

Massachusetts Grid Modernization Advisory Council

Meeting Presentation

May 29, 2025



Agenda & Roll Call



Item	Time
Administrative Items <ul style="list-style-type: none">• Welcome, Roll Call, Agenda• Public Comment Period• Meeting Minutes Review and Voting	1:00 – 1:20
Updates on ESMP Activities	1:20 – 1:30
LTSPF Presentation <ul style="list-style-type: none">• Joint presentation by the EDCs, DOER, AGO, and DG Industry <i>Q&A throughout presentations</i>	1:30 – 2:10
<i>Break</i>	<i>2:10 – 2:15</i>
LTSPF Facilitated Discussion	2:15 – 2:45
GMAC Stakeholder Session Agenda	2:45 – 2:55
Close	2:55 – 3:00

Public Comment



- 15-minute period for public comment
- Speakers will have up to **3 minutes** to speak on any topics of interest related to the GMAC. Once everyone who has pre-registered has provided comment, others may speak, as time allows.
- Please state your name and affiliation before delivering your comment.

GMAC Minutes Review and Voting



Meeting Minutes

- Calling for vote to finalize:
 - May 1, 2025 GMAC minutes

Motion to approve the May 1st GMAC minutes [as distributed/as corrected]?

ESMP Activities Updates



1. **ESMP Phase II**
 - **Interim ESMP Mechanism**
 - **Metrics and Reporting**
2. **CESAG**
3. **IEP Working Group**
4. **LTSP Working Group/Proposal**
5. **Other**

Key Upcoming Dates	
1 st IEP Working Group meeting	5/29
CESAG meeting – underserved community guidelines	6/12
CESAG meeting – communication strategy	6/26
ESMP Phase II metrics/reporting discovery closes	6/25
CESAG meeting – Final framework	7/10
Additional intervenor comments on metrics/reporting	7/16
IEP working group meeting	7/24
Additional EDC reply comments on metrics/reporting	7/30

**Stay up to date on ESMP activities via the Activity Tracker!*

Are there any updates on these items?

Break

Please be ready to start again in ~5 minutes

Long Term System Planning Process (LTSP) Overview

Joint presentation by the EDCs, DOER, AGO, and DG Industry

May 29, 2025

LTSPP Origins and Process

- D.P.U. 19-55 → DPU solicits detailed stakeholder proposals on cost allocation and proactive planning
- D.P.U. 20-75 → DPU opens separate investigation into long-term system planning for DG and alternative cost allocation methodologies (includes straw proposal based on D.P.U. 19-55 proposals)
 - Provisional Program established (D.P.U. 20-75-B)
- 2022 Climate Law → requires ESMPs to support electrification, DER deployment, and resiliency
- D.P.U. 20-75 closed due to 2022 statutory requirement for long-term system planning
- Due to the statute's accelerated timeline, the EDCs were not able to develop a proactive planning process for DERs in time for the first ESMPs
- DPU directed the EDCs to convene a 6-month working group to develop a Long-Term System Planning Process (LTSPP) to replace the Provisional Program and consider:
 1. Factors driving development of DG
 2. The role of flexible interconnection
 3. Cost-allocation methodology
 4. Process for updating the LTSPP
 5. Equity

LTSP Overarching Goals

- **Proactive Planning:** Enable hosting capacity for distributed generation (DG) proactively, prior to interconnection applications triggering a need
- **Achieving State Requirements:** Proactively identify infrastructure upgrades that will further progress towards achieving the Commonwealth's clean energy mandates
- **Targeted Infrastructure Upgrades:** Identify infrastructure upgrades that will drive DG development in locations that will be most cost effective and beneficial to the Commonwealth as a whole and where DG developers will utilize hosting capacity
- **Regulatory certainty** about the process to plan, develop and approve incremental infrastructure investments

