

Maine Data Center Advisory Council Meeting Energy Focus

July 9, 2026 | 9:30am - 12pm



MAINE DEPARTMENT OF
Energy Resources



Maine Department of
Environmental Protection



Meeting Agenda

- Background and Council process
- Recap of previous meeting and survey
- Energy-focused panel discussion:
 - Lawrence Berkely National Laboratory
 - Department of Energy Resources
 - Maine Public Utilities Commission
 - ISO-New England
- Council discussion and public input opportunities
- Next Steps



Maine Data Center Advisory Council Executive Order



Directives Guiding the Council's Work:

- Provide strategic input, facilitate coordinated state planning, and evaluate policy tools to **address large-scale data center opportunities and related benefits and risks** to Maine.
- Evaluate issues related to large-scale data centers located or proposed in Maine, with the goals of:
 - **Minimizing environmental impacts**
 - **Protecting ratepayers and electric grid reliability**
 - **Enabling responsible economic development**
- Submit a final report with **findings and recommendations**, including any proposed legislation, to the Governor and the Legislature by January 29, 2027.



STATE OF MAINE
**Data Center
Advisory Council**

Proposed Roadmap & Council Workflow

Key Topics
(to be discussed throughout)

Environmental
Impacts

Ratepayer and
Grid Impacts

Economic and
Community
Development

Council Workflow

Existing Safeguards

Risks and
Opportunities

Best Practices

Policy
Considerations

Draft
Recommendations

June-August

September-December

Public engagement will inform the work throughout

Final report due to the Governor and the Legislature: January 29, 2027



STATE OF MAINE
Data Center
Advisory Council

Council Public Engagement

Opportunities to get involved

During Council Meetings:

- Attend public meetings and participate in live polling

Between Council Meetings

- Watch recordings on YouTube
- Share your input through surveys (results presented at next meeting)
- Sign up for the email newsletter to receive updates
- Follow Public Utilities Commission docket (2026-00142)

Dedicated Public Listening Sessions

- Thursday, **August 27**, 1:00-2:30 pm
- Tuesday, **September 1**, 5:00-7:00 pm

Scan to go to the
Council webpage:



maine.gov/energy/datacentercouncil



STATE OF MAINE
**Data Center
Advisory Council**

Public Engagement to Date

3

Surveys

700+
Survey
Responses

6

Live Meeting
Polls

500 +
Newsletter
Subscribers

16

Counties

150+
Towns

300+
Meeting
Attendees



STATE OF MAINE
Data Center
Advisory Council

Survey 2: Environmental Considerations

Survey was open June 18-June 30 | 480 total responses

Key Themes:

- Water supply and private wells
- Land use, habitat and wildlife impact
- Water quality and cooling discharge
- Noise and light pollution
- Human health and quality of life
- Climate and greenhouse gas emissions
- Decommissioning and long-term remediation



June 23 Environmental Meeting Recap

Key Takeaways:

- Data center construction impacts are similar to those of large commercial sites.
- Data center water usage depends on cooling technologies. Large-scale data centers use less water than Maine's water-intensive industries.
- **Existing state and federal environmental laws** address site construction, wetlands, habitat, water withdrawals, wastewater discharges, air emissions, noise, and wastes.
- Council members emphasized the importance of education, understanding impacts at different scales and across different types of municipalities, and drawing useful comparisons between data centers and other industrial facilities in Maine.
- Council members recommended clarifying the permitting process for developers and communities.
- Specific **requirements for noise, infrasound, water consumption and cooling fluids** could strengthen Maine's regulatory framework for datacenters.



Discussion

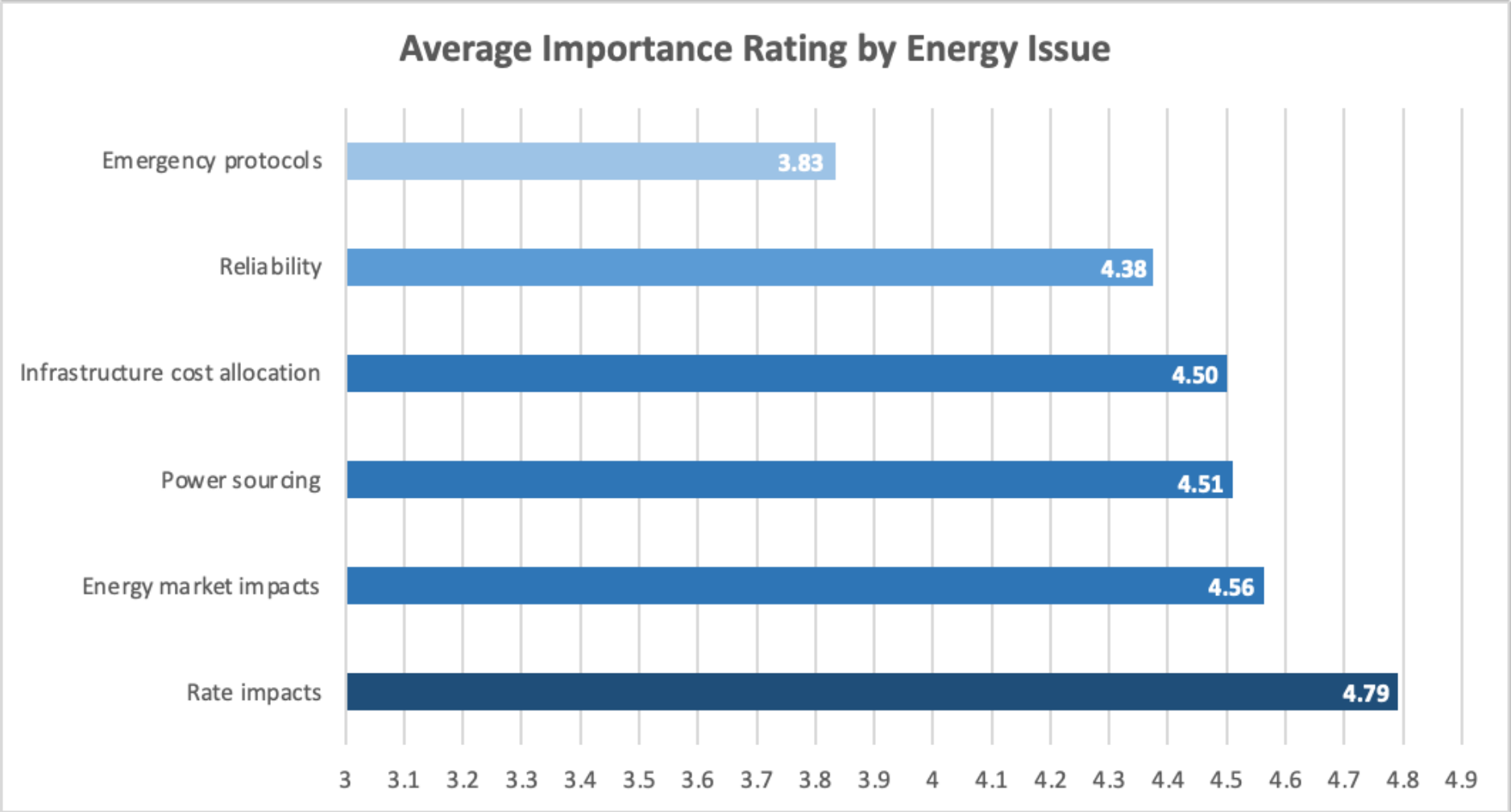
Preliminary Energy Survey Results

Public comment submitted ahead of the July 9 Council meeting • 49 responses

- **Energy cost & rate allocation.** Who pays for data center energy demand? How will increased energy demand impact the already high cost of electricity? Can the state require data centers to cover their own infrastructure/supply costs to protect ratepayers?
- **Grid capacity, reliability & supply.** Can our existing infrastructure absorb the load or large data centers? How will grid capacity be increased? What tools can we use (e.g., flexible rates, on-site generation etc.) to avoid worsening peak demand?
- **Regulatory oversight.** What rules will govern data center power access, emissions, and self-generation? How can we guard against facilities finding loopholes in regulations?
- **Use of clean energy.** How much energy will be supplied by renewable sources, and can this be a requirement? Can we ensure that backup generators are also powered by clean energy?
- **Measurement, transparency & accountability.** How will energy use be measured and where/how often will metrics be reported?

Preliminary Energy Survey Results

Public comment submitted ahead of the July 9 Council meeting • 49 responses



Data Center Energy Panel

Energy Panel Presentations



Lawrence Berkeley
National Laboratory

Lawrence Berkeley National Laboratory

- Data Center energy use: needs, characteristics, challenges



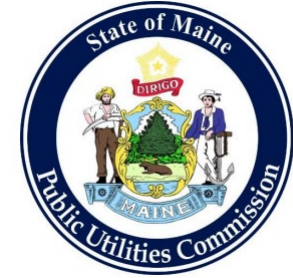
Maine Department of Energy Resources

- Maine's energy context
- Electricity and natural gas supply considerations



Independent System Operator - New England

- ISO-New England's role
- Data centers/large loads in ongoing and upcoming regional processes



Maine Public Utilities Commission

- MPUC's role
- Existing process and safeguards
- Ongoing informal investigation



STATE OF MAINE
**Data Center
Advisory Council**

Lawrence Berkeley National Laboratory

MAINE DATA CENTER ADVISORY COUNCIL BRIEFING | JULY 2026

Data Centers: Loads, Siting, and Tradeoffs

Ian M. Hoffman, co-lead, DOE/LBNL Center of Expertise for Data Center Energy

Center of Expertise for Data Center Energy | Energy Technologies Area | Lawrence Berkeley National Laboratory

This work was funded by the U.S. Department of Energy's Office of Critical Minerals and Energy Innovation, under Contract No. DE-AC02-05CH11231.



What we'll cover

1

Energy needs

What do data centers require, how is the national picture changing? How about New England?

2

Load characteristics

How does data center power demand behave over time, and how does that vary?

3

Energy-Water Tradeoff

What is the relationship between energy and water use in data centers, and how is the industry grappling with its water use?

Two questions Maine raised directly:

- How does Maine fit into the context of data center development?
- What are the trends in New England related to data center development?

The national picture: more and larger data centers, uncertainty in total magnitude

