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TRANSFORMATION

# Energy Transformation Advisory Board Quarterly Meeting

February 4, 2026

Pre-Read Packet

# Reminder of Office of Energy Transformation (OET) Mission and Structure

**Energy Transformation Advisory Board (Advisory Board or ETAB)**

Provides guidance and recommendations on strategic direction to the OET and focus area work groups (FAWGs) to execute the energy transition, including gas-to-electric transition, electric grid readiness, and a just and equitable transition for workers, business, and communities.

**Transitioning Away from Everett Marine Terminal (EMT)**

To develop a coordinated strategy to reduce or ultimately eliminate the local gas distribution companies' reliance on the EMT Liquefied Natural Gas (LNG) facility aligned with DPU Order 20-80 and the state's climate and clean energy mandates, including as established in the *Global Warming Solutions Act*.

**Decarbonizing the Peak (DTP)**

To demonstrate pathways to reduce reliance on and expeditiously eliminate fossil fuels from peaking power plants and combined heat and power (CHP) facilities and deploy alternative demand and supply side options to meet peak load needs in Massachusetts, aligned with the electric sector sublimit and clean energy goals in the *2050 Clean Energy and Climate Plan*.

**Financing the Transition (FTT)**

To identify alternative mechanisms for financing/funding electricity distribution system infrastructure upgrades needed to achieve Massachusetts's clean energy and climate mandates that minimize impacts on consumers' electricity bills, while providing an affordable, sustainable, and timely source of revenue for investments.

**Enabling Sustainable Economic Development (ESED)**

To advance clean energy-ready economic development zones that enable key business sectors to grow in Massachusetts, in alignment with the state's interconnection, land use planning, environmental justice and equity, housing, and economic development initiatives.

# Agenda for February 4th Advisory Board Meeting

| Timing | Agenda Item | Presenter(s) |
|---|---|---|
| 1:00 – 1:10 | **Welcome, Agenda Review, and Ground Rules** | Melissa Lavinson, OET<br>Toby Berkman, CBI |
| 1:10 – 1:25 | **Remarks by Secretary Rebecca Tepper** | Secretary Rebecca Tepper, Executive Office of Energy and Environmental Affairs |
| 1:25 – 1:55 | **Update and Input on the EMT FAWG** | Mike Walsh, Groundwork Data |
| 1:55 – 2:25 | **Update and Input on the DTP FAWG** | Liz Mettetal, E3 |
| 2:25 – 2:35 | **10-MINUTE BREAK** | |
| 2:35 – 3:05 | **Update and Input on the FTT FAWG** | Paul Hibbard, Analysis Group |
| 3:05 – 3:55 | **Update and Phase 2 Guidance for the ESED FAWG** | Katherine O'Malley, OET |
| 3:55 – 4:00 | **Next Steps** | Toby Berkman, CBI<br>Melissa Lavinson, OET |

# Welcome and Introductions

**Melissa Lavinson**

Executive Director,
Office of Energy Transformation

**Toby Berkman**

Consensus Building Institute

# Reminder of Governance, Responsibilities, and Expectations

## Advisory Board

- Members are senior leaders in their organizations.
- Members will serve at least one 2-year term.
- Members will meet quarterly.
- Members will guide and approve FAWG development, missions, purview, and workplans.
- Members will seek consensus; where consensus is not possible, majority vote and recorded dissent.
- Members can volunteer and serve as “Executive Advisors” to and/or participate in the FAWGs.
- Meetings open to public for viewing/listening, with meeting minutes and materials posted to the OET website.
- One meeting per year will provide opportunity for direct public feedback.

## FAWGs

- Participation is open to all stakeholders, with membership shared with and affirmed by the Advisory Board.
- Members are subject matter experts/have a command of the subject matter with a level of decision-making authority, if participating on behalf of an organization. (Organizations may have multiple participants on a FAWG but will have one "vote" on FAWG decisions.)
- FAWGs will meet at least bi-monthly, or more often depending on need.
- FAWGs will conduct work, as necessary, via individual workstreams, with workstreams meeting, as necessary.
- FAWG members can self-select workstream participation.
- Workstream teams develop workplans and milestones and provide progress updates at full FAWG meetings.
- Workstream and full FAWG meetings are Chatham House Rules.
- Members will seek consensus, where consensus is not possible, options will be presented to the Advisory Board with stakeholder positions noted.
- All final recommendations and materials of the FAWGs will be provided to the Advisory Board and made public.

# Reminder of Ground Rules and Remote Participation

## Ground Rules

Assume positive intent.

Engage in constructive dialogue and actively seek agreement.

Stay on topic and within time (3 min or less).

Be respectful and forthright.

Speak one at a time, when called on by the moderator.

Raise concerns with the Chair or designee, who will act accordingly.

Be able to substantiate assertions or claims in support of comments and positions.

Provide any additional written materials to share with the Advisory Board to the Chair prior to a meeting and OET will circulate.

## Remote Participation

Raise your “hand” to be recognized by the Chair or designee.

Identify yourself and affiliation prior to any comments.

Refrain from side conversations in the room out of respect for remote participants.

OET will provide all meeting materials and agendas to Advisory Board Members at least seven days in advance of meetings. Meetings will have a virtual option. All Advisory Board meeting materials are posted to the OET website by the day-of the meeting. Concurrent translation services will be made available at the request of a Member.

# Advisory Board February 4th Meeting: What to Expect

**Energy Transformation Advisory Board**

### Transitioning Away from EMT

Presentation on draft FAWG Findings and Recommendation Pathway.

**Vote:** The Advisory Board affirms the FAWG's Findings to-date and Recommendation Pathway to complete Phase 3 work, which will be provided to LDCs for use in their April DPU progress report filings.

### Decarbonizing the Peak

Presentation on initial modeling results from E3, which will inform policy discussions.

**Vote:** The Advisory Board affirms the FAWG's work and approach to date, including modeling, and has no objection to the FAWG proceeding to Phase 3 to develop policy-focused recommendations.

### Financing the Transition

Presentation on initial quantitative analysis of financing alternatives and Phase 3 workplan, including approach to recommendations.

**Vote:** The Advisory Board affirms the proposed Phase 3 workplan and approach to recommendations.

### Enabling Sustainable Economic Development

Presentation on work to date and Phase 2 approach. **Small group discussions** (both in-person and remote) to share feedback and provide input.

**Vote:** The Advisory Board affirms Phase 2 workplan, including the possibility of identifying pilot site(s).

# Updates on Outreach and Engagement

## Canton Community Meeting

Hosted a community meeting on **November 18th** in Canton. Provided an overview of the state's climate and clean energy policies and work of the Office of Energy Transformation. Received input and feedback from local community members for additional areas of focus and support.

## Special Commission on the Fossil Fuel Workforce Report

The Special Commission on the Fossil Fuel Workforce (Commission), established under the 2024 Climate Law and co-chaired by Executive Director Melissa Lavinson (Office of Energy Transformation) and Undersecretary Josh Cutler (Executive Office of Labor and Workforce Development), studied the impacts of the clean energy transition on fossil fuel workers and submitted its final report and recommendations to the Massachusetts Legislature on **December 30, 2025**. The Commission included 21 members, some of whom serve on the Advisory Board.

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# Remarks from the Secretary

Secretary Rebecca Tepper, Executive Office of Energy and Environmental Affairs

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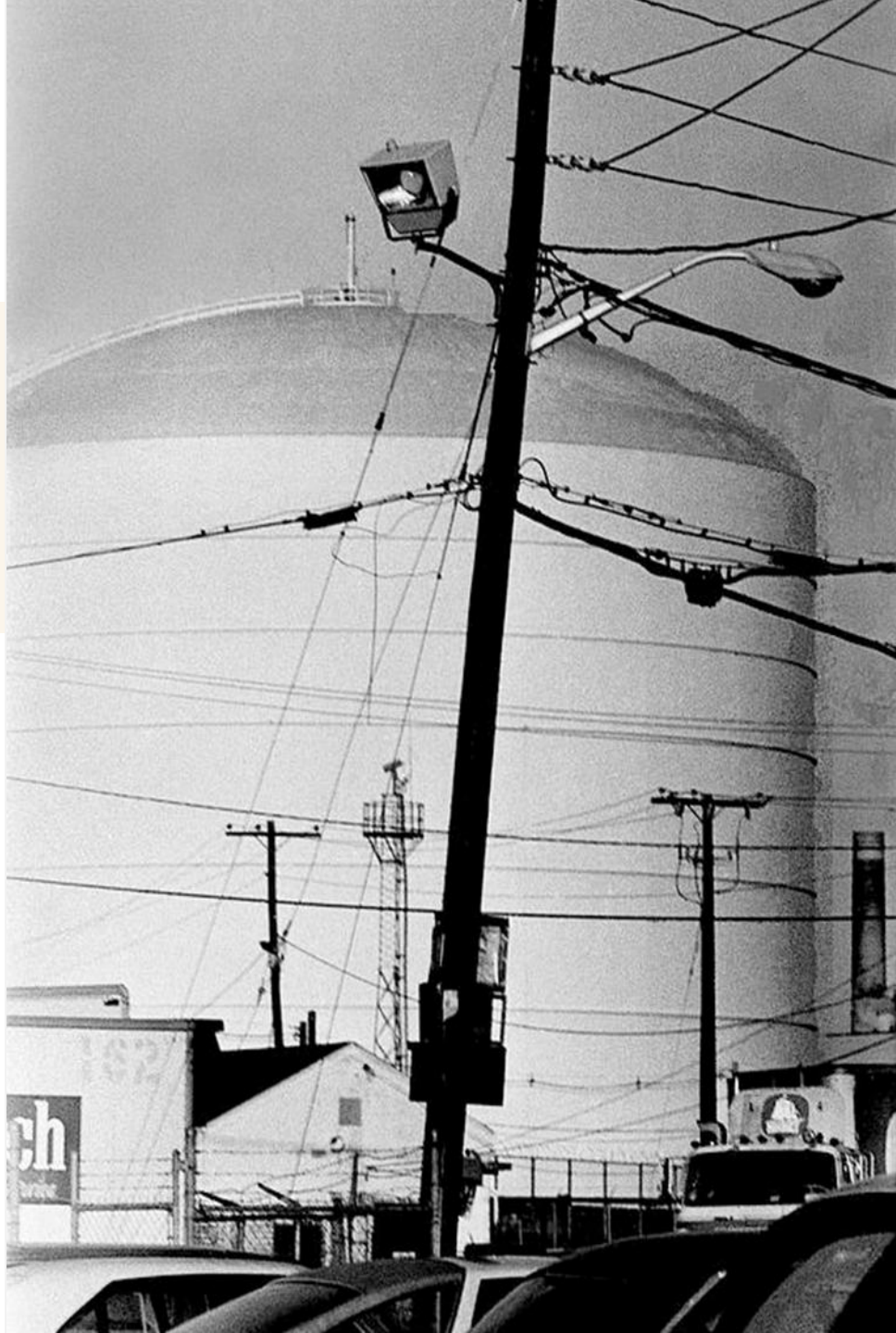
# Presentation and Discussion on Everett Marine Terminal (EMT) FAWG – Inform/Decide

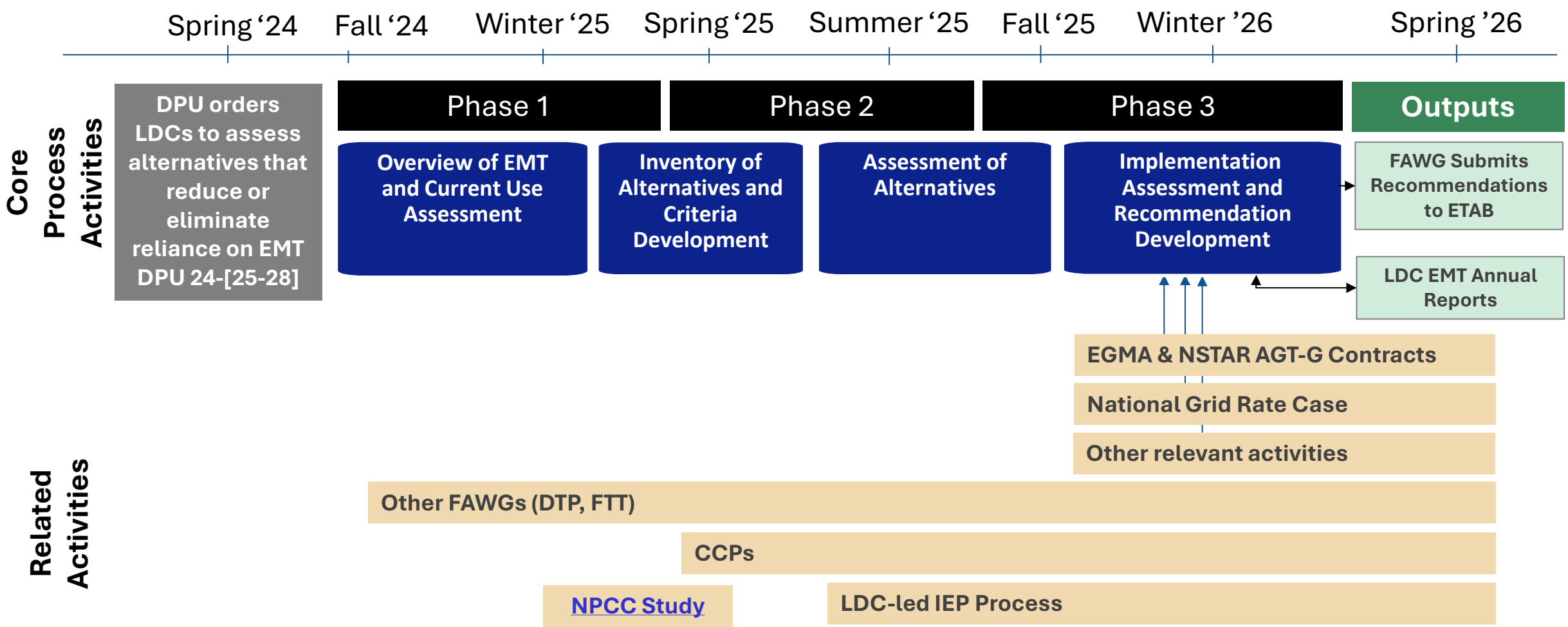
Michael Walsh, Groundwork Data



# Everett Marine Terminal FAWG: Topics to be Covered and Discussed

| Topic | Advisory Board Request or Discussion Point |
|---|---|
| 1. Progress Update (pre-read only) | Inform (pre-read only)<br>• Workplan Reminder & Status<br>• Mission & Purview<br>• Phase 3 Activities Since Last Advisory Board Meeting<br>• Phase 3 Objectives and Outcomes to Date |
| 2. Phase 3 Progress Materials (pre-read only, attached for review) | Inform/Review:<br>• LDC Alternative Assessments (Final)<br>• Findings (Final Draft)<br>• Recommendation Pathway (Final Draft) |
| 3. Presentation | • Summary of Findings and Recommendation Pathway<br>• Next Steps |
| 3. Vote | Decide: The Advisory Board affirms the FAWG's work and approach to date and supports the FAWG sharing Findings and Recommendation Pathway with the LDCs to inform their April 1 EMT progress report filing with the DPU. |

# Everett Marine Terminal FAWG: EMT FAWG Timeline



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# Everett Marine Terminal FAWG: Drivers of EMT FAWG Mission and Purview

EMT is a strategic state and regional resource but faced a decision point with the closure of its anchor customer (Mystic Generation Station).

Given the reliance of Massachusetts's **local distribution companies** (LDCs - **Unitil, National Grid & Eversource**) on EMT, each LDC contracted with EMT for six years to maintain resource reliability and system integrity.

**The DPU**, in recognition of transition risk, approved the contracts and directed each LDC "to fully investigate all possible alternatives…to reduce or eliminate their reliance on EMT" with a focus on cost, feasibility, timelines, and GHG emissions reductions.

The **EMT FAWG** serves as the stakeholder process to inform the LDC's assessment of alternatives and provide feedback through the LDC's ongoing progress reporting to the DPU vis-à-vis EMT.

**What is Being Considered?**

- *Affordability:* cost of EMT contracts; are there cheaper alternatives or ways to mitigate ratepayer costs?
- *Climate:* understand and guide alignment with climate goals.
- *System integrity:* understanding implications of EMT shuttering prior to eliminating need and potential risks/mitigations.

The EMT FAWG is focused on Massachusetts impacts and its gas ratepayers; not the broader future of EMT.





