

Testimony before Senate Finance Committee

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4/17/2015

Summary:

Passage of H40 will cause significant cost increases to Vermont's residents from overly ambitious renewable goals. There is no need to pass H40 to preserve the current \$50 M annual REC revenues. H40 would affect Vermont's energy policy, which has enormous cost impacts that can last decades. The Vermont legislature's decisions on energy policy will not change the world's climate, but will certainly change Vermont's economic climate. Lawmakers are being informed mainly by advocates such as the Vermont renewable energy industry and the DPS. Experts skeptical of the state's ambitious renewable goals need to provide more information for a more balanced debate. Solar benefits have been based on studies with outdated, incorrect assumptions. New information shows that the solar capacity benefit is overestimated. There has been insufficient review of meeting renewable energy goals with lower cost Canadian renewable sources rather than in state wind and solar sources. More long term impact cost and economic impact analysis is needed before any changes are made to Vermont's energy policy.

My Qualifications

Electric Power Engineer

Career with electric utilities and their consultants

Retired after 26 years at CVPS and GMP

Includes solar value analysis at GMP

Extensive experience with Hydro Quebec and 2,000 MW Phase II High Voltage Direct Current Interconnection to New England

My Motivation to Testify

Decisions being made with inadequate information and analysis

Decisions have extremely large and long lasting impacts

Debate is not balanced

Vermont Renewable Energy Industry is very powerful

DPS influenced by governor's pro-renewable policy

Inadequate information on negative cost impacts

Problems with H40

Based on unreliable supporting analysis

Unrealistic assumptions biased in favor of H40 mandates

DPS is hardly an unbiased source

Net Metering Study of Oct. 2014 has major problems

No consideration for opportunity costs or property value loss

Testimony from many other sources also biased

Extremely complicated analysis requires considerable time

I concur with economist Tom Kavet's caveats

Need to compare renewable goals with nation and other states

Vermont competes with other states having lower power costs

Need to consider option of Canadian renewable energy

New transmission intertie under PSB review

Consider “Runaway Train” problem

Solar generation has inertia that means changes made now cannot be stopped for years

Concern about cross subsidies for energy transformation projects

PSB is overworked with net metered solar projects

Suggestions

Obtain input from other sources

VELCO and ISO-New England

Consultants not chosen by DPS

Economic impact study results needed

Relative cost of Canadian renewables

Rate impacts

Cross subsidies

Cost of postponement to learn from other states and await technology advances

Study land use impacts

Tourism impacts

Opportunity costs

Property value changes

Solar benefits are overestimated

Capacity benefit for generation and transmission is too high

Law of diminishing returns

New solar capacity shifts electric peaks to later in the day

Capacity benefit is based on % generated at time of peak

As peaks move later in the day, solar capacity benefit declines

Peak shift is already occurring

August 2014 peak occurred at 6-7:00 PM

Solar output at this hour is 12% of capacity

Peak shift recognized by GMP:

Extract from Rutland Area Reliability Plan 4-1-2015

Further offset by solar generation is expected within a very few years but will level off as the area's post-sundown loads (which are unaffected by solar generation) begin to exceed the customary midday to afternoon peak load. This time-shift in the daily peak load is changing the way planning studies must be done for the Rutland area, and in fairly short order, will have the same effect statewide as solar power gains traction.

Capacity benefits problematic even before peak shift

Transmission system

High New England grid costs based on 12 monthly peaks, and a 100 kW solar unit has 6 kW value in reducing these costs

Other costs not avoided with new solar generation

Same Vermont grid capacity needed to meet winter peaks

i.e., if solar generation reduces power delivered, utilities can't remove spare poles and wires and sell for scrap

Load growth is flat or declining so practically no savings from utilities avoiding costly transmission system upgrades

