

Planning the next Long Range Plan load forecast

vermont electric power company



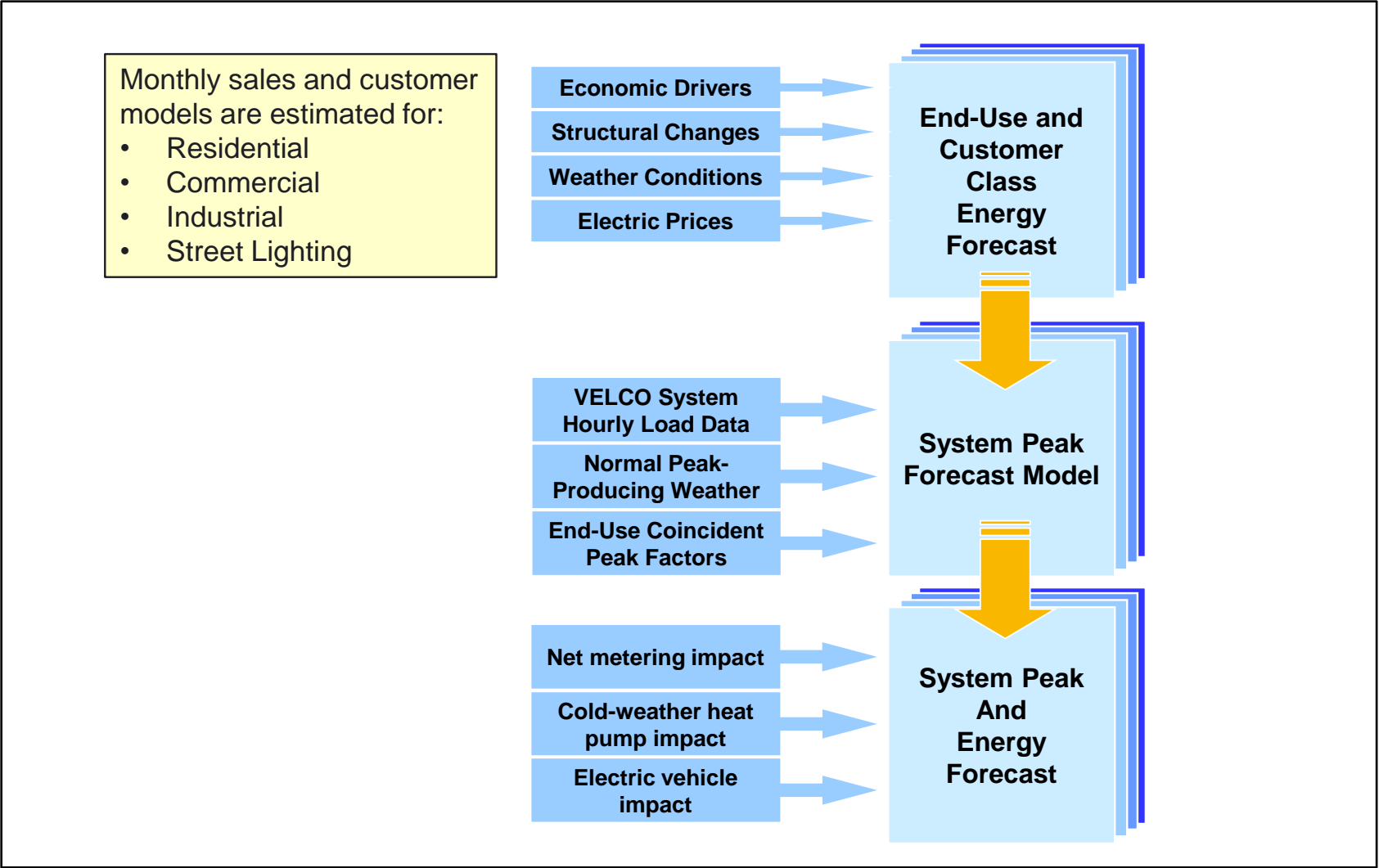
For discussion at the
Oct 5, 2016
VSPC Forecast
Subcommittee meeting

