2026 Long-Term Forecast

Mar 25th, 2026

Itron, Inc: Mike Russo, Eric Fox, Brien Rissman

Agenda

1. Changes from the February Meeting
2. Updated Baseline Forecast
3. EV Forecast: Policy vs. EIA Based
4. Heat Pump Hourly Shapes
5. Forecast Results

Changes Made Since the February Meeting

1. Historical load has been reconstituted for BESS (battery storage), FLM (flexible load management), and GMP rate 72 controlled event days.

2. Itron will develop a medium and policy forecast. The differentiating factor being the medium forecast uses an EV forecast based on the EIA; the policy forecast assumes EV sales target of 100% electric by 2035.

3. There is no staggered start time for EVs charging on a TOU rate.

4. The MWh associated with PHEV charging is not impacted by TOU or controlled charging.

5. The percentage of EV customers not on any EV rate is currently 25%, increasing to 35% by 2035.

Adding Back BESS, FLM, & EV Controlled Charging

- The goal is to forecast true demand; because of this we have always added back solar generation to forecast gross load. We then subtract all solar generation for the gross load forecast.
- BESS, FLM, and EV controlled charging are similar to solar in that they reduce the true demand.
- The historical VELCO system and zonal loads have been reconstituted for BESS, FLM, and EV controls based on data provided by GMP.
- The resulting baseline and final adjusted forecasts do NOT include the impact of BESS, FLM, and EV controls.

Electric Vehicles

Current Electric Vehicle Market Information: Vermont

» As of January 2026, there were approximately 20,967 registered electric vehicles in the state, comprised of all electric (BEV) and plug-in hybrid electric (PHEV).
  • 62% BEV and 38% PHEV

» 3,028 additional EV were added over the past year, a 17% increase, this is down from previous years.
  • 7.8% of light duty vehicle sales in the 4th quarter of 2025, 9.9% of light duty vehicle sales in the 3rd quarter of 2025, 12.4% of light-duty sales in the 4th quarter, 2024.

» Top 5 most popular models sold in the 4th quarter of 2025 were the Hyundai Ioniq 5, Tesla Model Y, Toyota RAV4 Prime, Volkswagen ID.4, Chevrolet Equinox EV.

» Federal tax credits expired on Sept 30th, 2025.

» US: 4th quarter 2025 EV sales dropped to 234,000 units, a 46% decline from Q3 and 36% lower year-over-year. Some of this drop is due to seasonal patterns and not solely a drop in demand.

Source: Drive Electric Vermont and Cox Automotive

Medium and Policy EV Forecast

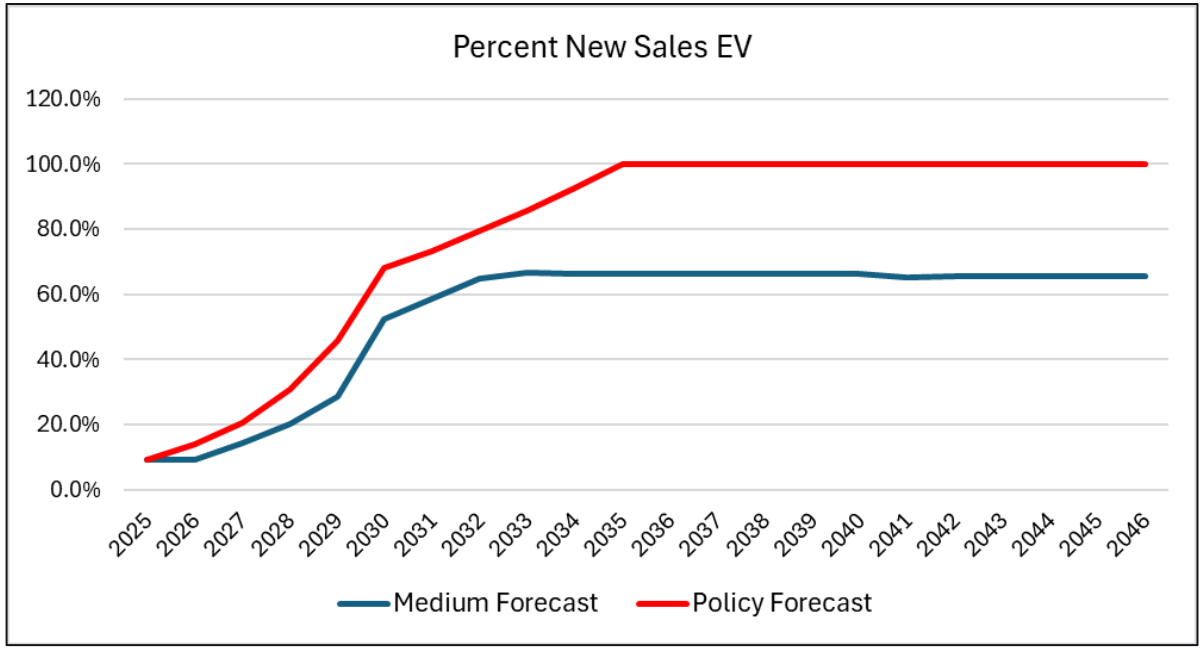
- Two EV forecast are produced, a medium forecast based on the EIA's forecast for New England, and a policy forecast based on EV sales targets where 100% of new vehicle sales are eletric by 2035.
  - The medium EV forecast will be used in the medium load forecast
  - The policy EV forecast will be used in the policy load forecast

