



COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF ENERGY RESOURCES

# Grid Modernization Advisory Council

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March 31, 2023

# Agenda

Item	Time	Estimated Duration
Welcome, Agenda, Meeting Attendance	1:00 – 1:05	5 min
Overview of GMAC <ul style="list-style-type: none"> <li>• Origins &amp; Legislative Responsibilities</li> <li>• Electric-Sector Modernization Plans</li> <li>• Timeline</li> </ul>	1:05 – 1:15	10 min
GMAC member introductions	1:15 – 1:45	30 min
Governing document review and voting <ul style="list-style-type: none"> <li>• Ground rules</li> <li>• By-laws</li> <li>• Executive Committee charter</li> <li>• Remote participation policy</li> <li>• Future meeting times</li> </ul>	1:45 – 3:00	75 min
<i>Break</i>	<i>3:00 – 3:10</i>	<i>10 min</i>
Introduction to the electric companies	3:10 – 3:25	15 min
GMAC Consultant scope	3:25 – 3:40	15 min
DOER recommendations on ESMPs	3:40 – 3:55	15 min
Close & Next Steps	3:55 – 4:00	5 min

# Meeting Attendance

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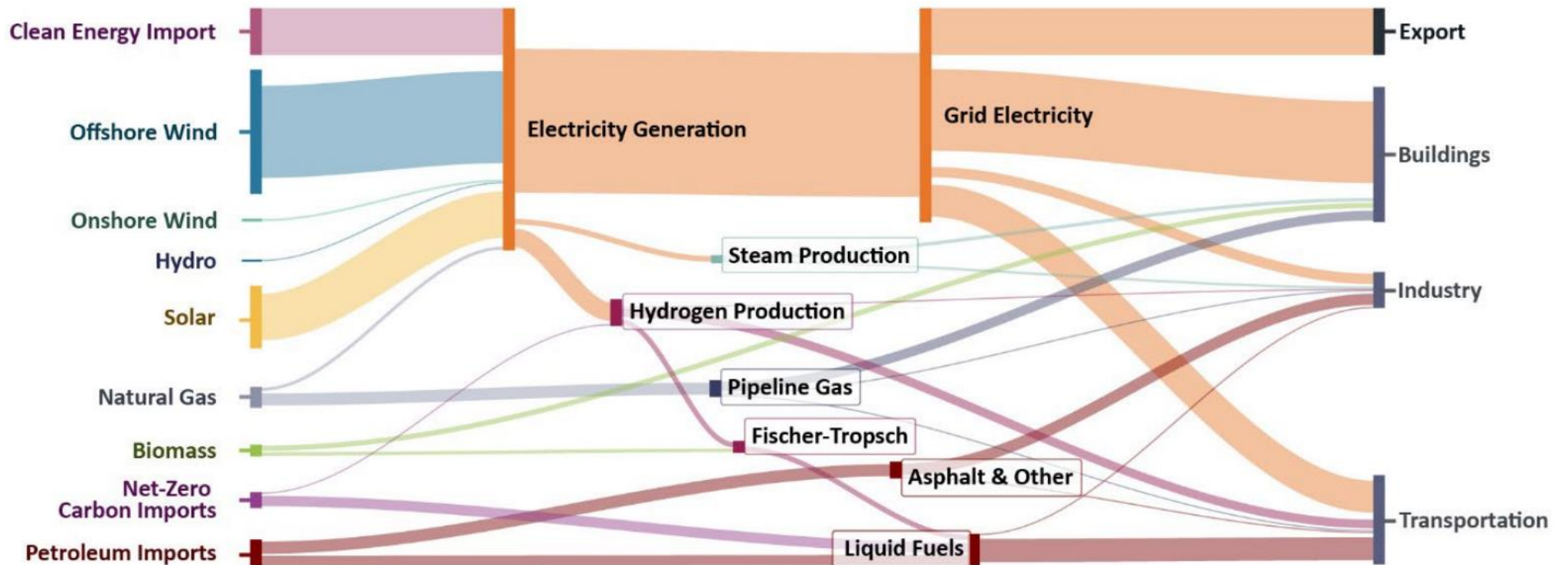
- Roll call alphabetically by voting and then non-voting members

# Background

- The Global Warming Solutions Act requires Massachusetts to achieve Net Zero emissions in 2050.
- As stated in the Clean Energy and Climate Plan for 2050, the dominant strategy to decarbonize transportation and buildings is electrification. Thus, power sector planning is essential.

