MAINE GOVERNOR'S
Energy Office

Transmission Planning Stakeholder Group Meeting #1

Pursuant to Resolves 2025, Ch. 57

July 29, 2025

Today's Goals

- Provide an **overview of the planned transmission study** called for in Resolves 2025, Ch. 57.
- Provide **context** around transmission planning and permitting, and how this study fits in with other efforts.
- Offer an opportunity for **stakeholder group members to provide comments and ask questions** about GEO's future requests for consultant support for development of a Maine Transmission Strategy.

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Today's Agenda

- **Introduction** (15 mins)
- **Panel discussion** (35 mins)
  - Independent System Operator- New England
  - Maine Public Utilities Commission
  - Maine Department of Environmental Protection
- **Governor's Energy Office's request for consultant support** (15 mins)
- **Questions and Feedback from the Stakeholder Group** (20 mins)
- **Next steps** (5 mins)

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2025 Resolves Ch. 57

To Direct the Governor's Energy Office (GEO) to Conduct a Study Regarding the Future of Electric Transmission Infrastructure in the State

The GEO must hold **at least 3 meetings with the stakeholder group** in connection with the study.

The **first meeting with the stakeholder group must be held prior to commencing the study** and before GEO issues and RFP for a consultant to complete the study.

The GEO must hold **at least 2 meetings during its study** to solicit information and comments from the stakeholder group.

The GEO must submit a report with an overview of the study and any recommendations **to the Legislature by September 2026**.

The GEO will **include any comments provided by the stakeholder group as an appendix** to the report of the study.

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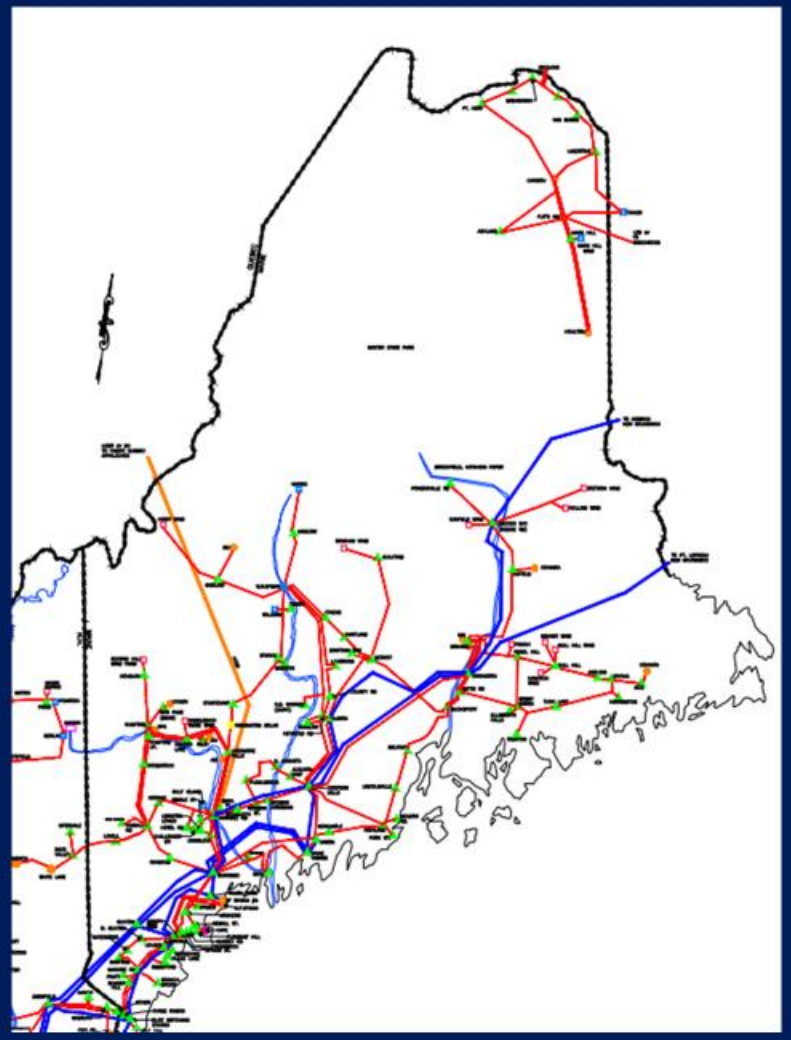
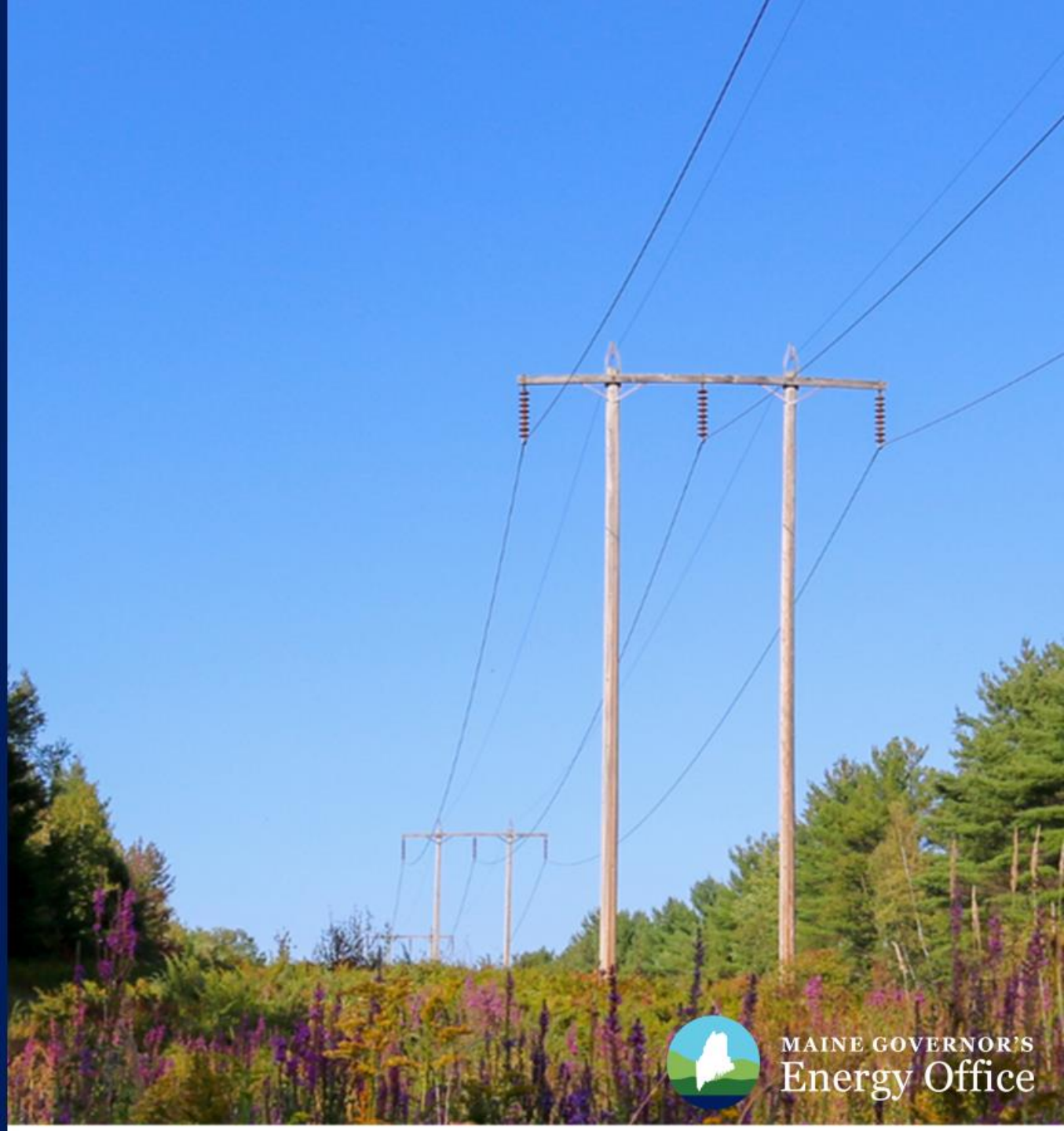
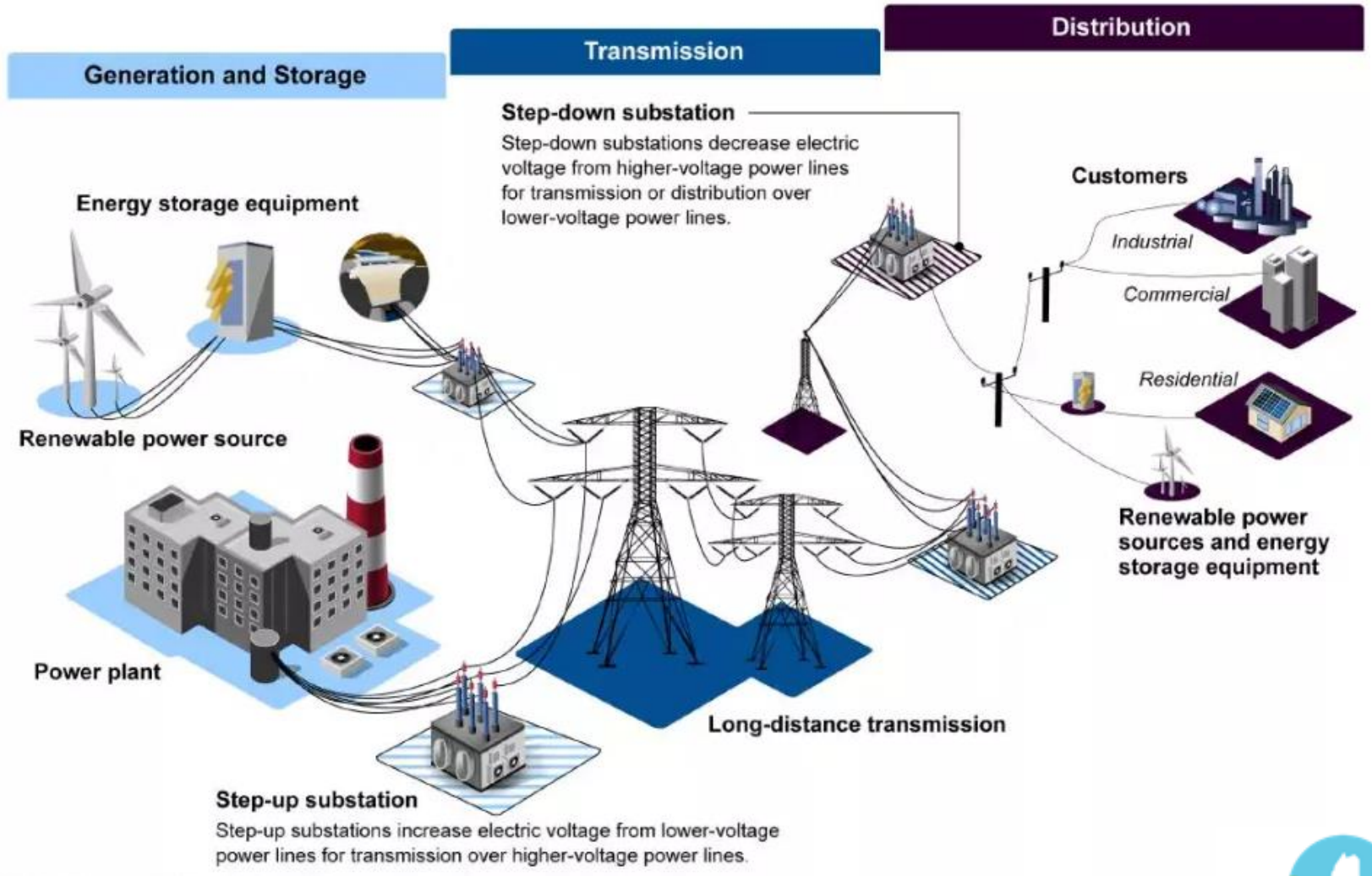
Maine Transmission System