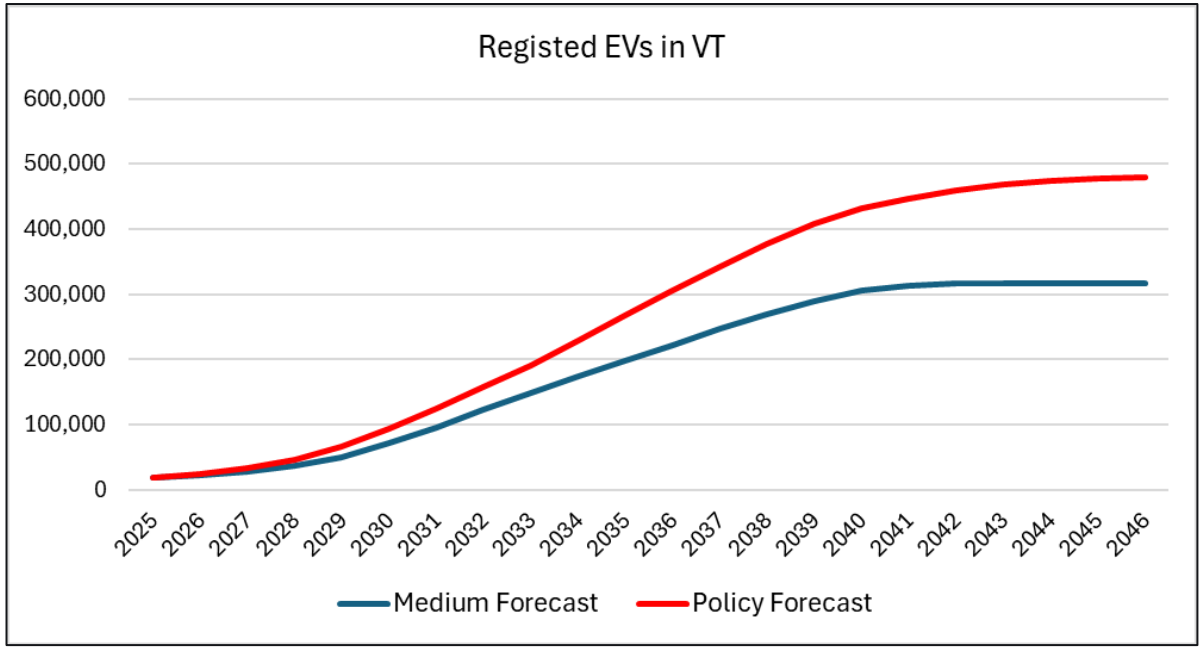
- Both EV forecasts use the same assumptions regarding EV hourly charging, miles driven, kWh per mile, and life cycle of vehicles.

- The medium forecast results in 197,578 registered EV in Vermont by 2035

- The policy forecast results in 266,514 registered EV in Vermont by 2035

Medium and Policy EV Forecast





» Medium forecast maxes out at 66% of new vehicle sales, compared to 100% in policy forecast.

Overall Same Approach for Medium & Policy

1. Develop a state-level EV forecast using the EIA or policy EV sales targets.
   I. Starting with the most recent EV sales and EV registrations
   II. EV sales targets based on state mandates or EIA forecast
   III. Assumptions regarding BEV/PHEV splits, annual miles, kWh per mile, average vehicle life

2. Forecast county EV registrations as a function of county household income.
   i. Calibrate county EV forecast to state EV forecast
   ii. Validate reasonableness of county allocation

3. Combine EV MWh forecast with hourly charging profiles
   i. Home charging versus public charging
   ii. Uncontrolled home charging versus controlled or TOU rates