## 2050 Commonwealth Energy Use

Source: Clean Energy and Climate Plan for 2050



# GMAC & ESMPs: Origin and Legislative Responsibilities

Section 53 of the 2022 Climate Law establishes the  
(1) Grid Modernization Advisory Council (GMAC) and the (2) Electric-Sector Modernization Plans (ESMPs)

- The GMAC shall encourage:
  - least-cost investments in the distribution system,
  - alternatives to investments or financing investments that will help achieve GHG emissions limits,
  - transparency and stakeholder engagement in the grid planning process.
- GMAC to review and provide recommendations on electric distribution company (EDC) ***electric-sector modernization plans*** to:
  - maximize customer benefits and demonstrate cost-effective investments in the distr. grid,
  - support investments to enable interconnection of, and communication with, distributed energy resources and transmission-scale renewable energy resources,
  - facilitate electrification of buildings, transportation and other sectors,
  - improve grid reliability and resiliency, and
  - minimize or mitigate impacts on ratepayers.
- GMAC to coordinate with the clean energy transmission working group
- GMAC to request funding amount from DPU for hiring consultant experts and admin. expenses

# Electric-Sector Modernization Plans (1 of 2)

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Section 53 of the 2022 Climate Law also directs each EDC to develop an electric-sector modernization plan (ESMP) to proactively upgrade the distribution system. Each plan must:

- Improve grid reliability, communications, and resiliency
- Enable increased, timely adoption of renewable energy and DERs
- Promote energy storage and electrification technologies for decarbonization
- Prepare for climate-driven impacts on T&D systems
- Accommodate transportation and building electrification, and other new loads
- Minimize or mitigate impacts on ratepayers

ESMPs must describe in detail:

- Improvements to distribution system that increase reliability and resiliency for weather and disaster-related risks
- Availability and suitability of new technologies for reliability and resiliency
- Distribution system improvements that
  - Let customers express renewable energy resource preferences
  - Facilitate transportation and building electrification
  - Facilitate achieving state GHG emission limits
- Forecasts of DER adoption and upgrades that might help or hurt increased adoption
- Energy storage deployment opportunities that improve renewable energy utilization and avoids curtailment
- Investment alternatives (like rate design changes, load management, flexible demand, dispatchable demand response)
- Alternative approaches to financing investments (like cost allocation between developers and ratepayers, and equitable allocation/sharing of costs across other states/populations)