4.7%

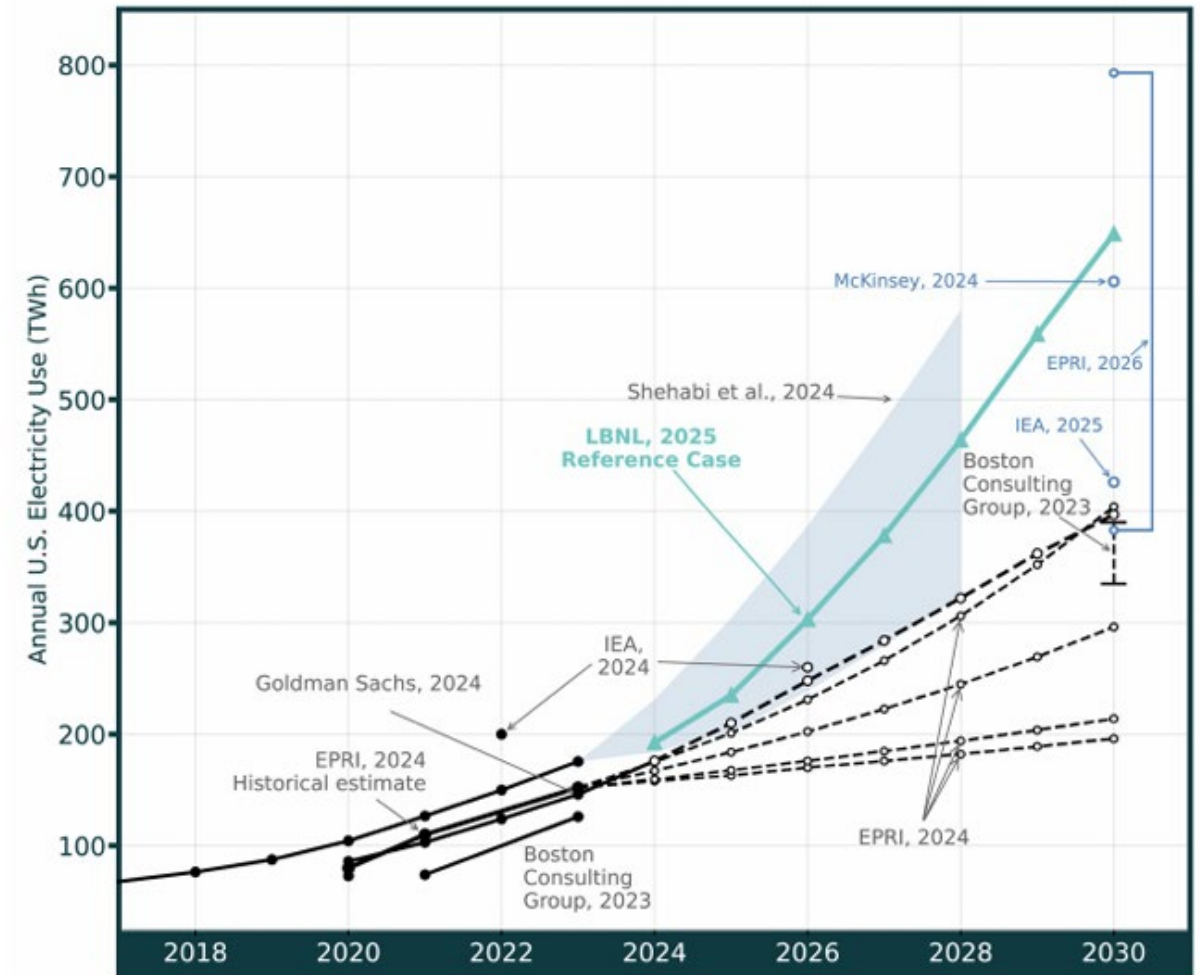
of U.S. electricity in 2024 (192 TWh)

11.8%

projected by 2030 (Reference Case, 649 TWh)

~1/3

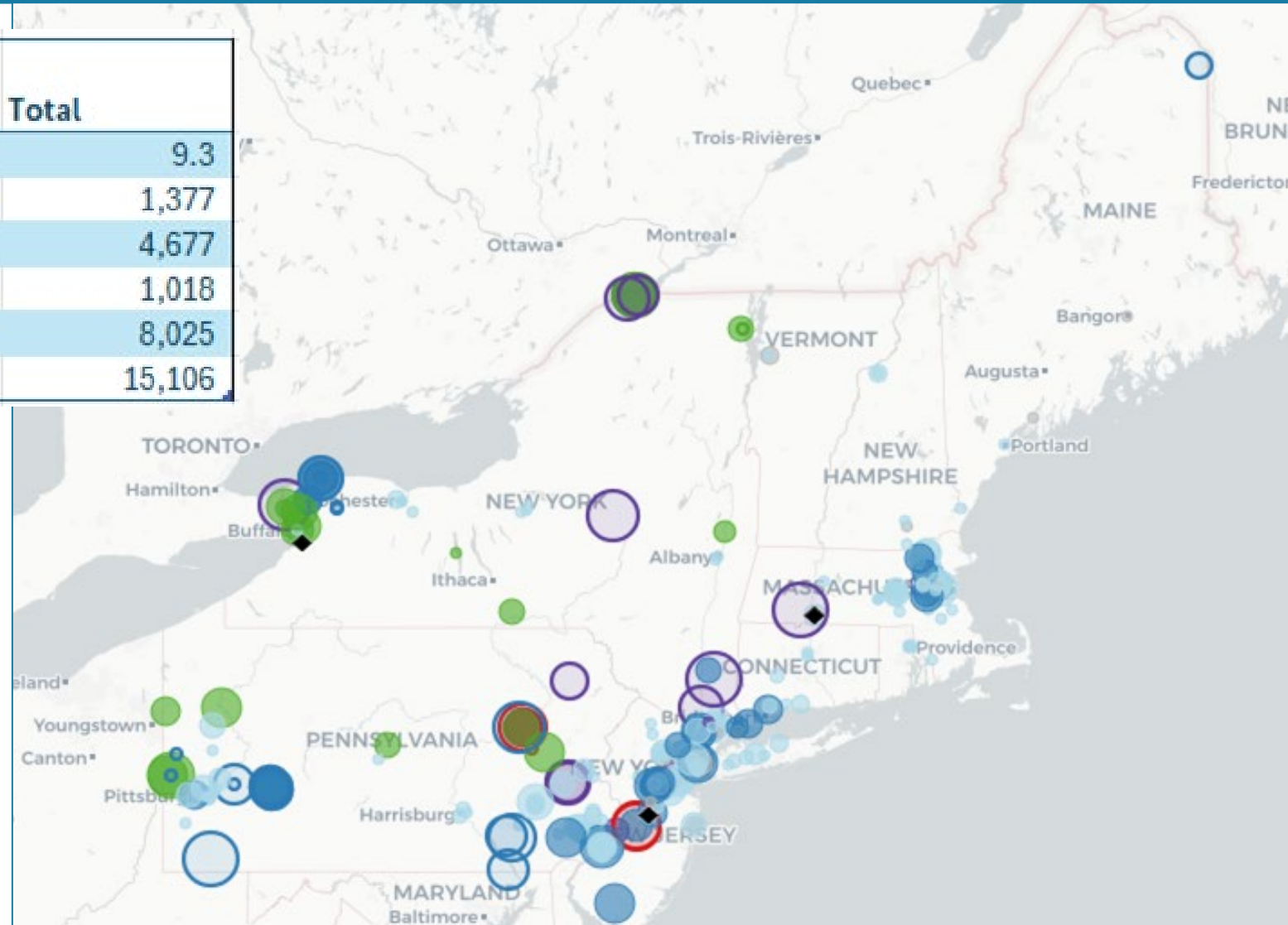
of U.S. load growth, 2024-2030



Source: LBNL 2025 Update (LBNL-2001758).

The regional picture: Data centers track low-cost power, land, data flows

Geo	Hyperscale	Wholesale Colo / Shell	Retail Colo	Total
Maine		9	0.2	9.3
Rest of NE		1,137	231	1,377
New York		3,696	181	4,677
New Jersey		539	431	1,018
Pennsylvania	1,488	5,528	287	8,025
Total	1,488	10,908	1,131	15,106



Many types of data centers, many missions

Enterprise / on-premise (~100s kW-5 MW)

- Server rooms & small facilities, often under 1 MW, e.g., agency, academic, hospitals, institutional buildings.
- Steady, low-utilization. Already common in Maine.

Colocation (~5-100 MW, mostly tens of MWs)

Retail (multi-tenant) and wholesale (single-tenant) facilities. Moderate variability in demand.

Hyperscale (100 MW-5,000 GW and growing)

- Very large loads with dedicated substations.
- Can be specialized (basic cloud services, AI training, AI inference), but many are mixed use under a single large tech firm.
- Not present in Maine.

Edge (~100s kW-2 MW)

- Emerging, telecom, EV or inference-driven, low-latency.
- Critical for VR/AR, telehealth, real-time industrial optimization,
- Biased toward population centers, not rural Maine.

Neocloud (15-200+ MW)

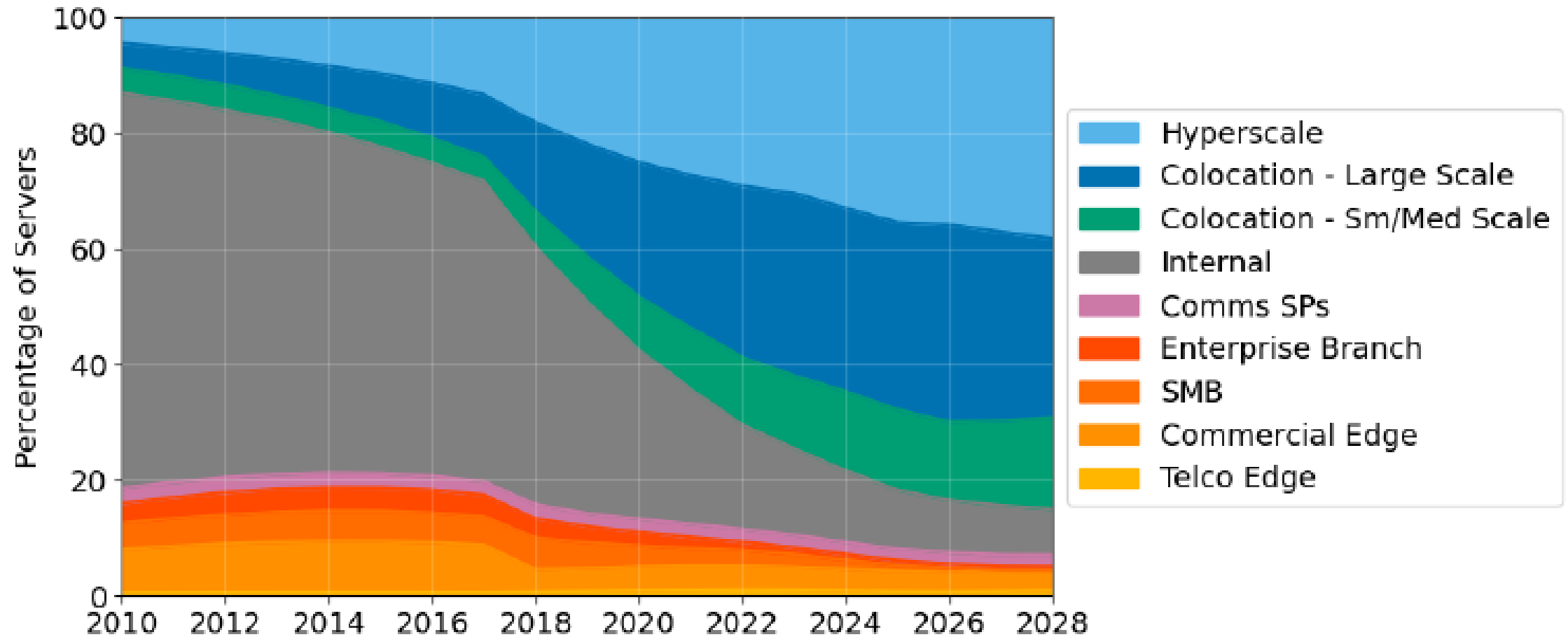
- Large loads with dedicated substations.
- Very specialized: GPU clusters as a service - quick way to train/fine-tune models and host inference. Can be cheap: ~65-80% of the cost of standard cloud provider AI computing
- Not present in Maine.

Others:

- Crypto mining rigs (~100s of kW to 100 MW)
- High-performance computing (supercomputers, 1-100 MW)
- Telco - hubs, cell towers, satellite ground stations

26).

Chips and servers drive demand for power. AI adds power intensity.

