MARCH 11, 2026 | VIRTUAL

Intro to ISO

Hosted by ISO-NE's External Affairs Team

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Questions ?

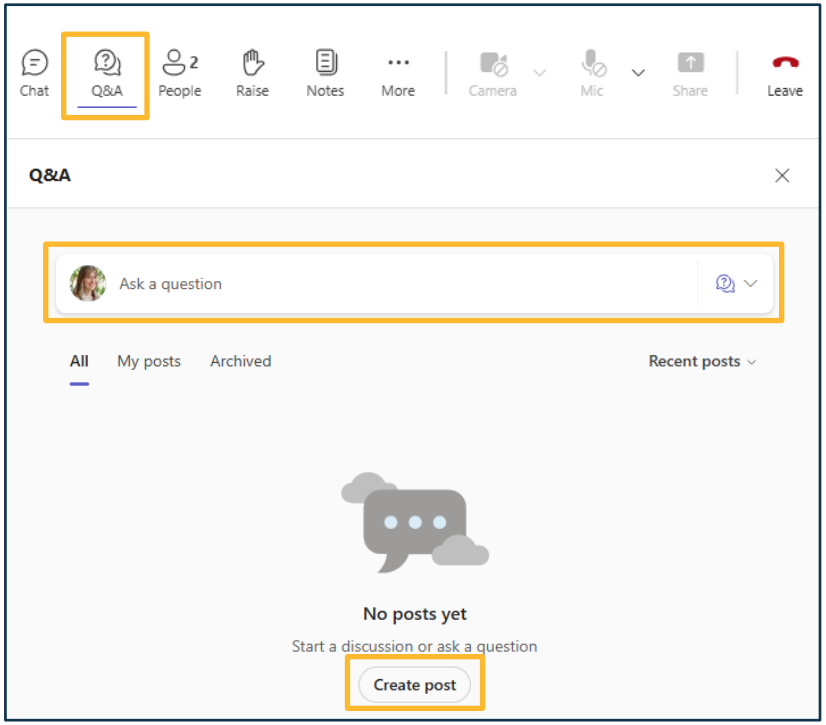
Submit your questions in the Q&A function

Select **“Q&A”** from the menu bar

Select **“Ask a question”** or hit the **“Create post”** button to submit a question

To ensure presenters see all questions in a timely fashion, create a new post for each question; do not submit a “comment” on a previous question

Do not submit questions in the “Chat”



Why an Independent System Operator?

ISOs are independent, not-for-profit organizations that coordinate generation and transmission to provide reliable and cost-effective electricity

Non-discriminatory, **open access** to the transmission system

Full control of the transmission system

Consumers benefit from competition for electricity supply

Independence from market participants

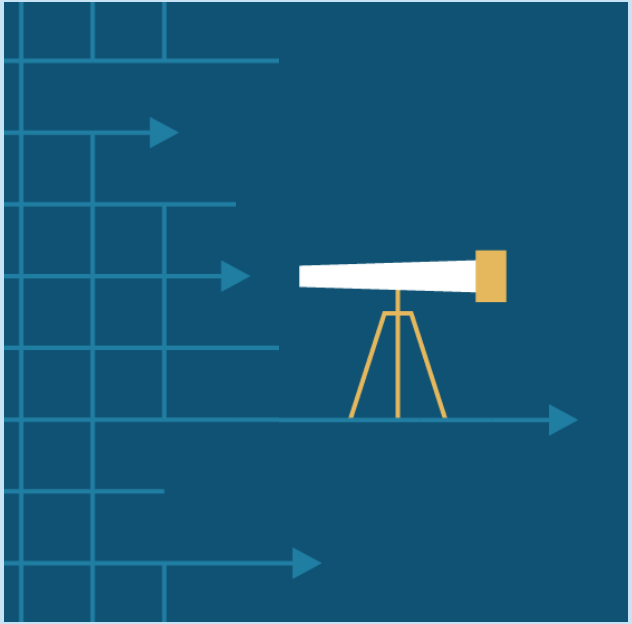
We have a mission that matters

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 Has Nearly Three Decades of Experience Overseeing the Region's Restructured Electric Power System

- **Regulated** by the Federal Energy Regulatory Commission
- **Reliability Coordinator** for New England under the North American Electric Reliability Corporation
- **Independent** of companies in the marketplace and **neutral** on technology

OUR HISTORY



Key Dates

Congress, States Restructure Electric Industry

1992: Energy Policy Act

Late 1990s: Most New England states restructure

1996: FERC creates ISO structure

1999: FERC Order 2000 encourages creation of Regional Transmission Organizations

Creation and Evolution of ISO New England

1971: New England Power Pool (NEPOOL) created

1997: ISO New England created

1999: Wholesale markets launch

2005: ISO-NE takes on RTO role

Refer to the Appendix for details

FERC's Principles and Goals that Guided ISOs & RTOs

Independent System Operator

11 principles included:

- An ISO's **governance** should be fair and non-discriminatory
- An ISO and its employees should have **no financial interest** in any power market participants
- An ISO should provide **open access** to the transmission system
- An ISO should have the primary responsibility in ensuring short-term **reliability** of grid operations
- An ISO should have **control** over the operation of interconnected transmission facilities within its region

Regional Transmission Organization

12 characteristics and **functions** included:

- **Independence** from market participants
- **Full control** of transmission system
- Tariff administration and design
- **Market monitoring**
- **Transmission planning**

