



ISO New England Regional Update

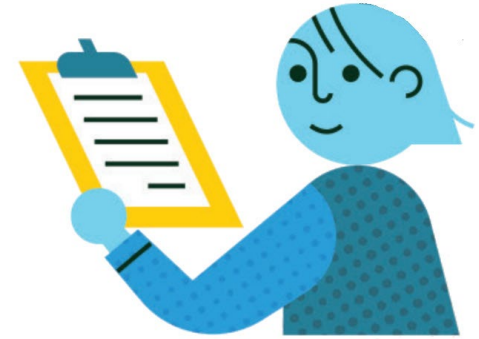
*Vermont System Planning Committee
October 2024 Quarterly Meeting*

Sarah Adams

STATE POLICY ADVISOR



Today's Updates



- Monthly Markets Highlights
- 2023 ISO New England Electric Generator Air Emissions Report
- 2025 Annual Work Plan
- Economic Planning for the Clean Energy Transition
- Resources and Announcements



MONTHLY MARKET HIGHLIGHTS



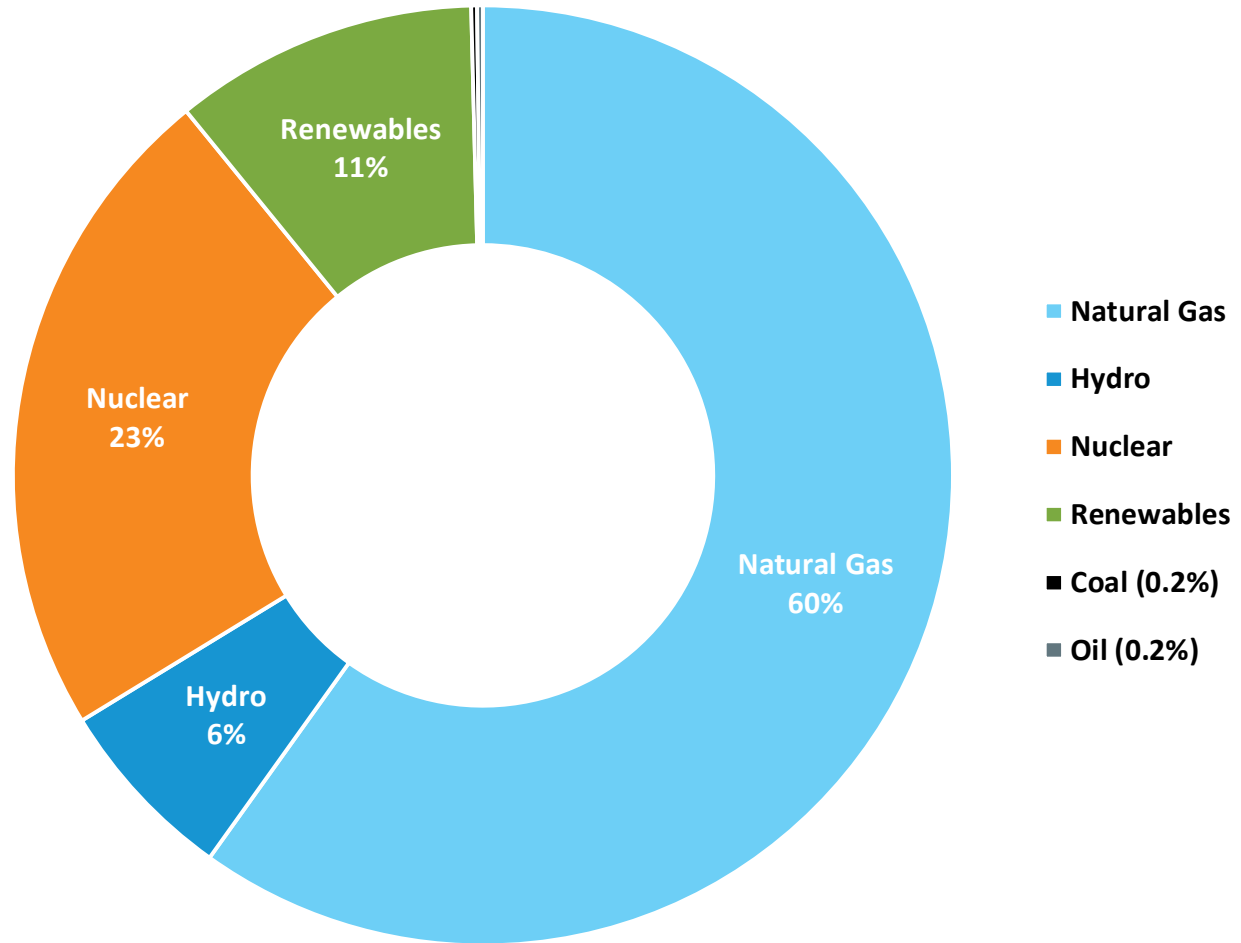
Monthly Wholesale Electricity Prices and Demand in New England, August 2024