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# Everett Marine Terminal FAWG:
# Phase 2 Activities Since Last Advisory Board Meeting

| **Phase 2**<br>44 Organizations Participating<br>Subject Matter Expertise Provided by Groundwork Data | | | |
|---|---|---|---|
| Meeting 10<br>October 30, 2025 | Meeting 11<br>December 4, 2025 | Meeting 12<br>January 16, 2026 | Meeting 13<br>January 20, 2026 |
| Reviewed Advisory Board input and survey feedback on direction of FAWG. Eversource presented on Algonquin Gas G-Lateral upgrade and supply contract (pending at DPU). Delved deeper into demand data in EMT-reliant areas. | Received presentations on Boston Area Clean Thermal initiative, lessons from the Eversource geothermal pilot, and results from demand response study. Reviewed draft FAWG findings & recommendation pathway and received feedback and revisions from FAWG for next iteration. | Webinar-style meeting with presentations from Mike Walsh (Groundwork Data) on gas supply in the region, Norris Wright (Constellation) on EMT operations, Boris Brevnov (Liberty Energy Trust) on the Charlton facility's regional role, and Jordan Kirwin (Repsol) on the St. John facility's regional role. | Eversource presented on Integrated Energy Planning (IEP) and stakeholder efforts, to date. The state presented on how IEP fits in with the EMT FAWG. Reviewed the updated FAWG Findings and Recommendation Pathway 1; received additional feedback and comment, which was incorporated into what was sent to the Advisory Board. |

# Everett Marine Terminal FAWG: Phase 3 Objectives & Outcomes to Date

| Goal | 3.1 Further Understand LDC Alternative Assessments | 3.2 Draft Findings and Recommendation Pathway | 3.3 Final Findings & Initial Recommendation Pathway |
|---|---|---|---|
| **FAWG Work** | Following the LDC's alternative assessments (Phase 2) the FAWG:<br>• Reviewed proposed Eversource G Lateral contracts.<br>• Considered the transition tensions facing EMT.<br>• Explored how different customer classes drive demand for EMT. | Across two meetings, the FAWG reviewed, discussed, and revised:<br>• Summaries of LDC alternative assessments.<br>• Draft Findings regarding the nature of the LDC's utilization of EMT and avenues to reduce or eliminate reliance on EMT.<br>• Draft Recommendation Pathway on how to address EMT dependencies and costs. | The FAWG reviewed LDC assessments focusing on:<br>• Unitil's LNG injection needs.<br>• Eversource's supply needs in Southeast MA (AGT-G Lateral).<br>• National Grid's LNG injection needs.<br>• Eversource's Cambridge & Somerville needs (AGT-J Lateral).<br>• National Grid's Boston Gas direct connection to EMT. |
| **Outcome** | Additional understanding of potential alternatives and customers influencing EMT use. | Produced *Draft Findings and Recommendations Pathway* for Advisory Board review on February 4, 2026. | Advisory Board review and decision in June 2026. |
| **Additional Information Requested** | None, at this time. | Advisory Board members are asked to coordinate with their FAWG representatives on final input. | N/A |
| **Status** | Initial completion. Will be ongoing and iterative. | Complete. Pending Advisory Board review & affirmation | Pending |

# Everett Marine Terminal FAWG: Spring 2026 Timeline

## FAWG Meeting

***Jan. 20, 2026***

Discussed Integrated Energy Planning

Reviewed Draft Findings and Recs

Held one additional virtual meeting to take feedback

## Advisory Board Meeting

***Feb. 4, 2026***

Advisory Board receives Draft Findings and Recommendation Pathway to review and affirm that FAWG is on the "right track," consistent with previous guidance

## FAWG Meeting

***Feb. 24/25, 2026***

Incorporates Advisory Board guidance into Draft Findings & Recs and provides to LDCs ahead of their EMT Annual Reports

FAWG provides feedback on LDC progress report filings

## Ongoing FAWG Work

***Through June 2026***

FAWG convenes monthly to hone Recommendation Pathway

OET support staff draft final report with FAWG input

## LDCs File EMT Progress Report

**Apr. 1, 2026**

# Everett Marine Terminal FAWG: DRAFT Findings: The Role of EMT

## #1: ROLE OF EMT

**EMT is major gas asset that provides:**

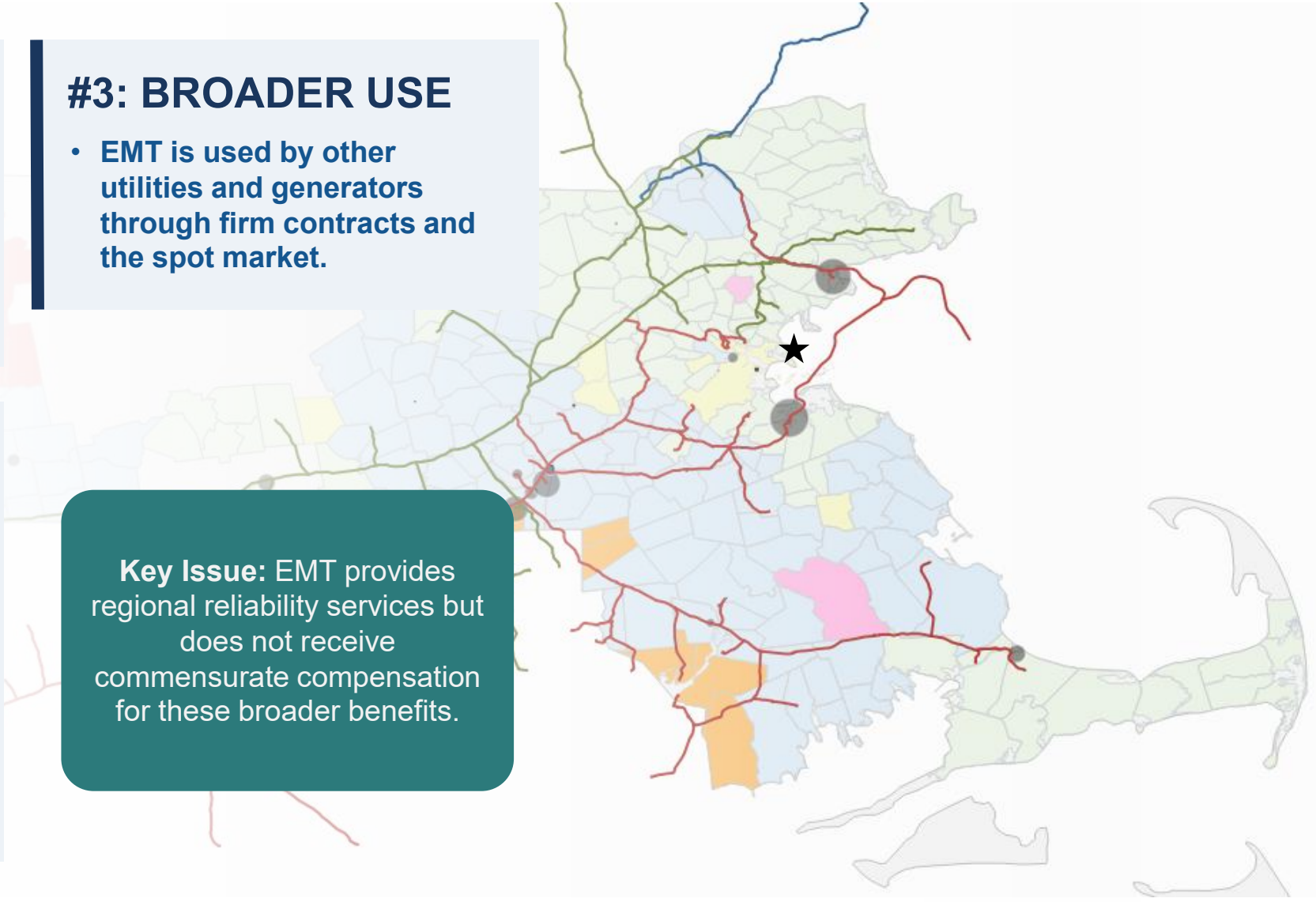
- Vapor (Pipeline) Supply
- Liquid (Truck) Supply
- System Redundancy
- Pressure Support
- Energy Storage

## #2: LDC USE

- **LDCs contract with EMT for gas supply to meet pipeline requirements and refill their storage.**
- **Contracts are based on LDC growth forecasts.**
- **EMT provides pressure support and system redundancy to inner-core systems.**

## #3: BROADER USE

- **EMT is used by other utilities and generators through firm contracts and the spot market.**



**Key Issue:** EMT provides regional reliability services but does not receive commensurate compensation for these broader benefits.

# Everett Marine Terminal FAWG:
# DRAFT Findings: EMT in the Energy Transition

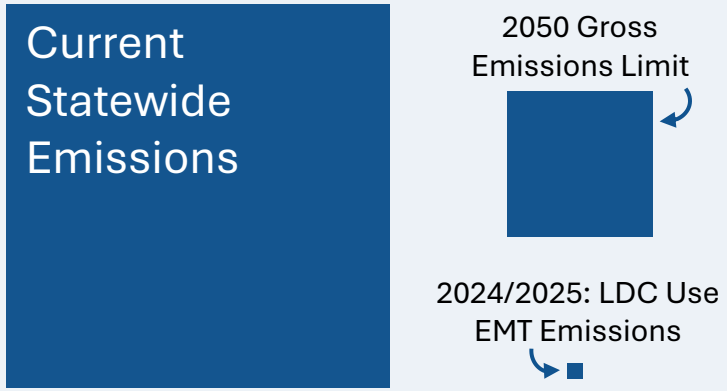
## #4: COSTLY CONTRACTS

EMT's costs are **largely fixed**—revenue requirements needed to keep it operational.

**Post-Mystic shift:** Costs previously spread across Mystic's high utilization and regional electricity customers have shifted to LDCs and gas ratepayers.

Gas customers experience costs **more acutely**: smaller cohort, less frequent use, relatively higher cost per energy unit.

## #5: EMISSIONS ARE SMALL




EMT LDC supply is approximately ~0.23% of the Commonwealth's GHG emissions.

## #6: UNCERTAIN FUTURE

EMT has a minor GHG impact, but the LDC demand forecasts driving its use assume overall consumption that **exceed 2030 emissions sublimits.**

**Energy storage will play a foundational role in the energy transition**. EMT is the largest energy storage asset in the state, with a strategic location for the gas system.

EMT is a legacy fossil asset, the utilization of which is impacted by distinct changes occurring, concurrently, in the electric and gas sectors. Its services and role simultaneously complement and challenge these changes.
*This creates certain risks…*

# Everett Marine Terminal FAWG: DRAFT Findings: #7. Emergent Risks

## Changing Demand Risk

As building electrification scales, heating demand patterns shift. Timing and magnitude remain uncertain. Growing electricity demand may increase EMT's value to generators.

## Economic Risk

Post-Mystic, the costs of EMT shifted from regional electric ratepayers almost solely to LDC customers. The potential departure of Eversource's G-Lateral territories could shift costs to remaining EMT-dependent customers.

## Regulatory Transition Risk

State mandates create risk for fossil infrastructure, while reliability requirements demand maintaining supply and system adequacy.

## Reliability Risk

EMT is a major reliability asset that would support the regional system in an unexpected emergency. Overreliance poses risks, but some can be mitigated through alternatives.

## Situational Risk

EMT operates in an environmental justice community. The City of Everett receives tax revenue and support from Constellation. The facility directly employs 60 individuals, with employees represented by Utility Workers Union of America (UWUA) Local 369.

**Risks can be mitigated through efforts to shape customer demand and system operations.**

# Everett Marine Terminal FAWG:
# DRAFT Findings: Timeline Constraints & Pathways Forward

## #8: TIMELINE CONSTRAINTS

**2030:** It is highly unlikely that sufficient demand reduction and system interventions can be deployed by 2030 to avoid continued reliance on EMT.

**However:** Prioritization of both strategies can reduce risks associated with reliance.

## #9: REDUCING RELIANCE

**Demand Reduction** is foundational. Large C&I offers potential:

- Concentrated demand..
- Decarbonization interest..
- High-efficiency/electrification potential..

**System Interventions** are still necessary for operational requirements, though some face high costs and asset continuation risks given evolving demand.

*Eliminating reliance requires **both** strategies—for supply and for reliability/system operations.*

## #10: PLANNING PATHWAYS

**Integrated Energy Planning (IEP)** offers a conceptual framework for optimizing future systems decisions, although work needs to be done to incorporate EMT dependency considerations into nascent planning efforts.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# Everett Marine Terminal FAWG: DRAFT Recommendation 1

**The FAWG recommends identifying options to accelerate strategic demand reduction to develop a clear pathway away from reliance on EMT for the local gas distribution companies.**

**The FAWG further recommends incorporating EMT dependency into comprehensive integrated energy planning (IEP) efforts underway.**

**What is the goal of Integrated Energy Planning?**

Optimize for cost, climate, and customer goals through coordinated strategies across energy networks (both gas and electric) and consumers (both gas and electric) that have historically planned and operated independently.

**Sub-recommendations**

- **Gas demand reduction** should be the primary strategy for reducing EMT dependency.
- **Supply-side or system interventions** should be considered within acceptable timelines and costs.
- **Focus demand reduction on commercial & industrial loads**, while considering targeted residential opportunities.
- Develop EMT and gas peaking **metrics & reporting** practices.
- Identify IEP opportunities for in areas most reliant on **EMT.**

# Everett Marine Terminal FAWG: DRAFT Recommendations 2 & 3 and Next Steps

## 2. Develop policy recommendations that support cost reductions to gas ratepayers.

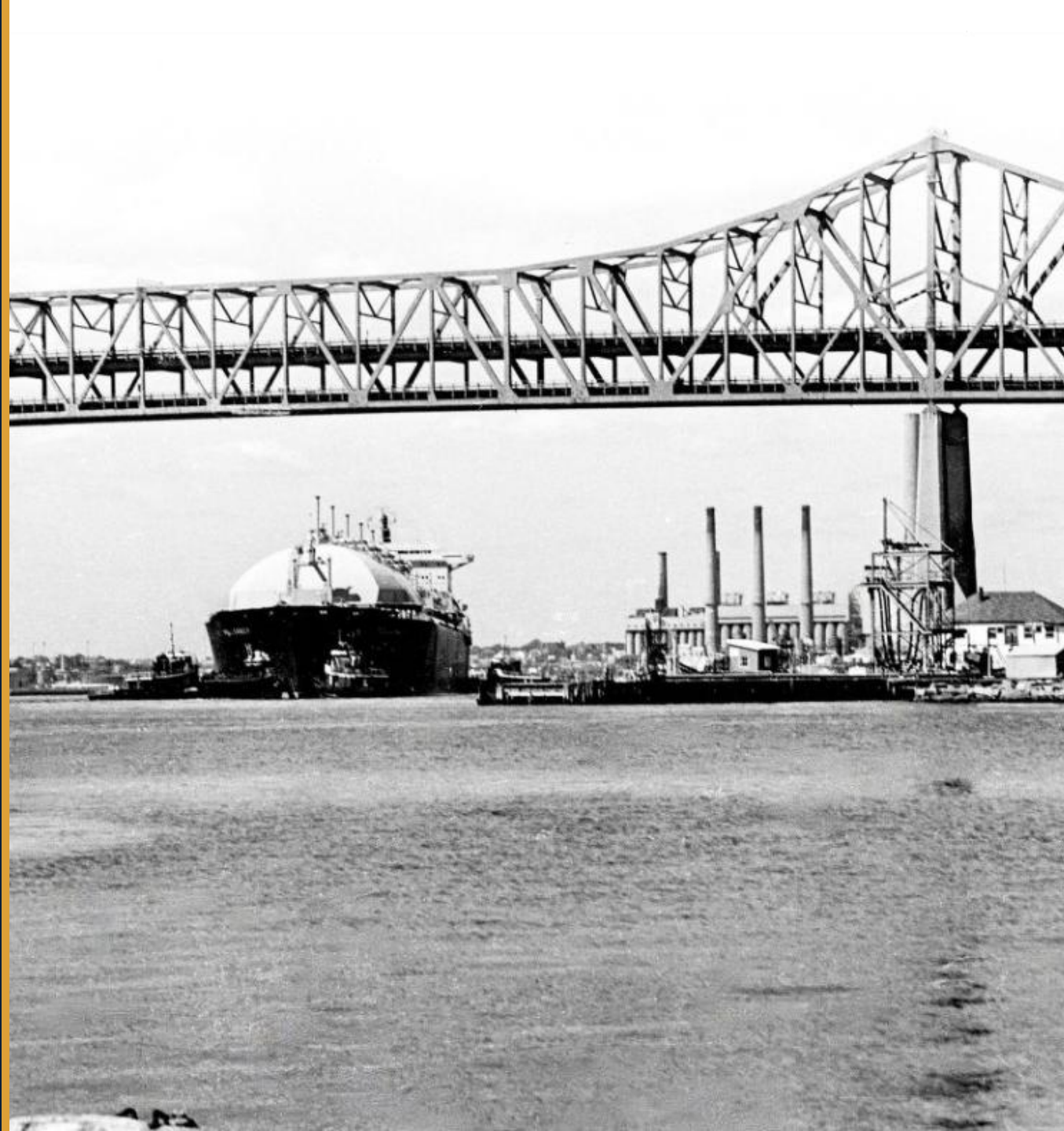
**How can policy ensure that EMT's costs are fairly allocated and managed during the transition?**

## 3. Develop clarity on the long-term role that gas storage will play in the energy transition.

**What role will EMT and other gas storage assets play in the region's energy system over the next 10-30 years?**

- **February**: FAWG receives and considers ETAB feedback; LDCs present on annual reports.
- **March:** FAWG identifies and discusses ratepayer cost mitigation strategies.
- **April:** LDCs submit annual report on EMT progress.
- **May:** FAWG considers Final Report, Findings & Recommendations.
- **June:** Final Report, Findings & Recommendations delivered to Advisory Board.

# Questions & Discussion



# Everett Marine Terminal FAWG:
# Vote: Affirm Findings and Recommendation Pathway

## Vote

- The Advisory Board affirms that the FAWG's Findings and Recommendation Pathway, as drafted, represent sufficient progress towards fulfilling the FAWG's charge. The Findings and Recommendation Pathway are sufficient to form the basis of additional deliberation on the Recommendations, including implementation considerations.
- The Findings, as drafted, are sufficient to aid the LDCs in the formulation of their annual reporting requirement describing progress on reducing or eliminating reliance on EMT as stipulated by the DPU's EMT contract approval order (D.P.U. 24-[25-28]).
- The Advisory Board understands that final Findings and Recommendations will be provided at its next meeting.