LTSP Overarching Principles

- **Effective Planning** → Proactive analysis allows for an efficiently planned system that achieves the Commonwealth's clean energy objectives in the most cost effective manner (DG development is driven by planning vs reactive to interconnection applications)
- **Regulatory Certainty** → Predictable costs and timeline for DG interconnecting customers will reduce costs and speed deployment
- **Equitable** → Equity is taken into consideration in long-term system planning and in cost sharing
- **Accountability and Transparency** → stakeholders and regulatory authorities participate in development of analysis and have transparency into decision-making process

Stakeholder Working Group

- ▶ The LTSPS working group met 15 times over 6 months, including
 - ▶ Presentations from stakeholders on priorities & goals for the LTSPS
 - ▶ Presentations from Company staff on engineering & planning considerations
 - ▶ Multiple iterations of feedback on the EDCs' proposals
- ▶ Topics discussed include
 - ▶ Long-Term DG Assessment
 - ▶ Proactive DG planning process to enable hosting capacity
 - ▶ Flexible interconnection
 - ▶ Cost allocation
 - ▶ Stakeholder input into proactive DG planning
 - ▶ Process for future updates to LTSPS
- ▶ Reviewed, revised and agreed upon contents of LTSPS filing package → submitted to DPU on May 9th

LTSPF Filing Package Summary

- ▶ LTSPF package was filed with the DPU on May 9th and included:
 - ▶ Framework for the Long-Term System Planning Process for Distributed Generation (with non-consensus redlines)
 - ▶ A list of all stakeholders that participated in the stakeholder sessions;
 - ▶ A spreadsheet listing areas of non-consensus with stakeholder explanatory rationale,
 - ▶ Comments from Industry elaborating on their position;
 - ▶ The Minutes, and Presentations provided during the stakeholder sessions
 - ▶ Letter from GMAC recommending a LTSPF stakeholder engagement subgroup

Procedural Recommendations to the DPU

- ▶ The LTSPS working group provided an **overarching consensus procedural recommendation to the DPU**, which included:
- ▶ Agreement that the Department should move as expeditiously as possible to **establish an LTSPS framework and timeline for the first LTSPS analysis**.
- ▶ Recommendation for **phased investigation**:
 - ▶ **Phase I**: include only issues that must be decided by the Department before the commencement of the first LTSPS cycle, including: (i) goals and scope of the LTSPS, (ii) establishment of an LTSPS Framework, (iii) timeline for first LTSPS filing and analysis, (iv) LTSPS filing requirements, and (v) the process for transitioning from the Provisional Program to the LTSPS.
 - ▶ **Phase II**: commencing after the Department's order in phase I and running in parallel with the first LTSPS analysis, addressing topics interrelated and necessary to facilitate an efficient implementation of LTSPS approved investments, including: (1) flexible Interconnection as it relates to the LTSPS (including appropriate incentives), (2) a process for updating the LTSPS, (3) LTSPS coordination with subsequent ESMP cycles, and (4) updates to the EDC's DG Interconnection Tariffs to implement the LTSPS.