Elements of the Grid

Federal, regional, State, and private entities have different roles and responsibilities



Sources: GAO; Art Explosion (images). | GAO-19-332
https://www.gao.gov/blog/securing-u.s.-electricity-grid-cyberattacks

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The Importance of Transmission Modernization

- Electricity is an essential service; it must be reliable and affordable
- Aging network
  - Most transmission infrastructure built in 1950-60s with 50-year lifespan
- Increasing extreme weather and wildfire events
- Insufficient consideration of the use of advanced transmission technologies to address congestion
- Full capacity of existing system has not yet been unlocked

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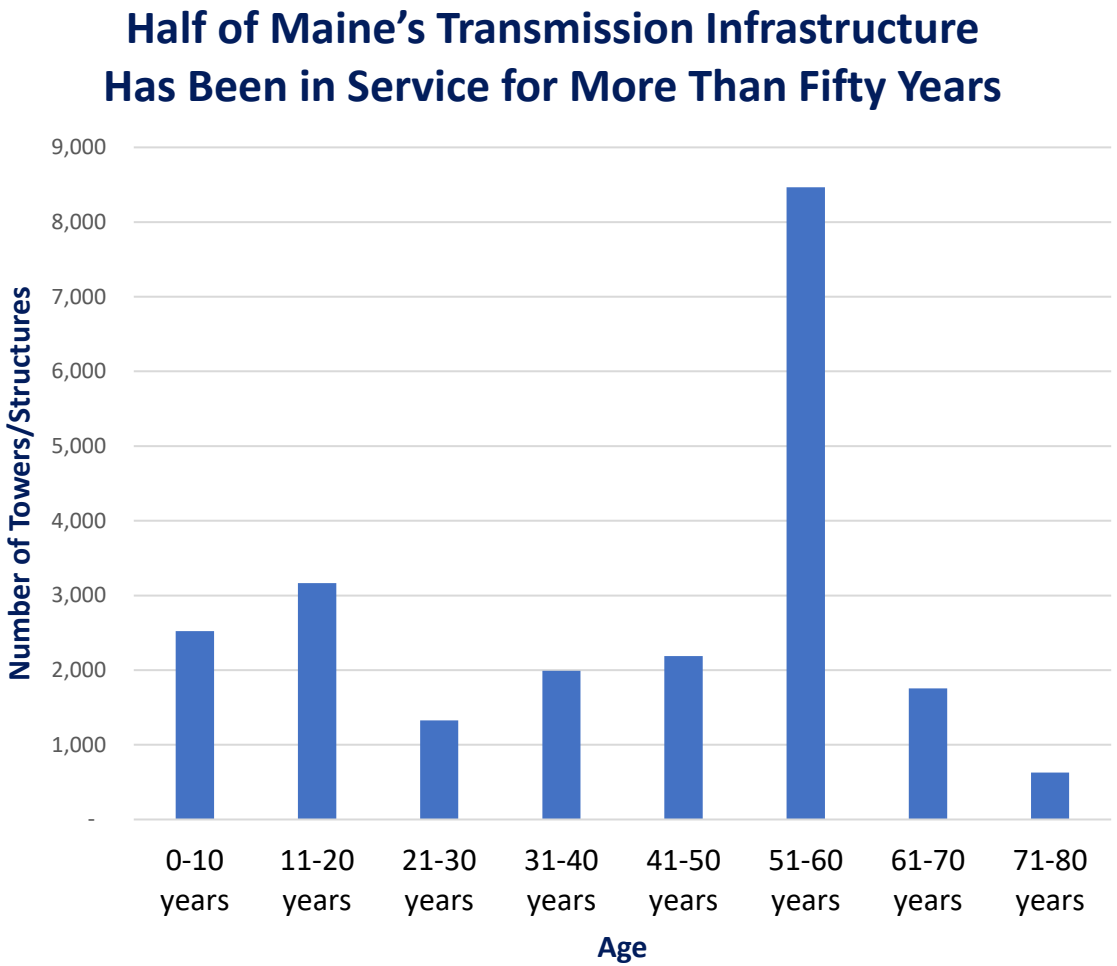
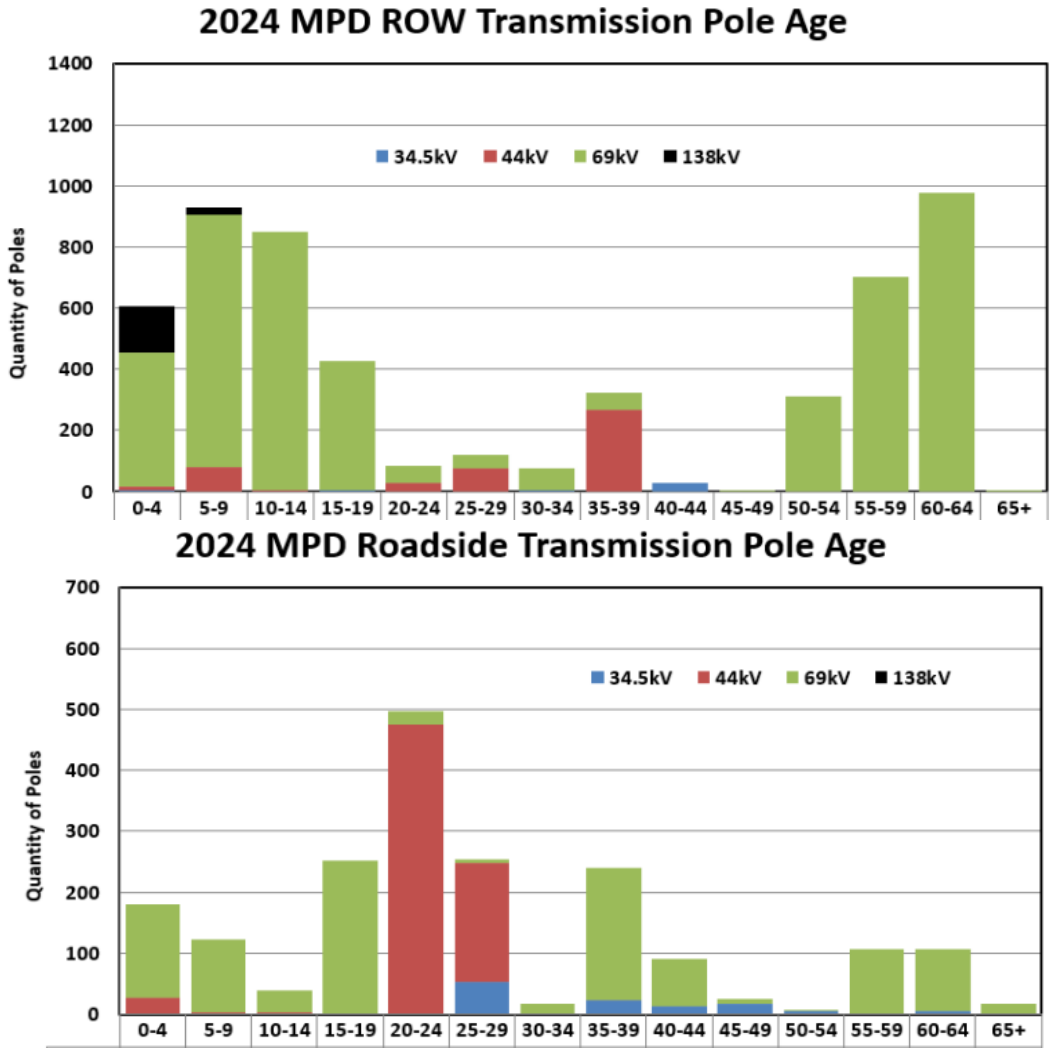
Aging Transmission Infrastructure



ISO-New England. New England Transmission Owners' PTF Asset Database, December 18, 2024



