MAINE DEPARTMENT OF
Energy Resources

Transmission Planning Stakeholder Group Meeting #2

Pursuant to Resolve 2025, ch. 57

December 11, 2025

Today's Goals

- Provide **a brief summary** of Stakeholder Group Meeting #1, revisit the stakeholder group purpose, and introduce stakeholder group members.
- Provide **more detailed information** around the technical consultant's planned scope of work for development of a Maine Transmission Strategy.
- Offer an opportunity for **stakeholder group members to provide comments and ask questions** about the upcoming process.

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Today's Agenda

- **Introductions and Meeting #1 Recap**
- **Presentation by Technical Consultant**
  - Overview of planned scope of work by Energy and Environmental Economics, Inc. (E3)
- **Q&A and Discussion with the Stakeholder Group**
- **Next steps and adjourn**

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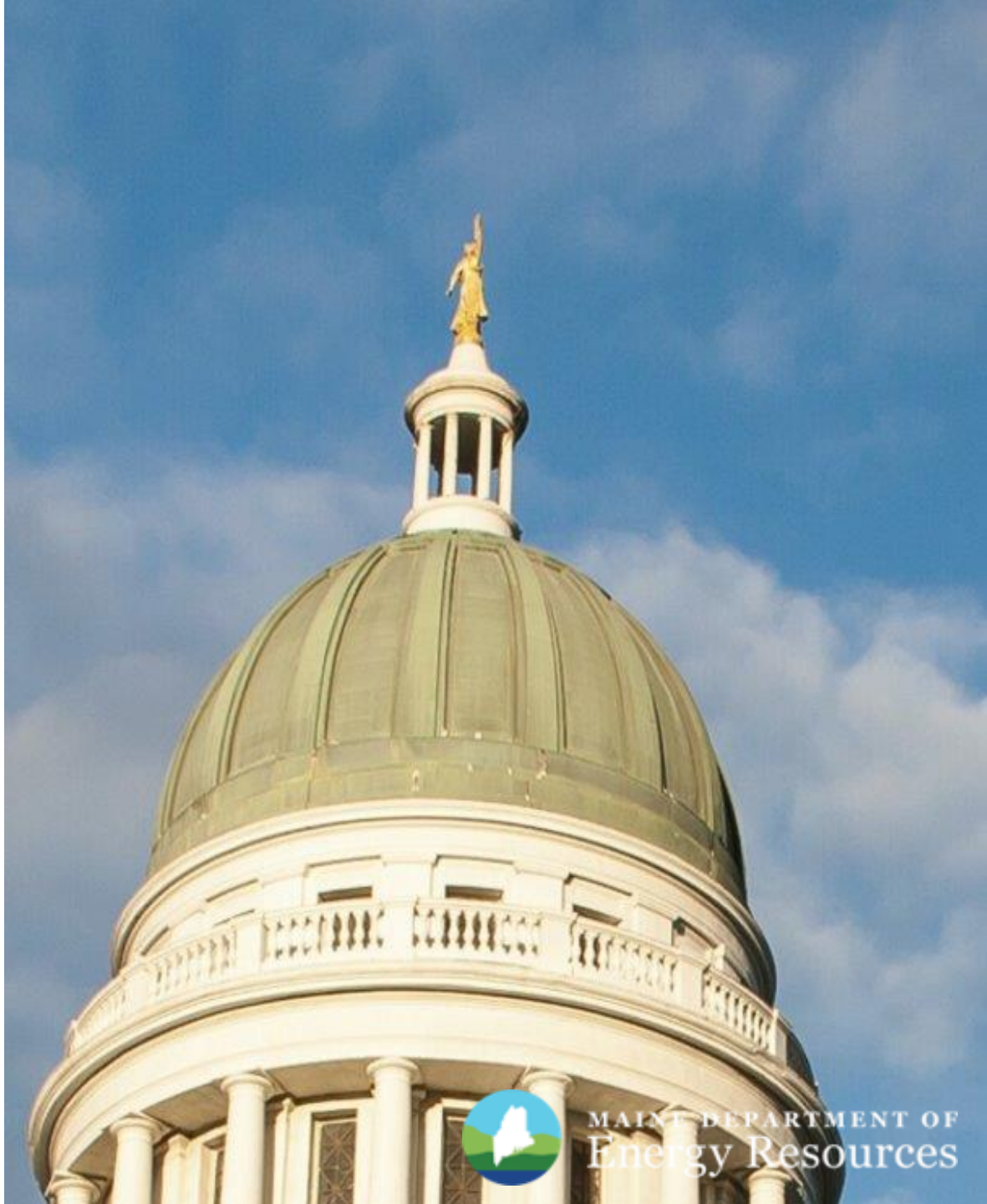
New Maine Department of Energy Resources (DOER)