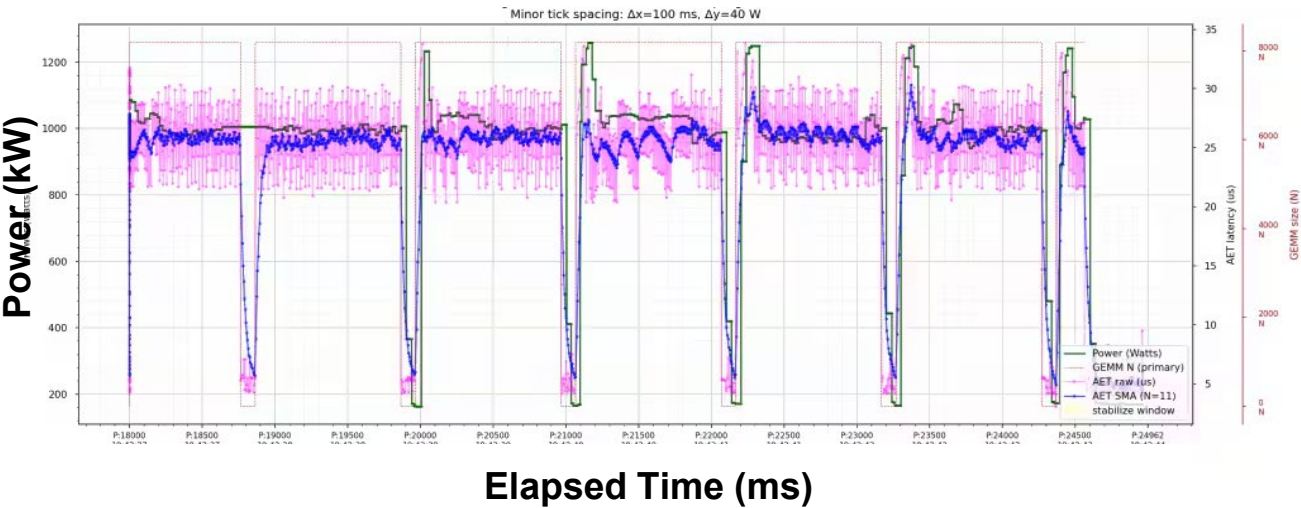


What do these loads look like: two timescales, one outlier

Type	Sub-second (grid stability)	Diurnal (hours to seasons)
Hyperscale - AI training	Synchronized, rapid oscillations — the outlier	High utilization, high load factor
AI inference / edge	Bursty, not synchronized	Diurnal; business-hour peaks
Hyperscale (non-AI cloud)	Virtualized; managed for steadiness	High load factor (UK >67%, TX >52%)
Colocation / mid-size	Relatively virtualized	Moderate; mixing workloads smooths the aggregate
Enterprise / on-premise	Increasingly virtualized	Flat; chronically underutilized (~36% avg CPU; often 6-12% of rack power)

Sources: NERC (2026); Choukse et al. (2025, preprint); measurement studies (2026); E3 (2025).

AI training loads can pose challenges for the grid



Solution	Reliability	Performance	Energy	Cost	Ability to meet tightest spec	Dependency on the developer	Lifetime
Software-only mitigation	Medium	Medium	High	Medium	High	High	High
GPU power smoothing	High	Medium	High	Low	Medium	Medium	Medium
Rack-level energy storage	High	High	Low	High	High	Low	High

Takeaway: Synchronized AI training clusters produce the sub-second load changes that can challenge grid-stability. Large AI inference clusters can have a similar pattern, but so far, it's much smaller in magnitude and less of a concern. The mid-sized facilities showing interest in Maine are more likely to be mixed-use loads and less likely to cause these issues.

Source: Oracle Cloud Infrastructure Blog, March 2026, Behind the Scenes: GPU Power Smoothing for Large-Scale AI Training: :

Where Maine fits into the national data center development context

Siting Deterrents

- Power cost: New England is among the nation's highest priced regions. Maine is lower within New England but still well above the hub regions (Virginia, Texas)
- Not a major fiber crossroads like Northern Virginia, carrying 70% of global data
- Small population, distant from major metros
- Interconnection cost and queue
- Permitting and public acceptance stall proposals. A month of delay can cost tens of \$M in lost revenue.

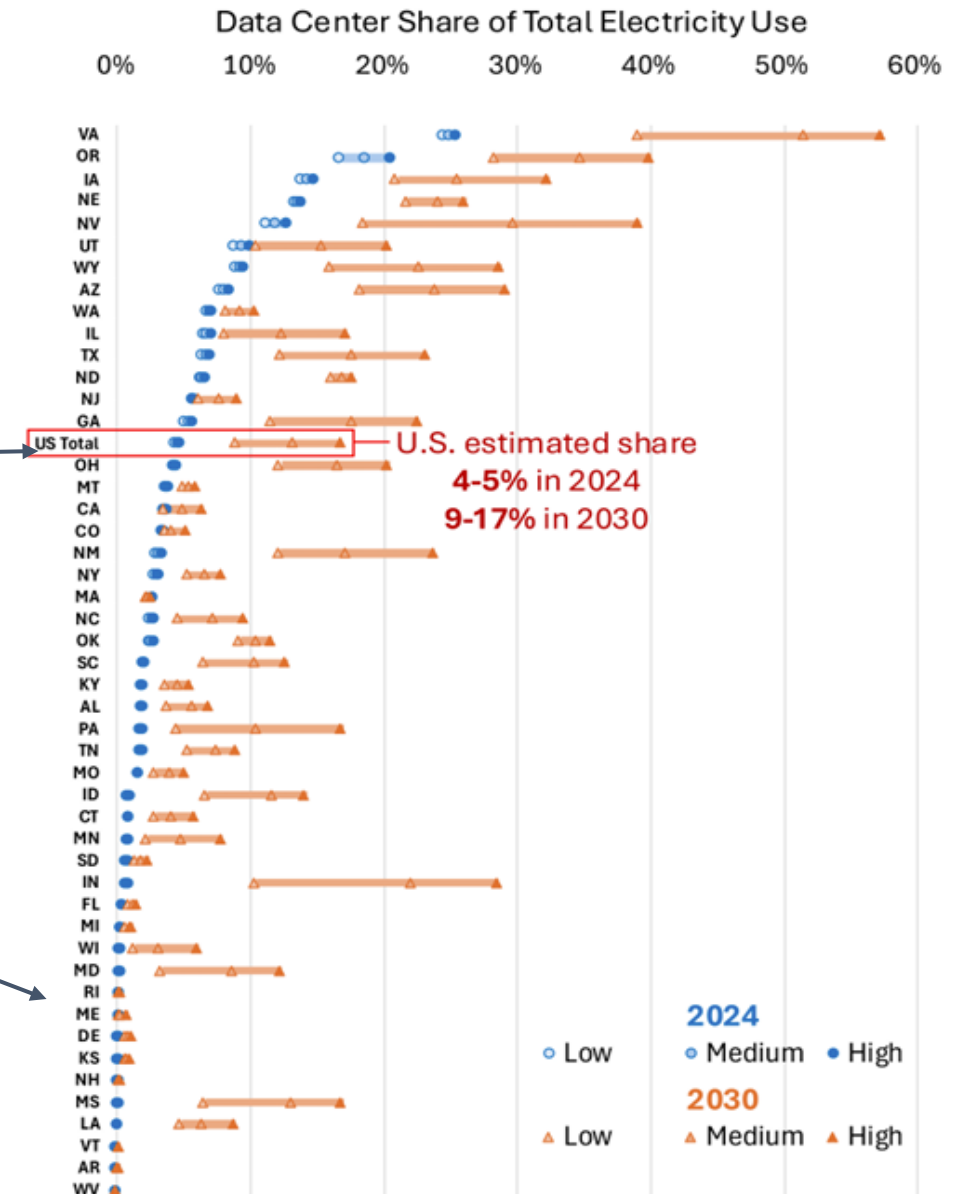
Counterweights

- Cold climate is a cooling advantage — less energy, less water.
- Land is available and comparatively inexpensive.
- Water is relatively abundant — a potential draw, unlike arid hub regions.

Sources: EIA (2026); Maine DER; PAE/CTUIR (2025).

What impact might those data centers have on the state's electrical load?

- EPRI projected data center loads as a percent of total state load under low, medium, and high scenarios.
- Under the highest potential growth rate, data center load could rise to 17% of total national electricity use.
- Under the highest growth projection, the data center load in Maine in 2030 would be 21 MW, less than 3% of state load.



[Home | Powering Intelligence 2026](#)

What utilities and grid operators can do: large-load policies and tariffs

Speed to Power: Solutions for Accelerating Large Load Connections, June 2026

Solution Area	Solutions
Load Forecasting	
<u>S1. Load forecasting approaches</u>	S1.1 Separate load forecasts for large loads S1.2 Regular customer engagement and market research S1.3 New methods for large load forecasting S1.4 Milestone requirements for inclusion in forecasts S1.5 Processes for monitoring project duplication in forecasts S1.6 Forecast reporting requirements
<u>S2. Load forecast coordination</u>	S2.1 RTO* guidelines on large load forecasting S2.2 State involvement in RTO load forecast adjustments S2.3 Data sharing and exchange on large load forecasting
Interconnection	
<u>S3. Load interconnection processes</u>	S3.1 Clear thresholds for large load interconnection S3.2 Disclosure rules for similar interconnection requests S3.3 Coordination between load interconnection and planning processes S3.4 Coordinated interconnection for load and paired generation S3.5 Clear disclosure rules for behind-the-meter generation and storage S3.6 Standard interconnection process elements** S3.7 Cluster studies S3.8 Interconnection data and queue transparency
<u>S4. Fast-track transmission interconnection service</u>	S4.1 Provisional interconnection service S4.2 Surplus interconnection service S4.3 BYOG*** and pay-for-transmission incentives
<u>S5. ERIS**** for loads (transmission)</u>	S5.1 ERIS-like interconnection service for loads
<u>S6. Flexible interconnection (distribution)</u>	S6.1 Staggered connections S6.2 Static flexible interconnection S6.3 Dynamic flexible interconnection
<u>S7. Large load construction of transmission and distribution facilities</u>	S7.1 Option to build

41 potential solutions: Protecting the grid, other customers & potentially easing rate, tax pressures

- Load forecasting
- Interconnection
- Resource planning and procurement
- Markets and operations
- Cost allocation and ratemaking

<https://emp.lbl.gov/publications/speed-power-solutions-accelerating>

Utility Procurement	
<u>S8. Utility procurement approaches</u>	S8.1 Advance procurement of equipment S8.2 Flexible procurement for new resources
Markets and Operations	
<u>S9. Energy markets and transmission service</u>	S9.1 Load participation in real-time markets S9.2 Non-firm transmission service for loads
<u>S10. Operating reserves</u>	S10.1 Changes in regulation reserve procurement S10.2 Downward contingency reserves S10.3 Changes in reserve cost allocation
Cost Allocation and Ratemaking	
<u>S11. Cost allocation methods</u>	S11.1 Review and update of allocation factors S11.2 Direct assignment of costs
<u>S12. Large load tariffs</u>	S12.1 Clear eligibility requirements S12.2 Standard rates S12.3 Risk mitigation measures S12.4 Interruptible service requirements S12.5 Customer choice programs for large loads
<u>S13. Wholesale rates and access for large loads</u>	S13.1 Wholesale rates under utility service S13.2 Direct access programs

Data center buildout economics

Rate impacts

Where data center load is highly concentrated, increased system demand can raise costs for other ratepayers.