Source: Versant Power

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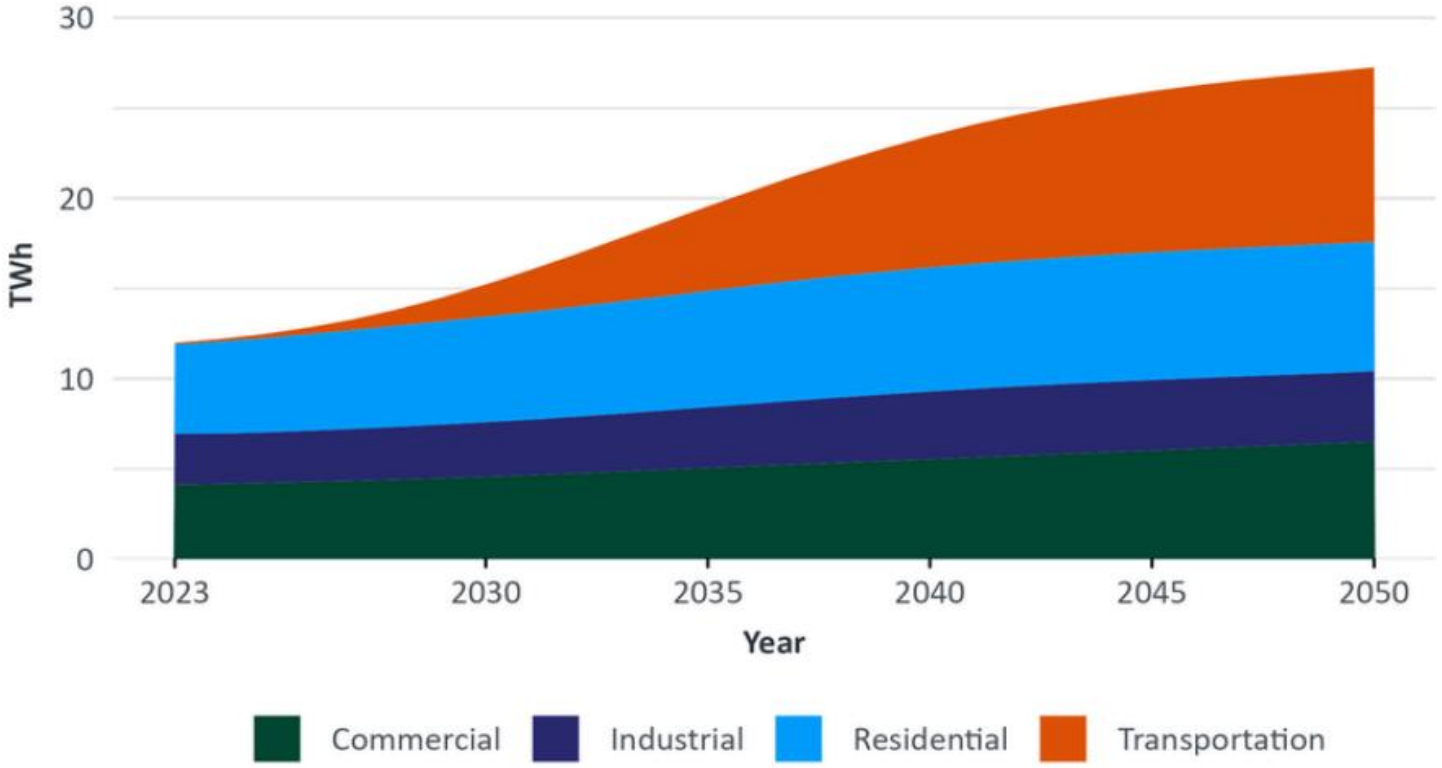
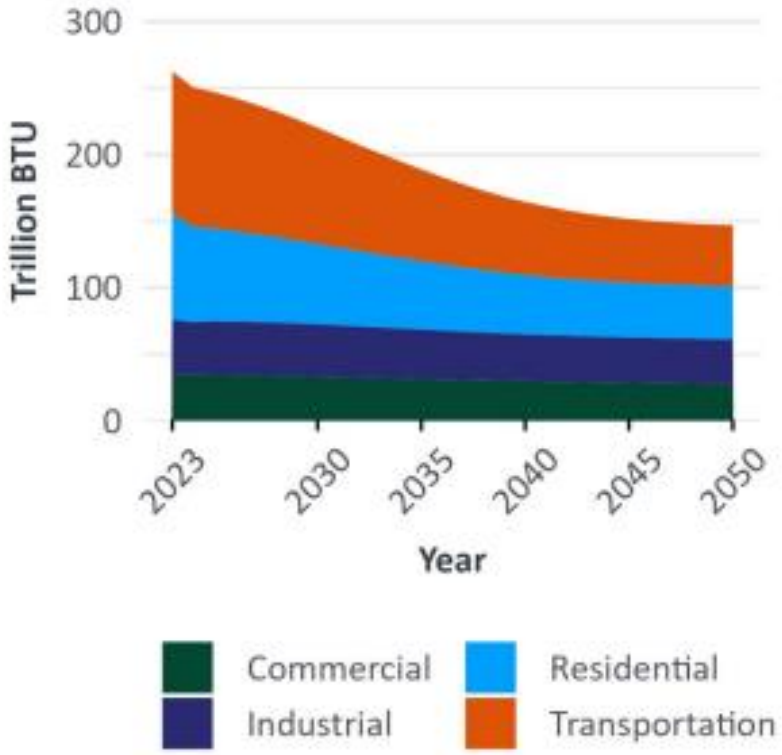
Load Growth