- In 2025, Governor Mills proposed elevating the Governor's Energy Office (GEO) to a cabinet-level department as part of her biennial budget to allow for a more consistent & comprehensive approach to energy planning & policy development.
- Governor Mills signed Public Law 2025, ch. 476 into law on July 1, 2025, establishing the Department of Energy Resources (DOER) which became effective Sept. 24, 2025.
- DOER is the successor in every way to the powers, duties and functions of GEO. The law provides the new department with expanded procurement authority to lower costs, ensure reliable and diverse energy supply, attract investment, and advance Maine's economic and energy goals.



Resolve 2025, ch. 57
To Direct the Governor's Energy Office (now DOER) to Conduct a Study Regarding the Future of Electric Transmission Infrastructure in the State

DOER must hold **at least 3 meetings with the legislatively-designated stakeholder group** in connection with the study.

The **first meeting with the stakeholder group must be held prior to commencing the study** and before DOER issues a competitive request for consultant support to complete the study. This meeting was held on July 29, 2025.

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

DOER must submit a report with an overview of the study and any recommendations **to the Legislature by September 1, 2026**.

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

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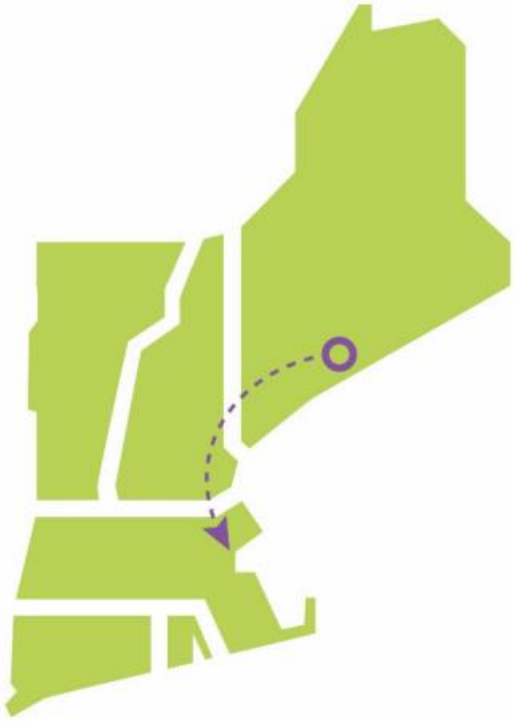
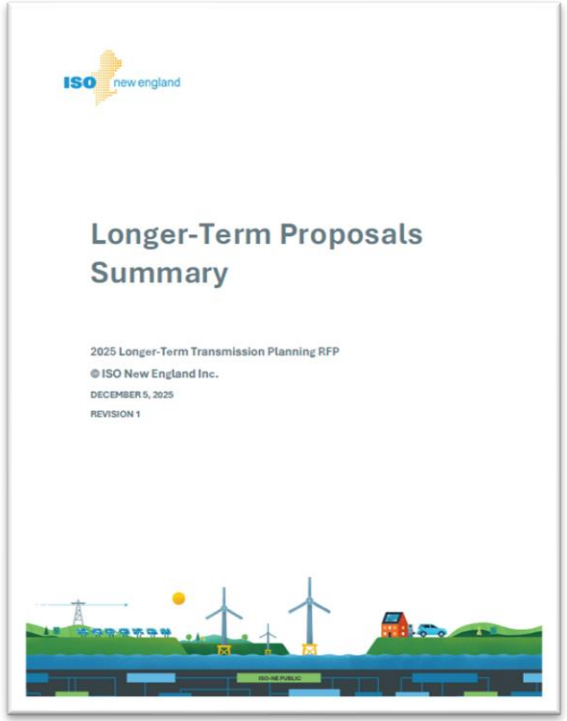
Transmission Updates

