



# ISO New England Regional Update

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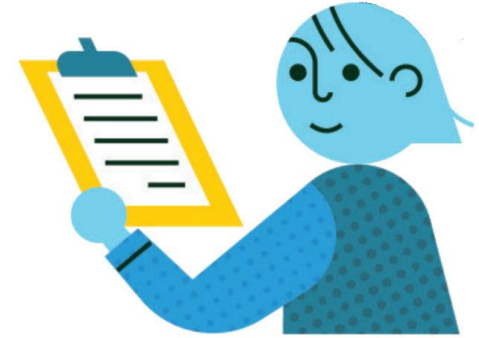
*Vermont System Planning Committee  
October 2023 Quarterly Meeting*

Sarah Adams

STATE POLICY ADVISOR



# Today's Updates



- Proposed 2024 Operating and Capital Budgets
- Operational Impact of Extreme Weather Events – Energy Adequacy Study
- 2024 Annual Work Plan
- ISO Generator Interconnection Queue Snapshot
- ISO New England Publications and Upcoming Events

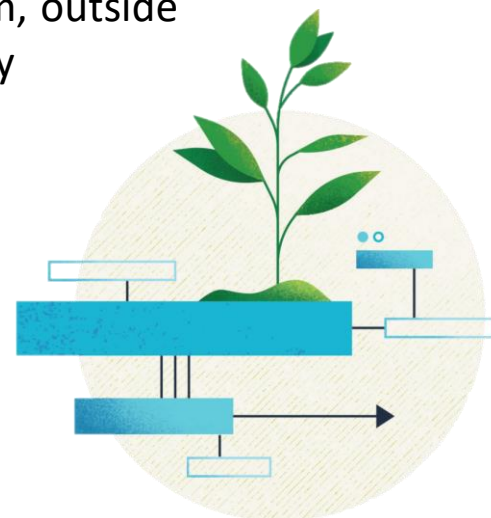


# PROPOSED 2024 OPERATING AND CAPITAL BUDGETS



# ISO New England Proposed 2024 Operating and Capital Budgets

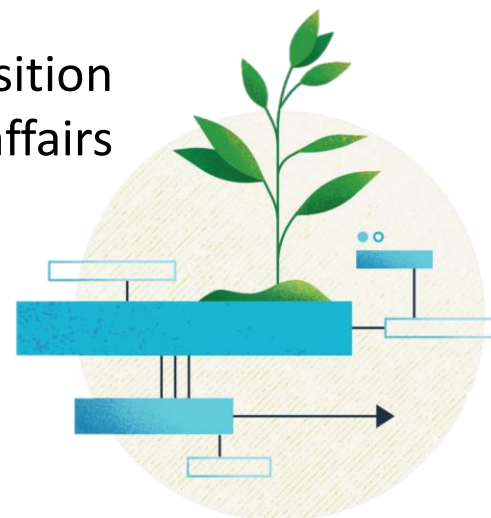
- The 2024 budget represents critical investment in organizational capacity to carry out the ISO's three critical roles – while developing new capabilities that will be necessary to support the grid of the future
- Supporting decarbonization of the New England power system will be the primary driver of ISO work over the next decade
  - Increasing numbers of inverter-based resources looking to connect
  - Additional resources are connecting to the distribution system, outside of the ISO's current visibility, that contribute to load variability and forecasting challenges
  - Increased load anticipated through electrification of heating and transportation
  - Increased variability through proliferation of behind-the-meter (BTM) generation
  - Increasing load-dependence on weather at a time when weather is becoming more erratic



For more information, visit the ISO New England website: <https://www.iso-ne.com/about/corporate-governance/budget/>

# ISO New England Proposed 2024 Operating and Capital Budgets

- The step-up in grid complexity represents a considerable increase to ISO workload
  - To support the clean energy transition, the ISO must bolster headcount substantially
  - ISO conducted a job-specific market competitiveness analysis that outlined the need for “catch-up” salary commitments to both attract new talent and retain existing employees
  - Additionally, the budget includes a new full-time position focused on environmental policies and community affairs
- The budget also reflects further investment in information technology to address costs for IT infrastructure and licensing, cybersecurity, and the transition to cloud-based infrastructure

