

## VSPC Forecasting Subcommittee Meeting

May 22, 2014

Burlington Electric Department

Burlington, VT

### Attendees (16):

Mike Leach (BED)  
Tom Lyle (BED)  
TJ Poor (DPS)  
John Woodward (DPS)  
Shawn Enterline (GMP)  
Kim Jones (GMP)  
Rip Kirby (GMP)  
Nathan Vandal (Green Peak Solar)  
Eric Fox (Itron)  
Oleg Moskatov (Itron)  
Carole Hakstian (VEIC)  
Mike Wickenden (VEIC)  
Deena Frankel (VELCO)  
Hantz Presume (VELCO)  
Jared Kaplan (VPPSA)  
Bill Powell (WEC)

- 1) TJ Poor opened the meeting. Introductions and approval of notes from March 19 meeting.
- 2) Short discussion of new item added to agenda – information sharing: Mike Leach asked about the status of the central information sharing database. It was mentioned that Jared Kaplan set up a Dropbox location for data downloading. Since there were a further issues and questions related to the data sharing concept, the topic will be put on agenda for the next meeting. A question was asked about the type of data which would be made available in the database.  
**TASK: All participants should consider which data sources would be ideal to share and have public. Please send thoughts to Carole Hakstian by June 13, Carole will compile and distribute prior to the next meeting.**
- 3) Forecasting subcommittee future leadership discussion is postponed until the next meeting
- 4) Eric Fox and Oleg Moskatov presented on load forecast. The presentation was made available to the committee. Highlights include:
  1. Vermont's peak demand (MW) is flat
  2. Extreme winter peaks are not far from summer peaks
  3. Residential average use (kWh) is declining consistently at 1% annual rate. Since 2012, usage has fallen faster as new lighting standards phase in.
  4. Commercial average use (kWh) decline is largely due to recession

5. Industrial average kWh use dropped by 11.5% in 2009 but increased by 1% annual growth since 2009.
  6. EIA AEO 2014 has significantly lower unit efficiencies than AEO 2013, resulting in significantly lower expected growth rates.
  7. Expect to see continuing decline in residential and commercial usage. Based on the past, expectation is that total energy will be flat to declining going forward.
  8. Factors that may change usage trajectory: stronger economy, faster decline in baseline energy intensity, change in efficiency expenditures, strong PV market penetration, heat pump, electric vehicles, additional hot water control programs, ice-storage cooling systems, and smart-meter-based TOU rates.
  9. The presentation highlighted questions that the committee should address. A number of these questions are summarized below. Itron will provide a more complete list.
- 5) A question was raised about the state economist's (Jeff Carr) forecasting of GDP. **TASK: John Woodward, DPS, will inquire and share information with the subcommittee.** Eric Fox also mentioned it would be beneficial to know what the New England Economic Project is forecasting. Can Jeff Carr attend forecasting meeting to speak about economic affairs in Vt?
- 6) There was significant discussion about the shares of various lighting technologies. Itron will build out a technology spreadsheet, describing how the saturations of different technologies flows through to the end use intensity. This project will be completed over the summer. Need information (if different than what was in the Itron presentation) on what is the distribution of the market now, and what is expected in VT in the future. Currently, the base of the saturation shares is regional market share data.
- TASK: Mike Leach, BED, will provide BED's appliance saturation survey when it is complete.**
- 7) Eric asked if EVT has saturation data for lighting and other major technologies: lighting, water heating, HVAC (electric heat), commercial energy intensity forecast.
- 8) Eric also asked if anyone has AMI data to share.
- 9) In determining NM forecast, Itron created a simple market saturation model (simple payback), based on existing # of customers with solar systems. Monthly savings impacts were generated as  $\text{Impact} = \text{customers} \times \text{system saturation} \times \text{usage}$ . Net metering load shapes would be useful.
- a. **TASK: Eric will provide the solar price model for Committee feedback.**
  - b. **TASK: Nathaniel will provide solar generation shapes, if possible, for a typical year.**
- 10) Wrap-up:  
**TASK: Itron will send out to-do's in the next week**

Next meeting will be held middle to end of June

Questions for committee (maybe more from Itron):

- 1) What data is available for Itron?
  - o EVT forecast of savings (i.e. expected efficient technology saturations), water heating, electric heat, AMI data, other?
- 2) Vermont is expected to update codes every three years. Will this reduce energy intensity per square foot faster than what's forecast in the model?
- 3) Is Moody's economic forecast appropriate?
  - o What is the state forecast using as a growth rate? The New England Economic Project?
- 4) Are changes to AEO from 2013 to 2014 appropriate for use in Vermont?
- 5) Are Lighting Technology Saturations appropriate? See process identified above.
- 6) Other end use saturation for the committee to investigate: electric heat, water heating.
- 7) Review solar saturation model and data re: size of system and expected penetrations. Provide feedback. Could trend in PV be similar to EE years ago (or now)?
- 8) Provide expectations for solar standard offer.
- 9) Heat Pumps – alternative saturation levels? Load shapes? Any AMI data available?

#### **SUMMARY OF TASKS:**

- 1. All participants should consider which data sources would be ideal to share and have public. Please send thoughts to Carole Hakstian by June 13, Carole will compile and distribute prior to the next meeting.**
- 2. John Woodward, DPS, will inquire with Jeff Carr about Vermont economic forecast and share information with the subcommittee.**
- 3. Mike Leach, BED, will provide BED's appliance saturation survey when it is complete.**
- 4. Eric will provide the solar price model for Committee feedback.**
- 5. Nathaniel will provide solar generation shapes, if possible, for a typical year.**
- 6. Itron will send to-do's.**