Massachusetts Office of Energy Transformation:
Update on First Year of Operations

July 2025

Prepared by
Consensus Building Institute

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Table of Contents

Background **1**

OET Mission and Structure **1**

OET's Approach to Change **4**

The Energy Transformation Advisory Board **4**

Mission and Structure *4*

Approach and Process *5*

External Support *6*

Phase 1 Work *6*

Phase 2 Progress *7*

Focus Area Working Group Process and Structure **7**

Everett Marine Terminal FAWG Progress **8**

Mission and Structure *8*

Background *8*

Phase 1 Work *9*

Alternatives *10*

Framework for Phase 2 Assessment *11*

What's Next *12*

Decarbonizing the Peak FAWG Process **12**

Mission and Structure *12*

Background *12*

Phase 1 Work *13*

Alternatives *14*

Framework for Phase 2 Assessment *15*

What's Next *15*

Financing the Transition FAWG Progress 16
Mission and Structure *..... 16*
Background *..... 17*
Phase 1 Work *..... 17*
Alternatives *..... 18*
Framework for Phase 2 Assessment *..... 20*
What's Next *..... 20*
Enabling Sustainable Economic Development FAWG Progress 21
Mission and Structure *..... 21*
Background *..... 21*
Phase 1 Work *..... 22*
Framework for Phase 2 Assessment *..... 22*
What's Next *..... 22*
Conclusion 23
Appendix A: EMT Assessment Framework 24
Appendix B: DTP Options and Assessment Framework 27
Appendix C: FTT Options and Assessment Framework 33

Executive Summary

This report offers an overview of the efforts of the Office of Energy Transformation in the first year of its work.

The Healey-Driscoll Administration established the nation's first Office of Energy Transformation (OET) in March 2024. Housed within the Executive Office of Energy and Environmental Affairs, OET is charged with affordably, equitably, and responsibly accelerating the gas-to-electric transition, readying the electric grid, and ensuring a just transition for workers, business, and communities.

In July 2024, the administration announced the formation of the Energy Transformation Advisory Board (the ETAB or Advisory Board) to advise the OET and its work. The Advisory Board includes a broad range of stakeholders, including labor, state and municipal officials, business, finance, environmental justice advocates, utilities, technology providers, building owners, consumer advocates, developers, and generators, among others. The Advisory Board provides an opportunity for the Administration to hear directly from the breadth of the energy ecosystem and affected stakeholders from across the Commonwealth and creates a venue for them to work together to equitably and affordably advance the clean energy transition.

Also in July 2024, OET established three Focus Area Work Groups (FAWGs): Transitioning Away from Everett Marine Terminal (EMT), Decarbonizing the Peak (DTP), and Financing the Transition (FTT). In March 2025, the ETAB affirmed the formation of a fourth FAWG, focused on Enabling Sustainable Economic Development (ESED). Each FAWG is designed to align OET's work with its mission and result in tangible, demonstrable, and transformative change.

Each FAWG draws together a range of stakeholder representatives from across sectors. The FAWGs are supported by technical consultants and guided by professional facilitators. Each FAWGs follows a structured approach to decision making, involving three phases:

- Phase 1 — Assess Current Status and Needs
- Phase 2 — Identify and Assess Alternative Solutions
- Phase 3 — Conduct Implementation Evaluations and Make Recommendations

FAWG Progress to Date

Transitioning Away from Everett Marine Terminal (EMT)

The goal of the Everett Marine Terminal Focus Area Working Group (EMT FAWG) is to develop a coordinated strategy to reduce and ultimately eliminate the local gas distribution companies' (LDCs) reliance on the Everett Marine Terminal (EMT) Liquefied Natural Gas (LNG) facility. The FAWG is not charged with determining the ultimate disposition of the EMT. In Phase 1 (December 2024 – May 2025), the EMT FAWG worked to identify three general alternatives to EMT — distributed LNG capacity, pipeline system changes, and demand reduction — and developed comprehensive evaluation frameworks for costs, emissions, operational, and other

impacts. During this Phase 1 process, the EMT FAWG recognized that Massachusetts remains gas pipeline-constrained, with each LDC having unique EMT dependencies requiring tailored, multi-strategy approaches. Over the summer of 2025, the three LDCs who hold contracts with EMT (which is owned and operated by Constellation LNG) will conduct their analysis of the alternatives within the evaluation framework. The EMT FAWG will continue to support refinement of the analysis and consider preferences through the remainder of 2025.

Decarbonizing the Peak (DTP)

The Decarbonizing the Peak Focus Area Working Group (DTP FAWG) is tasked with identifying pathways to reduce reliance on fossil fuel peaking power plants and combined heat and power (CHP) facilities by deploying demand-side and alternative supply-side options to meet peak load needs in Massachusetts. In Phase 1 (October 2024 – June 2025), the DTP FAWG examined four case study facilities and developed comprehensive lists of technology and policy alternatives, ranging from consumer-facing policies (i.e. time-of-use rates and demand response incentives) to supply-side policies (i.e. clean peak standards and emissions limits). In Phase 2 (Summer-Fall 2025), subgroups will apply assessment frameworks to the list of decarbonization alternatives for both the case study facilities and broader peaker plant archetypes across the Commonwealth. Phase 3 will involve systemwide modeling to simulate costs, emissions, and reliability impacts of recommended technology portfolios. (Note: A more detailed summary of work-to-date and next steps for the DTP FAWG was developed by E3 and was provided to the Advisory Board.)

Financing the Transition (FTT)

The mission of the Financing the Transition Focus Area Working Group (FTT FAWG) is to identify alternative mechanisms for financing electricity distribution system infrastructure upgrades necessary to achieve Massachusetts' clean energy and climate mandates while minimizing impacts on consumers' electricity bills. In Phase 1 (November 2024 - April 2025), the group established a foundational understanding of utility cost recovery and regulation. Phase 2, beginning in May 2025, focused on identifying and evaluating eight primary alternative financing approaches including capital investment projects, clean energy tariffs, securitization, non-utility distribution entitlement leases, public-private partnerships, environmental transition bonds, state revolving funds, and climate superfund. Using a comprehensive 23-criteria assessment framework, the FAWG is currently completing detailed assessments of each alternative with support from Analysis Group's technical consultants. Phase 3 will involve implementation evaluation and developing final recommendations to reduce forward-looking bill impacts and create more equitable cost allocation among customers. (Note: A more detailed summary of work-to-date and next steps for the FTT FAWG was developed by CBI and provided to the Advisory Board.)

Enabling Sustainable Economic Development (ESED)

The Enabling Sustainable Economic Development Focus Area Working Group (ESED FAWG) is tasked with advancing clean energy-ready economic development zones that enable key business sectors to grow in Massachusetts, aligned with other state priorities regarding climate, clean energy, land use, equity, and housing. The goal is to address critical grid capacity and interconnection barriers that hinder expansion in energy-intensive industries like climate tech, life sciences, advanced manufacturing, and data centers. Launched in March 2025, Phase 1 (Spring-Summer 2025) is focused on sector assessments and engagement with businesses to understand barriers and business needs, then developing assessment frameworks for these clean energy-ready zones. Phase 2 (Fall 2025) will assess energy accessibility and policy alignment. Finally, Phase 3 will focus on implementation recommendations covering administrative, policy, regulatory, and financing strategies.

Background

The Healey-Driscoll Administration established the nation's first Office of Energy Transformation (OET) in March 2024. Housed within the Executive Office of Energy and Environmental Affairs, OET is charged with affordably, equitably, and responsibly accelerating the gas-to-electric transition, readying the electric grid, and ensuring a just and equitable transition for works, business, and communities.

This effort is bold, urgent, and necessary. To enable compliance with the legal mandates and policies in the Global Warming Solutions Act, the Clean Energy and Climate Plans, and the Department of Public Utilities' (DPU) Order 20-80, Massachusetts has plans and programs aimed at achieving a 50 percent reduction in greenhouse gas emissions by 2030 and net zero by 2050. The primary mechanism to accomplish this task will be the electrification of buildings and transportation powered by new clean energy sources.

Transforming the energy ecosystem in Massachusetts to achieve the Commonwealth's decarbonization requirements depends on a fundamental reimagining and restructuring of current energy regulations, financing mechanisms, and community engagement models and practices. This transformation includes four key priorities:

1. **Accelerate electrification:** Support customers in efficiently, effectively, and affordably moving from fossil fuels to cleaner electric alternatives
2. **Decarbonize electricity supply:** Align decarbonization of electricity with the pace of electrification
3. **Strengthen infrastructure:** Expand electric grid capacity to support electrification and the interconnection of renewable and other non-emitting energy, while enhancing overall reliability and resilience
4. **Manage transition risks:** Create opportunities and reduce risks for all stakeholders, including customers, workers, technology providers, communities, businesses, and utilities

The energy transition can and should provide a platform for a more equitable, reliable, and resilient energy ecosystem. OET is designed and positioned to bring people and organizations together to identify and align around opportunities to affordably enhance the electric grid, help the state make steady progress toward moving away from fossil fuels, and support the workers and businesses dependent on fossil fuels for their livelihoods throughout the transition.

This report offers a comprehensive overview of the efforts of OET in the first year of its work.

OET Mission and Structure

The Office of Energy Transformation (OET) mission is to affordably, equitably, and responsibly, accelerate the energy transformation, with a focus on gas-to-electric transition, electric grid readiness, and a just and equitable transition for workers, businesses, and communities.

OET is led by Executive Director (ED) Melissa Lavinson and Deputy Executive Director Katherine O'Malley.