August 2024 and Percent Change from August 2023 and July 2024	August 2024	Change from August 2023	Change from July 2024
Average Real-Time Electricity Price (\$/megawatt-hour)	\$38.57	33.9%	-9.6%
Average Natural Gas Price (\$/MMBtu)	\$1.62	15.7%	-11.5%
Peak Demand	23,758 MW	20.6%	-4.3%
Total Electricity Use	10,868 GWh	3.2%	-11.6%
Weather-Normalized Use*	10,782 GWh	0.6%	-3.1%

*Weather-normalized demand indicates how much electricity would have been consumed if the weather had been the same as the average weather over the last 20 years.



August 2024 Generation in New England, by Source



Source: [2024 Net Energy and Peak Load by Source](#)



2023 ISO NEW ENGLAND ELECTRIC GENERATOR AIR EMISSIONS REPORT



Carbon Emissions from New England Power Generation Continue Downward Trend

- The [2023 ISO New England Electric Generator Air Emissions Report](#) found that from 2001 through 2023, **CO₂ emissions fell by 40%**, **NO_x emissions fell by 82%**, and **SO₂ emissions fell by 99%**
 - The report's emissions estimates for generation within New England are based on information from Environmental Protection Agency databases and other sources
- Other report takeaways include:
 - The region saw a **4% reduction in CO₂ emissions** from electric generation versus 2022, **SO₂ emissions were nearly halved**, and **emissions of NO_x were down 13%**
 - Emission reductions for all three pollutants were attributed to lower load, lower peak demand, and less coal and oil-fired generation compared to 2022
 - Electricity generation decreased by 3% year-over-year
 - Between 2022 and 2023, generation from oil and coal fell by 83% and 44%, respectively
- The ISO also publishes data on estimated CO₂ emissions from New England power plants in a [monthly recap](#) of the wholesale electricity markets, and real-time estimates are [available on ISO Express](#)

