

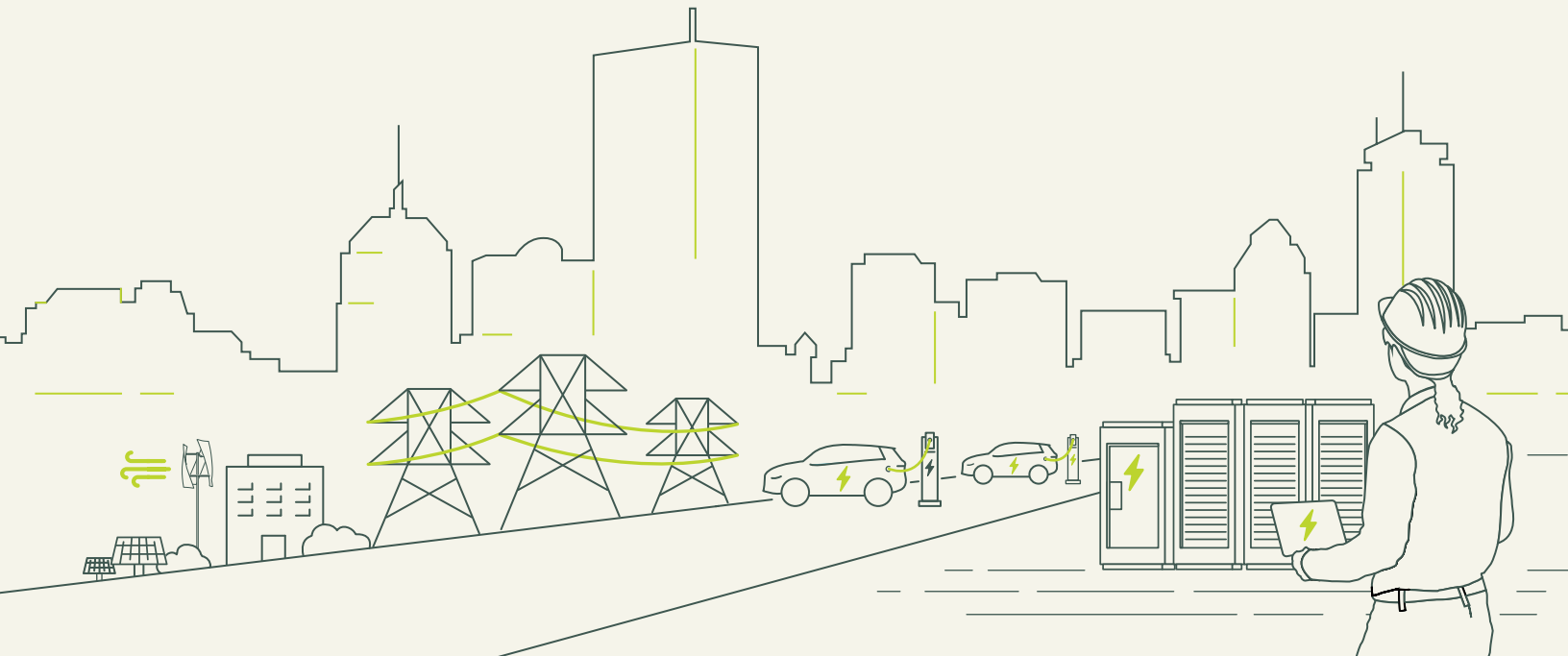
**Boston
Green Ribbon
Commission**

**Boston Grid
Modernization**



Boston Grid Modernization

2024 Working Group Highlights



Foreward from the Green Ribbon Commission

December 2024

Following the release of Carbon Free Boston, the Green Ribbon Commission began to focus seriously on supporting Boston’s energy transformation. Through dialogue with our City partners, it became clear that one of the key implementation challenges would be ensuring the city’s electrical infrastructure has the capacity to handle increased loads from electrification. One simple way of measuring the scope of this challenge is that between now and 2035, Eversource will need to locate, design, permit, and build five new substations in Boston to meet increased electricity demand. Successfully achieving this expansion in a cost effective, equitable, and timely manner requires strong collaboration across key stakeholder groups, including the City, utilities, and Boston’s large energy users.

From its founding, the Green Ribbon Commission’s mission has been to accelerate Boston toward a climate safe, carbon free, equitable future by serving as an institutional convener, helping to surface solutions to challenging climate problems. Accordingly, we launched the Boston Grid Modernization project in 2023, convening a group anchored

by large developers and institutions who must plan years ahead for the development, energy demand, and emissions of their campuses and buildings.