Forecast methodology

- Bottom-up approach
 - Develop forecasts at customer class level
 - Aggregate class sales forecast to system energy
- Energy requirements derived from residential and commercial sales forecast models
- Industrial and street lighting loads used to drive peak demand forecasts through monthly peak demand regression models
- System energy and peak forecasts adjusted for
 - Energy efficiency – embedded in the load (determine %)
 - Net metering and other small scale renewable programs
 - Electric vehicles
 - Cold-weather heat pumps
 - Other technologies as they become known

From ITRON forecast report on VSPC Forecast Subcommittee web page 3/17/2015 documents

Forecast overview diagram



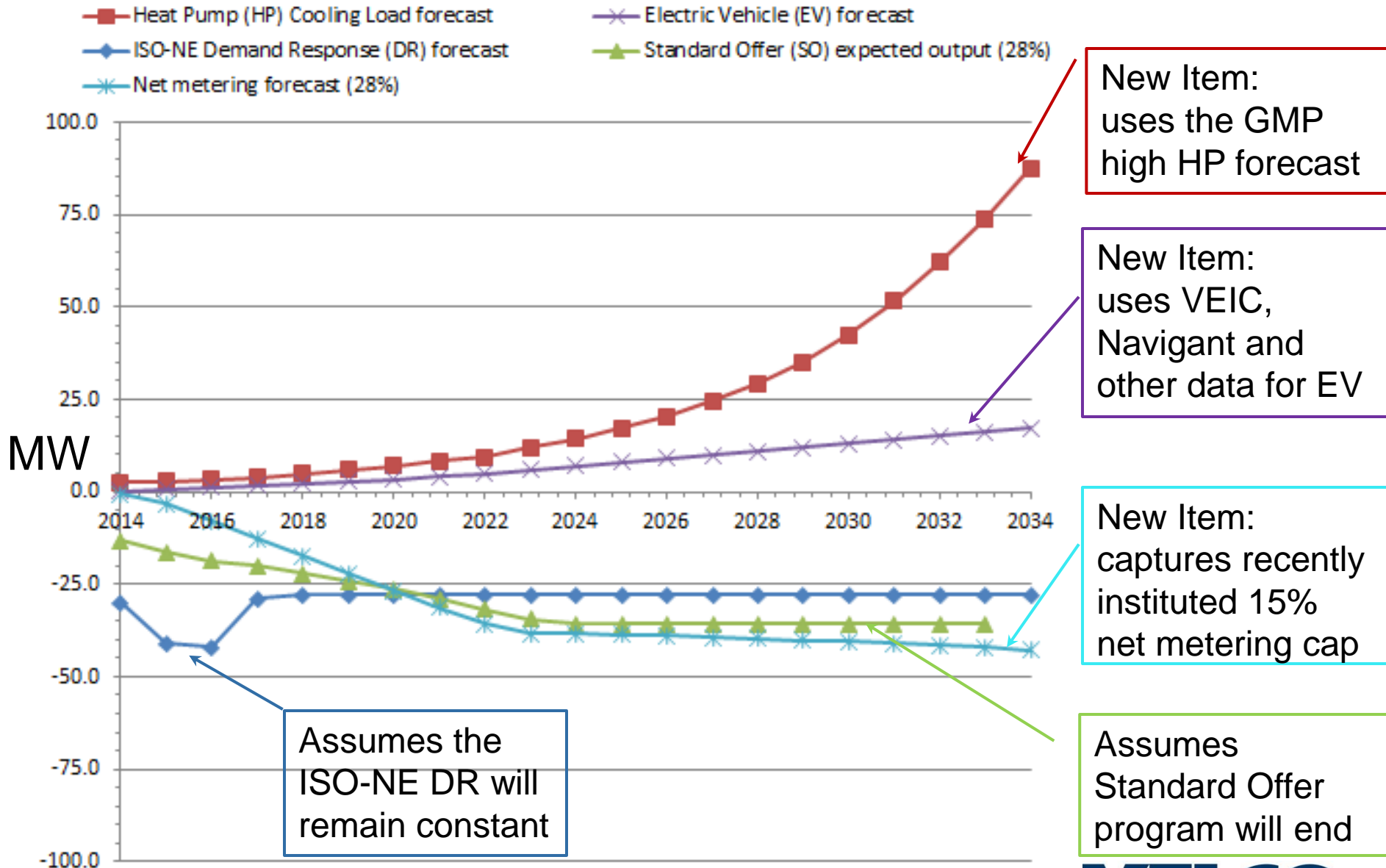
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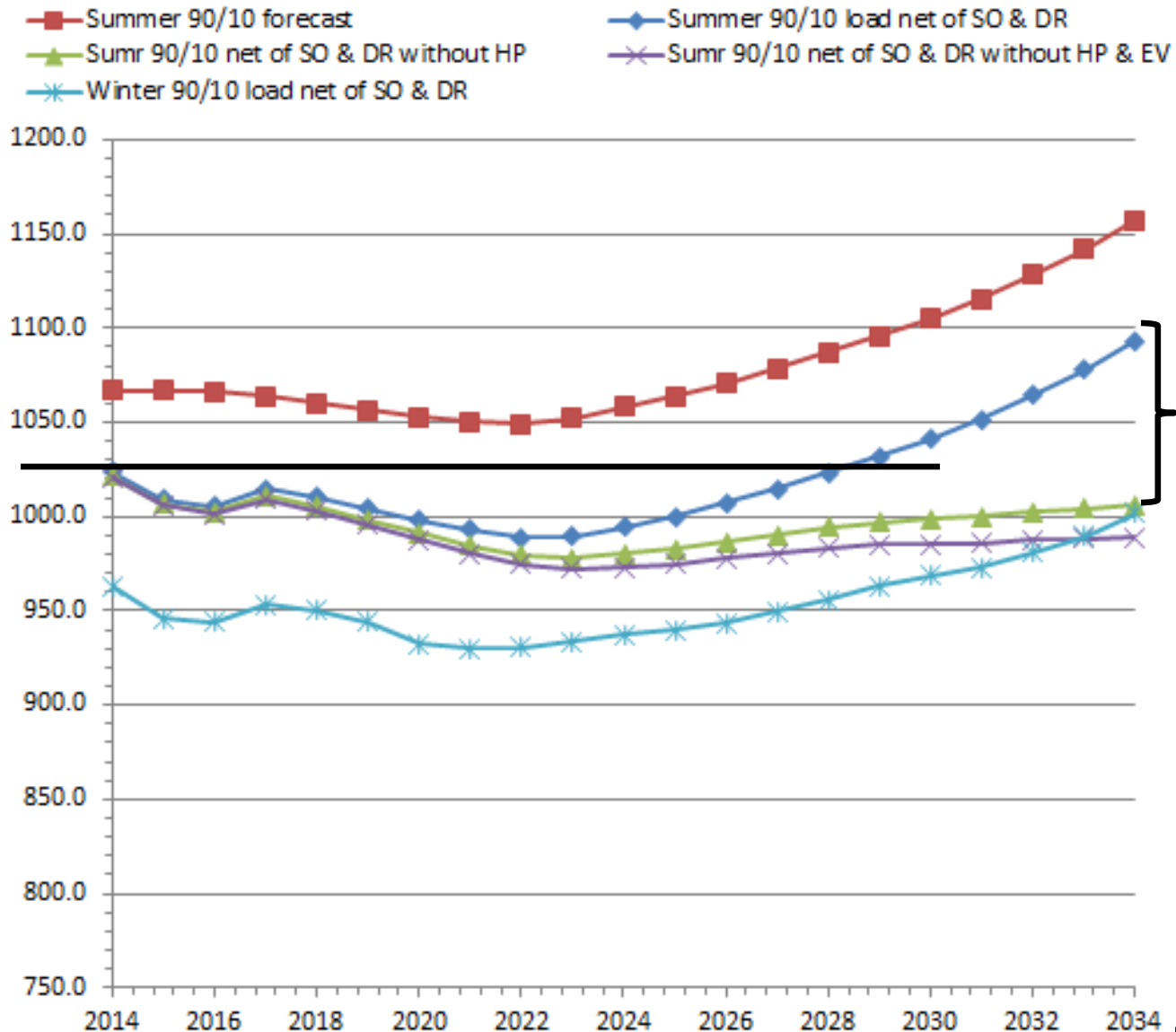
Discussion items during the last forecast effort

- Economic forecast assumptions
- Normal weather assumptions
- State efficiency program impacts
- Net metering impacts
- Adoption path of cold-weather heat pumps