Long-Term Transmission Planning Proposals

- On December 5, ISO-New England published the Longer-Term Proposals Summary, a summary of the six proposals received by the ISO in response to its Longer-Term Transmission Planning (LTTP) RFP issued earlier this year.
  - The LTTP RFP was issued in March 2025 to procure transmission to address a high-likelihood concern identified by the ISO's 2050 Transmission Study: limitations on transfers of electricity between northern New England and southern New England.
  - Proposals were due to ISO-New England on September 30, 2025.
  - ISO-NE is working toward completion of its review of proposals by September 2026.





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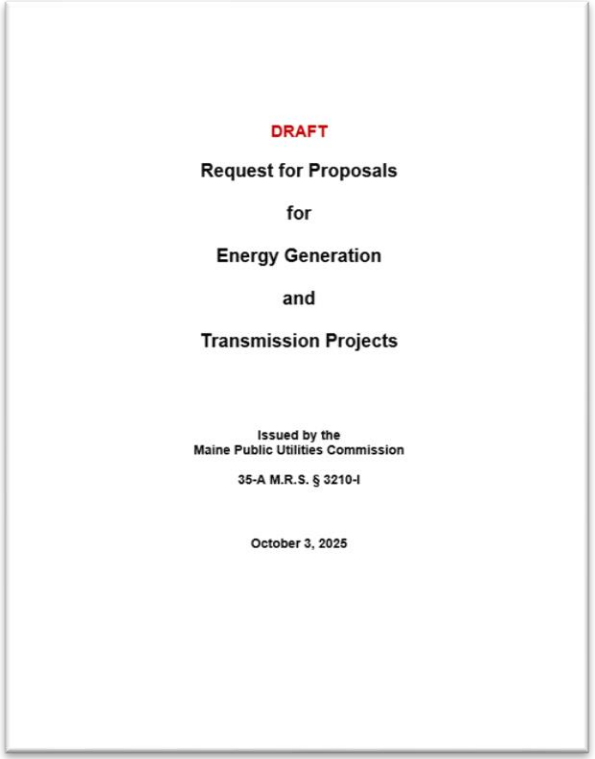
Transmission Updates

Northern Maine Renewable Energy Development Program

- On October 3, 2025, the Maine Public Utilities Commission (Commission or PUC) issued a Draft Request for Proposals for Energy Generation and Transmission Projects pursuant to 35-A M.R.S. §3210-I (the Northern Maine Program).
    - The Draft RFP was offered as a vehicle to allow potential bidders and other interested parties to comment on or provide information relevant to the Commission's approach to a future procurement of generation and transmission capable of connecting at least 1,200 MW of generation in Northern Maine.
    - The Draft RFP was issued in Docket 2024-00099.
    - Comments on the Draft RFP were due October 29, 2025.
    - The Commission indicated it expects to issue the final RFP before December 31, 2025.