Figure 23. Electricity Consumption in Maine by Sector, Core Pathway

Source: Maine Pathways to 2040: Analysis and Insights





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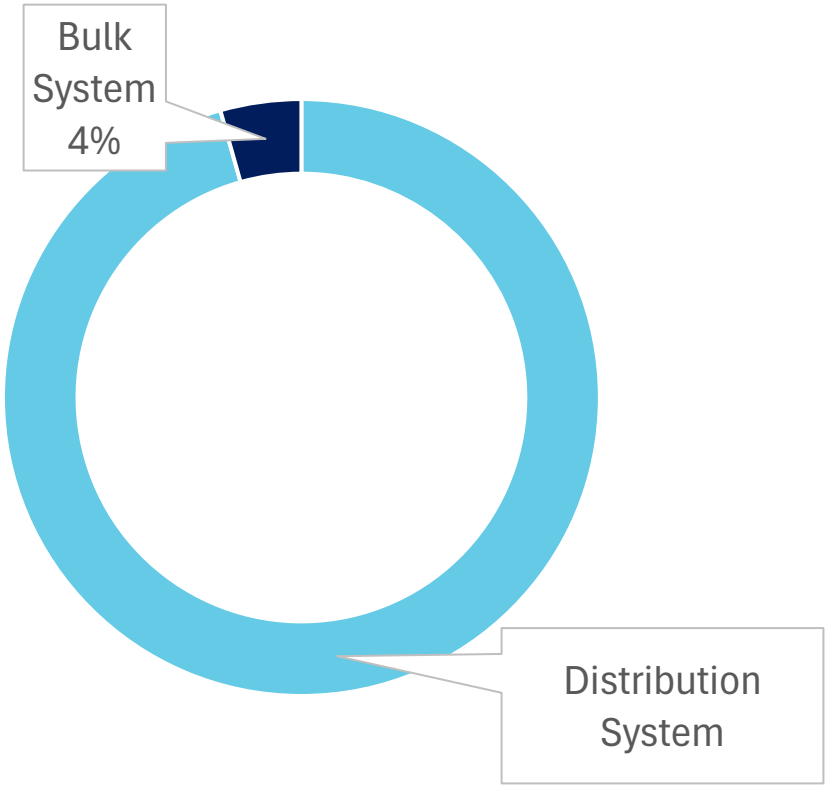
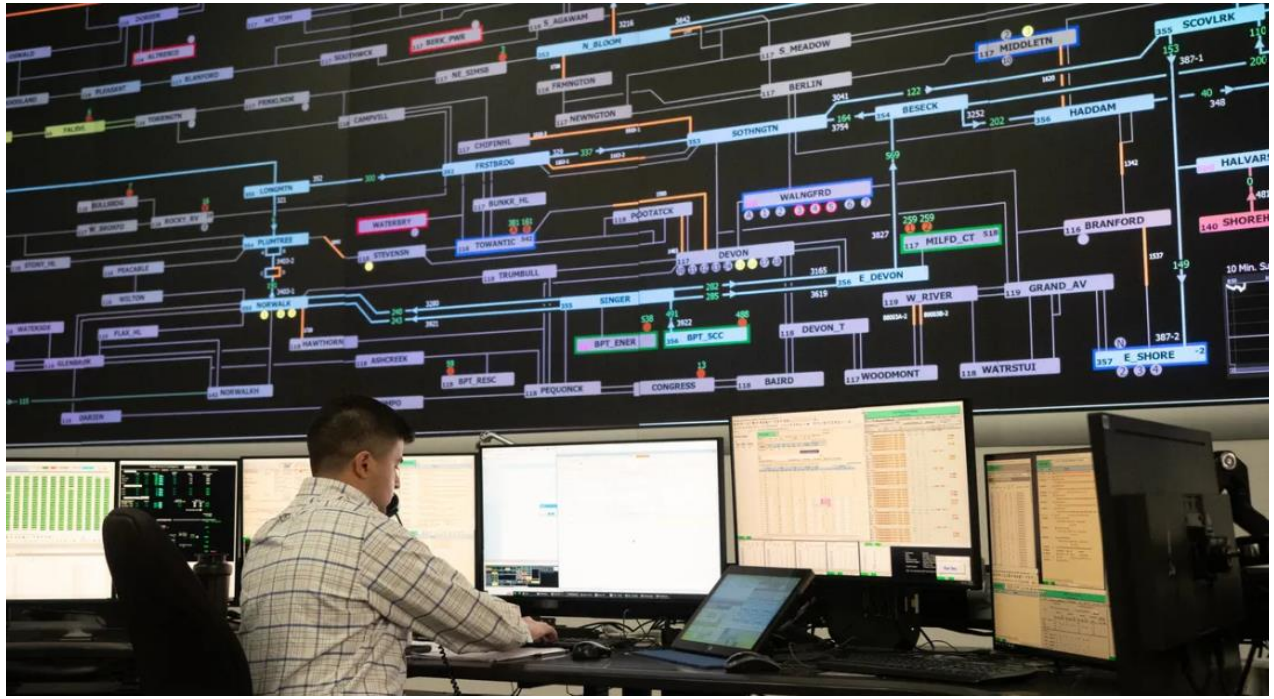
Transmission Outages are Rare but Consequential

Less than 5% of outages in Maine are due to transmission





ISO-NE Control Room

Source: EIA Form 861. 2023 SAIDI data. Bulk system outages include transmission and generation.

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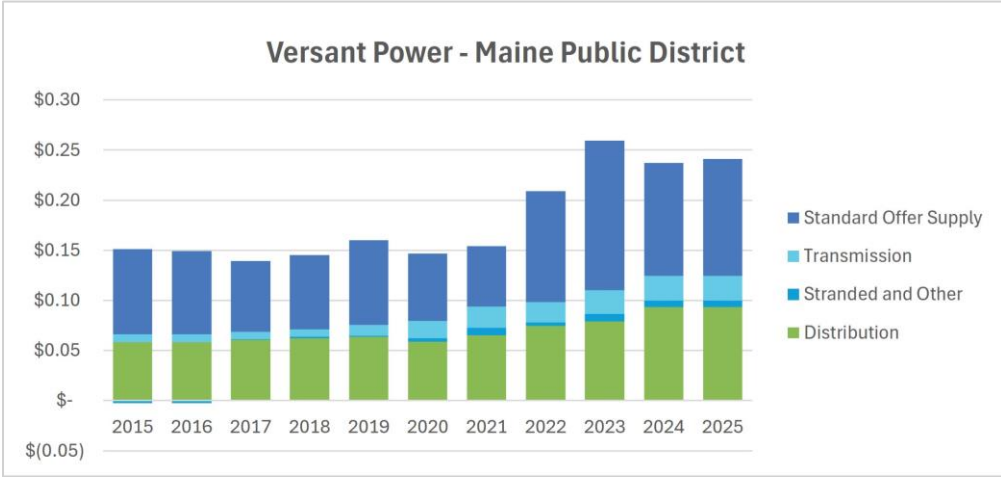
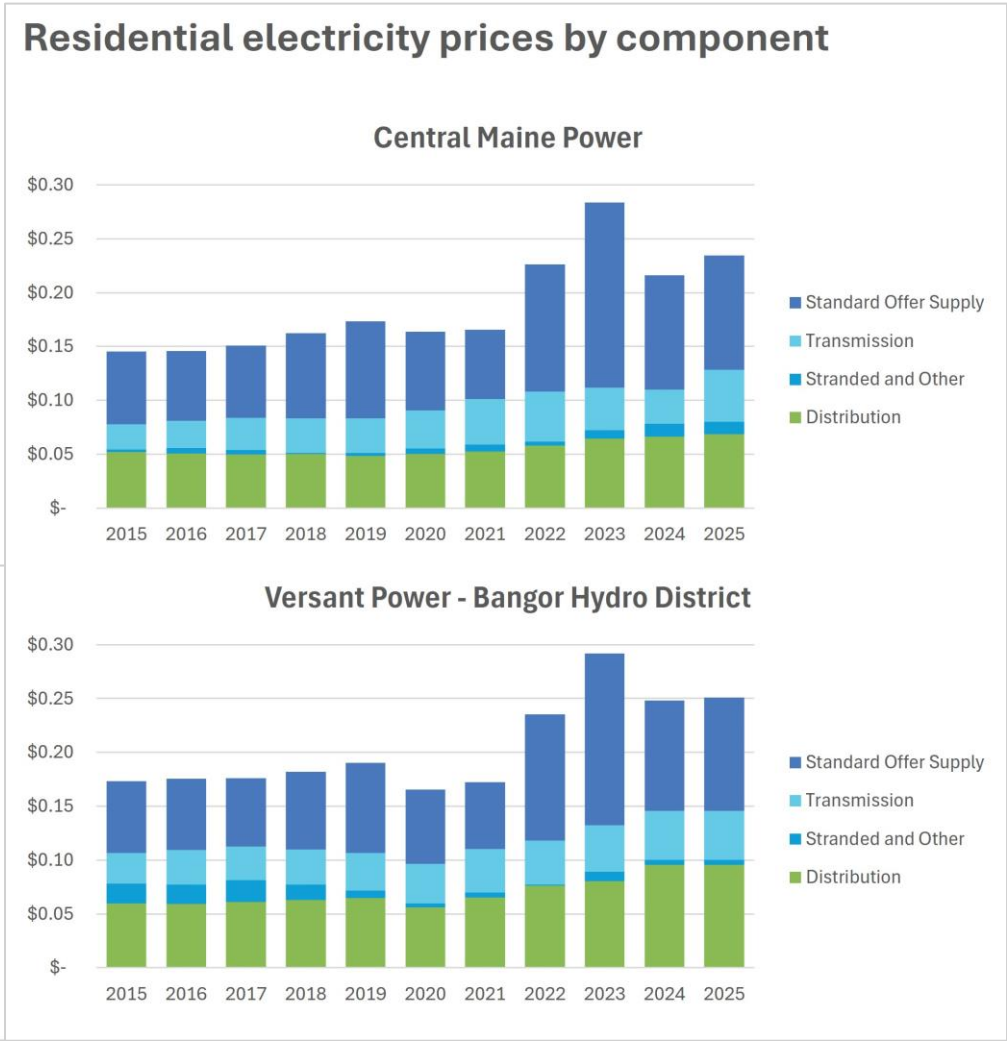
Transmission Costs