Separate forecast generated for these items



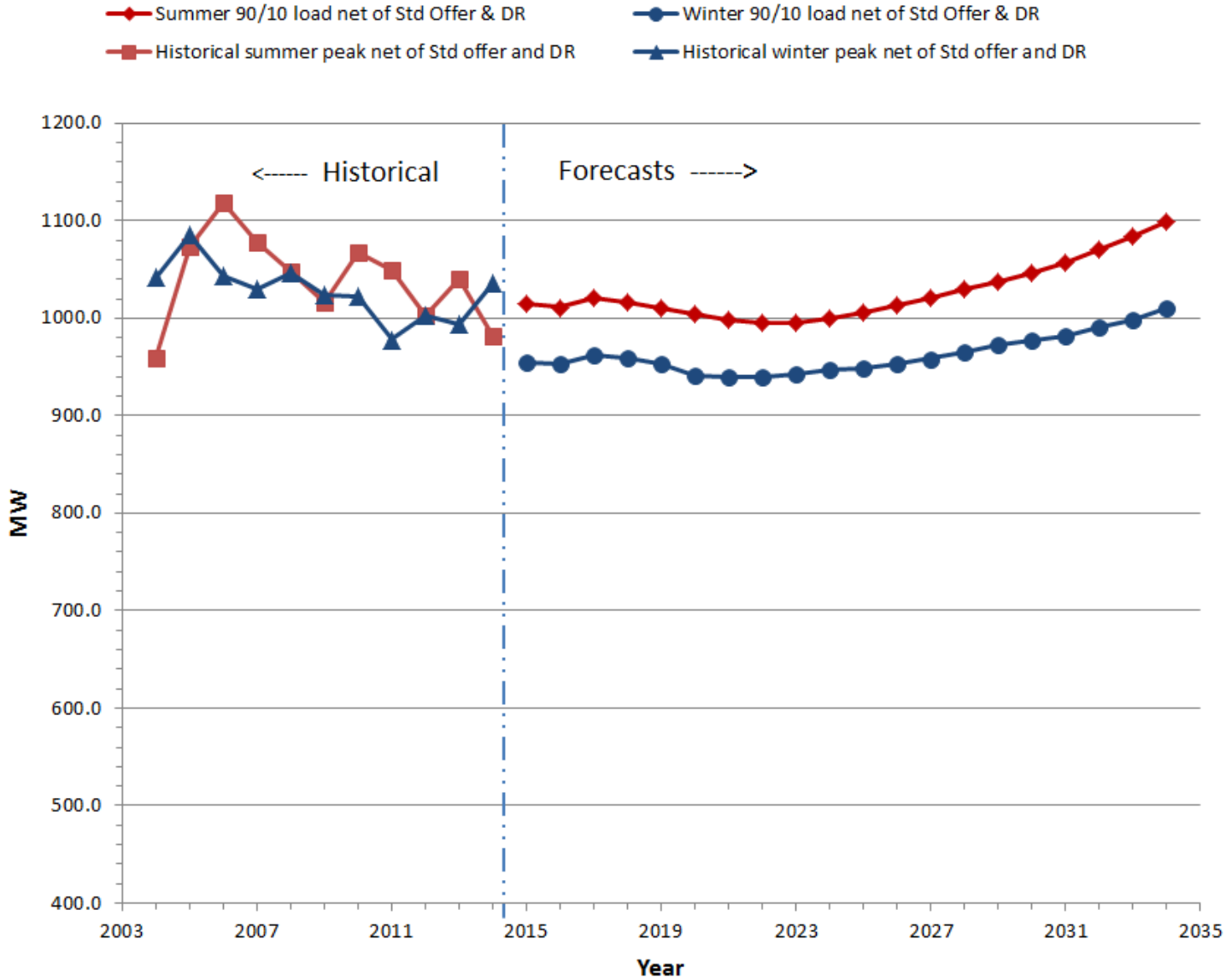
Twenty-year load forecast (high uncertainty 20 years out) —system impacts beyond 10 years do not require NTA