With input from concurrent processes, including the Grid Modernization Advisory Council (GMAC) and Electric Sector Modernization Plans (ESMPs) development, we met three times in 2023. We established a common understanding of the electricity distribution challenge and the role large energy users, utilities, and the City can all play in helping address it, especially by working together, using improved planning and information sharing. We established a formal Boston Grid Modernization Working Group in 2024 to carry forward actions on key next steps.

We are pleased to present a summary of this work, and look forward to continuing to collaborate on the challenging but essential task of ensuring reliable, clean, affordable energy in Boston as we advance decarbonization efforts across Massachusetts.



Executive Summary

Since 2023, Green Ribbon Commission (GRC) members have convened on the topic of grid modernization to support active collaboration across large energy users, utility representatives, and City of Boston officials. In 2024 this work included committing to enhanced information sharing to strengthen infrastructure planning processes, considering new ways to engage with communities impacted by grid modernization, and establishing a shared understanding of key legislative and regulatory aspects underpinning this work. The Grid Modernization Working Group of the GRC will continue to advance key efforts in 2025.

Background

To reduce greenhouse gas emissions by providing safe and reliable clean energy to electrified buildings, businesses, homes and vehicles, a rapid transformation of our electric grid is necessary. Grid modernization is the ongoing planning and implementation process that will drive these necessary updates, replacement, and expansion of our electric grid. It will include both a build out of additional infrastructure to manage the increase in energy demand from electrification, and the adoption of new technologies, equipment, and controls to respond in real time to the variable supply and demand produced by clean energy systems.

While these changes are essential for achieving greenhouse gas reductions with existing technologies, grid modernization creates new pressures on our existing processes for community engagement, siting, permitting, and allocating the cost of our infrastructure. Pursuant to the 2022 “Act Driving Clean Energy and Offshore Wind,” the

Commonwealth is actively engaged with the state’s investor-owned electric distribution companies’ (EDCs) through a Grid Modernization Advisory Council (GMAC) as they develop Electric Sector Modernization Plans (ESMPs) that forecast energy needs in the coming decades and lay out plans for meeting them. Through this process, Eversource has identified the need to deploy five new substations by 2035 to serve the City of Boston’s expanding electricity needs.

Recognizing the significant challenges and opportunities ahead, the Green Ribbon Commission convened members in 2023 on Boston Grid Modernization, with the following objectives:

1. Achieve greater understanding of each other’s current plans and planning processes;
2. Identify areas where improvement is needed and collaboration or constructive change would yield benefits for all; and
3. Structure ways to work together to improve planning and implementation for better outcomes.

Initial discussions highlighted the importance of improving planning and information sharing protocols, having a clear vision for what grid modernization means for neighborhoods, establishing improved processes for site selection and neighborhood benefits, better understanding a rapidly evolving policy and regulatory environment, and addressing workforce training needs. The GRC and its members committed to establishing a Boston Grid Modernization Working Group to carry forward this work.

The Green Ribbon Commission's Boston Grid Modernization Working Group 2024 Highlights

The Boston Grid Modernization Working Group (Working Group) met three times over the course of 2024, with additional engagement from a Planning and Information Sharing Committee. Highlights from these meetings are summarized below, with full meeting summaries available in Appendix A.



Working Group Meeting

At the first meeting of the Working Group in February, members reviewed and agreed to a charter that established three key aspects of their work:

- Collaborative planning and information sharing to inform grid modernization design and investment decisions.
- Community engagement on infrastructure needs and siting.
- Policy and regulatory issues that affect Boston's ability to implement grid modernization on a timely basis.

In furtherance of the first aspect, a portion of the meeting focused on creating a shared understanding of the current status of planning and information sharing between the City and Eversource, as well as developing plans for a Planning and Information Sharing Committee to carry the work forward. Working Group members discussed a draft prospectus, indicated interest in joining the group's work, and offered guidance on key considerations, including how to build upon existing Memorandums of Understanding between the utilities and large energy users.

The remainder of the meeting included updates on relevant initiatives, including the City's Zero Net Carbon Zoning Ordinance, Eversource's ESMP and Hyde Park neighborhood siting pilot, and a level-setting on addressing the challenges of assuring there is sufficient transmission infrastructure and clean energy supply to meet Boston's electrification needs.

