

How States Can Address Load Growth While Decarbonizing

March 11, 2026

Webinar Logistics

All attendees are in “**listen only**” mode – your webcam and microphone are disabled. The Chat function is also disabled for attendees.

Submit questions and comments via the Q&A panel



Automated **captions** are available



Speakers' bios will be made available in the chat

This webinar is being recorded. We will email you a webinar recording within 48 hours. This webinar will be posted on CESA’s website at www.cesa.org/webinars



Clean Energy States Alliance

The Clean Energy States Alliance (CESA) is a national, nonprofit coalition of public agencies and organizations working together to advance clean energy.

CESA members—mostly state agencies—include many of the most innovative, successful, and influential public funders of clean energy initiatives in the country.

CleanEnergy States Alliance

www.cesa.org



MAINE DEPARTMENT OF Energy Resources



Maryland Energy Administration



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY



Energy, Minerals and Natural Resources Department



NYSERDA



INCLUSIVE Prosperity Capital



Wisconsin Office of Energy Innovation



NORTH CAROLINA Environmental Quality



COLORADO Energy Office



OREGON DEPARTMENT OF ENERGY



NORTH CAROLINA DEPARTMENT of COMMERCE



Office of the People's Counsel
ADVOCACY | EDUCATION | PROTECTION



WISCONSIN ECONOMIC DEVELOPMENT



nbi new buildings institute



Energy Storage Policy for States

Providing support to CESA members engaged in developing energy storage policy, programs and regulation.

Activities include knowledge sharing, direct policy support, and independent analysis.

The project leverages other CESA and CEG efforts, including ESTAP and CEG's Resilient Power Project.

www.cesa.org/projects/energy-storage-policy-for-states/

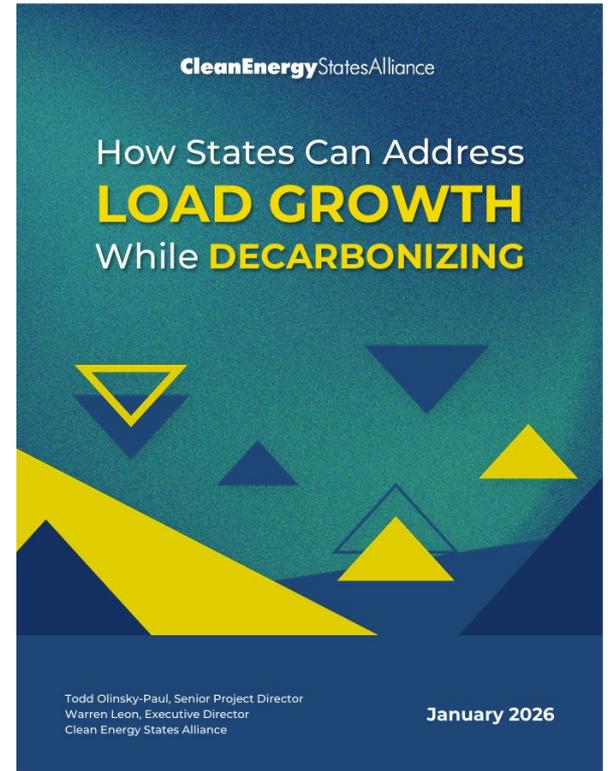


CleanEnergy
States Alliance

How States Can Address Load Growth While Decarbonizing

January 2026

Todd Olinsky-Paul, Warren Leon | CESA



Webinar Speakers

HOW STATES CAN ADDRESS LOAD GROWTH WHILE DECARBONIZING



Todd Olinsky-Paul

Senior Project Director
Clean Energy States Alliance



Philip L. Bartlett II

Commissioner
*Maine Public Utilities
Commission*



Warren Leon

Executive Director
Clean Energy States Alliance
(Moderator)





info@cleanegroup.org



www.cesa.org



Upcoming Webinar

Beyond Lithium, Part 1: Hydrostor's
Advanced Compressed Air Energy Storage
(April 8)

Read more and register at
www.cesa.org/webinars

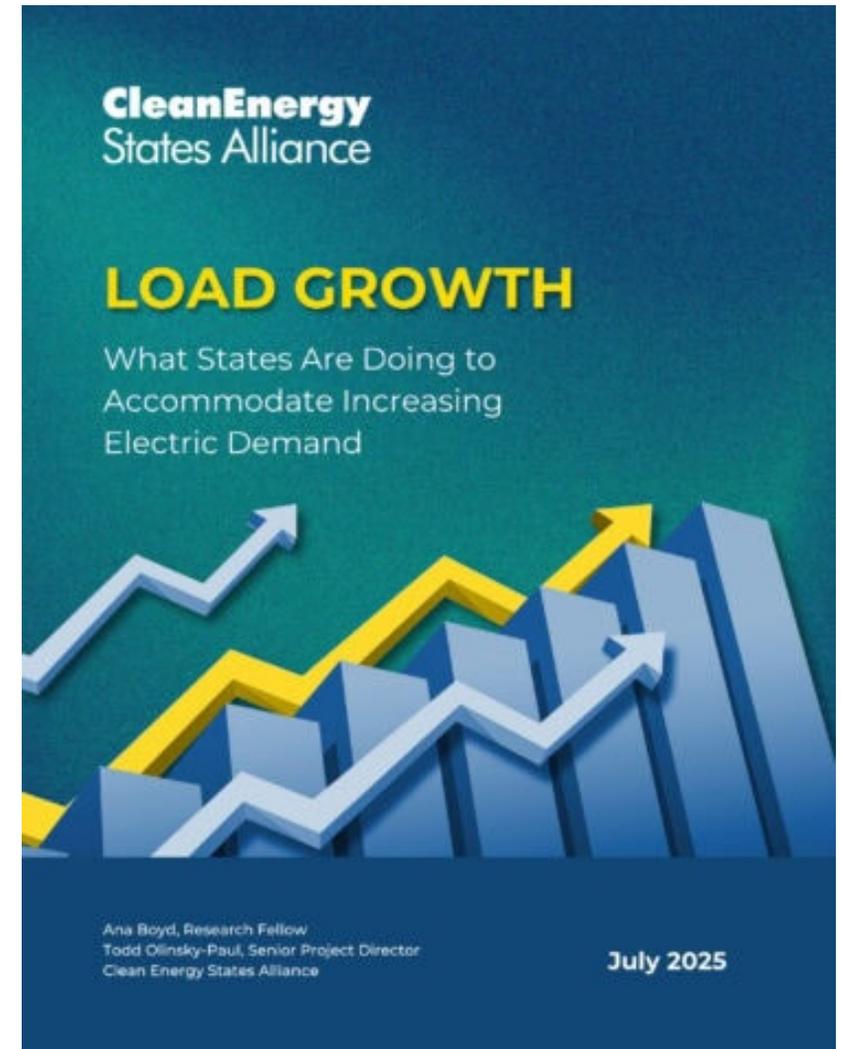
How States Can Address Load Growth While Decarbonizing