## Electric-Sector Modernization Plans (2 of 2)

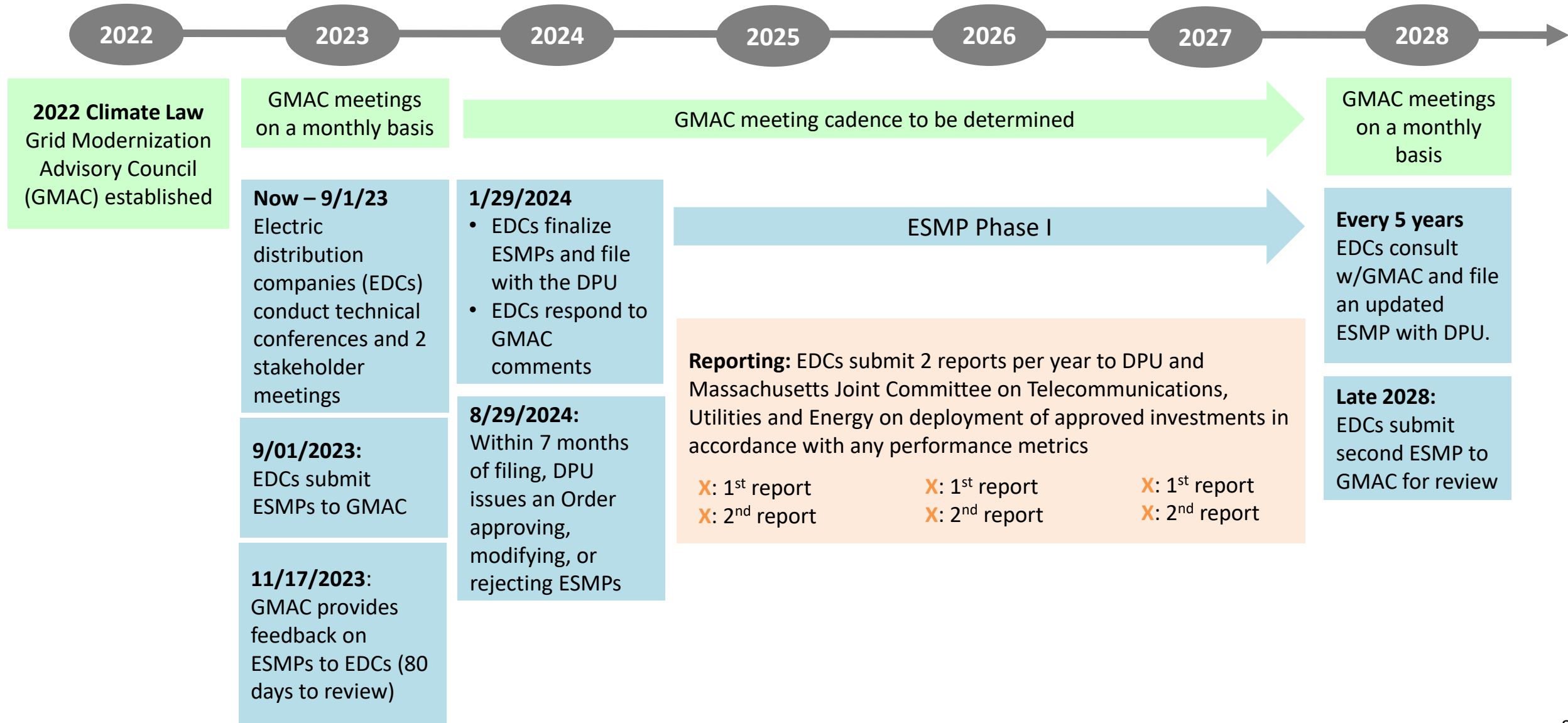
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In developing their ESMPs, the electric distribution companies should also:

- Consider future trends in the adoption of renewable energy, DERs, energy storage, and electrification to meet GHG limits and include 3 planning horizons including:
  - 5-year forecast,
  - 10-year forecast, and
  - A demand assessment through 2050.
- Consider and summarize all proposed and related investments and alternatives that have been reviewed, are under consideration, or have been previously approved by the Department
- Solicit input from the GMAC (on things like planning scenarios and modeling) and be responsive to any information and document requests from the GMAC.
- Conduct technical conferences and at least 2 stakeholder meetings to inform the public, state and federal agencies, and companies involved in developing & installing distributed generation, energy storage, "vehicle electrification systems", and building electrification systems.

# GMAC Timeline & Outlook to 2027

GMAC activity  
Statutory requirements  
Reporting requirements





# GMAC Members - Introductions

## Government representation

<b>CHAIR:</b> DOER Commissioner (or designee)	Elizabeth Mahony
Attorney General (or designee)	Liz Anderson
MassCEC Executive Director (or designee)	Jennifer Daloisio