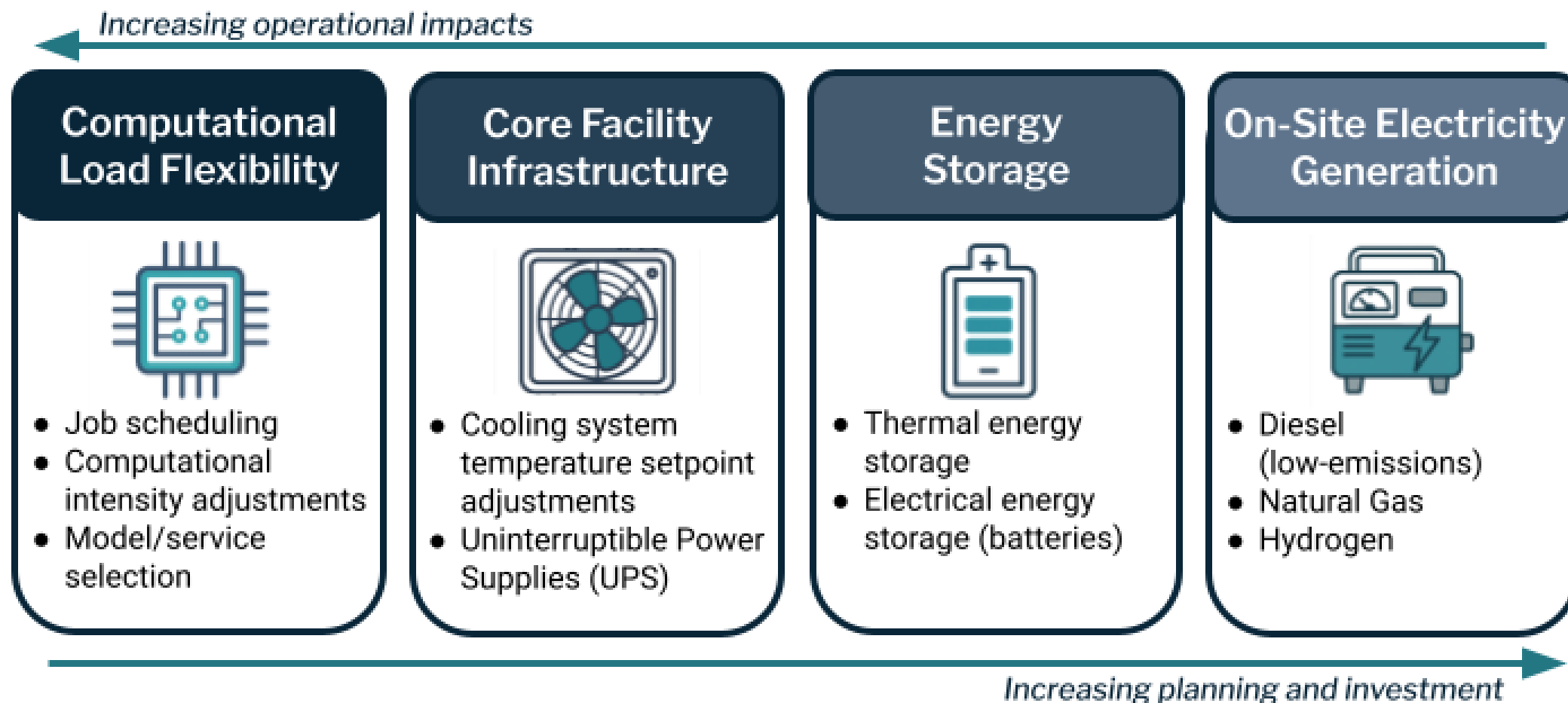
Where data centers are not showing up at scale or where operators are bringing their own generators or other capacity (DR), rate pressure comes from other drivers: grid modernization, new manufacturing, electrification.

New England today shows little concentration of existing or proposed medium and large data centers; Maine probably has a few dozen small data centers but very few mid-sized facilities.

Indirect effects can reach Maine regardless of siting:

- Significant demand growth in NE could increase (or decrease) costs, depending on when and where it occurs.
- Higher demand for equipment and skilled labor elsewhere can increase costs and timelines.
 - Transformers: 24-month lead times, longer for certain voltage ranges.
 - Switchgear: 18 to 24-month lead times.
 - Onsite generators: longer lead times. One major supplier of backup generators reportedly sold out.
 - Experienced electrical engineers, project managers, master electricians, industrial plumbers

Data centers can support the grid, not only stress it



Source: Smith framework (LBNL).

Water use is a siting and design choice, not a fixed quantity

Water ranks among the top community concerns nationally, second only to energy. (Quinnipiac, March 2026).

Evaporative / open

- Lowest energy
- Highest onsite water
- Discharge chemistry to manage

Closed-loop / dry

- Near-zero onsite water
- Higher energy
- Can shift water use offsite (Scope 2)

Hybrid air / liquid

- Where AI thermal density has driven the industry
- Latest GPUs: ~100% liquid cooling
- Next: Direct-die microfluidics, two-phase cold plate?

Maine's cold climate reduces the cooling burden generally.

Efficiency and the energy-water paradox: Evaporative cooling systems use less energy but more water. For new builds, hyperscalers are moving heavily toward closed-loop systems with dry coolers and air-cooled chillers that use virtually no water but more energy. It's a choice that shifts water use from cooling the data center to cooling/evaporative losses in power generation, from inside the fence line to the power plant.

Sources: PAE/CTUIR (2025); Microsoft (Dec. 2024; Build 2026).

For More Information

Contact: Ian Hoffman, ihoffman@lbl.gov

Acknowledgment

This work was funded by the U.S. Department of Energy's Office of Critical Minerals and Energy Innovation, under Contract No. DE-AC02-05CH11231.

Disclaimer

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor The Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or The Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof, or The Regents of the University of California.

Ernest Orlando Lawrence Berkeley National Laboratory is an equal opportunity employer.

Copyright Notice

This manuscript has been authored by an author at Lawrence Berkeley National Laboratory under Contract No. DE-AC02-05CH11231 with the U.S. Department of Energy. The U.S. Government retains, and the publisher, by accepting the article for publication, acknowledges, that the U.S. Government retains a non-exclusive, paid-up, irrevocable, worldwide license to publish or reproduce the published form of this manuscript, or allow others to do so, for U.S. Government purposes

Maine Department of Energy Resources

Maine Department of Energy Resources (DOER)

Maine's cabinet-level energy department that leads energy policy, planning, and development for the State.

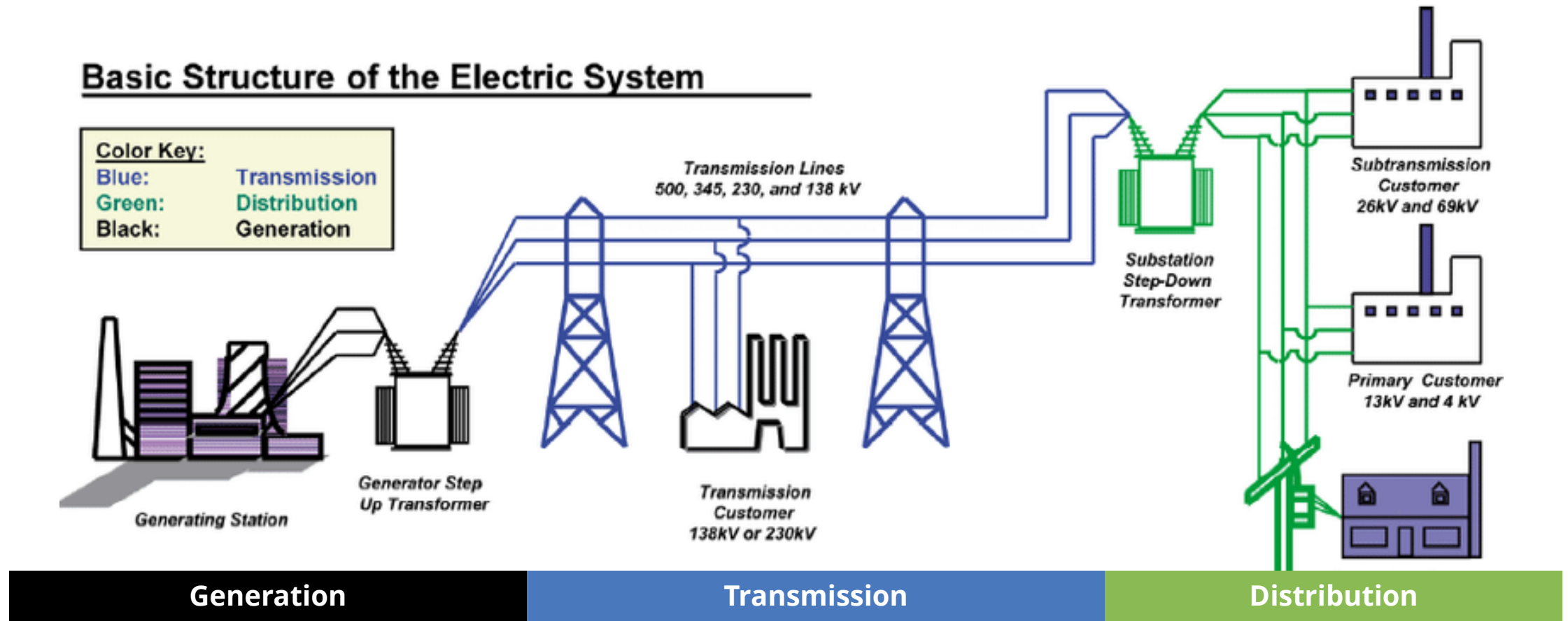
maine.gov/energy



MAINE DEPARTMENT OF
Energy Resources

Components of Electricity Costs

Affordability and reliability are two driving factors for energy system



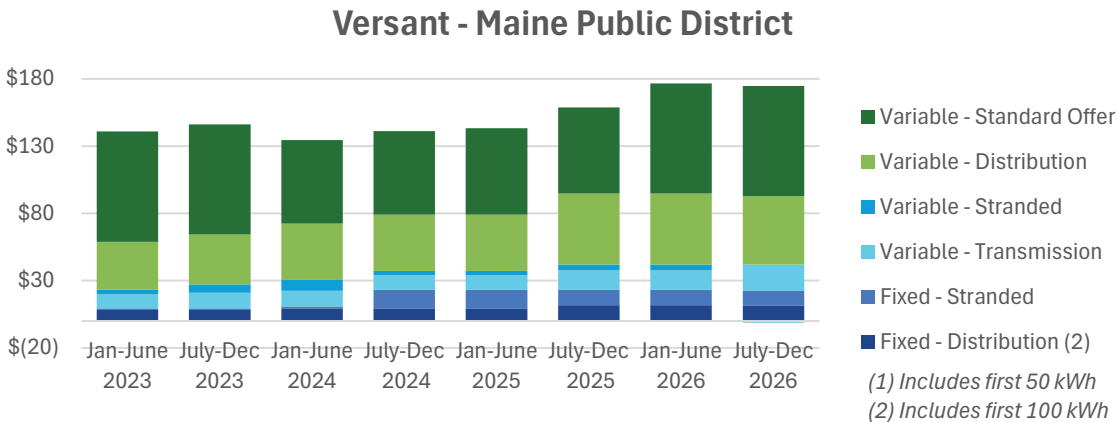
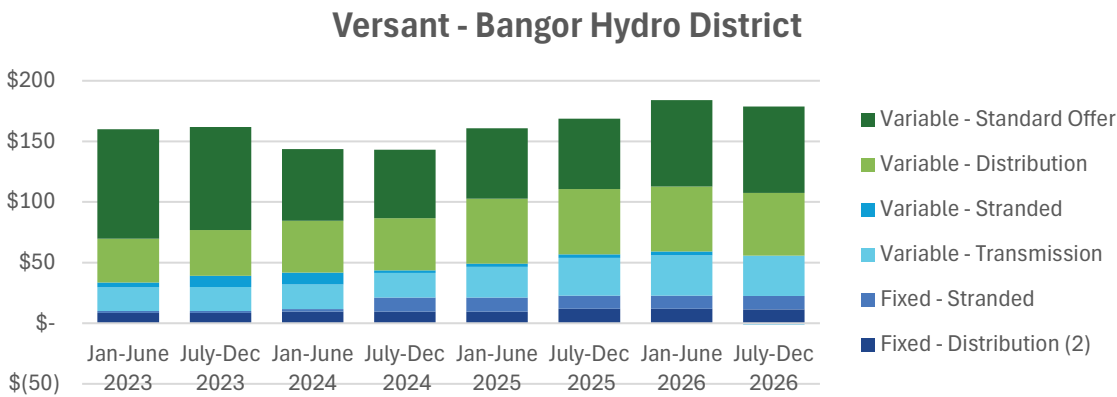
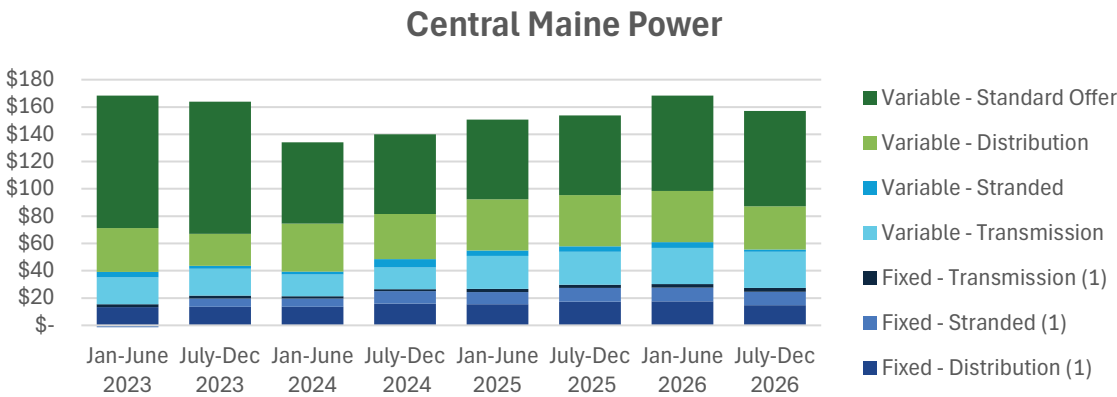
Source: EEPower



STATE OF MAINE
Data Center
Advisory Council

Typical Monthly Residential Electric Bills in Maine

As of July 2026. Typical customer uses 550 kWh per month.