Todd Olinsky-Paul
March 11, 2026

Previous report:

Load Growth: What States Are Doing to Accommodate Increasing Electric Load
July 2025

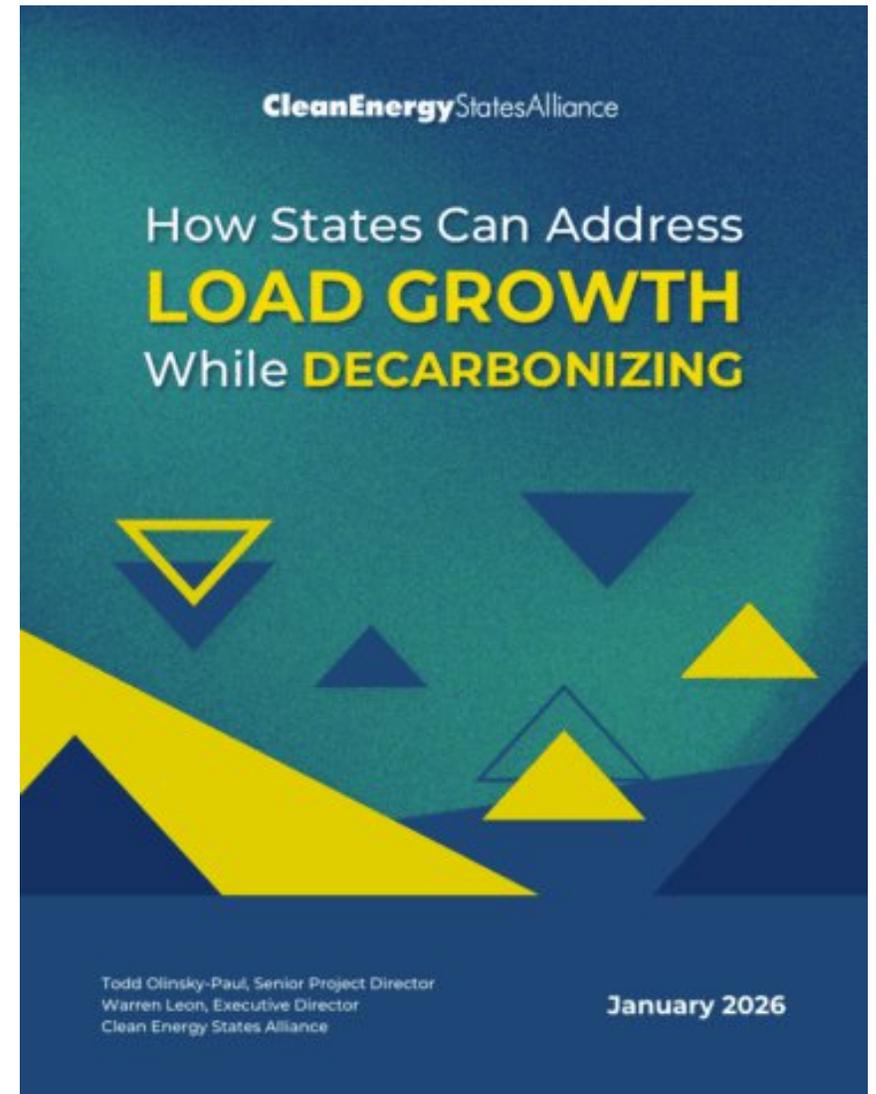
<https://www.cesa.org/resource-library/resource/load-growth-what-states-are-doing/>



New report:

How States Can Address Load Growth While
Decarbonizing
January 2026

<https://www.cesa.org/resource-library/resource/load-growth-decarbonizing/>



Four Strategies:

1. Plan for load growth
2. Minimize load growth through efficiency
3. Address peak load
4. Promote clean energy technologies

Three Questions:

1. Can Distributed Generation Help?
2. Can Energy Storage Help?
3. What About Small Modular Nuclear Reactors?

Strategies

1. Plan for Load Growth

Fossil fuel proponents may use concerns about load growth as a blanket argument for fossil fuel expansion, but **load growth is not uniform!**

The only way to know what new generation will be necessary, if any, is to **study** the likely load growth **in a specific location**, with attention to **timing** and **seasonality** of increased demand.

Then ask: How much of this anticipated load growth can be met with actions other than new fossil fuel generation?