## Non-voting members

Eversource	Digaunto Chatterjee
National Grid	Carol Sedewitz
Unitil	Kevin Sprague

## Voting members

Energy storage industry	Sarah Bresolin Silver, ENGIE North America
Local agency administering the low-income weatherization program	Marybeth Campbell, Worcester Community Action Council
Low- and middle-income residential consumers	Larry Chretien, Green Energy Consumers Alliance
Distributed generation renewable energy industry	Kathryn Cox-Arslan, New Leaf Energy
Electric vehicle industry	Amy McGuire, Highland Electric Fleets
Environmental advocacy community	Kyle Murray, Acadia Center
Building electrification industry	JS Rancourt, DXS – Direct Expansion Solutions
Engineering expertise in interconnecting clean energy	Andy Sun, Massachusetts Institute of Technology
Transmission-scale renewable energy industry	Alex Worsley, Enel North America
Environmental justice community	Kathryn Wright, Barr Foundation
Municipal/Regional	TBD, Metropolitan Area Planning Council
Large commercial and industrial end-use customers	TBD

# Governing Document Review & Voting

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1. Ground Rules
2. By-laws
3. Executive Committee Charter
4. Remote Participation Policy
5. Future meeting times

# 1. Ground Rules

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- Based on the Energy Efficiency Advisory Council Ground Rules
  - Adopted to clarify member conduct and meeting expectations
- Lists general organization and participation models, establishes some examples of “just cause” for removal under the by-laws
- Examples of some ground rule specifics :
  - Use raise hand function in virtual meetings
  - 3-minute allotment per member to speak on a given topic
  - GMAC members participate verbally, not through the chat.
  - All members shall be respectful and participate in a constructive manner

## 2. By-Laws

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- Based on the Energy Efficiency Advisory Council by-laws
- Includes statutory duties, but also adds authority for:
  - Executive Committee
  - Filling vacancies
  - Designees
  - Remote participation
- Provides details on additional general powers, schedule, attendance, and voting

## 3. Executive Committee Charter

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- Based on the Energy Efficiency Advisory Council Executive Committee Charter
- Lists responsibilities, members, nominations, and term limits
- Responsibilities include
  - Managing GMAC consultant procurement, compensation and general oversight
  - Identify ways to enhance efficiencies in GMAC
  - Act as a sounding board for GMAC on emerging issues
- Membership of the Executive Committee to include:
  - 5 voting seats (Department of Energy Resources, acting as the Council Chair, Attorney General, MassCEC, and two Elected Members)
  - 1 non-voting representative of the Electric Companies
  - 3-year terms
- Request members self-nominate or nominate other members for Executive Committee by **Thursday, April 6.**

## 4. Remote Participation Policy

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- Based on the Energy Efficiency Advisory Council Remote Participation Policy
- Required for remote meetings under Open Meeting Law and [940 CMR 29.10](#)
- If emergency accommodations expire, current Open Meeting Law and regulations requires that a quorum of a public body and the chair be physically present at a meeting location
- Temporary provisions allowing all members to participate remotely expires March 31, 2023 (currently)

## 5. Future Meeting Times

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- Generally targeting monthly meetings the weeks of 4/10, 5/8, 6/12, 7/10, 8/7, 9/11, 10/9, 11/6, 12/11 for the 2023 GMAC meetings.
- Poll sent to GMAC members on future meeting times.
- 15 responses to the poll.
- Two times received a maximum number of votes each, Monday 2-5 PM and Thursday 1-4 PM.
- DOER recommends the **Thursday 1-4 PM** time slot.

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## Break

*Please be ready to start again in 10 minutes.*

*After the break...*

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Introduction to the electric companies	3:10 – 3:25	15 min
GMAC Consultant scope	3:25 – 3:40	15 min
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# Introduction to the electric companies