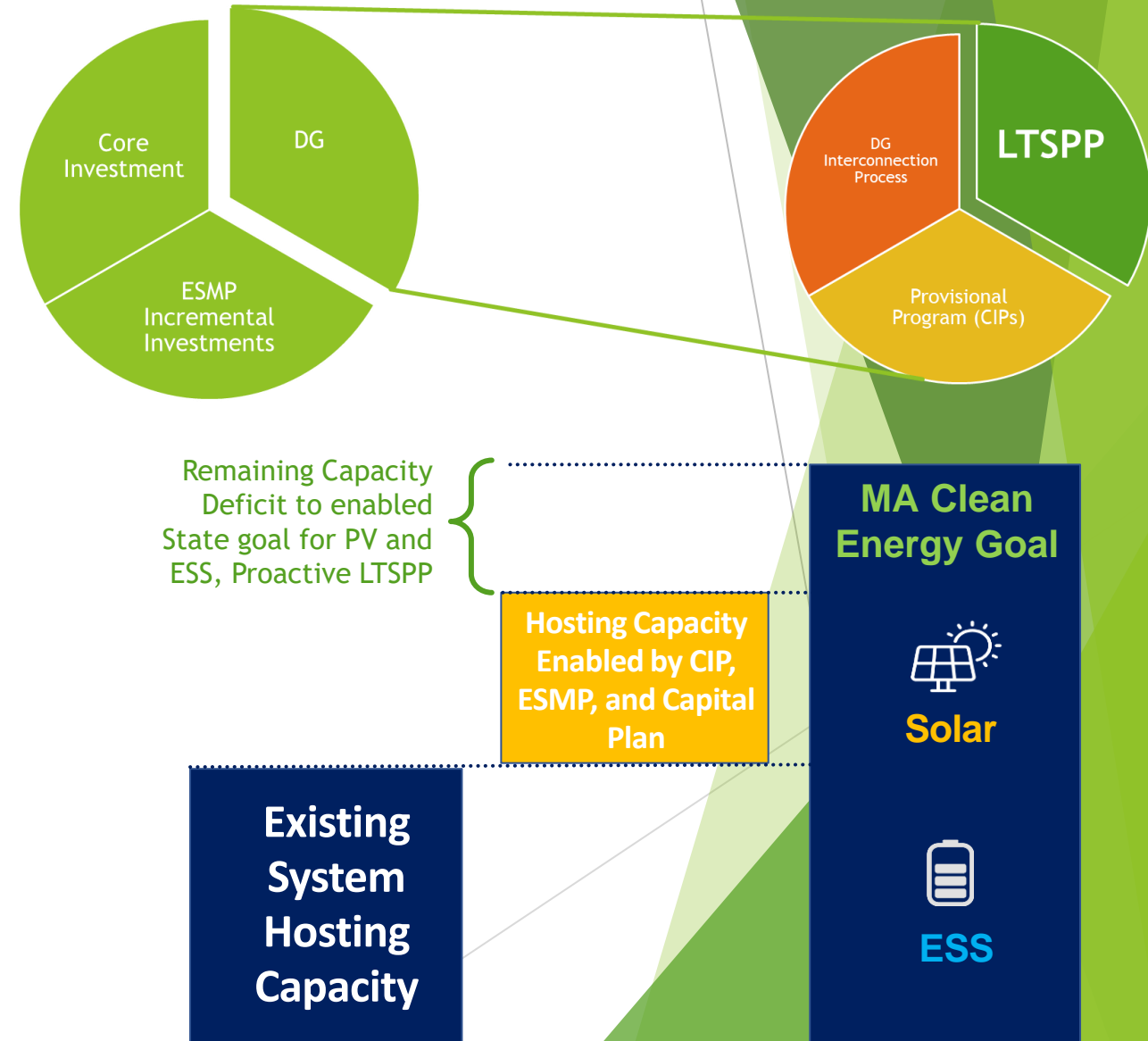
Long Term System Planning Process (LTSP) for DG - A Component of the ESMP

1. factors identified by the GMAC and the Companies that drive development of DG by **enabling hosting capacity in specific locations that benefit the Commonwealth** as a whole and further the state's clean energy objectives (e.g., availability of technically developable land for solar, land cost, proximity to existing transmission and distribution infrastructure, upgrade costs, and forecasted electrification demand to co-optimize infrastructure deployment for solar and electrification enablement, where feasible)
2. the **role of flexible interconnection** in deferring or negating the need for certain system upgrades and/or improving the operations of the current distribution system
3. **cost-allocation** methodology; and
4. the process for changing or **updating the LTSP over time**

