



New England Power Grid Outlook

Associated Industries of Massachusetts Energy Committee

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We have a mission that matters

Through collaboration and innovation,
ISO New England plans the transmission
system, administers the region's wholesale
markets, and operates the power system to
ensure reliable and competitively priced
wholesale electricity



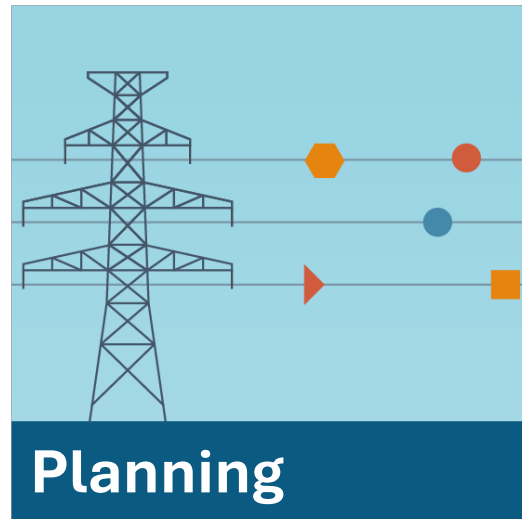
ISO New England Performs **Three Critical Roles** to Ensure Reliable Electricity at Competitive Prices



Coordinate and direct the flow of electricity over the region's high-voltage transmission system



Design, run, and administer the billion-dollar markets where wholesale electricity is bought and sold



Study, analyze, and plan to make sure New England's electricity needs will be met over the next 10 years

Things We Don't Do



Handle
retail electricity



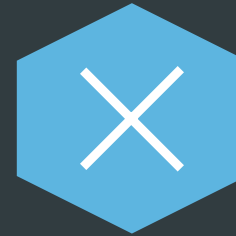
Own power grid
infrastructure



Have a stake in
companies
that own grid
infrastructure



Have
jurisdiction
over fuel
infrastructure



Have control
over siting
decisions

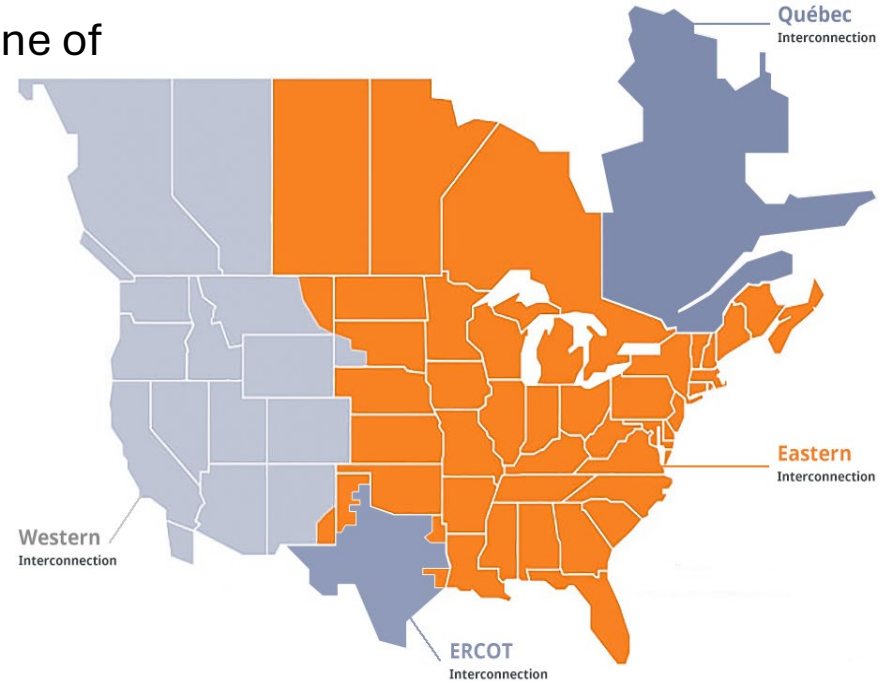


Plan the
resource mix



New England's Power Grid Is Part of a Larger Electric Power System

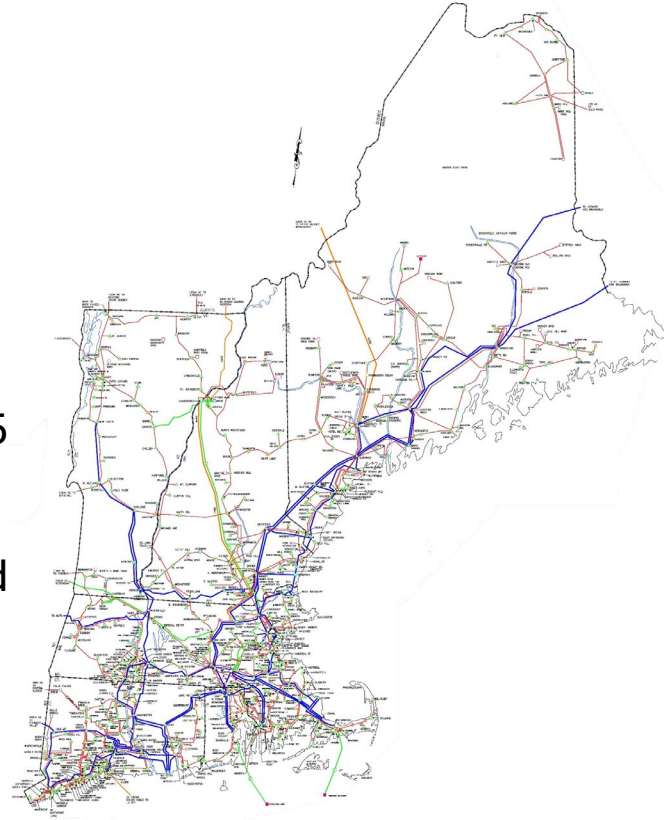
- Part of the **Eastern Interconnection**, one of four large power grids in North America
 - Interconnected through primarily alternating current (AC) transmission
- Tied to **Québec** only through direct current (DC) transmission
- 2003 blackout ushered in wide-area monitoring and **mandatory** reliability standards
- Subject to reliability standards set by **NERC** and **NPCC***