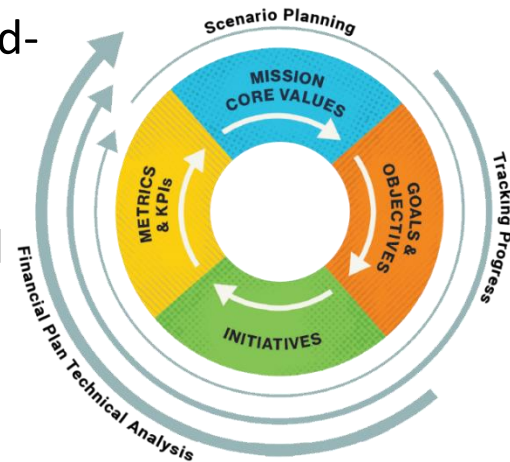


For more information, visit the ISO New England website: <https://www.iso-ne.com/about/corporate-governance/budget/>



# ISO New England Proposed 2024 Operating and Capital Budgets

- On August 11, ISO presented its proposed 2024 operating and capital budgets to reps of the New England states and to NEPOOL's Budget & Finance Subcommittee
- The 2024 operating budget (before depreciation and true up) is projected to be \$244.5 million (16.9% higher than the 2023 operating budget of \$209.2 million)
- The 2024 capital budget is projected to be \$35 million (4.5% higher than 2023)
- After depreciation and true up, the revenue requirement for 2024 is projected to be \$274.1 million (21.5% higher than the 2023 revenue requirement of \$225.6 million)
- If the revenue requirement was fully passed through to end-use customers, their cost would average **\$1.46 per month**
- The NEPOOL Participants Committee is expected to vote on the proposed budget on October 5, and the ISO's Board of Directors will vote on the proposed budget thereafter
- The ISO has filed the budget with FERC for review



# Stakeholder Feedback on the Proposed Budget

- The ISO received comments on the proposed budget from several entities representing the New England States
- On August 1, 2023, state officials from five New England states (MA, VT, RI, CT, and ME) sent a [letter](#) to the ISO requesting the addition of a FTE to the 2024 budget focused on Environmental Justice (EJ) issues
  - The MA Attorney General’s Office, CT Consumer Council, RI Division of Public Utilities and Carriers, and ME Office of the Public Advocate sent a separate letter in support of the request
  - The ISO included an FTE for environmental policy and community affairs as a placeholder as ISO-NE management evaluates the request from New England state agencies and the responsibilities and role of this position
  - On August 24, 2023, Governor Sununu and twelve NH state legislators sent a [letter](#) opposing the new FTE addition, claiming “such a position would represent a wasteful expense to accommodate policy goals that fall outside of ISO New England’s mandate”



# OPERATIONAL IMPACT OF EXTREME WEATHER EVENTS – ENERGY ADEQUACY STUDY

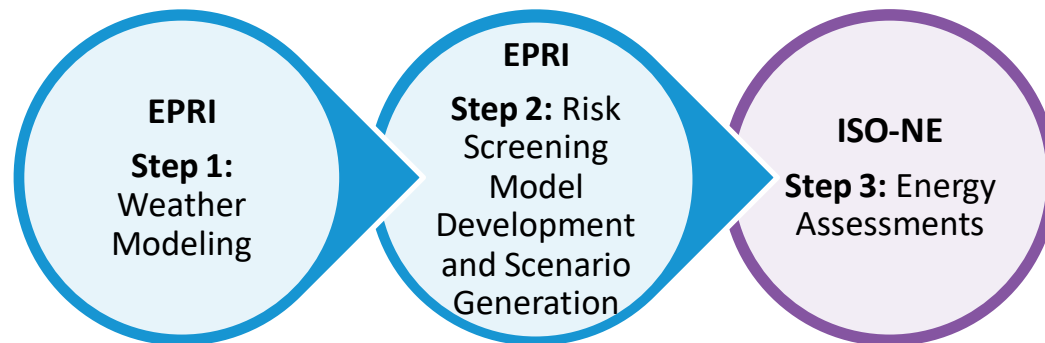




# Operational Impact of Extreme Weather Events

## – Energy Adequacy Study

- [\*Operational Impact of Extreme Weather Events\*](#) is a probabilistic energy-security study undertaken jointly by the ISO and the Electric Power Research Institute ([EPRI](#))
- The study seeks to inform the region about future energy adequacy risks and provide context for assessing solutions, is one of several [key projects](#) undertaken by the ISO to help New England prepare for tomorrow's greener grid
- The study is being undertaken in three major steps, with EPRI providing weather modeling and risk screening model development, and ISO completing the energy assessments, using the [21-day energy assessment tool](#)