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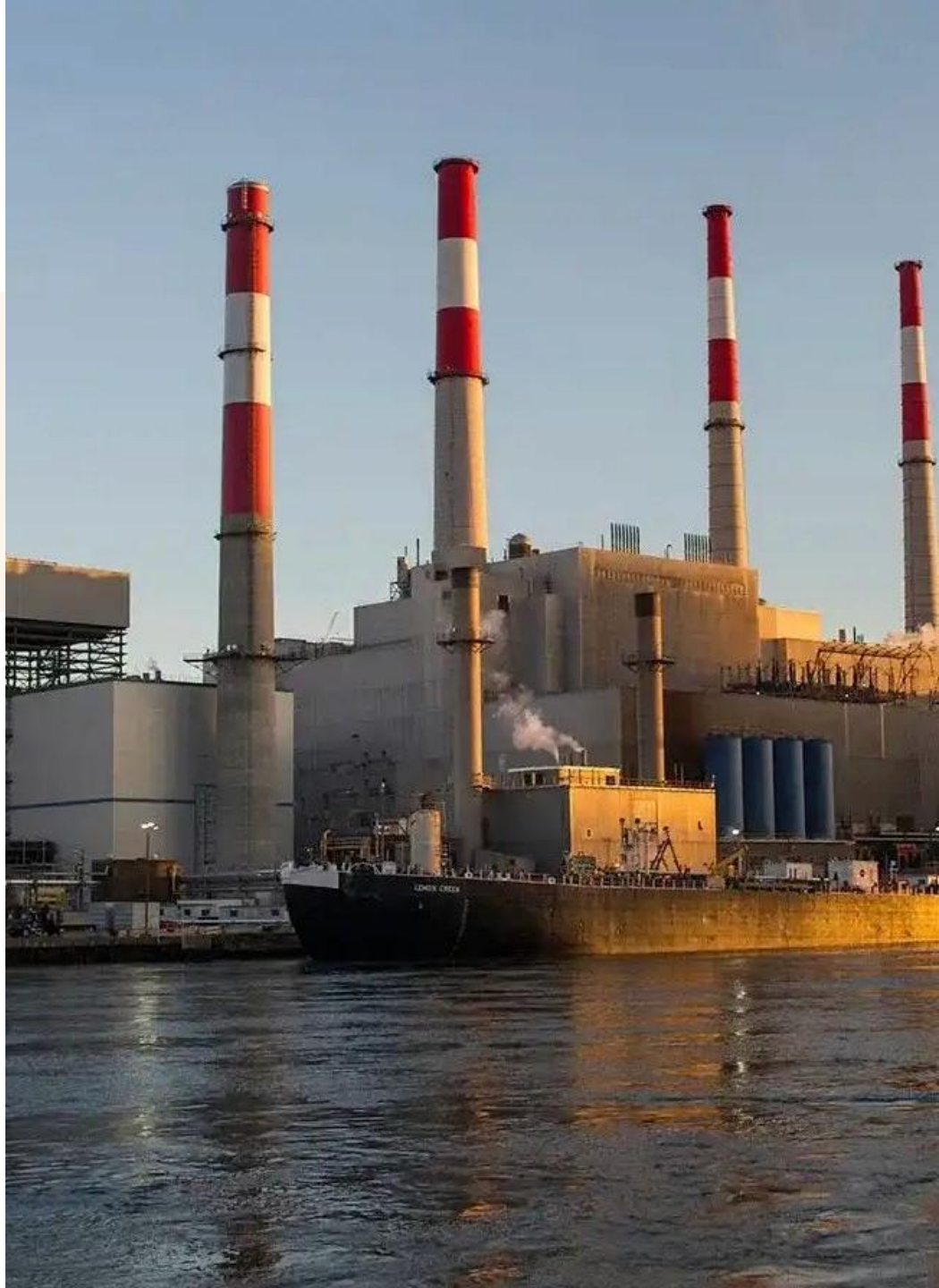
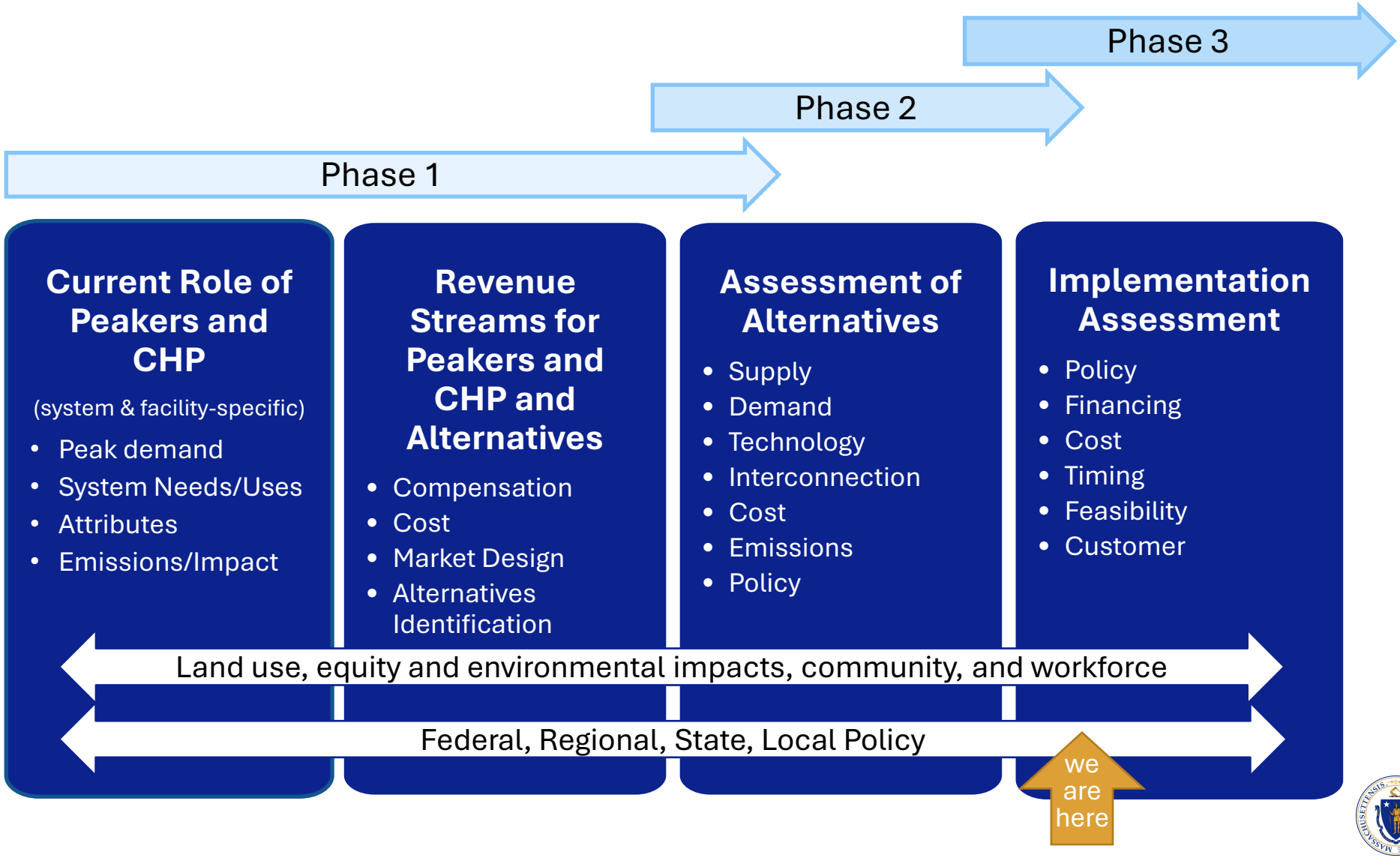
# Presentation and Discussion on Decarbonizing the Peak (DTP) FAWG – Inform/Decide



# Decarbonizing the Peak FAWG: Topics to be Covered and Discussed

| Topic | Advisory Board Request or Discussion Point |
|---|---|
| 1. Progress Report (pre-read only) | Inform (pre-read only)<br>• Workplan Review & Status<br>• Mission & Purview<br>• Phase 2/3 Activities Since Last Advisory Board Meeting<br>• Phase 2/3 Objectives and Outcomes to Date |
| 2. Presentation of Peaker Replacement Modeling Results | Inform/Review |
| 3. Vote | Decide: The Advisory Board affirms the FAWG's work and approach to date, including modeling, and has no objection to the FAWG proceeding to Phase 3 to develop policy-focused recommendations. |

# Decarbonizing the Peak FAWG: Workplan Reminder and Status

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# Decarbonizing the Peak FAWG: Drivers of DTP FAWG Mission and Purview

"Peaker plants" are generating units used for short-term needs, such as demand spikes. Combined Heat and Power (CHP) plants operate more regularly and typically ramp up during peak periods, helping to mitigate stress on the grid. CHP facilities also provide other services (e.g., steam, heating) to their owners/operators/users.

Peaker plants have an outsized impact on emissions due to their relative inefficiency, with some burning oil during the winter peak. While more efficient, as the grid decarbonizes, CHP units will have a higher GHG profile and extend reliance on the gas system.

Increased reliance on intermittent renewable energy sources and shifts in the magnitude, timing, and seasonality of peak demand by 2040 will increase the need for peaking capacity on the system and could drive expanded CHP use, without mitigative actions.

The **DTP FAWG** is exploring alternative options on the demand and supply side to meet/mitigate peak demand and create pathways for reducing CHP use.

**What is Driving Consideration of Alternatives?**

- *Affordability:* high cost of power from peakers and impact on gas system during peak periods.
- *Climate:* peaker plants are currently powered by fossil fuels, including oil, and have an outsized emissions impact; as the grid decarbonizes, CHP units will become a higher emitting alternative.
- *Increasing demand:* with increased electrification, growing demand, and shifting of peak period, peaker plant and CHP reliance could grow without mitigation.
- *Relationship to EMT:* reduction in gas usage from CHP units can help reduce/eliminate reliance on EMT.





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# Decarbonizing the Peak FAWG:
# Phase 2 Activities Since Last Advisory Board Meeting

| 82 Organizations Participating<br>Subject Matter Expertise Provided by E3, Harvard Environmental & Energy Law Program, and Georgetown Climate Center | | | | |
|---|---|---|---|---|
| **Phase 2** | | | | **Phase 3** |
| Meeting 10<br>September 15, 2025 | Subgroup Meetings<br>September – October | Meeting 11<br>November 5, 2025 | Meeting 12<br>January 14, 2026 | Meeting 13<br>January 23, 2026 |
| Synapse presented findings from study showing that complete peak decarbonization is technically feasible by 2050 with wind/ battery mix, requiring substantial infrastructure investment.<br><br>Reviewed load management study draft findings and proposed approach for phase 3 of the FAWG. | Four subgroups met to discuss and propose decarbonization options from a technology and policy perspective for the participating facilities: Canal, Pittsfield, West Springfield, and Tufts CHP. | Final report-out from the four case study facility subgroups. Reviewed common findings and "short list" of near-term technology options.<br><br>Presented reliability modeling workplan for feedback. | Heard community perspectives from Breathe Clean North Shore, Springfield Climate Justice Coalition, former Pittsfield City Councilor, and BU School of Public Health on engaging communities in a meaningful way on energy infrastructure and assessing decarbonization options. | Reviewed results from E3 system reliability modeling and discussed findings from modeling in small groups where FAWG began to align on general findings and prioritizing areas for recommendation to the Advisory Board. |

# Decarbonizing the Peak FAWG: Phase 1-3 Objectives & Outcomes to Date

| | Phase 1 | Phase 2 | | Phase 2/3 |
|---|---|---|---|---|
| **Goal** | **Understand Opportunities for Decarbonizing the Peak** | **Develop Inventory of Potential Strategies for Decarbonizing the Peak** | **Assess Various Technology and Policy Alternatives** | **Reliability Modeling of Replacement Alternatives** |
| **FAWG Work** | Understand alternative supply-side and demand-side technologies and policies that could operate on their own or in combination for reducing or eliminating fossil fuel peaker and CHP facilities. | Develop an inventory of potential alternatives applicable to replacing peaker or CHP facilities, including the four participating facilities, and an assessment framework for reviewing alternatives at the facilities and systemwide level. | Update straw proposal of technologies vis-à-vis criteria including emissions, environmental impacts, costs, feasibility, community impacts, and peaker substitutability. Apply framework to case study facilities to identify top technologies and enabling policies. | E3 performed reliability modeling to assess the ability of potential alternative resources to reduce reliance on peaker plants in Massachusetts. Draft results and findings were presented to the group and key findings were discussed. |
| **Outcome** | FAWG members proposed more technologies and requested clearer policy definitions. | FAWG affirmed alternatives list and assessment framework to use in Phase 2. | Subgroups met to review the straw proposal and apply to case facilities. | Modeling is complete and was discussed in small groups during the FAWG. |
| **Additional Information Requested** | Additional sessions requested with experts on some of the technology and policy options to increase understanding and applicability. | More information on various technologies. OET launched an informational webinar series, with recordings of sessions available on OET website. | More detailed analysis of resource adequacy of technologies to be completed in Phase 3. | Next steps include integrating findings with policy assessment. |
| **Status** | Completed | Completed | Completed | Ongoing |

# Decarbonizing the Peak FAWG: E3 Modeling on Technology Suitability for Peaker Replacement

## Technology Assessment Framework

| Technology Alternative Options | | × | Technology Assessment Categories |
|---|---|---|---|
| **Fuels** | | | Environmental Impacts |
| Renewable diesel | Green Hydrogen | | |
| Biodiesel | Green Ammonia | | Feasibility |
| Methanol | RNG | | |
| Ethanol | LNG/CNG | | Community and Economic Impacts |
| Biomass | | | |
| **Storage** | | | Suitability for Peaker Replacement |
| Li-ion battery | Pumped hydro | | |
| Na-ion battery | Compressed air energy storage | | Cost |
| Flow battery | Compressed gas energy storage | | |
| Iron-air battery | Thermal storage | | Availability/Stage of Commercialization |
| **Generation** | | | |
| Solar photovoltaic | Green Hydrogen Combustion Turbine | | Other Considerations (e.g., legal, policy risks) |
| On-shore wind | Hydrogen fuel cell | | |
| Off-shore wind | Linear generator | | |
| Enhanced geothermal | Wastewater heat recovery | | |
| Deep geothermal | Nuclear SMR | | |
| ROR hydroelectric | Fusion | | |
| Large hydroelectric | | | |
| **Other strategies** | | | |
| Transmission / Imports | Integrated Energy Systems | | |
| Thermal Conversion and Deep Geothermal | Carbon abatement, including CCS | | |
| DERs, DR | Load management | | |

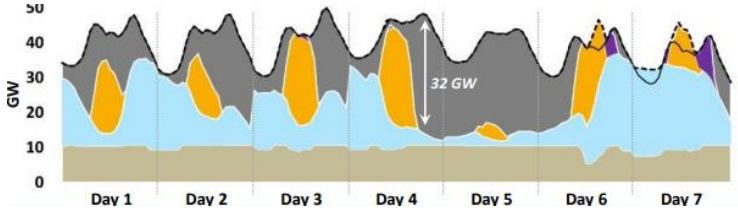
- The modeling enables more robust assessment of the alternative options to provide the resource adequacy contributions currently supplied by peakers in Massachusetts.
  - Captures resource availability, duration and performance under wide range of weather and load conditions.
  - All portfolios discussed in following assume ISO-NE continues to meet 1-day-in-10-year reliability standard.
- Analysis does not pick “winners” or build optimal portfolios.
  - Other EEA efforts/studies ongoing.
  - Costs of replacement alternatives are not the focus of this modeling, given uncertain trajectories; screening-level assessments were developed within framework.
- Given 40+ resource and fuel alternatives in the assessment framework, modeling focused on technology categories and examples with distinct characteristics.