Proactive DG Planning & Cost Allocation

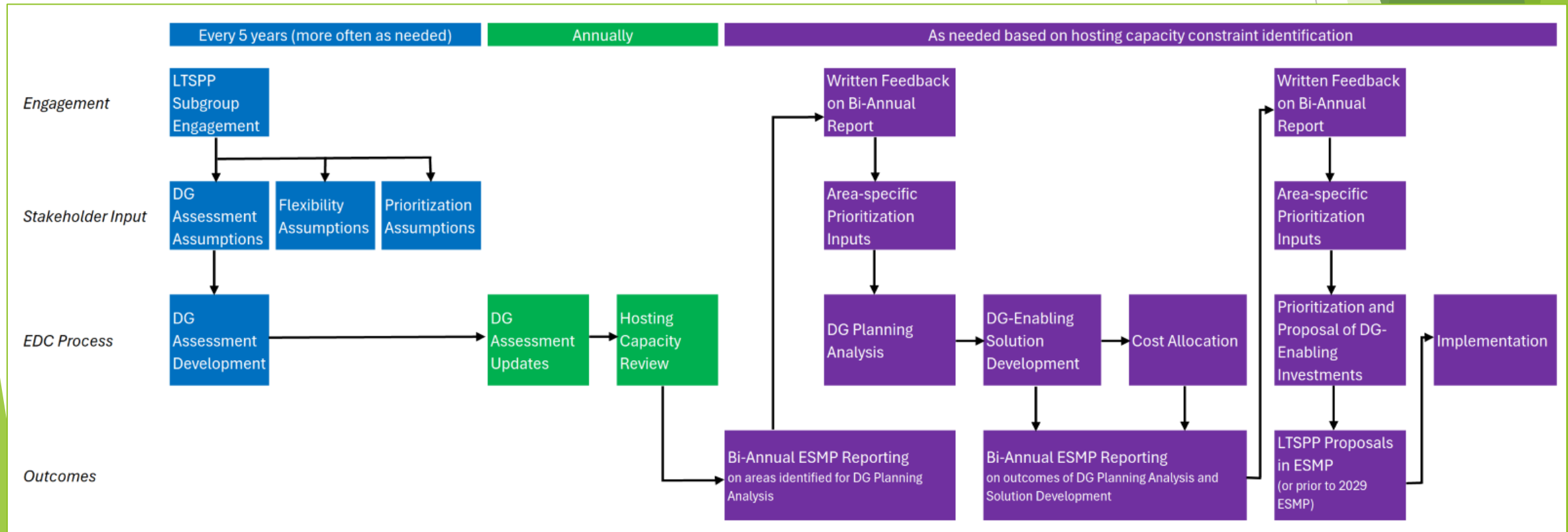
A CRITICAL PIECE OF THE PUZZLE

- ▶ LTSP is a process for proactive enablement of DG (PV and ESS) in alignment with the Commonwealth's goals
 - ▶ The process will identify incremental investments with DG hosting capacity enablement as the driver
 - ▶ **DG Stakeholder input informs the identification of constraints and solutions**
 - ▶ Incremental LTSP investments for DG will be subject to **cost allocation** treatment
- ▶ Enables DG in the most affordable way, by fairly allocating proactive investment costs
- ▶ Proactive DG investments under LTSP combined with electrification enablement result in ESMPs as holistic proactive plans to support policy goals



Proposed Process Overview

- ▶ Informed by DG stakeholder input, the Companies will prepare an unconstrained **Long-Term DG Assessment** identifying projections of PV and ESS adoption through 2050
- ▶ The Companies will compare DG projections to existing and future infrastructure capabilities to identify **hosting capacity constraints** and incremental proactive **DG-enabling investments** to address those constraints
- ▶ Incidental **benefits to distribution customers** provided by DG-enabling investments will be assessed to inform scoping and cost allocation determinations
- ▶ DG-enabling investments will be **proposed through the Companies' ESMPs**