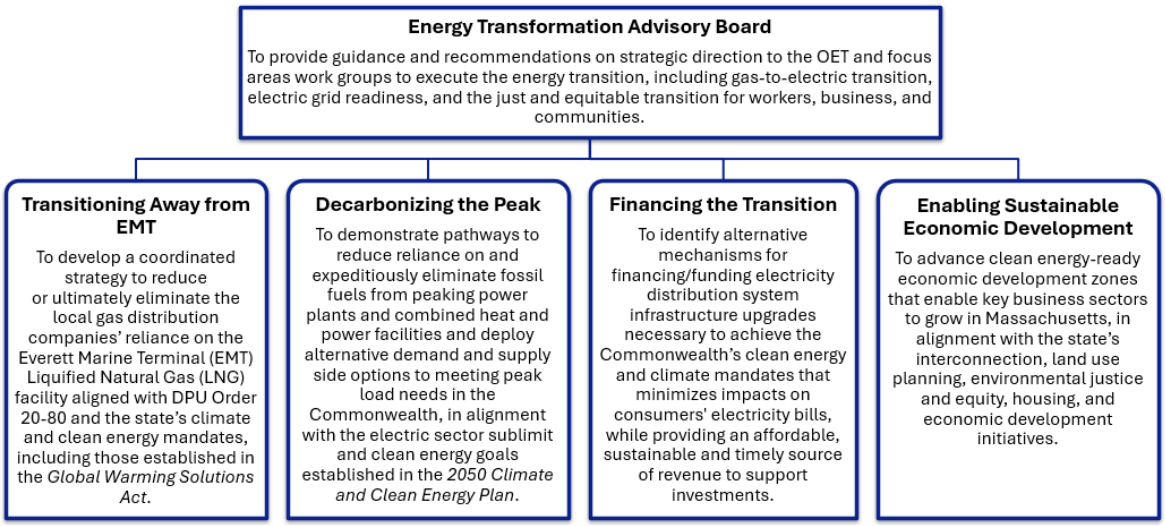
In the Spring of 2024, ED Lavinson met with more than 50 stakeholders representing organizations and businesses directly impacted by or influential to the energy transition to solicit feedback on where the office could most effectively focus its efforts. Stakeholders emphasized the importance of focused priorities and cross-sector coordination to help optimize resource allocation and accelerate progress towards climate objectives. Stakeholders encouraged OET to focus on a few key priorities that drive down emissions, are tangible and significant, bring cross-sector constituencies together to work through decisions, and advance sustainable and replicable solutions.

In response to this feedback, ED Lavinson recommended that the OET structure itself around three priority areas — transitioning away from the Everett Marine Terminal LNG facility, decarbonizing fossil-fired peaking power plants and combined heat and power (CHP) facilities and financing the transition — with guidance from an Advisory Board comprised of senior level stakeholders representing the breadth of the energy ecosystem.

In July 2024, the Healey-Driscoll Administration announced the formation of the **Energy Transformation Advisory Board** (the ETAB or Advisory Board) to advise the OET. The Advisory Board includes a broad range of stakeholders, including labor, business, finance, environmental and environmental justice advocates, utilities, technology providers, building owners, developers, and generators, among others. It provides an opportunity for the Administration to hear directly from climate solution providers and impacted stakeholders and creates a venue for them to work together to advance the clean energy transition.

Also in July 2024, OET established three Focus Area Work Groups (FAWGs) designed to align OET's work with its mission and result in tangible, demonstrable, and transformative change. In March 2025, a fourth FAWG, Enabling Sustainable Economic Development (ESED) was added and approved by the ETAB.

OET Mission and Structure



The FAWGs and their mandates are as follows:

Transitioning Away from Everett Marine Terminal (EMT): To develop a coordinated strategy to reduce and/or ultimately eliminate the local gas distribution companies' (LDCs') reliance on the Everett Marine Terminal (EMT) Liquified Natural Gas (LNG) facility aligned with DPU Order 20-80 and the state's climate and clean energy mandates, including those established in the *Global Warming Solutions Act.*

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

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

Enabling Sustainable Economic Development: To explore the concept of establishing 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.

OET's Approach to Change

The energy system in the Commonwealth is complex and interconnected both within and beyond state boundaries. Many promising technological solutions exist to achieve decarbonization in alignment with the state's climate and clean energy mandates and affordability objectives. At the same time, these technological solutions will not be sustainable without sufficient buy-in and alignment from across stakeholder groups and interests.

OET seeks to bring together diverse stakeholders who are not traditionally connected on a regular basis — from industry and labor to consumers, advocates and communities — to develop shared understanding and collective commitment to making progress toward transforming the energy ecosystem in Massachusetts to one that is more equitable, more affordable, more sustainable and enables decarbonization. Through the Energy Transformation Advisory Board and Focus Area Working Groups, OET facilitates this collaborative process by first establishing a baseline understanding of complex issues, then developing options and their evaluation, and finally building alignment around priorities and approaches.

To develop a baseline understanding of issues and align stakeholders around shared knowledge, OET works with stakeholders to:

- **Commit to collaborative work** between diverse stakeholders who may have competing interests
- **Create shared approaches** for identifying, assessing, and evaluating potential solutions
- **Advance recommendations collectively** while maintaining accountability to communicate the rationale and importance of these recommendations back to constituents and communities
- **Remain open to iteration** and evolution when approaches aren't achieving desired outcomes

This approach recognizes that while OET's current structure does not represent every voice affected by energy transformation — which ultimately includes all Massachusetts residents — it establishes a foundation for inclusive, systematic change that prioritizes people and engagement alongside technological solutions to create lasting, effective, and equitable solutions.

The sections below provide background information and progress updates on each of the stakeholder groups OET has convened: The Energy Transformation Advisory Board, and the four Focus Area Work Groups.

The Energy Transformation Advisory Board

Mission and Structure

The mission of the Energy Transformation Advisory Board is to provide guidance and recommendations on strategic direction to the OET and FAWGs.The Advisory Board includes

83 members, including representatives from labor, business, finance, environmental justice advocates, utilities, technology providers, building owners, developers, municipalities, and generators, among others.

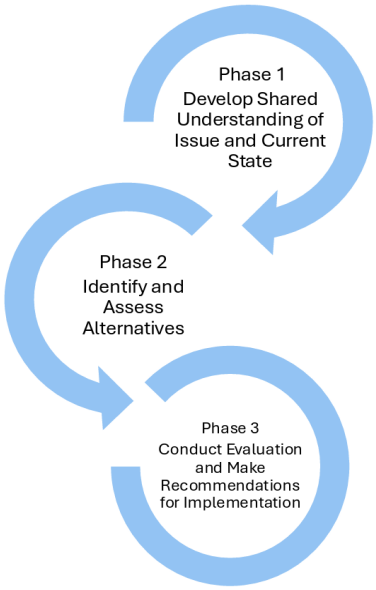
The ETAB is bound by the following responsibilities and expectations:

- Members are affirmed by the EEA Secretary
- Members are senior leaders in their organizations
- Members will serve at least one 2-year term
- Members will meet quarterly
- Members will seek consensus; where consensus is not possible, they will use majority vote and recorded dissent
- Members can volunteer and serve as "Executive Advisors" to and/or participate in the FAWGs
- Meetings are open to the public for viewing/listening, with meeting minutes and materials posted to the OET website
- One meeting per year will provide an opportunity for direct public feedback

Since September, 2024, the ETAB has met three times — in September 2024, January 2025, and April 2025 (recordings of which are available on the OET website). Many of the Advisory Board members also participate in the four Focus Area Working Groups.

Approach and Process

The inaugural meeting of the ETAB was held on September 30, 2024. At this time, the members came to alignment and approved the charters, missions, and approaches for the initial three FAWGs (Decarbonizing the Peak, Financing the Transition, and Transitioning Away from Everett Marine Terminal) including their governance, responsibilities, and workplans. Also in this inaugural meeting, the ETAB adopted a phased approach to its overall process:



Phase 1: FAWGs will gather information, identify the alternatives to assess, and develop an assessment approach.

Phase 2: FAWGs will apply the assessment frameworks to the options under consideration to develop recommendations for Phase 3.

Phase 3: FAWGs will provide the opportunity for more detailed analyses and assessment of implementation pathways, and will result in recommendations of the most promising alternatives under each of the Focus Areas.

External Support

OET onboarded several consultants and partners to support the process and overall effort. These resources include facilitation support provided by Consensus Building Institute (CBI), and technical support from the Georgetown Climate Center (with support from the Harvard Environment & Energy Law Program), the Analysis Group, Energy and Environmental Economics, Inc (E3), and Groundwork Data. Additionally, the Clean Energy Legacy Transition (CELT) initiative, a collaborative between EEA, the Massachusetts Department of Energy Resources, the Massachusetts Clean Energy Center (MassCEC), the UMass system, and Boston University, provides five year-long fellows.

Community Engagement and Education

The Office of Energy Transformation hosts community meetings throughout the Commonwealth on a quarterly basis. The goal of these meetings is to ensure that communities are aware of the plans and actions that the OET is undertaking, to develop a shared baseline understanding of the Massachusetts energy system, and to solicit community input and feedback on critical needs and issues. These events are open to the public and cover the following topics:

- What is the Office of Energy Transformation?
- Where does Massachusetts get its energy?
- How much energy does Massachusetts need and what are the projections?
- What are Massachusetts' clean energy goals and what are the plans to achieve them?
- What is happening to help consumers save energy and money?

The first meeting was held in Lowell, MA on March 31, 2025. Approximately 40 people attended. The second community meeting was held in Springfield, MA on June 30, 2025 in Springfield, MA. Seven people attended.

Additionally, OET held one of its DTP FAWG meetings in Pittsfield, MA. Along with DTP FAWG members, community members and public officials from Pittsfield, as well as surrounding areas, attended the meeting and were provided an update on the work of OET, and an opportunity to engage directly with ED Lavinson and tour the Pittsfield Generating Station, one of the participating facilities.

Finally, OET sponsors a series of expert and educational webinars for ETAB members, FAWG members, and other interested stakeholders on technical and policy aspects of energy transformation. The goal of these webinars is to provide stakeholders an opportunity to gain a deeper understanding of issues and various energy solutions and alternatives.

Progress Update

Phase 1 Work

The three initial FAWGs (EMT, DTP, FTT) presented their progress on Phase 1 — Understanding of Current Status and Needs — at the January and April 2025 ETAB meetings.