- The energy adequacy risk profile is dynamic and will be a function of the evolution of both supply and demand profiles

# Energy Adequacy Study Key Takeaways

- Preliminary results of energy assessments for [2027 winter](#) & [summer](#) events, and [2032 winter](#) & [summer](#) have been presented to the Reliability Committee
- Results reveal a range of energy shortfall risks and associated probabilities
- Results of preliminary studies reveal similar energy adequacy risk with and without the Everett Marine Terminal in-service
- Sensitivity analysis of 2032 worst-case scenarios indicate an increasing energy shortfall risk profile between 2027 and 2032
- Timely additions of BTM and Utility Scale PV, offshore wind, and incremental imports from NECEC are critical to mitigate energy shortfall risks that result from significant peak winter load growth and retirements
- This energy adequacy study tool developed in partnership with EPRI provides a much needed foundation for the ISO to monitor risks and study the system as it continues to evolve



# Energy Adequacy Study Stakeholder-Informed Sensitivities

- Stakeholders were invited to request additional sensitivities to the Operational Impacts of Extreme Weather 2032 case
  - ISO received requests for the performance of ~35 sensitivities from 15 different stakeholders
  - ISO is planning to perform ~28 sensitivity requests
- Stakeholder sensitivity requests reflected interest in sensitivities related to the impacts of additional renewables and generator retirements
  - In some cases there was overlap across requests from different stakeholders, overlapping requests have been consolidated where possible
  - ISO has followed up with stakeholders who submitted requests that cannot be performed due to the structure of the current modeling framework
- Based on stakeholder feedback, stakeholder-informed sensitivity analysis will be performed using ISO's 2023 CELT load forecast
- The ISO will review the results of the stakeholder-informed sensitivity analyses at the November 14 Reliability Committee meeting



For more information on the on the stakeholder-informed sensitivity analysis to be performed, please refer to the [September 19 Reliability Committee presentation](#).

# 2024 ANNUAL WORK PLAN



# 2024 Objectives and Highlights

- ISO New England has issued its [2024 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

For more information on the Annual Work Plan, please refer to the [October 6 Participants Committee presentation](#)

# Markets Anchor Projects



- **Resource Capacity Accreditation (RCA) in the Forward Capacity Market (FCM)**
  - This ongoing effort seeks to implement new methodologies to quantify/accredit resources' capacity contributions to regional resource adequacy
  - Plans for FERC filing and implementation timeframes will be communicated in Q3-Q4 2023
- **Assessing Alternative FCM Commitment Horizons (Prompt/Seasonal)**
  - Through Q2 2024, the ISO will continue discussing potential changes to the FCM
    - Replacing the current Forward Capacity Auction that has a three-year forward planning horizon with a prompt capacity auction (i.e., an auction with a short commitment horizon much closer to the capacity commitment period)
    - Restructuring the capacity commitment period from annual to seasonal (sub-annual) commitment periods
  - Design work would follow in 2024 once a path forward on scope and timing is determined; design and implementation require extensive efforts across ISO processes and systems, spanning several years

# Operations Anchor Project



- **Energy Adequacy Threshold Determination**
  - After finalizing its operational impacts of extreme weather study results from the Probabilistic Energy Adequacy Tool (PEAT), including stakeholder-requested sensitivities, the ISO will present its proposed scope of work for developing a Regional Energy Shortfall Threshold in 2023
  - In Q1-2 2024, using PEAT results, the ISO plans to work with regional stakeholders to establish a REST that determines the acceptable level of reliability risk
  - The ISO can then evaluate if meeting the REST requires development of specific regional solutions
    - Possible solutions could range from market designs to infrastructure investments to dynamic retail pricing and responsiveness by end-use consumers
  - Further analysis of scope, timing, and feasibility of any such solutions would follow in 2024-2025 as needed



# Planning Anchor Projects



- **FERC Order No. 2023 Implementation**

Compliance efforts are underway in 2023, with work continuing into 2024 to implement the Final Rule's new interconnection paradigm. Some directives are anticipated to converge with NEPOOL's priority requests

- Assess Interconnection Standard for Charging of Electric Storage Resources
- Improvements to the Proposed Plan Application Process for TO-LED PPA Studies

