



MAINE DEPARTMENT OF
Energy Resources

MAINE ENERGY PLAN WEBINAR ENERGY NEEDS



08.03.26



1 PM



Agenda

- Welcome
- Purpose of Today's Meeting
- Recap and Overview of Maine Energy Plan update process
 - Overview of public input to date
 - Q&A
- Presentation – Forecasting Energy Needs and Options
 - Q&A
- Next Steps





Maine Department of Energy Resources (DOER)

- The Maine Department of Energy Resources (DOER) was established September 24, 2025, replacing the Governor's Energy Office per Public Law 2025, ch. 476 (L.D. 1270).
- DOER is the designated state energy office tasked with a wide range of activities relating to state energy policies, planning, and development.
- By law, DOER is charged with advancing energy affordability, reliability, resilience, and economic development.
- Through planning, policy, and programs, the Department ensures Maine households, businesses, and communities have access to affordable, reliable, and resilient energy while supporting the state's greenhouse gas reduction requirements and renewable energy goals.



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Maine Energy Plan Background

- Per statute, DOER is required, biennially, to prepare and submit an updated State Energy Plan.
- The Plan is informed by in-depth technical analysis and robust stakeholder input.
- DOER will solicit public comments and information through in-person and virtual meetings, a formal Request for Information, surveys, and on draft documents.
- The Plan addresses a set of questions identified in statute and identifies objectives, strategies, and actions to *ensure affordable, reliable, and increasingly clean energy* for Maine.
- DOER released the latest Energy Plan in January 2025.
- The next Energy Plan update will be delivered to the Governor and the Legislature in January 2027.



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Maine's Next Energy Plan

Advancing Affordable, Reliable, and Cleaner Energy for All Maine People



2026 Timeline





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Maine's Next Energy Plan

Advancing Affordable, Reliable, and Cleaner Energy for All Maine People



2026 Timeline



Kickoff Webinar

Request for
Information

Public Survey
(ongoing)

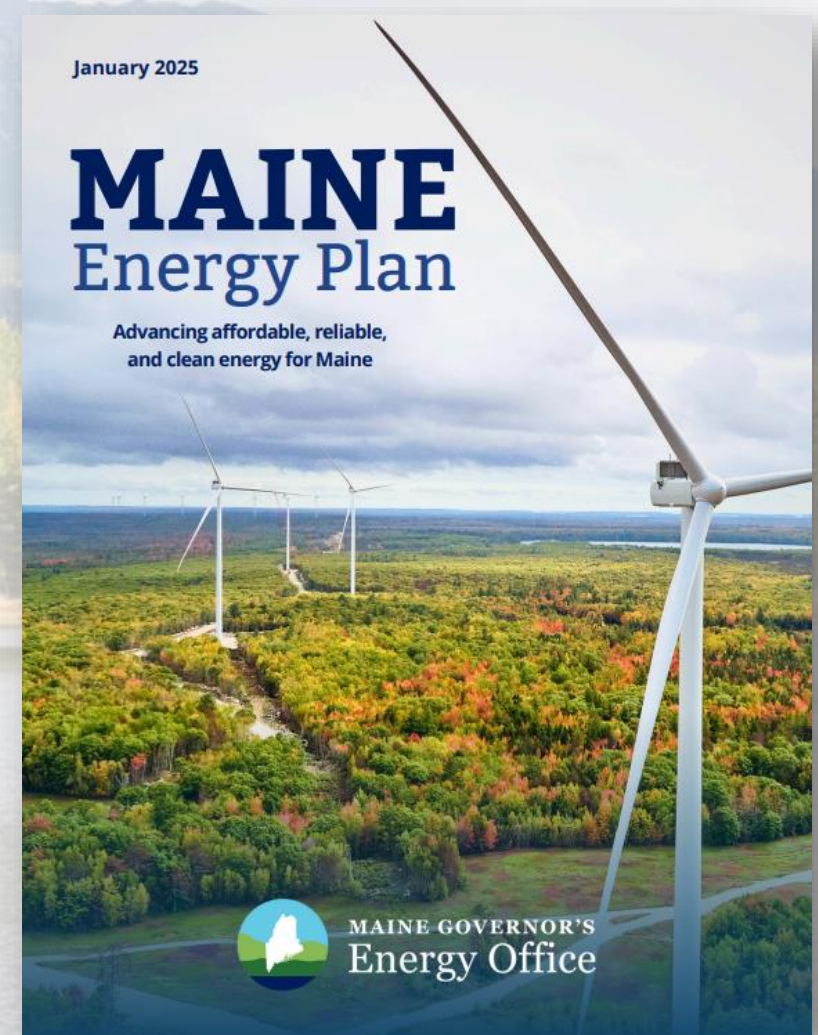
Today's
Webinar

Public Engagement and Input

Maine's Energy Plan advances affordable, reliable, and cleaner energy for Maine

Objectives

- ☐ Deliver Affordable Energy for Maine People and Businesses
- ☐ Ensure Maine's Energy Systems are Reliable and Resilient in the Face of Growing Challenges
- ☐ Responsibly Advance Clean Energy
- ☐ Deploy Efficient Technologies to Reduce Energy Costs
- ☐ Expand Clean Energy Career Opportunities for Maine People and Advance Innovation



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Request for Information

- DOER issued a Request for Information on March 25, 2026.
 - The RFI sought feedback on changes in Maine's energy landscape since the 2025 Energy Plan, opportunities to update existing strategies and objectives, and priorities for the next plan.
 - More than thirty responses were provided by a range of individuals, companies, and organizations.
 - All responses are available online at <https://www.maine.gov/energy/plan>

Responses submitted by:

- A Climate to Thrive
- Alliance for Sears Island
- Becky Bartovics
- Brookfield Renewable
- Central Maine Power
- Chelsea Moody
- Chris Spychalski
- Conservation Law Foundation
- CTC Global
- Efficiency Maine Trust
- Fran Turner
- International Brotherhood of Electrical Workers
- Islesboro Islands Trust
- Kim and Peter Yesis
- Lisa Buck
- Maine Audubon
- Maine Climate Action Now
- Maine Climate Action Now, Maine Youth for Climate Justice, Natural Resources Council of Maine, and Maine Labor Climate Council jointly
- Maine Coast Fishermen's Association
- Maine Connectivity Authority
- Maine Labor Climate Council
- Maine Renewable Energy Association
- National Grid Ventures
- Natural Resources Council of Maine
- New England Power Generators Association
- Office of the Public Advocate
- Paula Carter
- PowerOptions
- ReVision Energy
- Shred Electric
- Sierra Club Maine
- Steffes, LLC
- Steven Ingalls
- Summit Utilities
- The Nature Conservancy in Maine
- Versant Power
- Yeman Company LLC



Initial themes from public input to date

Objective A: Deliver Affordable Energy for Maine People and Businesses

- Highlighting **energy burden** as an important metric to quantify and understand affordability for households
- Emphasizing **energy costs as key to Maine's economic development** and business environment
- Encouraging opportunities to **lower costs of deployment**, from consumer devices and building upgrades to infrastructure at all scales
- Identifying the impact of **changes in federal policy and tax credits** for consumers, clean energy, and Direct Pay recipients
- Encouraging mechanisms to enable households and businesses to be **compensated for grid services** including load flexibility and other value delivered
- Using the Energy Plan to **align programs and initiatives** across public and private sector actors
- Conducting transparent, rigorous **analysis to validate and inform** energy policies, programs, investments, procurements and more
- Identifying concerns and potential opportunities that may accompany **large loads**

*Initial themes identified from responses submitted to Maine Department of Energy Resources Request for Information published March 26, 2026. Themes summarized here are not exhaustive and are not intended to be reflective of the totality of information received or the views of any individual respondent.
All responses are available online at <https://www.maine.gov/energy/plan>*



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Initial themes from public input to date

Objective B: Ensure Maine's Energy Systems are Reliable and Resilient in the Face of Growing Challenges

- Emphasizing **increasing storm events and changing weather patterns** posing risks for vital infrastructure
- Identifying the importance of both **maintaining existing and deploying new** energy sources, particularly clean energy
- Ensuring sufficient supply to meet **rising electricity demand**
- Noting **supply chain and workforce** vulnerabilities particularly in rural communities
- Enthusiasm for technologies and approaches including **battery storage, virtual power plants, and non-wires alternatives** to build local resilience
- Emerging and evolving **cybersecurity** risks

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Initial themes from public input to date