The answer to this question should inform state energy planning:

- Decarbonization roadmaps
- Comprehensive energy plans
- Renewable portfolio standards (RPS)
- Distributed energy resource (DER) incentive programs
- Energy storage procurement targets
- Utility integrated resource plans (IRPs)

Strategies

2. Minimize Load Growth Through Efficiency, Where Possible

Developers may prioritize speed of development over energy efficiency

- Rush to build data centers (to capture fast-growing market)
- Rush to build manufacturing (to avoid import tariffs)

But states and municipalities can insist that new large load facilities be energy efficient

- Virginia bill proposed sales and use tax exemptions for data centers that meet stringent energy efficiency standards
- Texas bill makes state tax incentives for data centers contingent on specific energy efficiency and conservation measures, such as efficient cooling systems and Energy Star-certified servers
- California's Building Energy Efficiency Standards include energy efficiency requirements specific to computer room cooling systems
- the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) has developed energy standards for data centers that have been incorporated into some state and municipal building energy codes

Legislative attempts to more aggressively regulate data center energy use not yet successful.

Two common methods states and municipalities use to regulate building energy use and emissions are **building energy codes (BEC)** and **building performance standards (BPS)**

- BECs set minimum requirements for energy-efficient construction and renovation
- BPSs are designed to ensure existing buildings meet specified levels of performance over their lifetime

Typically, a BPS requires **benchmarking** to establish baseline energy use and emissions; **regular improvements** in building systems to meet increasingly stringent performance targets over time; and **reporting** at regular intervals to document progress.

BPS have been enacted by several states including Colorado, Maryland, Oregon, and Washington, as well as by cities such as Washington DC, Boston, and New York City.

The U.S. Department of Energy (DOE) offers information and technical assistance to develop BEC and BPS through its Building Energy Codes Program: <https://www.energycodes.gov/BPS>

Look abroad?

For an approach that might not require legislation, states could potentially emulate the **European Union's data center reporting requirements**.

The European Commission Energy Efficiency Directive includes a section specifically focused on data centers that creates a database and requires data centers to report regularly on their energy efficiency and sustainability.

Strategies

3. Address peak load

What is the Relationship Between Load Growth, Peak Demand, and Decarbonization?

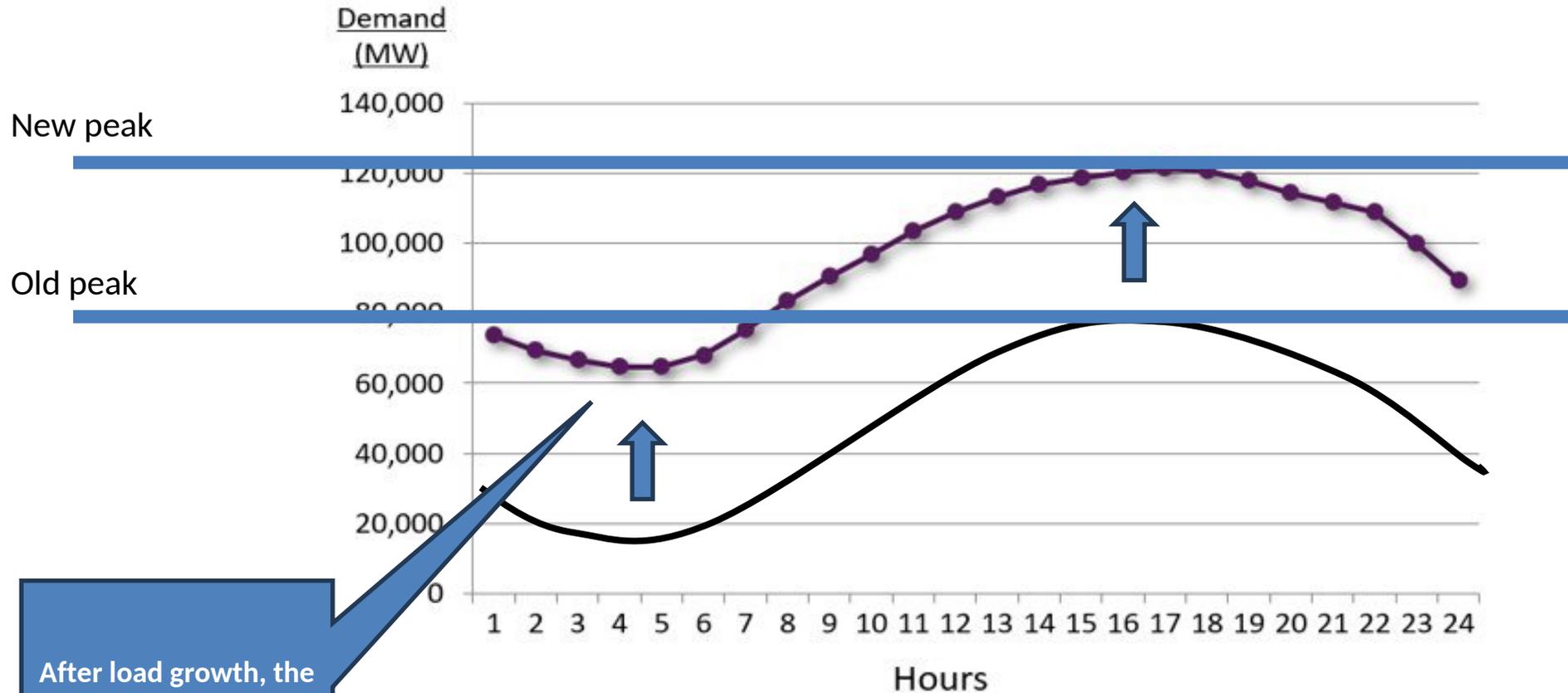
There are three main reasons to view load growth through the lens of peak demand:

1. Excess capacity is lowest during peak hours
2. Peak power is the most expensive power on the grid
3. Fossil fuel peakers are highly polluting

1. Excess capacity is lowest during peak hours

- During off-peak times, there is extra capacity available to meet additional demand in many locations
 - 98 percent of the time, more than 10 percent of electricity generation capacity is unused
 - 95 percent of the time, more than 20 percent of capacity is unused
 - In 2022, the natural gas combined cycle power plant fleet ran at only 57 percent of its full potential.
- Therefore, for many hours of the year, projected load growth could be accommodated by existing generation and T&D
- Accommodating additional demand during off-peak hours with existing generation would increase emissions, but also increase the overall efficiency of the grid

What happens if demand gets pushed upward across the board?



