

2026 Final Draft Energy and Seasonal Peak Forecasts

Load Forecast Committee



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Presentation Outline

Final Draft 2026 Forecasts

- [Introduction](#)
- [Background & Review](#)
- [Final Draft Component Forecast Results](#)
- [Final Draft Annual Energy Forecast](#)
- [Final Draft Summer Peak Demand Forecast](#)
- [Final Draft Winter Peak Demand Forecast](#)
- [Gross Load Forecast for Calculating ICR for Upcoming ARAs](#)
- [Next Steps](#)

Acronyms

| | | | |
|---------------|--|-------------|--|
| ASOS | Automated Surface Observing System | EIA | Energy Information Administration |
| ARA | Annual reconfiguration auction | EV | Electric Vehicle |
| AEO | EIA's Annual Energy Outlook | GCM | Global Climate Model |
| BESS | Battery energy storage system | FCM | Forward Capacity Market |
| BTM PV | Behind the meter photovoltaic | GWH | Gigawatt hour |
| CDD | Cooling degree day | HDD | Heating degree day |
| CELT | Capacity, Energy, Load, and Transmission | HP | Heat pump |
| COP | Coefficient of performance | ICR | Installed Capacity Requirement |
| DER | Distributed energy resource | IPSL | Institut Pierre-Simon Laplace (Climate Modelling Center) |
| DGFWG | Distributed Generation Forecast Working Group | LFC | Load Forecast Committee |
| ECMWF | European Center for Medium-Range Weather Forecasts | MAPE | Mean absolute percent error |
| EE | Energy Efficiency | MW | Megawatt |
| EPRI | Electric Power Research Institute | SAE | Statistically-adjusted end-use |
| ERA5 | ECMWF Reanalysis Version 5 | SSP | Shared Socioeconomic Pathway |

Introduction

- The ISO annually develops long-term forecasts of energy and demand that are published as part of the [Capacity, Energy, Loads, and Transmission \(CELT\) report](#) and on the [Load Forecast website](#)
- For CELT 2025, ISO implemented a new hourly forecast methodology, representing foundational improvements to long-term forecast capabilities
 - The hourly long-term load forecast methodology was discussed at the [September LFC meeting](#)
- For CELT 2026, two new load forecast components have been introduced, and additional enhancements have been developed and implemented for already existing components

CELT 2026 Load Forecast Timeline

Working Group and Committee Meetings

- Load Forecast Committee (LFC)
 - September 26, 2025 – [Ongoing work for CELT 2026](#), [overview of the long-term forecast methodology](#), and [CELT 2025 forecast performance](#)
 - November 7, 2025 – [Update on heat pump forecast enhancements](#) and [updates to the EV adoption forecast methodology](#)
 - December 12, 2025 – [Draft 2026 electric vehicle forecast](#) and [draft 2026 heat pump forecast](#)
 - February 20, 2026 – [Draft annual energy and peak demand forecast](#), [update on large loads in the 2026 forecast](#)
 - March 27, 2026 (today) – Final draft large load forecast, final draft annual energy and seasonal peak forecasts, gross load forecasts for ARAs
- Distributed Generation Forecast Working Group (DGFWG)
 - October 24, 2025 – [2026 DER forecast enhancements](#)
 - December 8, 2025 – State DG policy updates from [MA](#), [CT](#), [RI](#), [VT](#), [NH](#), and [ME](#), [DER Forecast Updates](#)
 - February 9, 2026 – [Draft 2026 DER forecast](#) (including BESS forecast) and [DER BESS hourly modeling](#)
 - March 23, 2026 – [Final draft 2026 DER forecasts](#), [end of 2025 DER installations update](#)

BACKGROUND & REVIEW



Long-Term Forecast Components for CELT 2026

- Six load components entail distinct modeling steps
- BTM BESS and large load forecasts are new for CELT 2026
- The base load, HP, EV, and BTM PV forecasts have undergone improvements as part of CELT 2026

Base Load Forecast

- Statistically modeled based on historical load reconstituted for BTM PV
- Combined with electrification forecasts to yield the gross and net load forecasts

BTM PV Forecast

- Adoption forecasting based on NREL's dGen™ tool
- Demand reductions derived using zonal, historical hourly capacity factors

BTM BESS Forecast

- Adoption forecasting based on NREL's dGen™ tool
- Profiling based on retail-based seasonal peak shaving framework

Heat Pump (HP) Forecast

- Adoption forecast along possible heating pathways
- Demand based on weather-dependent building heating needs and HP coefficient of performance (COP) curves

Electric Vehicle (EV) Forecast

- Policy-based adoption forecast (5 vehicle types)
- Demand based on weather-sensitive battery efficiency curves and daily charging profiles

Large Load Forecast

- Large load additions based on Transmission Owner surveys
- Profiling based on operational characteristics provided via surveys, or similar class-based characteristics

Key Elements of the Forecast Methodology

Load Definitions

- $Load_{Gross} = Base + EV + HP + LargeLd$
- $Load_{Net} = Load_{Gross} - BTM\ PV - BESS$

Temporal Granularity

- Modeling simulates all load components hourly, enabling the forecast to capture the dynamic interplay between components and their profiling

Hierarchical Forecasting

- Regional forecast is the sum of zonal forecasts to capture the spatial diversity of weather and load characteristics
- Zonal EV, HP, and DER forecasts start at the county-level

Base Load Modeling

- Daily energy model feeds 24 individual hourly models
- Model input features include a variety of transformations of weather, calendar, and trend variables

Weather Data

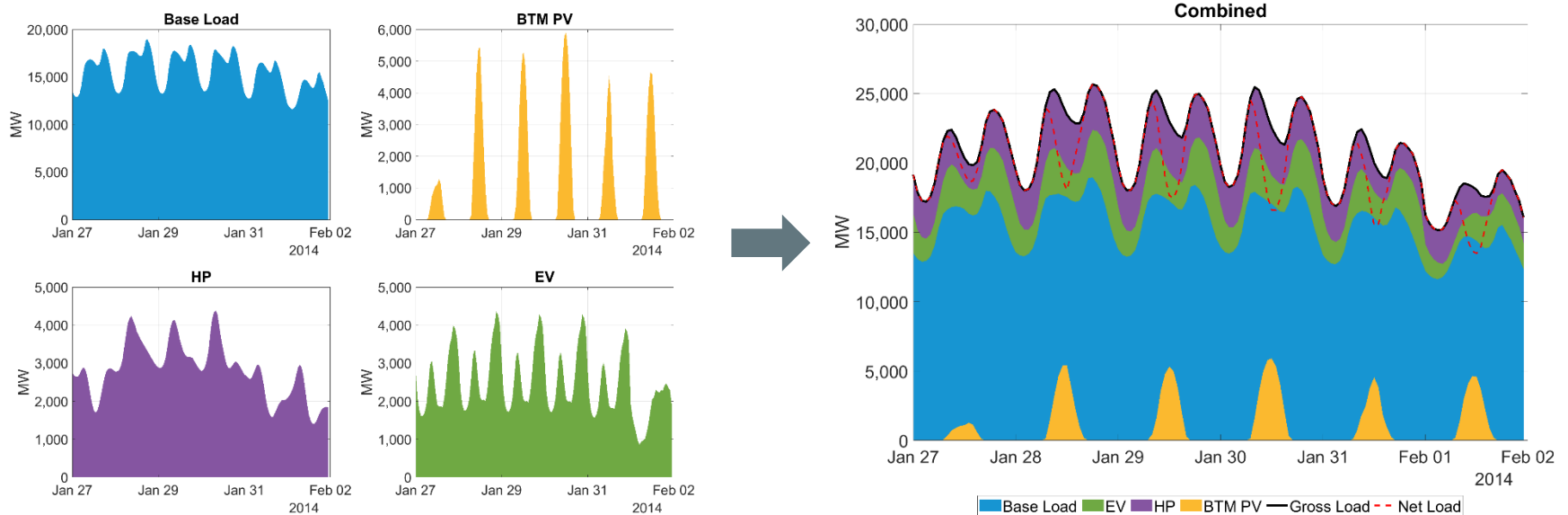
- Historical ERA5 reanalysis weather data from ECMWF
- Climate-adjusted weather data reflecting 70 weather years
- 23 weather locations, 8 weather concepts

Forecast Horizon

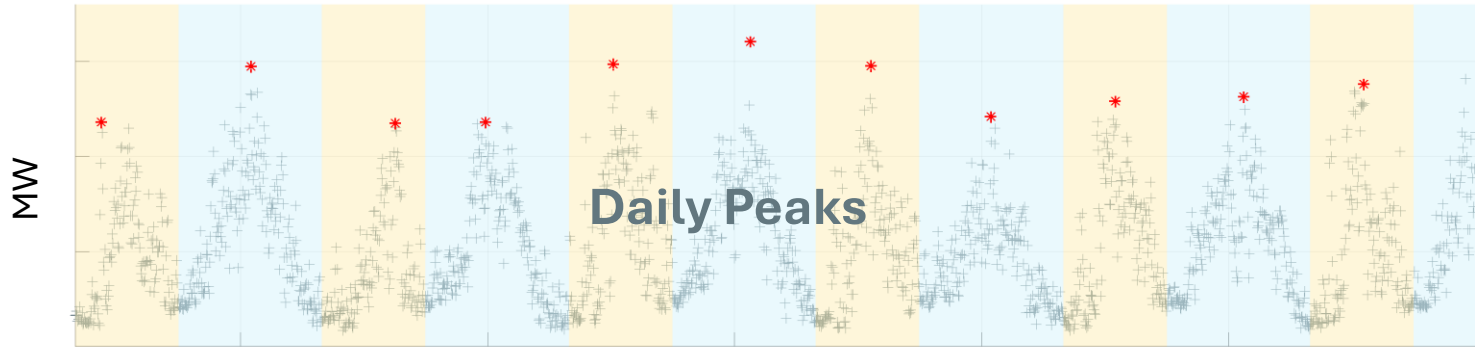
- All forecast components extend 20+ years into the future, enabling support for longer-term planning studies

Load Forecast Compilation

- Each forecast component (base load, EV, HP, BTM PV, BTM BESS, large loads) reflects coincident weather over a 70-year simulation period and are combined into forecasts of net and gross load for each zone and the region