The Advisory Board members heard the key takeaways from each FAWG on current status and needs, and the initial identification of alternatives that will be considered during Phase 2. Details on the alternatives and assessments frameworks for each FAWG are included in the sections below.

The ETAB had the opportunity to provide input on the alternatives and assessments frameworks for each FAWG. This input was incorporated, where applicable, and further refined in FAWG meetings. At the April ETAB meeting, the DTP and FTT FAWGs presented their revised lists of alternatives and assessment framework for discussion and approval. The ETAB approved these assessment frameworks, allowing the FAWGs to move forward with Phase 2.

Phase 2 Progress

The FAWGs began the Phase 2 assessment process in Spring 2025. Each FAWG is developing their own approach to Phase 2 and moving at a different pace given the subject matter and other factors. The expectation for each FAWG is to present on their Phase 2 progress at the September 2025 ETAB meeting. Phase 3 will include robust discussion about the priorities or preferred approaches in the various FAWGs and consideration of how preferences in one FAWG area may affect choices in other FAWGs.

Focus Area Working Group Process and Structure

The four Focus Area Working Groups were convened to develop coordinated strategies for addressing different parts of the energy transition and are tasked with identifying potential recommendations for the Advisory Board to consider. Participation in the FAWGs is open to all stakeholders, with membership shared with and affirmed by the Advisory Board. FAWG membership is informal. Members are asked to be subject matter experts and/or interested parties with a level of decision-making authority within their organizations.

FAWGs generally meet monthly and sometimes more as needed. FAWGs may also form and utilize subgroups to focus on particular tasks that are then brought back to the larger FAWG for discussion and consideration. Each of the FAWGs follows the same structured, three-phase approach to decision-making.

All FAWG meetings are held using Chatham House Rules. FAWG decisions are made by consensus where possible. If consensus is not possible, options are presented to the Advisory Board with stakeholder positions noted. The ETAB is the final recommending body for all decisions; all final recommendations and materials of the FAWGs will be provided to the Advisory Board and made public.

Everett Marine Terminal FAWG Progress

Mission and Structure

The Everett Marine Terminal Focus Area Working Group was established to develop a coordinated strategy to reduce and ultimately eliminate the local gas distribution companies' (LDCs) reliance on the Everett Marine Terminal (EMT) Liquefied Natural Gas (LNG) facility aligned with the DPU Order 20-80 and the state's climate and clean energy mandates, including those established in the *Global Warming Solutions Act*. The EMT FAWG was not scoped to determine the fate or purpose of the EMT, but rather to focus on reducing or eliminating reliance on EMT by the LDCs.

The EMT FAWG's work is directly guided by the orders of the DPU regarding this facility. Per DPU Order 20-80, the LDCs were required to submit their first set of Climate Compliance Plans (CCPs) to the DPU on April 1, 2025 describing how the LDCs will contribute to the state's 2050 climate goals, with subsequent plans due every five years. As part of the CCPs, the LDCs must show how they intend to reduce or eliminate their reliance on EMT. Thus, whereas the other FAWGs are tasked with developing potential recommendations for the Advisory Board to offer to OET, the EMT FAWG advises not just the OET but also the LDCs on their EMT-related filings to the DPU. As described in more detail below, the FAWG has developed a framework for analyzing actions to reduce or eliminate reliance on EMT that is intended to inform the LDCs' reporting and decision-making moving forward.

The EMT FAWG includes approximately 60 individuals representing businesses, business groups and associations, labor, environmental groups, environmental justice and equity organizations, consumer interests, generators, natural gas interests, fuel providers, state agencies, and LDCs, among others. The FAWG receives technical support from Groundwork Data, a firm that offers advisory, research, and technology services to support a reliable, safe, equitable, and affordable clean energy transition. The FAWG is facilitated by the Consensus Building Institute.

The EMT FAWG met five times between December 2024 and May 2025, held an introductory webinar, two additional open houses to review evaluation frameworks, and several small group sessions to advance early drafts of materials.

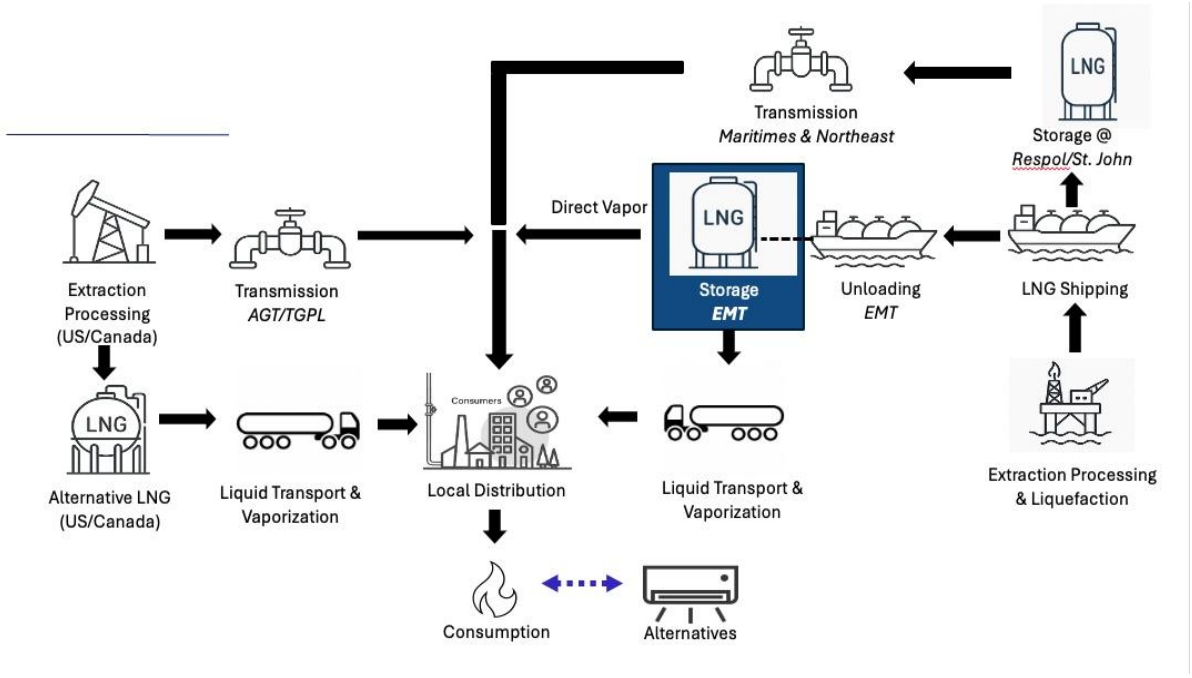
Background

EMT is an LNG facility located on the Mystic River and owned by Constellation LNG (which is part of Constellation Energy, the former owner and operator of the now-closed, adjacent Mystic Generating Station). EMT is currently used as both a strategic supply source and to maintain overall gas system integrity and reliability. EMT provides a gas supply in addition to the major gas pipelines in Massachusetts, redundancy in the LDCs' systems, and gas pressure support, and is used to mitigate outages and flow restrictions on pipelines. On a peak winter day, EMT can provide up to 10% of New England's gas needs. EMT has also provided gas to nearly all the 47 customer-owned LNG storage tanks in New England. It currently employs a staff of

approximately 60 individuals, including those represented by the Utility Workers Union of America Local 369, and is one of the City of Everett's largest taxpayers. EMT receives LNG primarily from Trinidad and Tobago, via tanker vessels. This LNG is distributed by reloading the LNG onto trucks or re-gasifying the product (turning it into vapor) and injecting it directly into the National Grid gas distribution system and adjacent interstate pipelines.

With the closure of the gas-fired Mystic Generating Station in 2024, Constellation Energy indicated that without an anchor customer to replace that demand, EMT would face significant financial challenges and likely closure. Due to concerns about the need to maintain gas system integrity and reliability, three LDCs in Massachusetts (Eversource, Unitil, and National Grid) petitioned the DPU for approval of six-year contracts from 2024 through 2030 for the sale and purchase of gas from EMT. The DPU approved the petition, with the condition that the LDCs describe and take efforts to reduce or eliminate reliance on EMT and provide progress reports to the DPU annually, beginning in April 2025 as part of their individual Climate Compliance Plan (CCP) filings.

The following diagram depicts the role of EMT in the overall gas distribution system.



Phase 1 Work

From December 2024 to May 2025, the EMT FAWG sought to better understand the role EMT plays in the gas distribution system, provide input to the LDCs on their required CCP submittal in April 2025, inventory a set of alternatives for reducing or eliminating LDC reliance on EMT, and develop a framework to assess those alternatives. In addition to its five official FAWG

meetings between December 2024 and May 2025, the EMT FAWG held two additional open houses in May to review evaluation frameworks for cost and GHG emissions and carried out additional meetings in February to advance the outline of the CCPs.

As part of this work, the EMT FAWG reviewed and commented on the general outlines of the LDCs' EMT sections of their CCPs, which include identifying criteria for assessing alternatives, an inventory of alternatives, and considering other impacts on workforce, community, and land use.

The EMT FAWG learned the following in their Phase 1 work:

- Massachusetts and New England are gas pipeline-constrained, particularly during peak demand days.
- EMT is an important element of the current gas distribution and broader system, with the overall consumption of EMT-sourced gas lower since the closure of the Mystic station.
- The locational benefits of EMT vary by service area. Unitil has no liquefaction capabilities and thus relies on EMT LNG delivered by truck to meet customer demand and support operations in Gardner, MA. Eversource has liquefaction capabilities but relies on EMT for direct injection into the interstate pipelines. National Grid relies on EMT for both trucked gas and direct injection.
- Peak day design planning, which is used to assess customer demand and supply needs during peak gas usage periods, is done on a 5-year basis and updated every two years; this cadence is intended to capture near-term changes in current and projected gas demand and associated supply needs.
- The state does not regulate EMT nor Constellation LNG; operational and investment decisions regarding EMT are made based on economic/financial factors.
- Reduced reliance on EMT by the LDCs over time is expected with growing heat electrification. The potential to eliminate reliance depends on the pace and scale of electrification and each LDCs' utilization of EMT/availability of alternatives to replace current use cases. Increasing electrification could maintain, or increase, electric generation system reliance on gas capacity resources, including EMT.