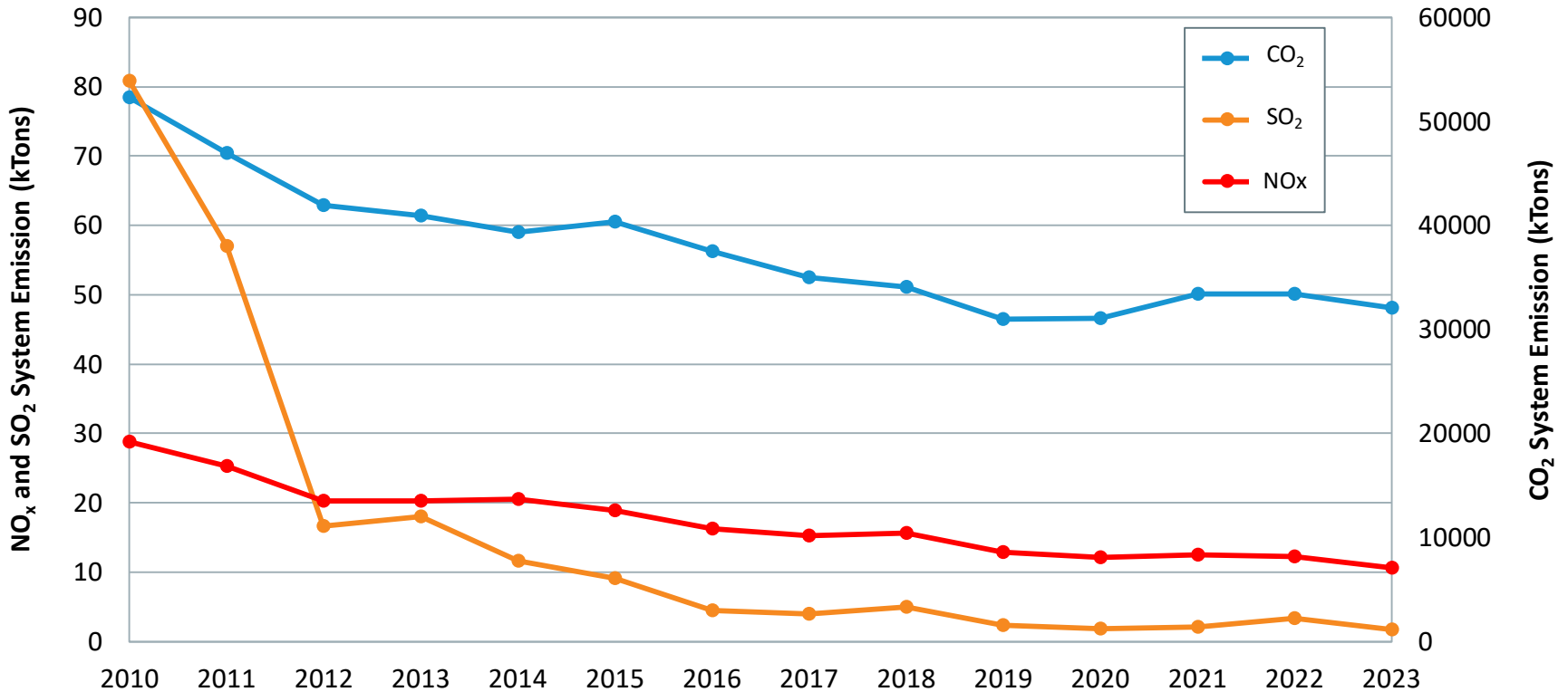
Source: ISO New England, *New England Electric Generators Air Emissions Report*



Major Emissions Reductions

Emissions from regional generators have fallen significantly since 2001

Annual New England System Generator Emissions, 2010-2023 (Thousand Short Tons)



Carbon Dioxide (CO₂) ↓39%

Nitrogen Oxide (NO_x) ↓63%

Sulfur Dioxide (SO₂) ↓98%

Source: ISO New England, *New England Electric Generators Air Emissions Report*

2025 ANNUAL WORK PLAN



2025 Objectives and Highlights

- ISO New England has issued its draft [2025 Annual Work Plan](#)
- **Anchor projects** require focus and a regional commitment to securing power system reliability while facilitating the integration of clean-energy and distributed-energy resources
- **Notable initiatives** target innovation, advance efficiency, and help manage risks across markets, planning, operations, and software structures
 - Storage Modeling Market Enhancements
 - Day-Ahead and Real-Time Energy Shortage Pricing Assessment
 - Flexible Response Services Assessment
 - Contingent Work on FCM-Related Initiatives
 - Evaluate Tie Benefits and HQICCs
 - Evaluate Single Source Contingency Limit Increase
 - Economic Planning for the Clean Energy Transition Pilot Study
 - Transmission Asset Condition Process Improvements and Sizing for the Clean Energy Transition
 - Inverter-Based Resource (IBR) Integration & Modeling
 - Synchrophasor Enhancements for Future Grid
 - Cloud Computing
 - Cyber Security