Components of electricity costs and customer bills

Electricity customers pay one bill which includes fixed and variable supply and delivery costs.

- Electricity costs are driven by two primary components:
 - Delivery**, i.e. the poles/wires/pipeline infrastructure
 - Supply**, i.e. the electricity or gas that is delivered
- Recent electricity rates and bills trends:
 - Supply costs** increased 15% from 2021 to 2023
 - Transmission and distribution** costs have been increasing since 2015, with larger increases in 2024 and 2025
 - Stranded and other** costs increased between 2023 and 2024

Source: Maine Department of Energy Resources.

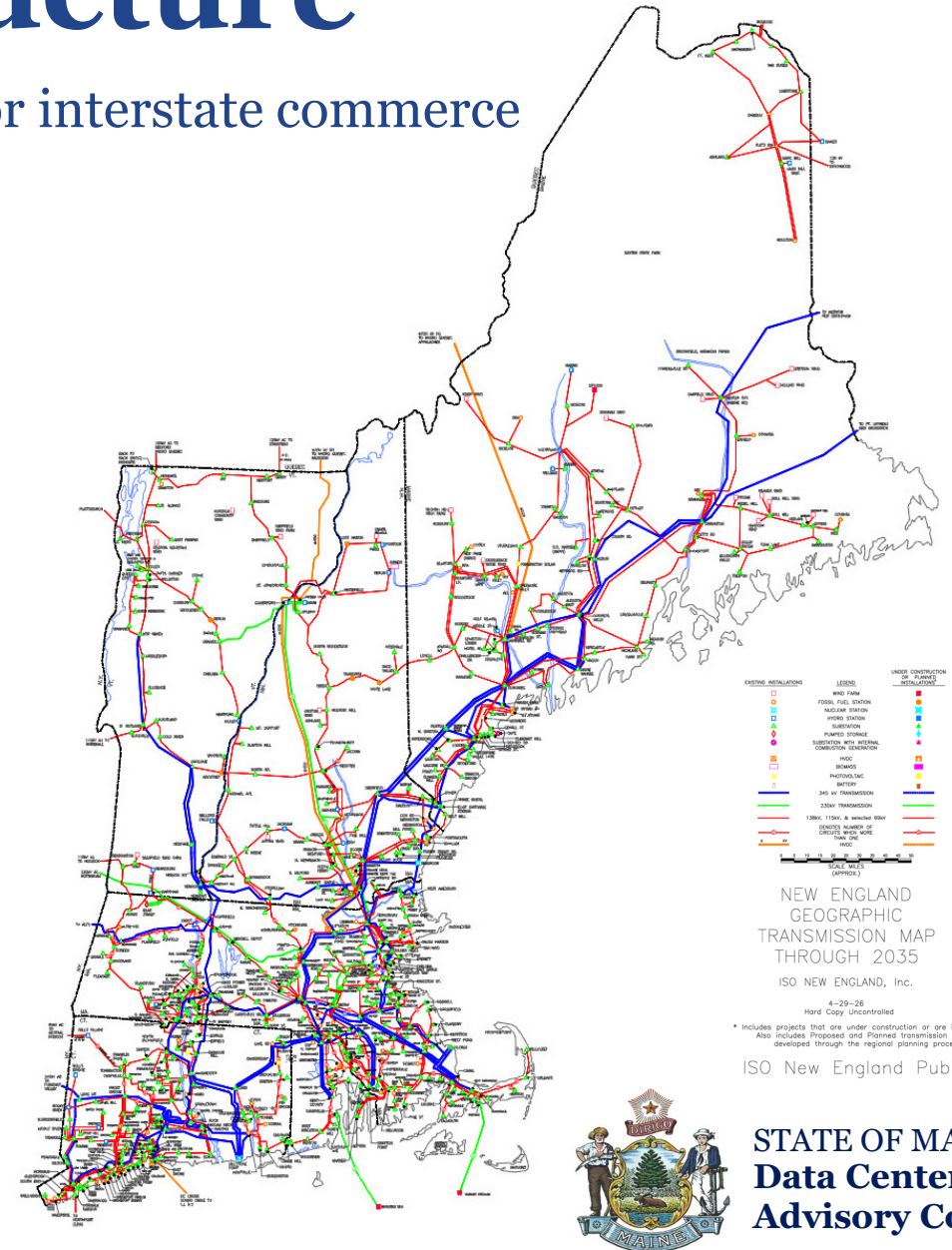


Transmission Infrastructure

Federally-regulated infrastructure that moves electricity for interstate commerce

- Large electricity users typically connect directly to the transmission system.
- Transmission rates that recover costs associated with both regional and local network service are the jurisdiction of the Federal Energy Regulatory Commission (FERC).
 - States retain jurisdiction over matters including siting and public need, as well as utility service terms.
- Costs associated with regional transmission are recovered across the entire region, while costs associated with local transmission are recovered from the relevant utility's customers.

Image Source: ISO-NE

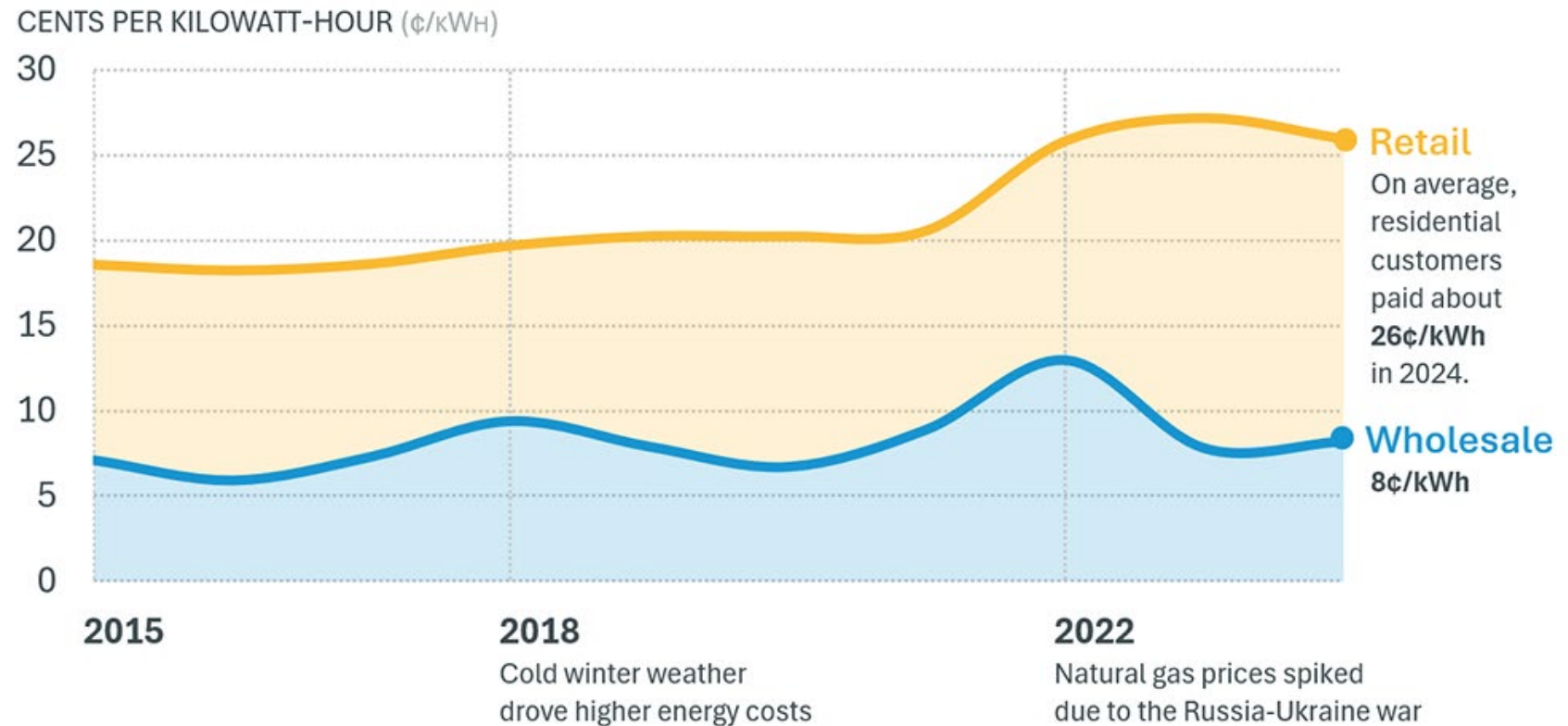


Electricity Supply and Markets (1/2)

Retail electricity prices incorporate wholesale market costs as well as risk premiums and other costs

- About 90% of Maine residential customers utilize Standard Offer electricity supply
- Most commercial and industrial customers obtain competitive electricity supply
- Retail electricity suppliers obtain electricity through multiple wholesale markets

Breakdown of New Englanders' Annual Electricity Costs



Source: Maine Public Utilities Commission

Image Source: ISO-NE



STATE OF MAINE
Data Center
Advisory Council

Electricity Supply and Markets (2/2)

Wholesale prices are set through auctions that ensure adequate supply to meet demand and reserves

Wholesale **energy markets** include both day-ahead and real-time markets, as well as bilateral transactions (i.e. longer-term contracts).