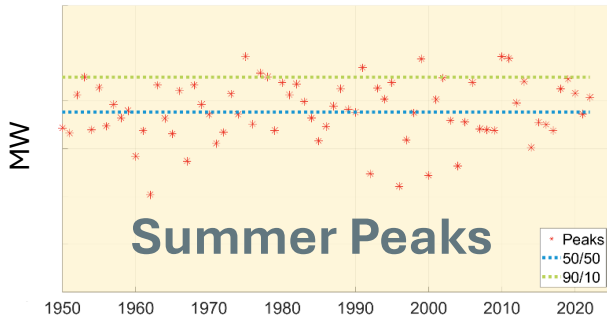


Calculation of Seasonal Peaks



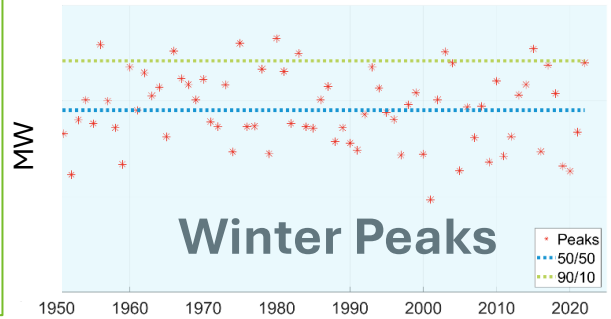
Nov 1953... 2009 2010 2011 2012 2013 ...Oct 2023

Summer Winter



Seasonal Peak Methodology

1. For a given forecast year, select seasonal peaks from each simulation year (70 values)
2. Calculate 50th and 90th percentiles from resulting seasonal peaks
3. Repeat for each forecast year



Demand Impacts of Load Components

Waterfall Approach

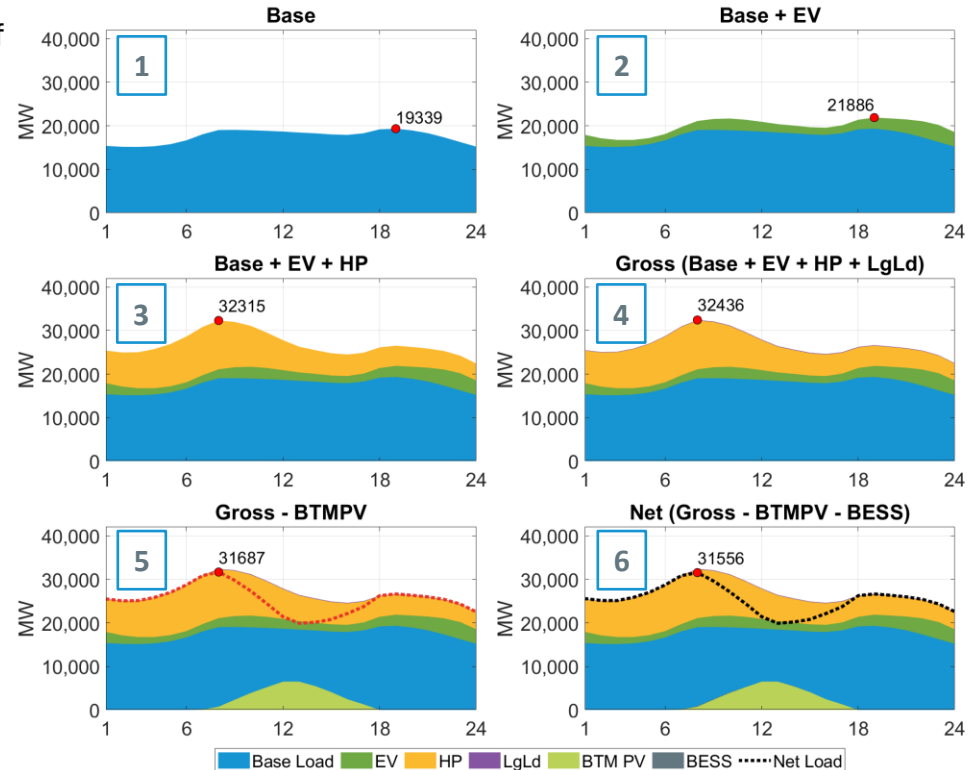
- The hourly forecast results in a dynamic interplay of modeled load components
 - Peak hour shifts due to the growth of one component affect the peak attribution of other components
 - Attribution of peak load values to components is path dependent

- A waterfall approach to the attribution of peak load contributions is used to standardize this forecast accounting

- Waterfall method steps (refer to plot):

- Base = Base peak load value
19,339 MW
- EV = (Base+EV) – Base
21,886 – 19,339 = 2,547 MW
- HP = (Base+EV+HP) – (Base+EV)
32,315 – 21,886 = 10,429 MW
- LargeLd = (Base+EV+HP+LargeLd) – (Base+EV+HP)
32,436 – 32,315 = 121 MW
- BTM PV = Gross – (Gross-BTM PV)
32,436 – 31,687 = 749 MW
- BTM BESS = (Gross-BTM PV) – Net
31,687 – 31,556 = 121 MW

Example Winter Peak Day, 2038



FINAL DRAFT COMPONENT FORECASTS

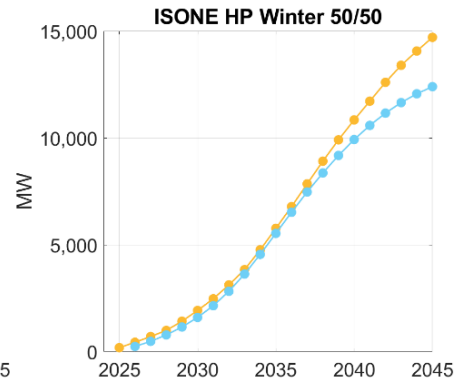
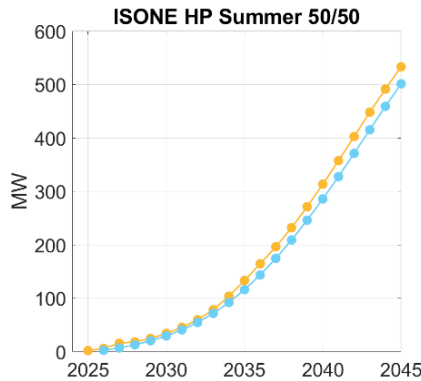
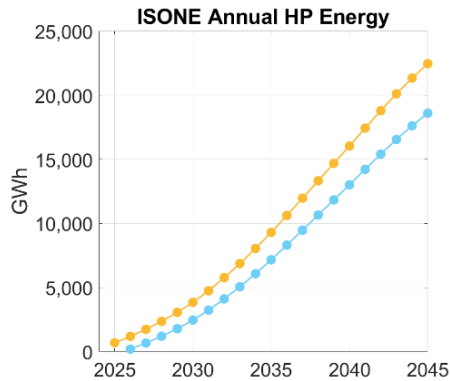
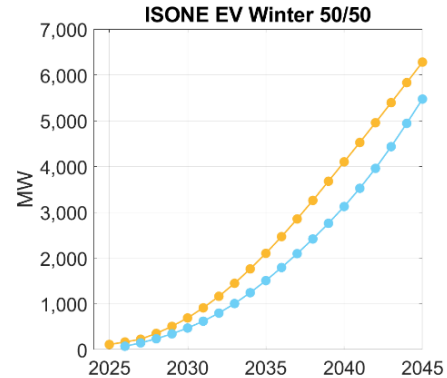
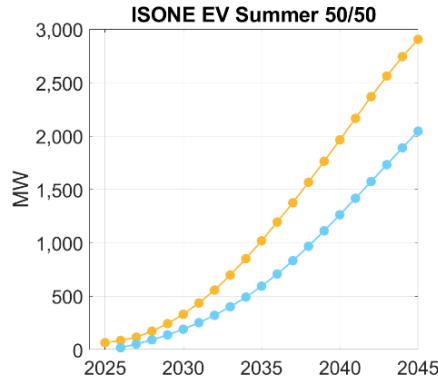
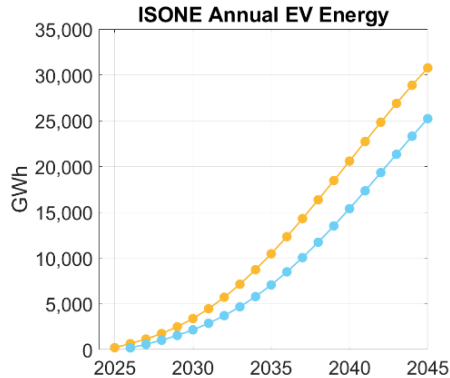


Final Draft Component Forecasts

- The following forecast activities were performed since the February LFC meeting
 - Re-estimated base load model using most recent load and weather data through the end of 2025
 - Finalized 2026 BTM PV forecast
 - Finalized 2026 BTM BESS forecast
 - Finalized 2026 large load forecast
 - Applied waterfall process to develop probabilistic forecasts for all load components