DRAFT

Request for Proposals

for

Energy Generation

and

Transmission Projects

Issued by the
Maine Public Utilities Commission

35-A M.R.S. § 3210-I

October 3, 2025

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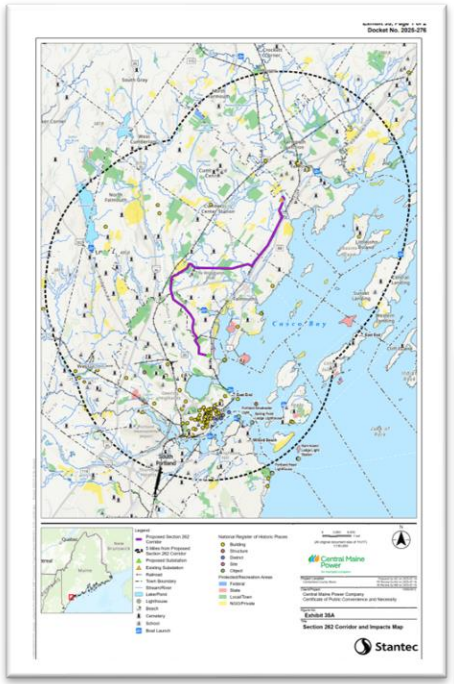
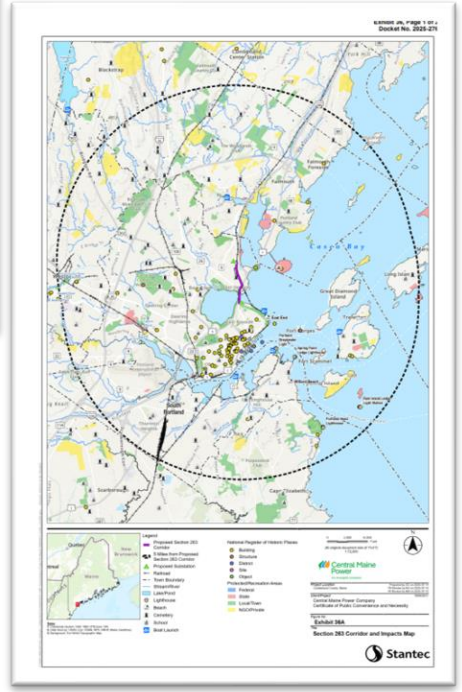
Transmission Updates

Greater Portland Area Certificate of Public Convenience and Necessity

- On September 16, 2025, Central Maine Power (CMP) submitted a petition for a Certificate of Public Convenience and Necessity (CPCN) to construct Phase 1 of its Greater Portland Transmission Upgrades.

    - The petition was filed in Docket 2025-00276.
    - CMP states the project is "necessary to resolve anticipated reliability criteria violations and ensure reliability for the Greater Portland area—the largest load center in Maine. The needs identified by CMP are driven by forecasted load growth in the area and asset condition."
    - The initial phase of the proceeding involved submission of additional information by CMP, petitions to intervene due by November 14, 2025, and briefs on certain threshold legal issues by December 4, 2025.





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Understanding the Landscape and Cost-Effective Strategies for Meeting Maine's Electric Transmission Infrastructure Needs

Stakeholder Meeting

12/11/25

Lakshmi Alagappan, Senior Partner
Kevin Steinberger, Director
Liz Mettetal, Director
Nate Grady, Associate Director
Ben Joseph, Managing Consultant

Energy+Environmental Economics

Agenda

- Introducing E3 and The Ray
- Scope Overview
- Questions?

Introducing E3 and The Ray

Energy+Environmental Economics

Who is E3?