Markets Anchor Project

Capacity Auction Reforms (CAR)

- To ensure system reliability and affordability as New England's electricity demand and power resource mix undergoes a significant transformation, CAR:
 - Transitions the capacity market from a three-year forward auction to a prompt auction that runs shortly before the capacity commitment period (CCP)
 - 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
- Design and implementation of the changes will span 2025-2027
 - The current Forward Capacity Market has secured capacity commitments through May 2028 (CCP 18)



Capacity Auction Reforms

CAR explores a complete redesign of the capacity market and related functions

Four major design changes being considered with wide ranging impacts to outcomes:

1. Modeling

Improve hourly modeling used in the resource adequacy assessment (RAA)

2. Accreditation

Use a marginal accreditation framework

3. Prompt

Shift qualification and auction timing to be closer to the commitment period

4. Seasonal

Develop a seasonal product

Operations Anchor Project

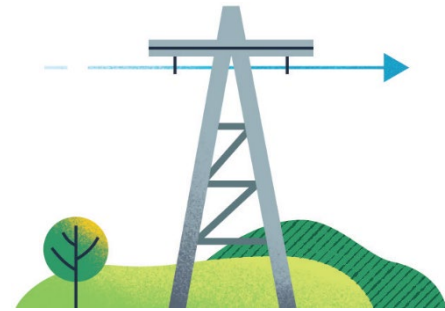


Regional Energy Shortfall Threshold (REST)

- Stakeholders discussions re: updates to the Probabilistic Energy Adequacy Tool (PEAT) are underway
 - ISO expects the model to be fully operational by the end of 2024
- Expected in Q4 2024, the ISO will present its REST proposal for establishing an acceptable threshold of energy shortfall risk during low-probability extreme weather events as identified through PEAT
- The ISO plans to begin performing PEAT/REST assessments seasonally, starting with winter 2025/2026
 - Following, annual assessments with longer look-ahead horizons (to be defined) will be considered to inform risk trends over time
- Results of the first assessment will provide more data on the risk trends to guide the timing and nature of the next phase, which is to evaluate whether the possibility of exceeding the REST requires development of specific regional solutions to mitigate risks

Planning Anchor & Implementation Projects

[FERC Order No. 1920](#): Building for the Future Through Electric Regional Transmission Planning and Cost Allocation



- The ISO is assessing the assimilation of the extensive Final Rule with New England’s innovative Longer-Term Transmission Planning (LTP) framework accepted by FERC in July 2024, which went a ways in complying with the order
- Stakeholder discussions are expected to begin in late Q3 2024; discussions on compliance with the Final Rule will follow and continue into Q3 2025
 - Regional compliance must be filed June 2025, effective June 2026
 - Interregional Transmission Coordination compliance is due August 2025, effective August 2026

Planning Anchor & Implementation Projects



First Competitive Solicitation for LTTP Solution

- In 2025, the ISO expects to implement an RFP process in anticipation of a request from the states for a competitively-selected transmission solution to address New England's future, clean energy needs in connection with the 2050 Transmission Study
- The RFP process, from initiation through final recommendation, is expected to take approximately 18 months

LTTP Phase 3

- After Order No. 1920 compliance is accepted by FERC and the first competitive solicitation for an LTTP solution has been completed, ISO plans to begin discussions on the potential for further enhancements to LTTP

Planning Anchor & Implementation Projects



Transmission Sizing for the Clean Energy Transition

- The ISO, the New England states, and NEPOOL stakeholders seek to develop an approach to sizing transmission projects for the future to support integration of renewables and higher load levels over the life of the transmission asset
- As indicated in the 2024 AWP, the ISO plans to work with NESCOE and Transmission Owners to establish guidelines for “right-sizing” transmission facilities for the clean-energy transition
 - Guidelines would be applicable to asset condition projects and potentially to transmission developed through other upgrade processes
 - Discussions would address NEPOOL’s priority request for the 2025 AWP to develop methods for distinguishing right-sizing costs from asset condition project costs
- Timing on right-sizing discussions will move forward after the states and TOs complete their asset condition process improvements initiative