Hourly EV Charging Assumption

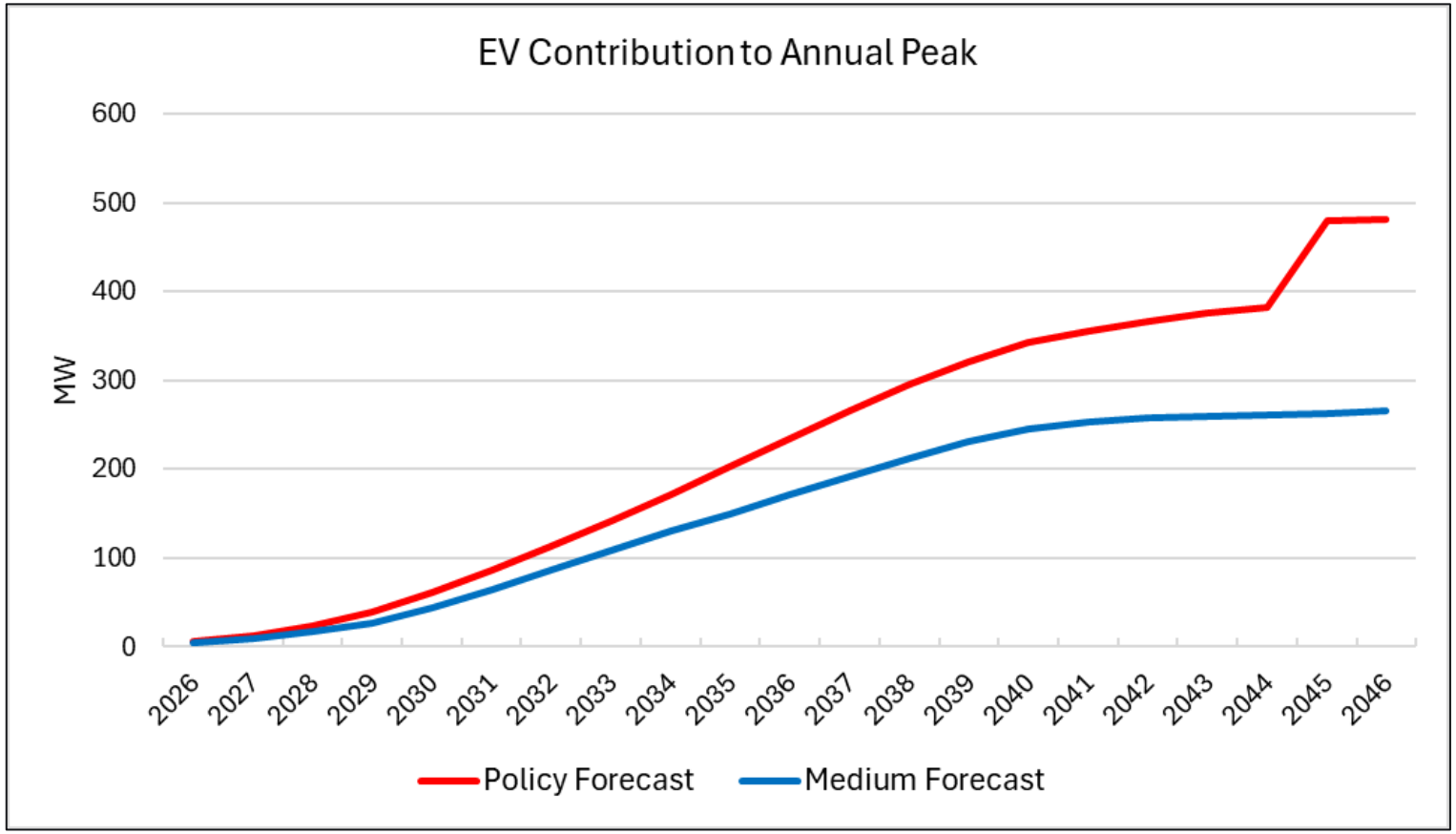
- Forecast assumes that 80% of charging occurs at home and 20% away from home at public or workplace chargers. Home charging is allocated to one of three charging strategies.

- **Non-incentivized rate**: We assume 25% of EV owners are not signed up for any rate, this increases to 35% by 2046. The hourly charging pattern is based on publicly available EV charging patterns from the Dept. of Energy's EVI-Pro Lite online tool.
  - We assume all PHEV charging will be on a non-incentivized rate.

- **Incentivized TOU Rate**: 2/3 of customers on an incentivized rate are on the TOU rate. All EVs on this rate begin charging at the same time, there is no staggered start. The hourly charging pattern is based on GMP rate 74 hourly charging data.

- **Incentivized Managed/Controllable Rate**: 1/3 customers on an incentivized rate are on managed/control rate. The hourly charging pattern is based on GMP rate 72, non-event days, hourly charging data.
  - The impact of controlled charging is not included in the Itron load forecast.