Alternatives

The FAWG identified the following three general alternatives for assessment: 1) utilizing LNG capacity outside of EMT, including developing portable LNG facilities; 2) pipeline system changes, primarily to address current constraints; 3) demand reduction, including electrification and energy efficiency. Each general alternative has several additional elements that can be explored. These are detailed in the chart below.

The FAWG notes that evaluating alternatives is complex because: 1) each LDC service territory is unique, with different reliance on EMT; 2) LDC reduction or elimination of reliance on EMT will likely require multiple strategies, and some of those depend on other stakeholders' actions around increasing electrification (both supply and demand); 3) analysis at this time cannot be highly quantitative; and, 4) assessing greenhouse gas (GHG) impacts requires a set of assumptions, such as boundary conditions.

Alternative		Description
Distributed LNG Capacity	*Alternative LNG supplies*	Truck LNG from Canada, Pennsylvania, or other source.
	On-system LNG expansion (e.g., liquefaction, storage, injection)	Expansion of capabilities at existing sites. Development of new sites.
Pipeline System Changes	*Distribution system upgrades.*	Connect critical parts of the system to ensure reliability ("looping").
	Transmission-level strategies	Transmission capacity upgrades, utilization of Northeast Gateway, etc.
Non-gas infrastructure (demand reduction)	*Energy efficiency* *Demand response* *Distributed peaking fuels* *Electrification* *Thermal and high temperature networks*	Accelerate gas reduction in EMT-reliant zones.

Framework for Phase 2 Assessment

Because the three LDCs that rely on EMT vary in their usage of and need for the facility, each LDC will undertake its own assessment using the agreed upon common framework for assessing the identified alternatives. The LDCs will consider a robust but not exhaustive mix of the alternatives described above with the intent of identifying a distinct mix of specific alternative elements. The LDCs will also need to consider two different outcomes: 1) reliance is reduced (which could require EMT to find additional customers to stay financially viable and support the remaining LDC needs); and 2) reliance is eliminated. The FAWG asked that the initial assessments be conducted at a "high level" that contextualizes the system operation needs and the appropriate alternatives for each area or zone served by/currently reliant on EMT. The goal is to identify key issues associated with each alternative or portfolio of alternatives, but not to thoroughly address these issues at this time. LDCs were essentially asked to map out what is needed to reduce/eliminate reliance on EMT, but not to develop a specific zonal gas transition plan.

The FAWG developed a general framework, and two more specific frameworks for assessing relative costs and GHG emissions. The overall framework considers issues like the impact on system operations, infrastructure demand and supply, and broader policy and other goals. The GHG emissions and costs frameworks consider impacts on distributed LNG capacity, non-gas infrastructure (demand reduction), and pipeline system changes. The full evaluation frameworks are included below in Appendix A.

What's Next

Over summer 2025, the three LDCs will conduct their analysis of the alternatives within the assessment framework described above. As the utilities advance their analysis, they will meet with the FAWG to share their work, hold discussions, and seek feedback on the analysis. The summer assessment is not intended to result in the identification of a preferred approach but rather to lay out the various considerations for the alternatives against the assessment criteria, particularly those that can be implemented in the next five years. When the analysis is advanced and shared with the full ETAB (likely in September), the FAWG will then commence refinement of the analysis and consider preferences for the remainder of 2025 and into 2026.

Decarbonizing the Peak FAWG Process

Mission and Structure

The mission of the DTP FAWG is to identify and demonstrate pathways to reduce reliance on and expeditiously transition away from fossil fuel peaking power plants and combined heat and power (CHP) facilities by deploying alternative demand-side and supply-side technology and policy options to reduce and meet peak load needs in the Commonwealth, in alignment with the electric sector sublimit and clean energy goals established in the *2050 Clean Energy and Climate Plan*.

The DTP FAWG has approximately 140 members representing electricity generation and transmission owners, electric and gas distribution utilities, pipeline companies, fuel suppliers, CHP and peaker facility owners, environmental and clean energy advocates, environmental justice and equity organizations, municipal government, regional planning organizations, state agencies, local and regional planning agencies labor, academic institutions, energy consultants, law firms, and advanced energy technology developers, among others. The FAWG met six times between December 2024 and June 2025.

The DTP FAWG is supported by technical consultants from Energy and Environmental Economics Inc. (E3), Georgetown Climate Center (GCC), and Harvard Environment and Energy Law Program (EELP), and facilitation from the Consensus Building Institute (CBI).

Background

According to ISO-NE, by the mid- to late-2030s, peak demand for electricity in New England will increase substantially and shift from summer to winter due to electrification of the transportation and building sectors. By 2050, peak demand could also vary significantly on a year-to-year basis depending on if there is a mild or severe winter. ISO-NE projects that some resources needed to maintain reliability during the harshest conditions may run only for a few days once every few years. Reducing demand and meeting electricity needs with clean energy technologies during these periods could alleviate the need for such rarely used fossil-fired peaker facilities.

Despite their infrequent operations, fossil-fired peaker plants have an outsized impact on emissions because they are less efficient and often burn higher emitting fuels like oil. Increased reliance on intermittent renewable energy sources like solar and wind and increased demand for electricity may significantly increase the need for peaking capacity on the system in the coming decades, according to the *2050 Clean Energy and Climate Plan*. To meet the Commonwealth's greenhouse gas emissions mandates, less carbon intensive resources will be needed to meet peak demand, along with demand management strategies that can shift and lower overall peak demand.

Phase 1 Work

The DTP FAWG was launched in October 2024 and began with a series of meetings to establish a shared understanding of the FAWG approach, and the key issues relevant to peak energy demand, facility characteristics, and current policy drivers.

The challenge of decarbonizing the peak involves two interlocking scales:

- **System-Level Challenges**, including peak demand, market policy and compensation, costs and emissions, system resource adequacy and needs, and existing policies and incentives
- **Facility-Level Challenges,** including land use, technology availability and readiness, markets, cost considerations, environmental, equity, community, and workforce impacts

The approach of the DTP FAWG is to simultaneously assess bottom up (facility-level) and top down (system-level) challenges, including consumer-facing and supply-side policies, and the site-specific needs of peaker power plants and CHPs.

In Phase 1 of the DTP FAWG, OET staff and technical subject matter experts provided in-depth briefings on system-level dynamics, including an overview of the wholesale market compensation and entrance/exit programs that shape the resource mix and availability, changing electricity demand, and supply projected to meet this demand based on existing and expected trends. This overview included an examination of how the current system relies on peaker and CHP facilities, ISO-NE design and market dynamics, compensation models/considerations driving peaker plants and CHP operations, and potential demand and supply-side strategies to shift towards a reliable, decarbonized system.

Beyond regional or market influences, each community and facility has site specific considerations. These may include locational value and interconnection opportunities, impacts on environmental justice communities, local zoning, and accessibility of particular fuels. To understand how specific facilities work within these opportunities and constraints, the FAWG analyzed four facilities that volunteered to participate as case study locations. These facilities include:

- Canal Generation Station (JERA Americas) - Sandwich, MA
- Tufts University, CHP - Medford, MA
- Cogentrix Plant - West Springfield, MA (Retired peaker plant, with Battery Energy Storage System under development)

- Hull Street Partners - Pittsfield, MA

In Phase 1, the DTP FAWG received in-depth briefings on each of these facilities, including a site visit to the Pittsfield Generating Facility (Hull Street Partners).

Once the DTP FAWG established a shared understanding of system-level and facility-level opportunities and challenges, technical consultants E3 and Harvard EELP presented a range of possible supply and demand side technologies and policies that could be considered to lower or eliminate the carbon emissions from Massachusetts peaker and CHP facilities. The FAWG then reviewed and revised the list of alternatives (included below) and the criteria proposed for assessing the suitability of the alternatives.

Key takeaways from Phase 1 included the following:

- As the region decarbonizes, emissions will be most challenging to mitigate during peak times. However, there are a range of strategies that can be deployed to reduce the emissions impact during peak hours while maintaining system reliability.
- Each facility and community present unique opportunities and challenges for decarbonization and siting alternative technologies. Assessing community-level positive and negative impacts in many cases will require monitoring over time, including the level of community acceptance and the longer-term effect on those living closest to the facility.
- A combination of supply and demand-side strategies will be needed to address the increasing demand for clean electricity, the shift in peak hours from summer to winter months, and the uncertainties around the cost and availability of alternatives to reducing use of or replacing peaking and CHP facilities.
- CHP can provide significant savings on heat and electricity production to a campus, industrial park, or networked commercial / residential area. It also provides resilience against extreme weather events or other grid outages. These facilities also often provide efficiencies from a thermal perspective and can help mitigate peak electric demand. However, many of these facilities use fossil fuels that emit CO2 and other pollutants during peak periods. They will require a unique set of solutions to decarbonize.
- Site-specific considerations will be important in the assessment of alternatives, including locational value on the grid, availability of developable land, accessibility to alternative fuels, proximity to environmental justice communities, local zoning and permitting requirements/limitations, opportunities to reuse existing infrastructure, and access to capital/financing.
- Peaker facilities will need to apply to ISO-NE to “exit” the market, which will require a study period to ensure that any change at the facilities (i.e., closure or technology replacement) will not adversely impact overall system resource adequacy and/or reliability in an area.

Alternatives

The DTP FAWG is considering the following supply-side (generation/alt fuel) and demand-side (reducing or shifting peak demand) technologies and policies. Technology options include a range of fuels, storage, generation, and other strategies. Policy options include transmission

reforms, interconnection, emissions limits, retail rate design, aggregated demand response, and energy efficiency measures, among others. A complete list of technologies and policies under consideration can be found in Appendix B.