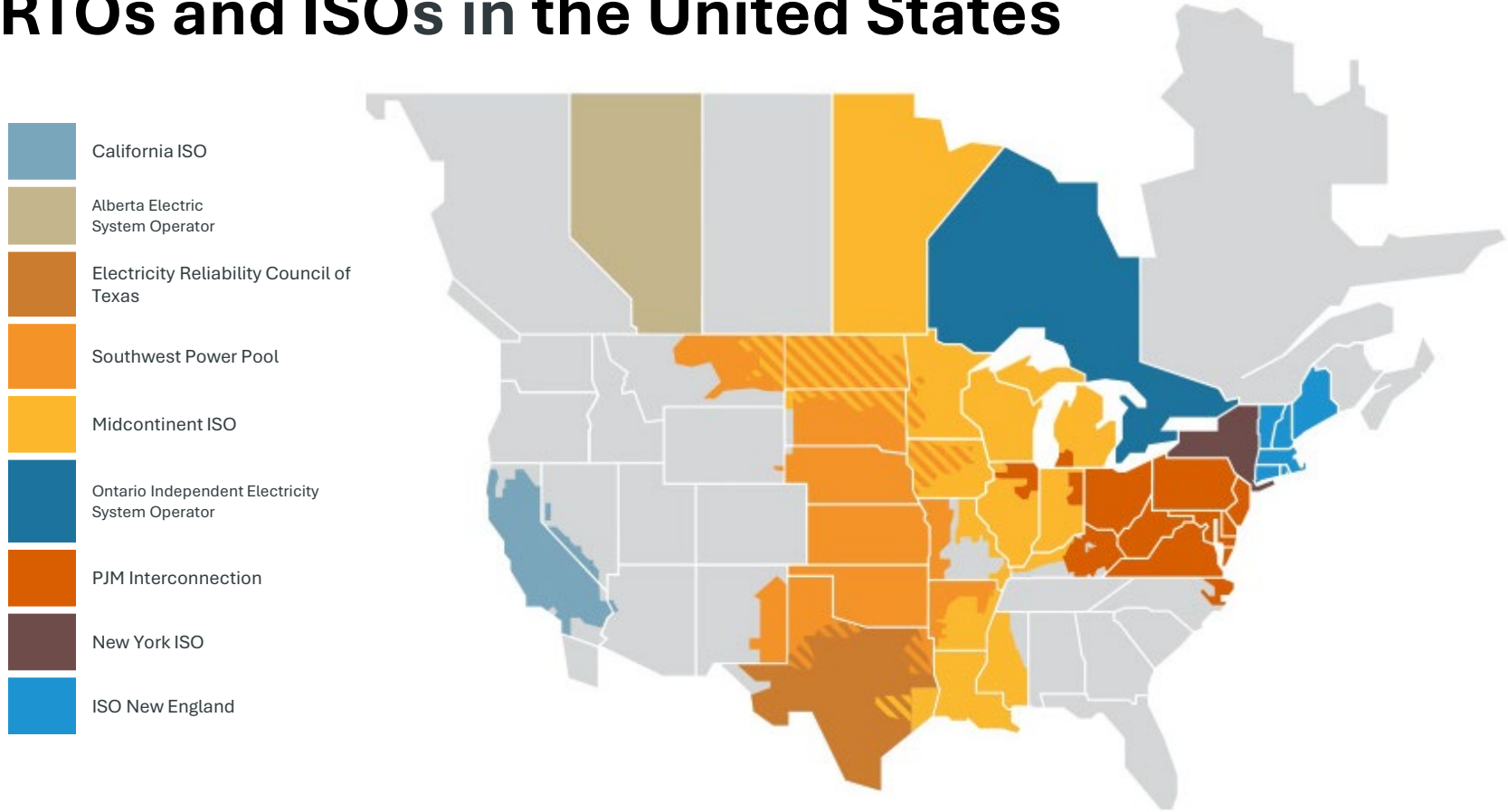
Refer to the Appendix for the full list.

Key Features of ISO-NE Structure and Governance

- Organized as a **non-profit corporation** (501(c)(3) organization)
- The ISO is categorized as a public utility, subject to **FERC jurisdiction**
  - The ISO is *not* a government entity or quasi-government entity
- **Independent** of wholesale electricity markets participants
  - Employees, management, and directors are subject to a **code of conduct** to demonstrate no financial interest in market participants
- ISO-NE does not own transmission, but has **operational control** over transmission facilities under agreements with transmission owners
- **Governed** by an independent board of directors that provides **oversight**
  - Board guides strategic direction of the organization, oversees CEO and senior management; not involved in day-to-day management decisions
  - Not a stakeholder board

"A **public utility** is any person that owns or operates facilities used for the transmission of electric energy in interstate commerce or the sale of electric energy at wholesale in interstate commerce. An **ISO** will operate facilities used for the transmission of electric energy in interstate commerce and thus will be subject to the Open Access and OASIS rules." (FERC Order 888; 1996)

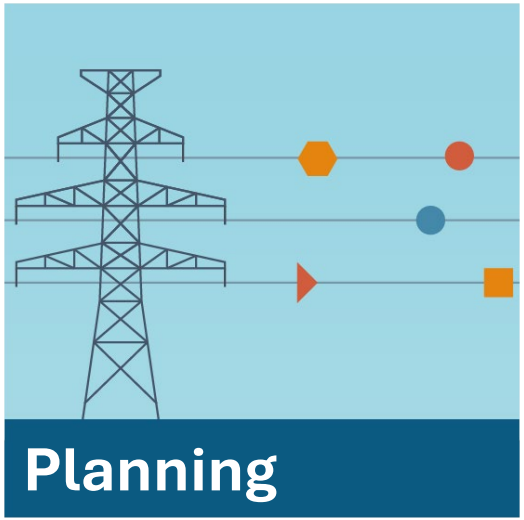
RTOs and ISOs in the United States



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

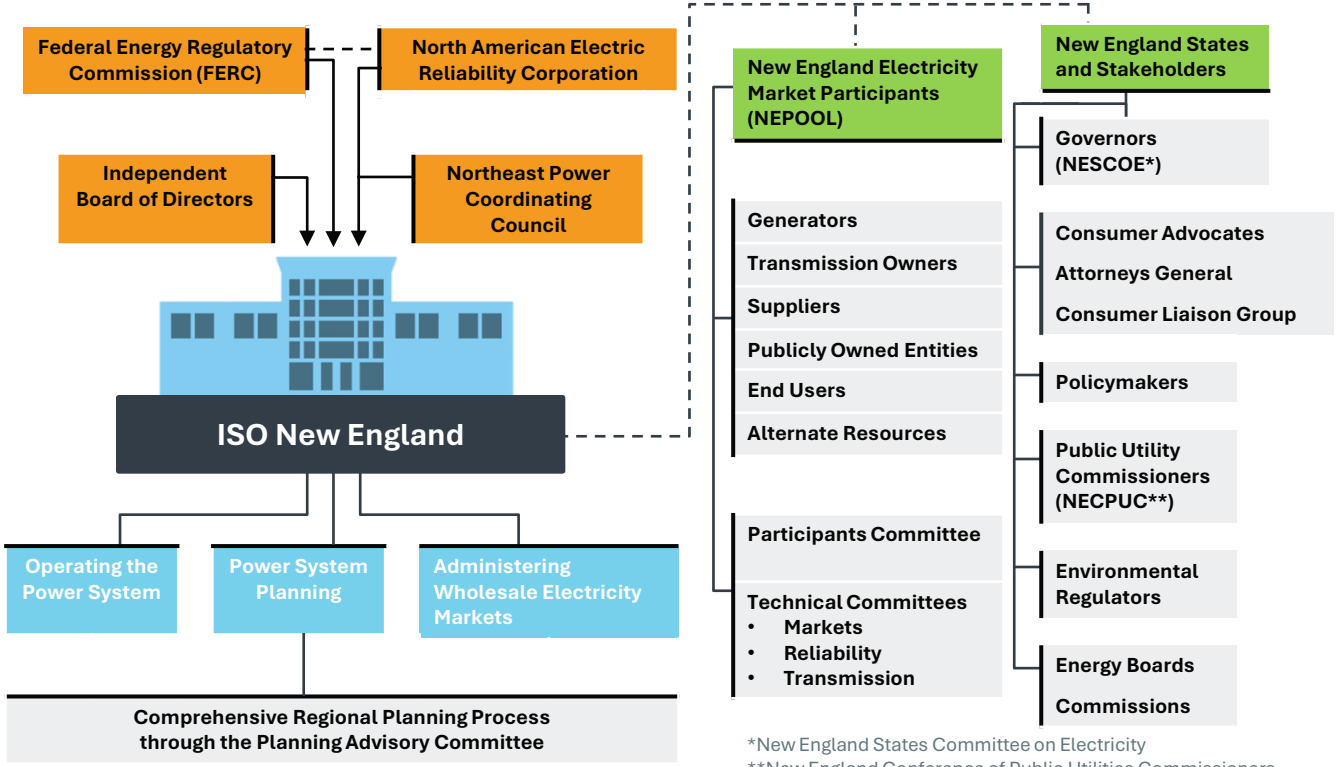
Have a stake in companies that own grid infrastructure