* North American Electric Reliability Corporation (NERC) and Northeast Power Coordinating Council (NPCC)

New England's Transmission Grid Is the Interstate Highway System for Electricity

- **9,000 miles** of high-voltage transmission lines (primarily 115 kV and 345 kV)
- **14 transmission interconnections** to power systems in New York and Eastern Canada
- **7%** of region's energy needs met by imports in 2025
- **\$13 billion** invested to strengthen transmission system reliability since 2002; **\$381 million** planned
- Developers have proposed multiple transmission projects to access **non-carbon-emitting resources** inside and outside the region



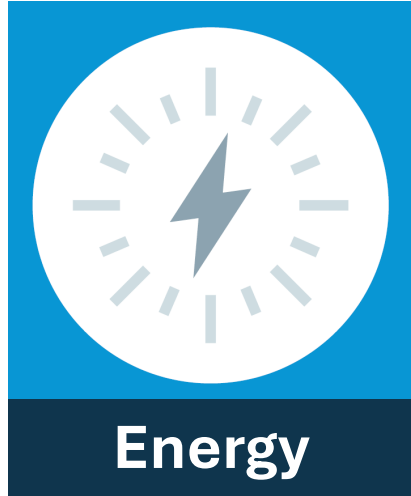
Generation and Demand Resources Are Used to Meet New England's Energy Needs



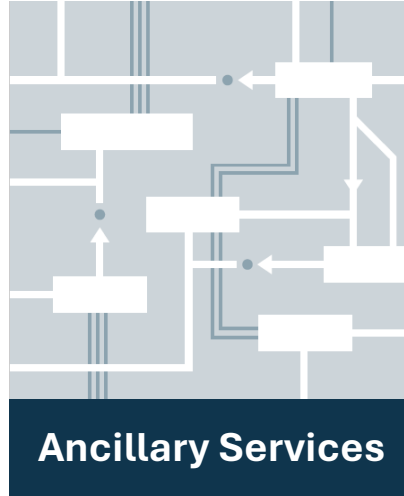
- Nearly **400** dispatchable generators in the region
- **Nearly 30,000 MW** of generating capacity
- Approximately **14,000 MW** of proposed generation in the ISO Queue, mostly wind, storage, and solar proposals
- Roughly **7,000 MW** of generation have retired or will retire in the next few years
- Nearly **3,600 MW** of demand resources with obligations in the Forward Capacity Market*, including energy efficiency, load management, and distributed generation resources

* In the Forward Capacity Market, demand-reduction resources are treated as capacity resources.

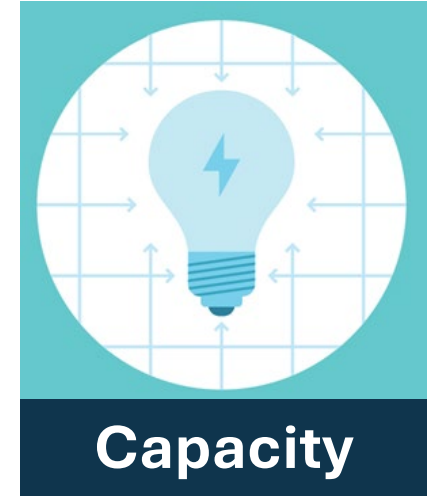
New England's Wholesale Electricity Markets



Markets where participants buy and sell electric energy for the day ahead and in real time