# Decarbonizing the Peak FAWG: Key Questions for E3 Modeling

**1**

**How do different peaker plants/CHP in the ISONE system operate & contribute to reliability?**

- *How and when peak generation occurs*
- *Role of flexible dispatchable generation*
- *Focus on 2030 (near-term) and 2040 (medium- to long- term)*

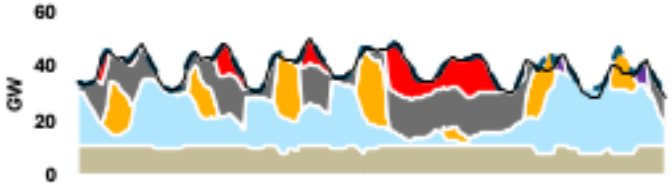



*During low renewable conditions, large amounts of generation is dispatched for reliability*

**2**

**What system needs does retiring existing peaker plants and CHPs create?**

- *Model impact of removing smaller and larger units*
- *Evaluate changes based on type of peaker removed, both in terms of system needs and operations of other peakers*

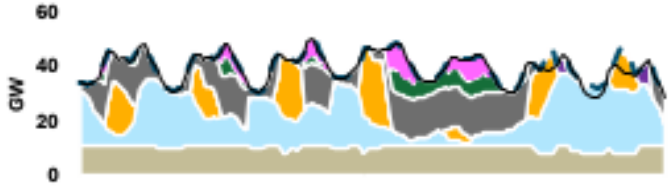



*Removing peakers creates a reliability need (illustrative)*

**3**

**How well can new supply-side resources and/or demand-side measures reduce or eliminate peaker or CHP reliance?**

- *Evaluate new renewables, energy storage, clean fuels, other dispatchable resources, and load management measures as ways to reduce dependency and utilization of peakers*
- *Identify how remaining peakers need to change operations to ensure ongoing resource adequacy*




*Storage (pink) and clean firm (green) ensure resource adequacy during these times*

# Decarbonizing the Peak FAWG: E3 Modeling Segmented Peakers by Size and Attributes

| Plant Name | >100 MW High Capacity? | <5% CF Rarely On? | >10 acres Large Site? |
|---|---|---|---|
| Canal Station | ✓ | ✓ | ✓ |
| Cleary Flood | ✓ | ✓ | ✓ |
| Medway Station | ✓ | ✓ | ✓ |
| Potter (Potter II/Watson Station) | ✓ | ✓ | ✓ |
| Stony Brook Energy Center | ✓ | ✓ | ✓ |
| West Springfield* | ✓ | ✓ | ✓ |
| Pittsfield Generating | ✓ | ✓ | |
| Bellingham(Cogeneration) | ✓ | | ✓ |
| Exelon West Medway II | ✓ | | ✓ |
| Salem Harbor Station (NGCC) | ✓ | | ✓ |
| Milford Power, LLC | ✓ | | |
| Centech Gas Generator | | ✓ | ✓ |
| IXYS – Beverly | | ✓ | ✓ |
| Cherry Street | | ✓ | |
| Framingham Station | | ✓ | |
| Front Street | | ✓ | |
| MBTA South Boston Power Facility | | ✓ | |
| Oak Bluffs Diesel Generating Facility | | ✓ | |
| Shrewsbury | | ✓ | |
| Tanner Street Generation, LLC | | ✓ | |
| Waters River | | ✓ | |
| West Tisbury Generating Facility | | ✓ | |
| West Water Street | | ✓ | |
| Wilkins Station | | ✓ | |
| Dartmouth Power | | | ✓ |
| Northeast Reliability Center | | | |

Large, legacy units
- Much older fleet (avg. age 1990), often dual fuel or exclusively oil
- Most large plants in MA have large sites, others are more compact

Large, newer units that operate more frequently (Mid-merit)
- Some units are newer (>50% of capacity post 2004)
- Often combined-cycle, can be dual fuel, significant number of natural gas only
- Most higher capacity factor, large plants have larger sites

Smaller units
- Almost all smaller units have lower CF, many are diesel
- May historically serve institutional and municipal reliability needs
- Some support critical infrastructure
- Should consider individual circumstances for potential for decarbonization

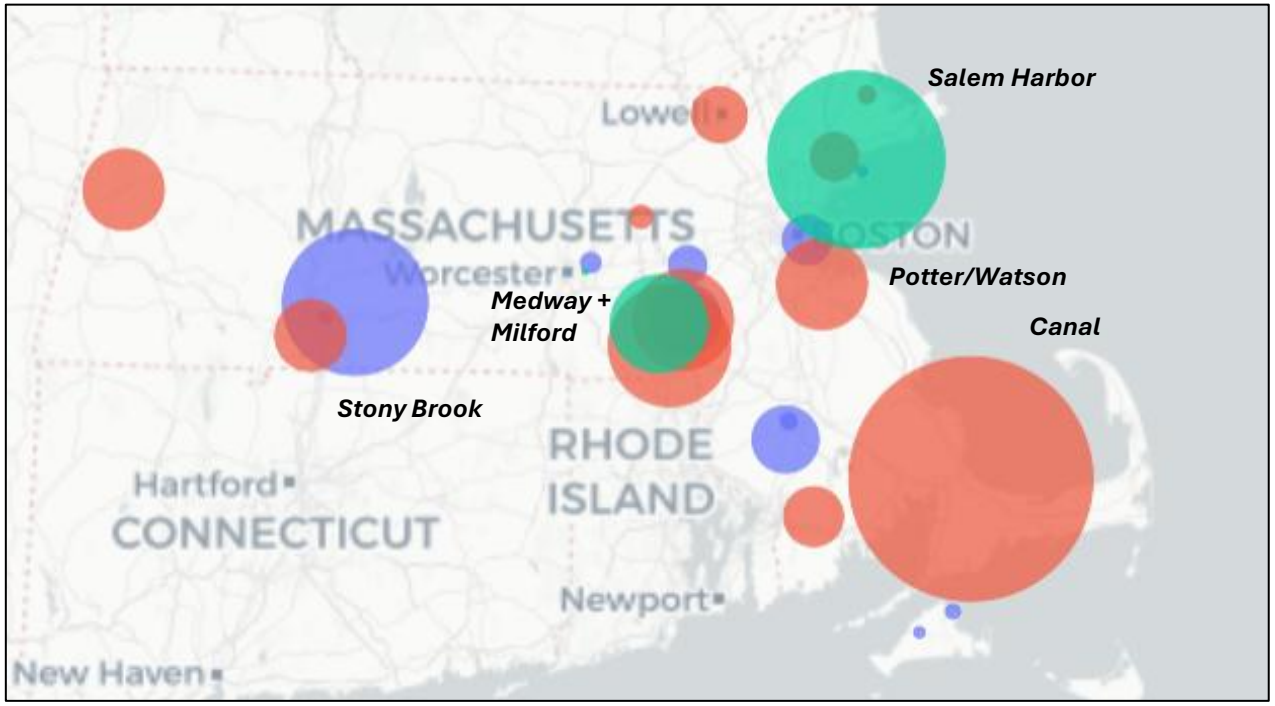
*MASSPOWER and Dighton reviewed after incorporating 5-year average CF.*

# Decarbonizing the Peak FAWG: E3 Modeling Includes Comprehensive Peaker Dataset

## Top 10 Peaker Plants by Capacity

| Plant Name | City | Archetype | Capacity (MW) | Capacity Factor | Plant Acreage | Fuel |
|---|---|---|---|---|---|---|
| **Canal Station** | Sandwich | Legacy | **1495.0** | 1.9% | 52 | Dual Fuel |
| **Salem Harbor Station (NGCC)** | Salem | Newer/ Mid-merit | **798.2** | 11.3% | 65 | NG Only |
| **Stony Brook Energy Center** | Ludlow | Legacy | **534.6** | 1.4% | 400 | Oil Only/ Dual Fuel |
| **Bellingham** | Bellingham | Newer/ Mid-merit | **386.1** | 5.1% | 71 | Dual Fuel |
| **Exelon West Medway II** | Medway | Newer/ Mid-merit | **263.6** | 9.1% | 94 | Dual Fuel |
| **Milford Power, LLC** | Milford | Newer/ Mid-merit | **249.3** | 9.7% | 7.8 | NG Only |
| **Pittsfield Generating** | Pittsfield | Legacy | **175.5** | 2.7% | 6.1 | Dual Fuel |
| **Medway Station** | Medway | Legacy | **135.0** | 0.2% | 36 | Oil Only |
| **Cleary Flood** | Taunton | Legacy | **118.0** | 4.9% | 59.3 | Oil Only |
| **Potter/Watson** | Braintree | Legacy | **116.0** | 1.6% | 23 | Dual Fuel |

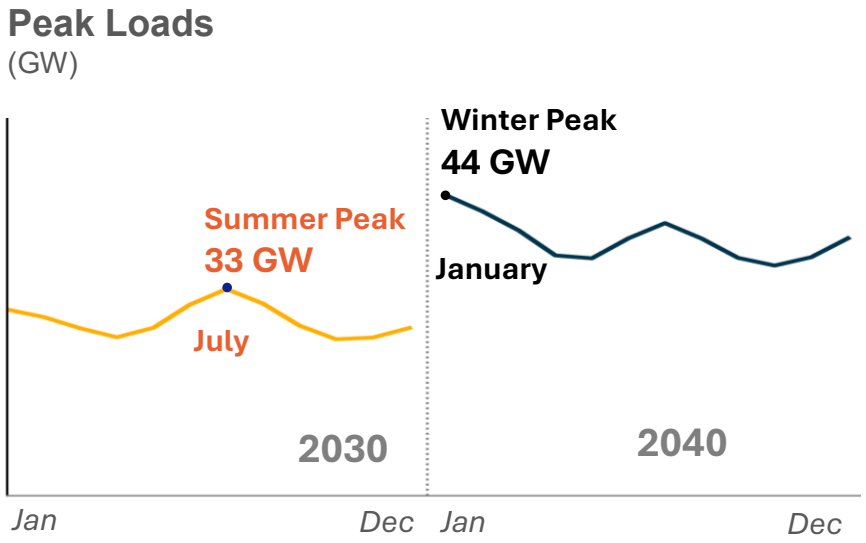
## All Peaker Plants by Capacity and Fuel

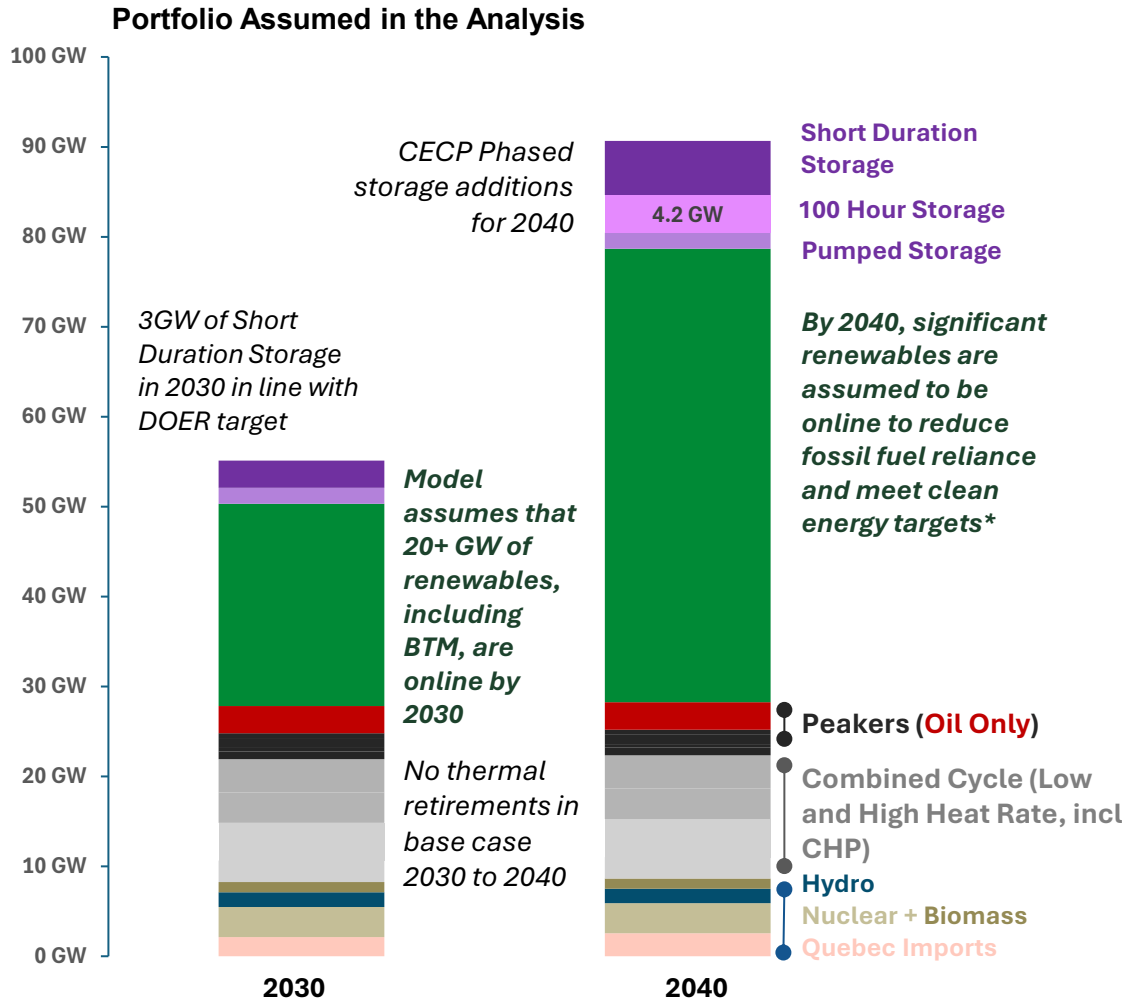



Peaker plants are located throughout the state. Notably, Mystic Station in Everett (close to Boston load) retired in 2024.

# Decarbonizing the Peak FAWG: E3 Leveraged CECP Data on Loads and Renewable Build Out

- E3's modeling is based on New England's projected loads and installed electric capacity from the CECP Phased Scenario.
  - System is **summer peaking in 2030** and transitions to **winter peaking by 2040**, with a peak of 44 GW.
- Model assumes renewable and storage resources come online to support growing demand and decarbonize generation.
  - It was beyond the scope of this effort to develop new "optimal" portfolios – this will happen through future CECP updates.



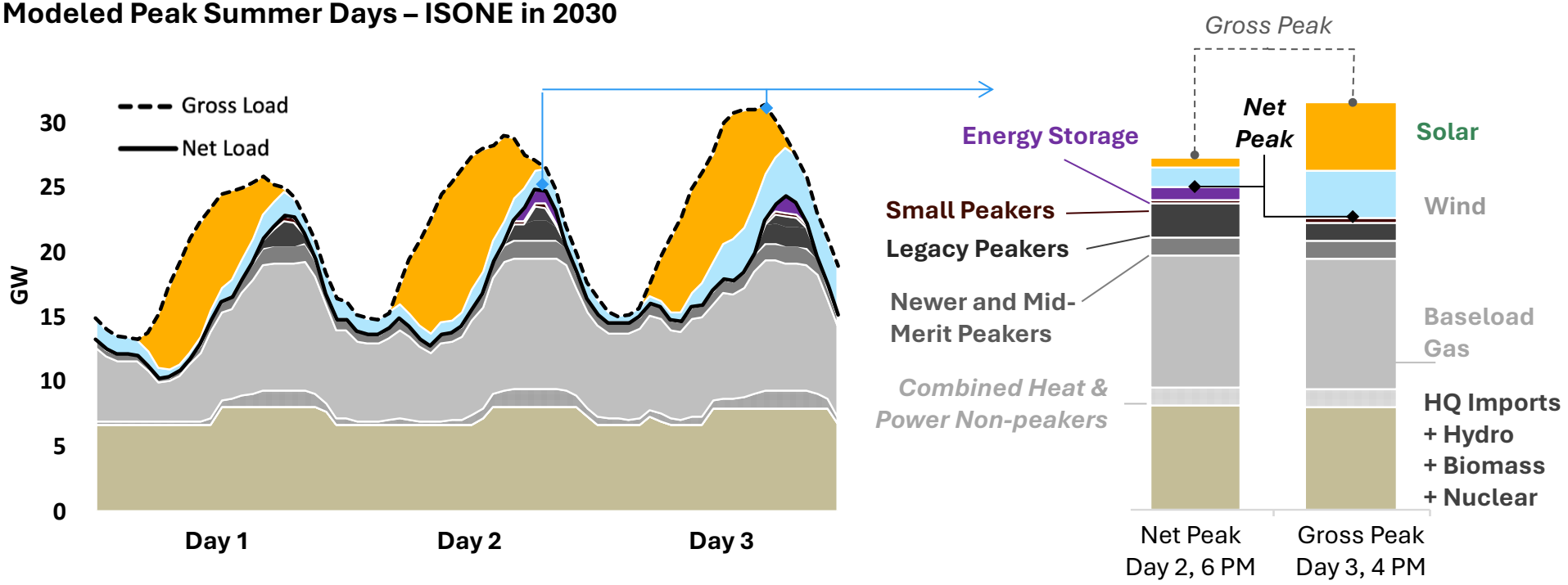




* Different state and ISO planning scenarios use different mixes of renewables. This model includes a mix of roughly 40% wind and 60% solar, which varies between 2030 and 2040. Changes to mix will have smaller influence on peaker needs and replacement options.

# Decarbonizing the Peak FAWG: Contribution of Facilities to Near-Term ISO-NE System Need

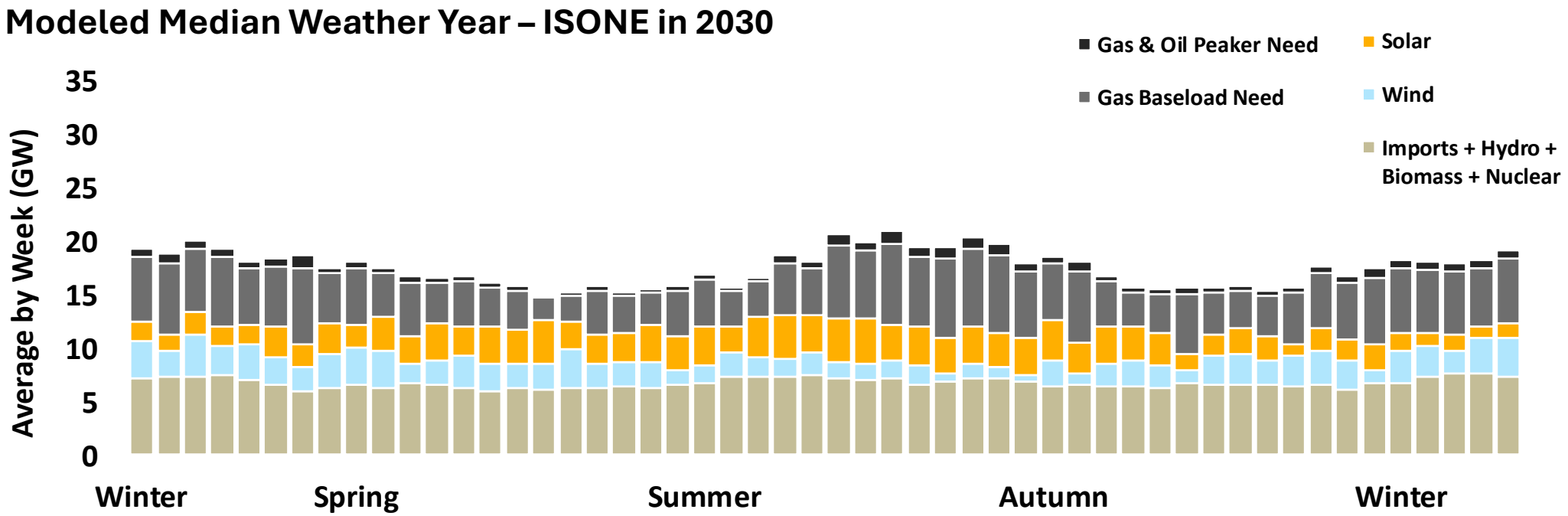
- In 2030, the modeling suggests that the ISONE system relies on peaker plants for frequent short-duration net load peaks in summer evenings, and during grid-constrained winter events.
  - Load peaks in the mid-afternoon in the summer, but the net peak occurs in the evening due to high solar generation in mid-day.
  - On the hottest days, for example, a wide range of peakers need to ramp up in the evening to meet peak net load, while gas baseload generators such as CHPs (non-peakers) help meet most of the remaining net load throughout the day.