Have jurisdiction over fuel infrastructure

Have control over siting decisions

Plan the resource mix

Numerous Entities Including an Independent Board Provide Oversight of and Input on ISO's Responsibilities



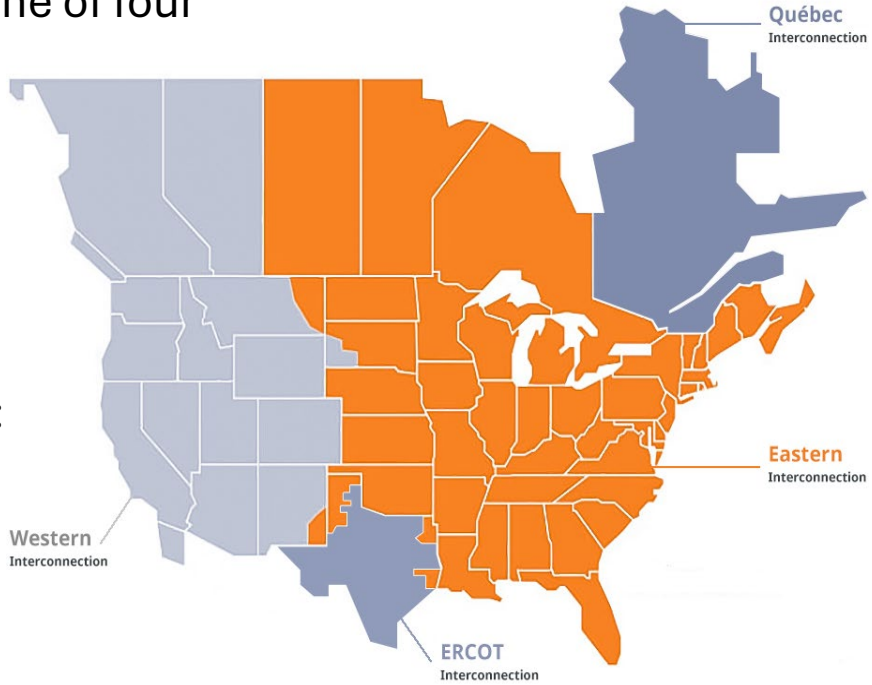
*New England States Committee on Electricity
**New England Conference of Public Utilities Commissioners

ISO NEW ENGLAND'S THREE CRITICAL ROLES

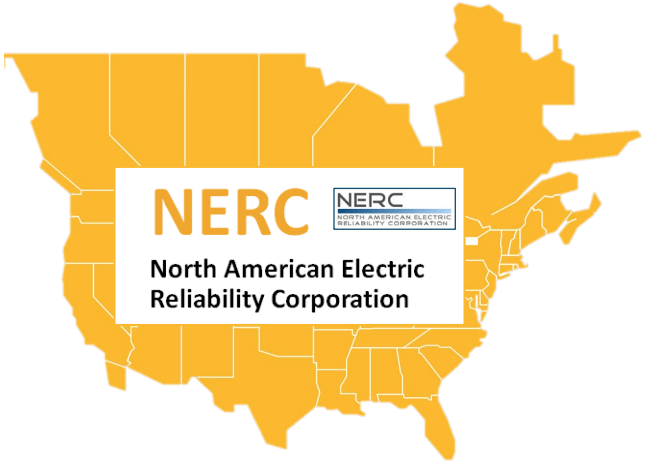
ISO New England Keeps Power Flowing Across the Region Every Minute of Every Day

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

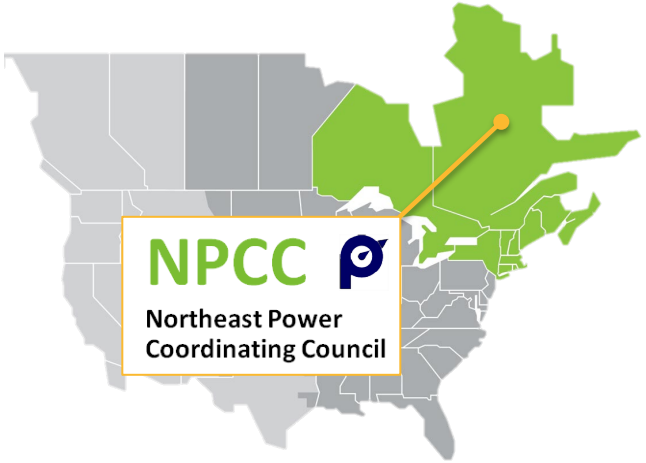
- Part of the **Eastern Interconnection**, one of four large power grids in North America
- Tied to **Québec** only through direct current (DC) transmission
- 2003 blackout ushered in wide-area monitoring and **mandatory** reliability standards
- Subject to **reliability standards** set by:
  - North American Electric Reliability Corporation (NERC)
  - Northeast Power Coordinating Council (NPCC)



ISO-NE is Subject to Reliability Standards



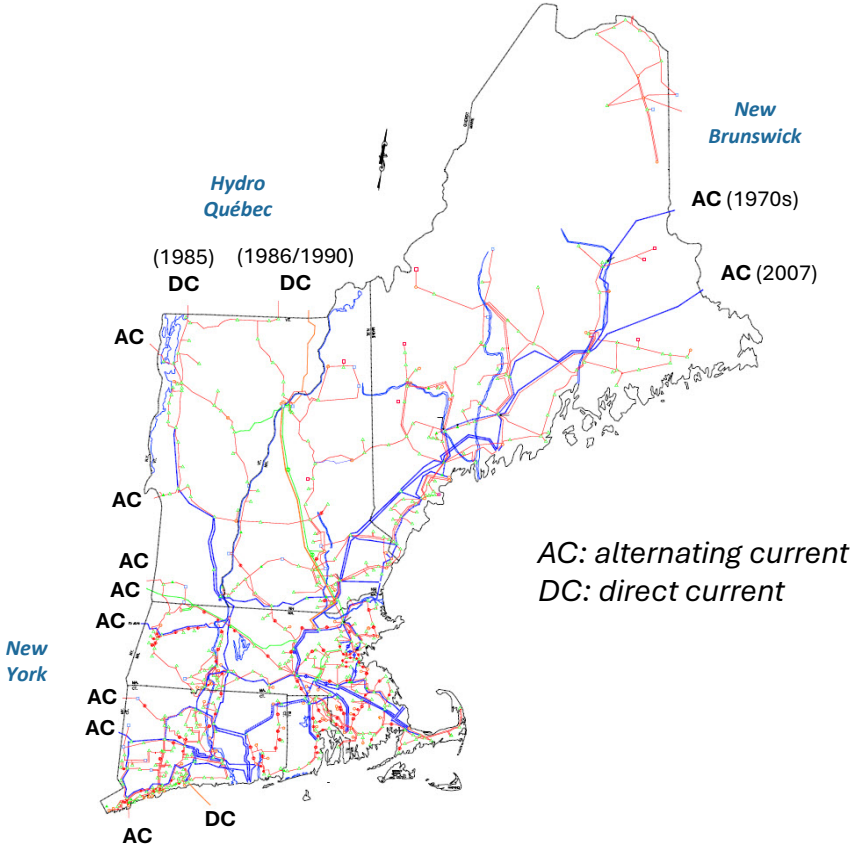
NERC is certified by FERC to be the Electric Reliability Organization, which establishes and enforces reliability standards for the US power system, and it plays a similar role in Canada.