Importance of Stakeholder Input in Proactive DG Planning

- ▶ A GMAC LTSP Subgroup is proposed to be the forum for DG stakeholder input into Long-Term DG Planning during each 5-year ESMP term
- ▶ Input will be requested in three key areas:
 - ▶ Long-Term DG Assessment Inputs, for example:
 - ▶ Which underlying policy scenario will be used
 - ▶ Applicable Municipal Restrictions and clarification on environmental land use restrictions
 - ▶ What weighting is assigned to specific factors that influence the forecast results (land type etc.)
 - ▶ Flexibility Inputs, for example:
 - ▶ Co-location and coincidence of PV and ESS
 - ▶ ESS curtailment tolerance
 - ▶ How long and how much flexibility can be assumed, to influence scope and timing of DG-enabling investments
 - ▶ Prioritization Inputs, for example:
 - ▶ Financially viable Proactive Hosting Capacity fees in a given area (pre-analysis)
 - ▶ Likelihood of full DG subscription at the identified cost (post-analysis)

Cost Allocation for Proactive DG-enabling Investments

- ▶ **Beneficiary-pays cost allocation principles are proposed for application to proactive investments.**
- ▶ **Key benefits:**
 - ▶ Fair allocation of costs across DG and distribution customers incentivizes cost-effective system buildout for large DG. DG bears lower costs if distribution customers can also benefit from the same infrastructure—aligning incentives with affordability.
 - ▶ Cost-sharing across earlier and later DG interconnections spreads DG costs based on benefits and reduces first-mover disadvantage.
- ▶ **Mechanism:**
 - ▶ All large DG customers (>25kw) connecting in LTSP areas will be subject to a one-time Proactive Hosting Capacity (PHC) Fee at interconnection, assessed per kW of export capacity. Costs are allocated across all DG enabled by the investment
 - ▶ Proactive distribution system upgrade costs will be allocated across beneficiaries for each upgrade area based on a beneficiary-pays model. DG customers benefit from enabled hosting capacity. Distribution customers benefit from electrification, reliability, and small (rooftop) DG enablement.
 - ▶ DG-allocated costs not initially recovered through PHC fees will be recoverable from all distribution customers then refunded to them over time as DG capacity subscribes.

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DOER/AGO/DG Industry Non-Consensus Areas

DOER non-consensus items (1 of 2)

The LTSP should jointly optimize for electrification and DER needs, rather than DER-only

- Proactive grid investments are multi-value, providing benefits for reliability, electrification, and DERs.
- Developing electrification- and DER-driven projects in separate siloed processes will lead to higher costs.
- Considering both electrification and DER in the LTSP allows DERs and load growth to offset each other.

Siloed planning leads to inefficient investments
(this already seems to have happened with the CIPs)



Substation A upgraded for electrification needs



Substation A upgraded again for DER needs

OR

Substation A upgraded for DER needs



New load connects to substation B, creating more hosting capacity

It's now cheaper to connect to substation B, so A is undersubscribed.

DOER recommendations

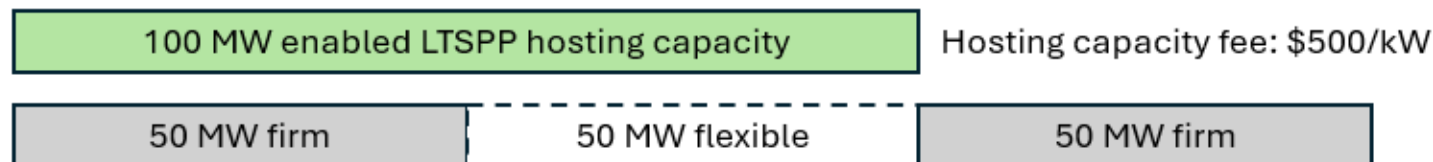
- The LTSP should be comprehensive for all proactive grid needs (electrification & DER)
- The proposed forecasting, planning, and stakeholder engagement framework can be adapted to consider electrification, using the same GMAC subgroup

DOER non-consensus items (2 of 2)

Flexible interconnection (FI): the LTSP must incentivize flexibility, and the EDCs must develop an FI offering to support the LTSP

- FI can allow more DERs to connect without triggering upgrades, reducing delays and infrastructure costs.
- Realizing these benefits will require the EDCs to develop an FI program *before* LTSP investments come online.
- The EDCs' proposal does not include adequate incentives for FI. Without incentives, DERs will not adopt flexibility. The EDCs' proposed DG cost cap will lead to perverse incentives and free ridership (see below).