These technology and policy alternatives were developed through an iterative process initiated by the DTP technical consultants. DTP FAWG members had the opportunity to discuss and amend the suggestions presented by the consultants over several meetings (in February and March 2025).

Framework for Phase 2 Assessment

The FAWG developed a framework for assessing the technology and policy alternatives in the spring of 2025. The technology framework includes 32 criteria related to environmental impacts, feasibility, community and economic impacts, substitutability, and other issues. These criteria were developed in collaboration with the DTP technical consultants, with additional work by five FAWG member subgroups (emissions, costs, demand-side enabling technologies, community impacts, and ranking subgroups) that met to develop recommendations on how to define and measure the criteria. The policy framework includes an additional 33 criteria related to impacts on peak demand and supply, equity, costs, interactions with other jurisdictions, implementation, timescale, the policy mechanism, and implementation and political considerations. The policy criteria will be discussed further during Phase 2.

The complete frameworks for the assessment of both technologies and policies can be found in Appendix B.

What's Next

The DTP FAWG is currently moving into Phase 2, which will involve multiple steps to consider technology and policy alternatives and narrow the list to those with the greatest applicability to the most peaker plants. First, the FAWG will assess the technologies based on a range of criteria such as feasibility and cost for replacing the existing peaker and CHP facilities in the state. Then, after identifying the most promising technologies, the FAWG will consider policies that are most effective in incentivizing or supporting these technologies.

The FAWG will focus initially on the supply-side technologies and policies. The demand-side technologies and policies will be informed by the MA Department of Energy Resources (DOER) load management study which is expected to be completed by the end of September. The study being conducted by E3 will:

- Develop an understanding of the technical, economic, and achievable potential of load management strategies
- Evaluate the costs and benefits to the grid of individual and select portfolios of load management strategies
- Identify technological, market, and policy barriers that limit achievable potential for load management, and recommendations to overcome barriers

In applying the technology framework to the relevant technology alternatives, the FAWG will begin with a site-specific approach. Specifically, the FAWG will assess the technologies in the context of the four case study facilities noted above (Canal Generation Station, Tufts CHP, Cogentrix Plant in West Springfield, and Hull Street Partners in Pittsfield) to understand the site-specific considerations when applying the criteria. After narrowing the set of technologies to those with the most promise at each site, the FAWG will consider appropriate policy options and use the policy framework to evaluate them. This process may lead to changes in the assessment frameworks.

The next step will involve applying the technology and policy frameworks to the remaining facilities in the Commonwealth based on "archetype" peaker and CHP groups (i.e. facilities that share similar operating and site characteristics). This process will provide a much broader understanding of what technology options are most promising for the system as a whole and further inform the policy options that are most likely to complement or help incentivize these technologies. After completing this assessment, the DTP FAWG will develop recommendations for technologies and policies that should be further analyzed in Phase 3.

In Phase 3, the recommended technologies (including demand response strategies) will be inputs to a system-wide capacity expansion model to simulate the costs, emissions, and energy production based on assumptions about generation and transmission capacity, future electricity demand, fuel prices, technology costs, and policies. This modelling effort will provide information about the resource portfolio that meets the prescribed system (e.g., lowest cost and/or lowest carbon emissions) and customer demand requirements while maintaining reliability.

Financing the Transition FAWG Progress

Mission and Structure

The mission and focus of the FTT FAWG is to identify alternative mechanisms for financing electric distribution system infrastructure upgrades necessary to achieve the Commonwealth's clean energy and climate mandates that minimize impacts on consumers' electricity bills, while providing an affordable, sustainable, and timely source of revenue to support investments.[1]

The FAWG has met nine times since November 2024 with a range of stakeholder representatives from across the energy ecosystem (e.g., labor, business, finance, environmental justice and equity organizations, utilities, consumer advocates, environmental groups, state and municipal officials, technology providers, building owners, developers,

[1] In January 2025, the Advisory Board voted to provide the FTT FAWG the option to expand its scope to include alternative mechanisms for financing/funding other electric-sector activities and programs beyond distribution infrastructure investments, if the FAWG determines it would be productive and fill a current gap. Currently, the FAWG is still focusing its efforts on financing/funding distribution infrastructure investments.

generators, and community activists, among others). The FTT FAWG includes approximately 110 people.

The FTT FAWG is supported by a team of professional facilitators from the Consensus Building Institute and technical subject matter experts from Analysis Group.

Background

The way electricity is produced, delivered, and consumed is changing as policies, programs, and technological changes are implemented in support of evolving consumer demands, growing energy needs, more frequent and extreme weather events, and the Commonwealth's climate and clean energy mandates and regulations. Consistent with the pathways to decarbonization established in the *2050 Clean Energy and Climate Plan*, additional capacity will be needed on the transmission and distribution systems and more reliance will be placed on the local electric distribution grid to meet future needs, including heating and transportation electrification, and increased utilization of "smart" end use technologies. To meet the climate and clean energy goals of the state, the electric distribution grid will need to 1) be better able to connect and optimize more clean energy, including solar, wind, and storage, 2) support increasing amounts of electrification from heating, cooling, and transportation, 3) be better able to integrate customer-side energy solutions, and 4) be more responsive and resilient to a changing climate.

In their Electric Sector Modernization Plans (ESMPs), the EDCs proposed approximately $4 billion in ESMP-related investments by 2030 to increase the flexibility and capacity of the electric distribution grid, expand customer programs to support evolving needs and demands, and add technology to optimize and automate grid operations, reduce demand, and manage costs to ratepayers. In June 2025, the DPU approved the EDCs moving forward with a subset of these proposed investments using an interim cost recovery mechanism for the approved ESMP-related investments. Financing these and future investments in ways that mitigate the impact on ratepayers over time and advance equity will be critical.

Phase 1 Work

The FAWG began its work by ensuring all members had a basic understanding of key issues relevant to financing electricity distribution system upgrades. OET staff and technical subject matter experts shared background information on Massachusetts' electric distribution companies (i.e., investor-owned utilities) and regulation of their prices and services, with a focus on issues like:

- Who regulates what customers pay
- How utility base rates are built on the "Cost of Service"
- The different elements of customers' electric bills
- How utility investment costs are currently recovered
- How utility investments are currently financed
- Background on Massachusetts EDCs' ESMPs and their proposed distribution system investments

Overall, the background information sharing sessions emphasized the affordability challenges Massachusetts could face as the EDCs move forward with proposed electric distribution system investments to meet projected demand and increase system resilience, and how these investments would impact customers' electricity bills under a status quo financing approach that utilizes traditional utility ratemaking. The sessions underscored a number of key points, including:

- Future distribution system investment costs are likely to rise.
- Build-out of the local grid is needed to support growing electric demand in Massachusetts, including to support growing demand and the connection of technologies like distributed energy resources (DERs), the electrification of vehicles and buildings, and the addition of more cooling systems.
- Even with energy efficiency and flexible demand, which mitigate investment needs, it is likely that new, near-term investment to enhance the capacity and capabilities of the local electric grid will be required, at scale, to ready it to interconnect and operate with new DERs, handle electrification and economic growth, and be more resilient.

Potentially, the combination of these factors could result in an increase in customers' electricity costs in the near- and medium-term before they eventually level off. The goal of investigating and considering ways to innovate on financing and cost recovery approaches is to flatten rate adjustments and lower customer costs for investment by, for example:

- De-risking investment (and lowering the cost of capital)
- Smoothing rate adjustments
- Assigning costs to beneficiaries in more direct and tailored ways
- Leveraging third-party financing

Alternatives

After laying the substantive groundwork in Phase 1, the FTT FAWG identified a set of alternative financing and investment-recovery options — different from traditional utility ratemaking — to explore in depth. These included, in no particular order:

- **Capital Investment Projects:** Utilities file proposals with the DPU for essential electric distribution system upgrades to enable distributed energy resources (DERs). Essentially, all ratepayers initially fund the construction but are reimbursed over time through fees charged to future DER facilities that benefit from the upgrades. *This alternative currently exists and was used as a model for an alternative approach for discussion purposes. It is not being assessed or evaluated.*

- **Clean Energy Tariffs:** Large customers seeking expedited system access can pay utilities for accelerated distribution system upgrades ahead of the utility's planned schedule. The tariff would cover both capital and ongoing delivery costs, with benefits and costs allocated between the initiating customer and later beneficiaries. This approach is being explored elsewhere for new generation but is not currently available in Massachusetts.

- **Securitization:** This mechanism lowers utility borrowing costs and spreads upgrade costs over longer periods through special-purpose bonds rather than rate base financing. Instead of large cost spikes, ratepayers see constant, levelized payments collected through dedicated bill charges. It requires authorizing legislation and has been used in other contexts in Massachusetts, but not yet for distribution system upgrades. It has been used in other states for utility assets that are currently operational, as well as to pay for programs, fuel costs, and storm related costs.

- **Non-Utility Distribution Entitlement Leases:** A third party "leases" portions of a utility distribution asset and pays for a portion of upfront investment costs in exchange for DPU-authorized rate recovery rights. As part of the contract, the leaseholder returns the "rights" for the share of the asset it leased back to the utility for use by all customers. The leaseholder uses after-tax profits to provide customer benefits like bill credits while maintaining utility ownership and operation. This approach requires legislative authorization and has been used for California transmission assets. It has not been used for distribution assets, to date.

- **Public-Private Partnerships:** Public entities provide low-cost financing for distribution projects through public bonds repaid via ratepayer charges. An example is DC PLUG, where the District of Columbia issued bonds for a portion of the costs, the District's transportation department handled some of the civil/road work for underground distribution networks, while the utility builds and operates the assets, and maintains ownership. Such a public-private partnership has not been used to date in Massachusetts for utility assets.

- **Environmental/Energy Transition Bonds:** Municipalities or states issue lower-cost public bonds to provide capital for utility distribution investments. The bonds are secured by ratepayer fees while utilities retain ownership and operation of infrastructure. This approach requires legislative authorization and might impact the public entity's bond capacity depending on structure.

