren [Darren.Springer@state.vt.us]
Sent: Friday, March 06, 2015 8:00 PM
To: Rebecca Ellis
Subject: RE: H-40: PHASE 2; Going from 55% RE at end 2017 to 75% RE at end 2032

Responses below in italics

From: Rebecca Ellis [rellis@leg.state.vt.us]
Sent: Friday, March 06, 2015 2:36 PM
To: Springer, Darren
Subject: Fw: H-40: PHASE 2; Going from 55% RE at end 2017 to 75% RE at end 2032

Sent using OWA for iPhone

From: Willem Post
Sent: Sunday, March 01, 2015 6:16:08 PM
To: Tim Ashe; Claire Ayer; Becca Balint; Philip Baruth; Joe Benning; Christopher Bray; John Campbell; Brian Collamore; Ann Cummings; Dustin Degree; William Doyle; Peg Flory; Jane Kitchel; Virginia Lyons; Mark MacDonald; Norman Mcallister; Richard McCormack; Alice Nitka; Anthony Pollina; John Rodgers; Richard Sears; Michael Sirotkin; Diane Snelling; Robert Starr; Jeanette White; David Zuckerman; Aaron Rosenbluth; preservethewellfleetilove@gmail.com
Subject: H-40: PHASE 2; Going from 55% RE at end 2017 to 75% RE at end 2032

All,

By prior email, I sent you Phase 1 of H-40, going from 40% RE (at present) to 55% RE. A serious increase, as the Phase 1 analysis shows.

DS - statewide we are at 45% renewable, not 40%.

I just finished the spreadsheet for Phase 2. The results are below.

The spreadsheet is attached. The Phase 1 and Phase 2 write-ups are also attached.

Study it and you may become as shocked as I am. The more you know, the less you like H-40, which was written by DPS!!

DS - as you know as the bill sponsor, we didn't write the bill!!! We were very happy to work with the legislature on this initiative, and to not expect coordination and partnership between legislature and administration on initiatives is strange to me.....

I am surprised DPS did not make public any analyses of "revolutionary" H-40.

DS - We provided House NRE committee with a two page summary of our analysis on rate impacts, greenhouse gas emissions, job creation, and energy savings. We further provided a memo on the SPEED program, and have shared our analysis transparently with Tom Kavet (who acknowledged such for his fiscal note) and via public records request with Energize Vermont.

DPS repeatedly mentioned "savings". Anybody with energy systems knowledge would know there would be NO, NIL, NADA savings.

DS - First, by passing H. 40 we avoid a 6% rate hike statewide. That would be a roughly \$50 million annual cost, compared to the maximum first year cost for H. 40 of about \$15 million if only ACP was paid. Second, if Tier Three is implemented correctly customers will save energy and money by reducing fossil fuel use. For example current DPS fuel price report clearly demonstrates that customers heating with a cold-climate heat pump can save 50% on propane and about 25% on oil (even at today's low prices).

What kind of Public Service department is it, if is afraid of informing legislators and Vermont's people?

Does DPS think it does not have to, as H-40 will be rubber-stamped anyway, as it was in Klein's committee, the House and soon the Senate?

This item is distributed to about 3,000 emails, mostly in Vermont. Other people may forward it.

Willem

DS - I responded to the items below in previous email.

PHASE 2; Going from 55% RE at end 2017 to 75% RE at end 2032

Utilities would be FORCED to sell 75% of their energy from RE by end 2032. This looks like less of a pie in the sky goal to me as the 730,800 MWh of new RE to be generated is spread out over 15 years, or $730,800 / 15 = 48,720$ MWh, PLUS the 389,200 MWh of distributed RE also would be spread out over 15 years, or $389,200 / 15 = 29,947$ MWh/yr.

H-40 RES GOAL FOR RE UTILITIES SALES AT END 2032

Vermont consumption.....5,600,000 MWh; per ISO-NE

75% RE.....4,200,000 MWh; per RES goal

Distributed RE.....420,000 MWh; mostly solar systems on roofs, etc., per RES goal

Other RE.....3,780,000 MWh; mostly from ridgelines and meadows, and other sources, such as Hydro Quebec, as RE from farm methane, biomass, landfill gas, etc., likely will be minor, based on 4.5 years of existing SPEED projects.

RE UTILITY SALES AT END 2017

Existing RE.....3,080,000 MWh; 40% of consumption, per above DPS statement

Existing distributed RE.....30,800 MWh; mostly solar systems on roofs, etc.; my assumption

Other RE.....3,049,200 MWh; mostly from ridgelines and meadows, and other sources, such as hydro Quebec, as RE from farm methane, biomass, landfill gas, etc., likely will be minor, based on 4.5 years of existing SPEED projects.

ADDED RE UTILITY SALES AT END 2032

New distributed RE at end 2017.....389,200 MWh; mostly solar systems on roofs, etc.

New RE at end 2017.....730,800 MWh; mostly from ridgelines and meadows, and other sources, such as Hydro Quebec, as RE from farm methane, biomass, landfill gas, etc., likely will be minor, based on 4.5 years of existing SPEED projects.

If all those RE systems were built in Vermont, and 80% is assumed solar (mostly in meadows, etc., which has met GROWING public opposition) and 20% is assumed wind (mostly on ridgelines which has met SIGNIFICANT public opposition), then the estimated capital cost and number of systems would be:

Wind = $0.20 \times 730,800 \text{ MWh} / (8,760 \text{ hr./yr.} \times \text{CF } 0.27) \times \$2,800,000/\text{MW} = \$0.17 \text{ billion}$

Number of Lowell wind systems = $62 \text{ MW} / 63 \text{ MW} = 1$

Solar = $0.80 \times 730,800 \text{ MWh} / (8,760 \text{ hr./yr.} \times \text{CF } 0.14) \times \$4,000,000/\text{MW} = \$1.91 \text{ billion}$

Number of 2.2 MW solar systems = $477 / 2.2 = 217$

H-40 REQUIRES DISTRIBUTED RE to be 10% of RE at End 2032

H-40 requires distributed RE to go from about 30,800 MWh at end 2017, to 420,000 MWh at end 2032, and increase of 389,200 MWh in 15 years.

That would require ADDING, in 15 years, $389,200 \text{ MWh} / (8,760 \times 0.14) = 317,000 \text{ kW}$ of installations, equivalent to (63,470) 5 kW distributed systems, at a capital cost of $317,000 \text{ kW} \times \$3,500/\text{kW} = \$1.11 \text{ billion}$.

About \$300 million is estimated for grid upgrades. The estimated total capital cost would be at least $\$0.17 \text{ b Wind} + \$1.91 \text{ b Solar} + \$0.30 \text{ b Grid} + 1.11 \text{ b Distr.} = \3.49 billion by end 2032, or $3.49 \text{ b} / 15 = \$233 \text{ million PER YEAR}$ for 15 years. **H-40 is SPEED on steroids!**

To make capital outlays at those levels for 15 years, and have all systems in operation, in Vermont, by the end of 2032, and pay for the expensive RE, would be a major additional headwind for Vermont's fragile economy and environment.

In addition to diverting scarce capital from more useful investments, it would be misused to destroy ridgelines and meadows, and to produce RE at about 3 - 5 times New England wholesale prices, which have averaged about 5 c/kWh for the past 5 years.

A major headwind for Vermont's weak, low/near-zero-growth, economy, with mostly already-struggling households, whose real incomes have DECLINED since 2000, and with low/near-zero-profit businesses, all trying to make ends meet, while paying more and more, for an ever-growing, ponderous, expensive government sector that acts as a wet blanket on the shrinking, hollowed-out private sector.