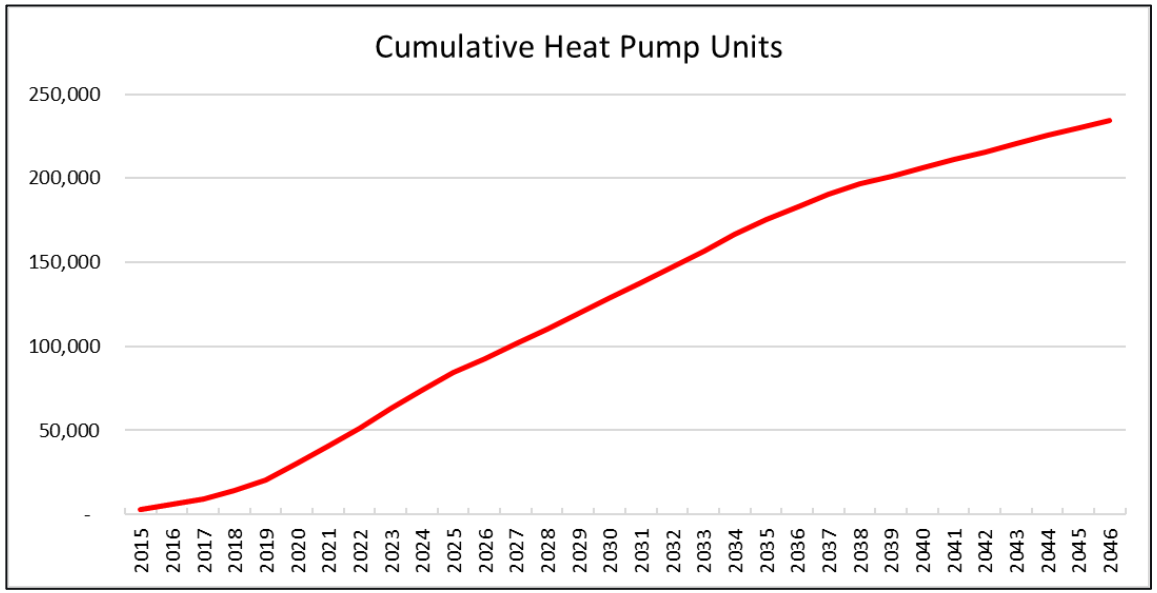
EV Coincident Demand Impact

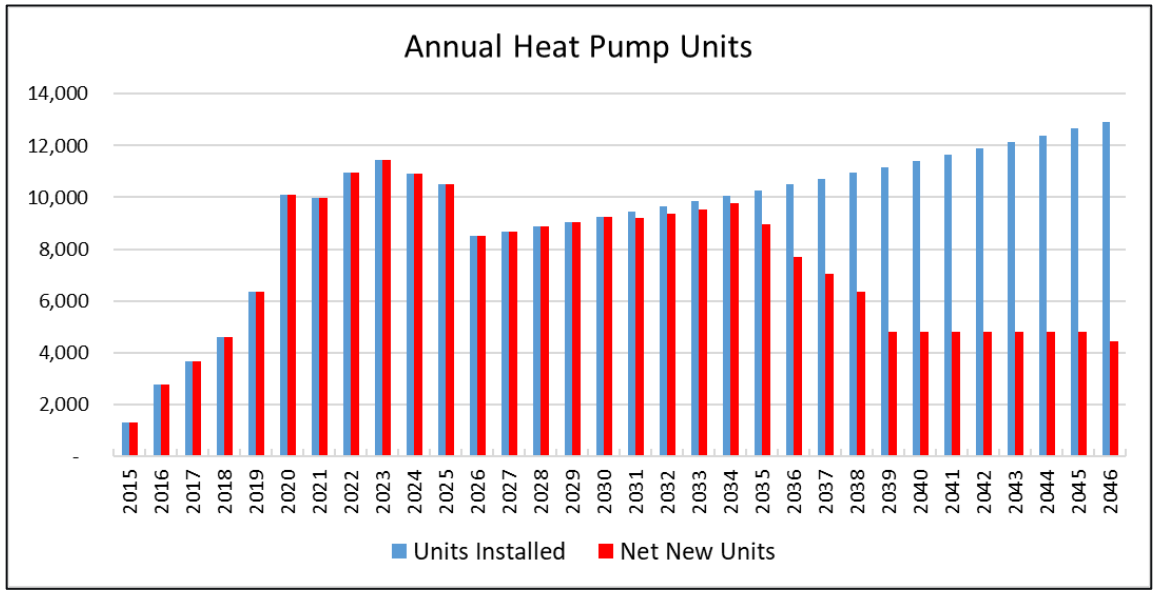


- The EV demand impact jumps up in 2045 due to the timing of the system peak, which shifts from 18:00 to 21:00.
- The demand impact in the medium forecast is 17 MW lower is 2030 and 53 MW lower in 2035