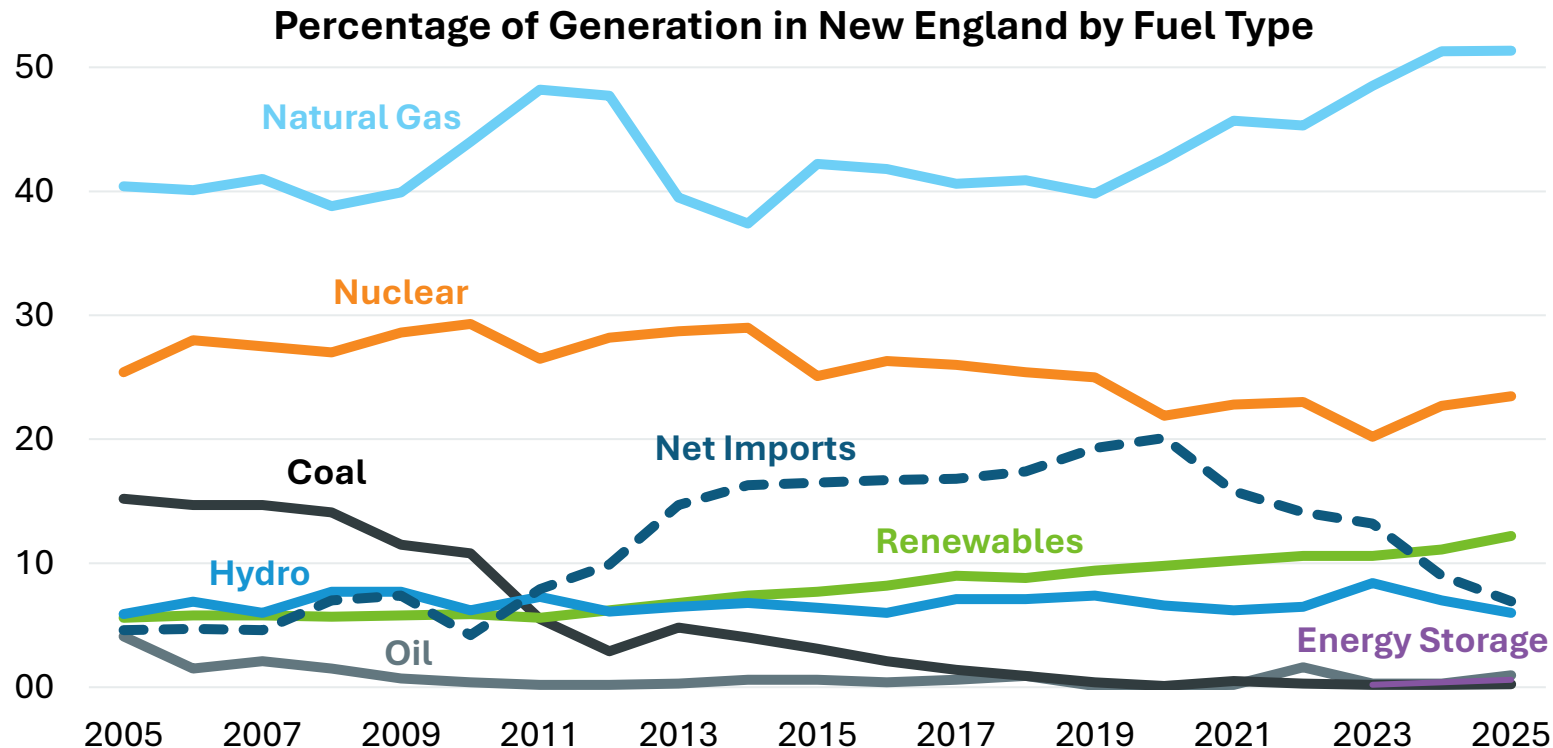


Markets that secure reserves and other products to support system operations



Market that commits resources to meet future system needs

Changes in the Energy Mix Over Time



Source: ISO-NE Net Energy and Peak Load by Source. Electric generation within New England; excludes imports and behind-the-meter (BTM) resources, such as BTM solar.

Weather Drives Regional Demand

- New England is a **summer-peaking system**; heat and humidity drive demand
 - Summer peaks average ~25,600 MW
- Region anticipates shift to **winter-peaking system** with the electrification of heating demand
 - Winter peaks average ~21,000 MW