Final Draft HP and EV Forecasts

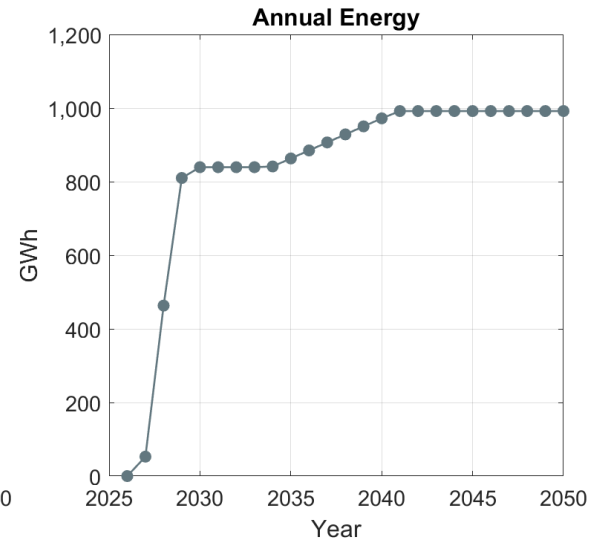
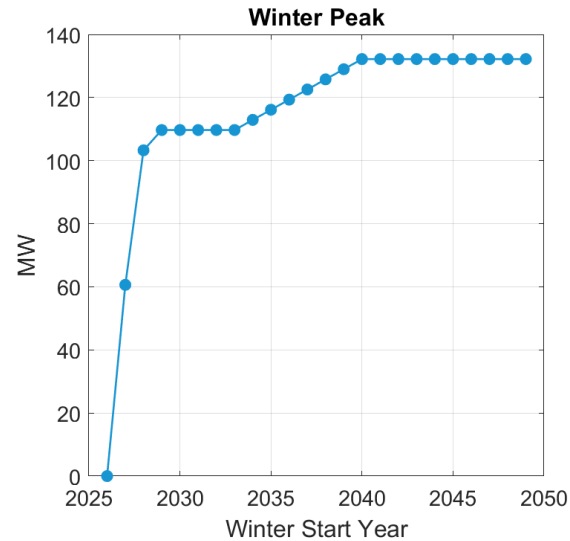
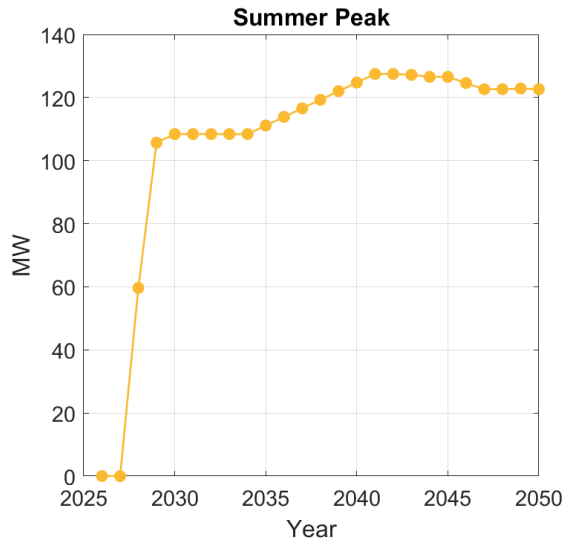
50/50 Peak Demand and Annual Energy



— CELT 2025 — Final Draft CELT 2026

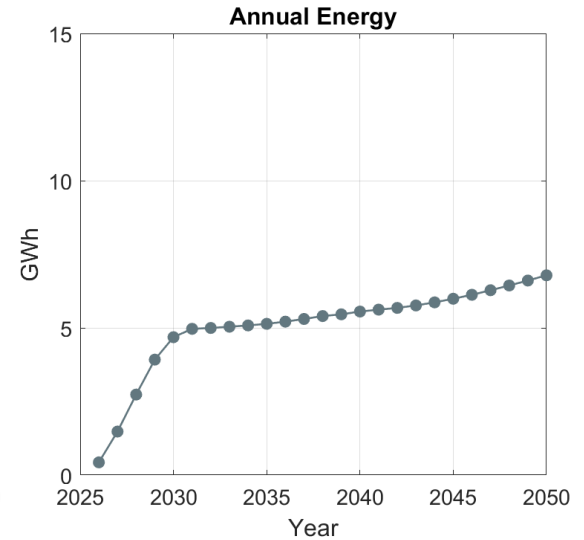
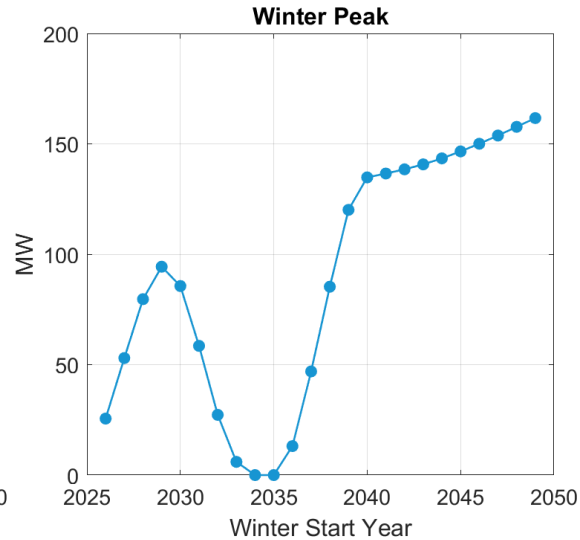
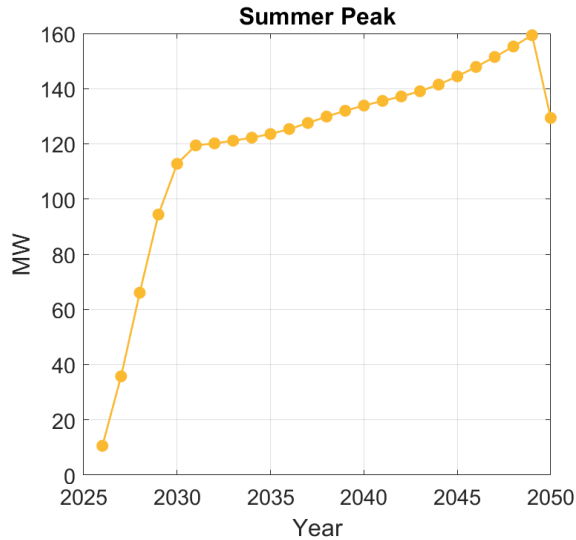
Final Draft Large Load Forecast

50/50 Peak Demand and Annual Energy



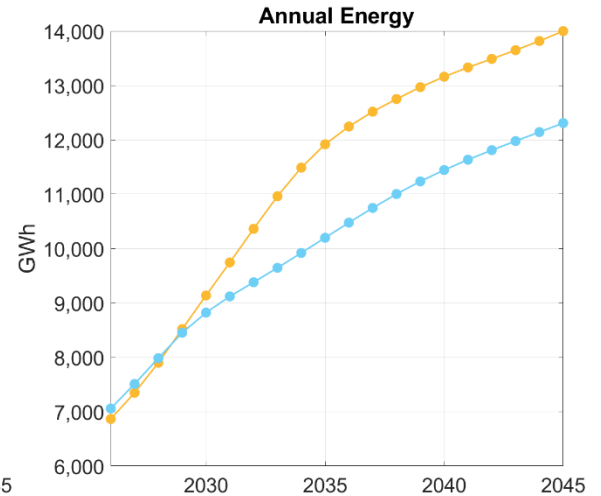
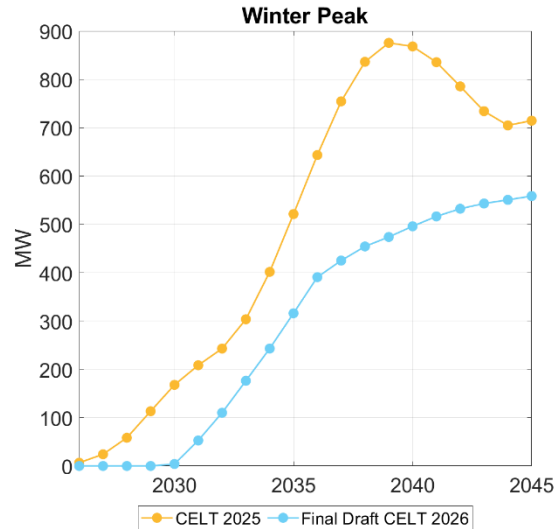
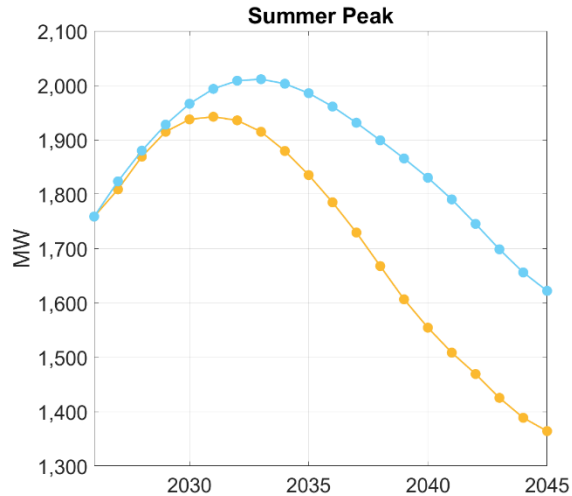
Final Draft BTM BESS Forecast