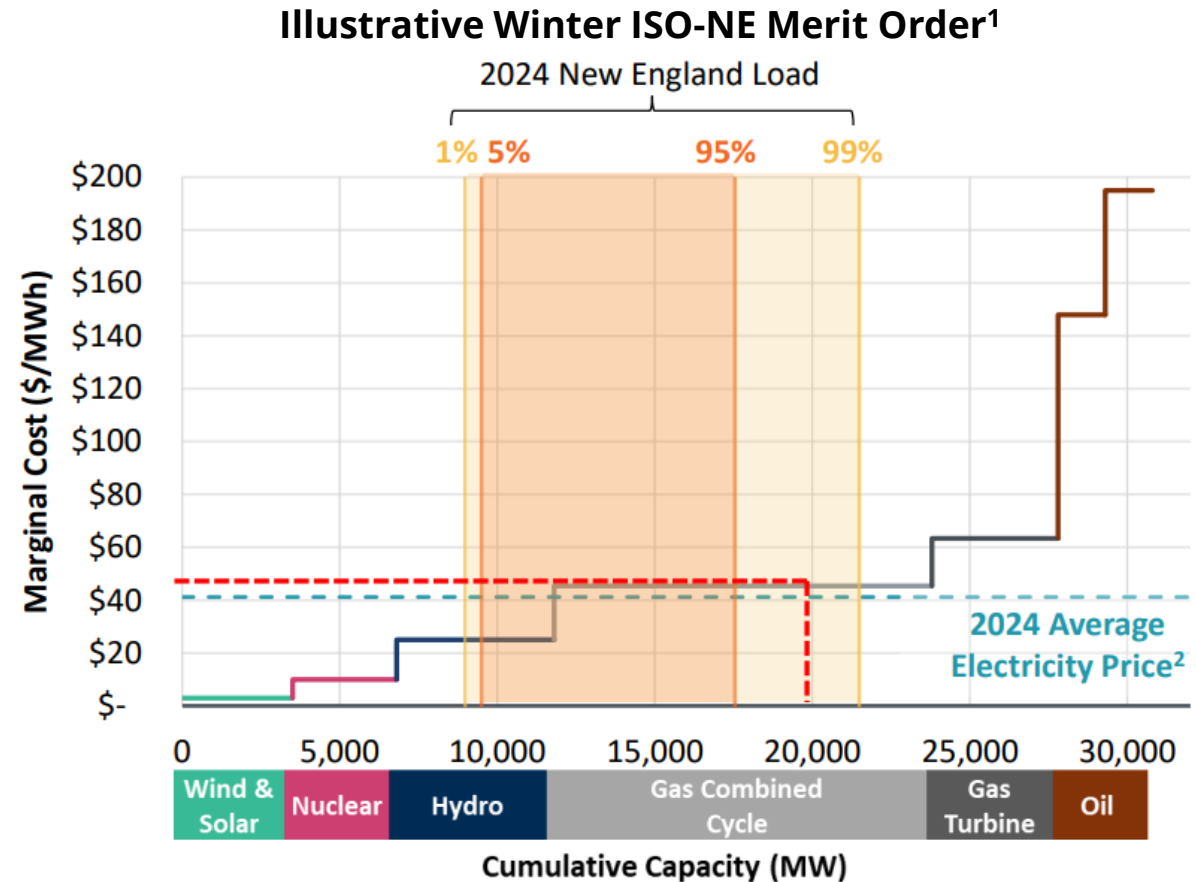
- Most transactions occur in the day-ahead market, which is based on a day-ahead load forecast and enables generators to plan for the following day's operations.

The wholesale **capacity market** uses auctions to obtain commitments from sufficient generation (as well as load resources like demand response) capacity to meet anticipated peak load.

- New England's capacity auctions previously took place several years in advance. ISO New England is currently undertaking a transition to a prompt, seasonal structure.
- Finally, **ancillary services** markets secure other services including reserves, frequency, and black start capability.

Image source: The Brattle Group.

1. Illustrative marginal cost for New England assumes typical operating costs.
2. Based on day ahead locational marginal price.



Maine's Renewable and Clean Portfolio Standards

Maine, like the other New England states, is increasing its use of renewable and clean energy

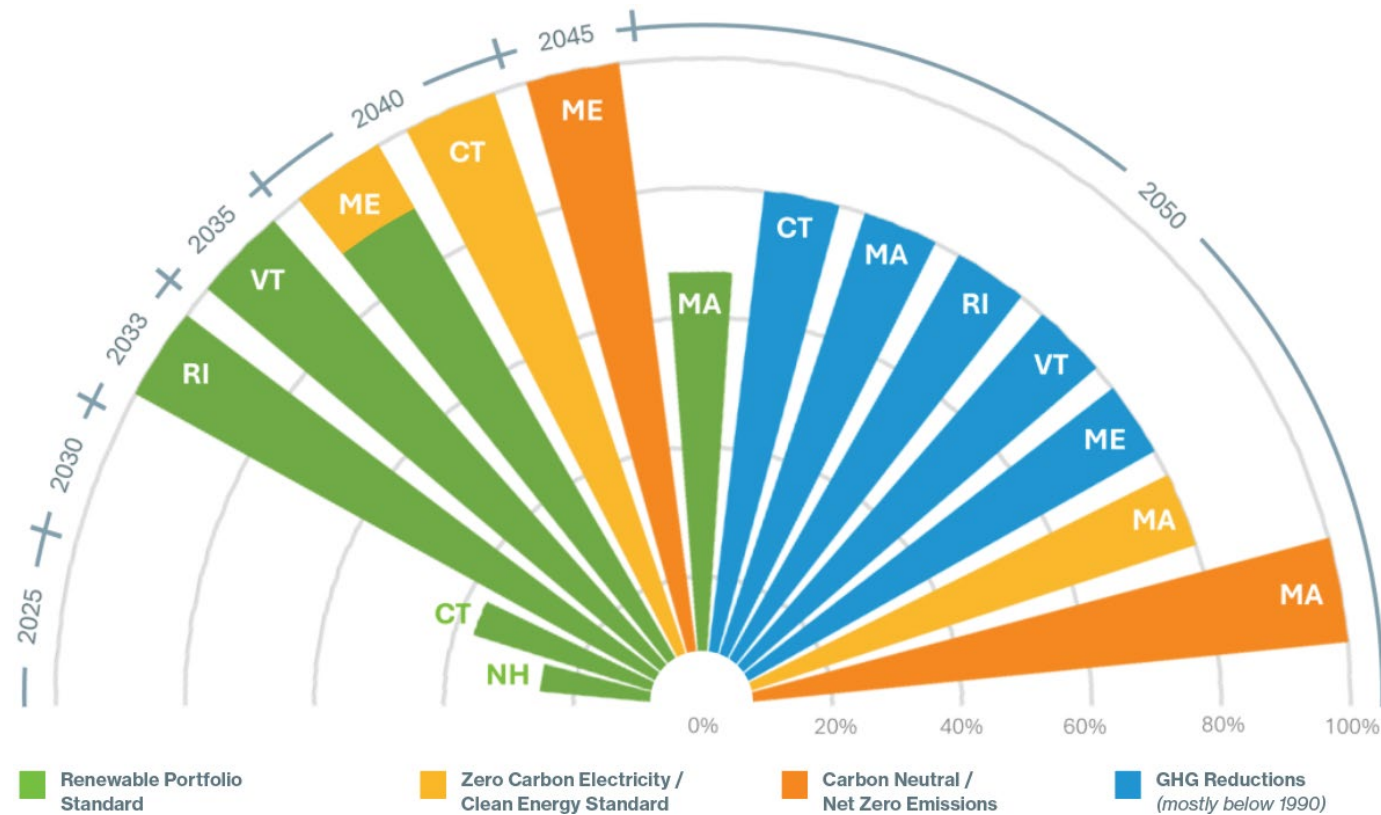


Image source: ISO-NE

Maine's **Renewable Portfolio Standard** requires 90% of electricity in the state to be renewable by 2040, and the **Clean Energy Standard** requires the remaining 10% of electricity to be clean by the same date.

- A modest amount of electricity is exempted from these requirements for economic development or implementation reasons.
- To comply, retail electricity suppliers obtain **renewable energy certificates** from eligible generators.
- The **Regional Greenhouse Gas Initiative**, or RGGI, is a separate program covering power plants in northeast states.



STATE OF MAINE
Data Center
Advisory Council

Electricity Demand and Sales

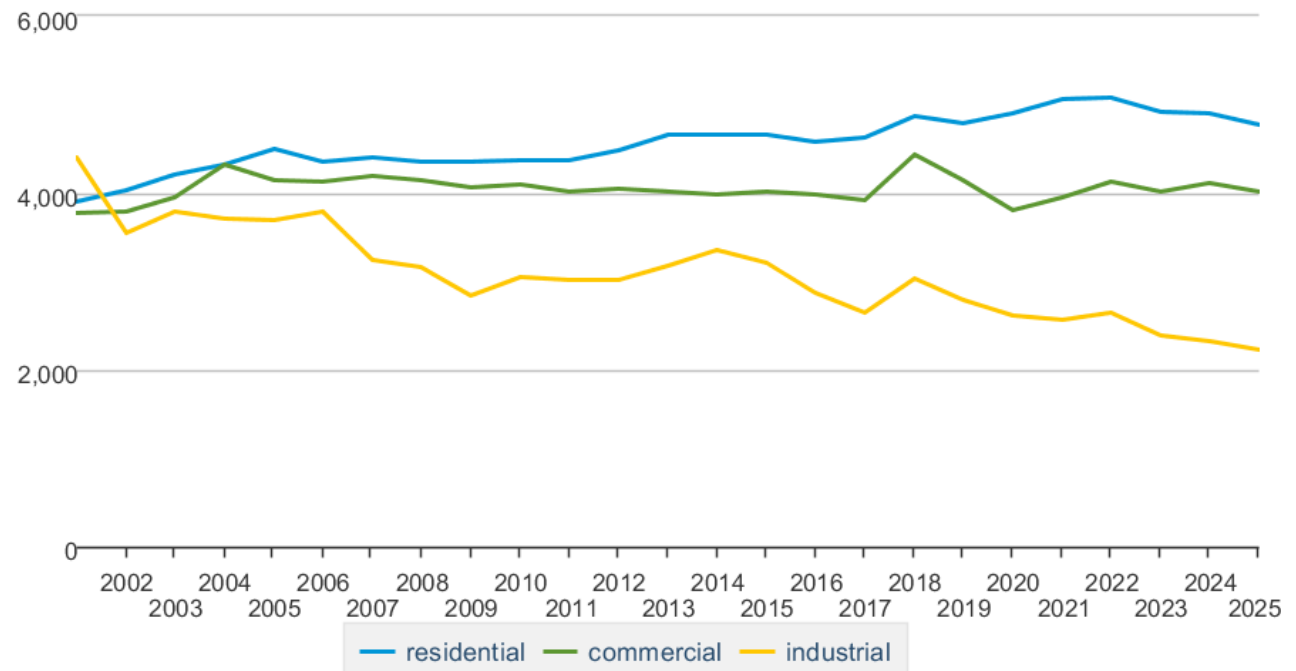
Electricity demand in Maine and New England has trended down over the past twenty years, although future growth is expected

Electric load reductions have multiple underlying drivers, including **increased efficiency, manufacturing closures, and behind-the-meter solar.**

- Notably, Maine's population and Gross State Product have both grown over the same period.
- Retail sales of electricity to industrial customers in Maine have decreased by almost 50% over the past twenty years.
- Future load growth expectations are principally driven by **beneficial electrification** (e.g. heat pump adoption) as well as population and economic growth.

Retail sales of electricity, Maine, annual

million kilowatthours



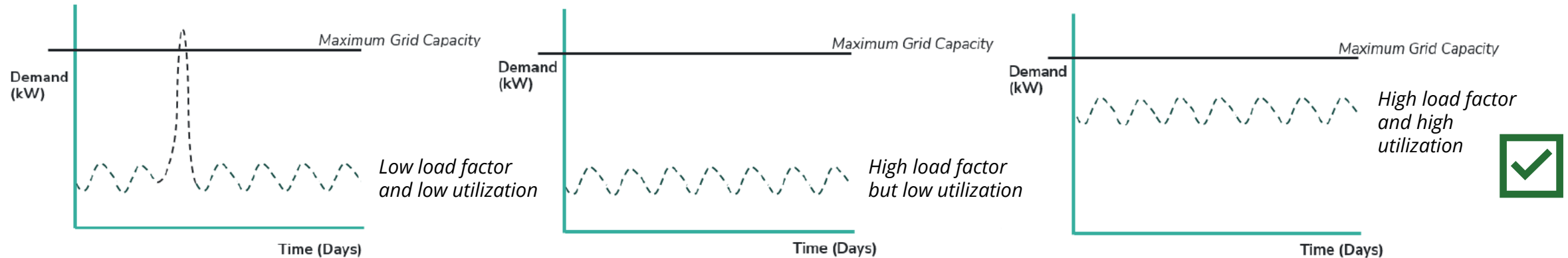
Data source: U.S. Energy Information Administration

Grid Utilization

Spreading the fixed costs of the grid across more users can lower each user's share of those costs

The electricity grid is largely long-lasting infrastructure with high, **fixed costs**. Those costs are mostly collected from customers based on their individual use, and the infrastructure is sized to serve peak (maximum) demand.