**Modeled Peak Summer Days – ISONE in 2030**



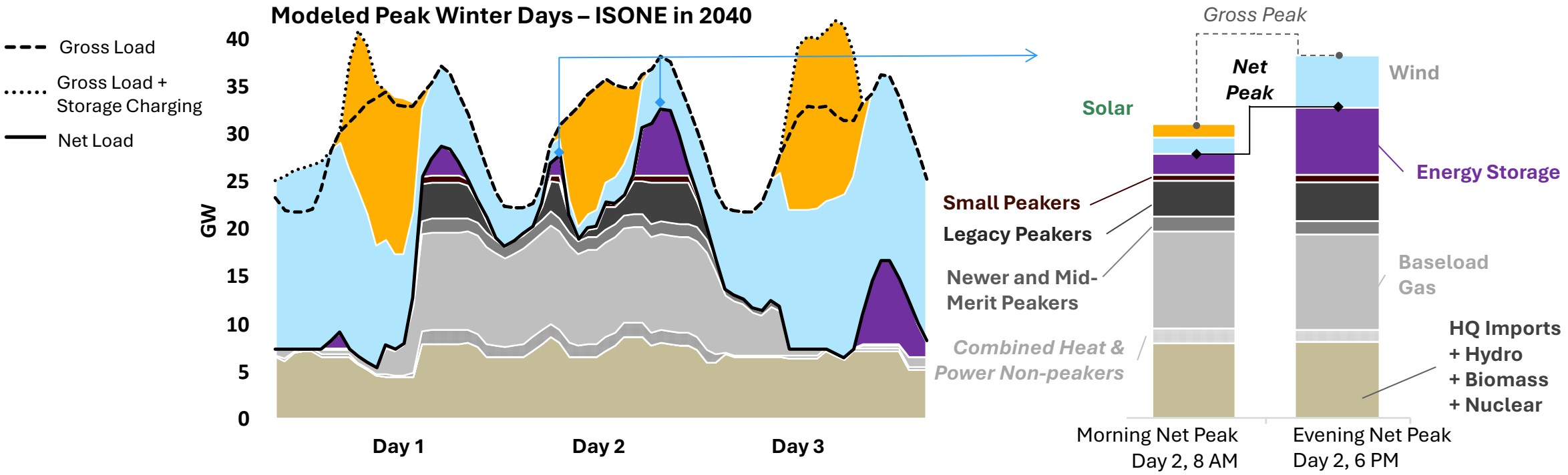
# Decarbonizing the Peak FAWG: Projection of Facility Operation and Contributions in Near-Term

- By 2030, most dispatchable thermal needs are expected to be met by non-peaker gas units or newer / mid-merit Peakers.
  - Modeling projected that legacy and small peakers would still be fully utilized even if less frequently, with nearly all being dispatched during the most grid constrained hours of the year.
  - Despite the system still being summer peaking in 2030, net load in the winter is projected to grow considerably and all types of peakers would be needed then as well.



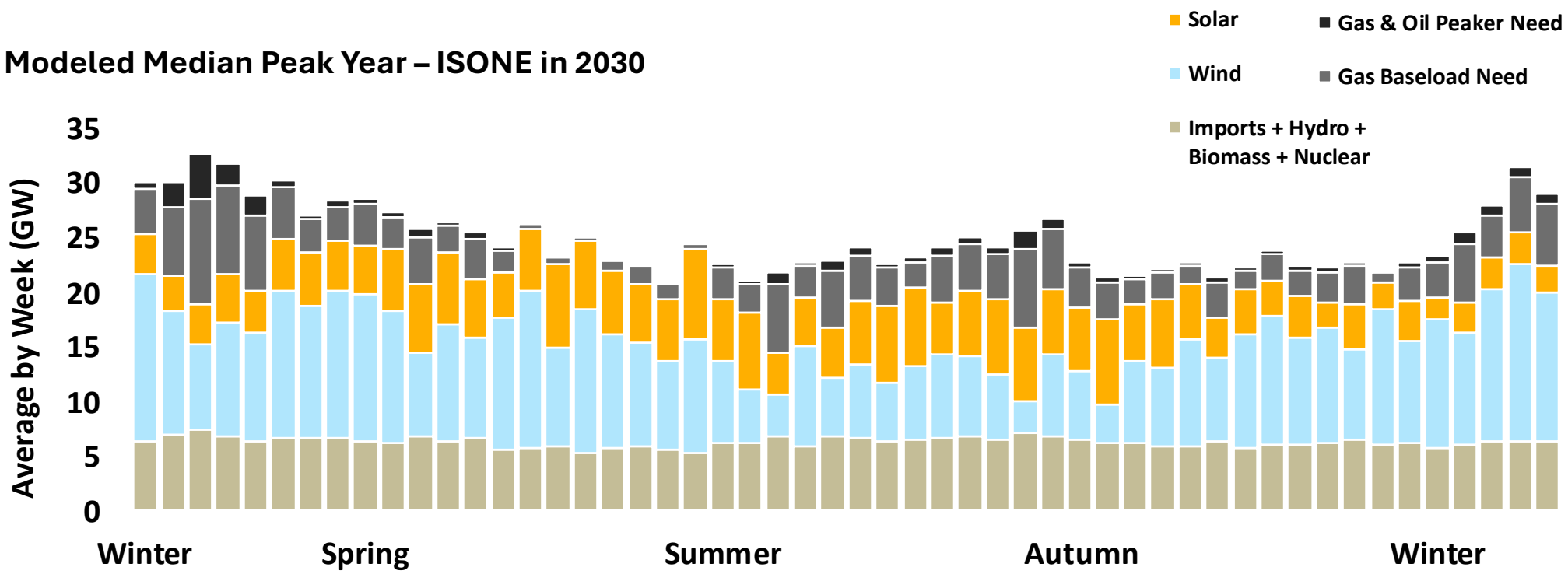
# Decarbonizing the Peak FAWG: Contribution of Facilities to ISO-NE Medium- to Long-Term Need

- Modeling shows that in 2040, the ISONE system relies on peaker plants for frequent medium-duration net load peaks in winter days, both in mornings and in evenings.
  - Load most often peaks in the evening, but can also be substantial in the morning due to electrified heating needs.
  - Under cold winter days, net load peaks both in the morning and in the evening, substantially increasing the time peakers are needed in a single day.
  - Morning and evening net peaks can vary substantially across days with similar gross peaks when the system relies on a large amount of wind generation.



# Decarbonizing the Peak FAWG: Projection of Facility Operations and Contributions in Medium- to Long-Term

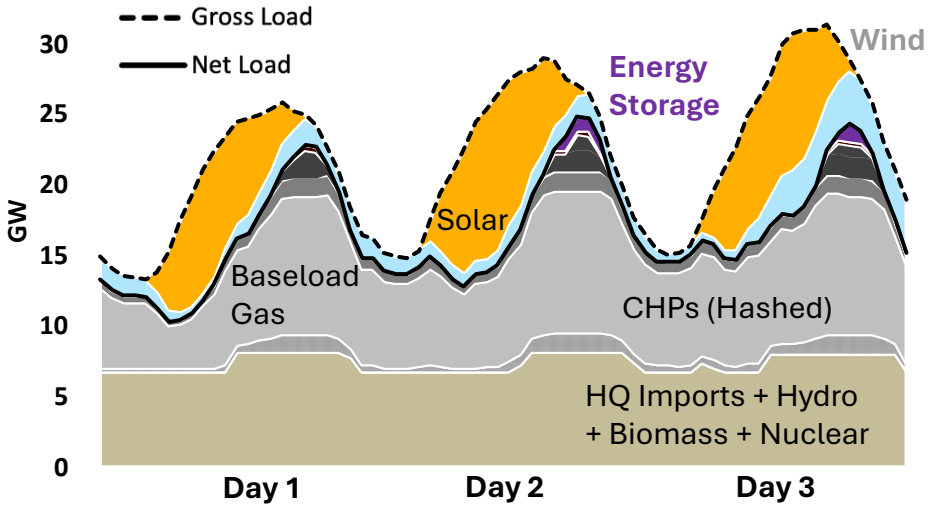
- In 2040, the system is projected to shift to winter peaking with increased heating electrification, changing the nature of critical periods peakers need to support.
  - Peaker energy needs and emissions grow to more hours of the year even though fossil generators run less overall.



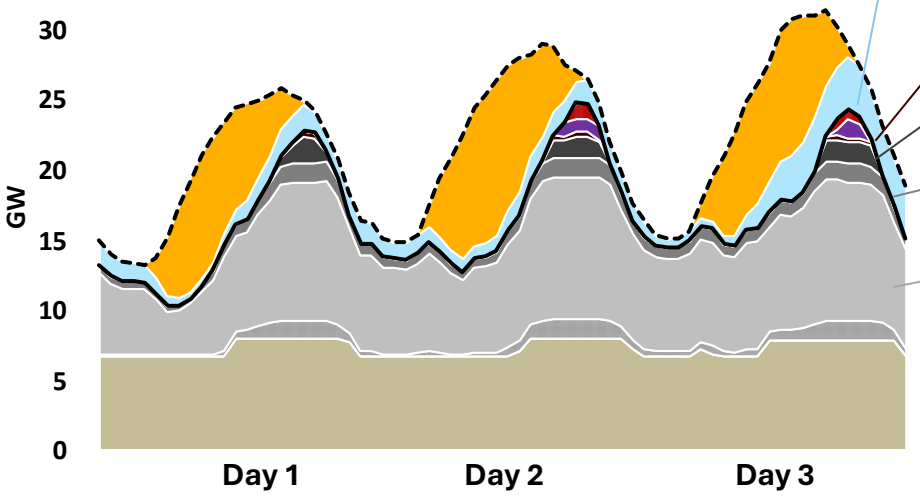
# Decarbonizing the Peak FAWG: System Needs of Legacy Peaker Plants Retiring in Near-Term

- Modeling shows that removal of the Massachusetts Legacy Peakers in 2030, which add up to about 1.8 GW, creates a need for 1.6 GW of "perfect capacity" to come from additional resources.
  - Removal of Legacy Peakers in Massachusetts would likely lead to higher utilization of other peakers in Massachusetts and across ISONE, with negligible net emissions impact.
  - Without replacements, the removal would increase energy need gap during critical hours, usually in the form of 2–4-hour long events in summer evenings, on top of potential further local impacts where the system is transmission constrained.

**Before Removal**
Modeled Peak Summer Days – ISONE in 2030




**After Removal of 1,776 MW of Legacy Peakers**
Modeled Peak Summer Days – ISONE in 2030



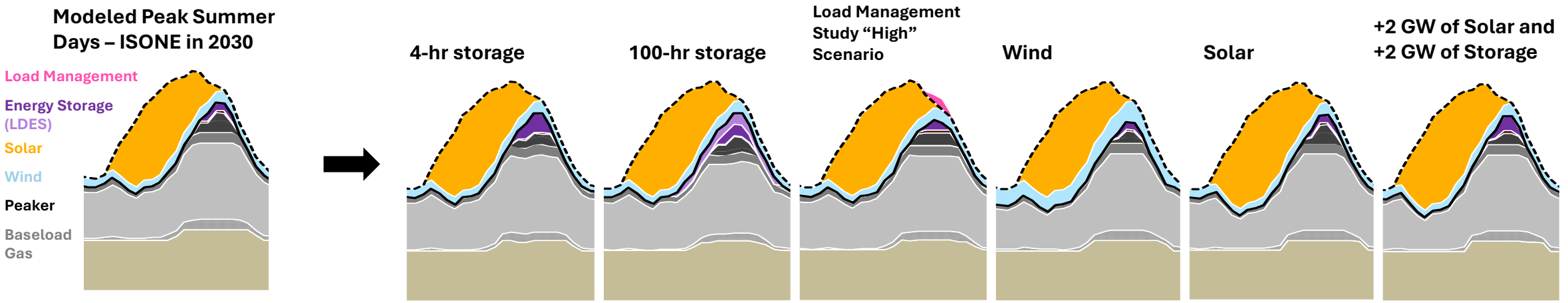

**Energy needs gap without additional resources**

| CO2 Emissions (MMT/year) | |
|---|---|
| Small Peakers | *+-0.01* |
| **Legacy Peakers** *(Rest of ISONE)* | +0.1 |
| Newer and Mid-Merit Peakers | *+-0.01* |
| *Non-peakers (Inc. CHPs)* | *+-0.01* |
| Net Change | +0.1 |
| *(as % of base case)* | <1% |

# Decarbonizing the Peak FAWG: Potential Alternatives to Reduce Near-Term Peaker Reliance

*When combined with planned growth in renewable generation, storage of all durations (including BTM and load management) substitutes well for peakers in 2030*

*While renewables alone do not substitute well for peakers, they support more significant emissions reductions and increase the effectiveness of storage*




| Peaker Displacement | -1.8 GW | -2 GW | -1.2 GW** | -0.4 GW | -0.2 GW | -2 GW |
|---|---|---|---|---|---|---|
| Emission Impact | -0.7 MMT/year | -0.7 MMT/year | -0.4 MMT/year | -2.8 MMT/year | -1.6 MMT/year | -2.2 MMT/year |

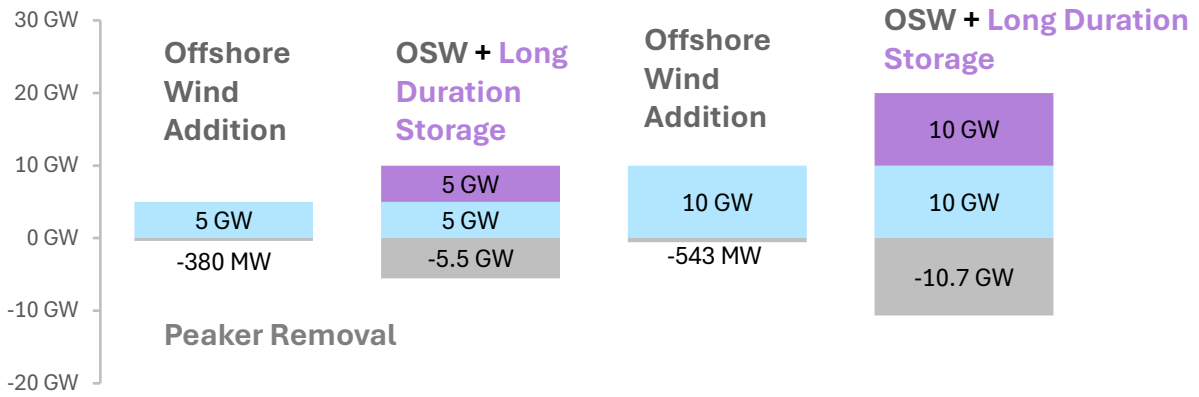
* Clean fuels, SMRs and firm imports, and other technologies were also modeled
** The LM High scenario comprises 1.7 GW of different load management resources in 2030

# Decarbonizing the Peak FAWG: Impact of Renewables and Dispatchable Resources in Medium- to Long-Term

- Modeling shows that by 2040, even with the ~50 GW total renewables planned in the CECP, the system continues to rely on existing peakers or some form of dispatchable generation during low-renewable, high-load winter periods.
  - Adding more wind (beyond the 15 GW in the CECP portfolio) provides limited *further* peaker reduction, as the reliability need has shifted to lower wind periods; in other words, existing wind has 'saturated' the need during wind-producing hours, and critical periods have shifted to high load and low renewable times.
  - Renewables continue to provide critical energy to charge storage, however, which is projected to reduce emissions significantly during routine operations.
- Modeling also evaluated "clean firm" resources, and demonstrated that, if available at scale, these could provide significant displacement of peakers and fossil-based generation.