- **Extended-Term/Longer-Term Transmission Planning Phase 2**

- In 2022, the ISO created a process under [Attachment K of the OATT](#), allowing the states to request planning analyses extending beyond a 10-year planning horizon
- This second phase of Tariff changes would add a process to operationalize transmission investments resulting from analyses, and will include a cost-allocation mechanism for those transmission improvements
- Stakeholder discussions on Phase 2 are expected to begin in 2023, with a potential FERC filing in early 2024



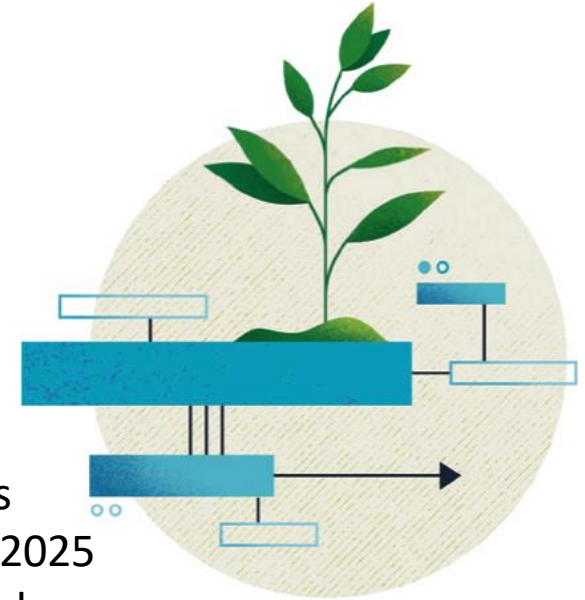
# Technology Anchor Projects

- **Day-Ahead Ancillary Services Initiative (DASI) Implementation**

- A significant initiative throughout 2024, the ISO will develop the extensive software and business process changes needed to support DASI implementation in 2025
- DASI creates pricing incentives for specific energy and reserve capabilities needed for reliability as regional supply and demand transform

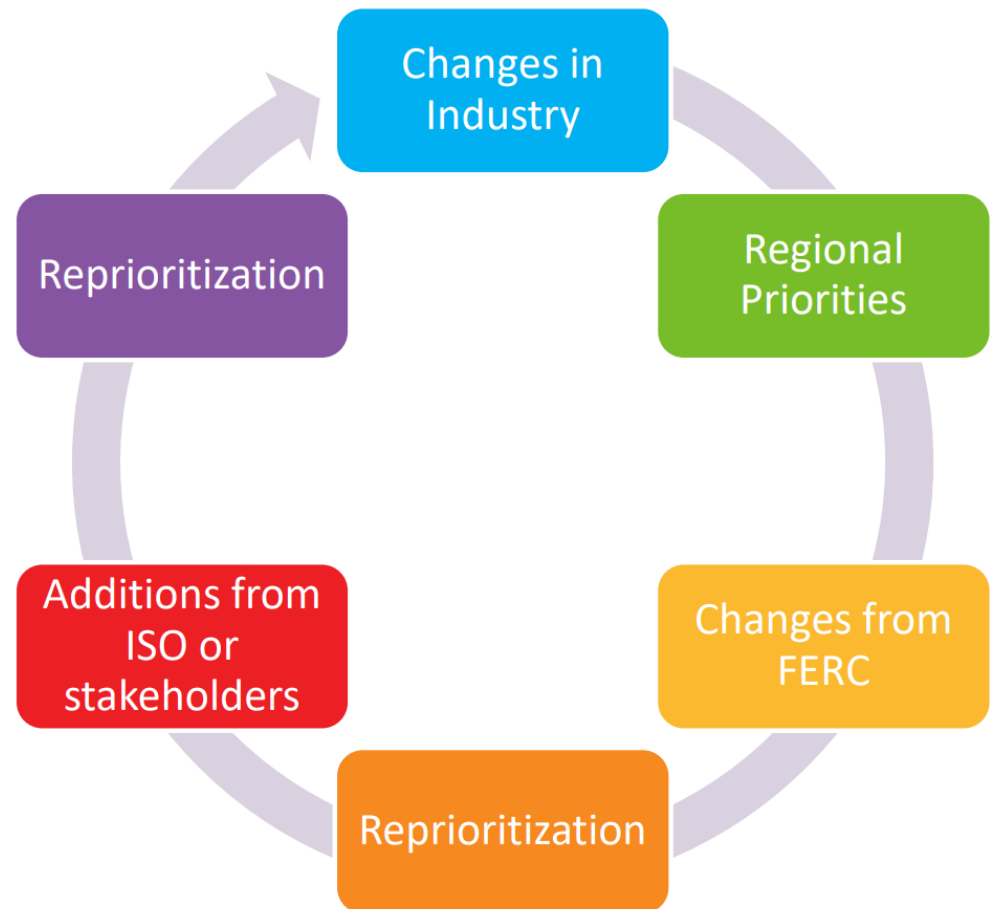
- **nGem Real-Time Market Clearing Engine**