EDC Proposal:



100 MW of DER connect (50 MW firm, 50 MW flex)
Fee: $\$500/\text{kW} \times 100 \text{ MW} = \50M

Later, 50 MW of firm capacity can connect for free
(**Free rider issue**)

DOER recommendations

- DERs should pay a hosting capacity fee based on export during constrained times.
- The EDCs should commit to concrete timelines for developing a FI program by 2027.

AGO Non-Consensus Items (1 of 2)

Flexible Interconnection

- ▶ The AGO agrees with DOER that the LTSP must do more to incentivize flexibility and that the EDCs must work with stakeholders to develop a comprehensive FI program.
- ▶ The process to develop this program should include key topics and questions that must be addressed to develop a full program, including curtailment targets, curtailment allocation methodologies, curtailment study requirements, interconnection agreement updates, cost allocation for site requirements, and details regarding DERMS deployment.
- ▶ **Overall Recommendation:** the AGO agrees with DOER that the EDCs must make a firm commitment to develop both: 1) a full FI program, and 2) a FI pricing structure.

AGO Non-Consensus Items (2 of 2)

Cost Allocation and Recovery

► Calculation of Distribution Customer Benefit:

- EDCs propose to calculate the distribution customer benefit based on LTSP investment's "Enabled Electrification," defined as the projected peak load from end-use customers through 2050 that could utilize the capacity enabled in a PHC Area.
- Discount factor should be applied to this calculation to account for the fact that these LTSP investments are being made earlier than required to accommodate electrification.
- Time value of money: deferring expenditure to a future time saves money, while bringing forward expenditure early costs money.

► PHC Fee Collection Cap:

- EDCs propose to cap PHC Fee collection at full subscription of the DG enabling investment.
- LTSP should allow collection of PHC fees from DG able to connect beyond full subscription (e.g., through flexible interconnection) until technical limits are reached.

DG Industry Non-Consensus Items- First LTSP Timeline

- **The first set of LTSP investments should be submitted to the DPU for investigation within one year of a DPU Order establishing an LTSP**
 - LTSP required by the 2022 Climate Act but not included in first ESMP iteration
 - Enabling DG hosting capacity is critical to meeting the Commonwealth's clean energy mandates for decarbonization and installed DG
 - First LTSP investment review will be complex and require a separate docket
 - LTSP investments are necessary to establish a successor to the Provisional Program
 - Following first LTSP analysis and investment proposals, the LTSP should be incorporated into the ESMP

DG Industry Non-Consensus Items

- **Establishment of a statewide uniform flexible interconnection program and full incorporation of flexible interconnection into LTSPP (in substantial consensus with DOER and AGO)**
 - DPU should direct a stakeholder process to develop a uniform flexible interconnection program proposal to be submitted to the DPU before the end of 2025
 - Following, LTSPP must be revised to fully incorporate and incentivize flexible interconnection
- **Treatment of energy storage systems and capacity reservation**
 - Energy storage must receive equitable treatment under the LTSPP
 - Capacity reservation for solar and/or energy storage may not be necessary and should require per investment proposal and DPU review
- **Treatment of behind-the-meter DG systems and threshold for PHC fee assignment**
 - Further investigation is needed to determine the appropriate threshold for application of PHC fee and treatment of behind-the-meter DG facilities

Takeaways for the GMAC on the LTSP

LTSP stakeholder engagement is proposed to occur through a subgroup of the GMAC.