Heat Pumps Hourly Shape

Heat Pump Forecast: Units and Saturations



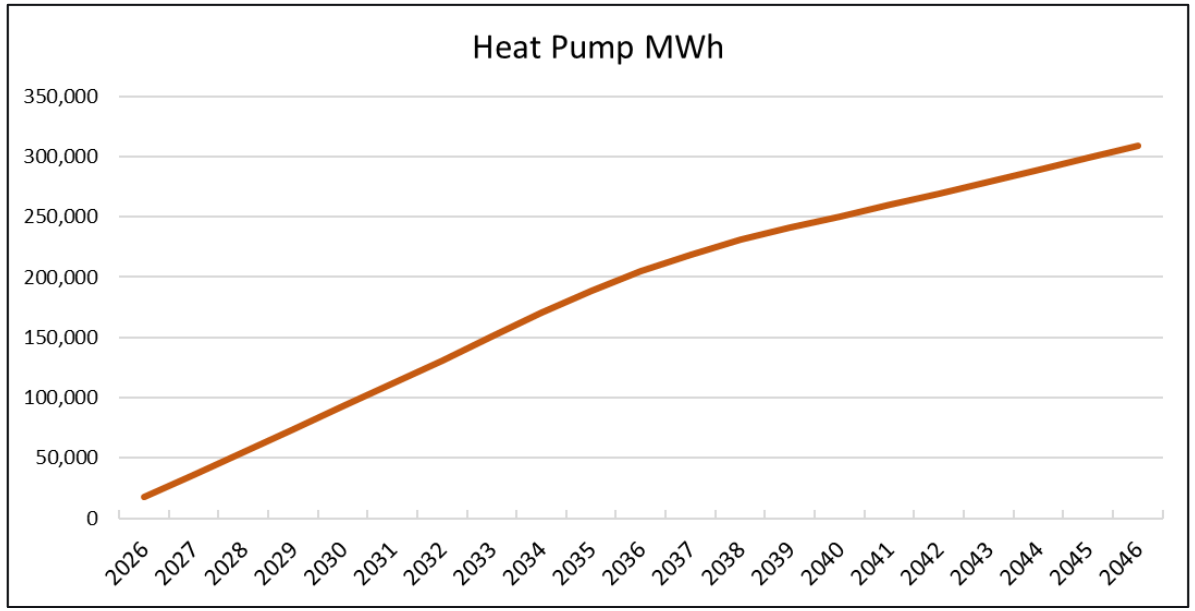


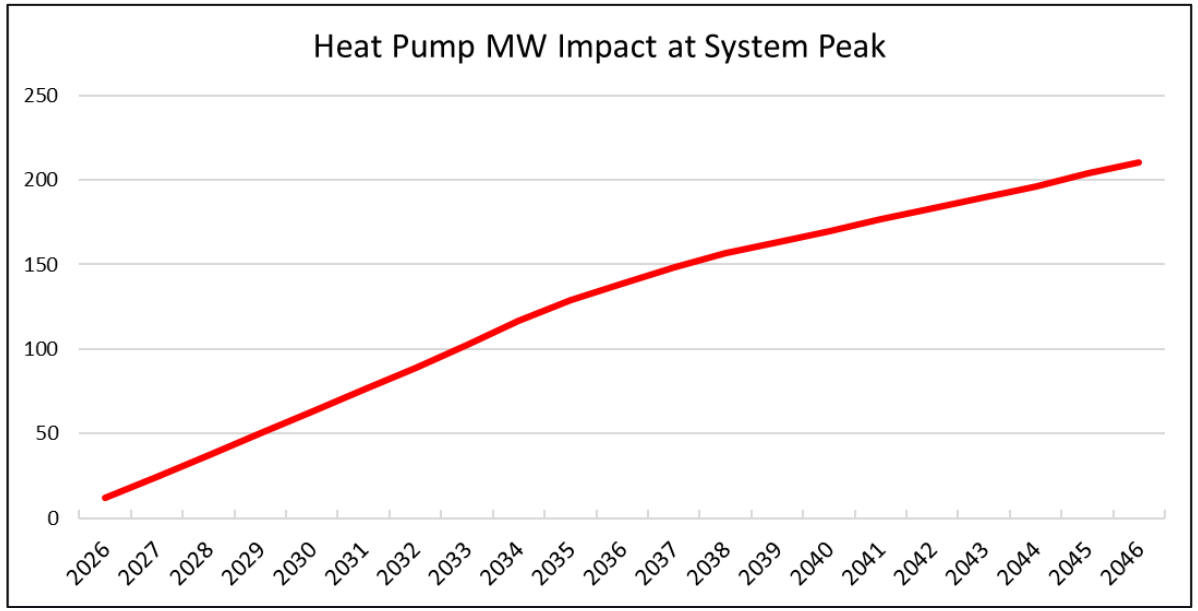
» Assume 8,500 units per year starting in 2026, growing at the same rate as residential customers

» Assumes a 15-year life cycle, in the outer years most units are replacing existing units and not adding to net new heat pumps.

» By 2046 50% of Vermont residential customers have a heat pump

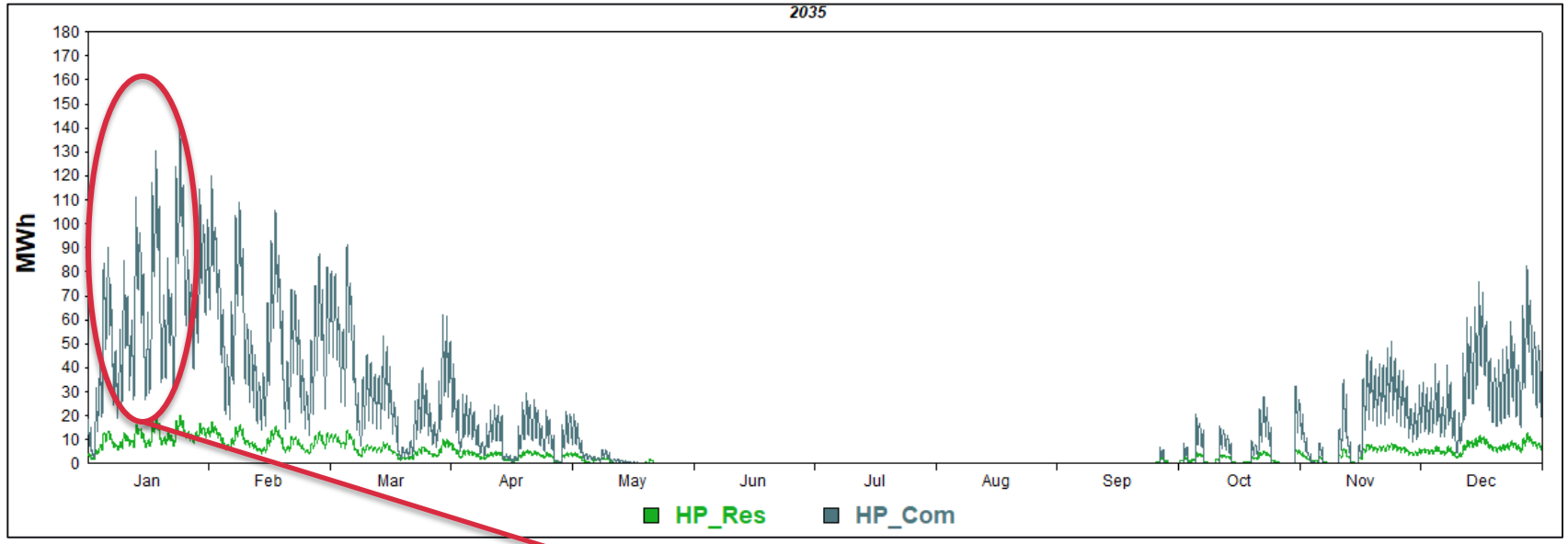
Current Heat Pump Forecast: MWh and Impact on Demand