NPCC is one of 8 authorities delegated by NERC to monitor and enforce compliance with reliability standards. It assesses reliability, creates specific regional standards to support reliability principles, and monitors and enforces those standards.

New England Has Multiple Ties to Neighboring Regions

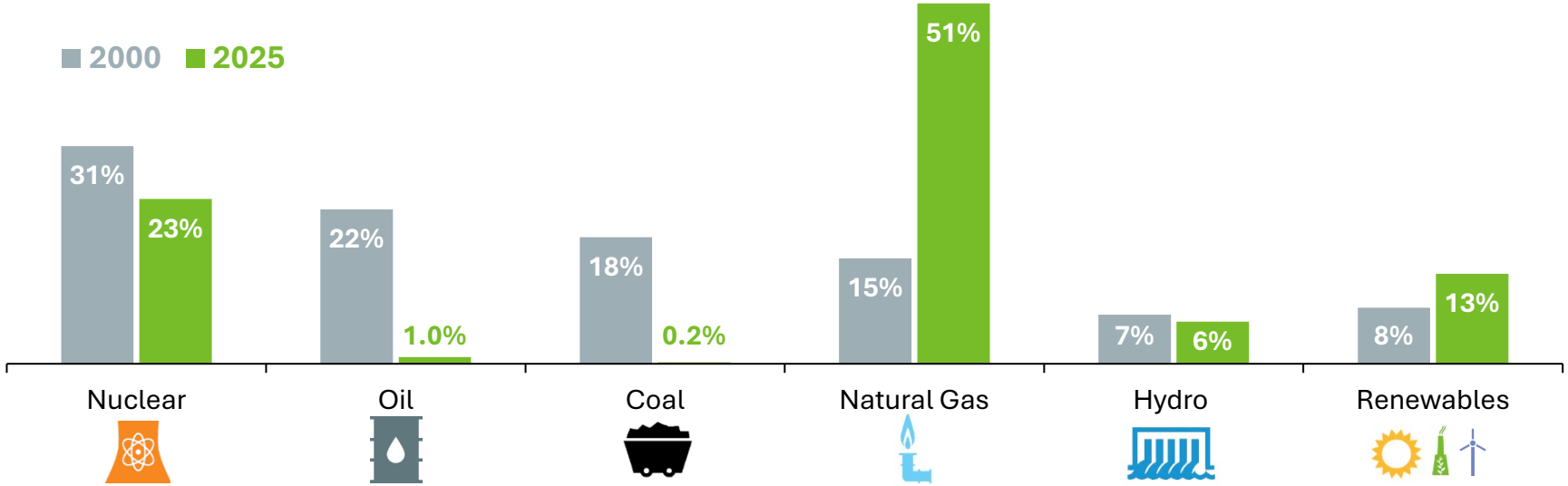
- Transmission system is tied to neighboring power systems in the U.S. and Eastern Canada:
  - New York (8 AC ties, 1 DC tie)
  - Hydro Québec (3 DC ties)
  - New Brunswick (2 AC ties)
- **7%** of the region's energy needs were met by imports in 2025



Dramatic Changes in the Energy Mix

The fuels used to produce the region's electric energy have shifted as a result of economic and environmental factors

Percent of Total **Electric Energy** Production by Fuel Type (2000 vs. 2025)



Source: ISO New England Net Energy and Peak Load by Source; data for 2025 is preliminary and subject to resettlement
Renewables include landfill gas, biomass, other biomass gas, wind, grid-scale solar, municipal solid waste, and miscellaneous fuels.
This data represents electric generation within New England; it does not include imports or 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

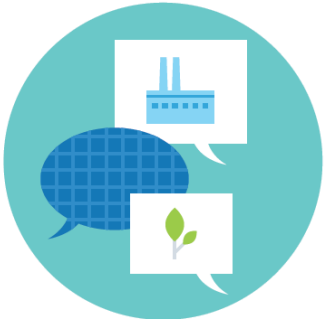
Winter
22,818 MW
Jan. 15,2004

ISO NEW ENGLAND' S THREE CRITICAL ROLES

Why Competitive Markets?

New England restructured its power industry and launched competitive wholesale electricity markets in the late 1990s based on several key principles

Competition among wholesale electricity buyers and sellers yield prices that accurately reflect a resource's true operating costs



Efficiency and transparency spur innovation and investment in new technologies and power resources to ensure power system reliability

Investment risk associated with developing new power resources shifts from consumers to private investors

Wholesale Electricity Markets

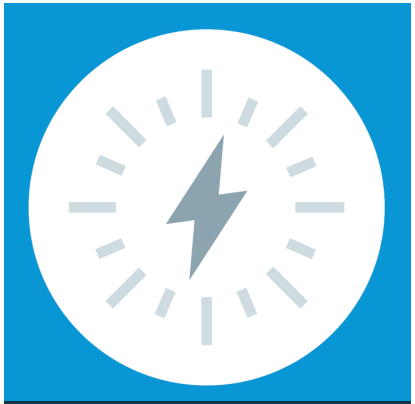
Buyers

- Distribution utilities
- Retail electricity providers
- Large energy users (e.g., industrial manufacturer)
- Financial traders

Sellers

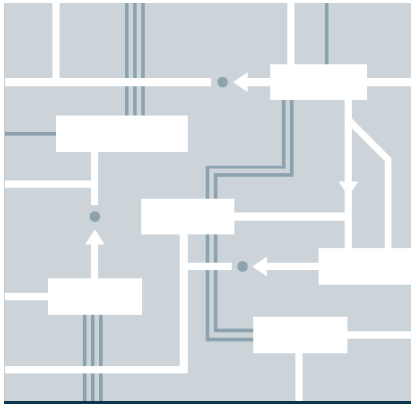
- Owners of power plants
- Demand Response Providers
- Financial traders