Objective C: Responsibly Advance Clean Energy

- Emphasizing the importance of the plan **supporting achievement of greenhouse gas reduction** efforts
- Varying perspectives on future new generation sources including **offshore wind, advanced nuclear, and geothermal**, as well as the full range of existing sources
- Expressing a range of perspectives on **siting concerns**, including for new generation, transmission, port infrastructure, and more
- Noting **environmental and safety impacts of various energy sources**, including combustion and explosion risks and fuel spills
- Suggesting steps to **increase public understanding** of benefits, costs, risks, and opportunities
- Encouraging a range of actions to **reduce soft costs** to facilitate cost-effective and timely deployment

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Initial themes from public input to date

Objective D: Deploy Efficient Technologies to Reduce Energy Costs

- Emphasizing the **lowest-cost energy is energy not needed**, and expressing support for energy efficiency, conservation, and demand management
- Identifying various tools to enable enhanced **grid utilization** and otherwise **maximize use of existing infrastructure**
- Highlighting **advanced conductors and grid-enhancing technologies** as potential lower-cost and faster-to-deploy options to expand electric grid capacity
- Emphasizing **creating an environment to support efficiency** by identifying and addressing barriers
- Enthusiasm for supporting initiatives such as **on-bill financing, energy coaching or navigation, expanded auditing**, and other measures

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Initial themes from public input to date

Objective E: Expand Clean Energy Career Opportunities for Maine People and Advance Innovation

- Highlighting the importance of, and uplifting examples of, **pathways into energy careers** for Maine people
- Emphasizing **workforce needs as a priority** to enable achievement of other objectives
- Supporting training, skills, and **family-sustaining wages, benefits, and advancement opportunities** for energy workers
- Expressing support for **recent and ongoing initiatives** to support these goals

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Initial themes from public input to date

Recommendations for engaging the public in updating the Energy Plan

- Encouraging use of **both in-person and online or hybrid meetings** to provide opportunities for attendance from across Maine
- Scheduling events both **during and outside of normal working hours** to increase access and participation
- Providing **recordings of meetings and presentations** where appropriate and possible
- **Identifying where public input is most helpful and impactful**, as well as what decisions can't be changed
- Explain **how public input impacted the final plan**

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Initial themes from public input to date

Themes cutting across multiple Objectives

- **Uncertainty, particularly driven by federal policy and global events** including conflict in Ukraine and the Middle East, as well as changes in economic conditions nationally
- **Changing federal landscape**, from tax credits to federal grants, tariffs, permitting, and foreign policy
- **Wide-ranging perspectives on existing state energy laws and policies**, including electric sector restructuring (i.e. prohibition on utility ownership of generation), utility ownership of storage, various aspects of renewable and clean energy standards, procurement roles and approaches.
 - Additionally, outside direct energy policy but related policies including environmental protection and standards, workforce and labor standards, and more
- Supporting and **enhancing alignment and coordination among state and quasi-state agencies** relating to energy topics

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Maine Energy Needs and Procurement Options

UPDATED MODELING RESULTS AND PROCUREMENT PLANNING CONSIDERATIONS

THE BRATTLE GROUP

EVOLVED ENERGY RESEARCH

AUGUST 3, 2026



EVOLVED
ENERGY
RESEARCH



Table of Contents

1

Study Overview

2

Analytical Approach

3

Modeling Insights

4

Procurement Considerations

5

Next Steps

Table of Contents

1

Study Overview

2

Analytical Approach

3

Modeling Insights

4

Procurement Considerations

5

Next Steps

Purpose and Scope

Purpose

- Develop forecasts of Maine's future energy needs.
- Develop a framework to guide DOER's future energy procurements, with a focus on reducing costs, managing uncertainty, and supporting Maine's policy goals.
- Inform energy strategies and recommendations for Maine's 2027 Energy Plan.

Scope

- Focuses on electricity system planning and procurement decisions.
- Accounts for economy-wide energy needs using a range of future uncertainties

Timeline

Purpose of today's webinar: Share initial modeling results and procurement planning considerations. Gather feedback to inform the next phase of the analysis and the development of the 2027 Maine Energy Plan.

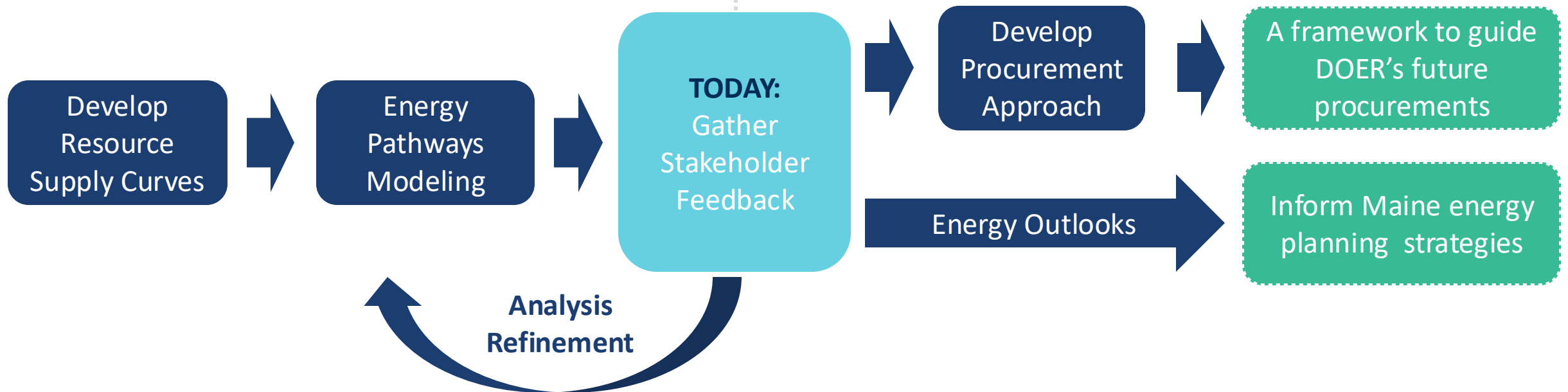


Table of Contents

1

Study Overview

2

Analytical Approach

3

Modeling Insights

4

Procurement Considerations

5

Next Steps

Approach overview

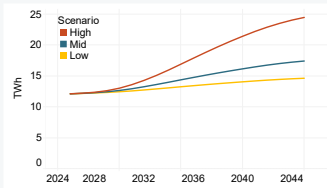
Linked models translate demand and geospatial inputs into a least-cost electricity portfolio and a procurement strategy.

INPUTS

EnergyPATHWAYS

DEMAND MODEL

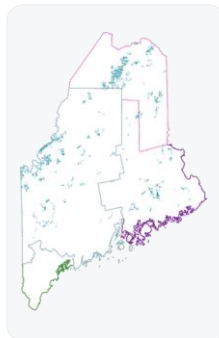
Demand-side scenario planning tool. Projects future demand from technology-uptake assumptions using a stock-turnover model.



Geospatial analysis

Maps the cost and potential for new electricity options across Maine's planning zones.

SPATIAL INPUT



SYSTEM MODEL

ELECTRICITY SYSTEM MODEL

RIO

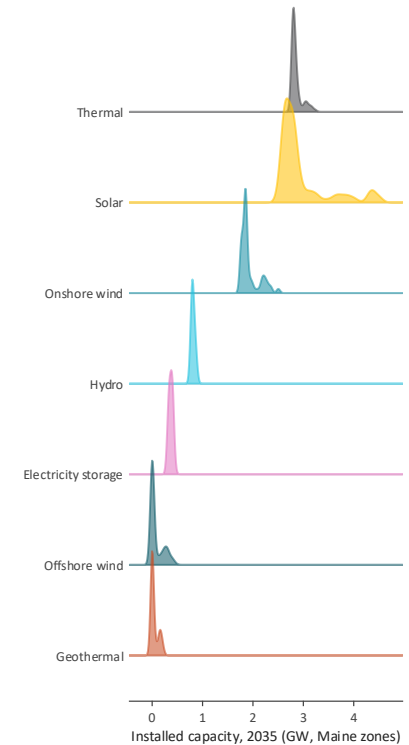
Capacity-expansion and operations model. Co-optimizes generation and transmission expansion across 5 Maine zones and 9 regional zones under existing state policy.

The model simulates REC markets across New England to understand where and when different resources could get built.