87MW
delta
based on
high case

Heat pumps
get us back
to year 1
loads in 13
years

Load forecasts tested in long-range plan analysis

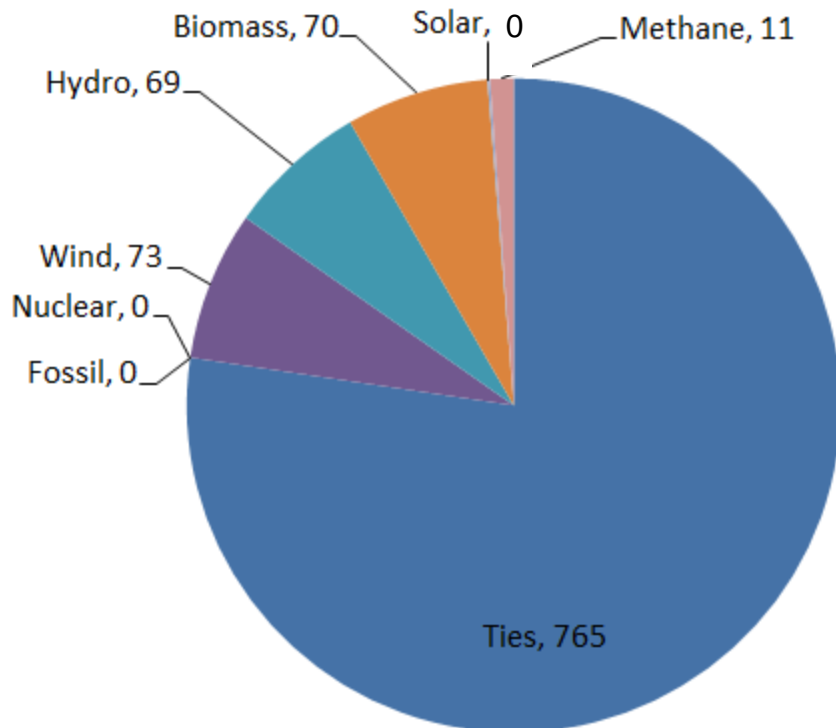


Anticipated new discussion items

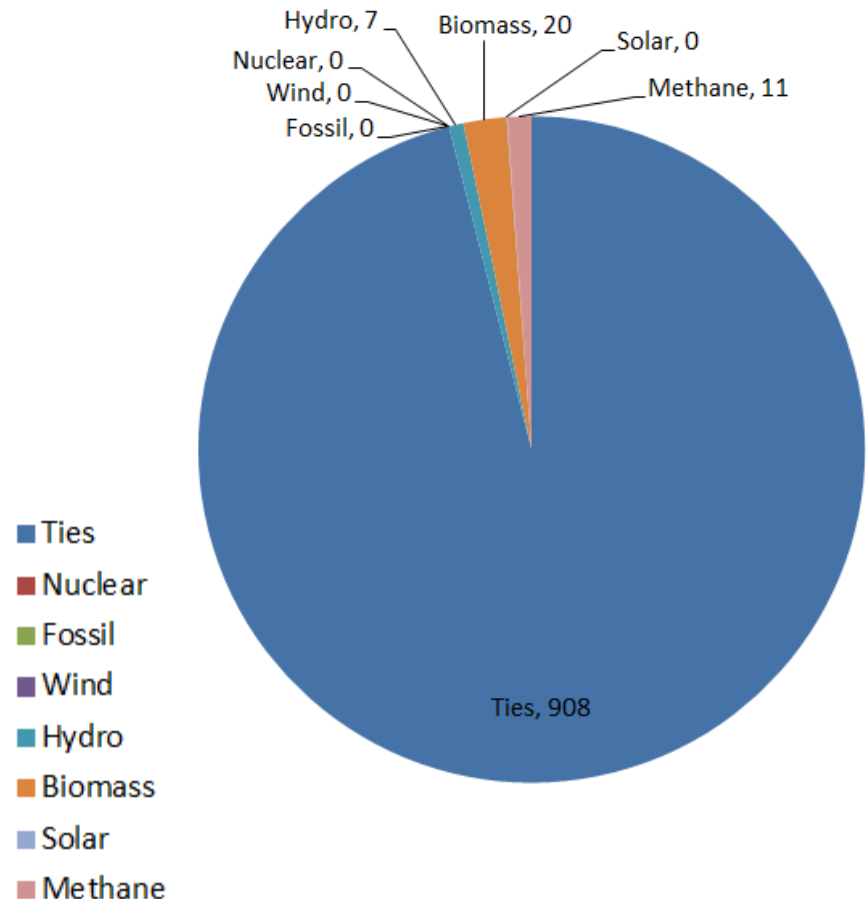
- How do we tie the forecast to potential implementation paths of state RPS
 - Particularly tiers 2 and 3
 - Utilization of VEIC solar pathway and/or Department proposed scenario
 - Utility specific plans
- How to account for future unknown state programs
- Are there any new technologies that will be deployed in the next 10-20 years with certainty
- How to incorporate storage into future loads
- Whether we are using the right capacity factors for efficiency with the effects of solar