## Eversource is New England's Largest Energy Delivery Company

### We operate more than:

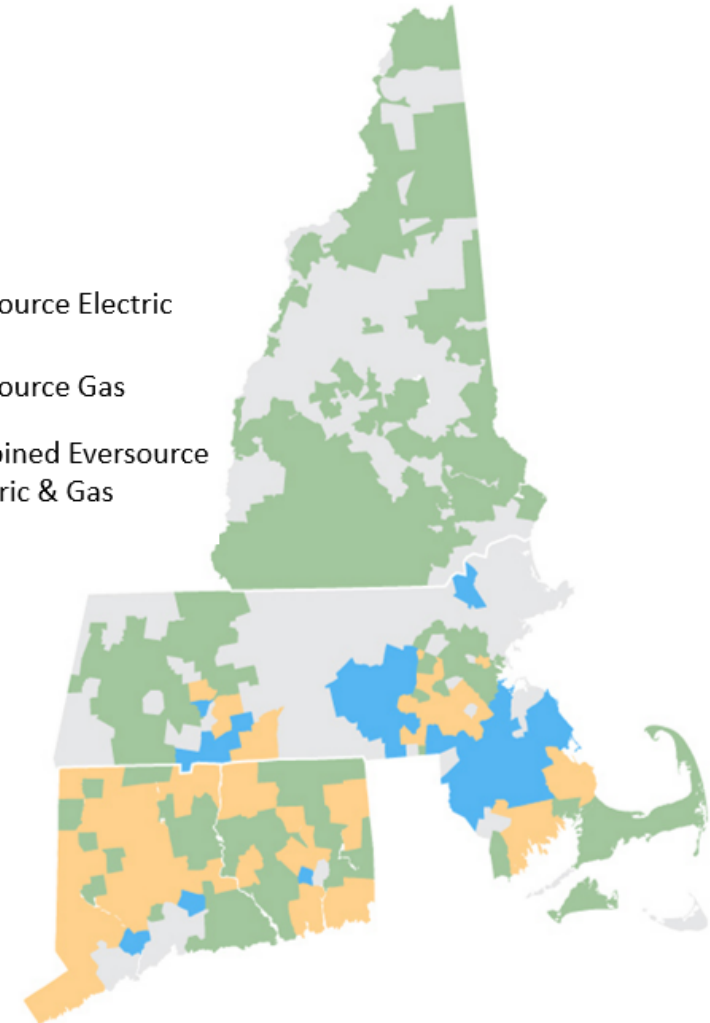
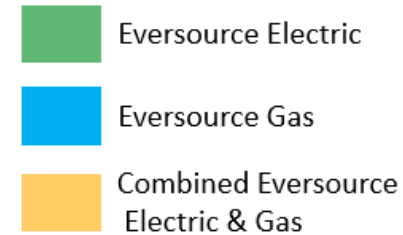
- 4,250 circuit miles of transmission lines
- 72,000 pole miles of distribution lines
- 575 substations
- 6,450 miles of natural gas distribution pipelines
- 3,600 miles of water mains across our service territory

### Our customers:

- Electricity: 3,200,000 customers
- Natural gas: 880,000 customers
- Water: 216,000 customers

### Clean energy:

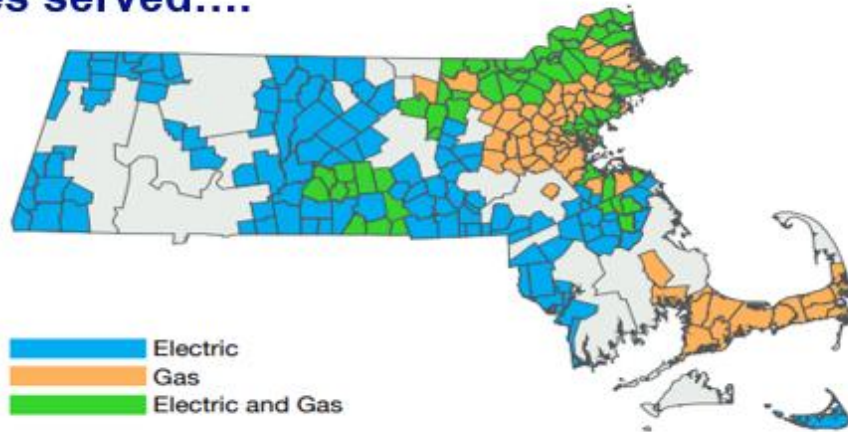
- Solar (70 MW) & Battery Storage (25 MW)
- Offshore wind JV (1,760 MW)



# Introduction to the electric companies

## About National Grid

2.3 million customers in 219 towns and cities served....