50/50 Peak Demand and Annual Energy



Final Draft BTM PV Forecast

50/50 Peak Demand and Annual Energy



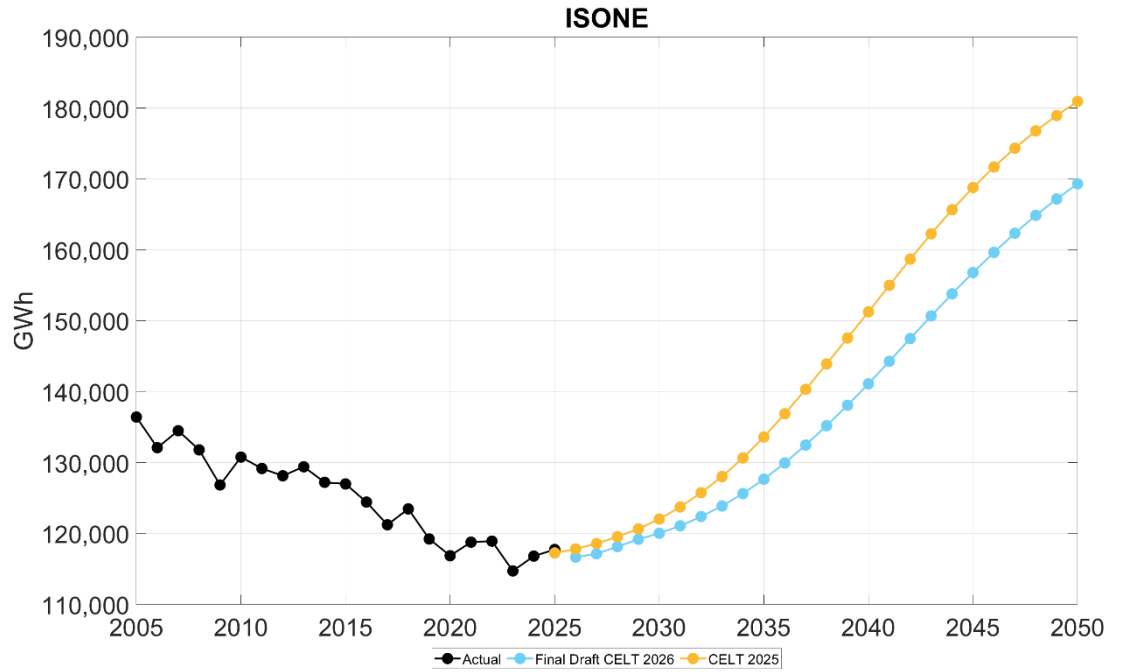
FINAL DRAFT ANNUAL ENERGY FORECAST



Annual Net Energy Forecast

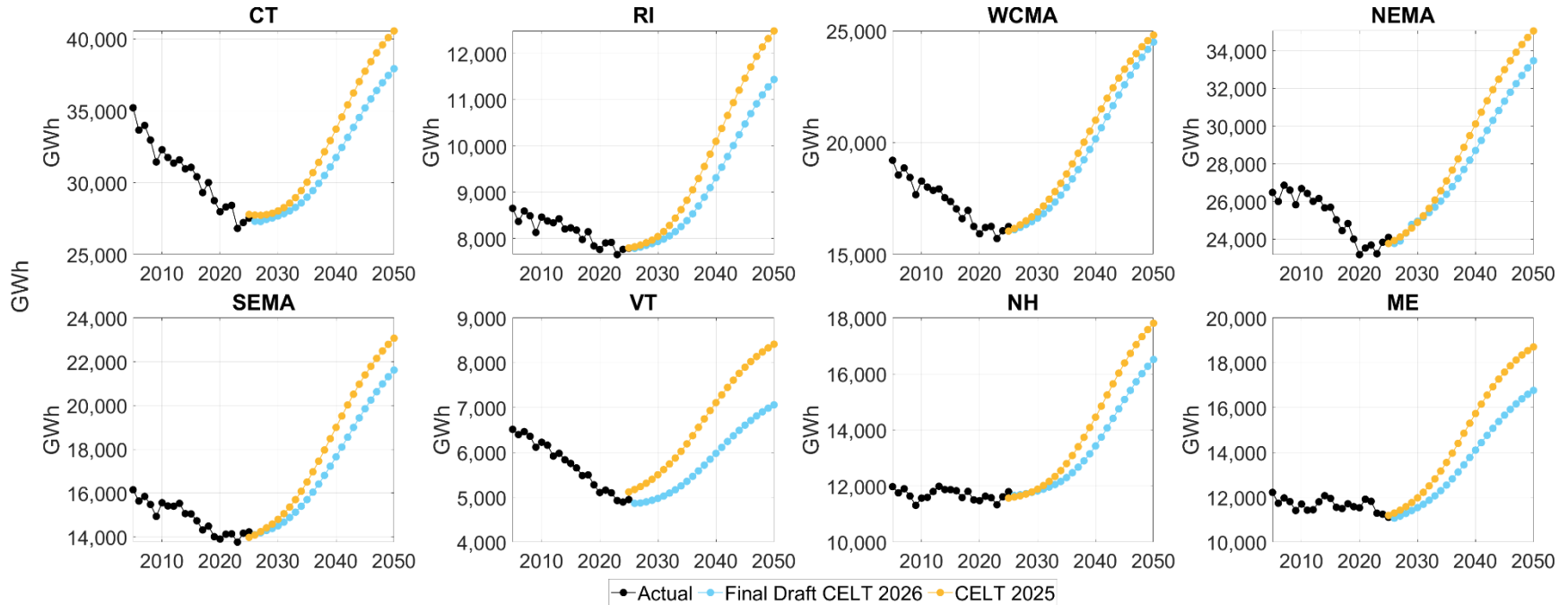
New England – Final Draft CELT 2026 Vs. CELT 2025

| Year | CELT 2025 (GWh) | Final Draft CELT 2026 (GWh) | Change (GWh) | Change (%) |
|------|-----------------|-----------------------------|--------------|------------|
| 2026 | 117,829 | 116,679 | -1,150 | -1 |
| 2027 | 118,591 | 117,138 | -1,453 | -1.2 |
| 2028 | 119,559 | 118,156 | -1,403 | -1.2 |
| 2029 | 120,659 | 119,187 | -1,472 | -1.2 |
| 2030 | 122,044 | 120,047 | -1,997 | -1.6 |
| 2031 | 123,747 | 121,088 | -2,658 | -2.1 |
| 2032 | 125,761 | 122,393 | -3,367 | -2.7 |
| 2033 | 128,034 | 123,888 | -4,146 | -3.2 |
| 2034 | 130,665 | 125,633 | -5,032 | -3.9 |
| 2035 | 133,617 | 127,660 | -5,957 | -4.5 |



Annual Net Energy Forecast

Zones – Final Draft CELT 2026 Vs. CELT 2025



Final Draft 2026 Annual Energy Forecasts

New England - Summary

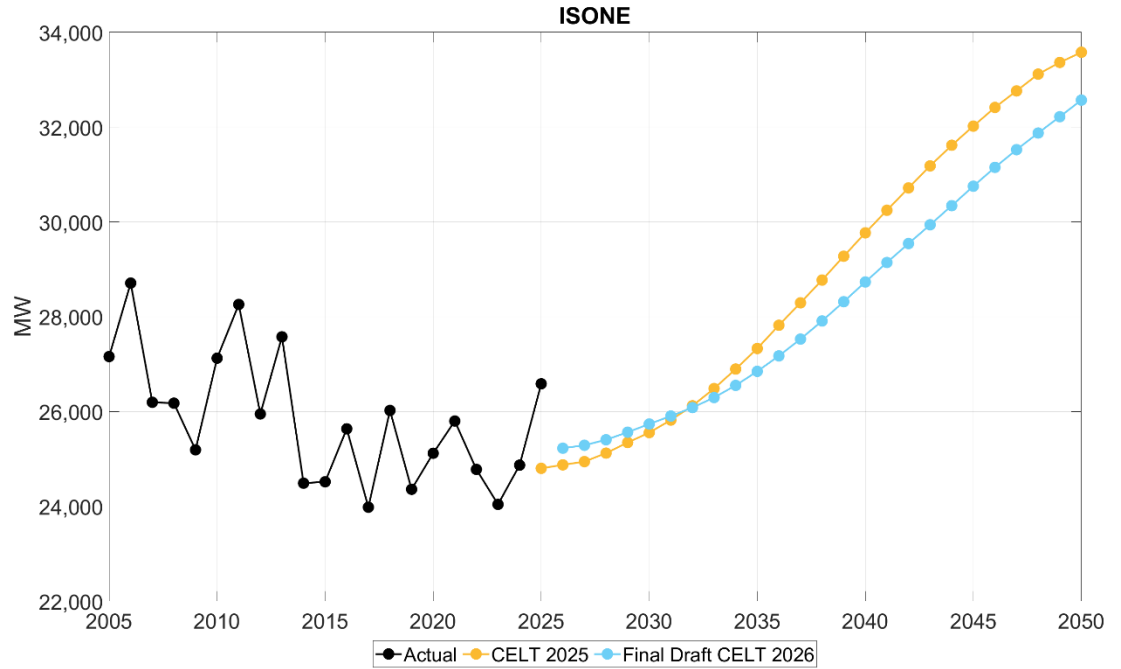
| Year | Base (GWh) | EV* (GWh) | HP* (GWh) | Large Loads (GWh) | Gross (GWh) | BTM PV (GWh) | BTM BESS (GWh) | Net (GWh) |
|------|------------|-----------|-----------|-------------------|-------------|--------------|----------------|-----------|
| 2026 | 123,340 | 195 | 198 | 0 | 123,734 | -7,056 | 0 | 116,679 |
| 2027 | 123,333 | 588 | 671 | 53 | 124,645 | -7,509 | 1 | 117,138 |
| 2028 | 123,437 | 1,036 | 1,200 | 463 | 126,137 | -7,983 | 3 | 118,156 |
| 2029 | 123,474 | 1,557 | 1,793 | 810 | 127,634 | -8,451 | 4 | 119,187 |
| 2030 | 123,392 | 2,167 | 2,464 | 839 | 128,862 | -8,820 | 5 | 120,047 |
| 2031 | 123,247 | 2,881 | 3,235 | 839 | 130,203 | -9,119 | 5 | 121,088 |
| 2032 | 123,099 | 3,715 | 4,113 | 839 | 131,767 | -9,379 | 5 | 122,393 |
| 2033 | 122,946 | 4,682 | 5,059 | 839 | 133,527 | -9,644 | 5 | 123,888 |
| 2034 | 122,826 | 5,798 | 6,082 | 841 | 135,547 | -9,919 | 5 | 125,633 |
| 2035 | 122,749 | 7,074 | 7,165 | 863 | 137,851 | -10,197 | 5 | 127,660 |