After load growth, the new valley may still be below the old peak

The peaks do increase... but so do the valleys!

- Increasing peaks is a problem.
- Increasing valleys is a solution.

Is our “load growth” problem actually a “peak demand” problem?

2. Peak power is the most expensive power on the grid

- Consumers' electricity bills are disproportionately affected by the high cost of providing power during peak demand times
 - A Massachusetts study showed that **40 percent** of the overall cost of power over a year was attributable to just **10 percent** of the hours
 - A study by Clean Energy Group found that peak electricity in New York City is priced **up to 1,300 percent higher** than the average cost of electricity in New York
- The high cost of serving peak loads is paid by ratepayers!
 - Capacity cost is bundled into the cost of electricity for most residential customers
 - For commercial customers, these costs appear in the form of “demand charges” that can comprise 50 percent or more of monthly electric bills

3. Fossil fuel “peakers” are highly polluting

- Fossil-fuel peaker power plants emit **more air pollutants and greenhouse gases** per unit of electricity generated than larger plants supplying baseload electricity
- Peaker power plants are **often sited in and near low income communities and communities of color**, disproportionately impacting the health of the residents of those communities as well as that of local ecosystems

For all these reasons, policymakers should approach planning for load growth as an opportunity to reduce the difference between peak and off-peak demand and to reduce reliance on fossil-fuel peaker plants.

How to address peak load?

States can target specific users, as well as regional demand peaks:

1. User Flexibility

A study from Duke University found that 76 GW of new load—equivalent to 10 percent of the nation's current aggregate peak demand— could be served with existing infrastructure provided that new large load users could accommodate an average annual load curtailment rate of 0.25 percent. At a curtailment rate of 0.5 percent, 98 GW of new load could be served, and at a 1 percent curtailment rate, 126 GW of new load could be served.

Can data centers be flexible? It depends...

- Crypto mining facilities can be highly flexible
- AI data centers are typically less flexible, although there are some examples of AI data centers being willing to exercise load flexibility in return for expedited grid interconnection

Solar+storage at data centers can offer flexible power demand as well as backup power during outages

2. Target peak demand generally

Lowering peak demand frees up more excess capacity to serve new large load customers

States have many tools:

- Demand response (DR) and demand side management (DSM)
- Virtual power plants (VPPs)
- Time-of-use rates (TOU) and critical peak pricing
- Active managed EV charging
- Energy storage procurement or incentives
- Peak-targeting programs (MA Clean Peak Standard)

Strategies

4. Promote Clean Energy Technologies

1. States may promote the procurement of clean generation in general, or may target it toward peak periods
 - RPSs are one traditional way states scale up renewables
 - MA Clean Peak Standard is an RPS that targets peak demand hours
2. States may require or incentivize data centers to source at least some of their power directly from clean generators
 - Example: A recent bill in California would provide tax cuts to data center operators if 70 percent of their energy comes from zero emissions sources