New England's Wholesale Electricity Markets



Energy

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



Ancillary Services

Markets that secure reserves and other products to support system operations

Capacity

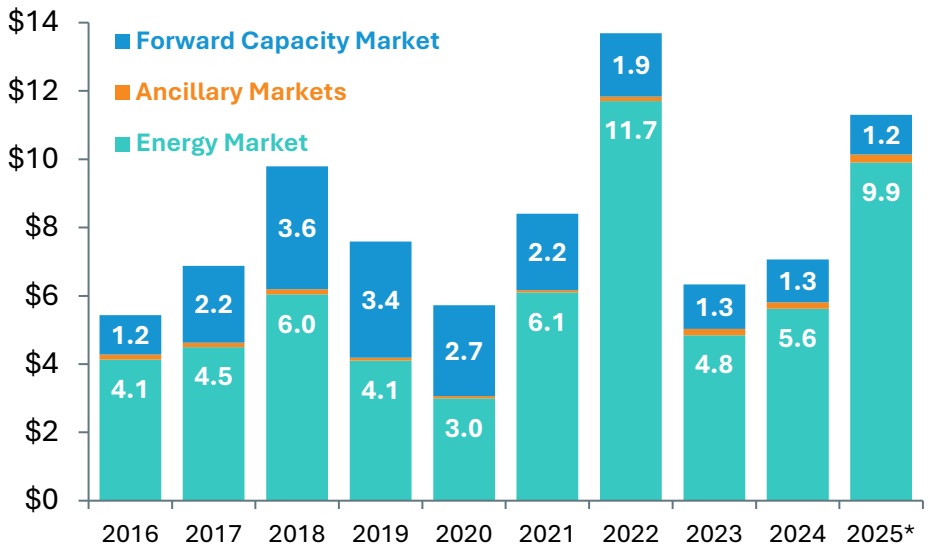
Market that commits resources to meet future system needs

Markets Select the Most Cost-Efficient Resources to Meet Current and Future Electricity Needs

Energy market values vary with fuel prices, while capacity market values vary with changes in supply

- **$11.3 B** in wholesale electricity market transactions in 2025
  - **$9.9 B** in the energy market
  - **$241 M** in the ancillary services markets
  - **$1.2 B** in the capacity market
- Extensive analysis and reporting of market results

Annual Value of Wholesale Electricity Markets (in billions)



Source: ISO-NE Markets and Settlements Data (February 2026);
*2025 data are subject to adjustment

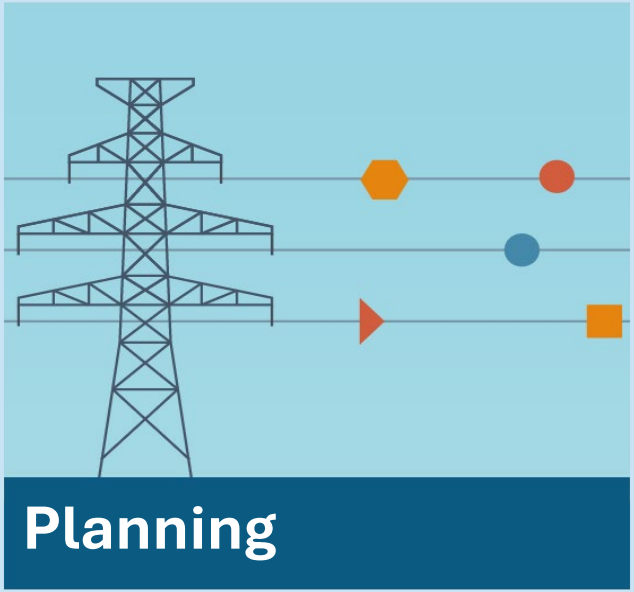
Regulations and Independent Oversight Ensure the Markets are Competitive and Efficient

- Internal Market Monitor (IMM)
  - The IMM functions independently of ISO management and reports directly to the ISO Board; conducts regular market assessments and is responsible for detection and mitigation of the effects of anti-competitive behavior in the wholesale markets

- External Market Monitor (Potomac Economics)
  - ISO-NE's EMM reports directly to the ISO Board; along with regular market assessments and reporting, the EMM monitors and reviews the quality and appropriateness of the mitigation conducted by the IMM

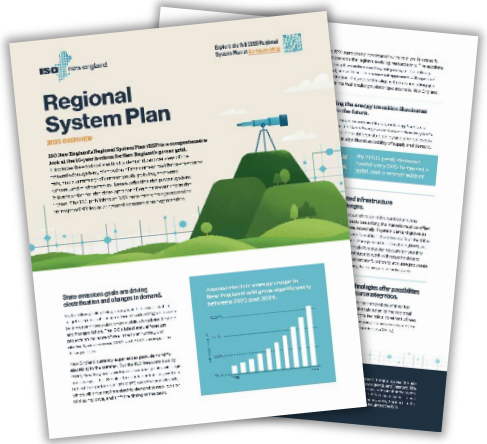
- FERC's Office Of Energy Market Regulation (OEMR)
  - Regulates ISO-NE's wholesale electricity markets, transmission rates, and operating tariffs to ensure competitive, non-discriminatory access

ISO NEW ENGLAND' S THREE CRITICAL ROLES



Overview of Transmission Planning

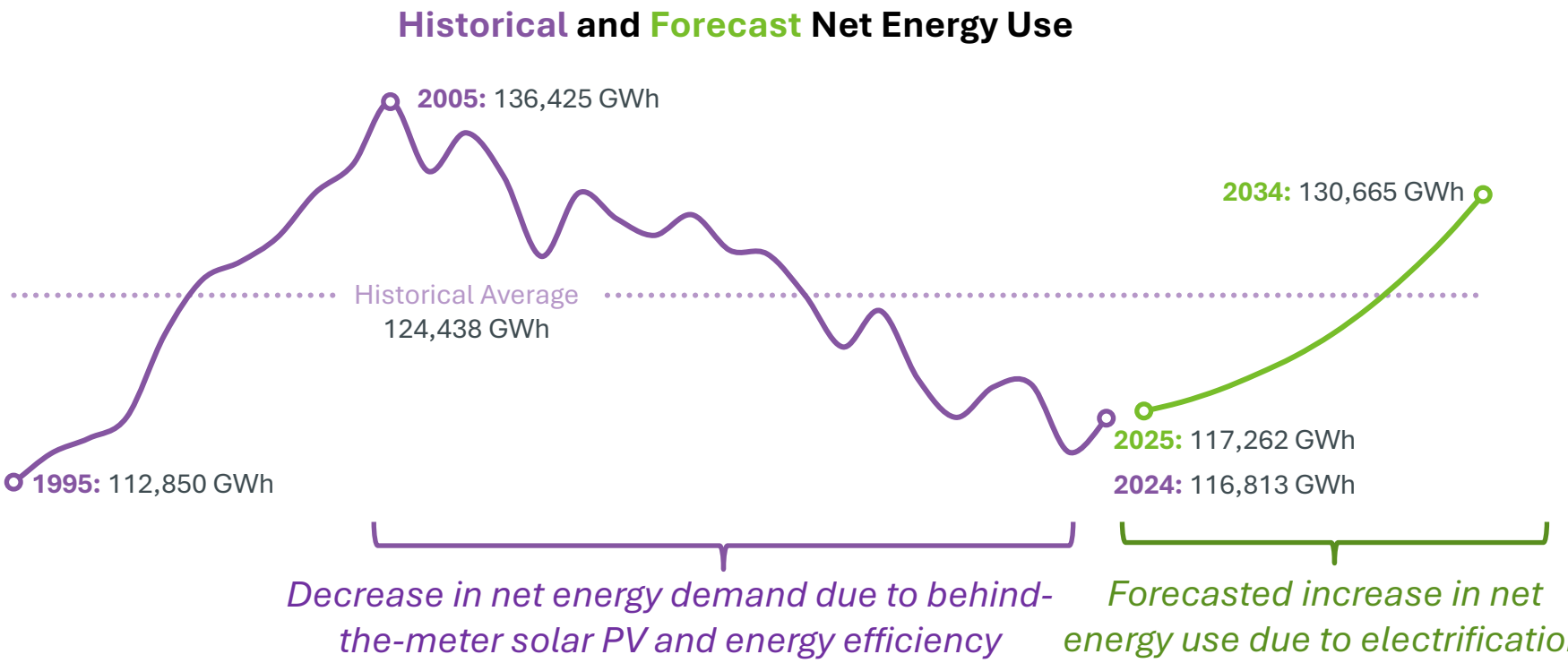
- As the **Regional Transmission Organization (RTO)**, the ISO is required to identify transmission infrastructure solutions that are essential for maintaining power system reliability in New England
- Through an **open stakeholder process** (which includes feedback opportunities and public meetings), the ISO is responsible for the development of long-range plans to address future system needs over the ten-year planning horizon, summarized in a **Regional System Plan (RSP)**
- The transmission planning process is governed by a **FERC-approved tariff**
- ISO-NE continuously revises the transmission planning process to comply with applicable FERC orders