Technical & Strategic Consulting Specializing in the Energy Transition

130+ full-time consultants

30+ years of deep expertise

Degrees in Engineering + Economics + Mathematics + Public Policy


San Francisco


New York

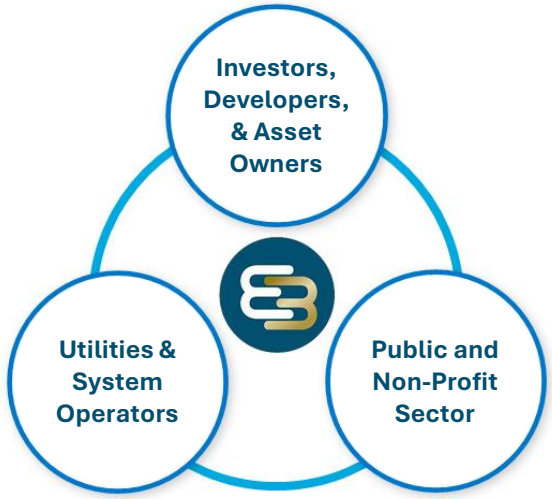

Boston


Calgary


Denver

E3 Clients

350+ projects per year across our diverse client base



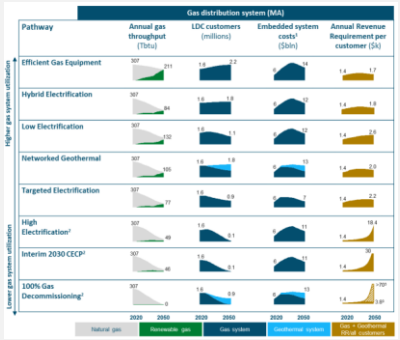
E3 Analytical Focus Areas

- Transmission
- On/Off-Shore Renewables
- Energy Storage
- New and Emerging Technologies
- Electric Vehicles and Infrastructure
- Data Centers and Other Large Loads
- Decarbonized Fuels
- Thermal Generation
- Utilities
- Distributed Generation and Flexible Loads

E3 has extensively modeled the New England Grid for diverse clients

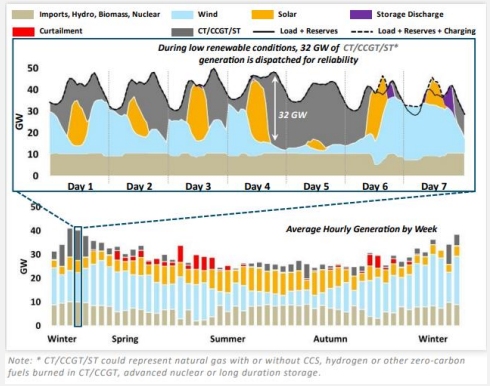
E3 has performed 100+ studies across the Northeast, spanning energy sector & electricity market topics and modeling tools. Selected recent examples include:

Decarbonization pathways analysis, Independent Consultant Report prepared on behalf of Massachusetts LDCs for joint 20-80 proceeding (2022)



*Net Zero New England: Ensuring **Electric Reliability** in Low Carbon Future (2020)*

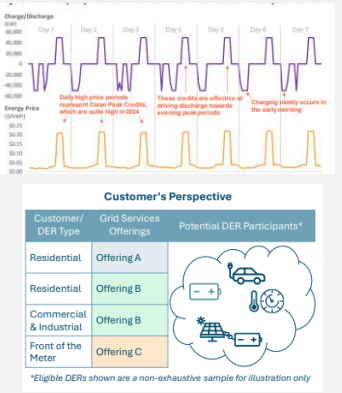
CALPINE



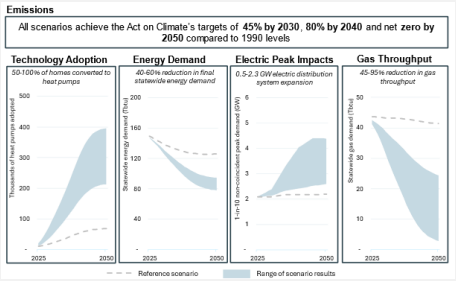
DOER Massachusetts Department of Energy Resources

MASSACHUSETTS CLEAN ENERGY CENTER

*Multiple studies for Massachusetts on DER-topics, including **Storage Market, Long-Duration Storage, Grid Services & Load Management (2022-2025)***



Rhode Island Energy
a PPL company



*Technical study of **economy-wide energy demand forecasts** for Rhode Island Energy's Future of Gas Docket (2024)*

nationalgrid

***Production cost** modeling for National Grid in Interregional Transmission Project Funding Application (2024)*

*Evaluating Costs and Benefits of **Grid Enhancing Technologies** for the Maine Public Utilities Commission (2025)*