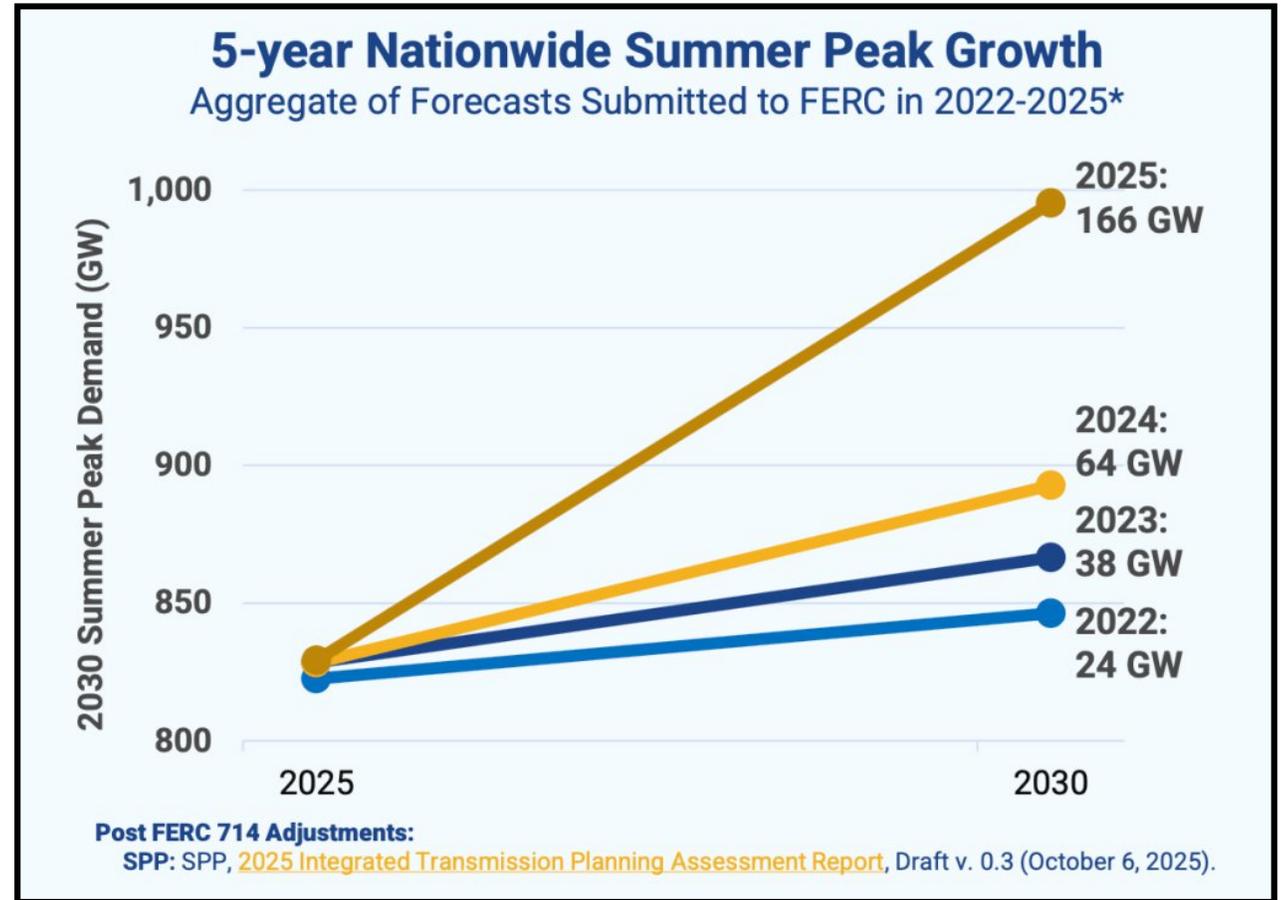
Questions

1. Can Distributed Generation Help?

Yes!

- NREL: US technical potential for rooftop solar PV alone is 1,118 GW of installed capacity and 1,432 terawatt-hours (TWh) of annual energy generation (equivalent to 39 percent of national electric-sector sales in 2016)
- US DOE: **peak-coincident DER technical potential is 315 GW by 2030**

States facing significant increases in peak demand will need to conduct their own analysis to determine what role DERs can reasonably play.



Questions

2. Can Battery Storage Help?

Yes!

- NRL: Under current grid conditions and market rules, 28 GW of four-hour battery storage has the practical potential to provide peaking capacity in the US
- If solar PV were scaled up to supply just 10 percent of the nation's electricity demand, this would increase the practical potential for four-hour storage to 50 GW of peaking power or beyond

Questions

3. What About Small Modular Nuclear Generators?

- Unlikely to be commercialized widely for at least another decade
- Likely to be expensive compared to both legacy fossil fuel generators and renewables
- Will have to overcome stakeholder reluctance due to past nuclear disasters

Therefore, SMRs seem an unlikely candidate to address immediate load growth

Conclusion

States can meet load growth while advancing decarbonization... but it will require action on multiple fronts:

- Advance planning for load growth
- Efficiency requirements for new large load facilities
- Focus on peak demand management and the development of clean peak capacity resources
- Scale up distributed energy resources and VPPs
- Faster scaling of clean energy technologies generally, including renewables and energy storage

To date, these strategies have not been the primary response to load growth. Instead, the focus has been on increased investments in fossil fuel infrastructure, mainly natural gas.

A concerted effort to bend the investment curve toward clean energy resources will be needed to avoid a massive surge of fossil fuel investment in the electricity sector, the effects of which would likely persist for many decades after load growth levels off.



Thank You

Todd Olinsky-Paul

Senior Project Director

Clean Energy States Alliance

todd@cleanegroup.org





MAINE PUBLIC UTILITIES COMMISSION

Philip L. Bartlett II, Chair

MAINE'S ENERGY FUTURE

Maine has committed to aggressive climate goals:

- **Decrease GHG emissions by 45% by 2030, 80% by 2050, and carbon neutral by 2045**
- **Renewable portfolio standard requires 80% renewable energy by 2030**
- **Governor Mills has goal of 100% clean energy by 2040**

Meeting these goals will require electrifying heating and transportation and increasing renewable energy generation.