2015 Vermont peak days

- 2015 **winter** peak 1/8/15 18:00
- Load = 989.6 MW



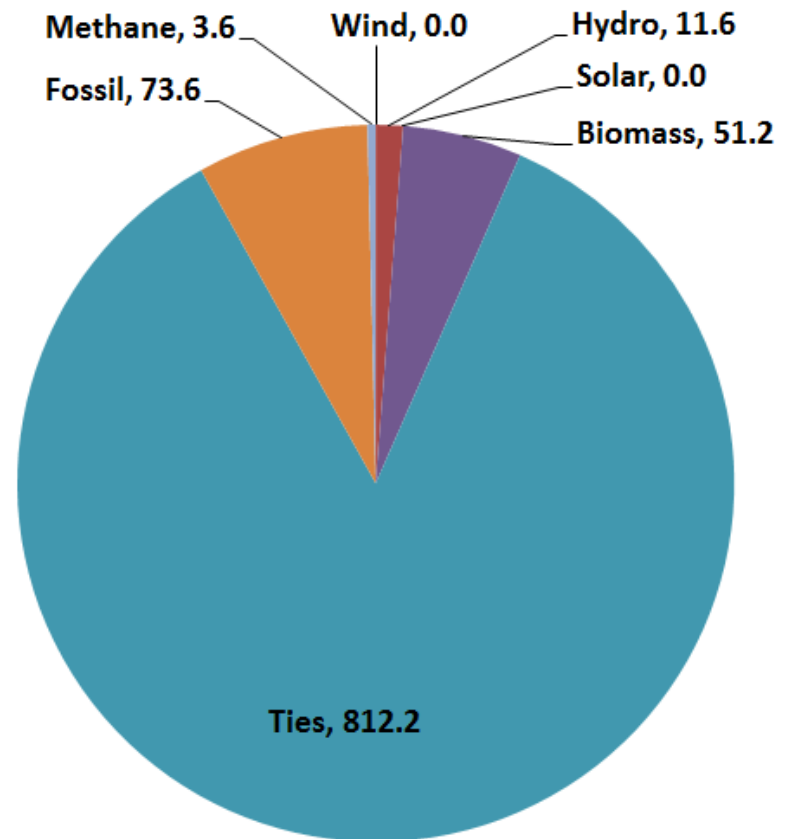
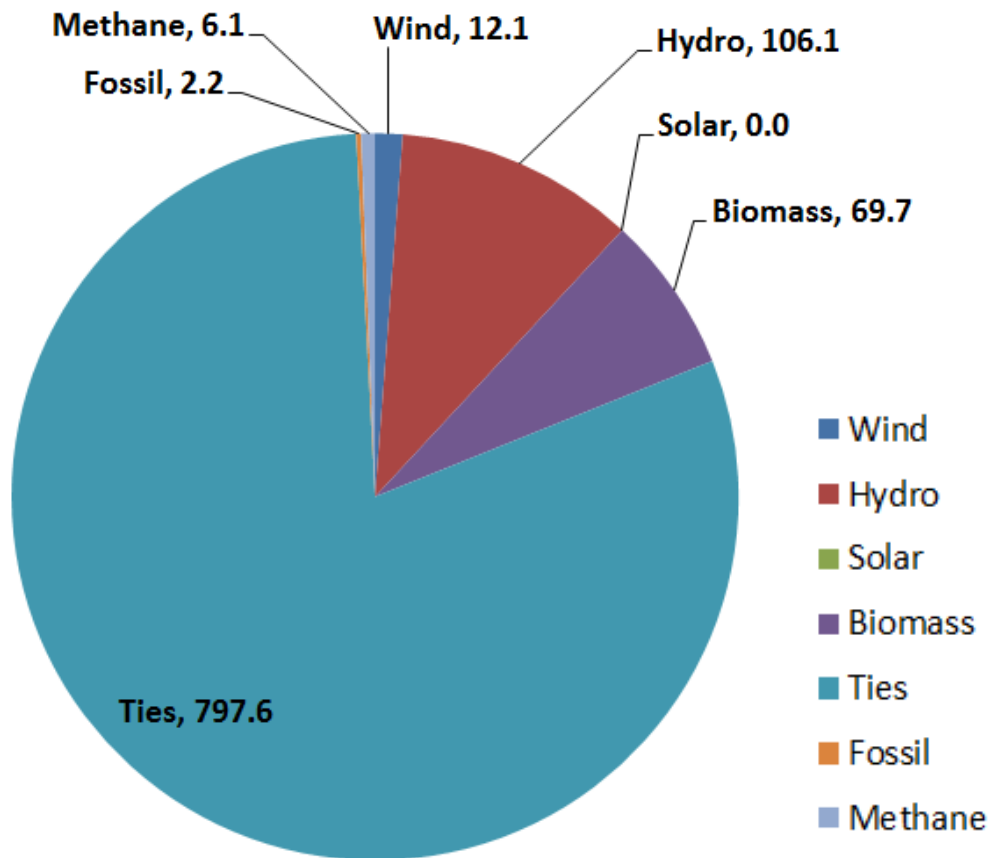
- 2015 **summer** peak 9/8/15 20:00
- Load = 945.1 MW