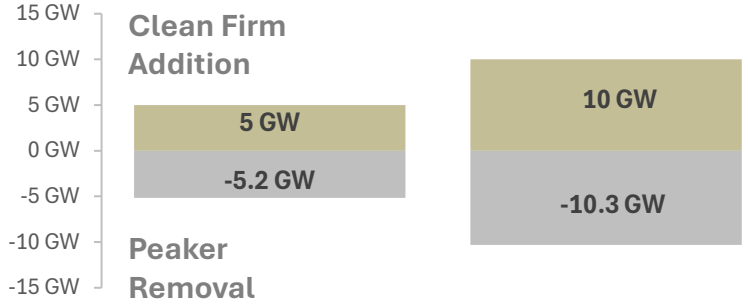
**Peaker Replacement Potential of Renewables and LDES in 2040**

*Assuming ~50 GW renewables and ~10 GW of storage already on the grid, these values reflect the peaker replacement potential of adding additional resource to serve these needs*



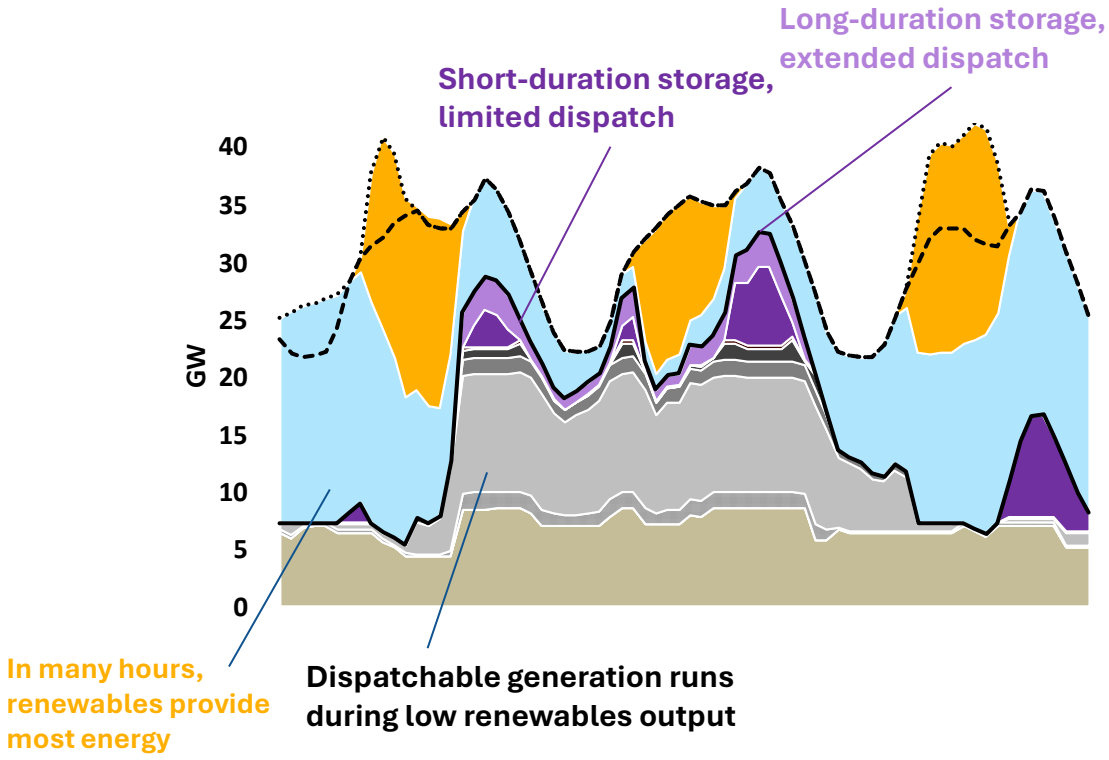

**Peaker Replacement Potential of Clean Firm in 2040**

*Assuming ~50 GW renewables and ~10 GW of storage already on the grid*



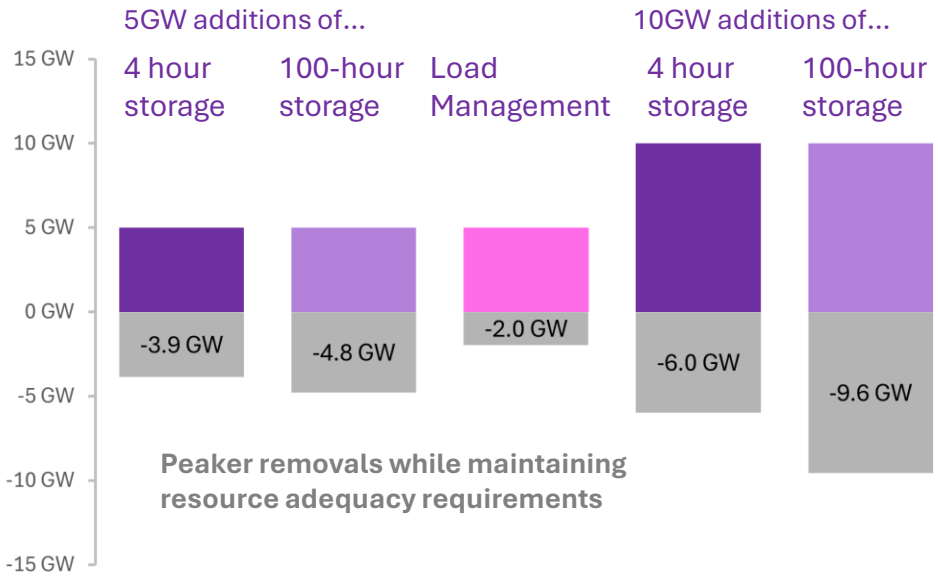
# Decarbonizing the Peak FAWG: How Energy-limited Resources Can Replace Peakers Medium- to Long-Term

- Short-duration storage and active load management measures are expected to provide valuable but diminishing capacity contributions in 2040 as critical periods become longer.
  - These resources might have reduced *incremental* capacity value, but can still use excess renewable generation to lower overall emissions.
- Modeling shows longer duration storage provides strong support for the system at relatively high amounts under assumed renewable buildout, which provides enough excess energy for charging in between high net load periods.




**Peaker Replacement Potential of Storage and Active Load Management Measures in 2040**

*Assuming 50+ GW renewables and 10 GW of storage on grid*



# Decarbonizing the Peak FAWG: E3 Preliminary Analysis Takeaways for Near-Term

- **Near-term (2030) need:** In 2030, modeling demonstrates that ISONE relies on peaker plants (<15% CF) for frequent short-duration net load peaks in summer evenings and during cold gas-constrained winter events.
  - On the hottest days, modeling shows peakers ramping up in the evening to meet peak net load, while gas baseload generators such as CHPs help meet remaining net load throughout the day and the rest of the year.
  - Modeling shows peakers across ISONE account for 13% of generation and 15-20% GHG emissions in the system, while 80-85% of other emissions come from baseload generators throughout the year.
  - Model runs demonstrate that peaker removal, without replacement, increases energy need gap during summer evenings, for example, without meaningful emissions reductions.
- **Near-term (2030) opportunities:** E3 evaluated potential replacement alternatives, which, *if commercially available at scale and by 2030*, may reduce peaker reliance during critical periods:
  - **Short-duration energy storage** can provide capacity as well as **longer-duration storage**, but emissions reductions are limited during this time period unless more renewables are added.
  - **Active load management measures** can also displace peaker needs in the near-term, but are limited given call limits and that some measures specifically target winter, not summer peaks.
  - **Renewables** provide *some* capacity and significantly reduce energy needs from baseload and peaker generators, reducing emissions, but are less effective in entirely displacing peaker capacity needs.
  - **Low-carbon fuels** could enable peakers to stay online and run at low or zero emissions factors, but with overall emissions reductions potentially limited by potential fuel availability constraints that would vary by fuel type.
  - **Clean baseload generators such as SMRs** could provide significant emissions reductions and displace peaker and baseload fossil capacity and energy needs.

# Decarbonizing the Peak FAWG: E3 Preliminary Analysis Takeaways for Medium-Term

- **Mid-term (2040) need:** Modeling shows significant peak load growth *and* system shift to winter peaking with increased heating electrification, changing the nature of critical periods peakers need to support.
  - Under cold winter conditions, net load peaks both in the morning and in the evening, increasing peaker energy needs each day.
  - Net peaks can vary substantially across days with similar gross peaks given the system relies on a large amount of renewable generation.
- Peaker plants are projected to provide capacity during frequent medium-duration net load peaks in winter days
  - Peaker energy needs and emissions grow to more hours of the year even though fossil generators overall ran a lot less.
  - Under assumed planned resource builds and load growth, all existing peakers would need to stay online to meet system need unless additional replacements are selected.
  - Removals of peakers can increase the generation and emissions of remaining peakers in Massachusetts and in the rest of the ISONE.
- **Mid-term (2040) opportunities:** E3 evaluated potential replacement alternatives, which, *if commercially available at scale and by 2040*, may reduce peaker reliance during extended winter cold periods:
  - By 2040, **longer-duration energy storage** would be needed to replace peakers while additional **short-duration storage** and **active load management measures** lose their effectiveness given longer critical periods in the winter.
  - Incremental **renewable** additions continue to provide emissions reductions benefits across the year, while **offshore wind** can also help displace peaker capacity needs in the winter, especially if paired with **long-duration energy storage.**
  - **Low-carbon fuels**, if available, could enable peakers to stay online and run at low or zero emissions factors, but with overall emissions reductions limited to potential fuel availability constraints that would vary by fuel type.
  - **Clean baseload generators such as SMRs**, if available, could provide significant emissions reductions and displace all peaker and baseload fossil capacity and energy needs.

# Decarbonizing the Peak FAWG:
# Vote: Affirm FAWG's Assessment and Modeling Approach

**Vote**

The Advisory Board affirms the FAWG's assessment and modeling approach to date and supports the FAWG proceeding to Phase 3 to develop policy-focused recommendations.

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# 10-Minute Break

We will return at 2:35 PM

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# Presentation and Discussion on Financing the Transition (FTT) FAWG – Inform/Decide

# Financing the Transition FAWG: Topics to be Covered and Discussed

| Topic | Advisory Board Request or Discussion Point |
|---|---|
| 1. Progress Report (pre-read only) | Inform (pre-read only)<br>• Workplan Reminder & Status<br>• Phase 2 Activities Since Last Advisory Board Meeting<br>• Phase 2 Objectives and Outcomes to Date |
| 2. Updates Phase 2 Progress | Inform/Review:<br>• Quantitative Analysis<br>• Recommendations Approach<br>• Phase 3 Workplan<br>• Next steps |
| 3. Vote | Decide: The ETAB affirms the FAWG's work and approach to date, affirms the proposed Phase 3 workplan, and has no objection to the FAWG proceeding to develop recommendations. |

# Financing the Transition FAWG: Workplan Reminder and Status

Phase 3

Phase 2

Phase 1

## Quantification and Categorization of Electric Distribution System Investments and Associated Bill Impacts

- Based on ESMP review and other relevant proceedings

## Inventory and Assessment of Existing CapEx Cost Recovery Models

- In Massachusetts
- Outside of Massachusetts

## Inventory Review of Other Infrastructure Financing Models

- Utility and Non-Utility
- Structures
- Considerations
- Applicability to Distribution Infrastructure

## Assessment of Costs and Impacts of Alternative Financing Structures

- Capital
  - Access to Capital
  - Cost of Capital
- Revenue
  - Sources
  - Mechanisms
- Customer Impacts
- Other Considerations

## Recommendations and Policy and Regulatory Requirements to Support Alternatives

we are here

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# Financing the Transition FAWG:
# Phase 2 Activities Since Last Advisory Board Meeting

| **Phase 2**<br>59 Organizations Participating<br>Subject Matter and Technical Expertise Provided by Analysis Group | | |
|---|---|---|
| Meeting 13<br>October 6, 2025 | Meeting 14<br>December 12, 2025 | Meeting 15<br>January 27, 2026 |
| FAWG divided into small groups to discuss and revise the straw proposals for two additional financing alternatives proposed by FAWG members: GHG fee with State Revolving Fund (SRF) and Distributed Energy Resource (DER) aggregation using rate-reduction bonds.<br><br>Reviewed proposed Phase 3 process for feedback. | Reviewed:<br>• Phase 3 approach from the previous meeting and shared survey findings.<br>• Proposed approach for developing quantitative data on revenue requirement and bill impacts of the different financing alternatives compared to status quo.<br>• Proposed structure/format for FAWG findings and recommendations. | Reviewed and discussed:<br>• An updated proposal for DER aggregation with rate reduction bonds, based on small group discussions.<br>• Initial quantitative analysis of four financing alternatives.<br>• FAWG feedback on and potential updates to a Draft Recommendations Outline. |

# Financing the Transition FAWG: Phase 1/2 Objectives & Outcomes to Date

| | Phase 1 | Phase 2 | |
|---|---|---|---|
| **Goal** | **Explore Alternative Financing Mechanisms** | **Develop Assessment Framework and Alternatives List** | **Assess Feasibility and Impact of Financing Alternatives** |
| **FAWG Work** | Provide an overview of alternative financing mechanisms for utility distribution infrastructure, including:<br>• Clean energy tariffs<br>• Public-private infrastructure partnerships (utility and non-utility)<br>• Securitization/other bonding<br>• Third-party direct investment<br>• Fees | Develop an assessment framework based on a template developed by Analysis Group and adjust to reflect feedback and input of FAWG members. Ensure framework allows for clear comparisons of alternatives.<br>Align on a list of alternatives to assess and reflect the range of mechanisms of FAWG member interest. | Review and amend straw proposal assessments from Analysis Group for alternative financing mechanisms vis-à-vis agreed-upon criteria: cost recovery impacts, implementation pathway, and other intangible impacts. |
| **Outcome** | FAWG learned how alternative financing mechanisms could be used to support distribution infrastructure investment. | FAWG shaped and aligned around a high-level assessment framework and alternatives list to use in Phase 2. | FAWG suggested revisions to the seven alternatives' straw proposals. |
| **Additional Information Requested** | None, at this time. | FAWG members suggested two additional financing alternatives to consider: GHG fee and DER aggregation w/ securitization. | Detailed analyses of each alternative's customer and cost impacts using example to be completed in Phase 3. |
| **Status** | Achieved | Largely achieved | Largely achieved |

# Financing the Transition FAWG: Drivers of FTT FAWG Mission and Purview

Future costs of the distribution system are likely to rise faster than in the past.

Build-out of the local grid is needed to support growing demand, increasing electrification, and deployment of more energy resources.

Even with energy efficiency and flexible demand, near-term grid investments will likely be needed to support new DERs, accommodate electrification, and improve resilience.

The **goal of the FTT FAWG** is to identify and consider innovative financing and cost recovery mechanisms for grid investment.

## What is Driving Consideration of Alternatives?

- *Affordability:* finding lower cost ways of financing grid investments to mitigate customer bill impacts.
- *Climate:* supporting grid investment to accommodate electrification of vehicles, buildings, heating, and deployment of clean energy and smart technologies.
- *Timing*: given the complexity of some innovative financing mechanisms, finding alternatives that could be deployed sooner to mitigate rate impacts is a priority, then identifying long-term solutions for continued mitigation.





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# Financing the Transition FAWG: Phase 3 Process

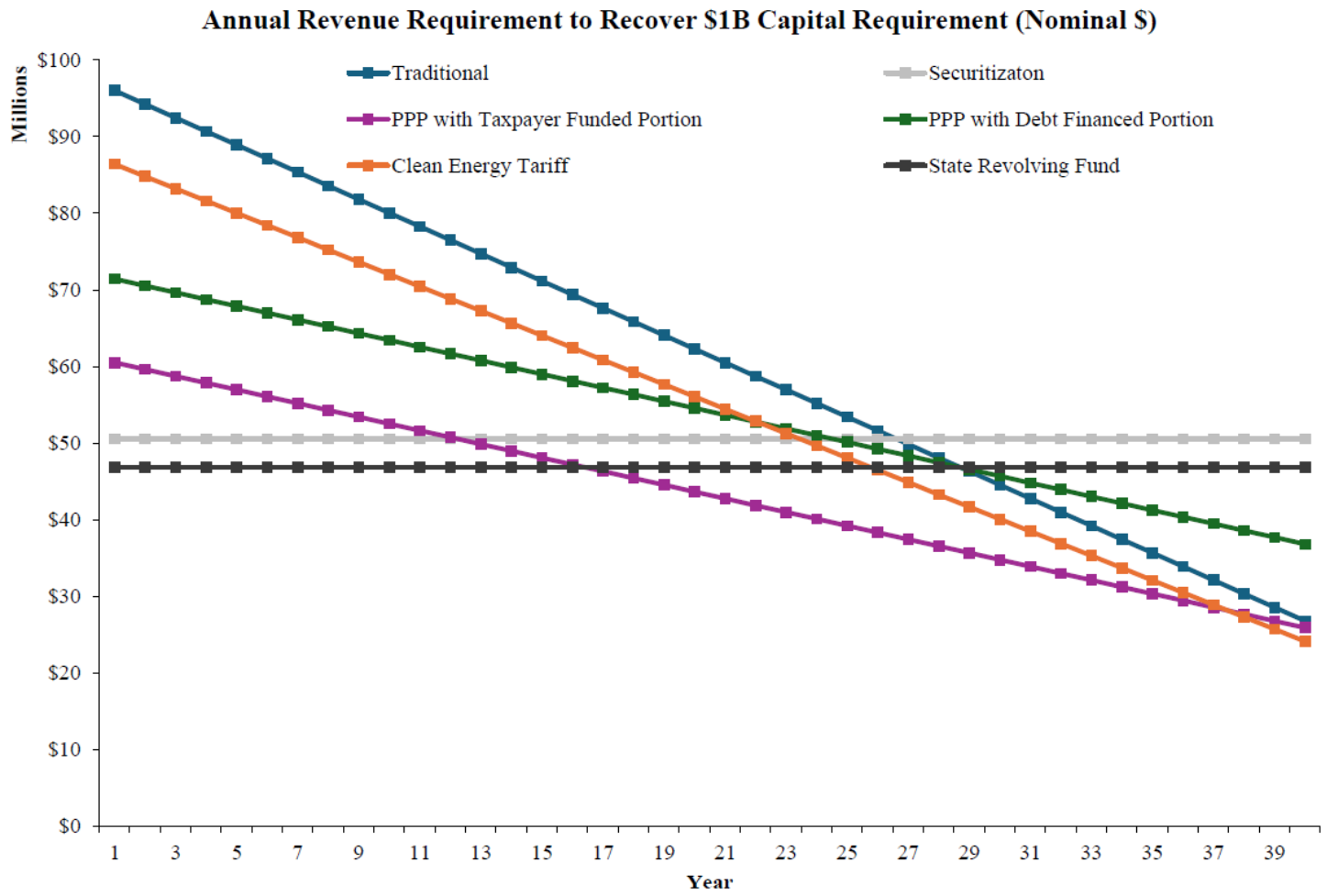
**Work to date in Phase 3**

- Initial survey for guidance on recommendations and analysis.
- Developed draft recommendations outline, discussed and received written feedback.
- Quantitative analysis:
  - Bill impacts over time for status quo (traditional ratemaking) + four alternatives: securitization, clean energy tariff, state revolving fund, public-private partnership (with taxpayer and debt financed portions).