ISO New England Top Demand Days

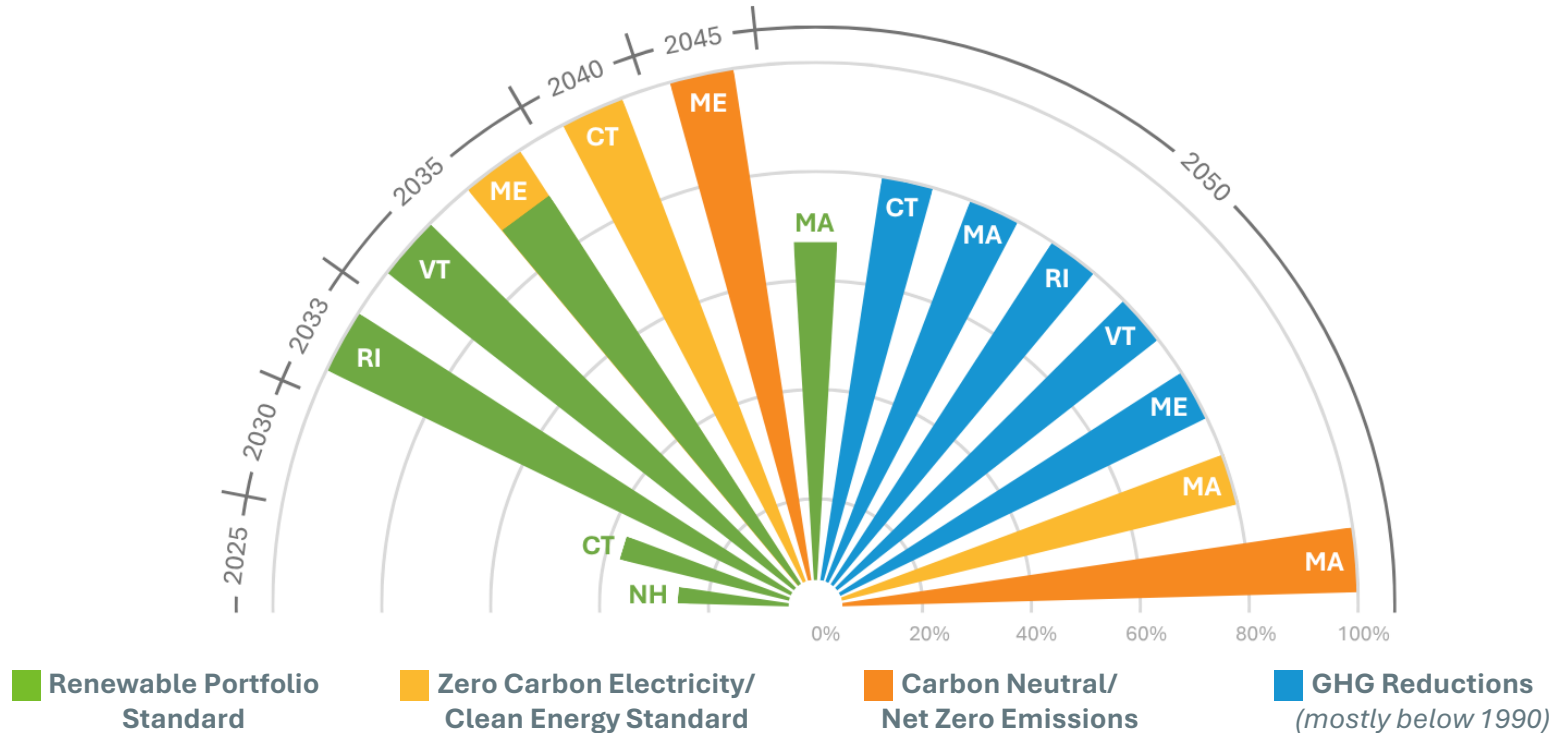
Summer
28,130 MW
Aug. 2, 2006

Winter
22,818 MW
Jan. 15, 2004



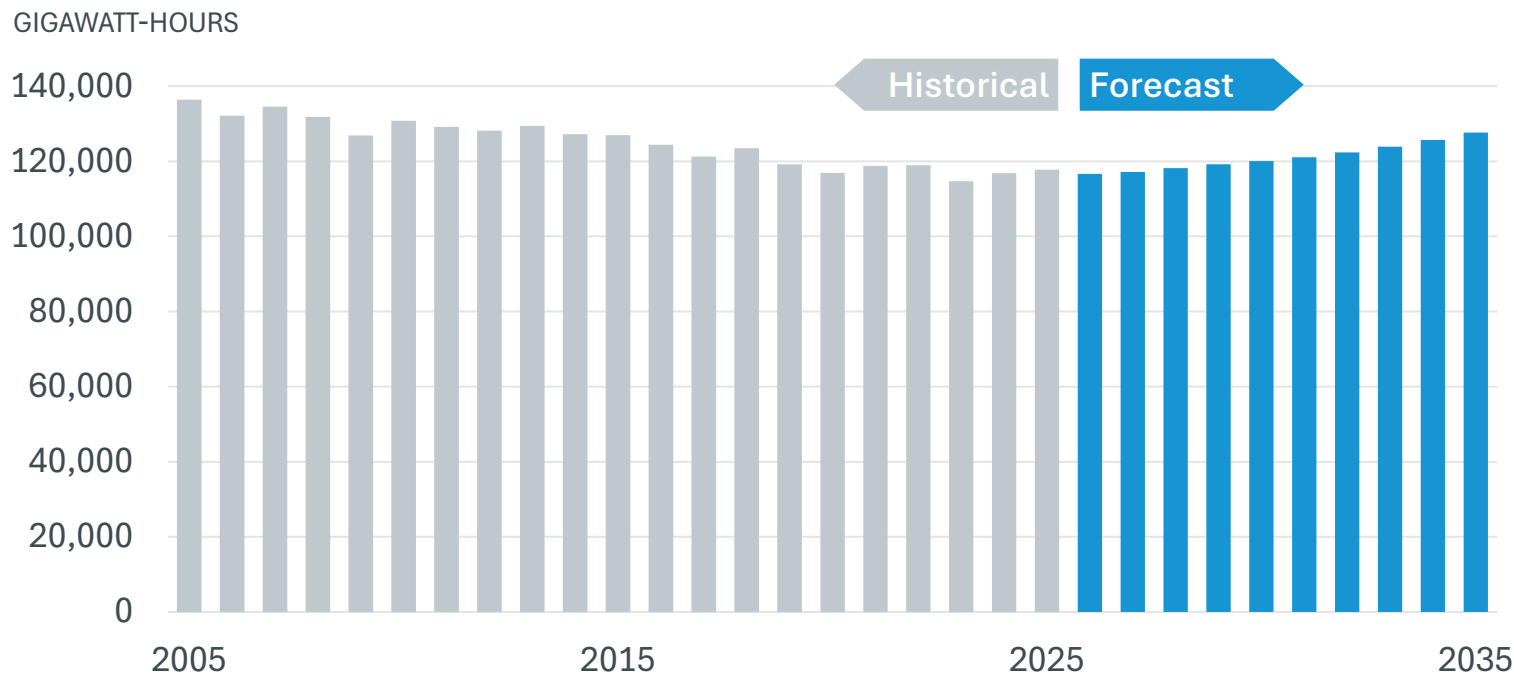
State Policies Support Clean Energy and Drive Emissions Reductions

New England State Energy and Climate Targets, 2025-2050



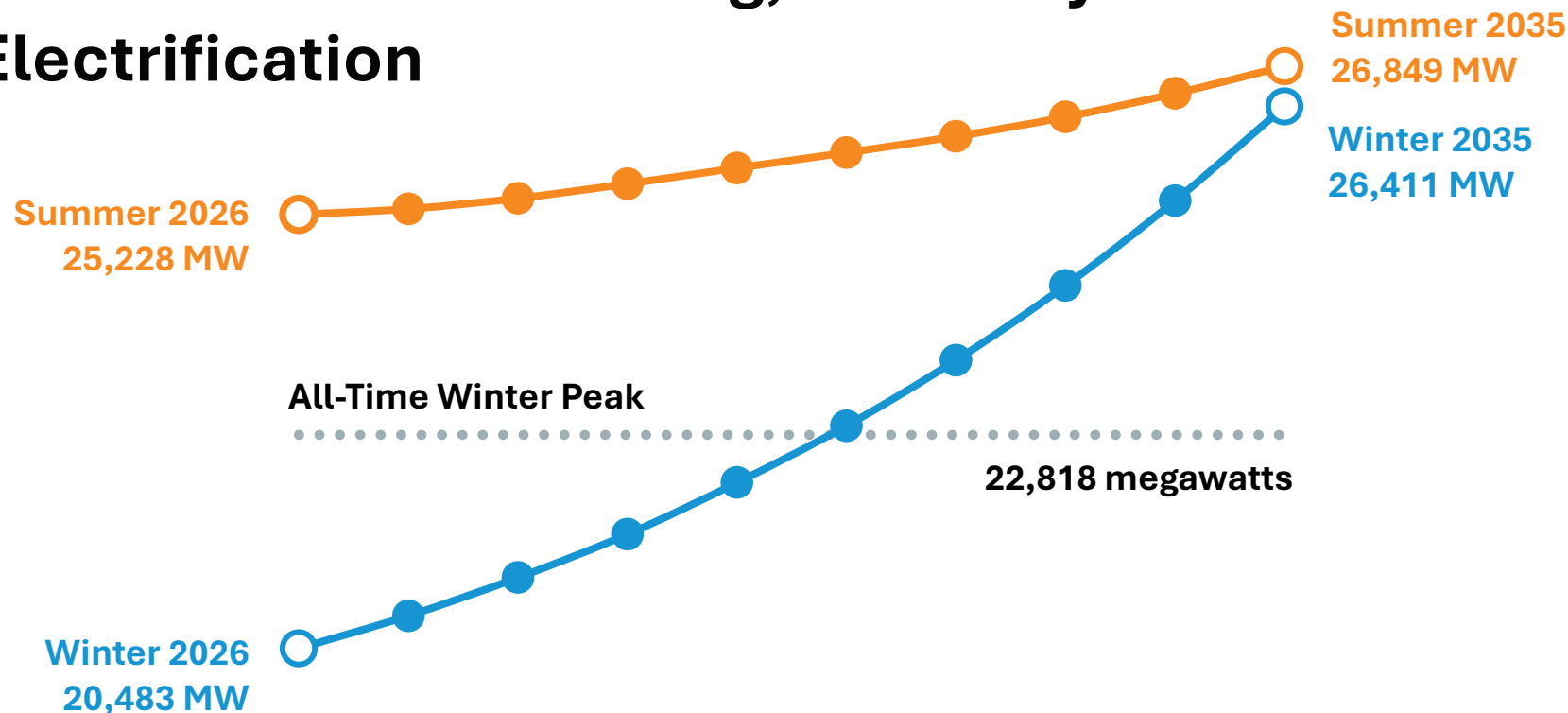
Source: Berkeley Lab, [State Electricity Resource Standards](#), "RPS & CES Targets and Demand" (August 2025); relevant state statutes and regulations as of March 2026.