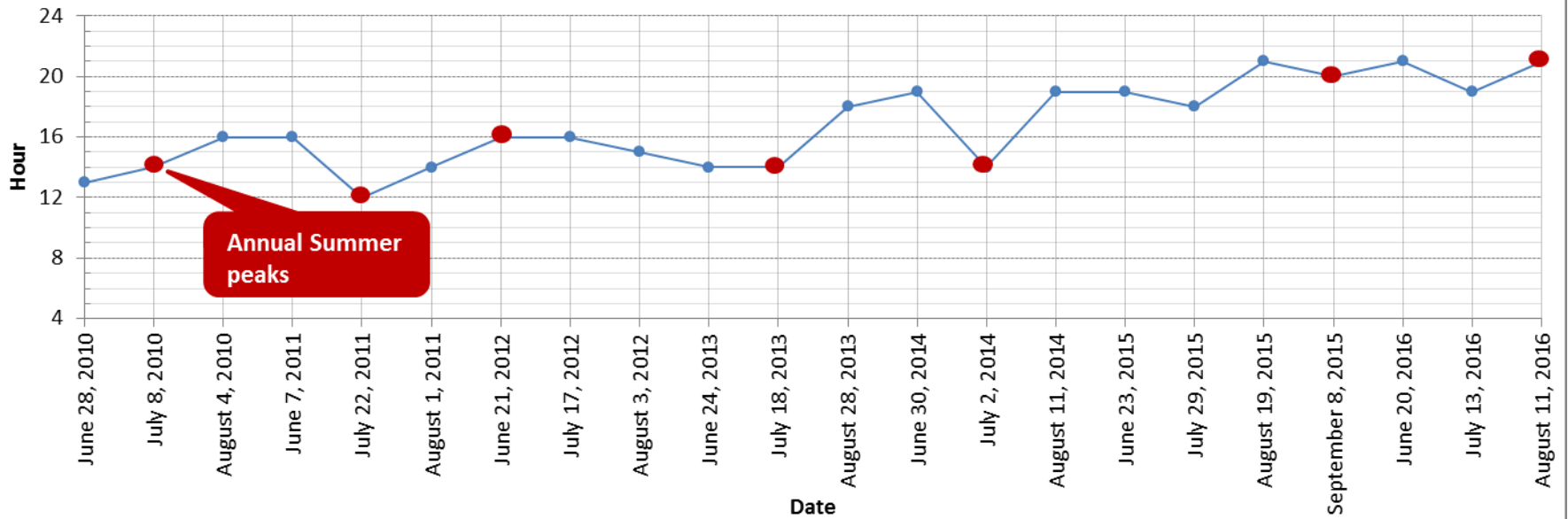
2016 Vermont peak days

- 2016 **winter** peak day (1/4/16, 18:00)
- Load was 993.7 MW

- 2016 **summer** peak day (8/11/16, 21:00)
- Load was 952.2 MW



Vermont Summer Monthly Peak Times



ISO-NE Summer Monthly Peak Times