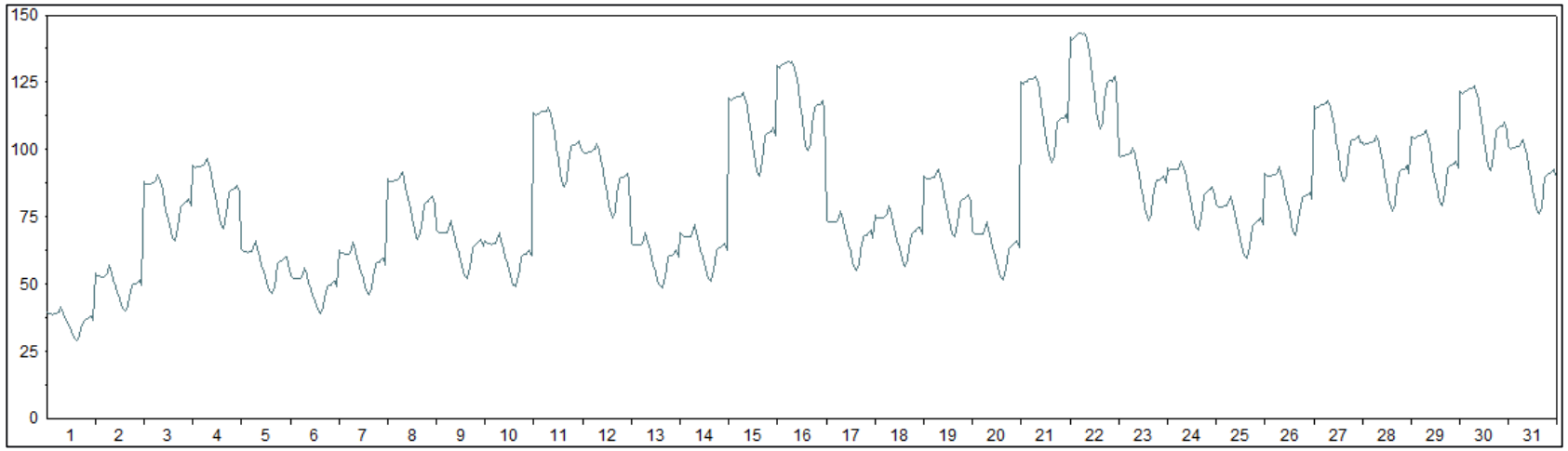


- The forecast is adjusted for cumulative incremental new heat pumps, the impact of existing heat pump is embedded in the historical load data
- We assume 2,087 kWh per heat pump for all zones except Addison, Chittenden, and Frankline.
  - Based on the 2024 Vermont heat pump study the average UEC for customers in areas with access to natural gas is 989 kWh. For these zones we use a weighted average ranging from 1,353 kWh to 1,981 kWh.
- Demand impact is based on hourly heating profile and coincident with system and zonal peaks.

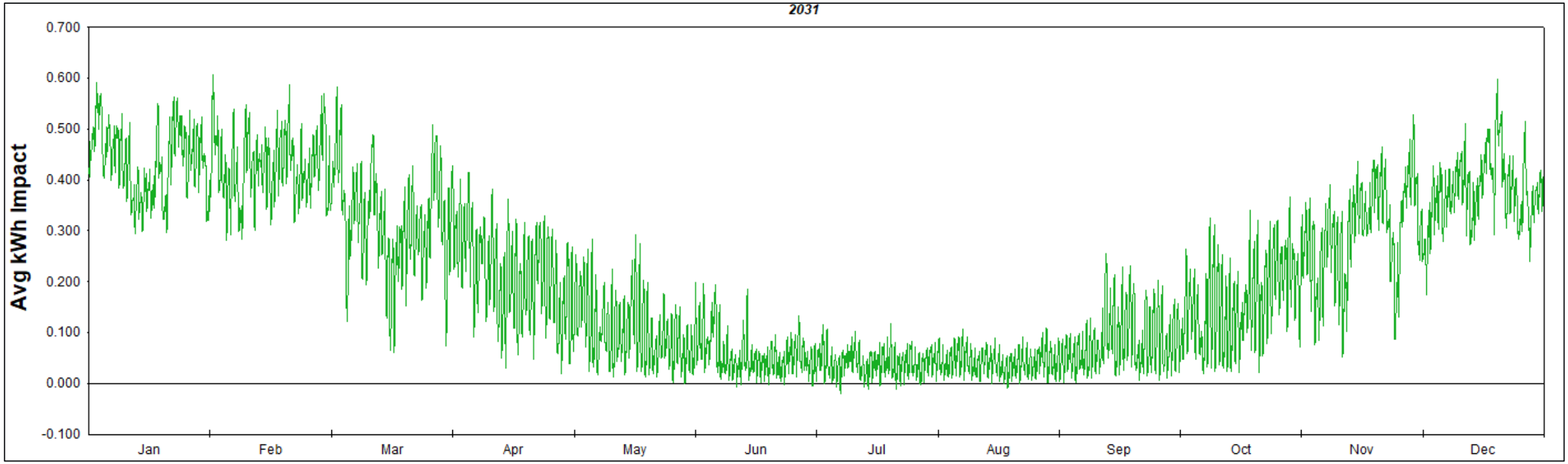
Current Hourly HP Profile



- The profiles are derived from total hourly residential and commercial AMI for GMP.
- Assumes no cooling load added
- Large variation in load based on weather. Assumes heat pumps operate during the coldest days of the year.