OUTCOME

Maine electricity portfolios

Distinct build-outs with near-identical cost



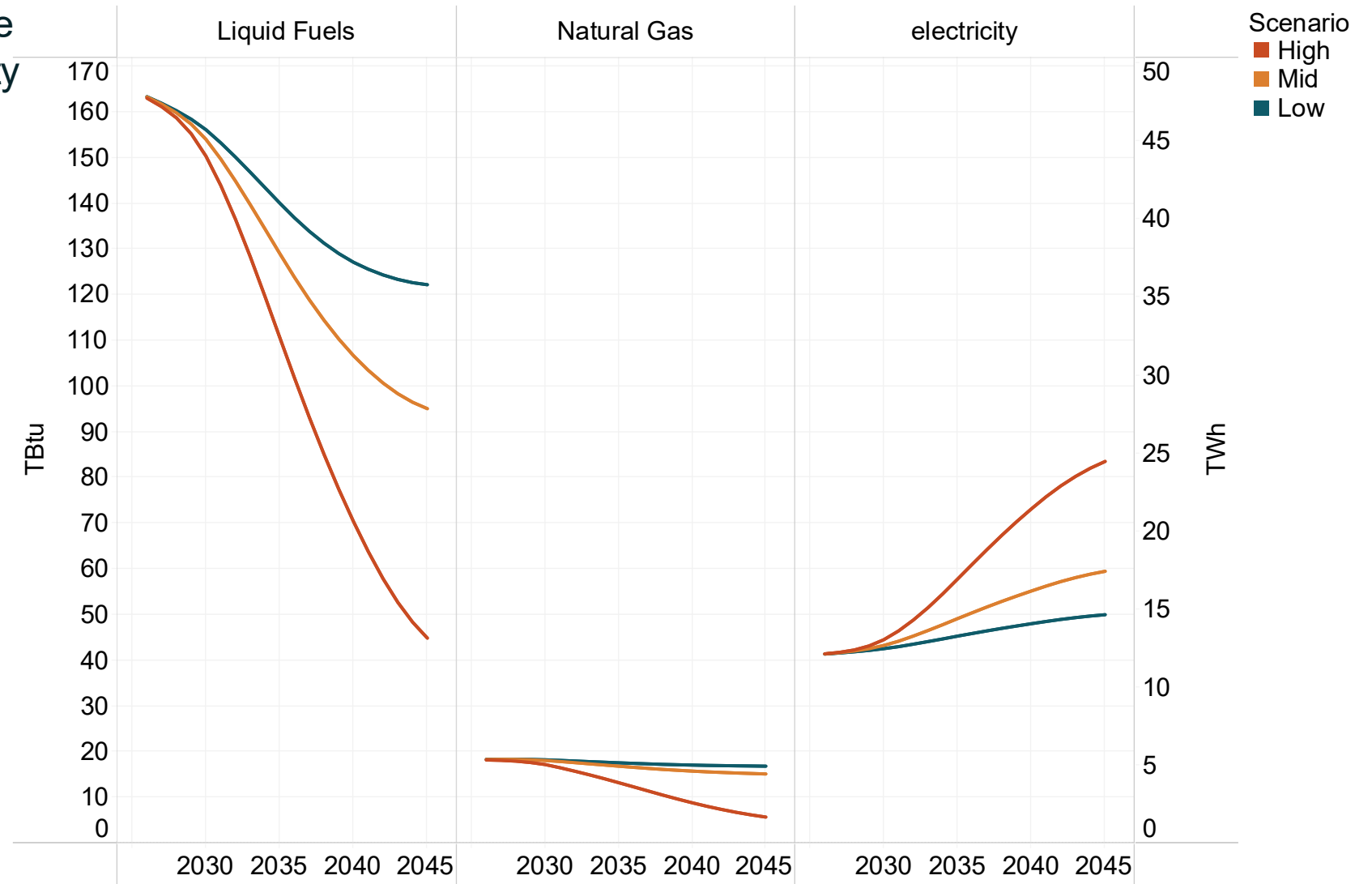
Procurement strategy

Recommended build-out & timing

Energy demand scenarios

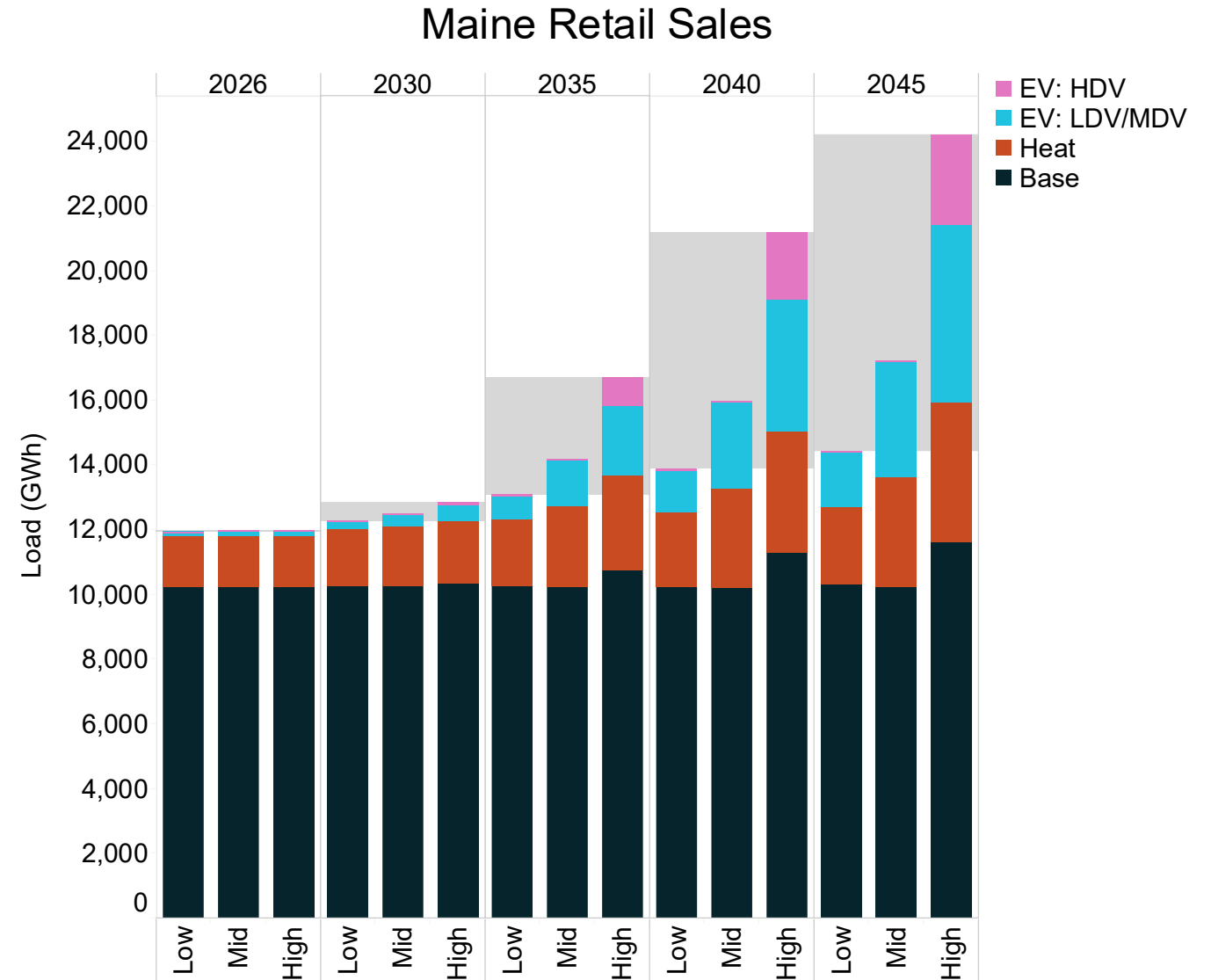
- Three scenarios bound the range of possible electricity load growth

- Low has low electrification and is based on the U.S. Annual Energy Outlook (AEO)
- Mid has expected electrification based on current policy and is consistent with ISO-NE forecasts
- High has rapid electrification and is consistent with Maine's 2050 gross emissions targets