- The GMAC supported a GMAC-hosted LTSP subgroup at the March 2025 GMAC meeting.
- The LTSP Subgroup will be engaged in the LTSP analysis process during any interim running of the LTSP in advance of the 2030 ESMP, at the start of each 5-year planning cycle, and will provide input on LTSP investments in advance of the EDCs filing with the DPU.
- The EDCs will submit reports to the DPU summarizing the engagement process and stakeholder recommendations. In its LTSP filing with the DPU at the end of each five-year LTSP planning cycle, the EDCs will include a summary of how the LTSP Subgroup recommendations were or were not included in the LTSP analysis.
- At a minimum, proposed membership consists of:
 1. One representative from DOER,
 2. One representative from AGO,
 3. Six EDC representatives (two representatives from each EDC),
 4. Six DG stakeholder representatives (with at least: one ESS-focused DG developer, one <500 kW DG project developer, one >500 kW DG project developer)
 5. One representative from the GMAC EWG
 6. One large C&I GMAC representative.

If the DPU recommends such a structure, the GMAC will need to discuss the membership and operating procedures of the LTSP subgroup.

Next Steps

Onto the DPU to examine and adjudicate the LTSP

- DPU issued a memorandum on March 4, 2025 establishing procedural guidance for the LTSP. In the memo, the DPU:
 - Established docket 25-20 for LTSP adjudication
 - Noted that there would be a comment period in the docket.
- The Companies filed the LTSP proposal with the DPU on May 9, 2025
- The DPU will issue a Notice at a time TBD including relevant procedural information

Facilitated Discussion

Led by Councilor Kate Tohme

July Stakeholder Session

The Future Grid from a Municipal Lens GMAC Event



Event Description: An in-person event to convene municipal stakeholders and community leaders who are interested in and/or taking steps to decarbonize and electrify their city or town. Attendees will hear from a panel of speakers from the GMAC and learn about actions Massachusetts is taking to modernize and proactively plan our electric grid, including the electric-sector modernization plans (ESMPs). Attendees will engage in facilitated breakout discussions to explore opportunities and challenges of updating our electric grid and identify priority topics for the GMAC's future work.

Date: Thursday, July 17, 2025, 9:00 AM - 12:30 PM (*Doors open at 8:15 AM for networking*)

Location: 100 Cambridge St. Boston, MA 02114

Please fill out this form to indicate your interest in attending: [Interest Form](#)

GMAC members: Please SHARE with your networks!

The Future Grid from a Municipal Lens GMAC Event

- DOER has further developed the event agenda based on GMAC member feedback and interest form responses.
- Proposed panelists have been invited to brainstorming sessions to discuss panel talking points.
- GMAC members who are not panelists are invited to serve as **table discussion leaders** during the facilitated breakout discussions.

Do GMAC members have questions or feedback?

Welcome, Keynote, Opening Remarks	An overview of Massachusetts’ grid planning landscape, including the various processes, key players, and current state.
Panel: <i>How is MA Planning the Future Grid?</i>	Panelists will discuss Massachusetts grid planning—covering affordability, grid resilience, decarbonization targets, and renewable energy adoption—and will outline key steps for public engagement in the process, as well as what a future grid means for communities.
Panel: <i>What is in the ESMPs?</i>	EDC representatives will provide an overview of the ESMP programs and investments that are coming to your community.
Panel: <i>Navigating Electrification for Municipalities</i>	Panelists will discuss unlocking grid capacity and the considerations and challenges municipalities face in electrifying their communities, highlighting how grid planning can support local efforts and deliver community benefits.
Facilitated Table Discussions	Insights from facilitated conversations will inform GMAC strategic planning priorities.

Close and Next Steps

- The next ExCom meeting is June 5th from 9:30 – 10:30 AM.
- The next EWG meeting is July 11th from 10 – 11:30 AM.
- The first GMAC stakeholder session is July 17th from 9 – 12 PM.

Thank you, National Grid, for a great substation tour! GMAC members and staff visited Malden #5 Substation (pictured) and Hendersonville Substation.

Sign up for one of three upcoming substation tours!