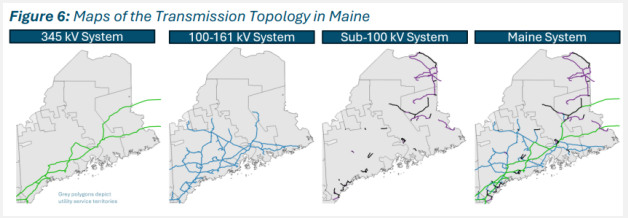


Figure 6: *Maps of the Transmission Topology in Maine*

Economy-wide energy systems | **Bulk grid power planning** | **Grid edge & behind-the-meter**

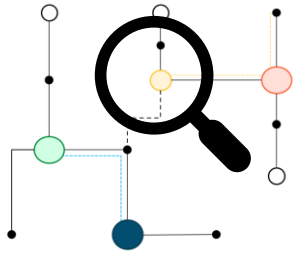
E3's Transmission Expertise

+ E3's brings a holistic system planning approach to transmission needs identification and benefits assessments

- Our transmission practice is rooted in our long history of supporting states and utilities in understanding evolving grid needs under stringent reliability and decarbonization constraints
- We leverage state-of-the-art models and apply our experience across all leading jurisdictions in North America to help clients identify transmission investment needs and prioritize limited funds for the most beneficial projects in their jurisdictions

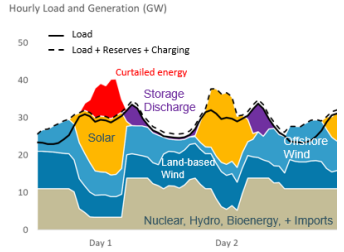
+ Summary of transmission services:

Transmission Needs Identification



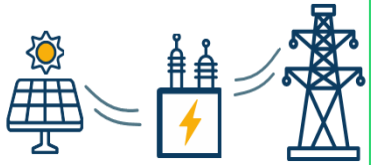
Analysis to identify where in a region transmission investment is most needed

Economic Benefits Assessment



Analyses examining system cost savings* with transmission line additions

Coordinated Grid Planning



Studies to co-optimize investments in both transmission and generation assets

Advanced Transmission Technologies

Evaluation of emerging technologies in the transmission space

Cost Allocation Mechanisms

Methodologies for fairly apportioning costs, and overcoming roadblocks to interregional transmission

Siting and Permitting

Assessment of permitting best practices and process improvement, as well as siting and routing considerations

*Savings often include operational production costs, capacity investments, and system resilience

The Ray

The Ray is a nonprofit organization that reimagines infrastructure to be safer, cleaner, and more productive. We partner with all levels of government to drive innovation in energy and mobility, improving capacity, production, and longevity. Advancing technologies with industry leaders, we're the only nonprofit in the United States using geospatial analysis for right-of-way co-location utilization, research-based practices, and cutting-edge safety systems to improve transportation.

Review will draw from E3 and The Ray's Previous Work

+ E3 and the Ray have completed dozens of studies that are relevant to this work which will allow us to hit the ground running for the review

Scope Overview

Energy+Environmental Economics

Addressing L.D. 197's Requirements

+ **To meet L.D. 197's requirements, E3 will conduct a review of existing transmission planning processes, technology and construction methodologies, and needs analyses**
  - Existing processes for the **siting and permitting** of new and upgraded electric transmission infrastructure, including opportunities for **public engagement** and methods for efficiently meeting permitting or regulatory requirements;
  - **Best practices** for transmission planning, siting, permitting, and community engagement from other states and regions;
  - **Existing analyses** of Maine's current and future transmission needs, including integration of renewable resources and opportunities to enhance system reliability and market efficiency;
  - The potential for use of **existing rights-of-way**, including transportation, electric, and rail corridors, to support transmission co-location and cost-effective infrastructure development; and
  - **Current and emerging transmission technologies** and construction methods, such as advanced conductors, grid-enhancing technologies, strategic undergrounding, and other approaches to increase efficiency, resilience, and affordability.
+ **This review will support the state in developing a comprehensive understanding of the institutional, regulatory, and technical factors shaping Maine's transmission future**

Review Topics

Review materials will cover:

- Relevant Maine statutes and regulations
- Review of state, regional, and federal studies
- Academic literature and industry reports, as well as reports and studies from other jurisdictions, suggesting best practices