Net Energy Use Set to Rise After Decades of Decline



Source: [ISO New England 2026-2035 Forecast Report of Capacity, Energy, Loads, and Transmission](#) (2026 CELT Report) (May 2026)

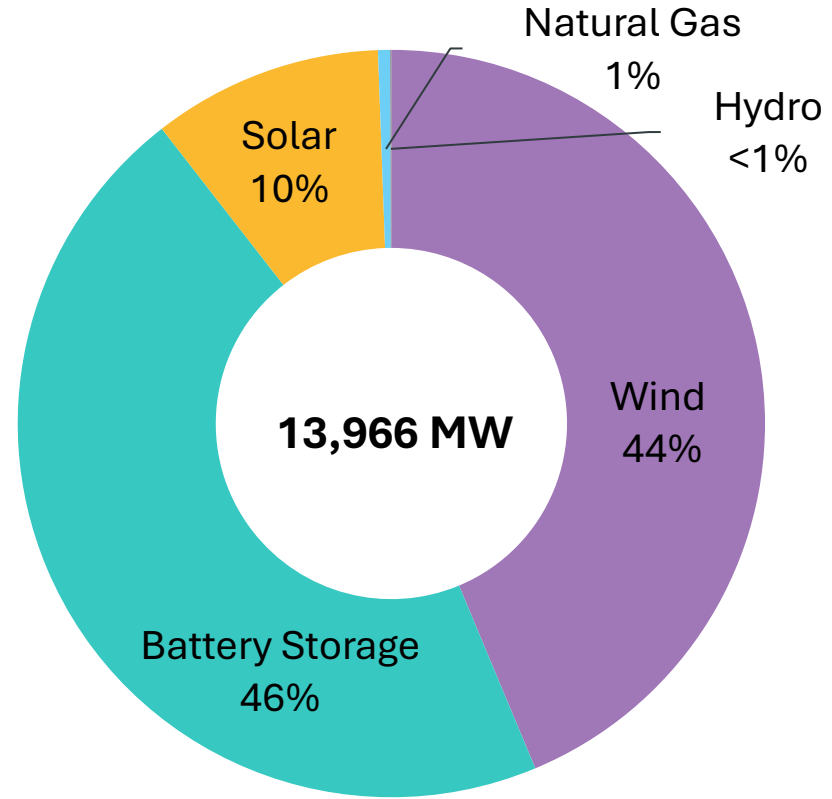
Peak Demand is Growing, Driven by Electrification



Source: [ISO New England 2026-2035 Forecast Report of Capacity, Energy, Loads, and Transmission \(2026 CELT Report\)](#) (May 2026)

Batteries and Wind Account for Most of the Proposed Generation in New England

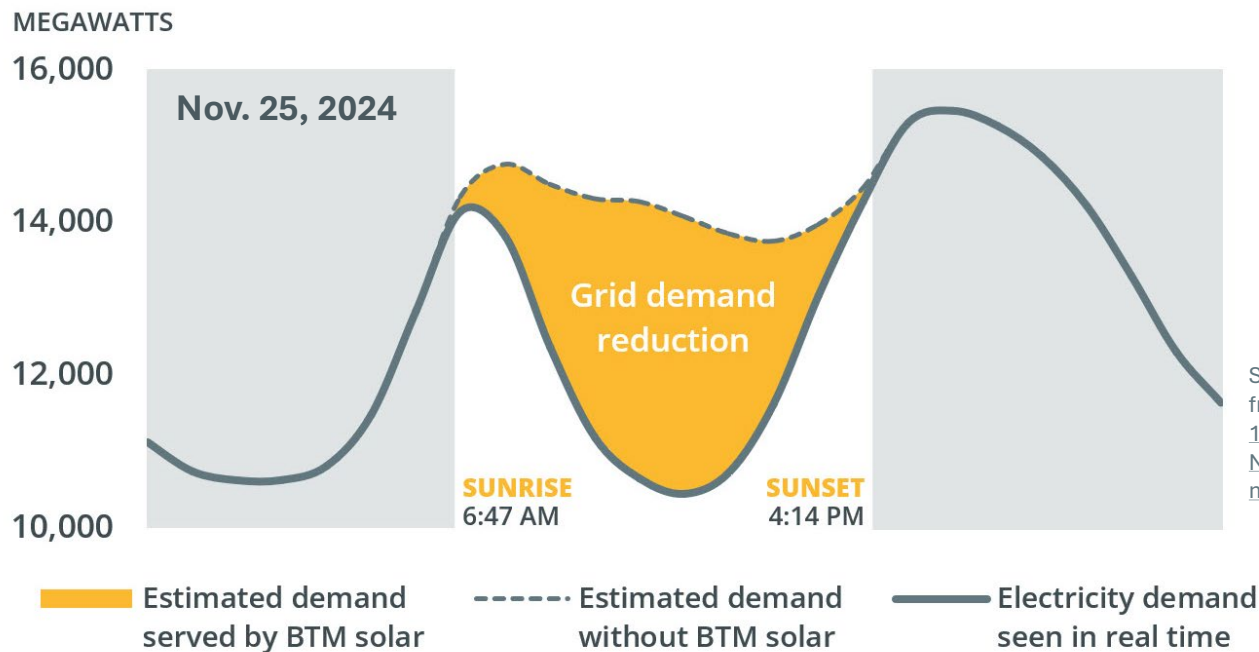
Source: ISO Generator Interconnection Queue, FERC Jurisdictional Proposals;
Nameplate Capacity Ratings.