APR

Planning and Information Sharing Protocols Committee Meeting

A subset of Working Group members convened in April to form a Planning and Information Sharing Protocols Committee (Committee) to carry forward the work agreed to in February, including:

- Creation of a flow diagram to delineate the steps for planning and information sharing between the City, large energy users, and utilities
- Creation of a Commitment Letter that can be utilized to support planning and information sharing for future projects

After formally adopting the prospectus to guide their work, Committee members discussed planning and information priorities that should guide development of a flow diagram and Commitment Letter. They highlighted that developing processes and avenues for sharing information from Institutional Master Plans, Complete Streets, and Building Emissions Reduction and Disclosure Ordinance (BERDO) can help provide better insight into electricity needs in the near- and long-term but must be designed in a manner that addresses both privacy and security concerns. Participants then self-organized into Subcommittees to advance development of the flow diagram and Commitment Letter and committed to sharing a first draft of each in June.

MAY

May Working Group Meeting

The full Working Group reconvened in May for a meeting that focused predominantly on siting and community engagement. The meeting began with a legislative update from Massachusetts Undersecretary of Energy Mike Judge on how the Healey Administration is advancing recommendations of its Commission on Energy Infrastructure Siting and Permitting, including filing legislation to consolidate and streamline permitting requirements, establish community engagement requirements,

provide support for municipalities and organizations, and create guidance for the suitability of sites. Following the Undersecretary's update, the Working Group heard from the City of Boston, BXP, and Eversource on enabling community engagement, including an overview of Eversource's work in Hyde Park and BXP's substation development in Kendall Square. They then engaged in group discussion highlighting ways in which new siting commission recommendations might impact community engagement and neighborhood siting, considerations for community benefits agreements, the integration of decarbonization plans into siting plans, and lessons learned from Eversource's community engagement efforts in Hyde Park. Eversource provided additional detail on the Community Engagement Stakeholder Advisory Group (CESAG) envisioned in their ESMP and a representative from the Planning and Information Sharing Protocols Committee provided an update on their work.

JUN

June Planning and Information Sharing Protocols Committee Meetings

The Committee convened in June to review first drafts of the Process Flow Diagram and Commitment Letter developed by the respective Subcommittees. The Process Flow Diagram built upon a preliminary work product developed in 2023 to clarify the ways in which Eversource's annual planning cycle, the City's Article 80 process, and ongoing engagement between large energy users and Eversource Account Executives can be leveraged to ensure all parties have important information at key decision-points. The Commitment Letter was framed as a combination of bi- and tri-lateral agreements between the utilities, large energy users, and the City to help better inform decision-making while maintaining confidentiality and existing agreements between large energy users and utilities. In addition to ensuring adequate capacity, key goals of this work is to help inform equity strategies, assess headroom, and align work with Boston's Complete Streets program.



September Planning and Information Sharing Protocols Committee Meeting

In September, the Committee convened again to share near-final work products, clarify anticipated impacts of their work, and develop questions for the Working Group to address. Key points raised included that the current materials are likely to apply to about 20% of Boston’s building stock, largely the large buildings that are going or will go through the Article 80 process. A key next step is determining how to expand the process to cover additional portions of the building sector. Account Executives are largely responsible for getting information from large energy users about their electrification needs and timelines, while customer service engineers handle geographic areas. Impacts from large energy users tend to require new or upgraded substations, which take 5-7 years, while impacts from smaller users often require new or upgraded distribution lines or transformers, which can be resolved within a year.



October Working Group Meeting

The third and final 2024 meeting of the Working Group included presentation and discussion on a range of priority issues discussed previously by the Working Group and Committee, including:

Electric Sector Modernization Plans: Officials from the Department of Public Utilities presented on the ESMP Order approved in August. They highlighted approval of Eversource’s 5- and 10-year forecast and demand assessment and proposed CESAG, as well as next steps for implementation, which include additional dockets on cost-recovery.

Planning and Information Sharing Protocols

Committee: Committee members presented their final work products to the Working Group. Members committed to implementation of the protocols, with enhanced information sharing to begin in 2025.

Eversource Updates: Eversource representatives presented on recent changes to and next steps for siting, planning and implementation processes and provided an update on the CESAG following DPU approval. The latter is underway and will be responsible for developing a framework for community engagement moving forward.

Pricing, Cost Allocation, and Rate Design: The Working Group heard from representatives from Energy and Environmental Economics (E3) and Synapse on pricing, cost allocation, and rate design, including the ongoing work of the Massachusetts Interagency Rates Working Group to assess the possible redesign of Massachusetts electric rates to align with decarbonization. Members agreed that staying apprised of this evolving issue will be important moving forward as significant infrastructure investments are required.