- **State Revolving Fund (SRF):** Similar to water infrastructure funding, government-supported seed funding for a distribution system loan fund would be provided, with the fund administered by a state entity. Low-cost loans would be issued to utilities for high-priority projects with repayment through customer rates, allowing funds to be recycled for new projects. This approach requires legislation and, **if** initially funded via an appropriation, would not count against the state's bond cap.

- **Climate Superfund:** Modeled after federal toxic waste cleanup funding, this mechanism would collect fees from companies identified as responsible for historical greenhouse gas emissions. The fund would provide grants and loans for electric distribution infrastructure without ratepayer repayment requirements. Vermont and New York have enacted similar laws, though implementation remains subject to various legal challenges and would require new Massachusetts legislation.

For each option, OET staff and subject matter experts from Analysis Group compiled and shared background on: 1) whether the approach has been used in Massachusetts or elsewhere for distribution investments (or other investments); 2) investment and cost-recovery considerations; 3) governance considerations, such as who would need to approve the mechanism; and 4) other considerations, such as upfront requirements, potential for pairing the approach with others or modifying it over time, and implications for utilities.

The FAWG may also consider additional mechanisms, though these have not been fully detailed as of yet nor affirmed by all FAWG members as appropriate to explore at this time.

Framework for Phase 2 Assessment

The FAWG developed a comprehensive framework and approach for assessing alternative financing approaches. The assessment framework includes a total of 23 different criteria related to investment and cost recovery dollar benefits, implementation pathway challenges, and other intangibles. The FAWG developed a detailed description for each criterion and three-tier color coding scale (green vs. yellow vs. red) defining what constitutes positive vs. neutral vs. negative impacts vis-a-vis ratepayers within that criterion. An early version of this framework was approved by the Advisory Board in April 2025, and the complete up-to-date framework is available in the Appendix.

The FAWG is currently engaging in a thorough assessment of each of the alternatives using this framework. Analysis Group has developed and presented detailed “straw proposals” to the FAWG by running each alternative through the framework and explaining a basis for their color coding of each criterion. FAWG members will now review and discuss these straw proposals and develop their own proposed assessments and explanations to be shared with the Advisory Board.

Upon completing this assessment process, the FAWG will move to Phase 3 of its work, focusing on conducting an implementation evaluation and making recommendations. This final phase will involve a more detailed evaluation of the financial impacts of select alternative financing approaches and developing a package of recommendations for consideration by the Advisory Board.

What’s Next

Currently, the FAWG is completing its Phase 2 assessment of each identified alternative financing approaches using the evaluation framework. The FAWG will share the outcomes of this assessment with the Advisory Board and then move to Phase 3 implementation evaluation and develop recommendations.

Enabling Sustainable Economic Development FAWG Progress

Mission and Structure

The mission of the Enabling Sustainable Economic Development (ESED) FAWG is 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.

The FAWG was created in March 2025 and has met twice. The FAWG is comprised of approximately 55 people and includes a range of stakeholder representatives including businesses and business organizations, local and regional planning agencies, labor, environmental justice and equity organizations, advocates, local and state public officials, real estate developers, building owners and operators, power generators, utilities, technology providers, and environmental groups, among others.

The ESED FAWG is facilitated by OET staff.

Background

The Healey-Driscoll Administration's economic development plan, "Team Massachusetts: Leading Future Generations," prioritizes growth in climate tech, life sciences, and advanced manufacturing sectors that are critical to the state's economic future. These energy-intensive industries face significant barriers to expansion due to inadequate electric grid capacity and lengthy, costly interconnection processes. As competition intensifies nationally and internationally for these high-growth businesses, Massachusetts risks losing its competitive advantage if companies cannot access the reliable, clean energy infrastructure they require for 24/7 operations. The Boston Consulting Group identified "move-in ready spaces & manufacturing sites" as a key barrier to economic development in Massachusetts, while business groups across the state have consistently highlighted grid capacity limitations and interconnection challenges as primary obstacles to growth and facility expansion.

Recognizing that grid interconnection issues create both economic development and climate policy challenges, the Executive Office of Energy & Environmental Affairs launched a comprehensive effort in 2025 to address these barriers across multiple workstreams, including long-term system planning, customer interconnection improvements, and clean energy-ready zone planning. While most interconnection workstreams have established stakeholder groups, the clean energy-ready zone planning initiative lacked a formal mechanism for engaging government, business, and community leaders. OET therefore proposed creating the Enabling Sustainable Economic Development (ESED) FAWG to fill this gap, providing a dedicated forum to develop recommendations for clean energy-ready economic development zones that align with the Commonwealth's economic development, land use, and climate objectives while ensuring new large loads don't compromise system affordability or increase fossil fuel dependence. The ETAB approved establishing the ESED FAWG at its January 2025 meeting.

Phase 1 Work

The ESED FAWG launched in March 2025 with an informational webinar, followed by the first FAWG meeting in early May.

Phase 1, which will stretch through summer and early fall of 2025, is focused on the identification and assessment of barriers to clean energy-ready economic development zones and priority businesses for economic development initiatives.

This work will be carried out through three action areas:

- **Assessment of Businesses and Barriers:** The FAWG is conducting sector assessments to identify target company types within priority sectors (advanced manufacturing, healthcare and life sciences, data centers and tech infrastructure, real estate development, and climate tech). This includes understanding business, energy, and site needs by sector, determining current barriers to energy/interconnection and development, and identifying opportunities to address these barriers.
- **Identification of Priority Locations and Needs:** The FAWG will examine grid capacity and existing/planned upgrades, alignment with other policy goals including land use policies, alignment with business needs identified through sector assessment, and alignment with municipal efforts and priorities.
- **Assessment Framework Development:** The FAWG is developing an approach to assess options for addressing barriers, ensuring energy accessibility/availability, and aligning with broader state and local priorities.

In addition, OET is conducting direct engagement with businesses over the summer to understand sector-specific needs and barriers, while also working with the Executive Office of Economic Development to engage with businesses that chose other locations over Massachusetts to examine the role that energy access and costs played in their decision-making.

Framework for Phase 2 Assessment

Phase 2 will focus on the identification of priority locations and the assessment of barriers, energy accessibility, and alignment with broader state and local priorities. The framework for Phase 2 will be refined throughout Phase 1, with the goal to move into Phase 2 by the beginning of Winter 2025.

What's Next

The FAWG will meet this summer to discuss economic development goals and desired business sectors to target and will review the results of business engagement conducted by OET. The FAWG continues to work to define "sustainable economic development" in the context of the OET and state efforts, to develop an assessment framework for discussion, and to work in close coordination with EEA's broader Interconnection Action Plan workstreams.

Conclusion

In its first year of operation, Massachusetts' Office of Energy Transformation effectively established collaborative infrastructure and analytical frameworks to address some of the Commonwealth's most pressing energy transition challenges. Through the formation of the Energy Transformation Advisory Board and four Focus Area Working Groups, OET has brought together cross-sector representation to affordably, equitably, and responsibly accelerate the gas-to-electric transition, ready the electric grid, and ensure a just and equitable transition for workers, business, and communities.

The Phase 1 assessments completed by the FAWGs highlight both the complexity and urgency of the transition: reducing reliance on the Everett Marine Terminal while maintaining gas system reliability, decarbonizing peaker power plants as winter electricity demand grows, financing grid upgrades without creating affordability challenges for energy consumers and enabling sustainable economic development through clean energy infrastructure. Each challenge requires coordinated solutions that balance technical feasibility, economic impacts, and equity considerations.

In the coming year, OET is well positioned to assess the viability of proposed alternatives and move towards recommendations that support Massachusetts in delivering on its climate and clean energy mandates and building a more robust and responsive energy system, while mitigating risks for consumers and communities. This work is ongoing and involves cross-sector collaboration and technical innovation. In this effort, Massachusetts is building more than a clean energy system: it is leading the way in creating a collaborative model for energy transformation.

Appendix A: EMT Assessment Framework

Overall Assessment Framework

Category	Criteria
System Operations	Resource reliability (hourly, day, season) a.k.a. resource adequacy / supply
	Pressure support
	Energy system resilience. For example, consideration of EMTs nature as a single large asset versus a mixed portfolio of alternatives that are smaller and more distributed; how do these alternative approaches respond to unanticipated events?
	TGP/AGP redundancy for LDC operations
Infrastructure (demand and supply)	Feasibility and practicality
	Categories of cost to implement alternatives (to be further defined by cost assessment workgroup)
	Timing for implementation
	Location-specific impacts
	Electric load implications
Policy & Broader Impact Goals	Emissions reductions and climate policy alignment (to be further defined by climate policy workgroup)
	Alignment with affordability goals (separate proceedings will influence how customers realize cost)
	Environmental justice: imposed new burdens on other EJ communities that will bear new or expanded infrastructure
	Others

GHG Emissions Specific Framework

Alternative	Observation	Guidance
Distributed LNG Capacity	Alternative sources of LNG may have small but notable emissions impacts relative to EMT. However, these are highly uncertain and are likely to change over time.	The LDCs should **comment (not quantify)** on potential emissions impacts stemming from the source of gas (domestic v. international), liquefaction process, and transport. OET welcomes additional input on this topic from FAWG members.
Non-gas infrastructure (demand reduction)	Demand reduction will increase the electric load to varying degrees depending on the approach. Emissions from the growing electric load will also depend on the state of the grid and, secondarily, the presence or absence of EMT (see Argonne and NPCC studies).	The LDCs should **comment** on the electric sector emissions associated with electrification under low and high gride impact bookends and under a grid scenario where the absence of EMT causes an increase in peak oil-generation and a grid scenario (presumably with EMT still in operation) where peak demand is met by gas. The LDCs will consult with OET's technical support on appropriate assumptions.
Pipeline System Changes	Shifting from LNG use to interstate-pipeline gas use will yield incremental reductions in upstream emissions.	The LDCs should **illustrate** this in the alternative assessment with industry-standard emission factors. The LDCs should note that these *general LNG lifecycle emissions* include emissions in and

		out of state. The LDCs should use estimates that employ 100y GWP factors for fugitive methane.