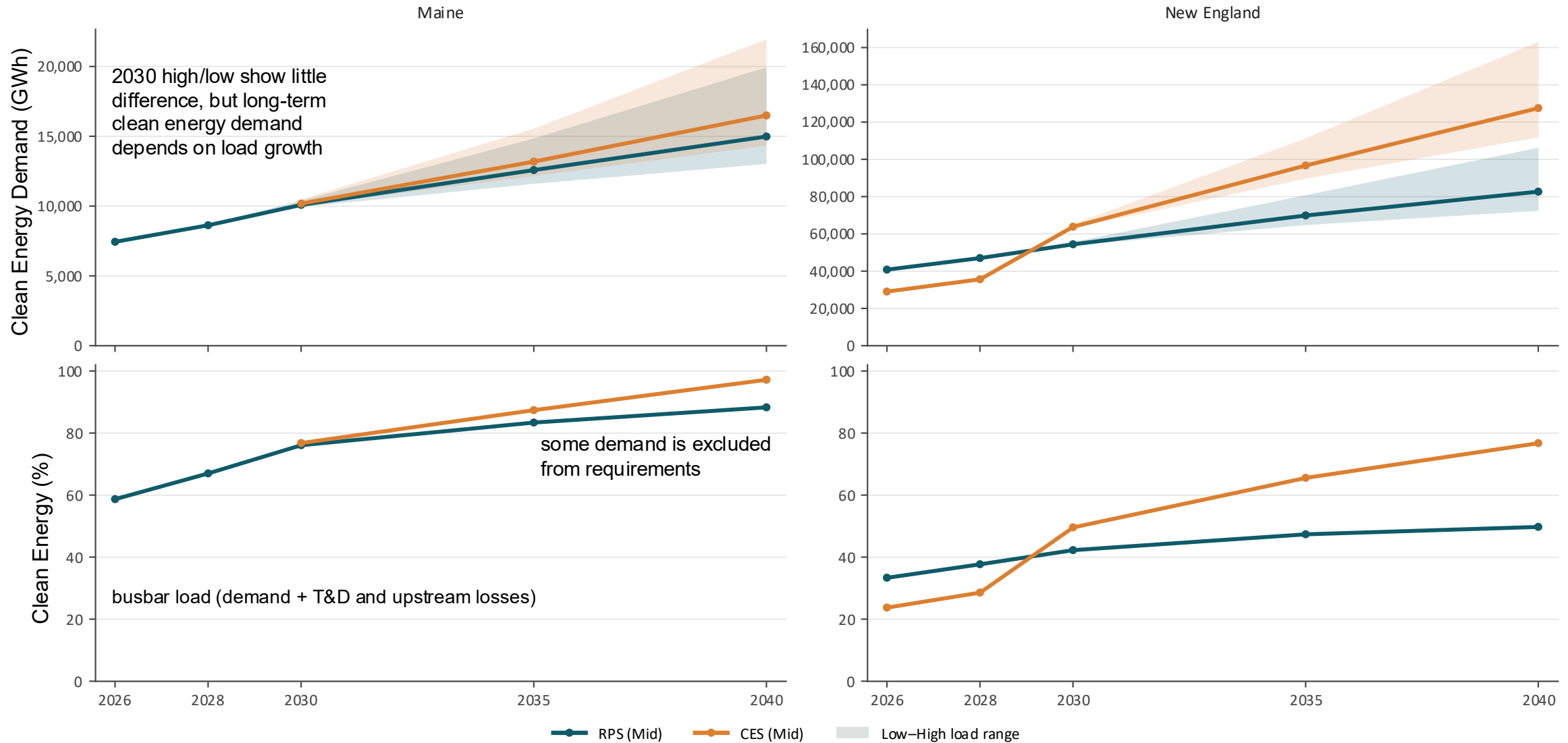


Electricity growth drivers

- Near-term (2026-2030) load growth has a narrow spread but uncertainty around multiple factors grows in the 2030s
- Vehicle electrification is the largest contributor of load growth on an annual basis
- Electric heavy-duty vehicles are less mature than light-duty and the timing of electrification remains uncertain
- Building heating electrification energy is lower but concentrated in fewer hours

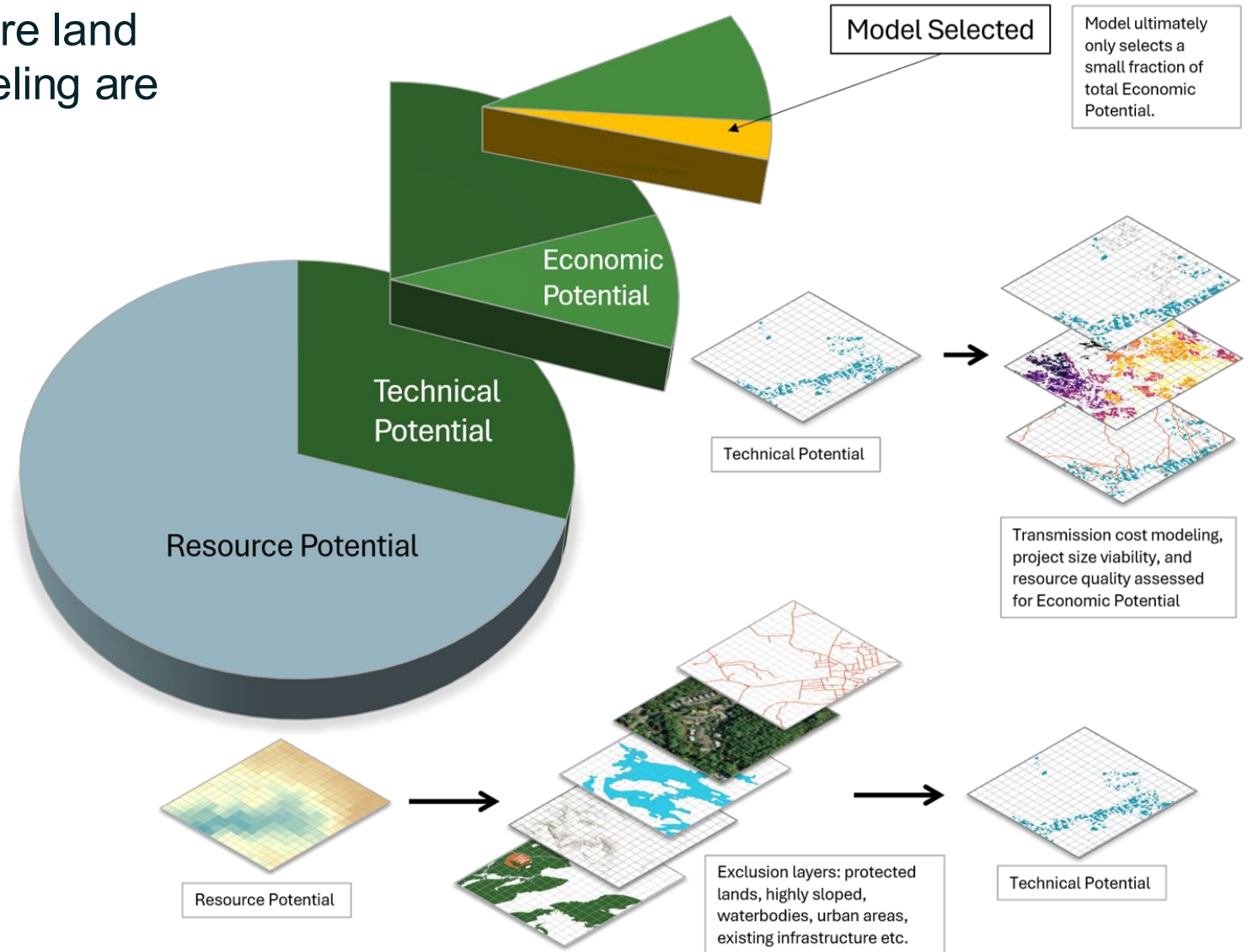


Regional clean energy demand



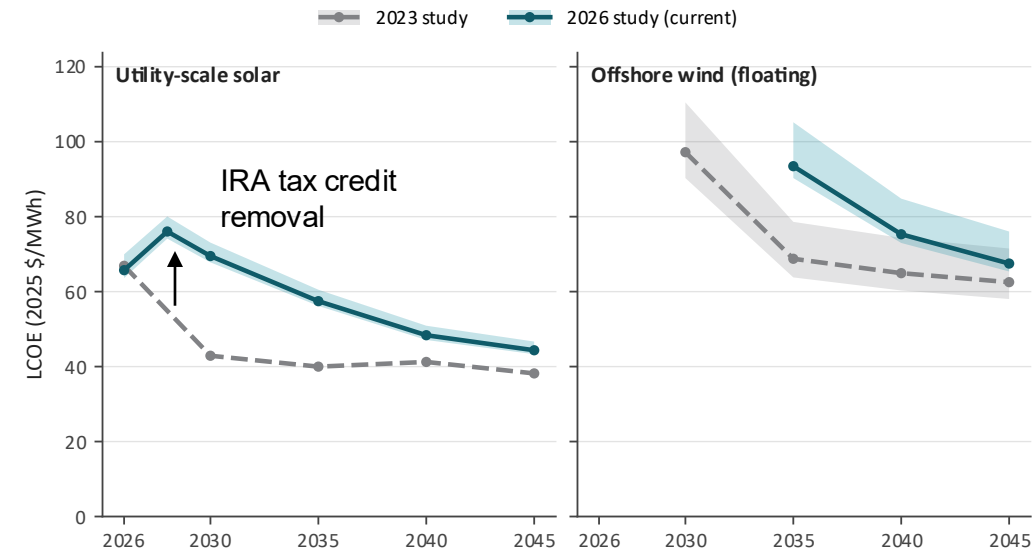
Resource Supply Curves

- **Resource supply curves** ensure land constraints represented in modeling are grounded in available data.
- The goal is to broadly understand the cost and potential of different resource types in different areas of the state. By studying alternative development pathways, the modeling can better understand the implications for affordability, reliability, and land use.