January 2026

Continued Development of Solar Drives Down Afternoon Load, Especially in Spring When Demand is Lower

Grid demand reduction from behind-the-meter (BTM) solar



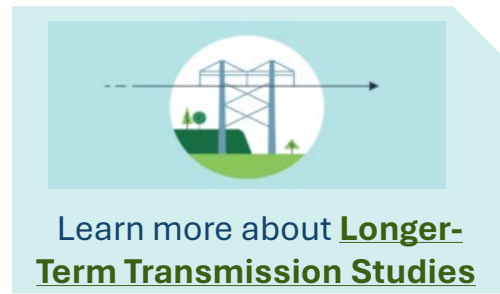
Source: ISO Newswire Article from November 26, 2024, [100th 'duck curve' day marks New England solar power milestone - ISO Newswire](#)

LONGER-TERM TRANSMISSION PLANNING

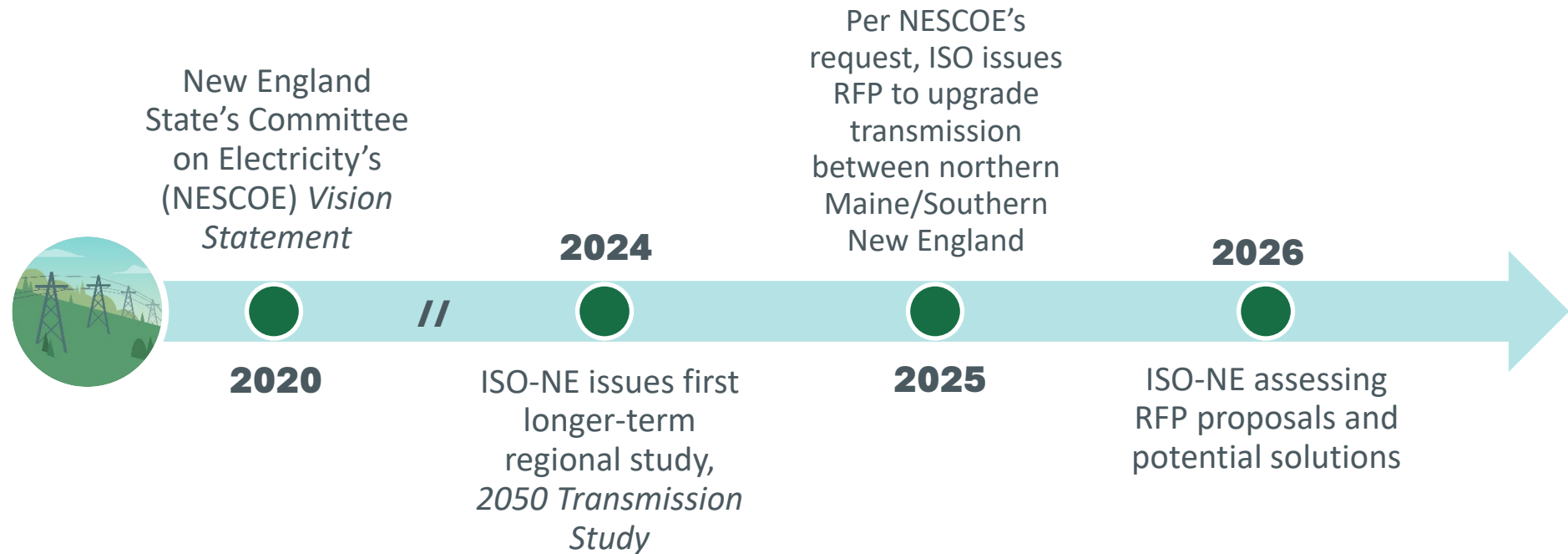


Longer-Term Transmission Planning (LTTP)

- 2020: New England States Committee on Electricity (NESCOE)'s [vision statement](#) recommended that the ISO work with stakeholders to conduct a **comprehensive long-term regional transmission study**
 - In response, the ISO began the study and received **FERC approval** to revise the ISO Tariff to establish a repeatable longer-term study process
- 2024: [2050 Transmission Study](#) was the **first longer-term transmission study**
 - Informs stakeholders of the amount and type of transmission infrastructure necessary to provide reliable, cost-effective energy to the region through the **clean energy transition**, driven by state policy
- The region's **existing transmission system** has the potential to become a **significant bottleneck** to progress if it does not keep pace with changes to other elements of the power system



ISO-NE and New England States are Working Together to Solve **Longer-Term Transmission Needs**

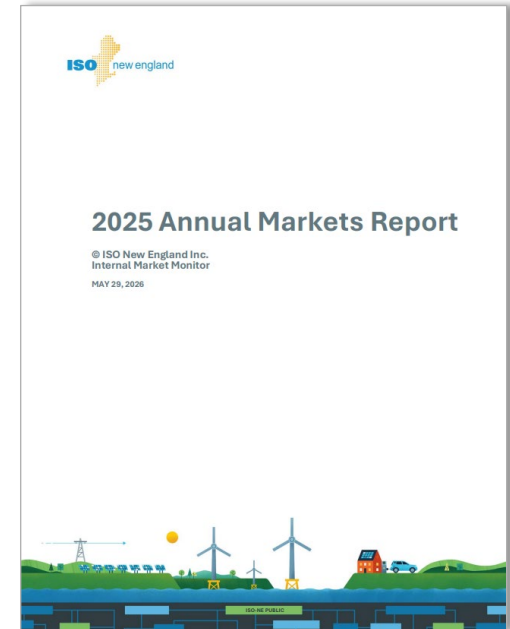


2025 ANNUAL MARKETS REPORT



2025 Annual Markets Report Overview

- In May, ISO New England's **Internal Market Monitor** (IMM) issued the *2025 Annual Markets Report* (AMR)
 - The IMM functions **independently** of ISO management and reports directly to the ISO Board of Directors
- The AMR assesses the **state of competition** in the wholesale electricity markets administered by the ISO during the most recent operating year
- The AMR also presents the **most important findings, market outcomes, and market design changes** of New England's wholesale electricity markets for 2025



The *2025 Annual Markets Report* is available on the [Internal Market Monitor](#) webpage.