Transmission Costs in 2024 *($/MWh of load)*	
ERCOT	$10.9
ISO-NE	$23.9
MISO	$8.2
NYISO	$8.8
PJM	$17.7





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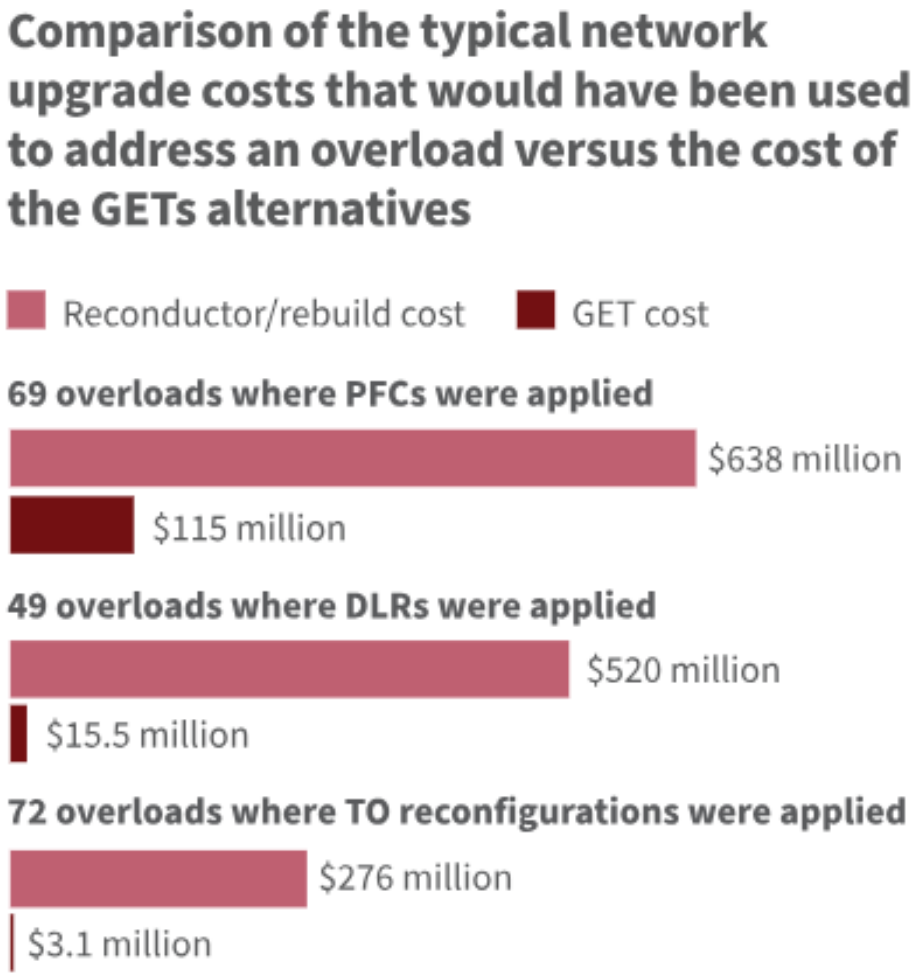
Opportunities for Grid-Enhancing Technologies



Source: RMI.

Dynamic Line Ratings (DLR) measure and calculate the true carrying capacity of transmission lines – often finding 20% or more capacity than assumed. This finds room for new power plants or new electricity demand.

Advanced Power Flow Control redirects power to lines with extra capacity, preventing overloads and balancing the use of the grid. In the UK, 48 APFC devices at substations have unlocked capacity for 1.5 gigawatts (GW) of new clean energy.

Topology Optimization is software that finds the best use of grid infrastructure to redistribute power and unlock more capacity. The "grid reconfigurations" identified could save billions of dollars in energy costs every year.

Source: Watt Coalition.

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Relevant Agencies

The Federal Power Act grants the **Federal Energy Regulatory Commission (FERC)** jurisdiction over wholesale electric power transactions and the interstate transmission of electric power.

Independent System Operator (ISO)-New England is responsible for coordinated planning, operating the regional grid and ensuring reliability.

High-impact transmission lines require approval by the **Maine Legislature**.

Maine Public Utilities Commission retains jurisdiction over the siting of transmission facilities and the pricing of most retail electric sales. **Maine Department of Environmental Protection** is responsible for most environmental permits, in coordination with other state siting authorities, such as **Maine Department of Inland Fisheries & Wildlife** and the **Maine Department of Agriculture, Conservation, and Forestry**. **Local municipalities** also have permitting roles.

Maine GEO is responsible for state energy planning.