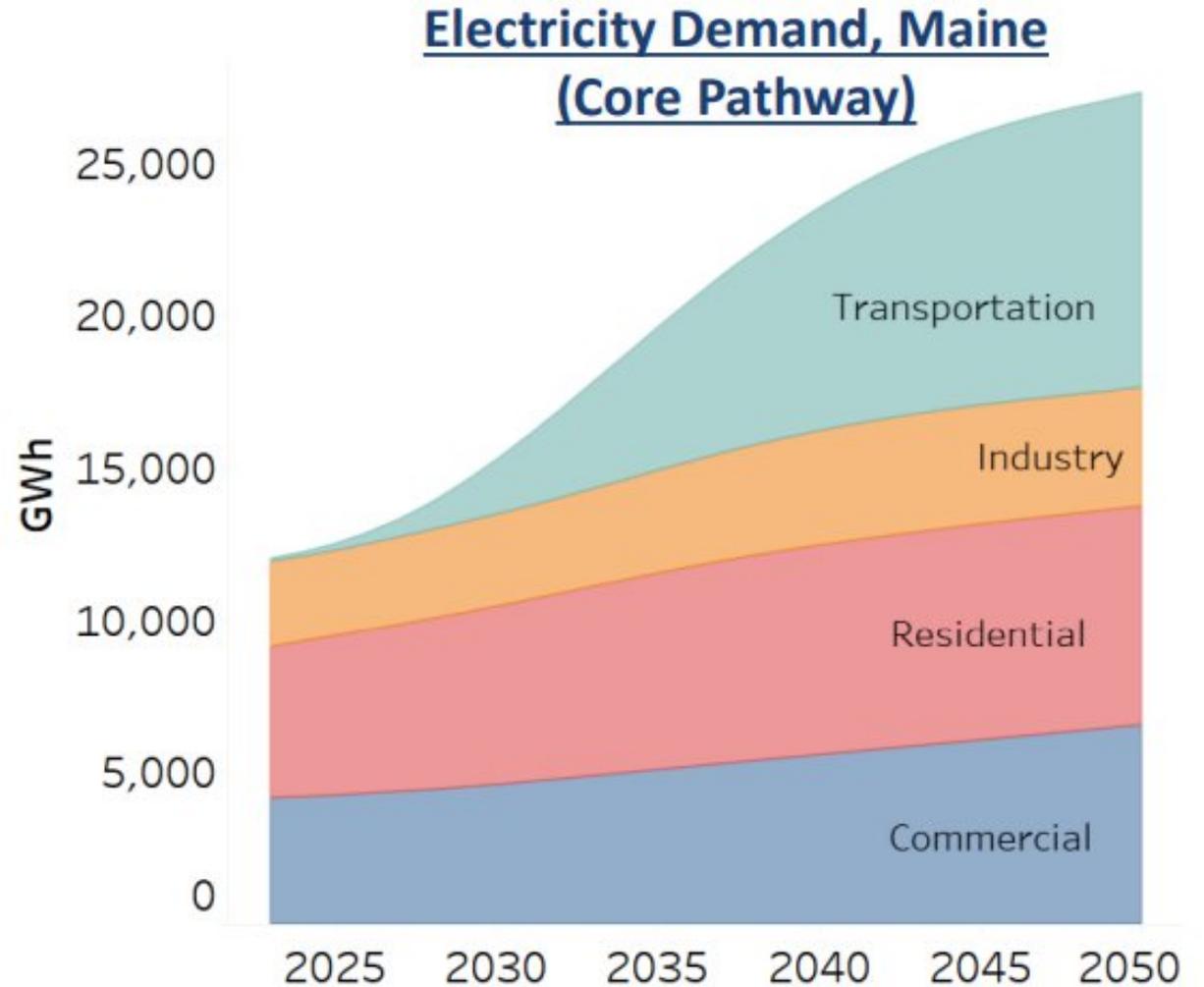
GOVERNOR'S ENERGY OFFICE PROJECTS ELECTRIC DEMAND TO DOUBLE BY 2050

Maine's Heat pump
targets:

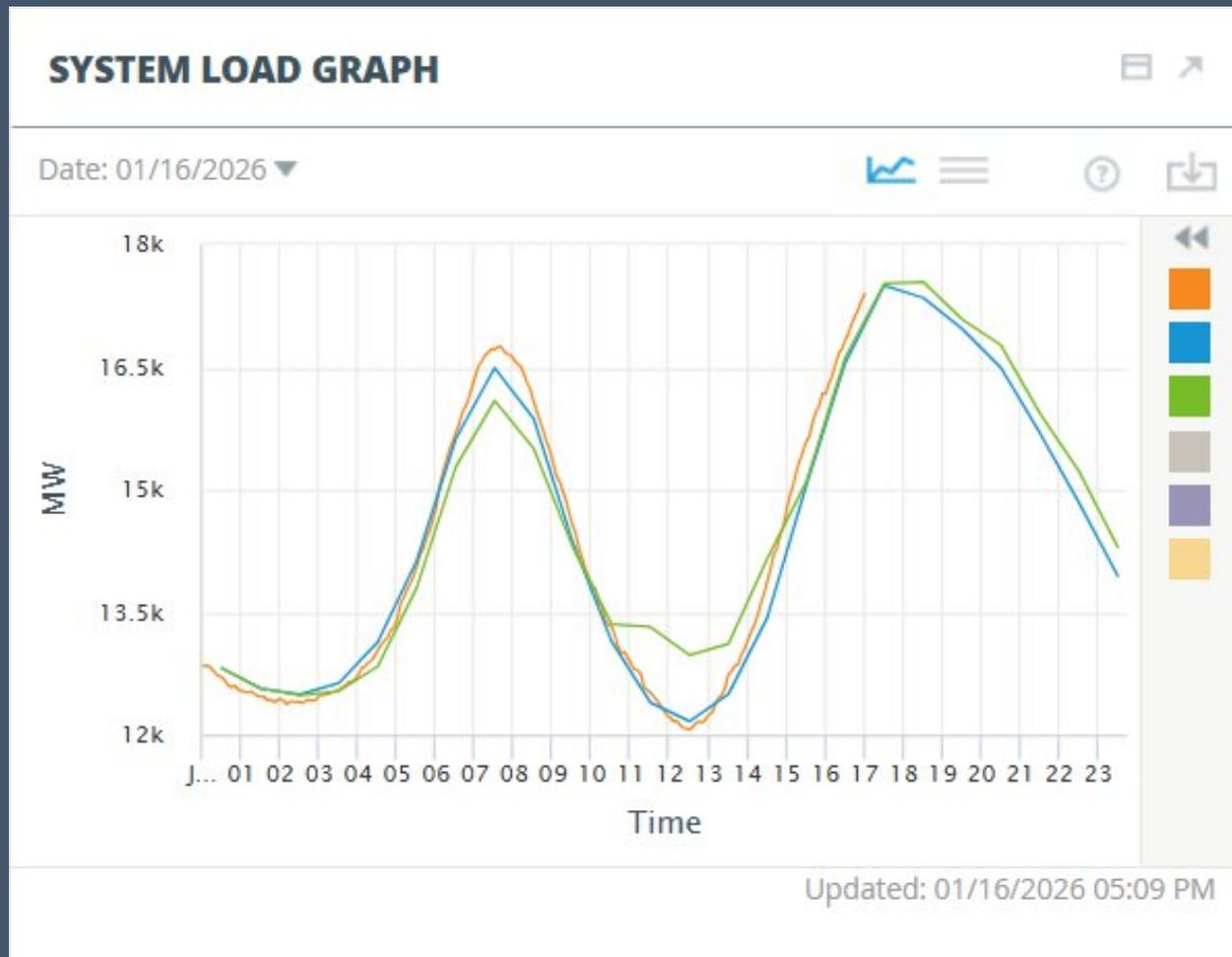
- 100,000 by 2025
- +175,000 by 2027

Maine's EV targets:

- 219,000 light-duty
EV's by 2030



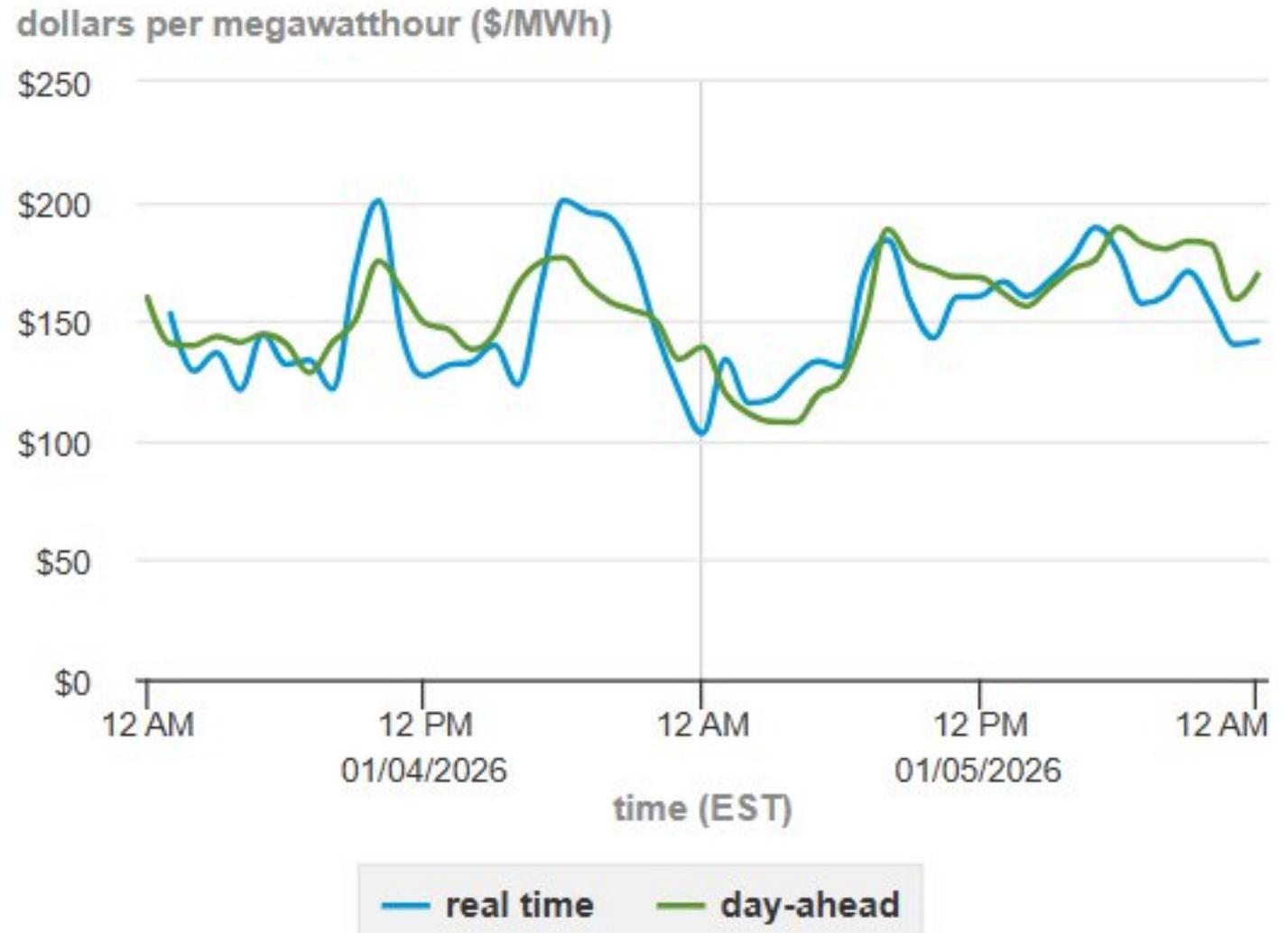
ISO-NE REAL-TIME SYSTEM LOAD



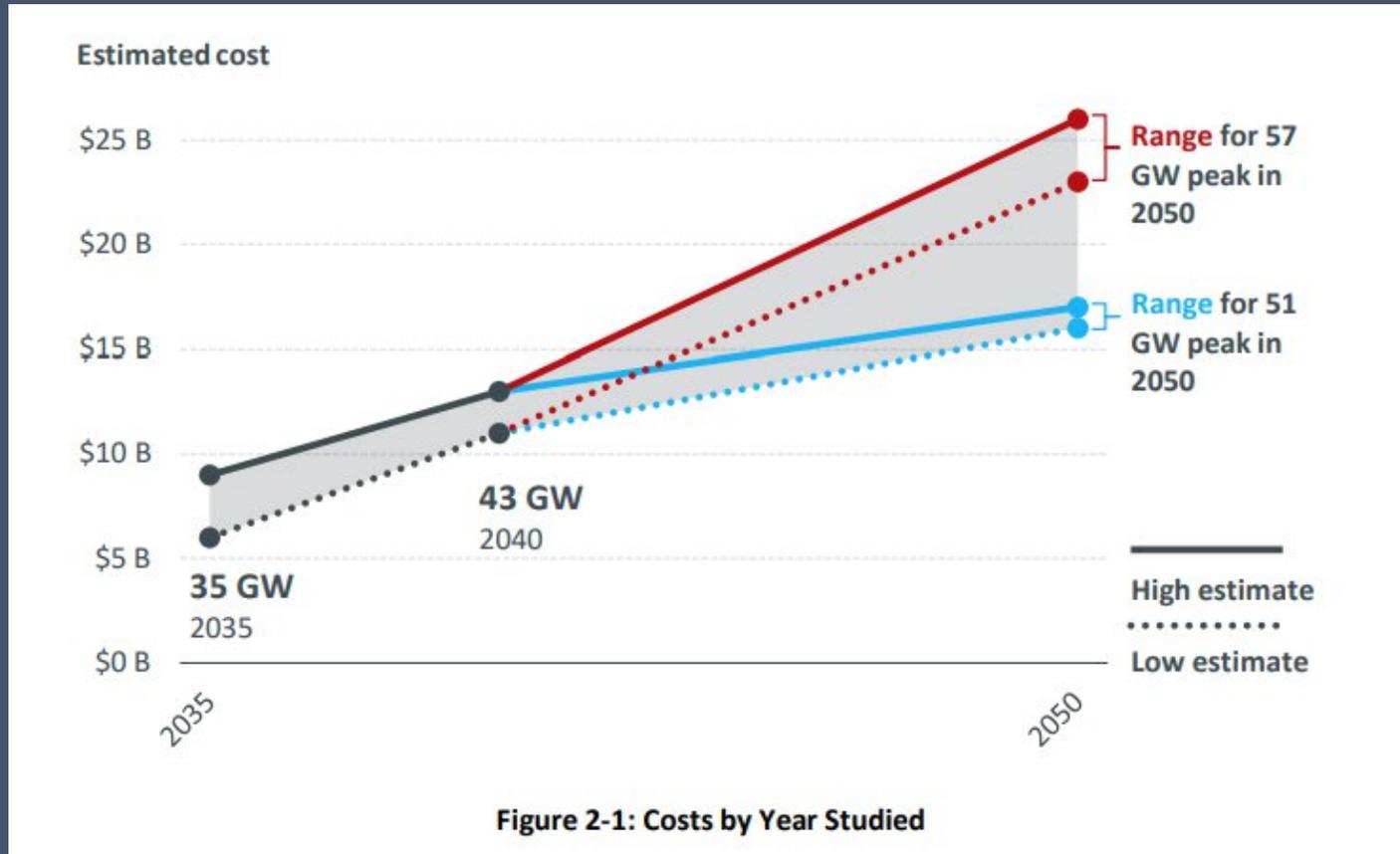
- Hour-by-hour electricity demand across NE in real time.
- Tracks how much electricity the region is using at any given moment and compares to forecasted demand.
- Peaks in morning and early evening, and decreases overnight, reflecting daily usage.

ISO NEW ENGLAND HOURLY LOCATIONAL MARGINAL PRICES (LMPS)

- The wholesale price of electricity at a specific place and time based on actual grid conditions.
- Calculated hourly, in real time, every five minutes to reflect how much it costs to serve the next unit of demand at the Hub and load zones.
- Includes costs of energy transmission congestion, and losses so they show how supply, demand, and grid constraints affect price throughout the day.
- Helpful in understanding when electricity is more expensive, or cheaper, in the market.



REDUCING PEAK LOAD SIGNIFICANTLY REDUCES TRANSMISSION COSTS