2025 Regional System Plan and Plan Summary

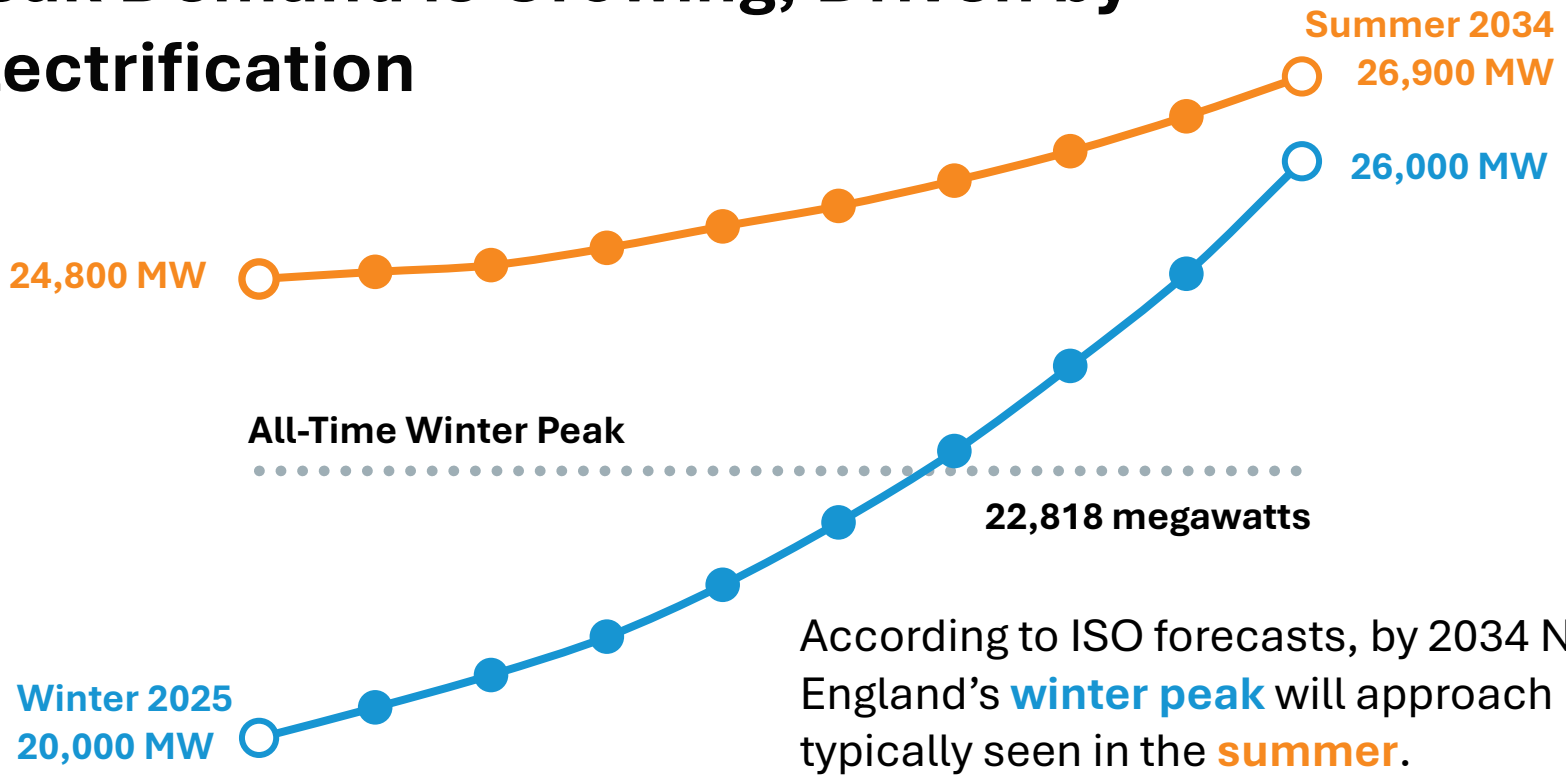
View recording of RSP 2025 Public Meeting

Steady Growth Expected in Annual Net Energy Use



Source: ISO New England 2025-2034 Forecast Report of Capacity, Energy, Loads, and Transmission (2025 CELT Report) (May 2025)

Peak Demand is Growing, Driven by Electrification



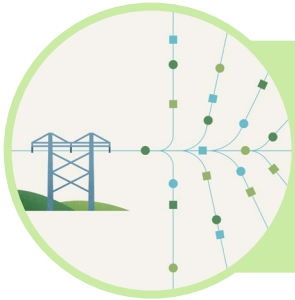
According to ISO forecasts, by 2034 New England's **winter peak** will approach levels typically seen in the **summer**.

Source: ISO New England 2025-2034 Forecast Report of Capacity, Energy, Loads, and Transmission (2025 CELT Report) (May 2025)

Interconnection Process – Basic Flow

Interconnection Request

Basic information: size, location, fuel type



Cluster Study

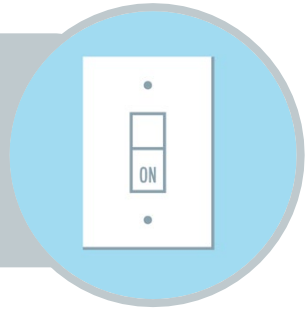
Identifies upgrades required for interconnection