FINAL DRAFT SUMMER PEAK DEMAND FORECAST

Summer Net 50/50 Peak Forecast

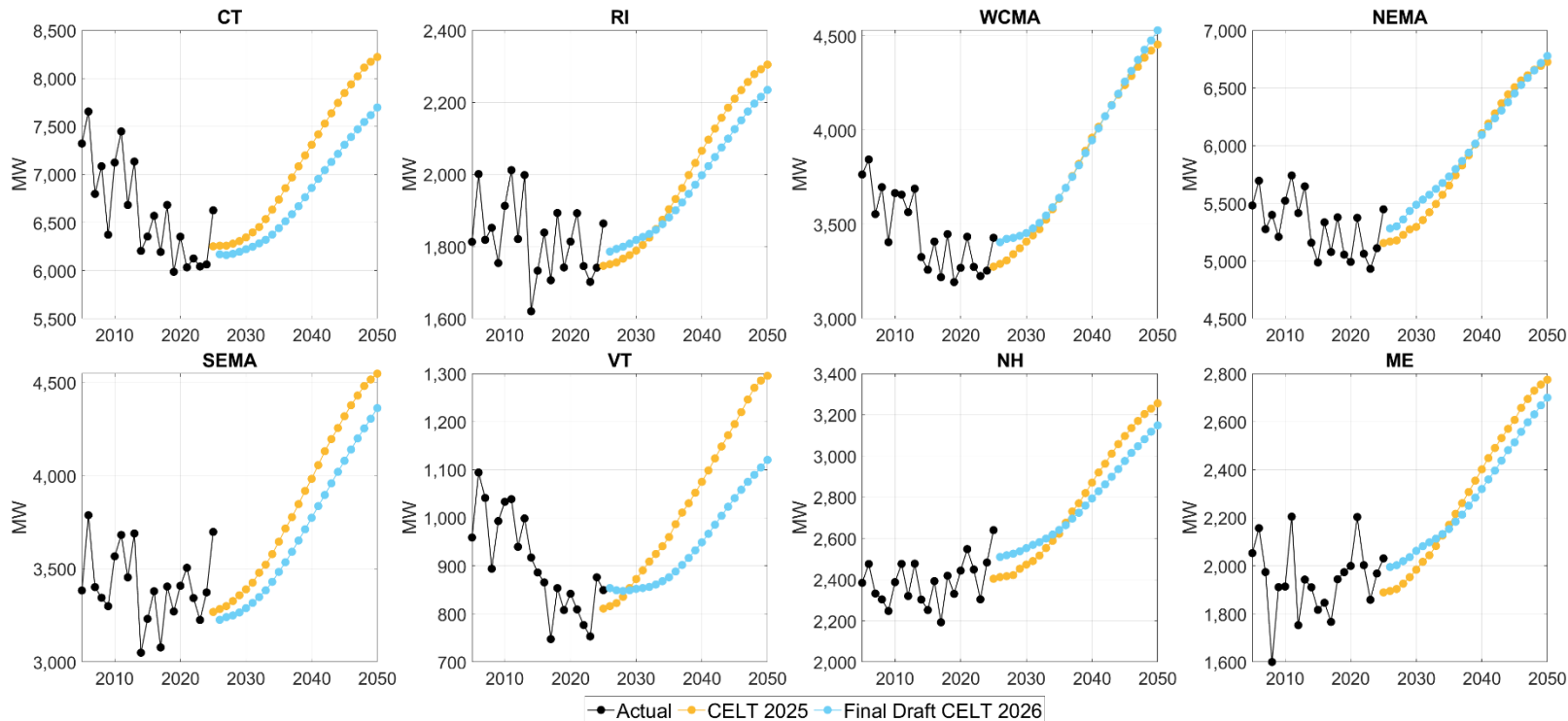
New England – Final Draft CELT 2026 Vs. CELT 2025

| Year | CELT 2025 (MW) | Final Draft CELT 2026 (MW) | Change (MW) | Change (%) |
|------|----------------|----------------------------|-------------|------------|
| 2026 | 24,877 | 25,228 | 351 | 1.4 |
| 2027 | 24,945 | 25,290 | 345 | 1.4 |
| 2028 | 25,124 | 25,406 | 282 | 1.1 |
| 2029 | 25,347 | 25,565 | 218 | 0.9 |
| 2030 | 25,557 | 25,738 | 181 | 0.7 |
| 2031 | 25,821 | 25,906 | 85 | 0.3 |
| 2032 | 26,123 | 26,084 | -39 | -0.1 |
| 2033 | 26,486 | 26,296 | -189 | -0.7 |
| 2034 | 26,897 | 26,553 | -345 | -1.3 |
| 2035 | 27,331 | 26,849 | -482 | -1.8 |



Summer Net 50/50 Coincident Peak Forecast

Zones – Final Draft CELT 2026 Vs. CELT 2025



Final Draft 2026 Summer Peak Forecasts

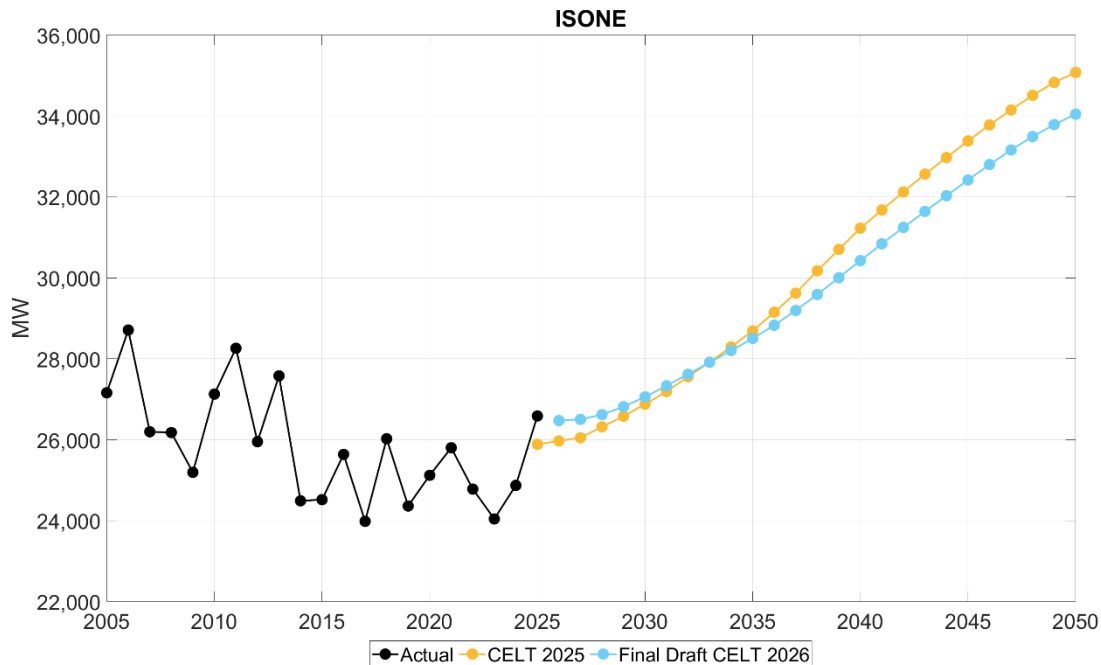
New England 50/50 - Summary

| Year | Base (MW) | EV* (MW) | HP* (MW) | Large Loads (MW) | Gross (MW) | BTM PV (MW) | BTM BESS (MW) | Net (MW) |
|------|-----------|----------|----------|------------------|------------|-------------|---------------|----------|
| 2026 | 26,976 | 19 | 2 | 0 | 26,997 | -1,759 | -11 | 25,228 |
| 2027 | 27,090 | 52 | 7 | 0 | 27,149 | -1,824 | -36 | 25,290 |
| 2028 | 27,187 | 92 | 13 | 60 | 27,352 | -1,880 | -66 | 25,406 |
| 2029 | 27,323 | 139 | 20 | 106 | 27,588 | -1,928 | -94 | 25,565 |
| 2030 | 27,488 | 192 | 29 | 108 | 27,817 | -1,966 | -113 | 25,738 |
| 2031 | 27,618 | 252 | 41 | 108 | 28,019 | -1,994 | -119 | 25,906 |
| 2032 | 27,728 | 322 | 55 | 108 | 28,213 | -2,009 | -120 | 26,084 |
| 2033 | 27,847 | 402 | 72 | 108 | 28,429 | -2,011 | -121 | 26,296 |
| 2034 | 27,985 | 492 | 92 | 108 | 28,678 | -2,003 | -122 | 26,553 |
| 2035 | 28,137 | 594 | 116 | 111 | 28,958 | -1,986 | -124 | 26,849 |

Summer Net 90/10 Peak Forecast

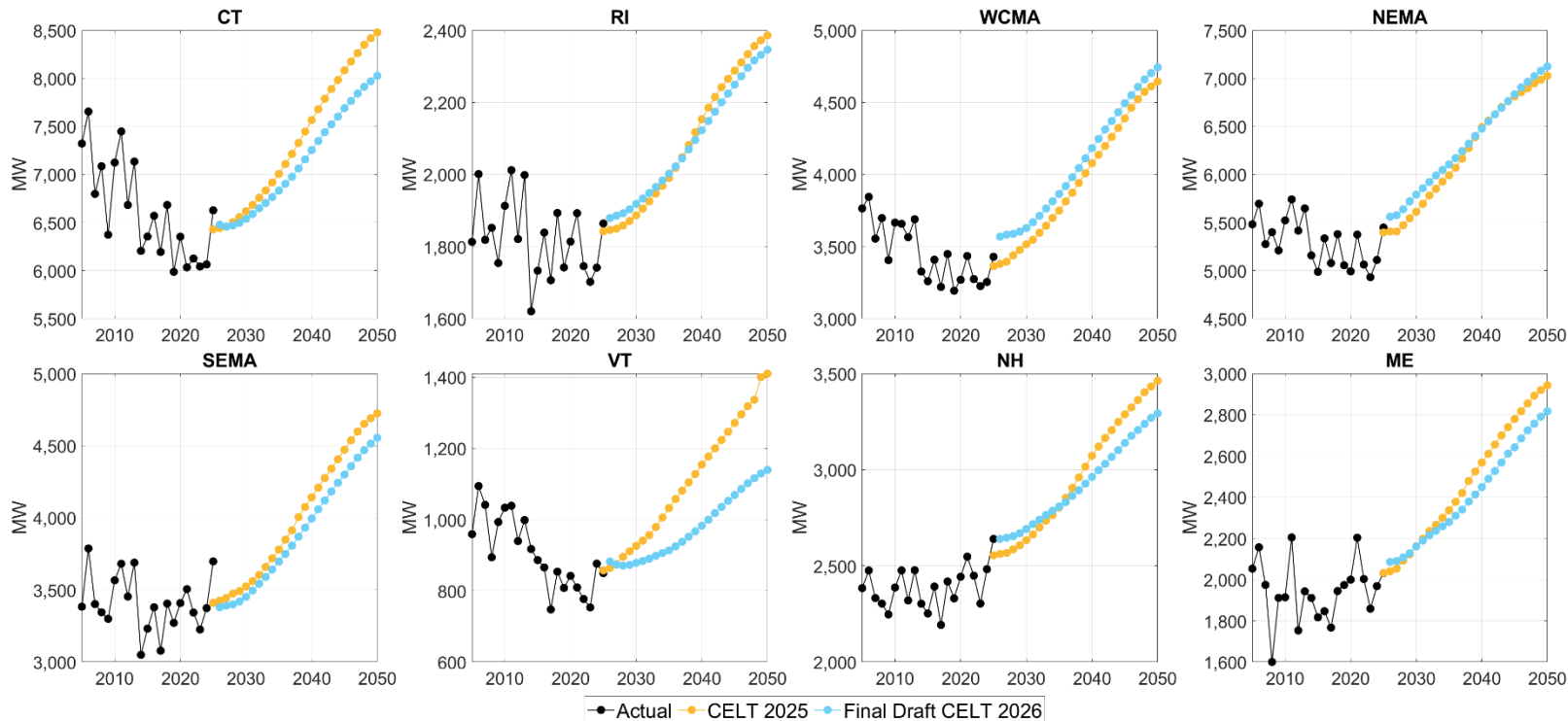
New England – Final Draft CELT 2026 Vs. CELT 2025

| Year | CELT 2025 (MW) | Final Draft CELT 2026 (MW) | Change (MW) | Change (%) |
|------|----------------|----------------------------|-------------|------------|
| 2026 | 25,969 | 26,473 | 504 | 1.9 |
| 2027 | 26,048 | 26,503 | 455 | 1.7 |
| 2028 | 26,320 | 26,620 | 301 | 1.1 |
| 2029 | 26,580 | 26,814 | 234 | 0.9 |
| 2030 | 26,878 | 27,059 | 181 | 0.7 |
| 2031 | 27,193 | 27,332 | 139 | 0.5 |
| 2032 | 27,556 | 27,620 | 64 | 0.2 |
| 2033 | 27,916 | 27,912 | -5 | 0 |
| 2034 | 28,297 | 28,203 | -94 | -0.3 |
| 2035 | 28,689 | 28,503 | -186 | -0.6 |