E3 Will Review Key Regulations And Statutes

This review will examine how permitting, siting and planning responsibilities are allocated and how coordination occurs among local, state, and regional entities

Initial list of Siting, Permitting, and Planning Regulations for Review:

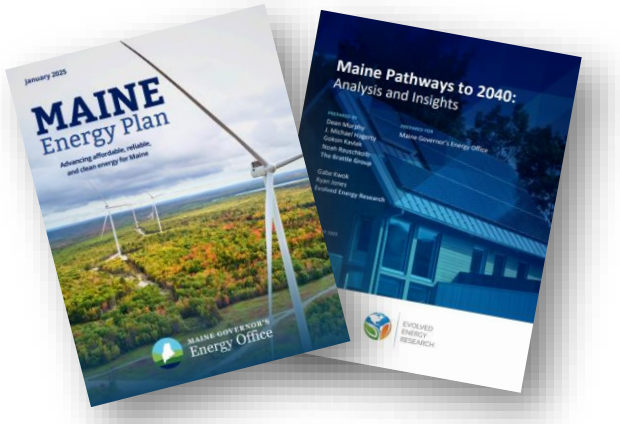
- Relevant sections of Title 35-A of Maine Revised Statuses
- Maine Public Utilities Commission (PUC) Chapter 330 on Siting Certification of High-Impact Transmission Lines
- Permitting authorities housed within the Department of Environmental Protection (DEP) and Department of Transportation (DOT)
- Land Use Planning Commission (LUPC) and its role in siting in unorganized territory
- Relevant Federal Energy Regulatory Commission (FERC) orders governing transmission planning including Order 1920

Question for stakeholder group: are there other key siting, permitting, or transmission planning regulations, or Maine specific reports or resources we should include in this review?

Review State and Regional Energy and Transmission Needs Studies

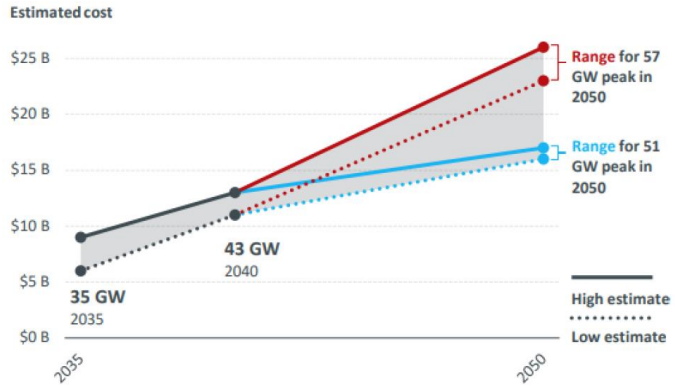
This review will provide critical context for needs and opportunities within the state, and inform recommendations and best practice identification

Maine Pathways to 2040 and Maine Energy Plan



- **Pathways reviews energy and transmission needs**
- **The Energy Plan articulates a clear framework for achieving Maine's policy goals including solutions like**
  - Seeking the most efficient and cost-effective use of existing transmission ROWs and innovative transmission solutions

ISO New England's 2050 Transmission Study*



- **Estimates up to $26 billion of transmission needs by 2050**
- **A substantial portion of future transmission needs are identified in Maine**

Other studies include: Maine Offshore Wind Roadmap, Maine Won't Wait, Northeast States Collaborative's Strategic Action Plan Whitepaper, DOE's National Transmission Needs Study, and more

*Source: https://www.iso-ne.com/static-assets/documents/100008/2024_02_14_pac_2050_transmission_study_final.pdf