Grid utilization refers to the actual use of the grid compared to the total potential use of the grid. Improving grid utilization, such as encouraging more electricity use during off-peak times, can help lower costs for all users.



Bad Outcome:

Grid is underutilized but subject to large swings in peak demand, endangering system reliability.

Better Outcome:

Grid reduces peak demand without supporting utilization, supporting a reliable but inefficient system.

Good Outcome:

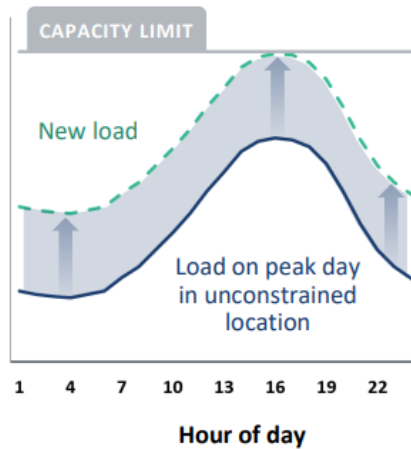
Grid reduces peak demand and supports utilization, reducing \$/kW costs for ratepayers.

Demand Flexibility

Adding new flexible load to the grid can improve grid utilization

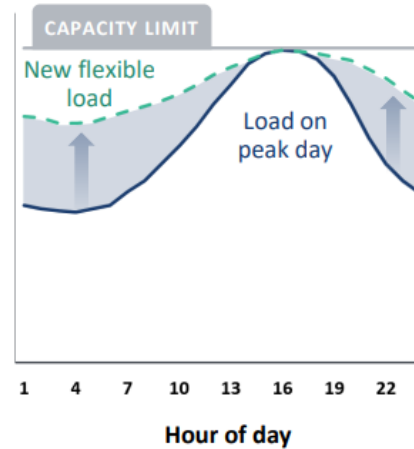
1

Add new load in **locations** where sufficient headroom already exists on the system.



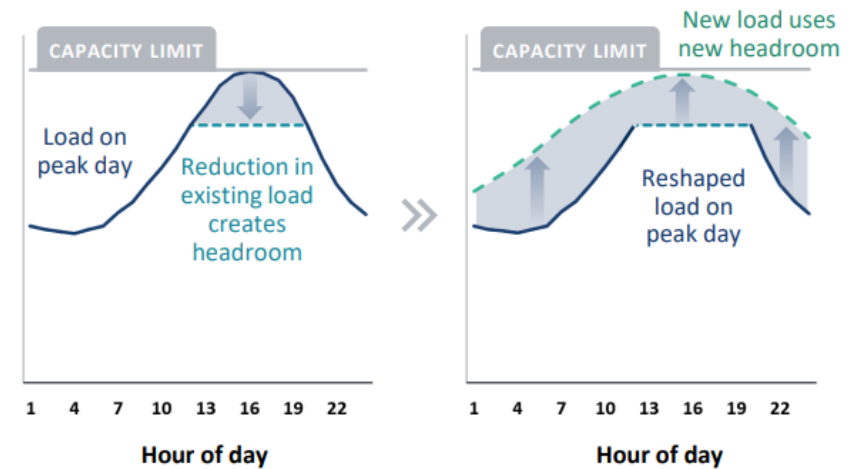
2

Add new load at **times** when there is spare capacity. This is possible if the new customers are flexible and/or can self-supply during peak conditions.



3

Incentivize technologies and behavioral changes that reduce peak demand of existing load. This creates new headroom on the system, which can then accommodate the addition of new load.



System utilization can be improved by adding new load when and where there is spare capacity.
System headroom can be created through flexibility, efficiency, and other cost-effective capacity solutions.

Image source: The Brattle Group



STATE OF MAINE
Data Center
Advisory Council

Energy Policy Considerations (1/2)

Data centers could increase electricity costs *if*:

- New demand for electricity supply results in new supply needs that are borne by the entire market, including existing customers
 - Could include capacity, energy, and/or attributes to comply with RPS
- New utility infrastructure (i.e. transmission) is needed and costs are recovered from all ratepayers

Data centers could decrease electricity costs *if*:

- New lower-cost energy supply resources enter the market and are principally funded by the new load
 - Could include capacity, energy, and/or attributes to comply with RPS
- Existing utility infrastructure is utilized and costs are collected from more users than exist today



Energy Policy Considerations (2/2)

Potential State Actions

- Energy grid:
 - Continue learning from Maine PUC investigation and from national landscape on policy approaches
 - Consider whether additional mechanisms, such as tariffs, could be used to further protect ratepayers and maximize benefits from impacts of large data centers
 - Consider mechanisms to encourage grid utilization, demand response, load flexibility, and other grid benefits
- Energy generation:
 - Consider bring your own generation requirements
 - Consider requiring compliance with state clean energy laws (RPS/CES)

Potential Regional Actions

- Transmission system
 - Engage in ISO-NE/FERC process and advocate for Maine ratepayer protection with an emphasis on:
 - Reliability
 - Transmission cost allocation
 - Resource adequacy
 - Grid utilization



Maine Public Utilities Commission



MAINE PUBLIC UTILITIES COMMISSION

Regulating Data Centers in Maine

Existing Authority, Regional Developments, and the Path Forward

Philip Bartlett II

Chair · Maine Public Utilities Commission

What We'll Cover

01

PUC authority over data centers and large loads

Existing statutory tools and where the boundaries sit

02

Ongoing PUC proceeding

Docket status, key issues, and stakeholder posture

03

Regional developments

ISO-NE and states are moving quickly

04

Water and gas jurisdiction

Adjacent authorities that intersect with large-load siting

PUC Authority Over Data Centers and Large Loads

Most PUC jurisdiction over data centers arises from their status as large utility service customers

1. **Utility terms and conditions.** The Commission can require tariff provisions that assign customer-specific facilities and demonstrably load-caused local upgrades to the new customer, rather than other ratepayers.
2. **CPCN review of qualifying transmission upgrades.** When a large load requires a grid upgrade, the Commission reviews the need, alternatives, cost, and customer impacts before construction is approved.
3. **Rate design.** Where data center costs to the system are identified transparently, the Commission can use rate design to assign costs appropriately.
4. **Water and gas.** Data centers can be significant water consumers, and some choose on-site gas generation to supplement grid power. The PUC has oversight over both gas and water utilities.

Terms and Conditions for Large Load Service

PUC-filed utility service rules can require customer commitments before major dedicated investments are made

Terms and conditions are the utility's filed rules for a customer to obtain and receive service. They address matters beyond the basic tariff rate, including service extensions, customer-funded facilities, construction requirements, deposits, metering, and payment obligations.

Utilities file proposed terms, conditions, and forms of contract with the Commission. The PUC can investigate them and may order changes where needed to ensure that service is just, reasonable, and non-discriminatory.

Potential requirements for large-load protections:

- a requirement to fund dedicated facilities or make an upfront contribution;
- a requirement to post security or a deposit;
- a commitment to a service term;
- a requirement to pay charges associated with a line extension or specialized service configuration;
- a requirement to enter a longer-term agreement, *take-or-pay*-style provisions, or other conditions designed to protect against stranded asset risk.

Qualifying Grid Investments Receive PUC Review

Grid upgrades triggered by a new large load customer may be subject to a CPCN proceeding.

When a large load requires the construction or upgrade of significant grid infrastructure, it can receive project-level Commission review before the utility proceeds. However, a large-load proposal does not automatically trigger a CPCN proceeding.

A CPCN proceeding includes:

- **Public-need determination.** The Commission must make specific findings on public need, considering economics, reliability, health and safety, environmental and community impacts, state renewable-energy goals, and non-wires alternatives.
- **Project scope and design.** The Commission may approve or disapprove all or part of the grid upgrades and may issue orders concerning its character, size, installation, maintenance, and non-wires alternatives.
- **Alternative solutions.** For investor-owned utilities, the Commission considers an independent non-wires alternatives review and must prefer the most cost-effective option capable of meeting the identified need; where options are comparably cost-effective, it prefers the alternative with lower local air emissions.
- Issuance of a CPCN establishes that the decision to construct was prudent.

Rate Design: Translating Cost Responsibility Into Customer Bills

Once costs and cost responsibility are established, rate design determines how they are recovered.

Rate design is the structure of charges on a customer's bill: fixed charges, demand charges, energy charges, reservation charges, and customer-class allocations.

The Commission may investigate and order rates, classifications, charges, terms, conditions, and forms of contract.

If needed, the Commission could establish a new subclass for very large new service requests that require major dedicated or incremental infrastructure.

For large loads, potential tools may include:

- fixed charges reflecting dedicated or incremental facilities needed to service the large load;
- time-varying charges that reflect peak-system use;
- distinct cost-allocation rules for large-load-driven investments;
- tariff-based security, milestone, or abandonment protections coordinated with the T&C provisions.

Ongoing PUC Proceeding 2026-00142

Origin: the Governor's Executive Order directed the DOER to coordinate with the Commission to identify and implement strategies to:

"Safeguard customers against increased transmission and distribution costs, including by mitigating the risk of stranded utility assets; and [p]romote the development of market and regulatory mechanisms to ensure that costs attributable to data center development are fully borne by the entities responsible for creating those costs."

Questions the Commission is exploring

- What is the scale of data center buildout in Maine?
- What infrastructure needs are emerging in response to any buildout, including electricity, water, and gas?
- How are marginal and embedded costs allocated today; and are existing tariffs, interconnection rules, contract terms, and financial-assurance requirements sufficient to protect other customers?
- What, if any, new processes or reforms to existing processes are needed to protect other customers?

Next steps

- The Commission has received comments in response to the initial inquiry and is now in the process of reviewing those comments to determine next steps
- Although the comment deadline has passed, comments are still welcome

Regional Developments

FERC, ISO-NE, and NESCOE are all moving on large-load issues

- **State and regional overlap.** Because Maine is part of ISO-NE, developments in other states and at the regional level can affect our ratepayers.
- **FERC has opened a proceeding** on whether ISO-NE's rules adequately govern large-load interconnections and cost responsibility. ISO-NE and transmission owners must propose tariff reforms within 60 days.
- **NESCOE statement.** The New England states, through NESCOE, have released a statement on large load integration that commits to working with stakeholders to balance economic opportunities with risks to consumers and community involvement, while preserving grid reliability.

"...the six New England states commit to working collaboratively with one another, with ISO New England, with the region's consumer advocates, and with other interested stakeholders to develop large load policies and approaches that balance economic opportunity against risks to consumers, protect local communities, and safeguard regional grid reliability."

Water and Gas Implications

PUC jurisdiction extends to the adjacent utilities that large loads affect

- **Water.** Data centers can be significant water customers because of cooling demand. The PUC's rate, service-quality, and CPCN authority over regulated water utilities means the same cost-causation and consumer-protection framework applies on the water side.
- **Gas.** Large loads increasingly pair with on-site gas generation, and can also drive incremental firm gas demand. The PUC's certificate and rate authority over Maine's gas utilities lets it look at whether the resulting infrastructure or capacity commitments are prudent and appropriately allocated.
- **Cross-cutting oversight.** Because a single large load siting decision can ripple through electric, water, and gas systems at once, the Commission is well-positioned to evaluate large loads as a whole.