- The ISO has been working to replace its Market Management System (MMS) with the next Generation Electricity Management (nGEM) platform to support a system with a growing number and type of grid assets, new and more complex market features, multiplying security threats, and advancing IT technologies
- In 2023, the ISO completed the processes for customizing and implementing the day-ahead version of the new market clearing engine (MCE) software and infrastructure service
- Work on the real-time MCE software and infrastructure will take place throughout 2024, with implementation targeted for 2025



# 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



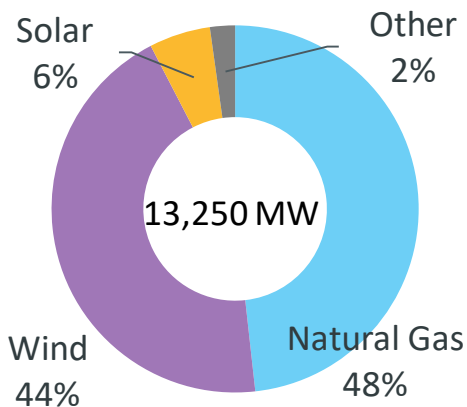
# ISO GENERATOR INTERCONNECTION QUEUE SNAPSHOT



# The ISO Generator Interconnection Queue Provides a Snapshot of Resource Proposals

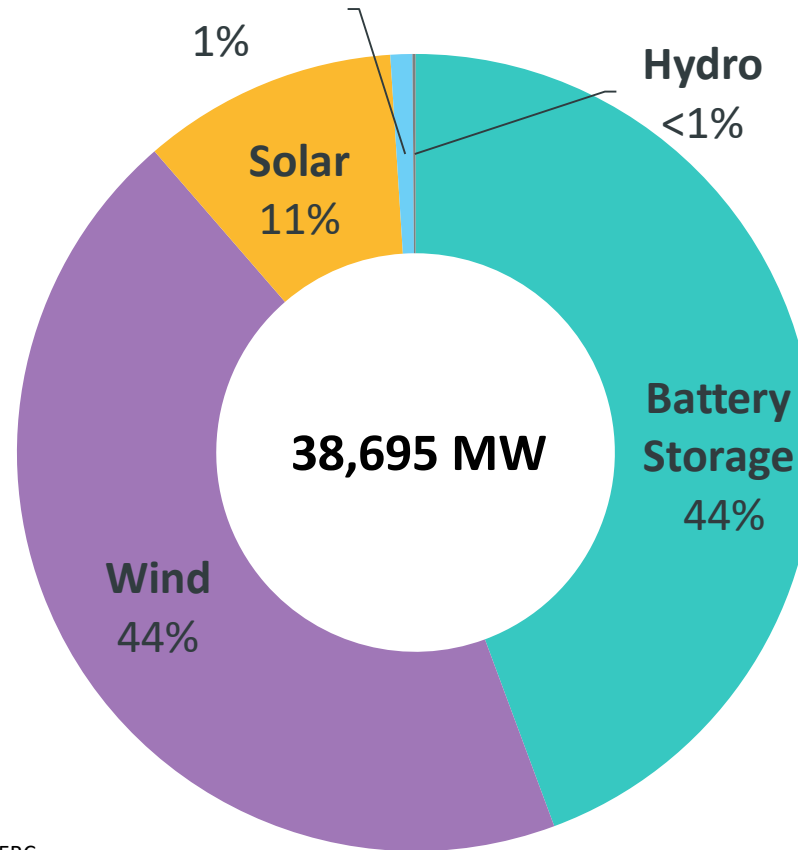
*Dramatic shift in proposed resources from natural gas to battery storage and renewables*