Summer Net 90/10 Coincident Peak Forecast

Zones – Final Draft CELT 2026 Vs. CELT 2025

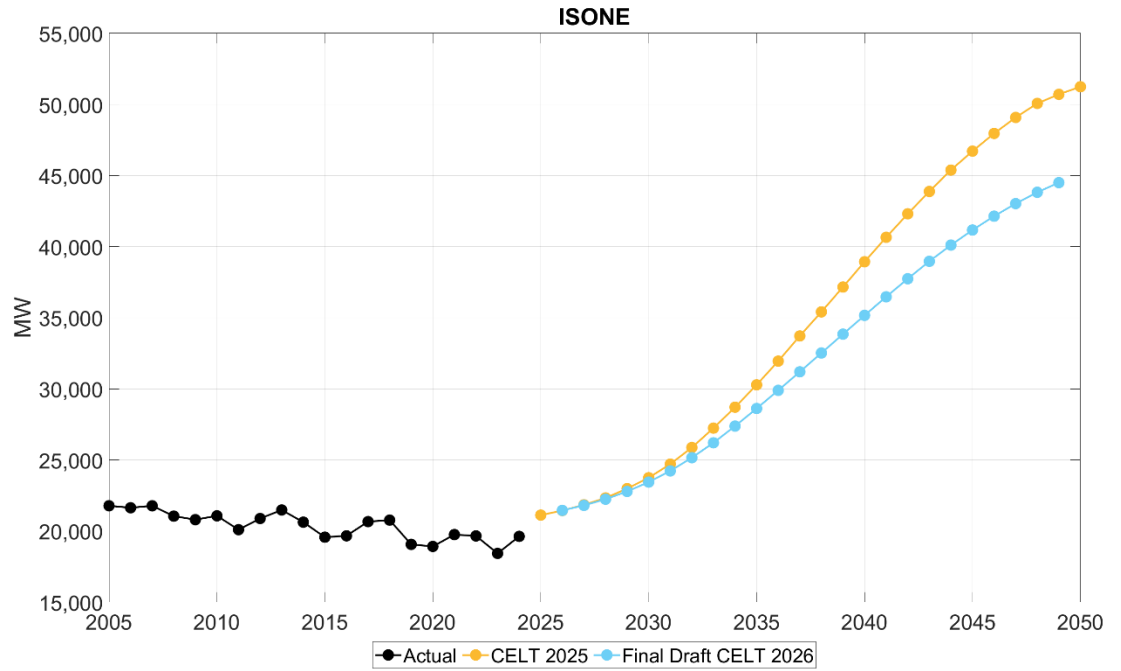


FINAL DRAFT WINTER PEAK DEMAND FORECAST

Winter Net 50/50 Peak Forecast

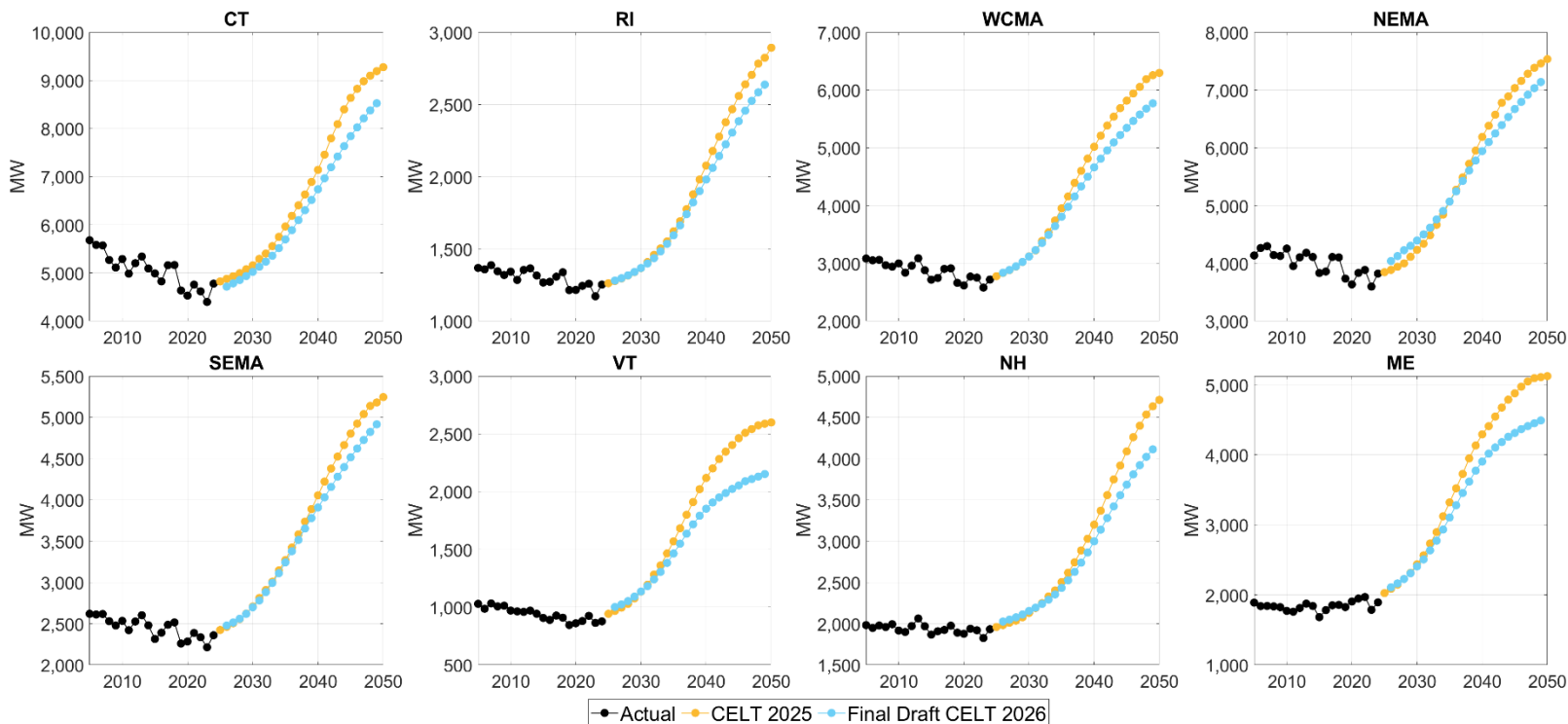
New England – Final Draft CELT 2026 Vs. CELT 2025

| Year | CELT 2025 (MW) | Final Draft CELT 2026 (MW) | Change (MW) | Change (%) |
|------|----------------|----------------------------|-------------|------------|
| 2026 | 20,371 | 20,483 | 111 | 0.5 |
| 2027 | 20,707 | 20,839 | 132 | 0.6 |
| 2028 | 21,101 | 21,257 | 157 | 0.7 |
| 2029 | 21,638 | 21,731 | 93 | 0.4 |
| 2030 | 22,284 | 22,296 | 12 | 0.1 |
| 2031 | 23,021 | 22,918 | -102 | -0.4 |
| 2032 | 23,902 | 23,636 | -266 | -1.1 |
| 2033 | 24,856 | 24,452 | -404 | -1.6 |
| 2034 | 26,020 | 25,380 | -640 | -2.5 |
| 2035 | 27,272 | 26,411 | -861 | -3.2 |