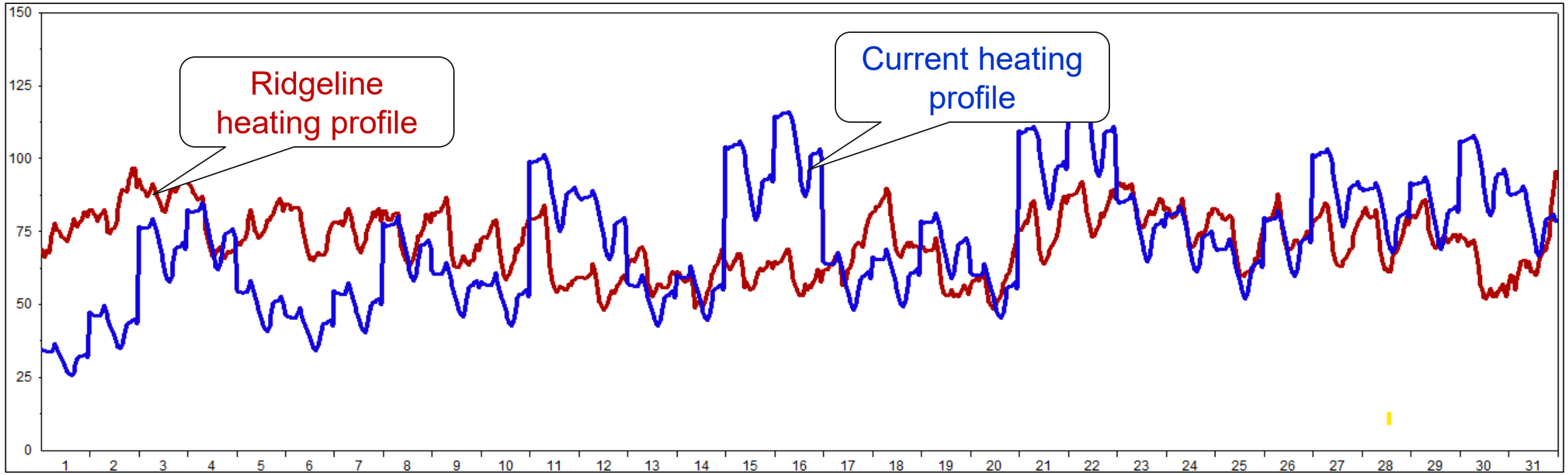
Heat Pump Profile From Ridgeline Study



» Hourly data shows the average impact of installing a heat pump. Positive values imply the heat pump added load; negative values imply the heat pump reduced load.

» Positive summer values would imply heat pumps increase cooling load

Comparison of Profiles: Winter Month 2035



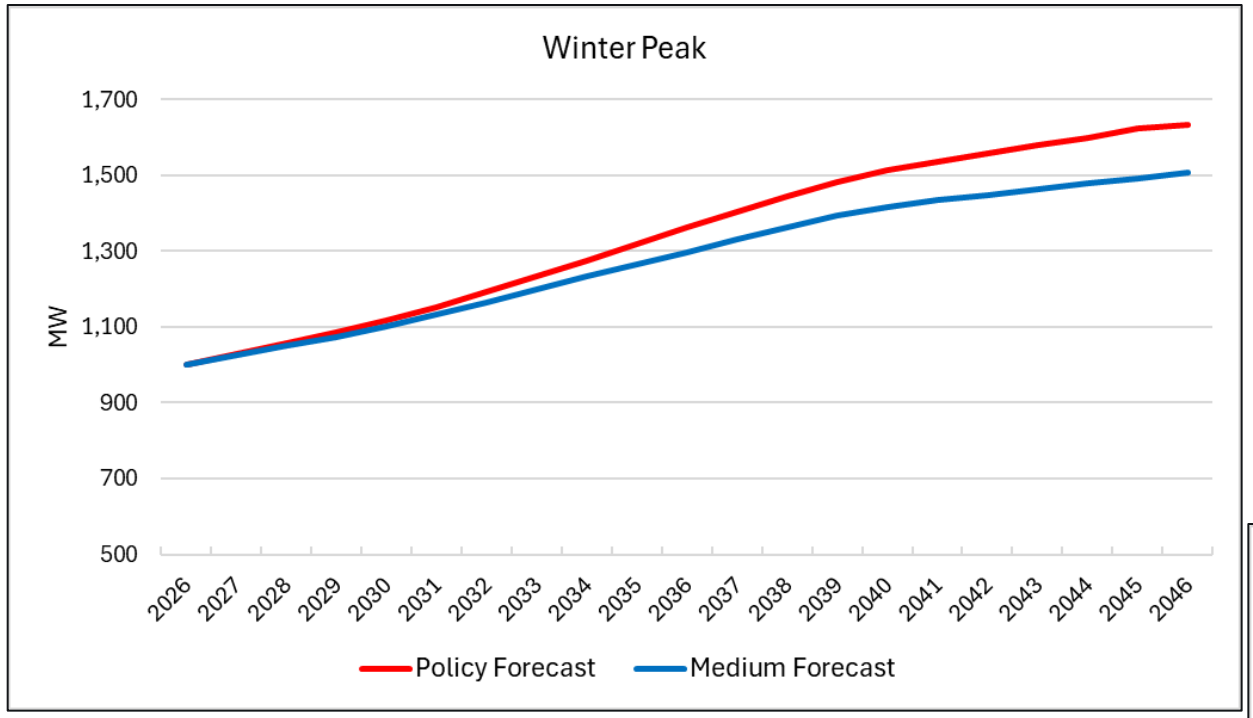
» Using the Ridgeline profile could reduce the heat pump demand impact by 30%-40%