Interconnection Agreement

Three-party agreement between generator, ISO, and transmission owner

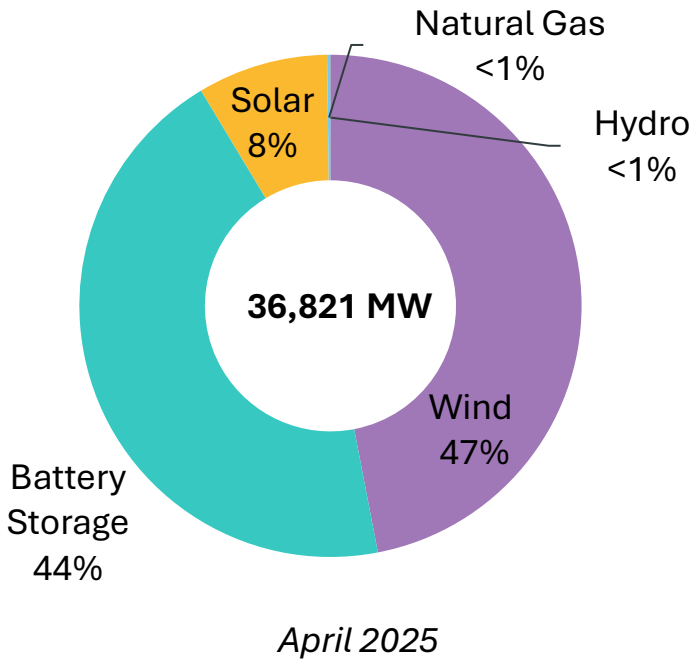
Construction

Generator begins commercial operation once construction is complete

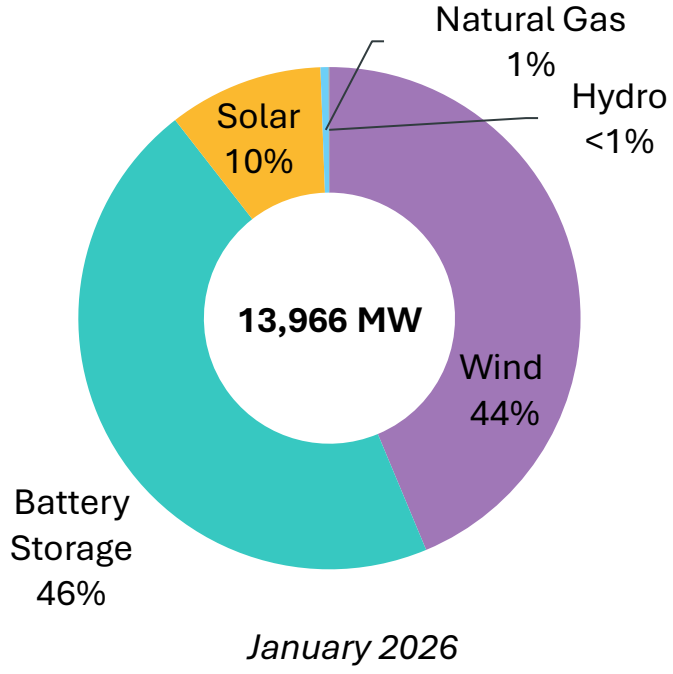


For more information: Participate > Applications and Status Changes > New or Modified Interconnections

Today's Queue Reflects the Changing Interconnection Process



April 2025

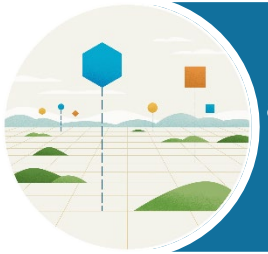


January 2026

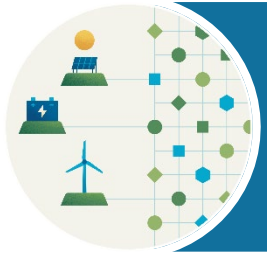
Source: ISO Generator Interconnection Queue, FERC Jurisdictional Proposals; Nameplate Capacity Ratings.

Transmission Provides Benefits Beyond Reliability

Transmission has reduced or eliminated out-of-market costs



Easing transmission constraints allows for increasingly competitive markets, enabling dispatch of the most economic resources



Transmission upgrades have allowed older, less efficient resources to retire

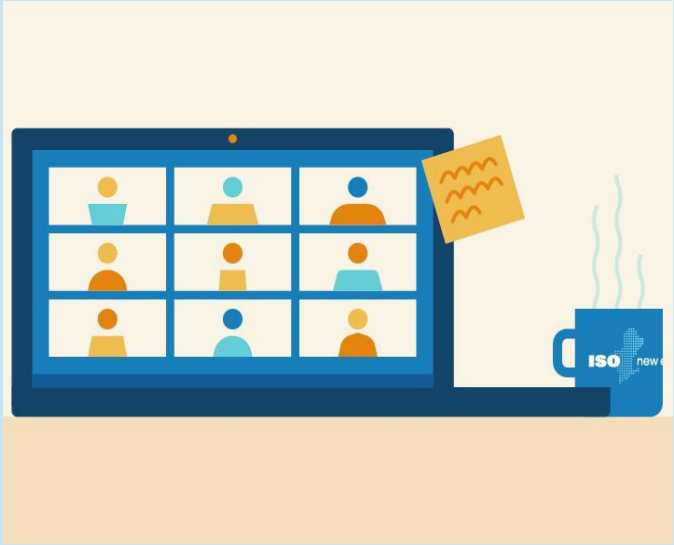
Transmission congestion has been nearly eliminated

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

Learn more about **Longer-Term Transmission Studies**

LEARN MORE



ISO New England Resources

Access presentations and speeches by ISO technical experts, senior management, and External Affairs team at events in New England and beyond

Read memos, reports, and public communications prepared by ISO staff

View past informational webinars hosted by External Affairs

Learn more about New England state and regional power grid statistics

Review information related to implemented and active key projects, including committee presentations, regulatory filings and orders, and other related materials

Consumer Liaison Group

CLG Provides a Forum for Consumers to Learn about Regional Electricity Issues

CLG Coordinating Committee consists of 14 members who are elected every two years

Quarterly meetings are free and open to the public, with in-person and virtual options to participate

2026 Meeting Dates and Tentative Locations:

- **Wednesday, March 25** – Vermont
- **Tuesday, June 2** – Western Massachusetts
- **Thursday, September 24** – Maine
- **Wednesday, December 2** – Boston, MA

Learn more: https://www.iso-ne.com/committees/industry-collaborations/consumer-liaison

View recordings of past CLG meetings!

Real-Time Updates & More Information

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ISO Newswire is your source for regular news about ISO New England and the wholesale electricity industry within the six-state region

Log on to ISO Express

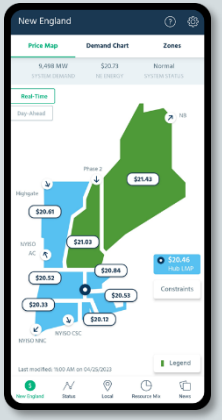
ISO Express provides real-time data on New England's wholesale electricity markets and power system operations

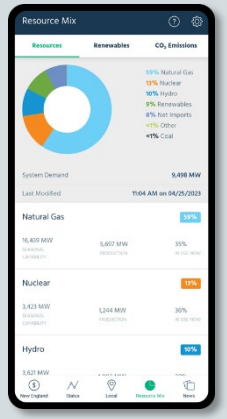
Follow the ISO on Social Media

www.iso-ne.com/social

Download the ISO to Go App

ISO to Go is a free mobile application that puts real-time wholesale electricity pricing and power grid information in the palm of your hand





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https://www.iso-ne.com/about/government-industry-affairs

APPENDIX

History of ISO New England

For three decades, energy policies enacted by Congress and most New England states have promoted competition in electricity markets, with a focus on costs to consumers