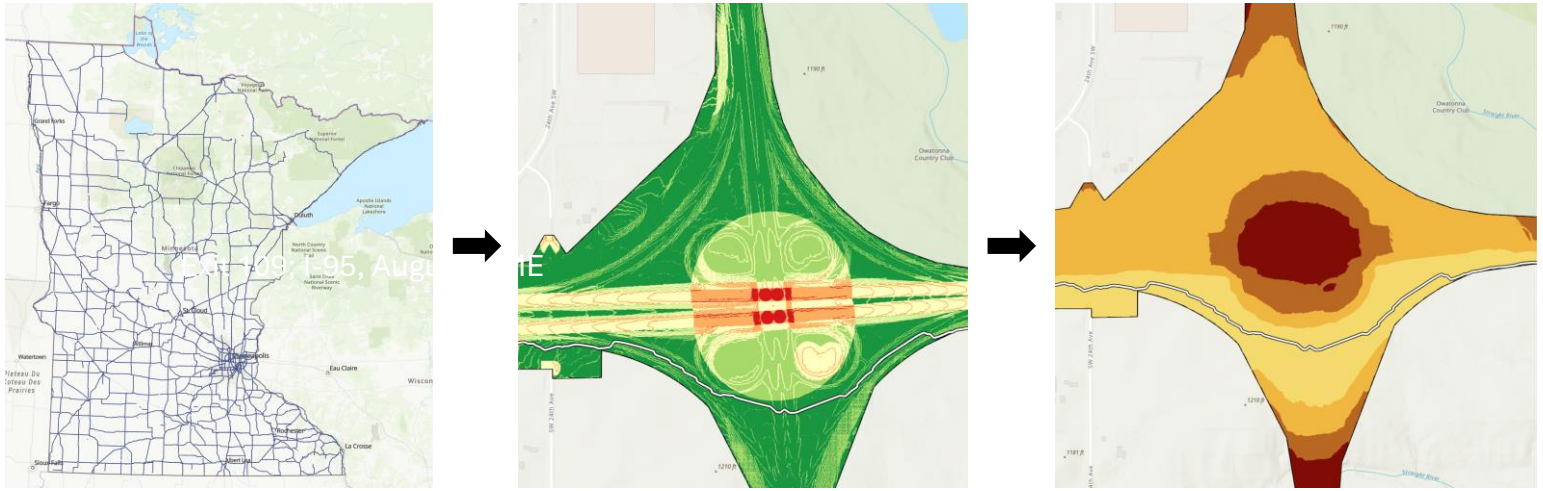
Review of Best Practices and Development Strategies

- **E3 and The Ray will cover academic studies, industry reports, and case studies covering critical topics including:**
  - Community Engagement
  - Use of existing ROWs
  - Co-location with transit and rail ROWs
  - Alternative transmission technologies
  - Strategic undergrounding
  - Enhancements to siting and permitting processes
  - Improvements to planning and cost allocation
  - Strategies for regional transmission coordination
- **This review will inform recommendations, building on our regulatory and grid needs contextual reviews**

Note for stakeholder group: While our teams do have long lists of initial sources to turn to on these topics, we remain very interested in additional suggestions from this group on studies to consider or Maine perspectives to take into account during this review

Right of Way Utilization

- Maine DOT ROW Solar Analysis and Installation
- Minnesota ROW Transmission Work
  - ROW Optimal Path Analysis
  - Working Group Formation
  - State Legislative Changes
- Arizona Energy Promise Task Force Participant



Report Development

- E3 will work with DOER to develop a final report that draws from this review, and provides strategic recommendations on each of these topic areas for Maine to meet its long-term transmission needs
- This report will provide context on Maine's grid, and discuss how transmission investment is needed to support energy reliability and affordability
- Further, it will synthesize the planning and permitting landscape based on our team's comprehensive review, and highlight the role of stakeholder engagement within the existing transmission planning, siting, and permitting processes
- Finally, it will identify best practices across each review topic, drawing on lessons learned from other jurisdictions, and suggest targeted recommendations for Maine

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 (**doer@maine.gov**)*
- **Please stay on topic**

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Next Steps for Engagement

- DOER will conduct future stakeholder group meetings as directed by Resolve 2025, ch. 57.
- DOER anticipates the next stakeholder group meeting in the spring.
- There will be additional opportunities for public input throughout the study.
- The study will be completed by September 1, 2026.

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Thank You

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