Winter Net 50/50 Coincident Peak Forecast

Zones – Final Draft CELT 2026 Vs. CELT 2025



Final Draft 2026 Winter Peak Forecasts

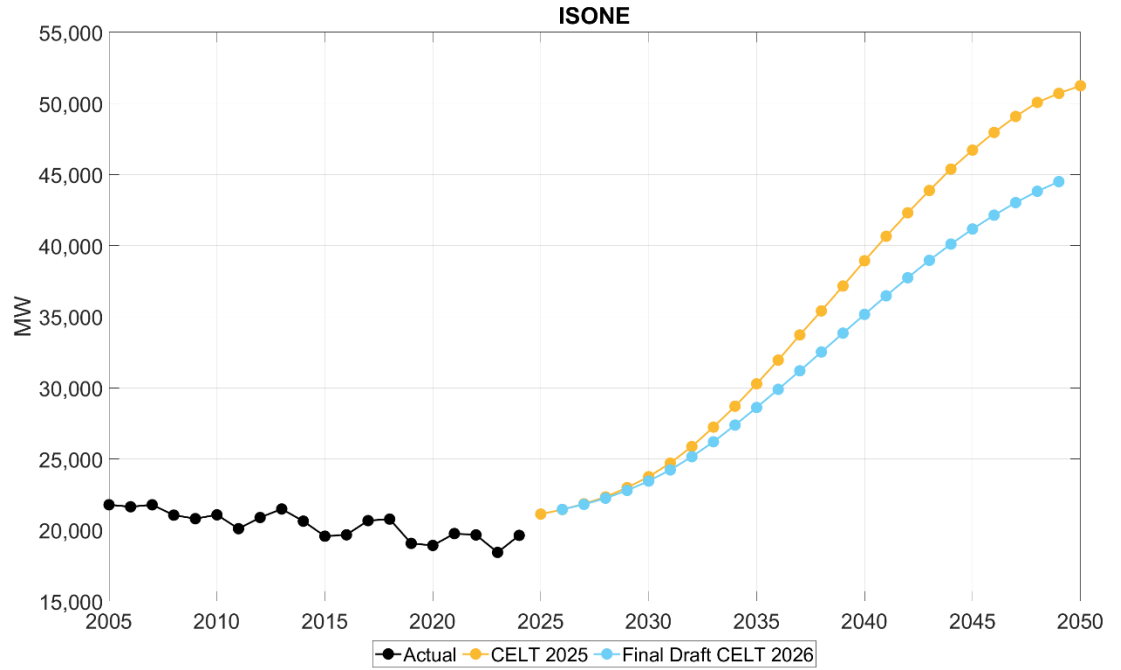
New England 50/50 - Summary

| Year | Base (MW) | EV* (MW) | HP* (MW) | Large Loads (MW) | Gross (MW) | BTM PV (MW) | BESS (MW) | Net (MW) |
|------|-----------|----------|----------|------------------|------------|-------------|-----------|----------|
| 2026 | 20,193 | 75 | 241 | 0 | 20,508 | 0 | -26 | 20,483 |
| 2027 | 20,203 | 148 | 480 | 61 | 20,892 | 0 | -53 | 20,839 |
| 2028 | 20,212 | 239 | 783 | 103 | 21,337 | 0 | -80 | 21,257 |
| 2029 | 20,217 | 346 | 1,152 | 110 | 21,825 | 0 | -94 | 21,731 |
| 2030 | 20,203 | 473 | 1,600 | 110 | 22,385 | 4 | -86 | 22,296 |
| 2031 | 20,149 | 622 | 2,149 | 110 | 23,030 | -53 | -59 | 22,918 |
| 2032 | 20,041 | 799 | 2,823 | 110 | 23,773 | -110 | -27 | 23,636 |
| 2033 | 19,886 | 1,007 | 3,631 | 110 | 24,634 | -176 | -6 | 24,452 |
| 2034 | 19,715 | 1,245 | 4,550 | 113 | 25,623 | -243 | 0 | 25,380 |
| 2035 | 19,569 | 1,509 | 5,533 | 116 | 26,727 | -316 | 0 | 26,411 |

Winter Net 90/10 Peak Forecast

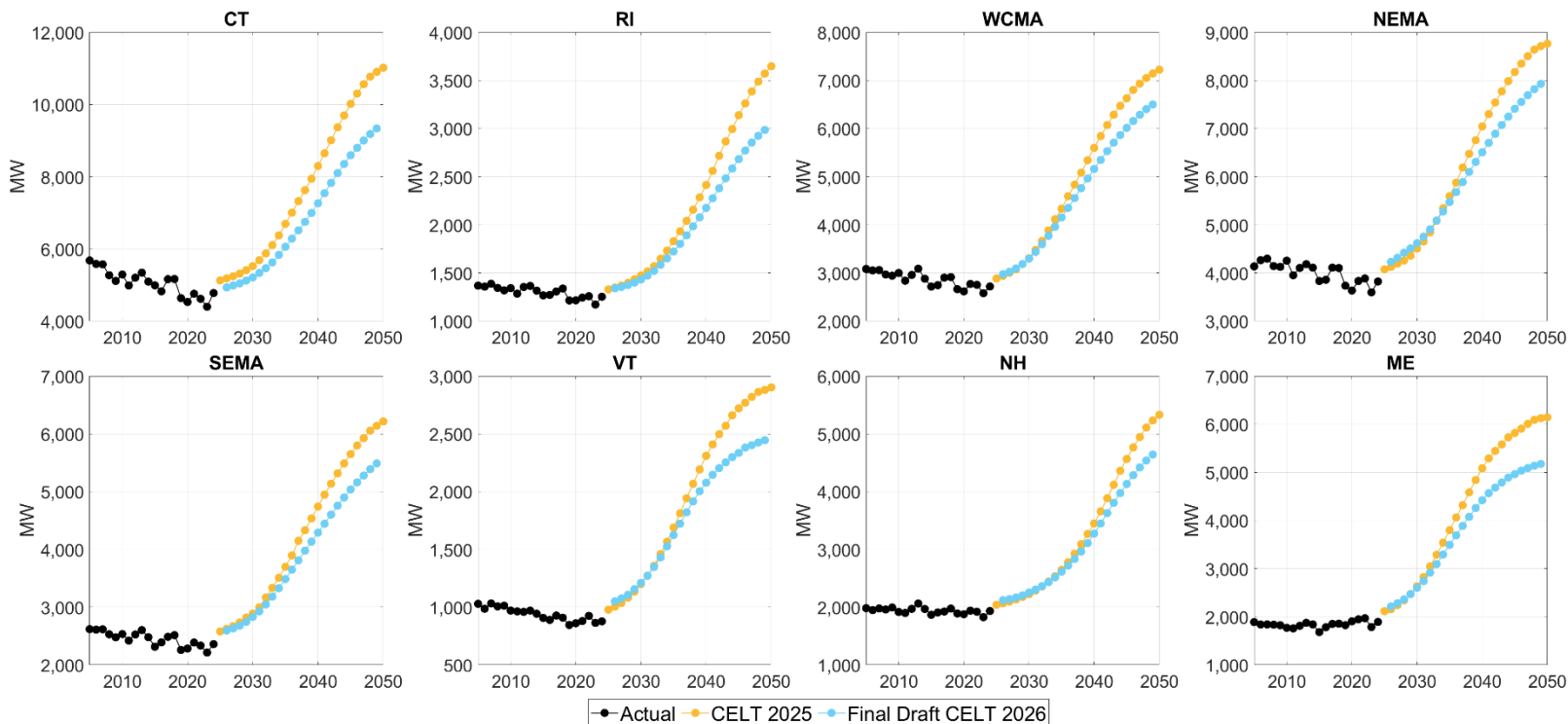
New England – Final Draft CELT 2026 Vs. CELT 2025

| Year | CELT 2025 (MW) | Final Draft CELT 2026 (MW) | Change (MW) | Change (%) |
|------|----------------|----------------------------|-------------|------------|
| 2026 | 21,446 | 21,457 | 11 | 0 |
| 2027 | 21,850 | 21,809 | -41 | -0.2 |
| 2028 | 22,331 | 22,242 | -88 | -0.4 |
| 2029 | 22,989 | 22,790 | -199 | -0.9 |
| 2030 | 23,755 | 23,448 | -307 | -1.3 |
| 2031 | 24,712 | 24,233 | -479 | -1.9 |
| 2032 | 25,880 | 25,163 | -716 | -2.8 |
| 2033 | 27,243 | 26,210 | -1,032 | -3.8 |
| 2034 | 28,714 | 27,385 | -1,329 | -4.6 |
| 2035 | 30,284 | 28,623 | -1,662 | -5.5 |



Winter Net 90/10 Coincident Peak Forecast

Zones – Final Draft CELT 2026 Vs. CELT 2025



Final Draft 2026 Winter Peak Forecasts

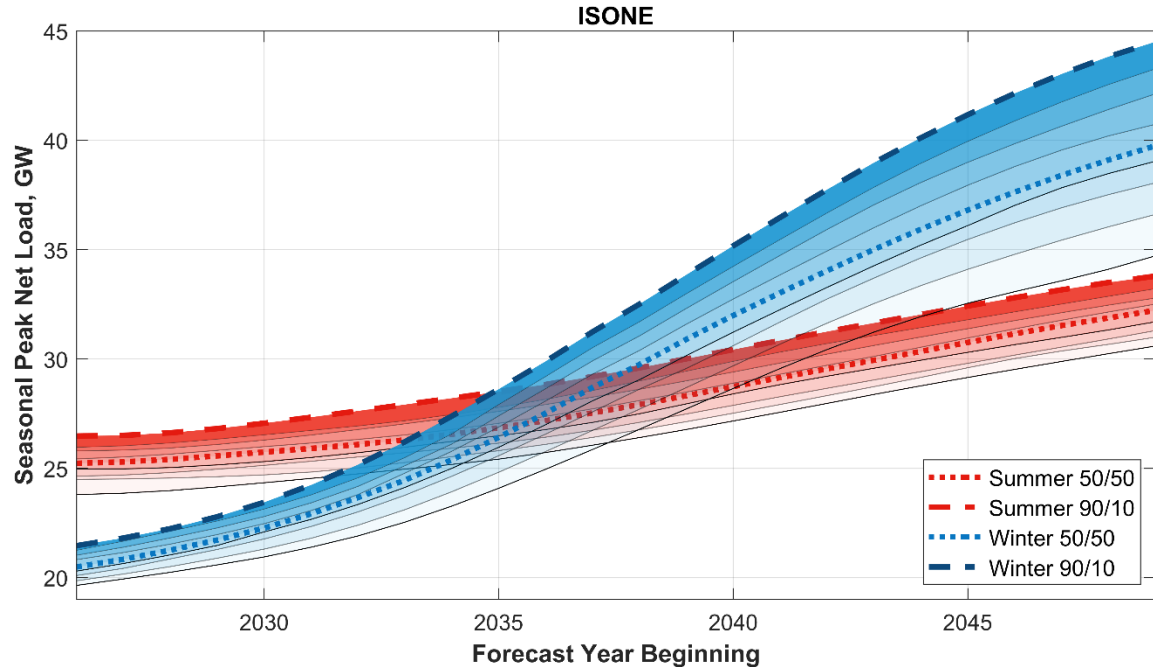
New England 90/10 - Summary

| Year | Base (MW) | EV* (MW) | HP* (MW) | Large Loads (MW) | Gross (MW) | BTM PV (MW) | BTM BESS (MW) | Net (MW) |
|------|-----------|----------|----------|------------------|------------|-------------|---------------|----------|
| 2026 | 21,079 | 93 | 330 | 0 | 21,502 | -19 | -26 | 21,457 |
| 2027 | 20,988 | 185 | 679 | 62 | 21,914 | -51 | -54 | 21,809 |
| 2028 | 20,907 | 294 | 1,135 | 105 | 22,441 | -118 | -80 | 22,242 |
| 2029 | 20,836 | 420 | 1,698 | 111 | 23,065 | -174 | -101 | 22,790 |
| 2030 | 20,768 | 564 | 2,375 | 111 | 23,818 | -257 | -113 | 23,448 |
| 2031 | 20,695 | 728 | 3,177 | 111 | 24,711 | -359 | -119 | 24,233 |
| 2032 | 20,612 | 915 | 4,106 | 111 | 25,743 | -459 | -121 | 25,163 |
| 2033 | 20,513 | 1,126 | 5,146 | 110 | 26,895 | -562 | -122 | 26,210 |
| 2034 | 20,400 | 1,364 | 6,262 | 114 | 28,139 | -632 | -123 | 27,385 |
| 2035 | 20,286 | 1,628 | 7,407 | 118 | 29,440 | -700 | -117 | 28,623 |

* Electrification and large load forecasts are included in both gross and net peak forecasts.