Interested in learning more? The IMM has published a primer that explains the fundamentals of New England's wholesale energy markets, which readers may find a useful companion to the IMM quarterly and annual markets reports: [An Overview of New England's Wholesale Electricity Markets \(2025 Update\)](#)

Higher Energy Costs Drove Increase in Total Wholesale Costs in 2025

- The total wholesale cost of electricity was \$15 billion
 - The nearly 50% increase compared to 2024 costs (\$10.2 billion) were driven by higher natural gas costs, tighter supply conditions, and ongoing structural changes to the resource mix and market design
- Energy market costs totaled \$9.9 billion, up 77% from 2024
 - Gas prices rose 105% year-over-year, averaging \$6.27/MMBtu in 2025 compared to \$3.06/MMBtu in 2024
 - Energy costs accounted for 66% of the year's total wholesale electricity costs, compared to 55% in 2024
- Capacity costs totaled \$1.2 billion, down 16% from 2024
- The average price in the Real-Time Energy Market was up 67% year over year, at \$65.89/MWh; average Day-Ahead prices were up 73%, at \$71.81/MWh
- Regional network load costs, which pay for the use of transmission facilities, reliability, and certain administrative services, were \$3.6 billion, up 23% from 2024



CAPACITY AUCTION REFORMS



The Capacity Market Plays a Critical Role in Meeting the Region's Reliability Standards

The **energy**, **ancillary services**, and **capacity** markets work together to provide the incentives and revenue the region needs to meet reliability standards



The Day-Ahead and Real-Time Energy Markets are forward and spot markets for trading **electric energy**



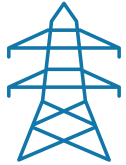
Resources provide **short-term reliability services**, as well as services needed to support the physical operation of the system (e.g., regulation, voltage support)



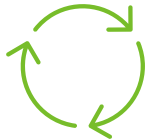
Resources compete to sell **long-term reliability services** to the system in three years' time through annual Forward Capacity Auctions

The capacity market provides revenue to cover costs and continue operation for resources needed for reliability, but that seldom run and therefore receive little revenue from the energy and ancillary services markets

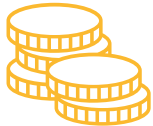
Capacity Market Design Decisions are Informed by Three Design Objectives



Reliability: to ensure that the capacity market is designed to satisfy the North American Electric Reliability Corporation's (NERC) one-day-in-ten Loss of Load Expectation (LOLE) resource adequacy standard



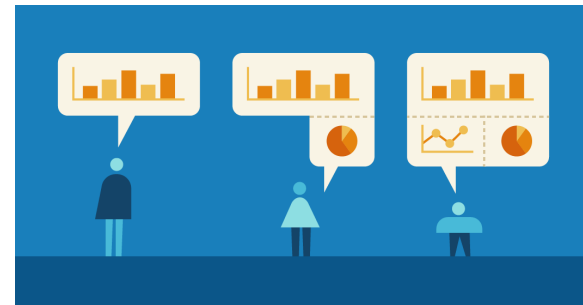
Sustainability: to incent the investment needed to meet the reliability design objective over time as system and market conditions change



Cost-effectiveness: to procure capacity to meet the reliability and sustainability design objectives while minimizing costs

Next Steps for the Capacity Market

- The **Capacity Auction Reform (CAR) Key Project** addresses system reliability and affordability as electricity demand and the resource mix change:
 - **First Phase (approved by FERC Mar. 2026)**
 - Transitions the capacity market from a three-year forward auction to a **prompt auction** that runs shortly before the capacity commitment period (CCP) and updates the process for resources exiting the capacity market
 - **Second Phase (ongoing – 2027)**
 - Restructures the CCP from **annual to seasonal** commitment periods
 - Reshapes capacity market accreditation to more accurately reflect **resource adequacy contributions** from an evolving resource mix, from season to season



Benefits of Proposed Auction Reforms



Accrediting resources based on their expected performance during tight system conditions will help the region procure a set of **resources that can perform during tight system conditions**



Accreditation framework will help to **ensure accurate entry/exit signals over time as system conditions change**, incenting the investment required to meet the region's one-day-in-ten reliability standard as system conditions evolve



Accreditation framework will **better link resources' expected resource adequacy contributions to their capacity market compensation**