To conclude the meeting, the Working Group discussed potential priorities for 2025, which include implementation of the Planning and Information Sharing Protocols and continued engagement on community engagement and outreach for neighborhood infrastructure siting, with a potential focus on site selection. Members were also interested in ways to increase awareness of Grid Modernization in the city, including why new infrastructure is needed, as well as staying apprised of the cost allocation and rate design work that is ongoing.

Observations and Next Steps

The significant transformation and expansion of our electric infrastructure necessitates a reimagining of how these technologies are permitted, sited, and paid for, as well as the way that utilities and communities engage with local residents on the impact in their neighborhoods. Much of this work is underway. Eversource has already started to adapt their traditional planning process and is piloting new ways to reach and engage with community members ahead of site selection as they design the Hyde Park substation and begin work on others. Permitting and siting reform, including guidance on community engagement and benefits, was included in An Act Promoting a Clean Energy Grid, Advancing Equity, and Protecting Ratepayers passed in November, ushering in a new approach to how clean energy will be deployed in Massachusetts.

The GRC's Grid Modernization Working Group plays a critical role in this transformation by creating a space for Boston's institutions to engage with the City and Eversource to identify challenges and opportunities for advancing the work at pace and scale. In the coming year, this includes considering ways in which these players can work together to ensure timely sharing of key information across parties, improve site selection processes, and raise awareness of the importance of infrastructure. The GRC is committed to continuing engagement of the Working Group and plans to focus on the following key steps in 2025:

- Contributing to the cost allocation and rate design conversation, specifically from a large user perspective, with a focus on new infrastructure needed by large users.
- More deeply understanding the siting and permitting legislation and how it will affect the City of Boston, with particular attention to the five substations (Hyde Park being one) needed by 2035, and identifying necessary actions.
- Tracking the City's and Eversource's progress on substation location and providing input as needed.
- Hearing regular reports on timely sharing of key information to improve planning, using the materials and systems developed in 2024.

The GRC and its members look forward to continued collaboration on these important topics to ensure that residents, businesses, and institutions can participate effectively in the immensely important task of grid modernization in the years ahead.

Additional details may be found in:

[Appendix A: Meeting Summaries](#)

[Appendix B: Flow Chart and Commitment Letter](#)



2024 Working Group Participants

Arup

Hassan Hamdan*
Joseph Martorano

AvalonBay

David Gillespie
Richard Regitano
Tim Scarpa

Beacon Capital Partners

Molly McGovern
Al Scaramelli

BMC

Bob Biggio
Anna Goldman
James Kidd
Cory Pouliot

BU

Dennis Carlberg
Stephen Ellis
Elijah Ercolino
Derek Howe

BXP

Jeff Lowenberg
Ben Myers
Neetu Siddarth

Ceres

Rishi Reddi

City of Boston

Aimee Chambers
Aladdine Joroff*
Oliver Sellers-Garcia
Brian Swett
Travis Anderson
Alison Brizius*
Brad Swing*
Mariama White-Hammond*

Commonwealth of Massachusetts

Mike Judge*
Kerri Phillips
Staci Rubin

E3

Andrew DeBenedictis

Equity Residential

Rebecca Becker
Dan Egan

Eversource

Barry Ahern
Maija Benjamins
Meredith Boericke
Warren Boutin
Digaunto Chatterjee
Christopher Comack
Penni Conner
Erin Engstrom
Lavelle Freeman
Jacob Lucas
Tilak Subrahmanian

GRC

John Cleveland
Amy Longsworth
Grace O'Connor*
Azanta Thakur

Harvard

Rebecca Hatchadorian
Heather Henriksen
Jaclyn Olsen
Samantha Sharma

Lighthouse Capital Partners

Gwill York

MASS Design Group

Chris Hardy

Mass General Brigham

Jason Dantona
John Messervy
Dennis Villanueva

MIT

Joe Higgins
Julie Newman

Museum of Science

David Sittenfeld

National Grid

Melissa Lavinson*
Lisa Salmore
Andrew Schneller*
Carol Sedewitz*

NEAQ

Ferris Batie

NEU

Leah Bamberger
Jacob Glickel
Meaghan Healey
Joe Lalley*
Torrey Spies

Synapse Energy

Melissa Whited

Turner

George Gaughan
Pete Hamill
Colin Schless
Rick Sgro

UMass Boston

Bob Chen
Jim O'Day
Michael Kearns

Vicinity

Pat Gillooly
Kevin Hagerty
Matt O'Malley

Facilitators

Janet Gail Besser
Lisa Frantzis
Jonathan Raab

Notetaker

Liz Hanson

*Left organization in 2024