**Next steps**

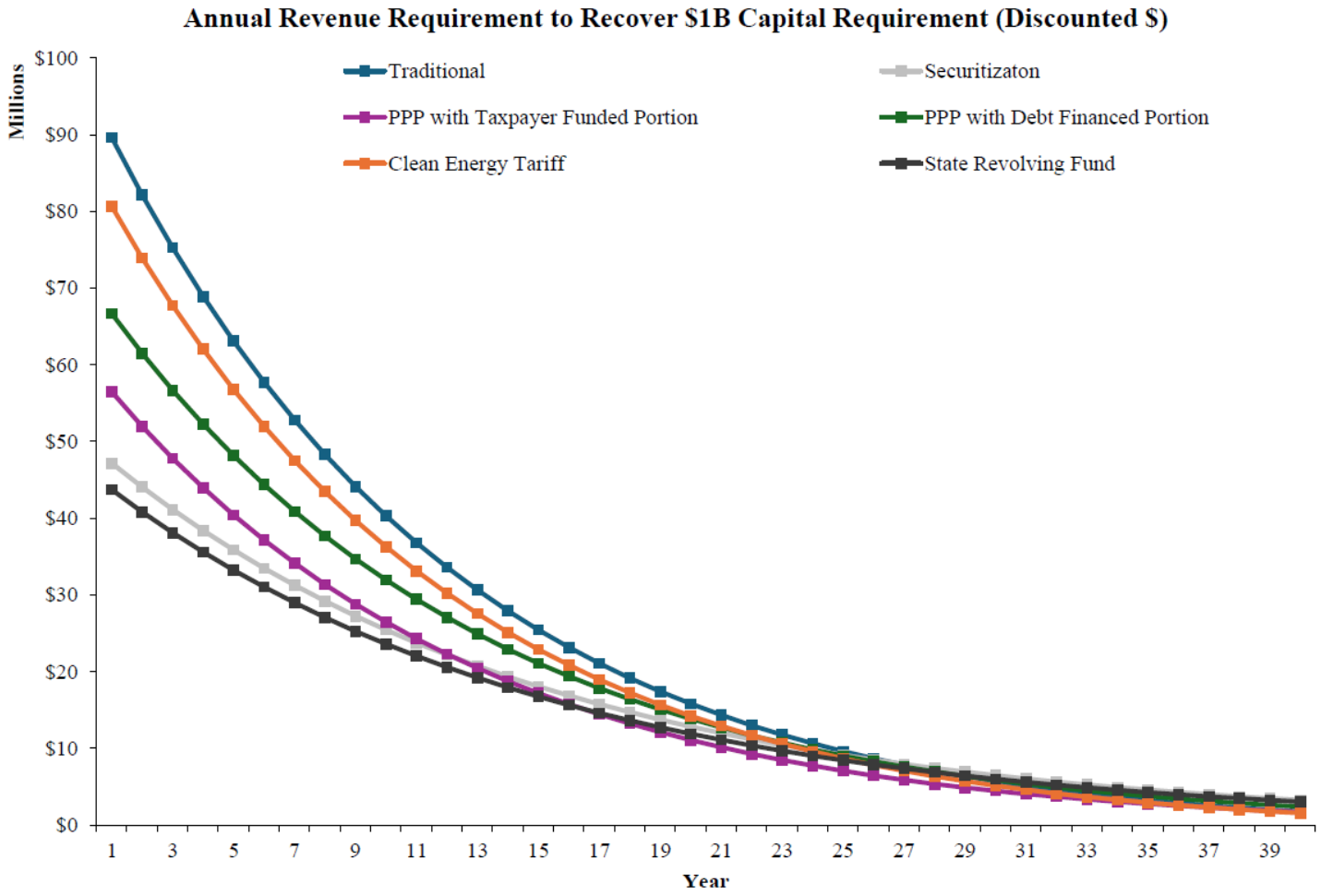
- Refine quantitative analysis.
  - Sensitivity analysis, potential analysis of one or more additional alternatives.
- "Zero Draft" Recommendations Outline.
  - Incorporate feedback and quantitative components.
- Iterative drafting process → final proposed recommendations for Advisory Board review.
  - Written feedback between meetings plus FAWG discussion.

# Financing the Transition FAWG: Illustrative Annual Revenue Requirements (Nominal $)




Note: This analysis assumes a $1 billion investment in distribution-system assets using *illustrative* financing assumptions for Massachusetts' investor-owned utilities, for commercial debt markets, and for contributions from parties (e.g., general fund; specific large electric-using customers) other than core electric ratepayers. The analysis focuses on comparing financing approaches using common assumptions. The analysis does not account for actual conditions that might exist with any actual finding, or for indirect or second-order impacts of certain financing alternatives.

# Financing the Transition FAWG: Illustrative Annual Revenue Requirements (Discounted $)

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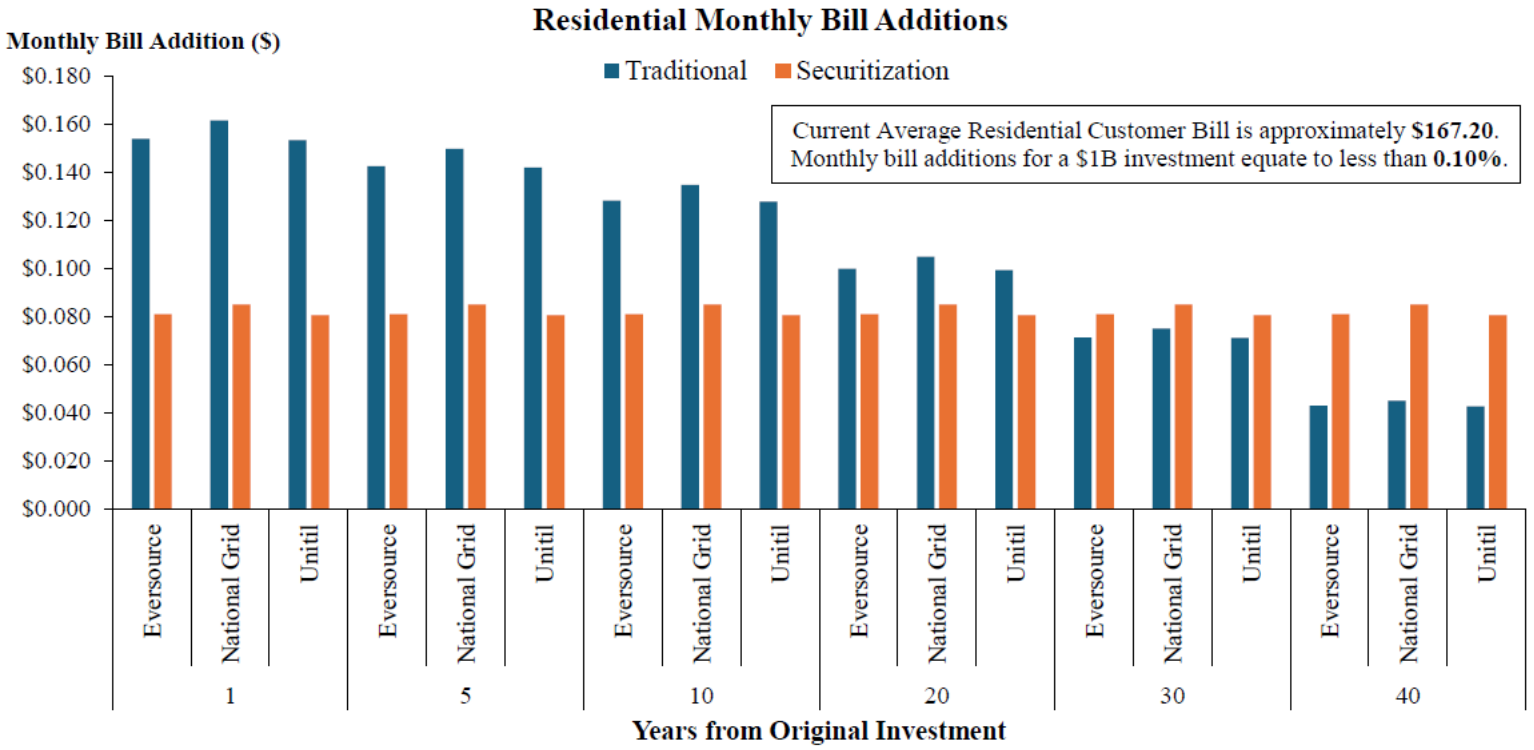
# Financing the Transition FAWG: Illustrative Residential Monthly Bill Impact




**Notes**:

1. This analysis assumes a $1 billion investment in distribution-system assets using *illustrative* financing assumptions for Massachusetts' investor-owned utilities, for commercial debt markets, and for contributions from parties (e.g., general fund; specific large electric-using customers) other than core electric ratepayers. The analysis focuses on comparing financing approaches using common assumptions. The analysis does not account for actual conditions that might exist with any actual finding, or for indirect or second-order impacts of certain financing alternatives.
2. The initial $1B investment is converted into annual revenue requirements under both the traditional and securitization approaches and allocated across utilities based on their share of total electric load and within utilities by rate class revenue allocation percentages.
3. For each utility, the rate class revenue allocation percentage, total test-year kWh, and total number of bills are derived from recent rate cases.
4. The average kWh per bill is calculated for each utility as total test-year kWh divided by the total number of bills.
5. The monthly bill addition is calculated by allocating the revenue requirement by share of electric load and rate class revenue allocation percentage, converting the result to a per-kWh amount using total test-year kWh, converting to a monthly value, and multiplying by the average kWh per bill.

**Sources:**

[A] U.S. Energy Information Administration (EIA), Electric Sales, Revenue, and Average Price: Residential Average Monthly Bill by Census Division and State (Table 5.a),data for 2024.
[B] Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid, 2025 Performance-Based Ratemaking (PBR) Filing, Book 1 of 2, D.P.U. 25-73, filed June 13, 2025.
[C] NSTAR Electric Company d/b/a Eversource Energy, Proposed Distribution Rates and Bill Impacts, Exhibit ES-RDC-1, D.P.U. 25-136.
[D] Fitchburg Gas and Electric Light Company d/b/a Unitil, Electric Division Rate Design and Revenue Allocation, Exhibit Unitil-ECRP-14, D.P.U. 25-xxx.

# Financing the Transition FAWG: Draft Recommendations Structure/Outline

I. Background/Description of the FAWG and its deliberative process

II. Shared Goals

The Commonwealth should…

a. Utilize a range of alternative financing mechanisms to mitigate the magnitude and "lumpiness" of potential future rate impacts. Alternative financing approaches have potential to:

- De-risk investment, smooth rate adjustments, assign costs to beneficiaries in more direct and tailored ways, avoid investment costs/reduce the rate base, and identify affordable, sustainable, and timely sources of revenue to support investments.

b. Ensure LMI/EJ benefits.

c. Limit negative consequences/side effects like taxpayer impacts, harm to utility credit rating/increased business risks, non-bypassable charges.

d. Identify a synergistic package of approaches.

e. Prioritize near-term implementable measures while advancing a long-term strategy to reduce bill impacts of infrastructure investments, including identifying opportunities to reduce overall infrastructure investment needs.

# Financing the Transition FAWG:
# Draft Recommendations Structure/Outline

III. Core Strategic Findings
   a. A Portfolio of Approaches Will Be Needed
   b. Alternatives Can Materially Reduce Bill Impacts, But Impact of Financing Alone Is Limited
   c. New Revenue Sources Have Larger Bill Impacts, But Face Greater Hurdles to Implementation
   d. Potential Benefits of Financing for Demand Reduction
   e. The Appropriate Overall Scale of Alternative Measures is a Critical Unknown
   f. Equity Must Be Engineered In

IV. Analysis of Specific Financing Alternatives

V. Strategic Considerations for Implementation
   a. Time Horizon, Scale and Scope of Investment, Interactions: Synergies vs. Conflicts/Challenges, Transparency/clarity

VI. Recommended Portfolio

VII. Appendix: Potential Indicators of Success

# Financing the Transition FAWG:
# Vote: Affirm FAWG's Work and Approach to Date

**Vote**

The Advisory Board affirms the FAWG's work and approach to date, affirms the proposed Phase 3 workplan, and has no objection to the FAWG proceeding to develop recommendations, per approach presented.

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# Presentation and Discussion on Enabling Sustainable Economic Development (ESED) FAWG

# Enabling Sustainable Economic Development FAWG: Topics to be Covered and Discussed

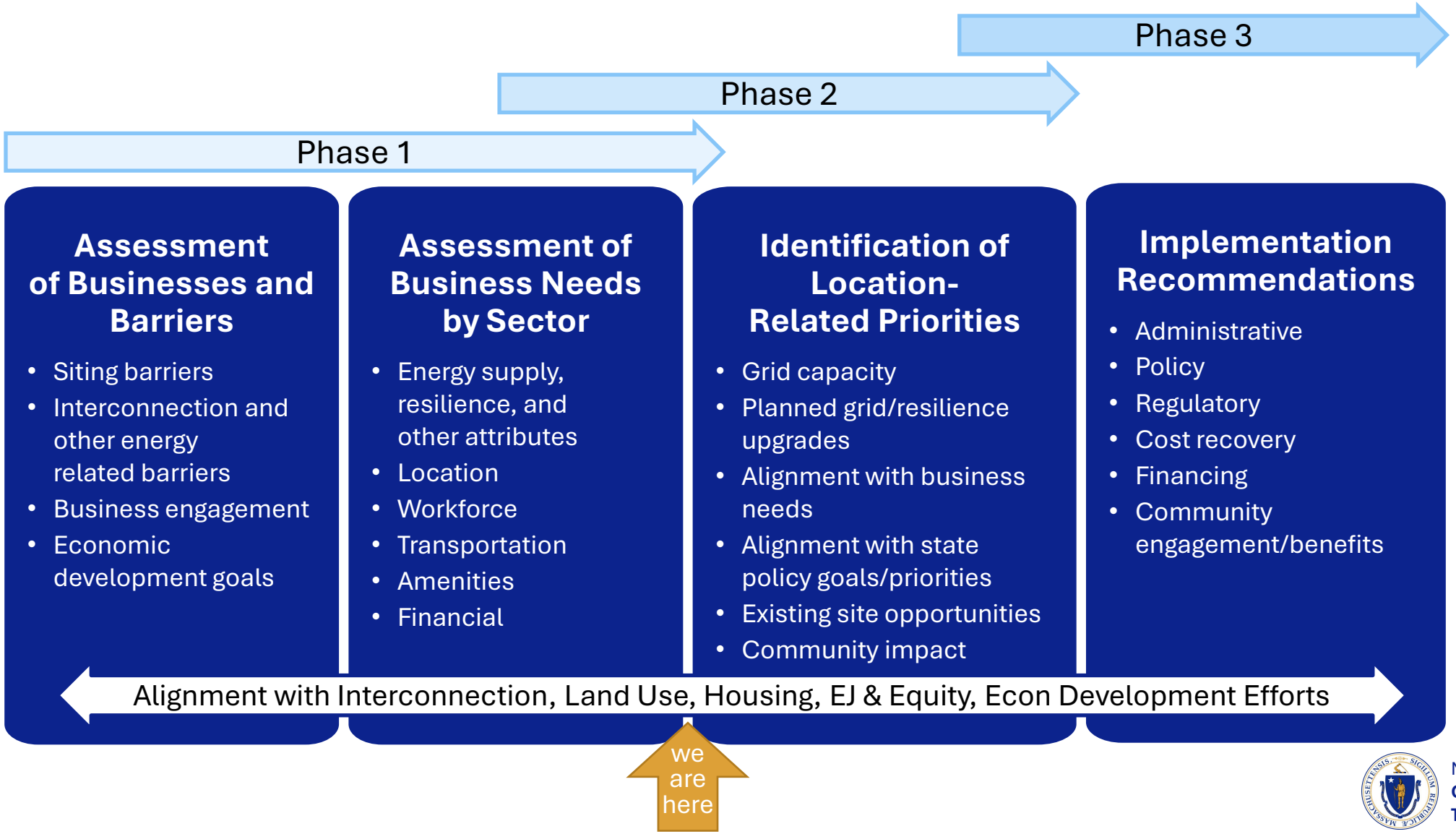
| Topic | Advisory Board Request or Discussion Point |
|---|---|
| 1. Progress Report (pre-read only) | Inform (pre-read only)<br>• Issue Overview & FAWG Mission<br>• Workplan Reminder & Status<br>• Phase 1 Activities Since Last Advisory Board Meeting<br>• Phase 1 Objectives and Outcomes to Date |
| 2. Updates on Phases 1 & 2 Progress | Inform/Review:<br>Topics discussed with FAWG to date and proposed topics to explore in Phase 2 |
| 3. Small Group Discussions | Discussion Questions:<br>• The FAWG is planning to dive deeper into economic development rates and prudency review standard. **What issues would you like to make sure the FAWG considers/assesses in its deliberations?**<br>• The FAWG is planning to identify a pilot site(s). **Do you agree with this approach, in general? What is critical for the FAWG to consider as it works to identify potential pilot sites? What attributes are important in a site for learnings by the FAWG/Advisory Board?** |
| 4. Vote | Decide: The Advisory Board affirms the Phase 2 workplan, including the possibility of identifying pilot site(s) for clean energy ready-zones. |

# Enabling Sustainable Economic Development FAWG: Reminder of Issue Overview and FAWG Mission

- Massachusetts aims to grow its economy by expanding and attracting business in sectors such as advanced manufacturing, life sciences, climatetech, and AI, aligned with climate goals and other state priorities.
- T**he process for connecting new customer load to the electric grid can slow economic development** due to lengthy timelines and costly grid upgrades. The interconnection process often does not align with business development timelines, which could impact the state's ability to meet its economic expansion goals.
- Recognizing this, the administration and several Advisory Board members have highlighted the need to better coordinate energy transformation and economic development.