Capital cost increases have been significant across technologies

- Three primary factors have resulted in a near-term cost increase in generation across the U.S.:
 - OBBA eliminated tax credits for wind and solar (kept for nuclear, geothermal, and storage).
 - Higher interest rates have increased project financing cost.
 - Data center boom has resulted in a supply-crunch for power equipment of all types (transformers, wires, labor).
- Generally New England competes for the same equipment, EPC labor, and developer attention as data-center-driven markets.



Gas Power Plant Cost vs. Operating Year

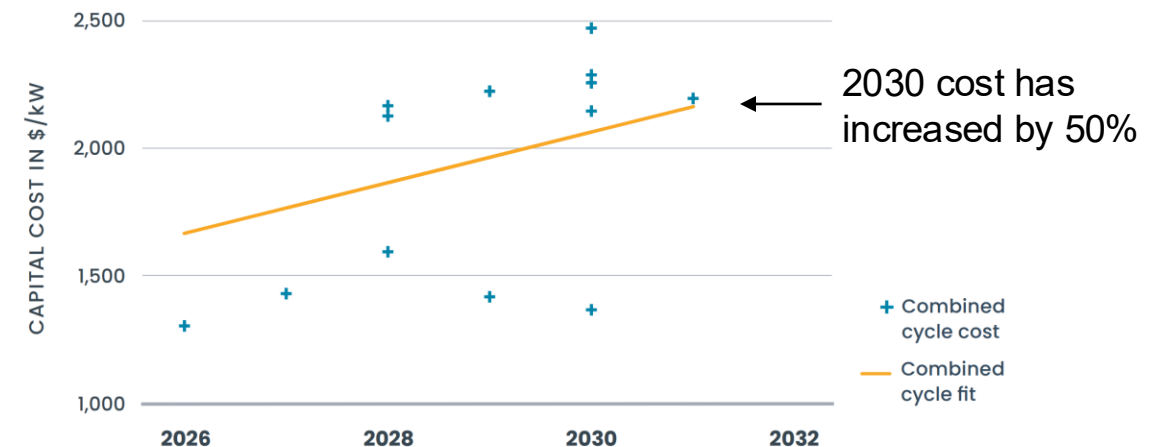


Table of Contents

1

Study Overview

2

Analytical Approach

3

Modeling Insights

4

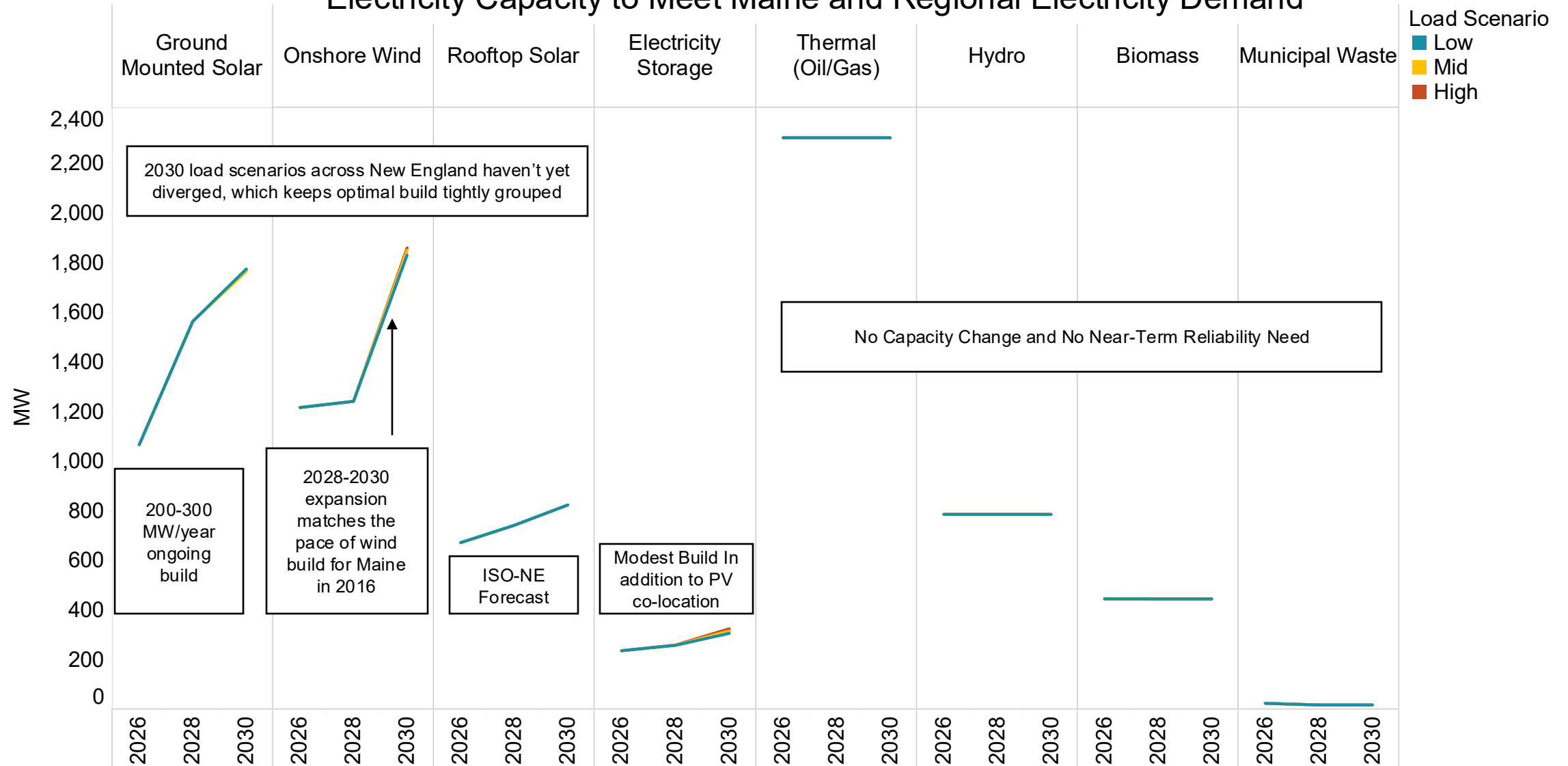
Procurement Considerations

5

Next Steps

2030 Installed Capacity for Maine

Electricity Capacity to Meet Maine and Regional Electricity Demand



Ensemble exploration of Maine

Exploration Dimensions

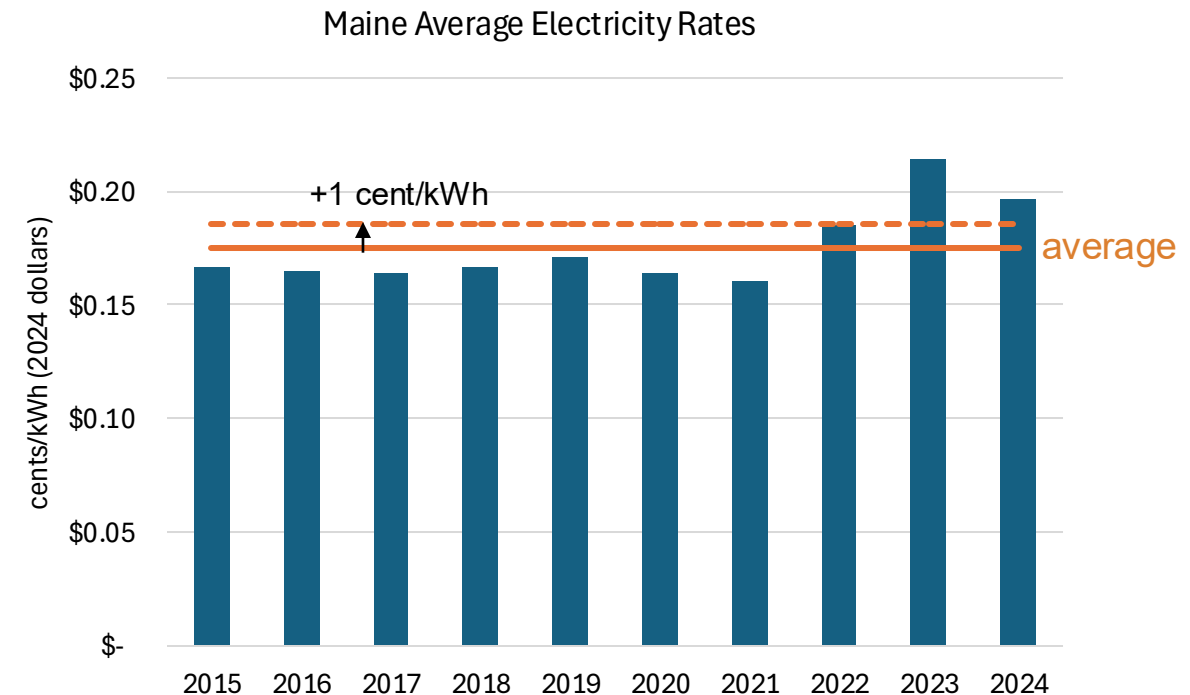
- Onshore wind
- Offshore wind
- Solar
- Hydro
- Geothermal
- Nuclear
- Thermal (existing & new)