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Roles in planning and permitting transmission projects in Maine and New England

Panelists:

Melissa Winne
Senior State Policy Advisor – ISO New England

Michael Haskell
Utility Analyst – Maine Public Utilities Commission

Melanie Loyzim
Commissioner – Maine Department of Environmental Protection

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JULY 29, 2025 | VIRTUAL

ISO New England Overview

Maine Governor's Energy Office Transmission Study Stakeholder Group

Melissa Winne

SENIOR STATE POLICY ADVISOR, EXTERNAL AFFAIRS

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

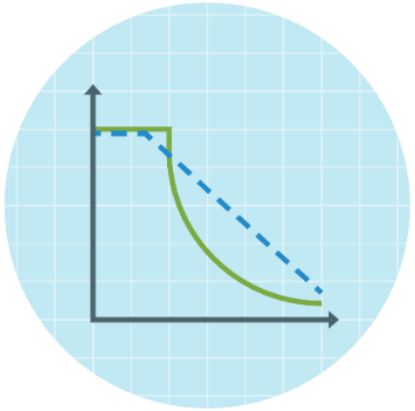
ISO New England Performs Three Critical Roles to Ensure Reliable Electricity at Competitive Prices

Grid Operation

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

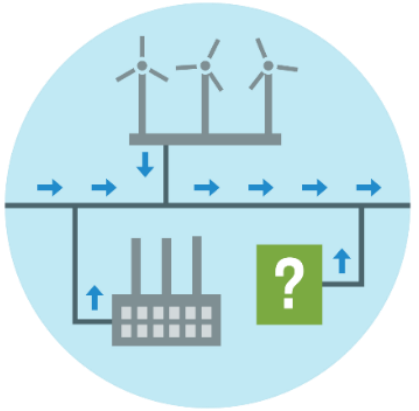
Market Administration

Design, run, and oversee the markets where wholesale electricity is bought and sold

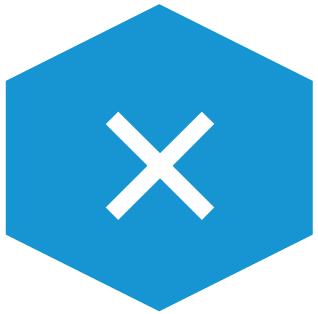


Power System Planning

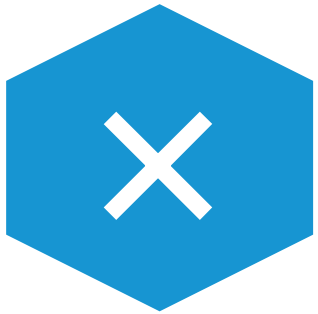
Study, analyze, and plan to make sure New England's electricity needs will be met over the next 10 years



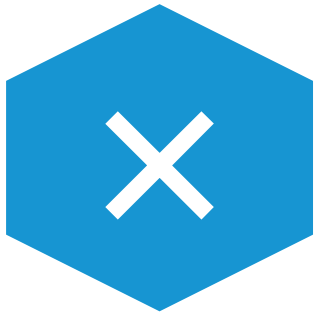
Things We Don’t Do



Handle retail electricity

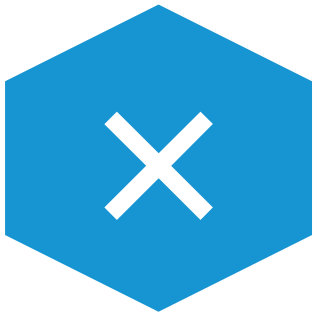


Own power grid infrastructure

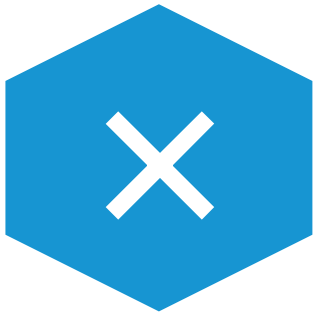


Have a stake in companies that own grid infrastructure

Have jurisdiction over fuel infrastructure



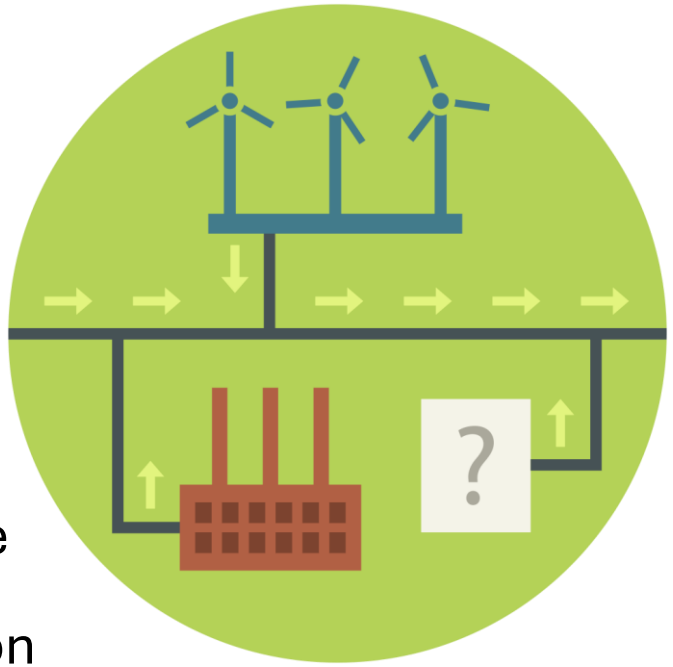
Have control over siting decisions



Plan the resource mix

ISO New England Manages Regional Power System Planning to Meet Future Electricity Needs

- Manage regional power system planning in accordance with mandatory reliability standards
- Administer requests for interconnection of generation and regional transmission system access
- Conduct transmission system needs assessments
- Plan regional transmission system to provide regional network service
- Develop Regional System Plan (RSP) with a ten-year planning horizon
- The Longer-Term Transmission Planning (LTTP) framework (established 2024) allows for system planning analyses beyond the 10-year planning horizon and that identify, at a high-level, transmission infrastructure necessary to meet a New England state's energy policy, mandate, or legal requirement



Electric Transmission and the Public Utilities Commission

7/29/2025

The PUC's role

- What do we do? In a word: permitting—is there a public need for a proposed project?
- Anyone planning to build, rebuild, or relocate a high-voltage transmission line (>69kV, with a couple exceptions) must be granted a "Certificate of Public Convenience and Necessity" by the PUC.
- The PUC also sets planning standards for the local transmission system [1]

[1] The local transmission system is separate from the "bulk" transmission system, whose standards are regulated by ISO-NE and the North American Electric Reliability Corporation (NERC)

The CPCN Process

1. Developer files a petition for approval of their project.
2. PUC finds whether there is a public need for the project by considering:
   - Economics
   - Reliability
   - Public health and safety
   - Scenic, historic, and recreational values
   - State renewable energy generation goals
   - Proximity of the line to homes
3. PUC finds whether a non-wires alternative (developed by the Office of the Public Advocate) is potentially cost-effective.[1]

[1] Per LD 1726 from the just-concluded legislative session, the PUC will review and recommend improvements to the NWA process by March 1st, 2026

What does receiving a CPCN do?

- “The issuance of a certificate of public convenience and necessity establishes that, as of the date of issuance of the certificate, the decision by the person to erect or construct was prudent.”

- However, it does not override the authority of affected municipalities to regulate the siting of the transmission line or affect DEP permitting.