ISO-New England

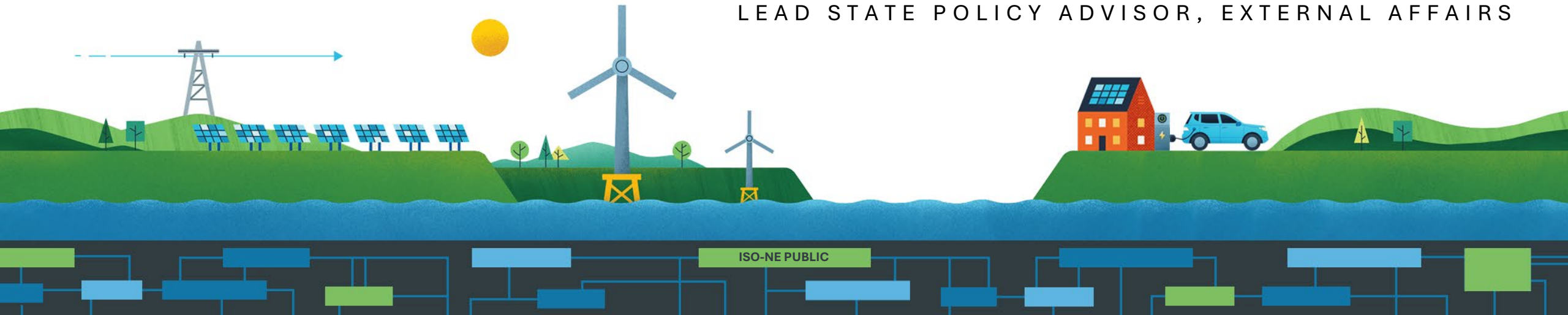
Planning for Large Loads in New England



Meeting of the Maine Data Center Advisory Council

Melissa Winne

LEAD STATE POLICY ADVISOR, EXTERNAL AFFAIRS



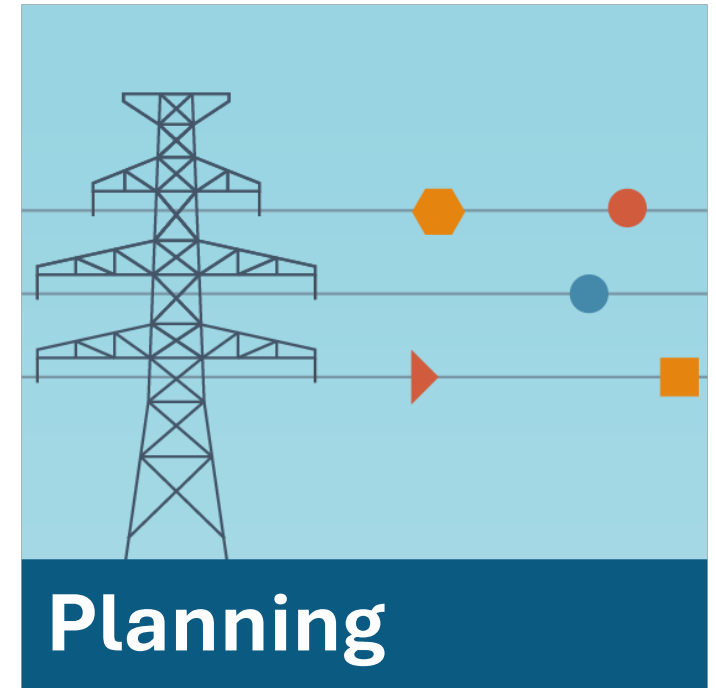
ISO New England Performs **Three Critical Roles** to Ensure Reliable Electricity at Competitive Prices



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



Design, run, and administer the billion-dollar markets where wholesale electricity is bought and sold

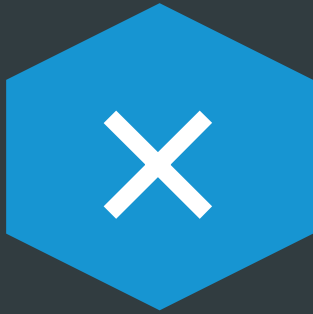


Study, analyze, and plan to make sure New England's electricity needs will be met over the next 10 years

Things We Don't Do



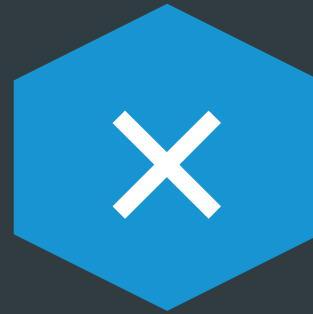
Handle
retail electricity



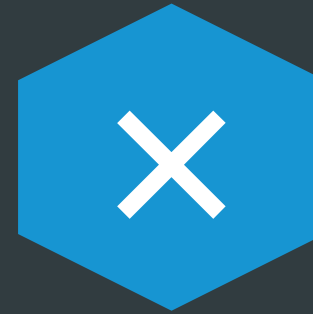
Own power grid
infrastructure



Have a stake in
companies
that own grid
infrastructure



Have
jurisdiction
over fuel
infrastructure



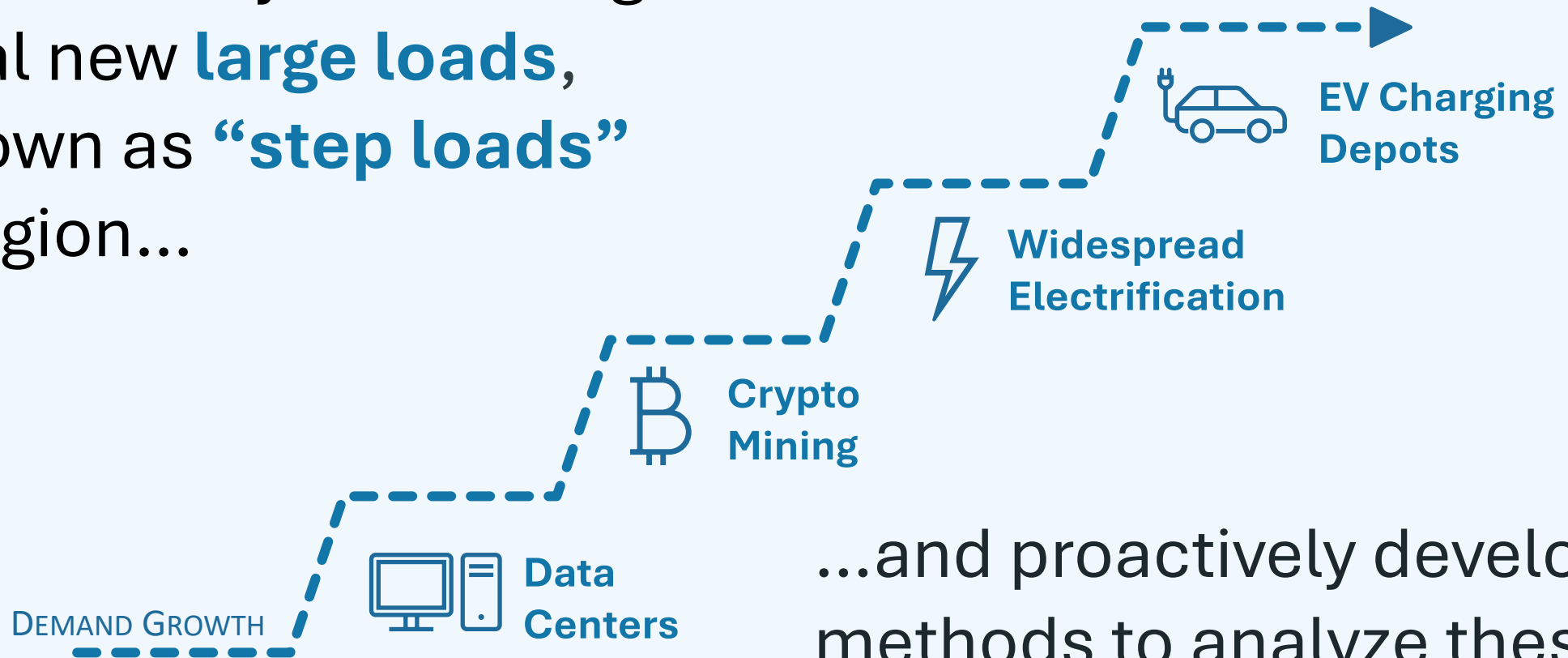
Have control
over siting
decisions



Plan the
resource mix



ISO-NE is closely monitoring potential new **large loads**, also known as “**step loads**” in the region...



...and proactively developing methods to analyze these potential loads' impact on **future demand**

ISO-NE is preparing for the potential of large load additions, including through:



Engagement with **New England Transmission Owners** regarding potential large load interconnections

Communication with **state policymakers, legislators and regulators** to understand any potential policy incentives for data centers

Research of methods and data sources to understand the potential magnitude, timing, and likelihood of future impacts of step loads in New England



ISO-NE's 2026 CELT Includes Large Load Forecast

Current Status

- Limited, but potential for growth
- Only a few projects in formal study (<300 MW)

Near-Term Impact

- Minimal impact before **2027-2028**



Long-Term Outlook

- **~110–130 MW** impact to peak demand by 2030s–2040s
- Large loads expected to consume **~800 GWh** from 2030 to 2035, rising to **~1,000 GWh** in the 2040s

Large loads are **not yet a major driver of load growth in New England**, but **ISO-NE is proactively planning** for potential acceleration

Learn more: [2026-2035 Capacity, Energy, Loads, and Transmission Report](#); [ISO-NE establishes forecast framework for data centers, other 'large loads' - ISO Newswire](#)

Other Actions that Will Influence Large Load Development



On June 18, FERC issued a [show cause order](#) on large load integration

- ISO-NE and region's transmission owners intend to request a 90-day abeyance as part of compliance
- By July 20, ISO is directed to file information on resource adequacy in the context of large loads



Ongoing national conversations:

- Incremental resources needed for new large loads and resource adequacy response
- Risks of emerging large loads (NERC Large Loads Working Group)
- State priorities for managing large loads

Learn more: [ISO-NE provides update on compliance with FERC large loads order](#) – ISO Newswire (June 29, 2026)

For More Information



Subscribe to *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 Social Media

www.iso-ne.com/social

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



About the Presenter



Melissa Winne (she/her)

Lead State Policy Advisor, External Affairs

ISO New England

mwinne@iso-ne.com



Summary

Summary

Immediate next steps:

- Gather insights through Maine PUC investigation
- Learn from national and regional experts to determine feasible policy approaches
- Engage in ISO-NE/FERC process and advocate for Maine ratepayer protection, with an emphasis on reliability, transmission cost allocation, resource adequacy

Maine should consider:

- Mechanisms such as tariffs to further protect ratepayers and maximize benefits
- Mechanisms to encourage grid utilization including strategic demand increases, demand response, load flexibility, and other grid benefits
- Requirements for developers to bring their own generation
- Requirements for data center developers to comply with Maine's clean energy laws (RPS/CES)

Break

We will be back in 10 minutes.



*Please fill out this poll to ask
clarifying questions*

Discussion

Questions for Discussion

- **Clarifying Questions:** Do you have any Clarifying Questions for any of our experts?
- **Priorities:** What are your take-aways on how to protect Maine ratepayers and electric grid reliability?
- **Initial policy ideas:** What state guidance, policy, or regulation are needed to address this?
- **Data needs:** What additional information is needed as you craft recommendations?

Menti Poll

Council Virtual Public Meeting Dates

- Thursday, **July 9**, 9:30-12:00 (today)
- Thursday, **August 13**, 9:30-12:00
- Listening Sessions:
 - Thursday, **August 27**, 1:00-2:30 pm
 - Tuesday, **September 1**, 5:00-7:00 pm
- Wednesday, **September 9**, 9:30-12:00
- Wednesday, **October 7**, 9:30-12:00

Council meetings will be open to the public. Council agendas, meeting recordings, materials, and meeting summaries will be posted at maine.gov/energy/datacentercouncil.



Next Steps

- Today's webinar **recording, slides, and meeting summary** will be available online and linked in the next email newsletter.
- The **energy survey will stay open** through July 16, with more to be released soon
- **Next Council meeting: August 13, 2026, from 9:30am-12pm** via Zoom, focused on community and economic development
 - Registration links are online at: maine.gov/energy/datacentercouncil
- Be sure to sign up for **data center council email updates** to receive all of this in your inbox
 - QR code on next page





MAINE DEPARTMENT OF
Energy Resources



Maine Department of
Environmental Protection

Thank You

Sign up for
email updates



maine.gov/energy/datacentercouncil