

Vermont System Planning Committee  
Forecasting Committee Draft Meeting Notes  
September 4, 2014  
Department of Public Service  
Montpelier, Vermont

**Attending at DPS:**

Tom Lyle (BED)  
John Woodward (DPS)  
TJ Poor (DPS)  
Andrew Quint (GMP)  
Rip Kirby (GMP)  
Nathaniel Vandal (Green Peak Solar)  
Eric Fox (Itron)  
Carole Hakstian, Chair (VEIC)  
Stuart Souther (VEIC)  
Mike Wickenden (VEIC)  
Hantz Presume (VELCO)  
Deena Frankel (VELCO)  
Kerrick Johnson (VELCO)  
Jared Kaplan, Deputy Chair (VPPSA)

**Attending by phone:**

Mike Leach (BED)  
Matt Rutherford (Stowe Electric)  
Bill Powell (WEC)

- 1) No new items were added to 8/5/14 meeting notes. Notes will be posted to VSPC website.
- 2) Short discussion about forecasting subcommittee leadership. Carole will succeed Andrew Quint as chair and Jared will fulfill the responsibilities of deputy chair. No objections to new leadership. Deena suggested that, if any members would like to be involved in decisions around choosing leaders, she is happy to discuss a new procedure.
- 3) Itron load forecast discussion led by Eric Fox.

Topics discussed:

- i. Heat pump kWh forecast and impact on MW demand
- ii. Solar load forecast
- iii. State economic forecast availability (expected from state economist at the end of September).

**Heat pumps:**

kWh forecast:

- a. Average kWh usage per customer for heating : -1.2% decline from 2014-2024; 2% increase from 2024-2034. Heating kWh usage per customer is higher than cooling.

- b. Average kWh usage per customer for cooling: 1.2% increase from 2014-2024; 5% increase from 2024-2034. Large percent increase due to a lower base load level.

MW forecast:

- a. Summer peak will grow faster than winter peak: 0.3% for summer and -0.2% for winter peak for 2014-2034 period.
- b. Itron is assuming roughly 75% of units are on at time of peak.

Room A/C saturation in NE is flat. VT is also flat. Itron says heat pumps are not expected to result in reduced existing room A/C usage.

How do heating degree days change over time? Eric is looking into this.

Summer peak will shift from afternoon to evening (3pm to 6pm).

Issue: impact of heat pumps at time of peak. ME study: at time of summer peak, each heat pump had a 0.14-0.20 KW per unit impact on summer peak.

System peak is between 2-3pm.

Still a lot of electric load primarily due to furnace fans and motors.

Peak model does a reasonable job of capturing impact of heat pumps. Greater impact on summer rather than winter peak.

Cold temp heat pumps can't work in very cold weather so an auxiliary system kicks in. How does peak day respond to very cold days? They can work below 0 but not as well. Conventional heat kicks in below 0.

45,000 heat pumps in place in 2030.

Demand will be impacted by price of oil, for example.

Price for replacement is low. Easy to remove old and install new.

[The group voted for the GMP heat pump saturation forecast model, that is, the high case.](#)

**Solar Net Metering:**

No net metering (NM) in last IRP.

500kW Community Solar Systems Forecast: 15% cap reached in 2022 - 245 systems

Concerns voiced by Nathaniel:

- a. There is a limited supply of highly credit worthy customers for net metering. Most companies are targeting municipalities, schools, etc. for this reason. Once these are gone, there is a very limited supply of credit rated private companies in Vermont. Financing 20 year contracts with smaller companies with no credit rating becomes more and more difficult.
- b. There are a limited number of customers who can utilize all of the power generated from 500kW systems (do you know how many in GMP territory?), developers will have to contract multiple people to form a group. Most developers will say that getting people to sign a 20 year PPA is the primary limiting factor. Having more than one customer per project will slow growth.

- c. For projects installed after 2016, the Investment Tax Credit will decrease from 30% to 10%, unless the law is changed. This will have a significant impact on project economics.

A lot more players in solar development than expected, even by GMP. Faster growth rate is inevitable. Cap has been raised and number of interested people is rising.

Political decisions will impact the number of units installed in the future.

What will the new market look like? GMP is trying to figure that out.

Nathaniel: looking at this as a load reducer but how will the system handle this level. Depending on where the systems are located, zonal load forecast will be affected.

# rooftop units increase at uncapped rate. Community forecast will be lower than shown in previous version.

The group agreed that the number of new group generation units would increase by half of 'half the rate' and that rooftop units would continue to increase at an uncapped rate.

#### **Energy Efficiency:**

The group discussed whether the forecast should include stretch energy efficiency QPI targets for years 2015-2017 and **expected savings** for 2018-2034 or use expected savings for the full 2015-2034 period. Stretch targets are 20% higher than expected savings goals.

Eric explained that he has already built in a lot of efficiency to the forecast. Mike W added that there is no certainty around meeting stretch targets as they are aggressive. Also, there will likely be additional areas identified as constrained and EVT would adjust efficiency estimates at that time, if appropriate. The risk of under-valuing efficiency will be reduced given this "second look". Mike also pointed out that, in past forecasts, Itron used savings estimates rather than stretch goals. There is also the complication of only having three years' worth of stretch goals.

The group agreed that Itron should include 2015-2034 savings estimates into the forecast.

#### **Electric Vehicles:**

Eric will look at EV data from Drive Electric VT and other data send by Carole. Currently, there are no EV's in model but the group suggests adding them in next year's forecasting exercise.

#### **4) Next steps:**

- a. Hantz will circulate final version of load forecast to group.
- b. Next forecasting meeting will be scheduled for early November.
- c. Review VSPC forecasting charter (Carole and Jared).