Costs Specific Framework

Alternative		Observation	Guidance
Distributed LNG Capacity	Alternative LNG supplies	Alternative LNG supplies may face similar cost dynamics to EMT and also require longer transportation.	**Discuss** how these could be cheaper or more expensive than EMT.
	On-system LNG expansion	Large variability in costs. New distribution infrastructure has the potential to be underutilized.	**Provide illustrative examples** of such projects and put approximate costs in relation to the utilization of EMT. **Briefly discuss** how new investments may be affected by possible regulatory changes that consider the potential for stranded assets or alternative depreciation strategies.
Pipeline System Changes	Distribution system upgrades	Large variability in costs. New distribution infrastructure has the potential to be underutilized.	**Provide illustrative examples** of such projects and put approximate costs in relation to the utilization of EMT. **Briefly discuss** how new investments may be affected by possible regulatory changes that consider the potential for stranded assets or alternative depreciation strategies.
	Transmission-level strategies	Tx capacity may grow independent of local action (see Constitution PL) Costs associated with additional capacity are not likely to be 1:1 comparable with EMT. Costs may differ depending on scale (e.g., incremental capacity versus new pipeline)	**Discuss** how new pipeline capacity could be cheaper or more expensive than EMT. Discuss opportunities for additional capacity to reduce other system costs.

Non-gas infrastructure (demand reduction)	Energy efficiency Demand response Distributed peaking fuels Electrification Thermal and high-temperature networks	Existing policy is driving forward these actions independent of EMT	**Contextualize** the amount of demand reduction needed to reduce/eliminate reliance on EMT. Are there cost considerations with respect to the needs of each zone (e.g., Cambridge/Boston versus less dense zones)? What are the cost implications of the acceleration of demand reductions to achieve near-term reduced/eliminated reliance on EMT (e.g., 2030 vs 2040)? How should demand reduction costs be considered with respect to state-wide policy to reduce gas demand?

Appendix B: DTP Options and Assessment Framework

Decarbonizing the Peak – Technology Options

Fuels

- Renewable diesel
- Biodiesel
- Methanol
- Ethanol
- Hydrogen (green)
- Ammonia
- RNG
- LNG/CNG
- Biomass

Storage

- Li-ion battery
- Na-ion battery
- Flow battery
- Iron-air battery
- Pumped hydro
- Compressed air energy storage
- Compressed gas energy storage
- Thermal storage

Generation

- Solar photovoltaic
- On-shore wind
- Off-shore wind
- Enhanced geothermal
- Deep geothermal
- Run-of-river hydroelectric
- Large (i.e., reservoir) hydroelectric
- Hydrogen combustion turbine
- Hydrogen fuel cell
- Linear generator
- Wastewater heat recovery
- Nuclear SMR
- Fusion

Other Strategies

- Transmission / Imports
- Thermal Network Conversion and Deep Geothermal
- Aggregation of distributed energy resources (including demand response)
- Integrated Energy Systems
- Carbon abatement, including capture and storage (CCS)

Technology Assessment Framework

Technology (could lead to a combination of technologies)	**Environmental Impacts** (considering production of fuel and use)						
	Carbon dioxide CO_2 emissions associated with operations	**Externalities** e.g., qualitative lifecycle emissions	**Air Quality** impact on local air quality, including particulate matter	**Toxics** Impact on local hazardous air pollutants (HAPs)	**Water quality and use** Needs and risks for disturbing, consuming, or polluting water resources	**Land use** e.g., potential displacement	
	Feasibility						
	Power density (MW/acre) and other land features how reliant is it on special location or geospatial features (e.g. topography, wind speed, min. parcel size, etc.)	**Timeline** typical development timeline for the tech	**Deliverability (i.e., transmission access)** ability to inject (and receive, if applicable) energy into the bulk transmission system	**Commercial availability and technological maturity** availability/ readiness of tech	**Fuel storage and transport (e.g., pipelines)** supporting infrastructure required to deliver and store fuel	**Power density (MW/acre) and other land features** how reliant is it on special location or geospatial features (e.g. topography, wind speed, min. parcel size, etc.)	**Supply chain and availability of raw materials** how readily available are upstream materials required for this tech
	Community and economic impacts						
	Cumulative health impacts anticipated local, cumulative health impacts of tech	**Workforce development needs and impacts** anticipated # of quality jobs associated and certification/training reqs	**Construction and operational workforce** typical # of FTEs required to construct/install plus operate/maintain this tech	**Related community economic impacts and tax** taxable value of the tech and additional impacts for local economy			
	Substitutability for peaker						

	Capacity ability to dispatch during net peak hours	**Ramping ability** start-up time, ramp rate (MW/min)	**Capacity factor** amount of energy it can produce in a given period, as a % of maximum power rating	**Duration** i.e. for storage, how long can it sustain operation	**10-minute reserves** can it provide rapid (i.e. spinning) reserves for the grid	**30-minute reserves** can it provide reserves for the grid	
	Frequency regulation can it provide frequency regulation services for the grid	**Local reliability** can it help support local resiliency (i.e. islanding service)	**Winter fuel security** is it vulnerable to limitations during times of high need, i.e. cold winter days	**Ability to account for shifting seasonal and daily peaks**	**Does it require pairing with another resource to make it dispatchable/ increase its ELCC?**		
	Additional considerations (where they apply)						
	Is consistent with state laws and policies? is it restricted by any firm requirements established in MA?	**Potential legal and policy risks** is the tech likely to be restricted due to future/pending regulation?	**Local and neighboring community sentiment** how likely are the local or neighboring communities to support it?	**Is portfolio-level assessment warranted** e.g., capacity expansion or production cost modeling	Other		

Decarbonizing the Peak – Policy Options

Supply Side Policies

- Clean Peak Standard Reforms
- Storage incentives
    - Enhanced fire and safety codes
- Transmission reforms
    - Reform of state procurement rules for use of surplus interconnection in transmission bids
    - Incentives for new transmission
- Interconnection
    - Flexible interconnection
    - Surplus interconnection standard reform
- Emissions limits
    - Facility-specific emissions limits
    - Limitations on new fossil generation
- Low carbon fuel incentives
- Carbon price
    - RGGI reforms
    - Carbon tax
    - Fossil fuel fee
- Preemption/standardization of local restrictions
- Supplier billing models
- Develop private markets for grid services

Consumer Facing Policies

- Retail rate design
    - Time of Use (TOU) rates
    - Default dynamic pricing
    - Heat pump rate
    - Natural gas enhanced rate
    - EV rate / managed charging
    - Increase rate design accessibility
- Demand response
    - ConnectedSolutions
    - Other residential storage incentives
    - Commercial and industrial storage incentives
- Smart electrification strategies
    - Promote more efficient electric heating (e.g. reduce reliance on electric resistance heating)
- Aggregated demand response
    - Microgrids
    - Virtual power plants (VPPs)
    - ISO visibility / wholesale market opportunities
    - Flexibility for municipal aggregation
- Energy efficiency measures
    - Home weatherization
    - Incentives for mechanical insulation
    - Building codes requirements
- Colocation policies to place loads near generation/storage
- Streamline permitting to ease approval for residential solar & storage
- A performance-based approach to utility incentives
- More robust licensures, disclosures, or other requirements to ensure quality contracting

Policy Assessment Framework

Policy	**Policy definition**		**Impact on peak demand** does the policy have a direct, indirect, or no effect on reducing peak demand	**Impact on alternatives to meet peak supply** does this policy incentivize alternatives to meet peak supply directly, indirectly, or not at all	
	Policy objective	**Status and potential reforms**			
	Equity considerations				
	Benefits for local EJ communities how it benefits EJ communities; i.e. reduce energy burdens, increasing wealth, reducing health impacts	**Effect on existing fossil fuel workforce** how it will impact workforce at existing peaker plants	**Effect on local pollution and air quality** effect on air quality in communities near peaker plants	**Distributional impacts across customer classes**	**Agency of local community** how local communities can exercise agency through policymaking and implementation process
	Cost impacts				
	Effect on wholesale electricity prices	**Effect on customer bills**	**Social cost analysis**	**Avoided costs** what costs, if any, are avoided through this policy	**Taxpayer impacts** how does this policy directly impact taxpayers
	Interaction with other jurisdictions				
	Interaction with federal policy does it require federal approvals or incentives to be effective	**Adopted by other states** has this been adopted by other states	**Potential for regional collaboration** could MA collaborate with other jurisdictions to implement to make this more effective	**Alignment with local actions**	**Impact on system complexity**
	Implementation Pathway				
	Key stakeholders i.e. local communities, industries, generators, ISO, municipalities	**State authority or influence** state agencies w/ authority to implement (or if none, ability to influence external processes) and whether legislation is needed	**Program administrative and enforcement needs** additional staffing needed within state agency, capacity needed to enforce policy	**Technical or operational needs** tech or enabling factors required	**Operational costs and additional authorities needed to implement** additional operational, enforcement, and technical needs beyond

					staffing for implementation
	Timescale				
	Time to adopt and implement	**Short-term effectiveness and flexibility**	**Long-term effectiveness and flexibility**		
	Policy Mechanism				
	Incentive, law, or regulation	**Regulated/ Incented Party** who is regulated or incented by the policy; if incented, is there already a market interest/capability			
	Implementation considerations				
	Risks of approach	**Impact on grid infrastructure**	**Flexibility to address load uncertainty**		
	Political considerations				
	Support/opposition landscape	**Fit with location-specific conditions**	**Other considerations** (as needed)		

Appendix C: FTT Options and Assessment Framework

Notes:

- For a given financing approach, it is only being compared to impacts that might occur under traditional regulation, and not with respect to whether one alternative financing approach is better than another alternative approach
- For each metric or variable of interest, where relevant, the color-coding of impacts is taken from the point of view of ratepayer impacts.
- The framework's metrics are not intended to characterize whether distribution investment projects have benefits or net benefits but rather focus on the relative impacts of alternative financing approaches for any projects that have been approved to go forward.