... via our networks...

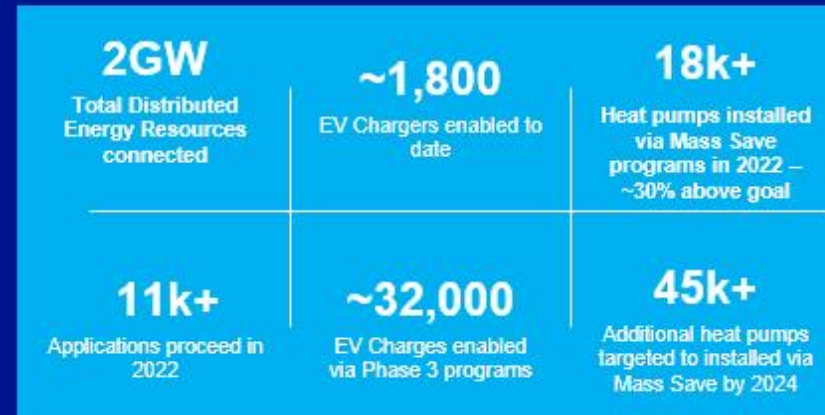


... by our teams....

**~6,200**  
Employees

**~3,300**  
Union Employees represented by 15 unions

... making connections...



... and supporting our communities.