Planning Anchor & Implementation Projects



Further Inclusion of Grid Enhancing Technologies (GETs) Into Transmission Planning

- Order No. 1920 requires the ISO to include rules for when transmission planning assessments must consider GETs
- Separately, stakeholder discussions at the Planning Advisory Committee are expected to begin in Q4 2024 on establishing guidelines for the applicability of these technologies in assessments

Further Implementation of Order No. 2023 and Interconnection Process Improvements

- Implementation of the transitional and initial cluster studies is paused pending a FERC order on the ISO's compliance filing
 - Timing of stakeholder discussions of conforming changes will be reassessed once an order is received and the ISO has assessed the resulting rules for necessary updates
- Work for adding capacity injection capability to the heatmap as required by Order 2023 is expected to be in place before the initial cluster study begins

Prioritization Process

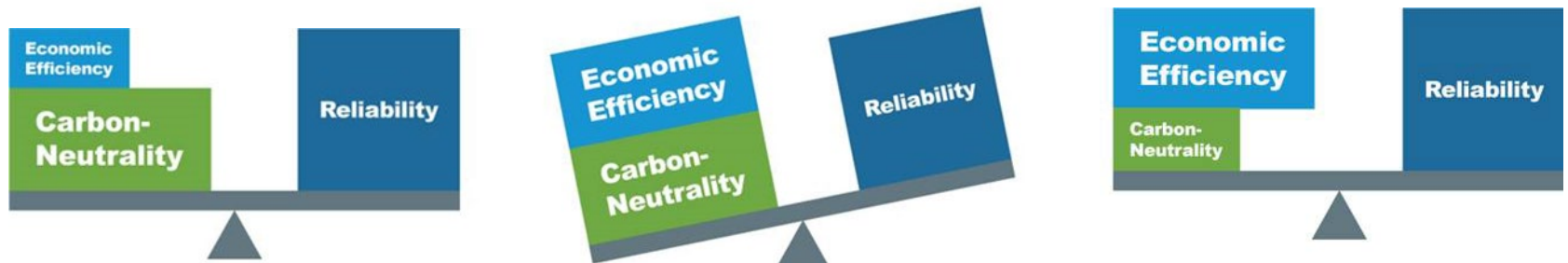
- The ISO adjusts its priorities as needed to best maintain reliable operations, robustly plan for a changing grid, and ensure competitive wholesale markets
- Planned projects are impacted as scopes shift or new projects emerge



ECONOMIC PLANNING FOR THE CLEAN ENERGY TRANSITION (EPCET)

Economic Planning for the Clean Energy Transition (EPCET) Overview

- EPCET explores the operational, engineering, and economic challenges the region must address in order to support the New England States' commitment to reduce carbon emissions over the next several decades
- Most of the six states aim to cut emissions by at least 80% from 1990 levels by the year 2050 through a shift to renewable energy and electrification of heating and transportation
- Work performed over two years, [draft report](#) published in August



EPCET's key findings converge on a common theme: designing the power system of the future requires balancing reliability, economic efficiency, and carbon-neutrality

EPECT: Key Findings for the New England Grid

- **Increased variability will require vastly different supply levels from year to year**
 - Peak demand could vary by up to 50% between mild and severe winters by 2050
- **Emissions reductions will be seasonal**
 - Spring will be mostly decarbonized by 2040, but a small portion of winter days will still produce significant emissions in 2050
- **Renewable-only build-outs may be vast**
 - If the 2050 resource build-out is almost entirely wind, solar, and batteries, the region will need a power system that is roughly four times its current capacity to achieve state emissions goals and maintain reliability.
- **Firm, dispatchable, zero-carbon generation could help address challenges**
 - These resources may support reliability and reduce build-out costs