To advance clean energy-ready economic development zones that enable key business sectors to grow in Massachusetts, in alignment with the state's interconnection, land use planning, environmental justice and equity, housing, and economic development initiatives.

# Enabling Sustainable Economic Development FAWG: Workplan Reminder and Status



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# Enabling Sustainable Economic Development FAWG: Phase 1 Activities Since Last Advisory Board Meeting

| Phase 1/2<br>43 Organizations Participating | | |
|---|---|---|
| Meeting 4<br>October 9, 2025 | Meeting 5<br>October 29, 2025 | Meeting 6<br>January 7, 2026 |
| FAWG divided into small groups to discuss and brainstorm ideas around economic development rates and pilot site selection for clean energy ready zones. | FAWG divided into small groups to discuss and brainstorm ideas around cost recovery models and securing energy supply for clean energy ready zones. | DPU presented on "prudency" and a provided a deeper dive into cost recovery for Electric Sector Modernization Plan (ESMP) investments. National Grid presented EVICC Section 103 prudency review proposal as an example of how prudency reviews could evolve to enable proactive grid buildout. |

# Enabling Sustainable Economic Development FAWG: Phase 1 Objectives & Outcomes to Date

| Goal | Understand Current Process of Connecting New Load | Assess Business Needs by Sector | Explore Concept of Clean Energy-Ready Zones |
|---|---|---|---|
| **FAWG Work** | Reviewed current interconnection process: Step 0 → Work order → Engineering & design → Pre-construction → Construction.<br><br>The typical timelines is ~10 months from start to completion (can be longer depending on supply chain and project complexity). | Met with businesses in industries with large energy needs to learn about opportunities and challenges, including:<br>• Advanced Manufacturing<br>• Healthcare & Life Sciences<br>• Data Centers & Tech Infrastructure<br>• Real Estate Development<br>• Climatetech | Defined sustainable economic development.<br><br>Reviewed existing policies and regulations in Massachusetts, including prudency review standard, and potential cost recovery models, including for ESMP investments.<br><br>Reviewed other states' approach towards certified sites, economic development rates, and clean energy tariffs. |
| **Outcome** | FAWG learned about the "risk gap": utilities require customer commitments before making grid investments, but large upfront payments and extended connection timelines can pose financial barriers and stall development. | Received company and sector specific input to better identify gaps and what's needed to derisk expansion/siting for businesses. | FAWG gained a better understanding of what already exists in the state, gaps, and ideas of how other states are approaching this issue to apply to these clean energy-ready zones. |
| **Additional Information Requested** | FAWG asked about current policies and programs in Massachusetts that could support clean energy-ready zones. | Deeper dive into MA prudency review standard and ESMP factor mechanics. | More detail on economic development rates in restructured states. |
| **Status** | Achieved | Achieved | Ongoing |

# Enabling Sustainable Economic Development FAWG: The Risk Gap Problem


**UTILITY**

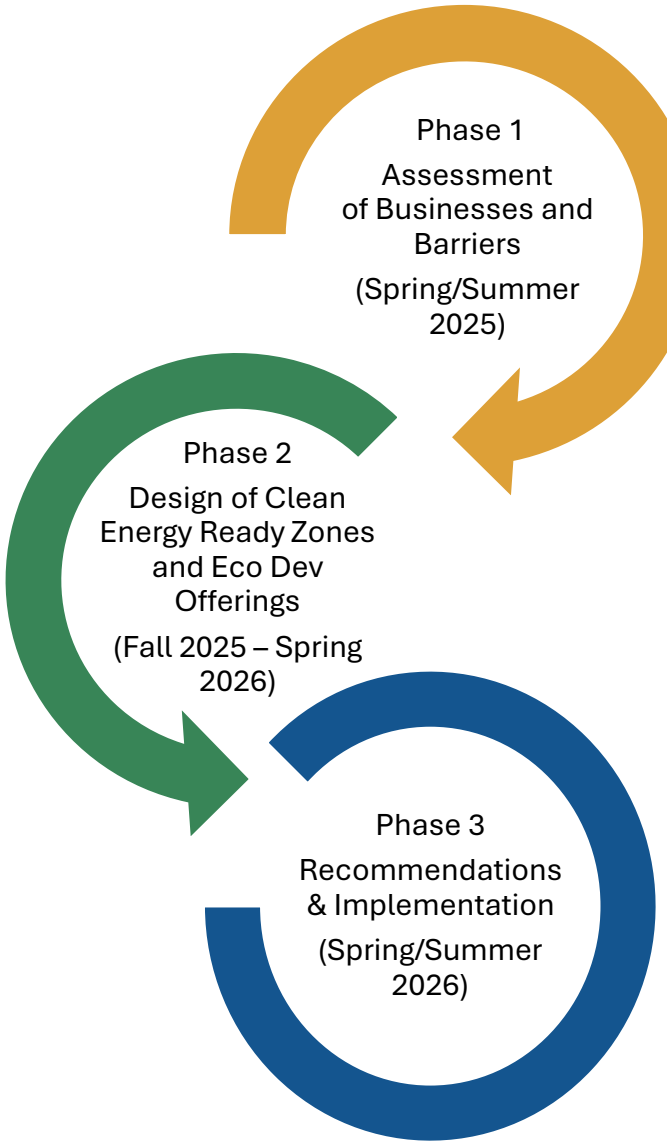
Requires customer commitment and payment before making grid investment to make prudency case for cost recovery at DPU.

***Result:*** *Grid upgrades are not made prospectively*

**BUSINESS**

Upfront payment and uncertainty around timing and magnitude of cost for grid upgrades may present a financial barrier, especially before new project is operational.

# Enabling Sustainable Economic Development FAWG: Phase 1 Focus




## Assessment of Business Needs and Barriers

- ✓ Met with businesses to understand business, energy, and site needs by sector.
- ✓ Determine current barriers to energy/interconnection and development.

## Reviewed Current MA Policies & Regs Against Competing States

- ✓ Reviewed current load connection process in MA for large load customers.
- ✓ Reviewed grid planning and investment recovery processes.

## Small Group Sessions on Main Issue Areas

- ✓ Identified 4 main topic areas for deeper dive based on assessing barriers in Phase 1: economic development rates, cost recovery models, energy supply, and pilot site selection.
- ✓ Discussed 4 main topics in small groups for feedback.

# Enabling Sustainable Economic Development FAWG: Topics Discussed and Takeaways from Small Group Sessions

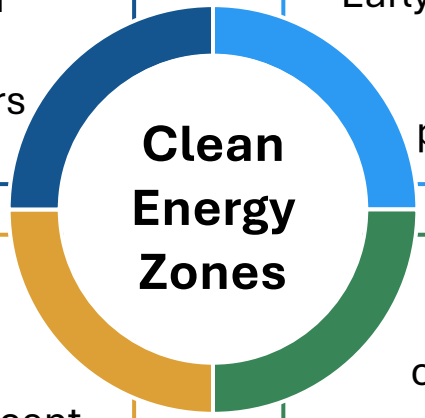
## Economic Development Rates (EDRs)

Discussed potential structures for EDRs (e.g., time-limited discounts tied to payback periods, geographic targeting, broader bill discounts, Contribution in Aid of Construction (CIAC) considerations), alignment with existing incentive frameworks, tracking jobs and investment outcomes, and engaging key stakeholders to assess feasibility.

## Pilot Site Selection

Viable sites differ across urban, suburban, and rural areas, with tradeoffs among land availability, infrastructure access, and clean energy feasibility (e.g., geothermal).

Early community engagement, coordination with interested municipalities and businesses, and support from state partners can help in navigating site selection and permitting and deliver local economic and job benefits.




## Cost Recovery Models

Discussed how new load can spread system costs and deliver benefits to other customers. Reviewed existing cost-recovery models (e.g., ESMPs) as a concept for clean energy-ready zones.

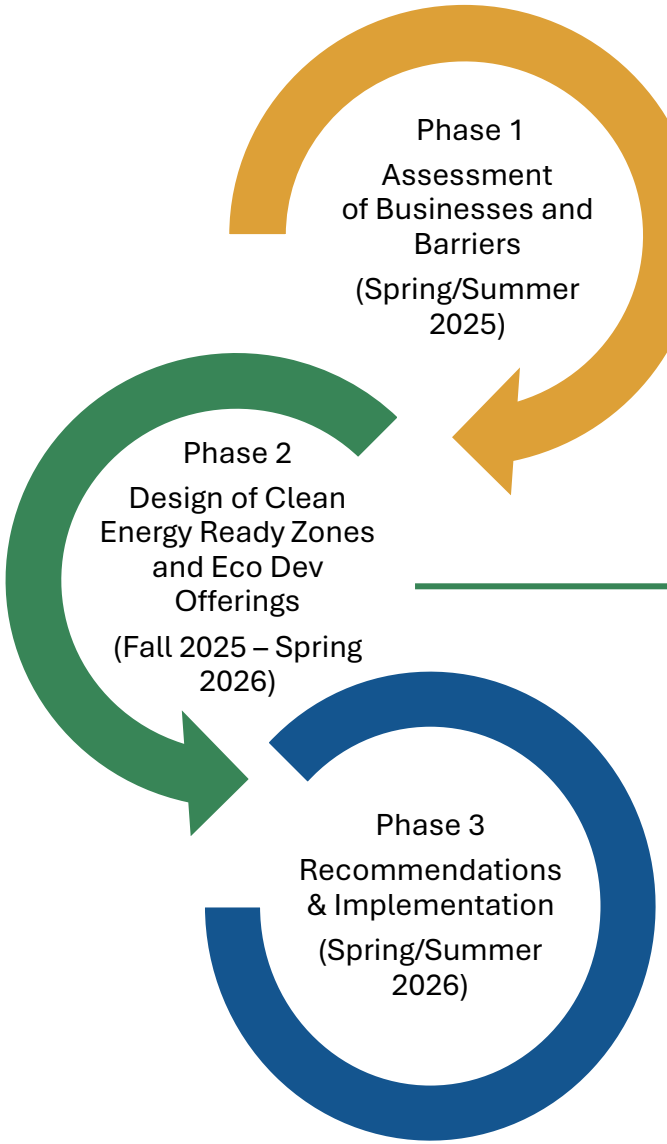
Challenges include addressing utility hesitancy to invest proactively under current prudency standard, the need for greater transparency into electric costs, and balancing near-term costs with long-term economic and non-energy benefits.

## Energy Supply

Discussed energy supply constraints; de-risking new clean energy through collaborative state procurements; and freeing up capacity with load management, while ensuring host communities and ratepayers benefit.

Discussed bundling programs: state-supported tools (e.g., model PPAs); solutions for large thermal needs (e.g., geothermal, district energy, co-location); municipal engagement; and requirements like demand response or on-site solar + storage for new loads.

# Enabling Sustainable Economic Development FAWG: Phase 2 Focus




After small group discussions, FAWG proposes narrowing the near-term focus to:

1. Exploring if/how an **economic development rate** could be applied in MA.
2. Reviewing current **prudency standard** for potential changes required to enable proactive grid buildout.
3. Selecting a possible **pilot site(s)** for providing real-world example of what would be needed to establish clean energy-ready zone.

# Enabling Sustainable Economic Development FAWG: Economic Development Rates

- An **economic development rate** is a special discounted utility rate offered to attract or retain businesses in a region, usually in exchange for commitments like job creation, capital investment, or long-term operations.
- Economic development rates typically provide discounts to incremental load, therefore benefiting both the business with the discounted rate and all ratepayers by spreading fixed costs among more load.
- States like California, Maryland, and New York offer economic development rates that the FAWG is exploring as a potential example for Massachusetts.

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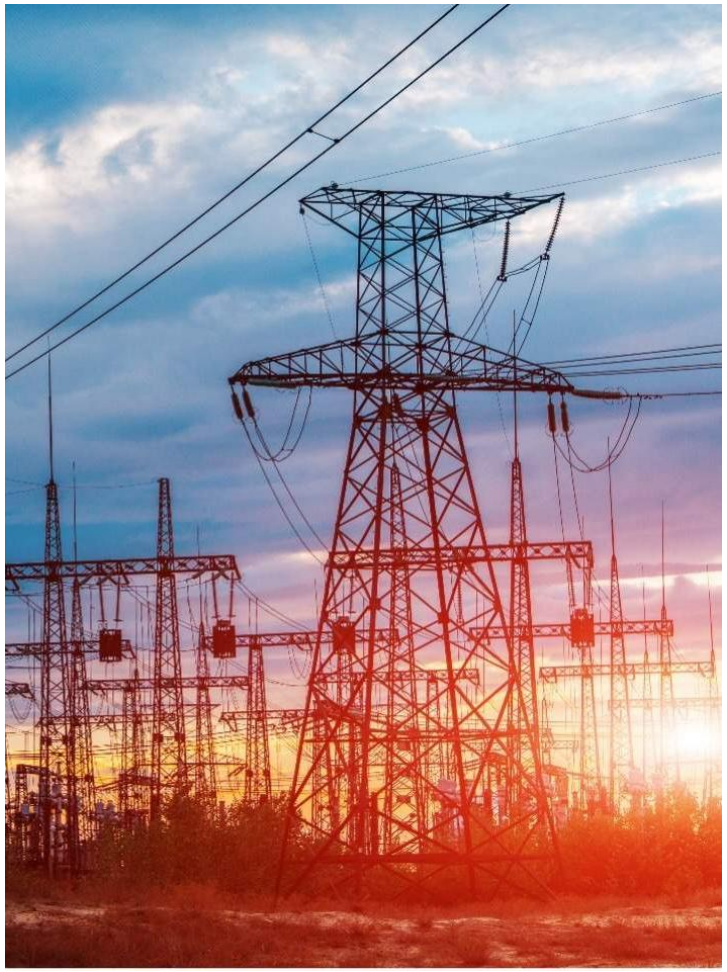
# Enabling Sustainable Economic Development FAWG: Prudence Review Standard

- A **prudence review** applies to all capital investments incurred by a utility when they file for capital cost recovery. The review analyzes the need for an investment for an asset that has been placed in service and is based on what the utility knew or should have known at the time the investment was made. If the expenditure is deemed to be prudently incurred and the resulting plant used and useful, the utility may recover the costs of the capital investment.
  - There are occasional exceptions to the asset having to be placed in service before the utility can recover costs (i.e. smart meters).
- The FAWG is exploring how regulation may need to change to allow for cost recovery for proactive grid buildout to enable clean energy-ready zones.



# Enabling Sustainable Economic Development FAWG: Pilot Site Selection

- The FAWG is considering **selecting a pilot site(s)** to provide a real-world example of what may be needed to establish clean energy-ready zones in Massachusetts.

- Currently working with the Executive Office of Economic Development and other FAWG members to identify a site that has initiated some aspect of new development but does not have the energy capacity necessary to secure targeted businesses.

# Enabling Sustainable Economic Development FAWG: Format of Small Group Discussions

- Advisory Board Members will be split into groups of ~8-10 for small group discussions (both in-person and remote).
- Facilitators will rotate among the tables to facilitate conversations on their respected focus areas. **Advisory Board Members stay at their tables (do not move).**
- Each table will have an opportunity to discuss and provide feedback on the focus of the Enabling Sustainable Economic Development FAWG.
- Facilitators will consolidate the feedback heard across the groups and report out to the full Advisory Board.
- After report-out, the Advisory Board will vote to affirm the Phase 2 workplan of the Enabling Sustainable Economic Development FAWG, including the possibility of identifying pilot site(s) for clean energy ready-zones.

# Enabling Sustainable Economic Development FAWG: Small Group Discussion Questions

1. The FAWG is planning to dive deeper into economic development rates and prudency review standard. **What issues would you like to make sure the FAWG considers/assesses in its deliberations?**

2. The FAWG is planning to identify a pilot site(s). **Do you agree with this approach, in general? What is critical for the FAWG to consider as it works to identify potential pilot sites? What attributes are important in a site for learnings by the FAWG/Advisory Board?**

# Enabling Sustainable Economic Development FAWG: Vote: Affirm Proceeding with Phase 2 Workplan

**Vote**

The Advisory Board affirms the Phase 2 workplan of the Enabling Sustainable Economic Development FAWG, including the possibility of identifying pilot site(s) for clean energy ready-zones.

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# Next Steps

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# Thank You!