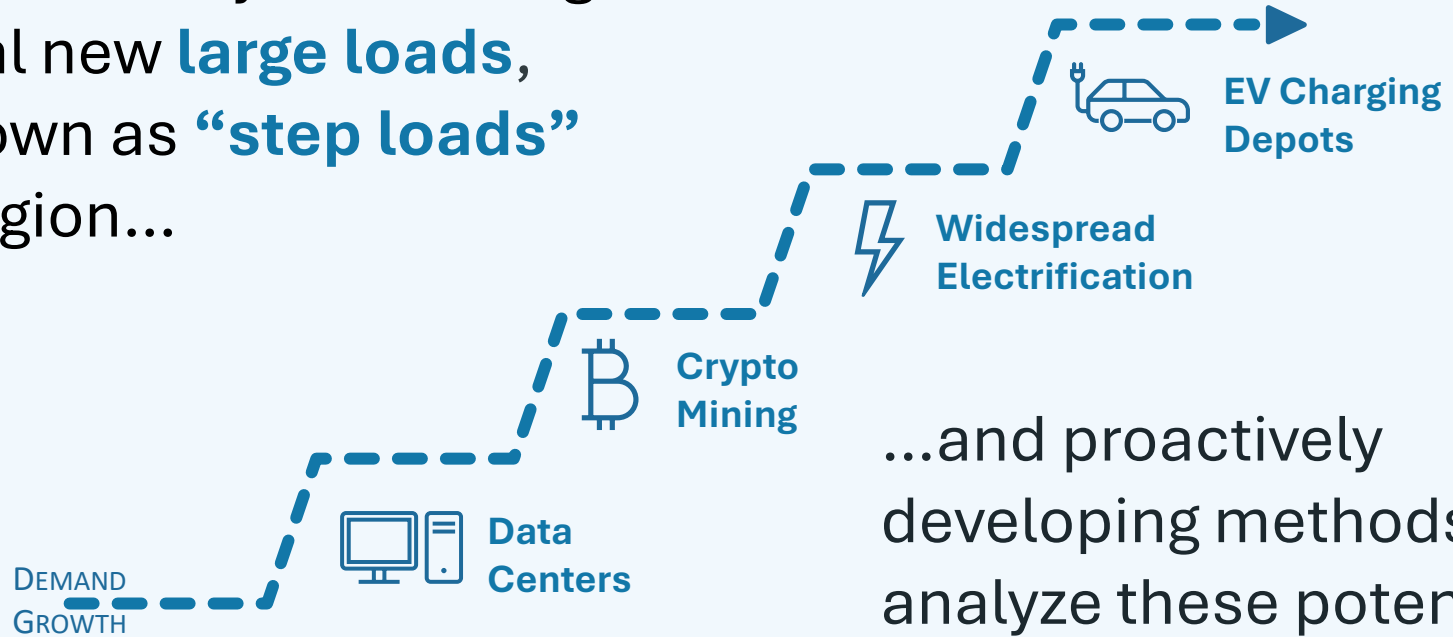


Prompt auctions mean **better forecasts, no “phantom” entry, and simplicity**

FORECASTING LARGE LOADS



ISO-NE is closely monitoring potential new **large loads**, also known as “**step loads**” in the region...



...and proactively developing methods to analyze these potential loads' impact on **future demand**

Large Load Outlook in New England

Current Status

- Limited, but potential for growth
- Only a few projects in formal study (<300 MW)

Near-Term Impact

- Minimal impact before **2027-2028**



Long-Term Outlook

- **~110–130 MW** impact to peak demand by 2030s–2040s
- Large loads expected to consume **~800 GWh** from 2030 to 2035, rising to **~1,000 GWh** in the 2040s

Large loads are **not yet a major driver of load growth in New England**, but **ISO-NE is proactively planning** for potential acceleration

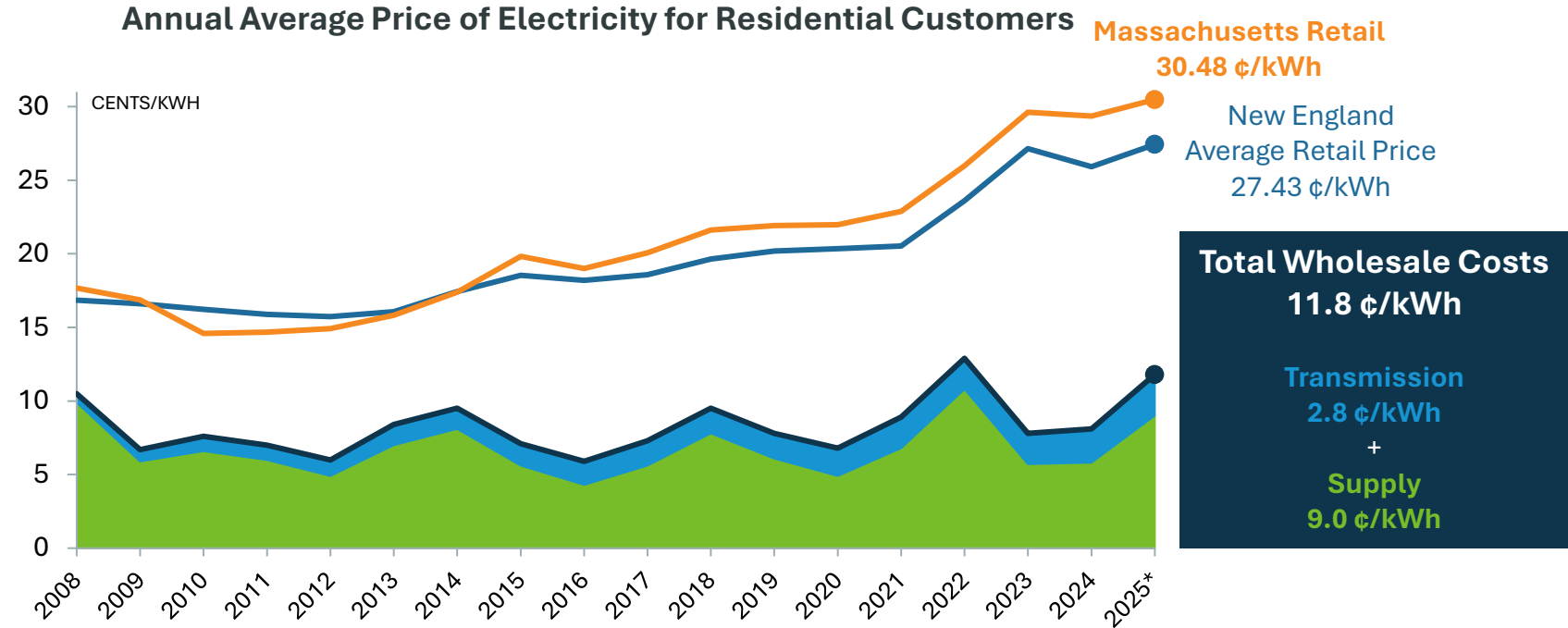
Learn more: [ISO-NE establishes forecast framework for data centers, other 'large loads' - ISO Newswire](#)

WHOLESALE VS RETAIL PRICES



Wholesale vs. Retail Prices

Breakdown of New Englanders' annual electricity costs



Sources: U.S. Energy Information Administration, *Electric Power Annual*, Table 2.10 Average Price of Electricity to Ultimate Customers by End-Use Sector, by State; U.S. Energy Information Administration, *Electric Power Monthly*, Table 5.6.B Average Price of Electricity to Ultimate Customers by End-Use Sector, by State (Through Dec. 2025); and ISO New England

*2025 values are preliminary

Questions



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