Average Annual Buildout Necessary to Achieve State Goals by 2050



1,293 MW
per year
of offshore wind (OSW)



955 MW
per year
of solar



268 MW
per year
of land-based wind (LBW)



952 MW
per year
of batteries

EPCET: Conclusion and Next Steps

- Eliminating carbon emissions through complete electrification of the heating and transportation sectors and a near-exclusive reliance on wind, solar, and storage to generate electric power is possible, but involves **significant cost and unresolved reliability concerns**
- The ISO plans to assess the need for future market rule enhancements to support the ongoing reliability and economy of the region's grid
 - While the precise nature of these enhancements requires further exploration, they could include new ancillary services intended to incentivize the resource attributes that will become more important as the clean energy transition continues

RESOURCES AND ANNOUNCEMENTS



Open Meeting of the ISO Board of Directors Scheduled for November 6

- The ISO Board of Directors will hold the third annual **open board meeting on November 6, 2024**
 - The meeting will take place at the **Seaport Hotel in Boston, MA**
 - [Registration](#) is open on **ISO-TEN**
- There will be an opportunity for **public comment** during the meeting, as time allows, in addition to the opportunity to submit written comments



More information about the ISO Board of Directors and Corporate Governance is available on the ISO website: [Corporate Governance \(iso-ne.com\)](https://www.iso-ne.com/corporate-governance)

Consumer Liaison Group Provides a Forum for Consumers to Learn about Regional Electricity Issues

- A forum for sharing information between the ISO and electricity consumers in New England
- The CLG Coordinating Committee consists of 12 members who represent various stakeholder groups
- Quarterly meetings are free and open to the public, with in-person and virtual options to participate
- Remaining 2024 CLG Meeting Dates:
 - [Webinar](#) with FERC Office of Public Participation
 - Thursday, November 14 (WebEx)
 - December Quarterly Meeting
 - Wednesday, December 4 (Boston, MA and WebEx)



[2023 CLG Annual Report](#)

More information on the CLG is available at:

<https://www.iso-ne.com/committees/industry-collaborations/consumer-liaison/>

Key Projects

- ISO New England continuously undertakes a variety of short- and long-term projects to enhance the region's competitive wholesale electricity markets and ensure reliable operation of the power grid
- Select long-term projects of significance are called **key projects**, and related information is grouped together for stakeholder convenience
- Active Key Projects include:
 - [Capacity Auction Reforms Key Project](#)
 - [Day-Ahead Ancillary Services Initiative Key Project](#)
 - [Order No. 2222: Participation of DER Aggregations in Wholesale Markets Key Project](#)
 - [Extended-Term Transmission Planning Tariff Changes Key Project](#)
 - [Order No. 1920: Building for the Future Through Electric Regional Transmission Planning and Cost Allocation Key Project](#)
 - [Order No. 2023: Improvements to Generator Interconnection Procedures and Agreements Key Project](#)
 - [Operational Impacts of Extreme Weather Key Project](#)

ISO new england

SEARCH

CALENDAR LIBRARY CAREERS CONTACT US SIGN UP SIGN IN

About Us Participate Committees and Groups System Planning Markets and Operations

Committees and Groups > Key Projects

Capacity Auction Reforms Key Project

IN THIS SECTION

- Key Projects
 - Capacity Auction Reforms Key Project
 - Day-Ahead Ancillary Services Initiative Key Project
 - Extended-Term Transmission Planning Tariff Changes Key Project
 - Operational Impacts of Extreme Weather Events Key Project
 - Order No. 1920 Key Project
 - Order No. 2222 Key Project
 - Order No. 2023 Key Project
 - Implemented Key Projects

Access documents related to the Capacity Auction Reforms (CAR) Key Project.