Distribution system

At best no savings from solar; solar sometimes increases costs

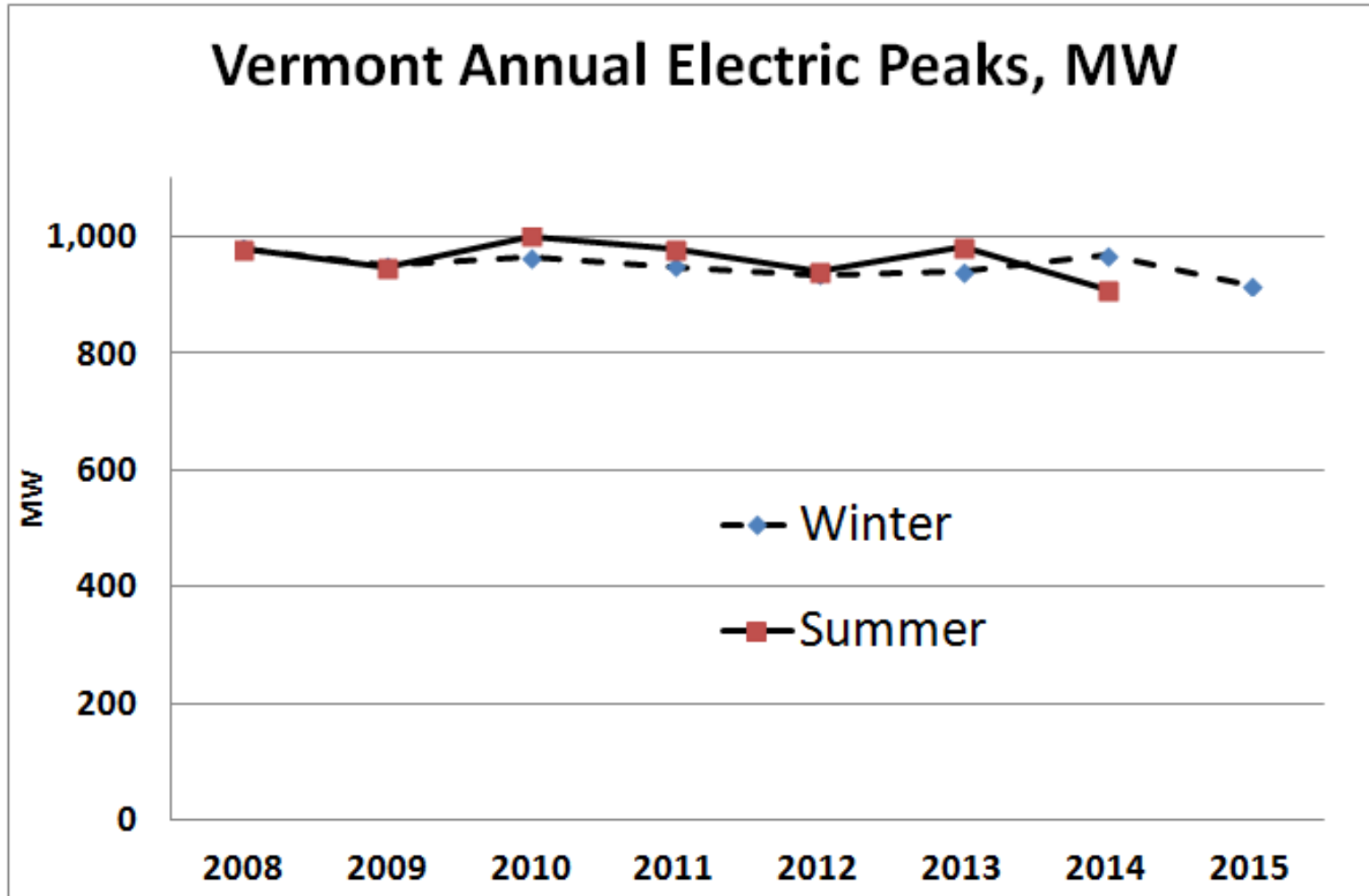
Solar will increase costs at high solar penetration rates

T&D Upgrades often done for reliability, not load growth

Same Vermont grid capacity needed to meet winter peaks

Summer Peak Electric Loads Comparable to Winter Peaks, when solar generates zero

Solar does not save investment needed for grid upgrades



There is no need to pass H40 to preserve Vermont utilities' current REC income:

CONNECTICUT PUBLIC UTILITIES REGULATORY AUTHORITY

DOCKET NO. 15-01-03 DECLARATORY RULING REGARDING CONN. GEN. STAT. §16-1(a)(20), AS AMENDED BY PA 13-303, CONCERNING THE POSSIBLE DOUBLE COUNTING OF RECS

March 25, 2015

v. Conclusion

The Authority concludes that the SPEED 2012 goal does not trigger a claim under Conn. Gen. Stat. §16-1(a)(20). The Connecticut provision precludes the eligibility of megawatt hours that are claimed toward another state's renewable energy program goals, and the SPEED 2012 program does not have identifiable numerical goals between 2012 and 2017. The Authority does not discount that voluntary representations made by Vermont retail electricity providers raise concerns. However, the federal consumer protection regime is addressing those concerns. Beginning January 1, 2017, the Vermont SPEED program may trigger a claim under Conn. Gen. Stat. §16-1(a)(20). However, the Authority concludes it is not necessary to make a final determination with respect to post-2017, particularly because legislative efforts are currently underway in Vermont to flesh out the impending post-2017 program. Finally, the Authority determines that Vermont's Standard Offer program does not preclude the use of associated renewable energy certificates for Connecticut compliance.

Recommendations

Request and review new analysis before passing H40

Thus, postpone action on H40 until next year

Consider changes to existing renewable goals

Reconsider H40 and Net Metering together