- Canadian interties

Why not just plan for the single least-cost scenario?

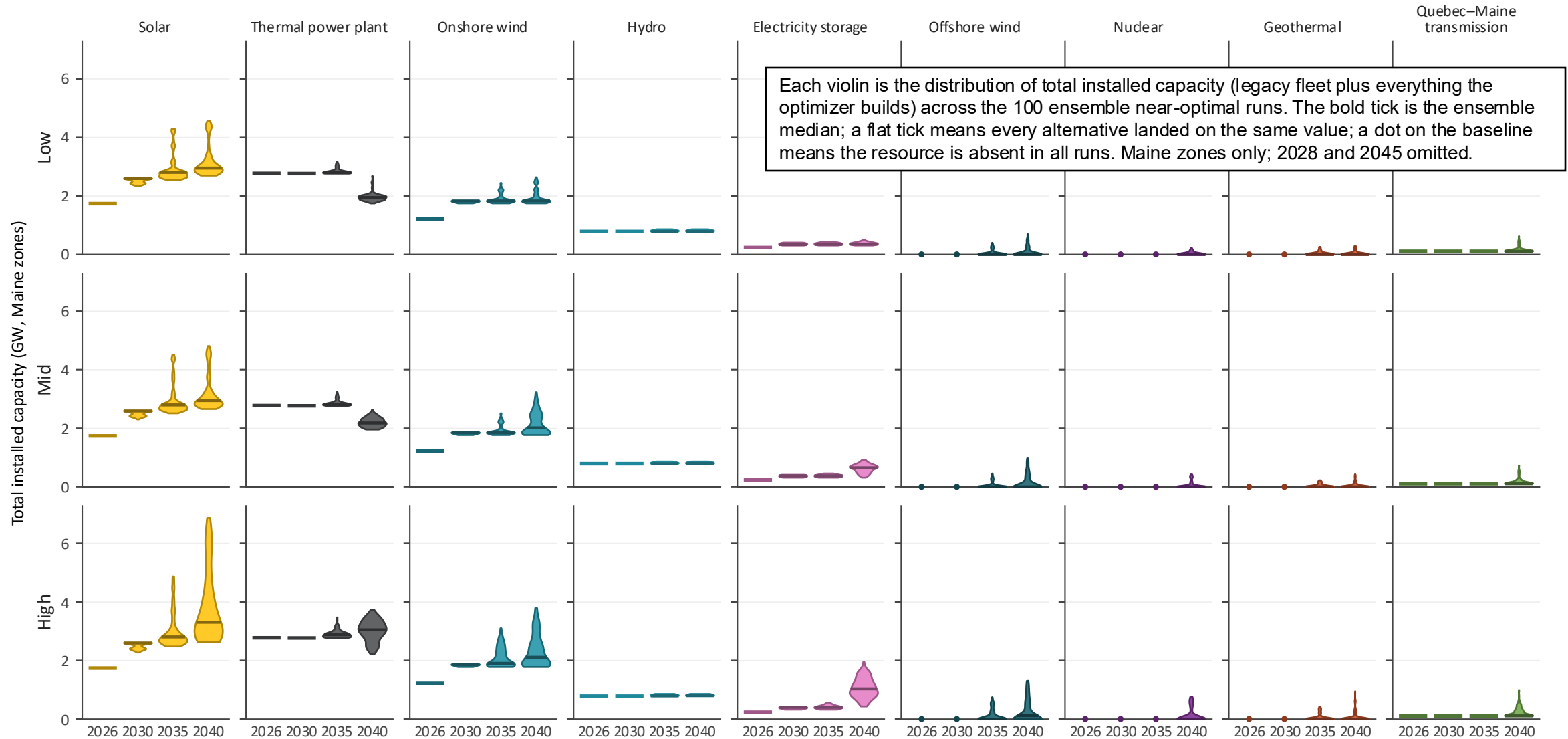
Because "least cost" is a moving target. Small changes in fuel prices, technology costs, or federal policy could make any one of them the true least-cost path. And because an energy model is an approximation of reality that cannot capture every cost or tradeoff, exploring the near-optimal space lets other factors and preferences inform the choice. The goal is the best energy system for Maine, with cost a very important part of that judgment.

Near-Optimal Definition

Real electricity expenditures have averaged \$0.18/kWh over the last decade. The mean absolute deviation is approximately 1-cent per kWh; this is used to anchor final model year cost increases when exploring different infrastructure pathways.



Long-term capacity portfolios for Maine



Illustrating resource tradeoffs; high electrification

Within the constraint of affordability there are myriad of options we can choose. But this also includes tradeoffs, leaning away from one type of resource means leaning towards another.