Transmission costs rise gradually as peak demand grows. Once you get above 51 GW, those costs increase much more rapidly.

Managing peak demand can help avoid billions of dollars in future transmission investments. Time-of-use rates and efficient technology helps reduce peak demand, lowering costs over the long term.

ALTERNATE RATES FOR SMARTER ENERGY USE

- Time-of-Use Rates: Prices vary by time of day; use electricity off peak to save.
- Electric Technology Rates: Special electric rates designed for homes and businesses with energy-efficient or smart devices. (Heat pumps, EV's, charging stations.)
- Benefits: Lower bills, less stress on the grid, and support for clean energy.



DOCKET 2025-00176

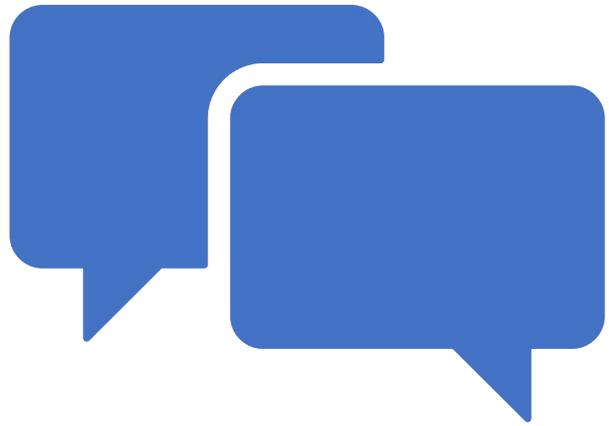
Exploring Time of Use Rates for Standard Offer Supply (default service) as well as delivery

Considering Opt-in versus Opt-out

- Maine has opt-in TOU delivery rates with minimal participation

Expanded scope to include:

- Critical Peak Time Pricing
- Peak Time Rebate
- EV-Only Charging Incentives



DISCUSSION