Project Overview

To better ensure power system reliability and cost-efficiency as New England's resource mix evolves, ISO New England is proposing Capacity Auction Reforms (CAR) that would transition the capacity market from a forward/annual market to a prompt/seasonal market with accreditation reforms.

This initiative has three primary components that would be in place for the Capacity Commitment Period (CCP) scheduled to start on June 1, 2028.

- **Prompt Auction:** Instead of three years in advance, the capacity auction would take place shortly before the capacity commitment period, reflecting more accurate information about projected electricity supply and demand.
- **Seasonal CCP:** The CCP changes from annual to sub-annual (seasonal) commitment periods to better address the distinct reliability challenges of winter and summer, as well as variations in resource performance from season to season.
- **Accreditation Reforms:** Work began in 2022 via the former "Resource Capacity Accreditation in the RCAM" project to identify and implement methodologies that will more accurately reflect resource contributions to resource adequacy in the capacity market. It is critical to the reliable and efficient clean-energy transition that the accreditation methodologies are updated to reflect resources' capabilities and how those capabilities contribute to resource adequacy. This work continues through CAR in the context of the new market constructs.

Background

For 18 years, the ISO administered a Forward Capacity Market, using annual auctions to secure commitments from energy resources three years in advance. This model reflected the market and system conditions of the time, including the concentration of peak loads/reliability risks in summer months and the prominence of natural gas-fired resources with more predictable development timelines than some other resource types.

The ISO led discussions with stakeholders in summer/fall of 2023 considering a move to a prompt and/or seasonal capacity market with accreditation reforms. Analysis Group drafted a report studying this topic, and recommended such changes (see January 2024 final report). The ISO proposed a further delay to FCA 19 (a) to allow for time to develop a prompt and seasonal design with accreditation reforms. NEPOOL supported and FERC accepted (a) the proposal.

The Capacity Auction Reforms project is just one of several key projects at the ISO, which continuously undertakes a variety of short- and long-term projects to enhance the region's competitive wholesale electricity markets and ensure reliable operation of the power grid.

Project-Related Documents

Subscribe

FILTERS

KEY TOPIC

- Any/All
- Capacity Auction Reforms (144)
- Energy Markets Training (2)

Sorted by Alpha Sort by Count

DOCUMENTS

<input type="checkbox"/>	TITLE AND DESCRIPTION	DATE	TYPE	SIZE
<input type="checkbox"/>	2024-10-16 MC A05 - Capacity Auction Reforms - ISO Memorandum on Representing Retained Resources in the Capacity Market	10/09/2024	PDF	176KB

Learn more about [active](#) and [implemented](#) Key Projects at iso-ne.com

FOR MORE INFORMATION...



Subscribe to the *ISO Newswire*

[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 X (fka Twitter)

[@isonewengland](#)

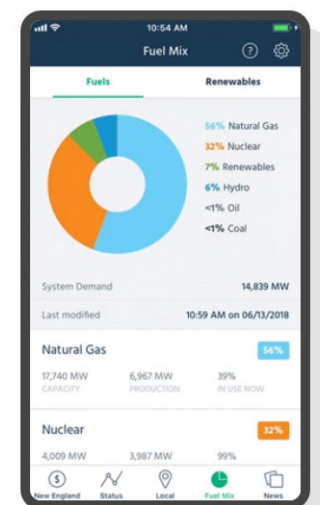
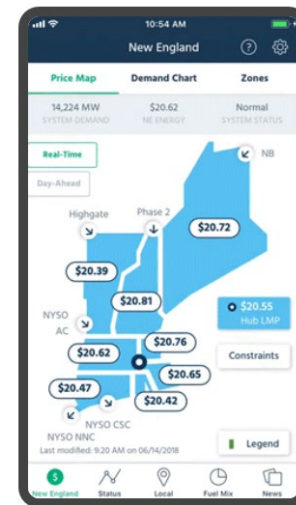


Follow the ISO on LinkedIn

[@iso-new-england](#)

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



Questions