ISSUE			**DATA / DESCRIPTION:** Compared to traditional ratemaking, the extent to which the alternative financing approach…	**COLOR CODING** of impacts
Investment/ cost recovery (dollar benefits)	*Ratepayer impacts*	1. Reduces cost of capital	… can access lower capital costs (e.g., lower % cost of debt; lower % cost of shareholder equity; project $ cost) – relative to the utility's traditional capital cost (i.e., (a) % cost of debt; (b) allowed % return on equity times undepreciated investment in rate base); (c) approved capital structure for debt and equity).	• Green = lower cost to ratepayers • Yellow = no impact • Red = higher cost
		2. Develops new source of capital	...provides a new avenue through which investment in distribution infrastructure can be financed – above and beyond the local utility's access to their debt and equity capacity markets.	• Green = a new source of capital beyond the relevant utility's normal financing-acquisition channels is available through the alternative financing approach • Yellow = no impact • Red = the approach worsens the utility's reliance on traditional capital markets

		3. Levelizes cost recovery over time	…spreads recovery of project and financing costs evenly over time – relative to traditional asset depreciation (i.e., even over asset's useful life) and shareholder equity return (i.e., allowed % return on equity times undepreciated investment in rate base, which tends to have higher profits in early years of an asset's life).	• Green = lower near-term cost to ratepayers by flattening financing costs over time • Yellow = no impact • Red = N/A
Investment/ cost recovery (dollar benefits)	*Ratepayer impacts*	4. Mitigates rate base growth	…obtains project costs from a source other than the utility and therefore does not require the utility to (a) make the investment, (b) put the dollars into rate base, and (c) earn a return on the investment. [*This metric by itself does not itself indicate whether ratepayers otherwise pay more, or less, or the same, compared to traditional utility investment.]	• Green = avoids dollars going into the utility's rate base • Yellow = no impact • Red = N/A
		5. Total Net Present Value (NPV) impacts	… lowers overall costs from a present value point of view, taking into account the utility's discount rate and the timing and level of dollar flows over the life of the asset and its cost recovery.	• Green = lower overall cost to ratepayers • Yellow = no impact • Red = higher overall cost to ratepayers
		6. Near- vs. long-term rate (and/or bill) impacts/ Intertemporal equity of cost recovery	…reduces rate (or bill) impacts in the near term in exchange for increasing costs in the longer term over the life of the asset.	• Gradient of green (on the left) to red (on the right)

	7. Enables direct assignment of cost recovery from project beneficiaries	…limits cost recovery to those customers that directly benefit from a project (rather than more generalized cost recovery through an allocation to a larger customer class); other customers besides the direct beneficiaries do not pay for the investment.	• Green = direct beneficiaries pay for the portion of the investment that is proportional to the benefit they receive; other customers' rates are not affected (compared to a more traditional approach in which the entire customer class would have paid for some of the investment in their rates) • Yellow = direct beneficiaries pay for the investment, but it is not proportional to the benefit and may hinder adoption; other customers' rates are not affected • No impact
Investment/ cost recovery (dollar benefits)	8. Taxpayer impacts	…funds to pay for some or all of an investment and/or its financing costs are provided through the state's general fund rather than through utility rates, and assumes that the public funding either is incremental to other budget elements or takes funding away from other programs that would otherwise be supported in the general fund's budget [*This metric does not capture the costs avoided in utility ratepayers' bills]	• Green = N/A • Yellow = no impact on general fund • Red = taxpayers pay for some or all of the grid investment
	9. Low- and Moderate-Income (LMI) / Environmental Justice (EJ) impacts • E.g., public health, intergenerational EJ impacts	…provides particular benefits to LMI ratepayers or EJ communities (beyond lowering to ratepayers more generally)	• Green = provides particular benefits to LMI ratepayers • Yellow = no impact on LMI ratepayers
	10. Other investment / cost recovery impacts of note • E.g., impacts on balance of risk between ratepayers and shareholders, labor (job creation, wage levels), the incentives for non-	[* Add any other notable investment or cost recovery impacts that are identified but not covered in the metrics above]	• Green = positive impact on the additional outcome metric • Yellow = N/A • Red = negative impact on the additional outcome metric

	wires alternatives or the need for new distribution investment		
Implementation pathway (challenges)	11. Expected timeline (e.g., time to implementation)	…Able to be created/implemented in the same approximate timeframe as a new rate-case proceeding at the DPU (e.g., around 1 year); new programs or policies would likely have a multi-year timeline from deliberation, creation, and implementation.	• Green = expectation of a year of lead time to implement • Yellow = expectation of 2-3 years to implement • Red = expectation of 3+ years to implement
Implementation pathway (challenges)	12. Degree of barriers to implementation • E.g., DPU familiarity, legislative needs/risks, political support vs. opposition, legal risks, stakeholder buy-in	…requires considerable discussion before public decision-making body (e.g., legislature, DPU) to establish an understanding of the mechanics, intended outcomes, potential unintended consequences, and/or to build consensus and/or the record.	• Green = limited to no barriers to implementation • Yellow = more technically complicated, examples are available from elsewhere and will require engagement & socialization of approach • Red = complicated for any number of potential reasons (e.g., technical considerations, political differences, legal questions)
	13. Previous experience in implementing the approach	…approach has been used previously and is well understood/defined technically and in terms of legal and financing arrangements/provisions	• Green = has been used before in MA • Yellow = has been implemented in other states • Red = novel approach, not previously implemented
	14. Administrative and operational needs / costs	…approach does not require new institution/entity to administer the approach	• Green = no new agency or entity needed for implementation • Yellow = no new entity, but new program needed for implementation • Red = new agency/ entity needed for implementation

	15. Potential to scale	…suitable for large-scale investment projects (or large bundles of smaller individual projects) rather than smaller increments of financings and investments	• Green = approach is well-suited for large financings • Yellow = no impact • Red = approach is poorly suited for large financings
	16. Suitability for investments of different size(s)	…suitable for financing smaller increments of financings and investments	• Green = approach is suited to small financings as well as large ones • Yellow = no impact • Red = approach is poorly suited for small financings
Implementation pathway (challenges)	17. Replicability of the approach	…approach may be used repeatedly for new tranches of investments and financings	• Green = can be repeated once the framework is set up and operating • Yellow = mixed, may require upfront capital or action but is repeatable after (i.e., revolving loan fund) • Red = cannot easily be repeated (i.e., one time bond bill)
	18. Potential for impact by addition or withdrawal of federal program dollars	... approach is not likely to be directly affected by federal policy or federal dollars that may or may not be available	• Green = federal policy & dollars have little effect • Yellow = federal policies and dollars have some affect • Red = approach is not possible without federal policy and/or funding
Other intangibles	19. Adaptability of approach and type of investment • E.g. ability to match lifetime of underlying assets with cost-recovery period, and/or other factors	…approach may be tailored in its implementation so that it is well suited to different types of investments (e.g., bundles of assets with different useful lives)	• Green = the approach is highly adaptative to different investment types • Yellow = N/A • Red = the approach is limited to only certain types of investments

	20. Potential applicability to costs other than distribution investments E.g. transmission, generation, energy efficiency	…Massachusetts has the ability to take action to apply the approach to different parts of the electricity supply chain (e.g., transmission, central-station generation, behind-the-meter generation and storage, utility-scale generation and storage, energy efficiency and other DERs)	• Green = the action is technically suitable for other parts of the supply chain if MA has the jurisdiction to apply the approach to that/those parts beyond distribution • Yellow = N/A • Red = there are no other parts of the supply chain beyond distribution where MA could implement the approach
	21. Ability of repayment approach to be non-bypassable	…approach does not require a non-bypassable charge as the means to repay the investment	• Green = no non-bypassable charge is required • Yellow = requires a non-bypassable charge, but does not hinder implementation • Red = requires a non-bypassable charge (including an exit fee or fixed charge to recover costs from customers that exit or self-generated)
Other intangibles	22. Broader impact on utility • E.g., utility credit rating, cash flow, cost of capital, incentives for distribution system investments, potential for mitigating impacts, asset ownership/ operational responsibility, consideration for cumulative impact	…approach either does not disrupt the traditional utility business model which allows it to earn a return on investment in rate base or allows for alternative means to enable an investor-owned utility to attract capital and investor interest at relatively low cost	• Green = the utility has many opportunities to make significant investments (using traditional or non-traditional means), even if the approach is used for some share of total future investments • Yellow = the approach will erode the utility's ability to make investments and earn shareholder profits such that the utility may seek to restrict the application of the new approach • Red = utility opposes the approach due to concerns about erosion of core elements of the IOU's ability to be a profitable business capable of attracting capital at relatively low cost

	23. Other notable/unique elements • E.g., potential for attracting/utilizing outside funding, sustainability, interaction with other programs or financing tools/approaches, degree of/opportunity for transparency re: ratepayer/taxpayer costs, degree of adaptability to changes in energy and/or transportation sectors, indirect economic benefits/costs, potential unintended consequences, additional impacts on pace of energy transition not already captured, etc.	[* Add any implementation issues or outcomes that are identified but not covered in the metrics above]	• Green = positive impact on the additional issue or outcome metric • Yellow = N/A • Red = negative impact on the additional issue or outcome metric

Additional notes on Phase 3

- Will include some discussion on prioritization/weighting of criteria, and consultation with the ETAB
- Alongside a determination of which alternatives to recommend on an individual basis, Phase 3 to include consideration of the overall package of recommendation. Factors to consider in deciding on and/or justifying the package could include:
    - Overall costs, savings, and sustainable budgeting
    - Carbon reduction benefits
    - Overall impact on state bond capacity limits and competing infrastructure needs
    - Impact on utilities' operational risk and capital structure.
    - Economic development and business impacts
    - How the package helps avoid socializing costs while privatizing profits