**11,000+ Hours**  
of employee volunteerism




**\$4+ Million**  
in charitable contributions

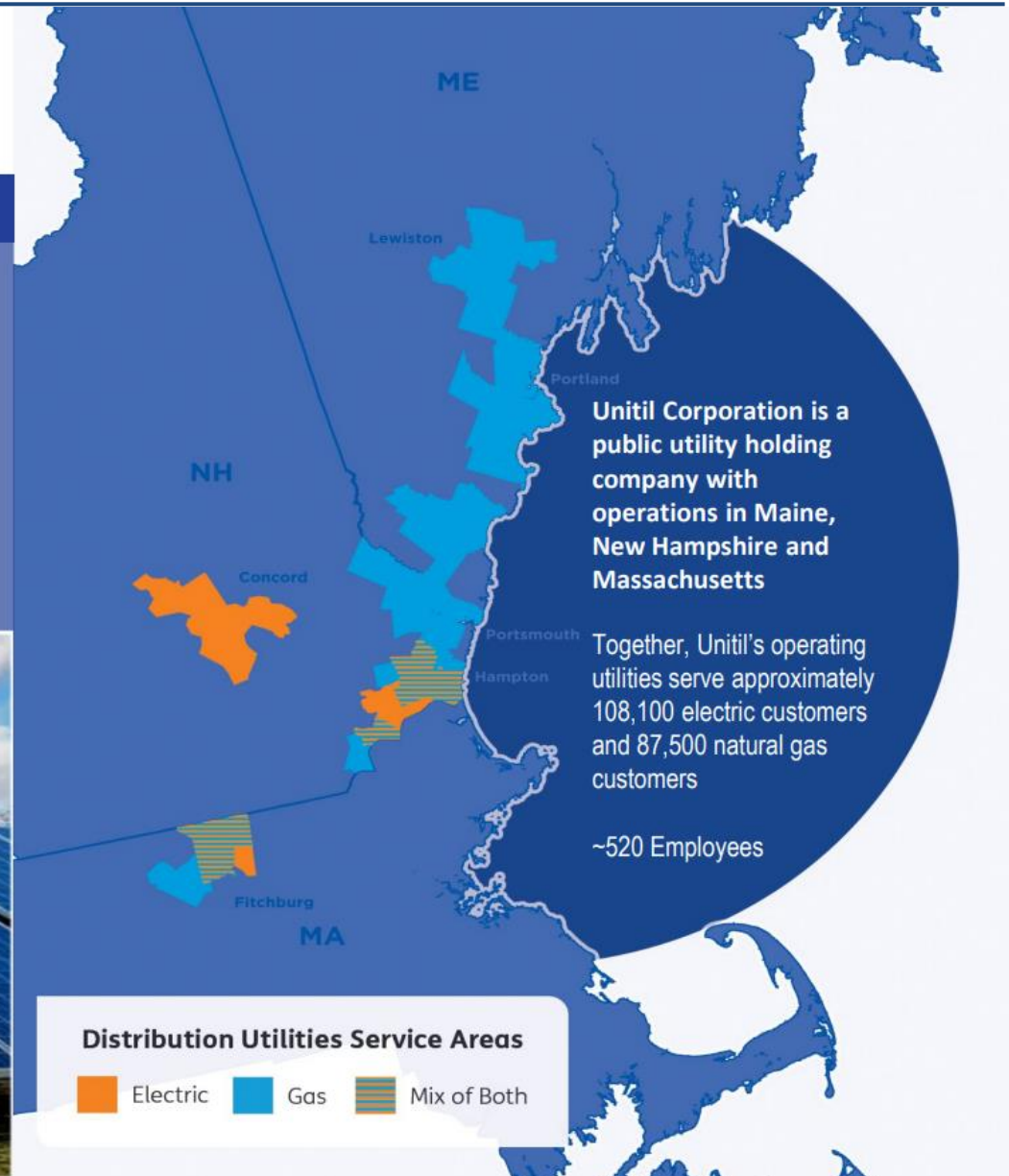


# Introduction to the electric companies

## About Unitil

### Unitil Fitchburg Gas and Electric Light Company

-  Operating subsidiary of Unitil Corporation.
-  Provides electric service to approximately 31,000 customers in the towns of Fitchburg, Lunenburg, Townsend and Ashby  
~10 Substations, 40 Circuits, 500 miles of distribution lines (4, 13.8 and 69kV)
-  Provides natural gas service to approximately 16,000 customers in the towns of Fitchburg, Townsend, Ashby, Westminster, Gardner and part of Lunenburg.  
~ 270 miles of low, intermediate and high pressure mains



## GMAC Consultant Scope

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- 2022 Climate Law authorizes the GMAC to budget for and retain a consultant expert, subject to approval by the Department of Public Utilities.
- We anticipate developing a more detailed scope of work for a consultant with the Executive Committee that includes:
  - Administration and coordination services (maintain and host GMAC website, take meeting minutes, manage materials and agenda updates, etc.)
  - Technical support (present to GMAC on technical grid topics, review and analyze the ESMPs, provide recommendations for GMAC review & discussion, track ESMP progress based on bi-annual reports and metrics, etc.)
  - Strategic planning (recommend approaches to coordinate stakeholder engagement, manage public comments, suggest best practices for grid planning, etc.)

**Are there any comments from the GMAC on considerations for the consultant?**

## DOER Recommendations for ESMPs

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1. The ESMPs should include a comprehensive and clear synthesis of existing investment areas, implementation plans, future planned investments, and ongoing metrics reporting.
2. A common template and formatting should be used across the EDC ESMPs.
3. The EDCs should develop and define a process that supports updates to the ESMPs throughout the 5-year cycle.
4. The EDCs should provide all relevant data and supplementary information to the GMAC as appropriate to facilitate stakeholder review of information that will be subject to discovery at the DPU during ESMP review.
5. The EDCs should propose a robust stakeholder engagement process in their ESMPs.
6. The EDCs should prioritize strategic planning in the first ESMP process.
7. The EDCs should include a discussion of investment alternatives and alternative approaches to financing investments, and clearly communicate any proposed changes to stakeholders.

## Close and Next Steps

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- List of 2023 GMAC meetings to be published on the DOER GMAC website
- Nominations for the Executive Committee requested by April 6<sup>th</sup>. Please send to [MA-GMAC@mass.gov](mailto:MA-GMAC@mass.gov)
- Tentative topics for next meeting
  - Administrative
    - Vote on meeting minutes from first GMAC meeting
    - Vote on Executive Committee members
  - Substantive
    - Potential presentation from U.S. Department of Energy & partners on integrated distribution system planning
    - Discuss agenda topics for future GMAC meetings