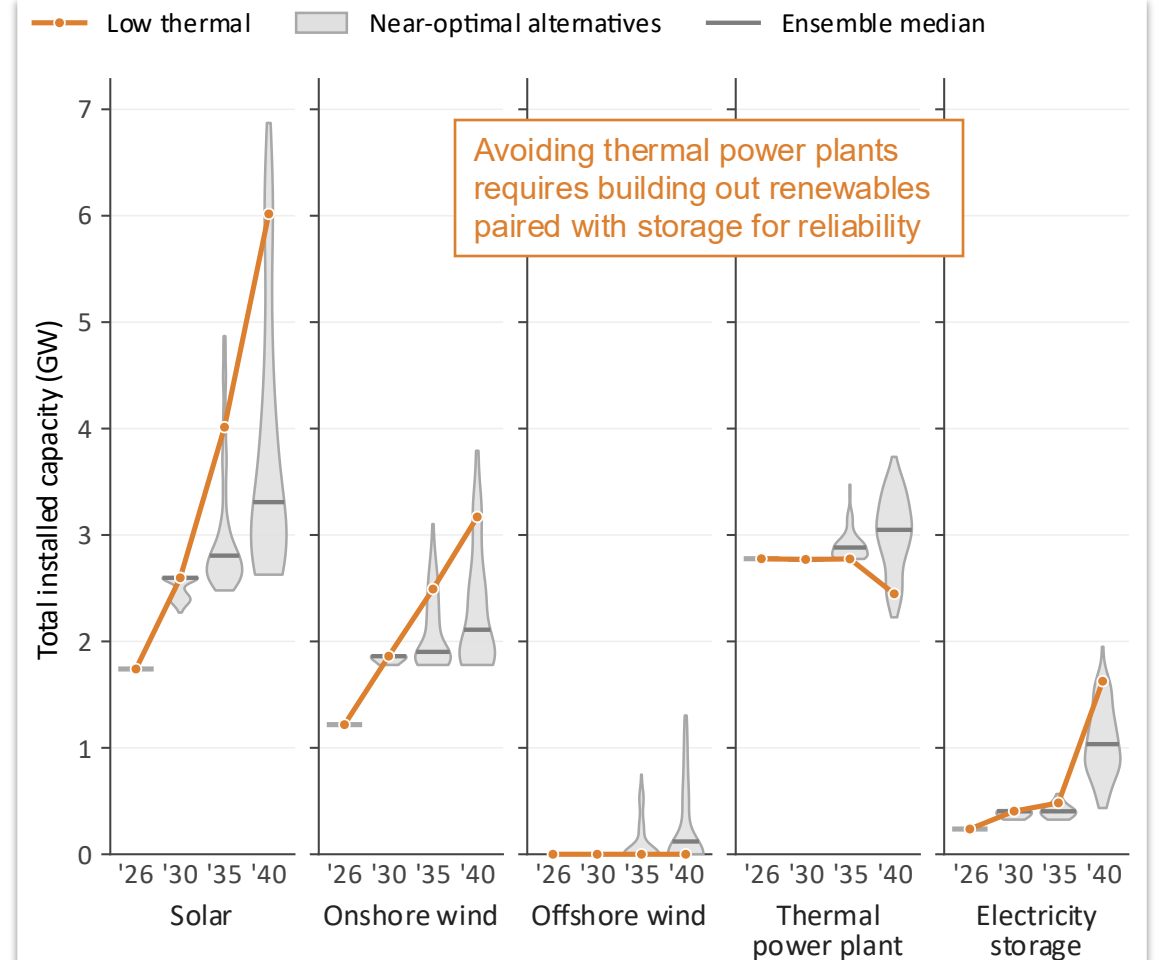
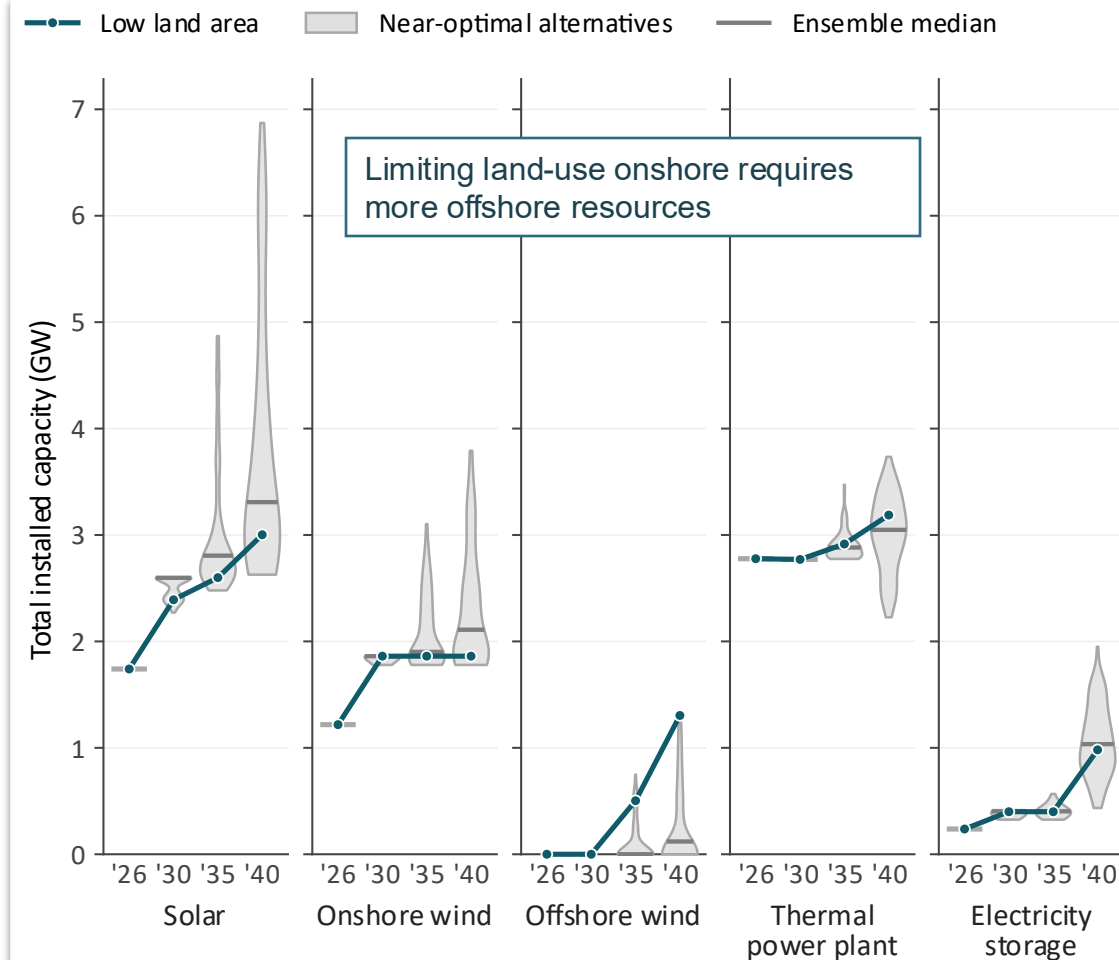


Table of Contents

1

Study Overview

2

Analytical Approach

3

Modeling Insights

4

Observations and Procurement Considerations

5

Next Steps

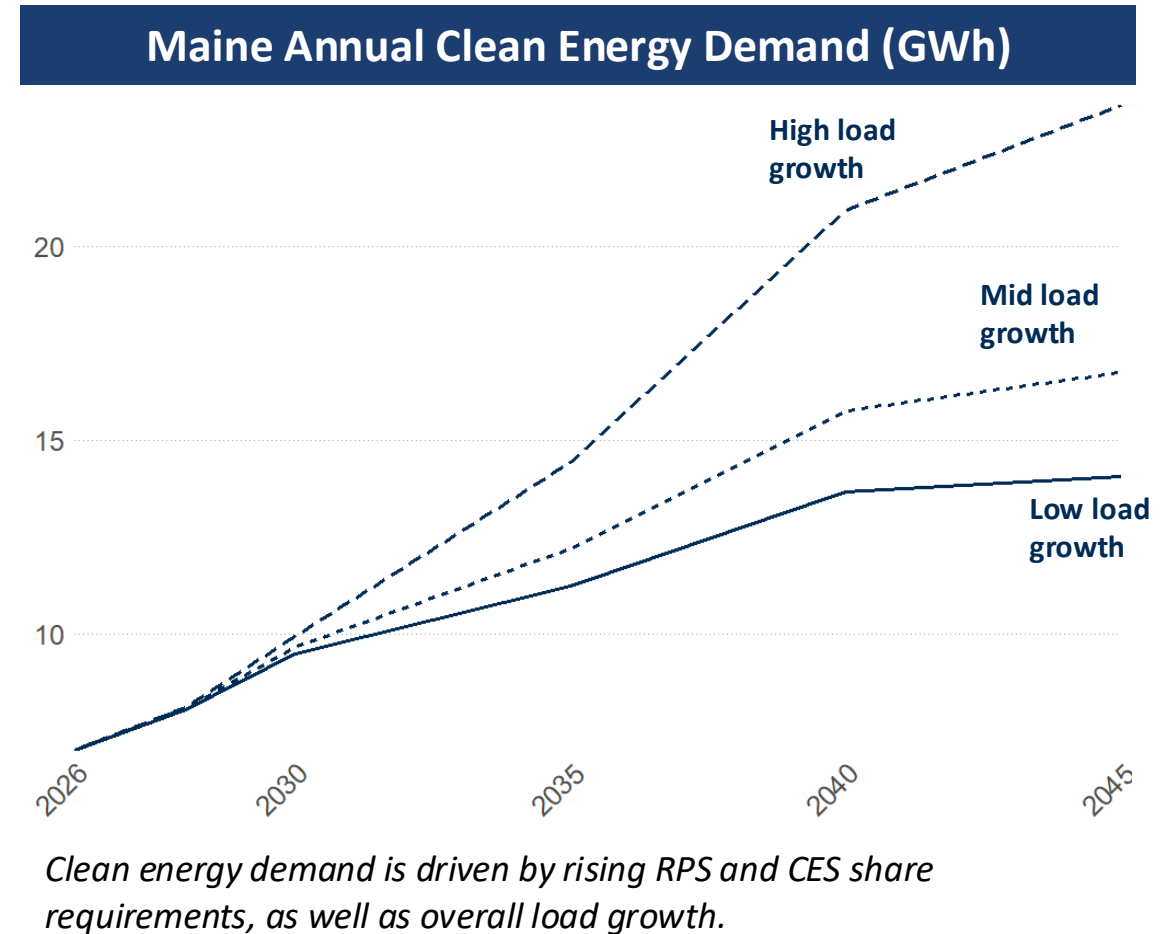
Clean Energy Requirements – Observations

NEAR-TERM (TO 2030)

- **Total clean energy needs are driven by RPS & CES growth** more than by load growth. Near-term growth is moderate and only modestly uncertain.
- Land-based wind and solar are the primary generation technologies available now. They tend to have shorter lead times and lower costs.
- The balance between wind and solar procurements is TBD.