**Then**



*June 2017*

**Now**



*September 2023*

## Battery Storage



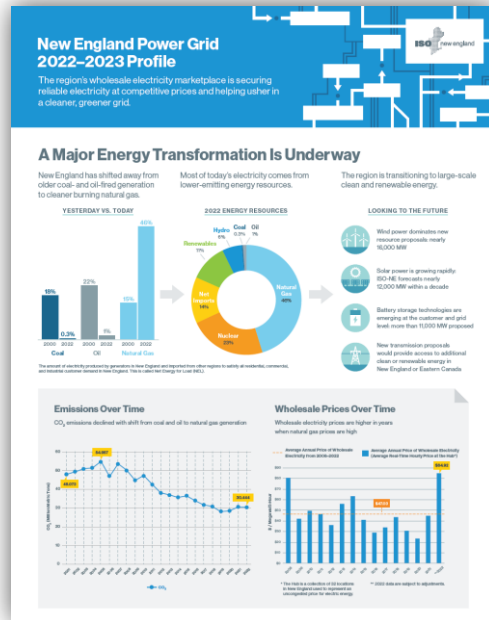
CT	5,089 MW
MA	10,055 MW
ME	195 MW
NH	628 MW
RI	906 MW
VT	285 MW

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

# PUBLICATIONS AND UPCOMING EVENTS

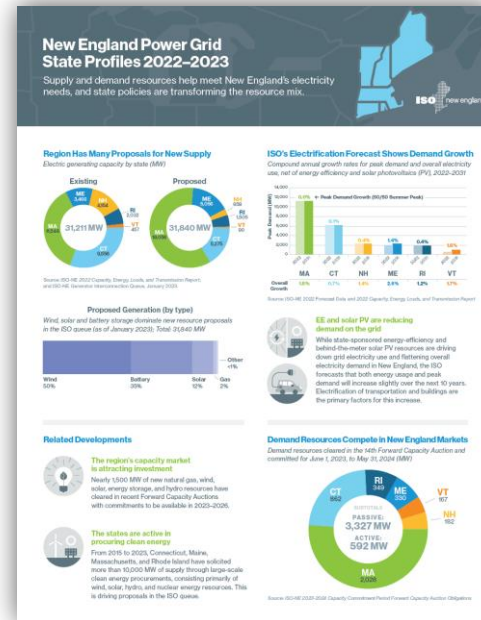


# ISO New England Releases Several Publications



## New England Power Grid Profile

Provides key grid and market stats on how New England's wholesale electricity markets are securing reliable electricity at competitive prices and helping usher in a cleaner, greener grid



## New England State Profiles

Provides state-specific facts and figures relating to supply and demand resources tied into the New England electric grid and state policies transforming the resource mix in the region

# *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
- Next meeting: **Dec. 6** in Boston



[2022 CLG Annual Report](#)

More information on the CLG is available at: <https://www.iso-ne.com/committees/industry-collaborations/consumer-liaison/>

# ISO New England Open Board Meeting



- This year's open meeting of the ISO New England [Board of Directors](#) will be held **Weds, Nov 1, from 11:30 a.m. to 5 p.m.**
  - The meeting will take place in-person at the Seaport Hotel in Boston. A virtual attendance option will also be available
  - The meeting will highlight the [2023 Regional System Plan](#) and provide an opportunity for public comment
  - Registration for the meeting is open and available on the [ISO calendar](#) and in [ISO TEN](#)
- The public can submit written comments to the Board by emailing [legal@iso-ne.com](mailto:legal@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



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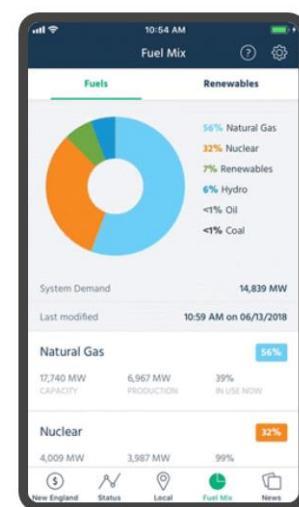
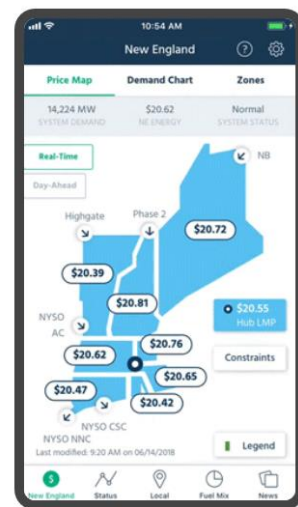


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## Download the ISO to Go App

[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