Winter and Summer Peak Convergence

- Plot shows probabilistic seasonal peak forecast distribution
 - Forecasts include impacts of electrification, BTMPV, large loads, and BTM BESS
 - Both seasonal distributions exhibit less demand growth than CELT 2025
- By 2034, the 90/10 net winter demand forecast exceeds the 50/50 net summer demand forecast
- By the late 2030s, electrification causes winter peak demand to become the prevailing peak season



GROSS LOAD FORECAST FOR CALCULATING ICR FOR UPCOMING ARAS

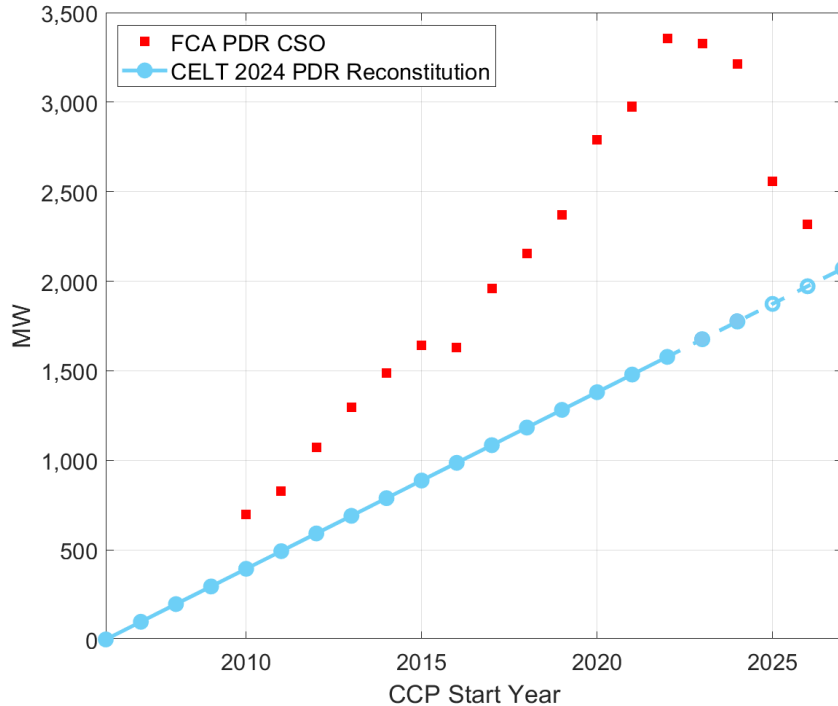
CELT 2026: Pre-Existing Forecast Methodology

- Calculation of ICR for the remaining FCM ARAs will be supported by a gross load forecast based on the pre-existing (pre-CELT 2025) forecast methodology
 - Gross load stems from reconstituting for BTM PV and PDRs
 - Separate models for energy and seasonal peaks
 - Details on the pre-existing forecast methodology can be found in [this presentation](#)
- Input data
 - Reconstitution for PDR resources based on FCA 18 CSOs
 - CELT 2026 EV, HP, BTM PV, BTM BESS, and large load forecasts
 - Load, weather, economic data through end of 2025
- Includes the two new component forecasts implemented as part of CELT 2026
 - The contribution of large loads to summer 2027 is zero and will not impact summer modeling for CCP 2027-2028
- Reporting of gross load forecast values generated using the pre-existing methodology will be confined to specific tabs within the CELT Report and Forecast Data Workbook

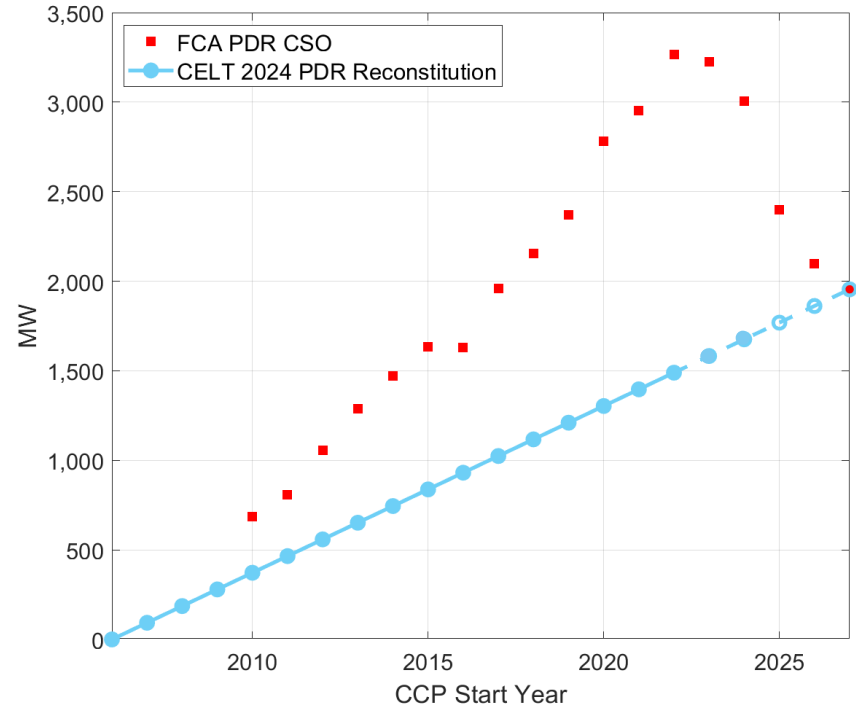
Pre-Existing Methodology

CELT 2026 PDR Reconstitution for New England

Summer (June) PDR CSO



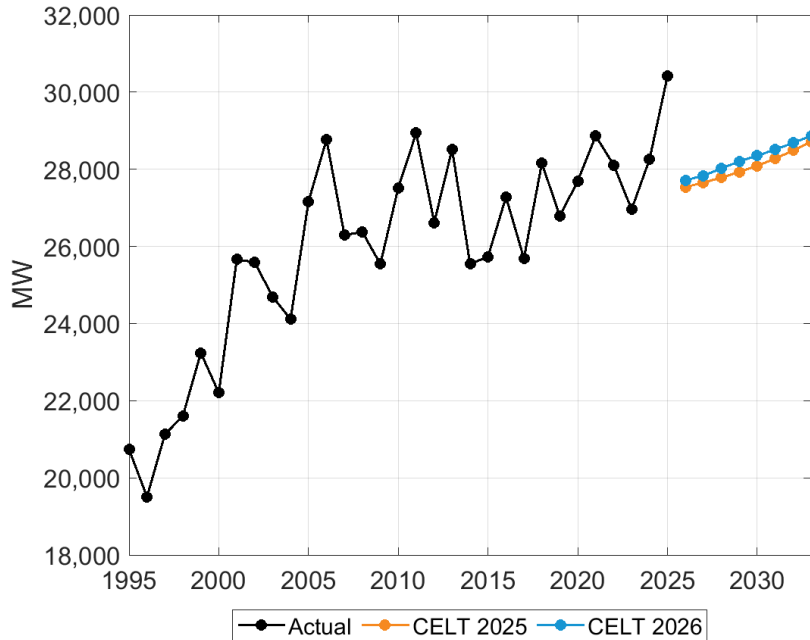
Winter (December) PDR CSO



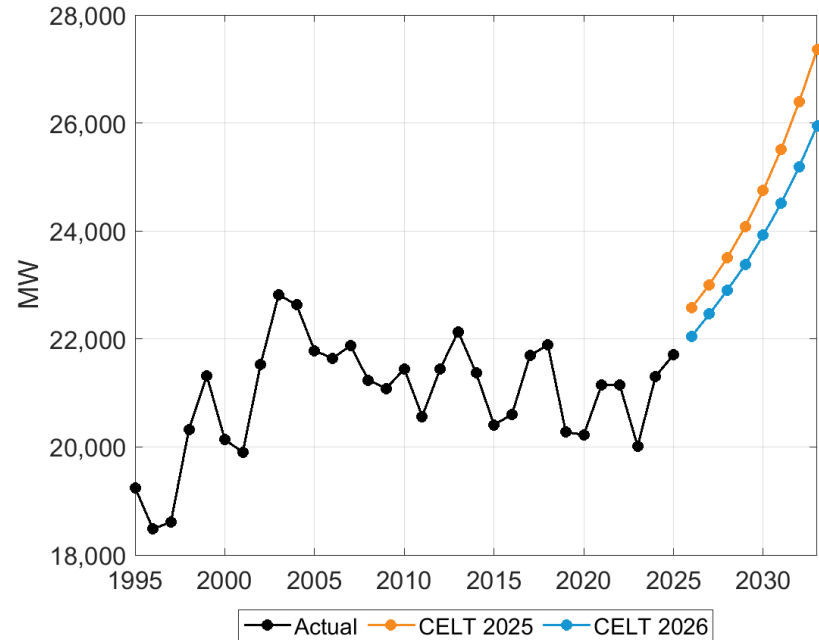
Pre-Existing Methodology

CELT 2026 50/50 Gross Peak Forecast

Summer



Winter



Pre-Existing Methodology

CELT 2026 Gross Load Forecast Values for ARAs

- Upcoming ARA event will only use forecast values relevant to the 2027-2028 capacity commitment period (CCP)

| Year (Winter Start Year) | Summer 50/50 Peak (MW) | Summer 90/10 Peak (MW) | Winter 50/50 Peak (MW) | Winter 90/10 Peak (MW) | Annual Energy (GWh) |
|-----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------------------|
| 2027 | 27,835 | 29,778 | 22,461 | 23,337 | 136,064 |

Next Steps

- The final CELT 2026 forecast will be published on May 1, 2026
 - CELT Report ([CELT webpage](#))
 - Forecast Data workbook ([Load Forecast webpage](#))
 - Slide decks describing the final EV, HP, BTM PV, and BTM BESS forecasts ([Load Forecast webpage](#))

Questions