LONGER-TERM (BEYOND 2030)

- Demand uncertainty becomes a more important driver, as electrification and economic growth drive overall energy needs.
- But load growth uncertainty resolves over time, creating an opportunity to revise procurement plans for distant years.



Resource Portfolio Mix

NEAR-TERM OBSERVATIONS

- Current conditions favor mature, shorter-lead-time resources (**solar**, **land-based wind**, **battery storage**) that are commercially available; these are also most cost-effective now.
- Across very different long-term portfolios, most additions through 2035 are wind, solar and small amounts of storage (perhaps including some offshore wind, if available)
- The near-term mix of wind vs solar is yet to be determined. But since more of both will likely be needed, there is flexibility regarding the timing of when they are procured.

LONGER-TERM OBSERVATIONS

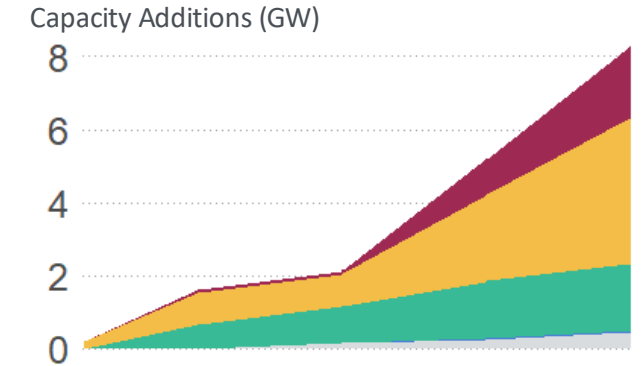
- Several additional clean resource types (**offshore wind**, **new baseload nuclear** or **geothermal**), may become economically competitive as their costs, technological readiness, and market conditions evolve.
- There is flexibility to pursue these other resources in the future, if conditions warrant.

Alternative Futures Based on Technology Cost and Availability (High Load Growth Scenario)

Base Case

Technology costs & availability stay consistent with present-day.

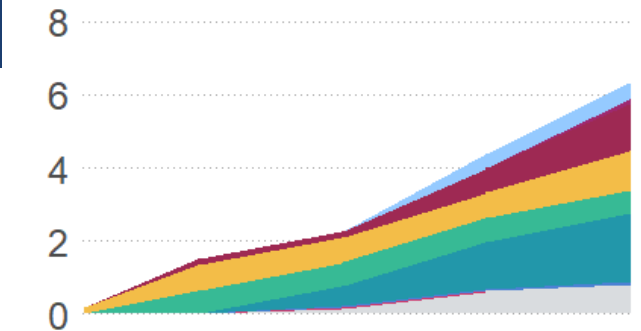
Continue procurement of solar, wind, storage resources with limited thermal capacity for balancing.



Offshore Wind Breakthrough

Offshore wind costs decline, permitting barriers are overcome.

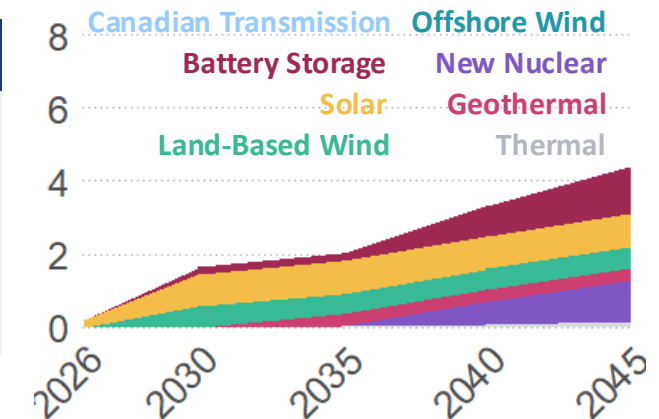
Initiate a procurement open to offshore wind and coordinate transmission planning.



Clean Firm Becomes Competitive

Nuclear and/or geothermal costs decline; development barriers reduced.

Consider a targeted procurement, potentially with coordinated regional partnership.



Issues to be Considered in Developing a Procurement Strategy

NEAR-TERM

- Short-term REC prices typically don't provide the long-term certainty needed to finance new renewables; a long-term contract is usually required.
- How should procurements be structured? Consider contracting structures that **balance supplier revenue certainty with customer cost, volatility and risk.**
 - Procure RECs only, vs. also energy and/or capacity.
 - Contract duration and structure (e.g., fixed price, contracts for differences)
 - Resource-specific procurements (e.g., separate wind and solar procurements) vs. technology-neutral
- How to **drive down the cost of in-state renewable development** as much as possible – e.g., by reducing permitting, siting, and interconnection barriers.

LONGER-TERM

- Procurement drivers and preferences may change as technology cost and performance, and regional supply, demand, and policy conditions evolve.
- Coordinate with neighboring jurisdictions to maximize benefits, facilitate cost-effective development, and capture scale economies.

Table of Contents

1

Study Overview

2

Analytical Approach

3

Modeling Insights

4

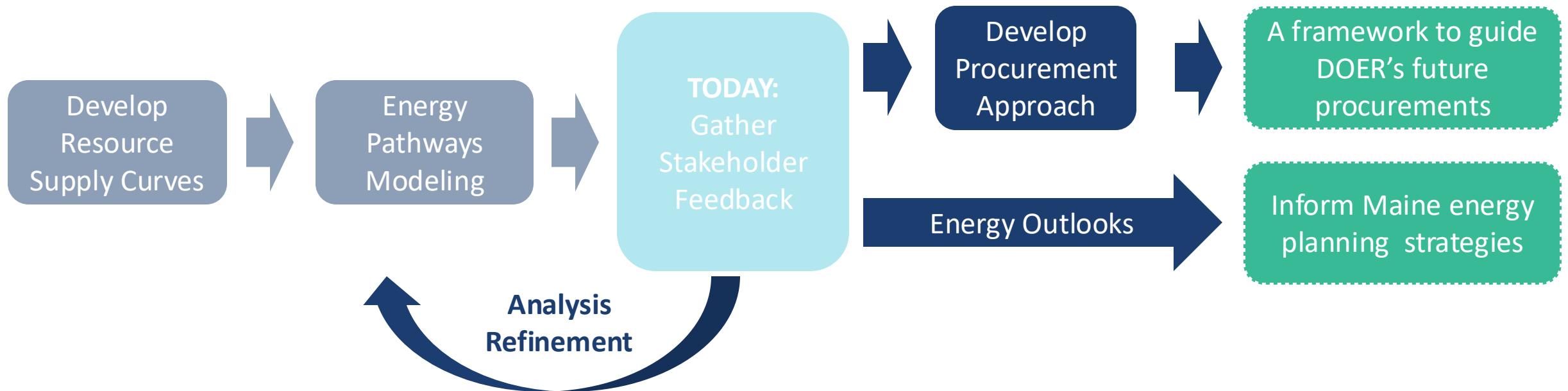
Procurement Considerations

5

Next Steps

Timeline

Next Steps Include: Incorporating feedback from today's webinar into the modeling and using the refined results to develop the procurement approach.





Next Steps

Attend a public workshop in Portland, Presque Isle, or Bangor

- **Portland**: August 19, 2026, 5:30 – 7:30 p.m. at Glickman Family Library, University Events Room
- **Presque Isle**: August 24, 2026, 5:30 – 7:30 p.m. at Mark and Emily Turner Memorial Library
- **Bangor**: August 25, 2026, 5:30 – 7:30 p.m. at Bangor Public Library

Share your feedback using the **online survey**

- *DOER will continuously review responses and use them to inform development of the Energy Plan*

Request a meeting or a presentation with DOER staff

- *DOER will endeavor to reach as many interested groups as possible*

Sign up for email updates to stay informed about the 2027 Energy Plan

- *Future public meetings to provide updates, share draft information, and obtain additional feedback will be announced by email*



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Thank You

doer@maine.gov

www.maine.gov/energy

**Sign up for the
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newsletter to
receive
updates on the
Maine Energy
Plan**