Transmission Line Permitting – DEP Requirements

Melanie Loyzim
Commissioner

NRPA and Site Law

Consider a project's effect on existing uses, aesthetic and scenic values, waterbodies, wildlife habitat, unusual natural areas, noise, and more

- **NRPA**: Avoid (alternatives analysis), minimize, compensate, and have "no unreasonable impact" on protected resources
- **Site Law**:
  - No adverse effect on the natural environment (harmonious fit)
  - Compensation for impacts of *high-impact transmission line* on wildlife and fisheries habitats (§484-D)
  - Department must consider whether alternatives to the proposed location and character of a transmission line may lessen its impact without unreasonably increasing its cost (§487-A)

Procedures

- Applicant must:
  - Obtain CPCN from PUC before applying for Site Law permit, or else must reimburse the DEP for costs incurred if CPCN isn't obtained (38 MRS §487-A)
  - Give notice to each property owner in the proposed right-of-way (38 MRS §487-A)
  - Conduct at least one public meeting (38 MRS§486-A, DEP Ch. 2)
- Public hearing required(38 MRS §485-A), including pre-hearing conference, procedural orders, pre-filed testimony and rebuttals
- Board of Environmental Protection has jurisdiction over application for high-impact transmission line (38 MRS §341-D)

"**High-impact electric transmission line**" means a transmission line greater than 50 miles in length that is:

A. Constructed to transmit direct current electricity; or

B. Capable of operating at 345 kilovolts or more and:

(1) Is not a generator interconnection transmission facility as defined in section 3132, subsection 1-B; and

(2) Is not constructed primarily to provide electric reliability, as determined by the commission.

(35-A MRS §3131, subsection 4-A)

What DEP doesn't do

- Site selection (applicant must consider alternatives)
- Assess need or public benefit

Why Develop a Maine Transmission Strategy

- LD 197 directs GEO to “conduct a study of matters related to the State’s future electric transmission infrastructure needs.”
- A state-led proactive planning process provides an opportunity to reduce overall system costs while meeting other strategic objectives.

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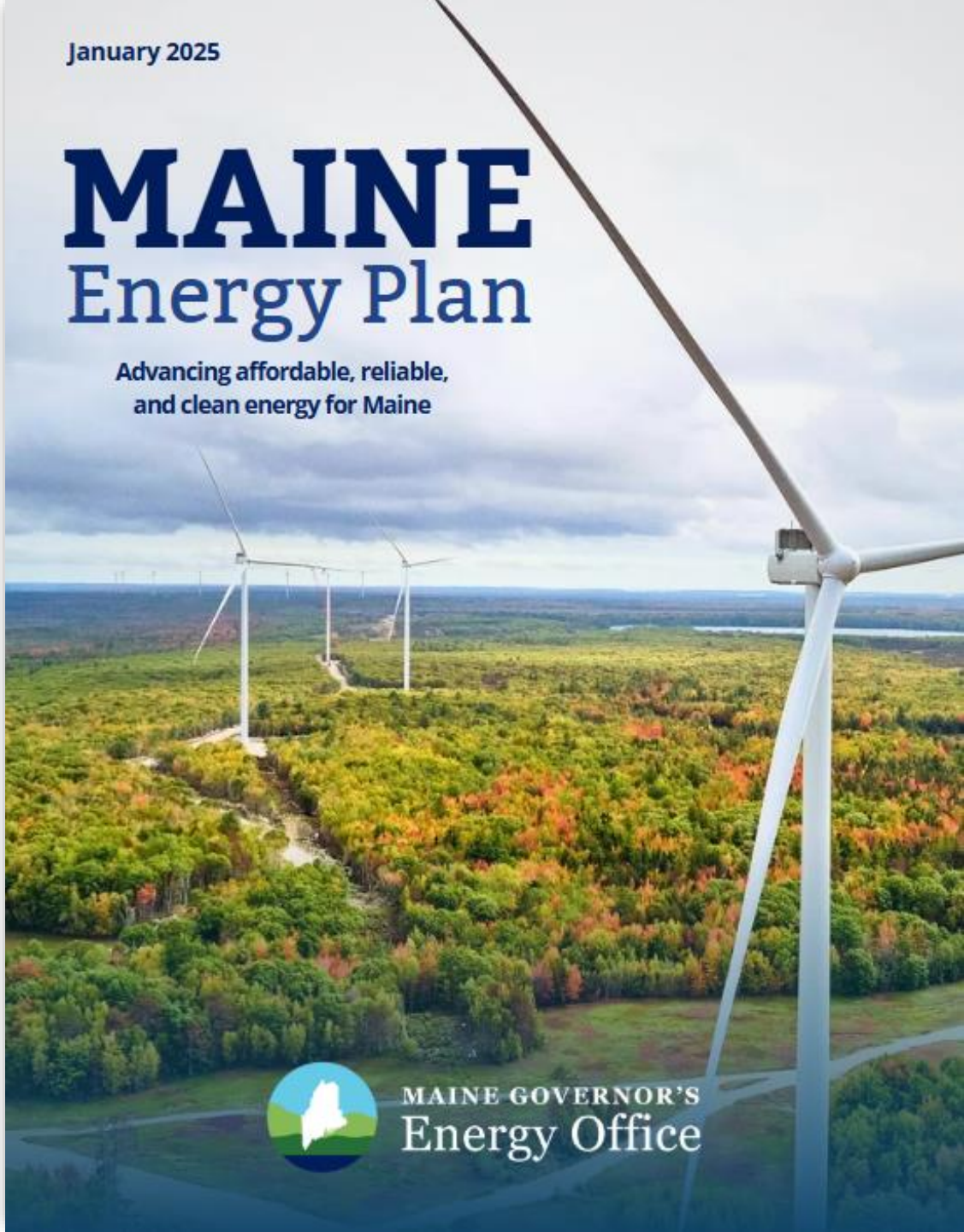
GEO Seeking Technical Consultants to Develop a Maine Transmission Strategy *Consistent with the Maine Energy Plan*

Objectives:

- Reduce overall energy costs to Maine ratepayers
- Meet the requirements of LD 197 “to integrate new renewable resources” and “ensure reliability.”
- Ensure consistency with the State’s policy goals.
- Evaluate use “of existing rights-of-way” and “grid-enhancing technologies,[and] advanced conductors.”



Maine Transmission Strategy - Consultant Steps

- The selected consultant will be expected to prepare a baseline scenario of the build-as-usual transmission development based on the ISO-NE 2050 Transmission Study and successor studies, and multiple scenarios for the expected development of clean energy resources by 2050.
- For each scenario, the consultant will be expected to provide a cost analysis and a benefits analysis.
- The consultant will develop a timeline for transmission modernization that identifies the most efficient and cost-effective deployment of needed infrastructure.

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Discussion Guidelines

- **This is a meeting of the Stakeholder Group**
  - *We'll take questions and comments from observers if there is time*
- **It's OK to bring different perspectives**
  - *Show others the respect you'd want people to show you*
- **Please be brief**
  - *Share the space with others and send any additional feedback via email*
- **Please stay on topic**

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Next Steps for Engagement

- GEO will conduct future stakeholder group meetings as directed by Resolves 2025, Ch. 57.
- GEO anticipates the next stakeholder group meeting in the Fall when the consultant is engaged.
- There will be additional opportunities for public input throughout the study.
- Anticipated timeline for final study is Fall 2026.

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Thank You

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