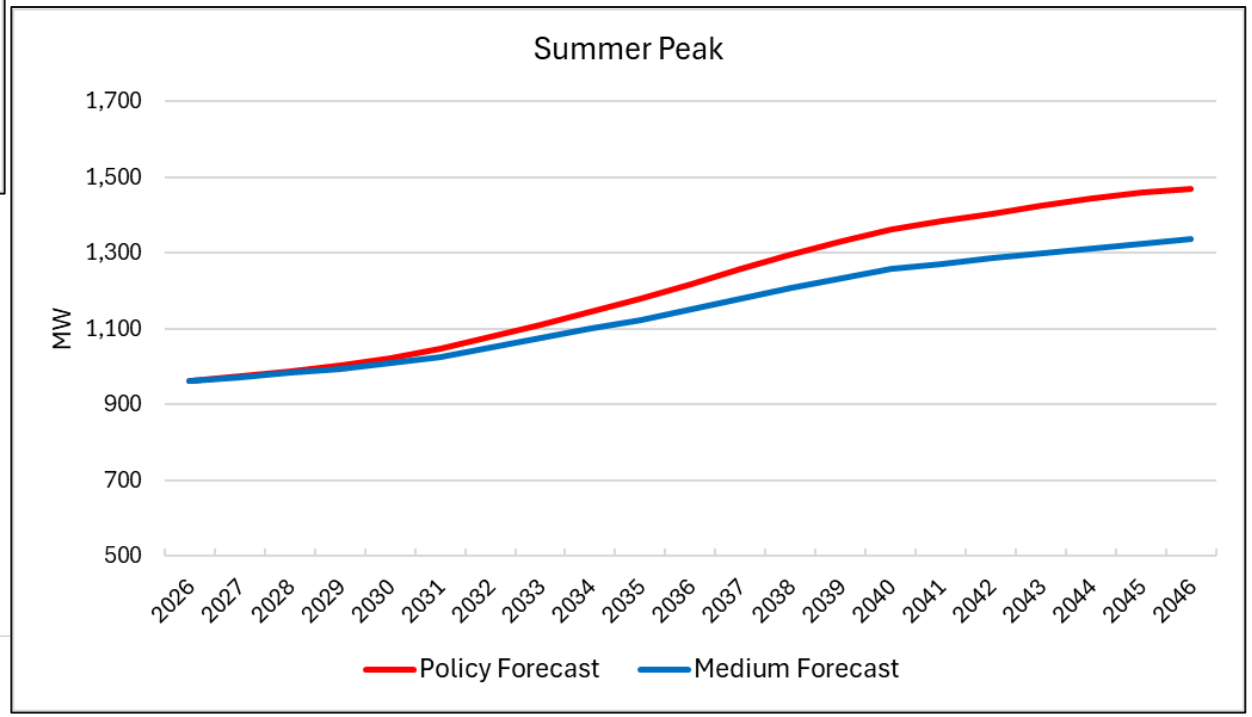
» Which profile is most appropriate for the forecast?

» Itron will need historical metered heat pump data to model.

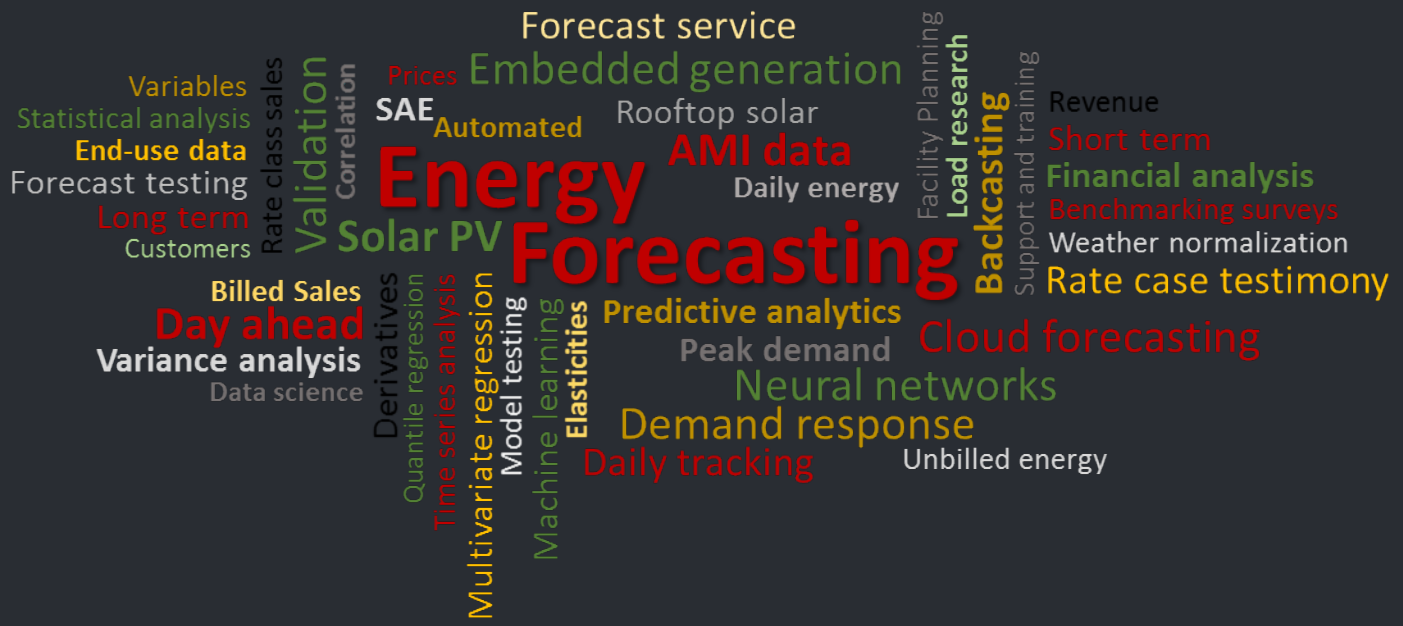
Forecast Comparison

Medium vs. Policy Forecast





- The medium winter peak forecast is 17 MW lower in 2030, 53 MW lower in 2035, and 96 MW lower in 2040.
- Summer peak differences are similar.



Thank You

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