1971: NEPOOL established to improve system **reliability** and **economics**

Energy Policy Act of 1992
Congress moved to **promote competition** in the wholesale energy markets through a policy to create **"open access"** to transmission facilities

1996: Market Restructuring Begins
FERC Orders 888 and **889** open transmission systems to fair/ nondiscriminatory access and remove obstacles to competition in wholesale trade of electricity; in response, **NEPOOL proposes the ISO** for New England

1997: ISO New England created to **operate regional power system**, **implement wholesale markets**, ensure **open access to transmission lines**

1999: Independence
FERC Order 2000 encourages voluntary formation of **Regional Transmission Organizations** to administer transmission grid regionally throughout North America; requires the ISO to operate **independently from Market Participants**

1999: Market Administration
ISO launches regional **wholesale electricity markets** to expand competitive market forces in regional generation and sales of wholesale electricity

2000: Planning
ISO and NEPOOL transmission providers prepare first **Regional System Plan** summarizing results of reliability and economic-related studies, generator studies, and other transmission projects

ISO New England's Role in an Evolving Industry

2003: Innovation
ISO launches **first demand-response programs** to compensate resources for helping reduce demand on power grid

2008: Dependability
ISO holds first Forward Capacity Auction, designed to purchase enough qualified resources three years in advance to satisfy region's future needs and allow enough time to construct new capacity resources

2011: FERC Order 1000
Requires cost of transmission solutions chosen to meet transmission needs between neighboring regions to be allocated fairly; expands other transmission planning requirements, including evaluating possible alternatives

2012 – 2014: Forecasts
In 2012, ISO finalizes the nation's first annual long-term, multi-state **energy-efficiency (EE) forecast**. Two years later, ISO launches first annual 10-year **forecast of regional solar photovoltaic resources**. Both efforts better inform grid operations and future system planning efforts

2018: Demand Response
ISO completes a complex, years-long effort to fully integrate active demand resources into the regional wholesale electricity marketplace with implementation of a **price-responsive demand (PRD) framework**

2019: Competition
The ISO issued its first request for proposal to solicit transmission solutions to address transmission system upgrades needed in the Boston area associated with generator retirements under FERC Order 1000

Congress, States Restructure Electric Industry

Policymakers seek to promote competition, with a focus on costs to consumers

- **1992**: Congress promotes competition in the wholesale energy markets by creating "**open access**" to transmission facilities (*Energy Policy Act)*
- **1996:** Federal Energy Regulatory Commission (FERC) issues orders to implement the1992 Act and introduces the concept of an independent system operator, or **ISO** (*Orders 888* & *889**)
- **Late 1990s**: Most New England states pass restructuring legislation to:
  - **Lower prices** to consumers through competition for electricity supply (this included opening retail markets to competition and requiring monopoly utilities to divest generation assets), and
  - **Shift risk of bad investment** decisions to shareholders (away from ratepayers)

"The Commission's goal is to remove impediments to competition in the wholesale bulk power marketplace and to bring more efficient, lower cost power to the Nation's electricity consumers."

- FERC Order 888

*FERC **Order 888** Promoting Wholesale Competition Through Open Access, Non-Discriminatory Transmission Services by Public Utilities, and **Order 889** Open Access Same-Time Information System and Standards of Conduct

Creation and Evolution of ISO New England

- **1971: New England Power Pool (NEPOOL)** created to establish central dispatch of generation in New England; handle settlements and billing; coordinate outages; undertake joint planning and other measures to improve system reliability and economics
- **1997: ISO New England** formed in response to federal policy implemented by FERC, and proposal from NEPOOL that was supported by the six public utilities commissions
  - Key elements of the proposal to restructure NEPOOL and the New England wholesale electric power market:
    - Open access transmission tariff established terms for regionwide transmission service
    - Creation of an ISO, and
    - Restated NEPOOL Agreement
- **1999**: FERC issued order encouraging formation of **regional transmission organizations** (RTOs), that would encompass broader geographic areas than ISOs (Order 2000)
- **2005:** ISO-NE obtained FERC approval to become an RTO but retained the name “ISO”

FERC's Eleven Principles of an ISO

1. The ISO's **governance** should be structured in a fair and non-discriminatory manner
2. An ISO and its employees should have **no financial interest** in the economic performance of any power market participants. An ISO should adopt and enforce strict conflict of interest standards.
3. An ISO should provide **open access** to the transmission system and all services under its control at non-pancaked rates pursuant to a single, unbundled, grid-wide tariff that applies to all eligible users in a non-discriminatory manner.
4. An ISO should have the primary responsibility in ensuring short-term **reliability** of grid operations. Its role in this responsibility should be well-defined and comply with applicable standards set by NERC and the regional reliability council.
5. An ISO should have **control** over the operation of interconnected transmission facilities within its region.
6. An ISO should identify **constraints** on the system and be able to take operational actions to relieve those constraints within the trading rules established by the governing body. These rules should promote efficient trading.
7. The ISO should have appropriate incentives for efficient **management and administration** and should procure the services needed for such management and administration in an open competitive market.
8. An ISO's transmission and ancillary services pricing policies should promote the **efficient** use of and investment in generation, transmission, and consumption. An ISO or an RTG of which the ISO is a member should conduct such studies as may be necessary to identify operational problems or appropriate expansions.
9. An ISO should make **transmission system information** publicly available on a timely basis via an electronic information network consistent with the Commission's requirements.
10. An ISO should develop mechanisms to **coordinate** with neighboring control areas
11. An ISO should establish an [alternative dispute resolution] **ADR process** to resolve disputes in the first instance.

Source: FERC **Order 888** Promoting Wholesale Competition Through Open Access, Non-Discriminatory Transmission Services by Public Utilities

FERC's Twelve Characteristics & Functions of an RTO

Characteristics

1. An RTO should be **independent from its market participants** in financial interests, decision-making, and tariff-setting.
2. The region for an RTO should be chosen to achieve the necessary **regulatory, reliability, operational, and competitive benefits**.
3. An RTO must have the **authority to control its transmission facilities** (e.g. switching elements in and out of service, monitoring and controlling voltage) and must be the security coordinator for its region.
4. An RTO must ensure the region meets the NERC reliability standards or alert FERC if it does not.

Source: FERC **Order 2000** Regional Transmission Organizations

Functions

1. In order to ensure non-discriminatory transmission service, an RTO must be the **sole provider of transmission service** and **sole administrator of its own open access tariff**.
2. An RTO must ensure the development and operation of market mechanisms to **manage transmission congestion**.
3. An RTO must **develop and implement procedures to address parallel path flow issues** within its region and with other regions.
4. An RTO must serve as the supplier of last resort for all ancillary services and **determine if the minimum amount of ancillary services have been supplied** according to FERC Order No. 888.
5. An RTO **must be the single OASIS site administrator for all transmission facilities under its control** and independently calculate Total Transmission Capability and Available Transmission Capability.
6. An RTO must **monitor market behavior** and report market power abuses and market design flaws to FERC.
7. An RTO must have ultimate responsibility for both transmission planning and expansion within its region that will enable it to **provide efficient, reliable and non-discriminatory servic**e.
8. An RTO must **coordinate its activities with other regions**.