Creating A Clean, Affordable, Equitable and Resilient Energy Future For the Commonwealth

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENERGY RESOURCES

Grid Modernization Advisory Council
Equity Working Group

September 27, 2024

Agenda

Item	Time
Welcome, Agenda, Roll Call Meeting Minutes Review and Voting	10:00 – 10:05
Consultant Presentation on ESMP Order	10:05 – 10:20
CESAG Update from EDCs	10:20 – 11:40
Discussion on Next Steps	10:40 – 10:50
GMAC Stakeholder Engagement Materials	10:50 – 10:55
Close	10:55 – 11:00

Roll Call

Equity Working Group Voting Councilors

Larry Chretien	Green Energy Consumers Alliance
Julia Fox	Department of Energy Resources
Chris Modlish	Attorney General's Office
Kyle Murray	Acadia Center
Vernon Walker	Clean Water Action
Mary Wambui	Planning Office for Urban Affairs
Kathryn Wright, Chair	Barr Foundation

Non-Voting Councilor

Erin Engstrom (non-voting)	Eversource

Consultants

Chelsea Mattioda	Synapse
Tim Woolf	Synapse

Meeting Minutes

- Calling for vote to finalize:
  - June 26, 2024, Equity Working Group minutes

- *Motion to approve the March 5th minutes [as distributed/as corrected]?*

Summary of Equity Issues in DPU ESMP Order

Massachusetts Grid Modernization Advisory Council
Equity Working Group Meeting

September 27, 2024

Tim Woolf, Chelsea Mattioda

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EDC's Proposed Equity Framework (pp.353-385)

The Companies' equity framework is consistent with MA goals and Department policies and has potential to increase stakeholder knowledge and participation in the energy transition (p. 372).

The Department approves the proposed equity framework with modifications:

- Procedural:
  - Public-facing materials must provide meaningful opportunities for limited-English customers to access information, use clear and plain language, and by guided by the CESAG (pp. 377-378)
  - The EDCs should take steps to operationalize equity within their organizations, like NSTAR (pp. 378-379).
  - Each company should provide biannual updates on equity initiatives in their biannual reports
- Distributional and Structural:
  - The Department intends to coordinate with the EFSB to clarify each agency's role regarding CBA oversight and will consider CBA cost recovery in a subsequent phase of this proceeding or a new proceeding (p.381)
  - Where the potential for an imbalance in the benefits and burdens exists to host large electric distribution system infrastructure, the Companies shall apply the equity framework as modified herein (p. 382)
  - The EDCs should coordinate with CESAG on integrating EJ principles in siting decisions (p.383)
  - Department directs the Companies to provide updates in their biannual reports on how they are addressing distributional and structural equity in the implementation of their ESMPs (p.385)
  - The Department encourages the EDCs to collaborate with CESAG, GMAC, and the GMAC EWG (p. 385)

Community Engagement Stakeholder Advisory Group (pp.353-385)

The Department declines to require CESAG to operate within existing GMAC structure (p. 79)

- CESAG include EDCs, CBOs, and an environmental or advocacy groups
- CESAG and GMAC serve different purposes

The Department directs the companies to coordinate with the CESAG on:

- Developing additional translation best practices with the CESAG (p. 376)
- Develop clear and cohesive policies and practices in relation to when and how the Companies will translate materials into other languages and when to provide interpretation services during verbal interactions between each Company and its customers (p. 377)
- Developing policies and practices related to integrating EJ principles into their decision-making with respect to the siting of electric distribution system infrastructure projects (p. 383-384)
- Receiving input on actions that could enhance and assist in fully implementing all aspects of the equity framework (p.385)

Commencement date for CESAG to be provided by the EDCs

Community Benefit Agreements (CBAs)

The Department recognizes the value of CBAs in helping ensure that host communities benefit from the infrastructure they host p.380

The Department finds the EDCs' CBA proposals unclear on several points (p. 381):

- How the Companies will decide to enter into a CBA
- Whether the EDCs will implement a cap on CBA costs per CBA
- The types of community benefits and the associated costs that are appropriate to be included in CBAs
- Whether and how much the EDCs would seek to recover costs from ratepayers

There is pending legislation that would require EEA to develop guidelines for CBAs (p. 381)

The Department plans to coordinate with the EFSB to clarify agency roles regarding CBA oversight and will consider CBA cost recovery at a later time (p. 381)

Metrics (pp.459-462)

The Department found that it was premature and unproductive to establish final performance metrics in this Order, consistent with the Department's Interlocutory Order on Scope (p.462).

- Metrics will be fully addressed in a later phase of the proceedings.

The Department will consider whether any current grid modernization or EV performance metrics should be carried forward and applied to proposed ESMP investments (p. 462)

The Department will consider stakeholder proposals for performance metrics in a later process and will provide further guidance at a later date (p. 462)

The equity metrics proposed by the EWG are presented in the Appendix below

Net Benefits (1) (pp.386-434)

The Department's net benefits review is for strategic planning; not cost recovery (p. 413)

The EDCs have established net benefits using a reasonable method and inputs (p. 416)

Alternatives to proposed investments do not need to be incorporated into the net benefits analysis, except for NWAs and ESS projects within the portfolio of ESMP projects (P. 416)

- Section 92B(b) requires a description of the alternatives that inform the net benefits analysis, but
- Section 92B(d) does not require that net benefits analysis includes inputs for alternative investments

The legislature left how to analyze net benefits largely to the Department's discretion

- The Department declines to require they include non-ESMP or alternatives (p. 417)

The analysis does not need to consider discrete investments or investment types

- 92B indicates the analysis should be for the plan as a whole (p. 417)

Net Benefits (2) (pp.386-434)

The net benefits analysis does not need to account for locational-specific impacts, distributional equity analyses, or EJ benefits (p. 418-419)

- Location-specific values are not industry practice and might provide false accuracy
- Major infrastructure projects equity impacts would be better addressed in extended Provisional Program filings or the forthcoming LTSPP discussions (p. 419)

The EDCs should describe equity benefits in their next ESMPs

- In the interim, the Department will explore equity metrics, locational values, and reporting requirements

The EDCs estimates of economic benefits are reasonable and appropriate (p. 421)

- For the next ESMPs, the EDCs shall provide results at the level of investment category

The Department has instructed the EDCs to be more consistent in defining investment categories

- But the inconsistency across categories is not relevant to the portfolio net benefit analysis (p. 423)

Stakeholder Engagement: LTSPP

Long-Term System Planning Program (LTSPP)

The EDCs must convene and facilitate an LTSPP stakeholder process (p. 338)

- Starting no later than October 1, 2024 and concluding in March 2025
- With bi-monthly stakeholder meetings, at a minimum
- By February 3, 2025, the EDCs shall submit an interim status report
- By April 4, 2025, the EDCs shall submit a final status report describing areas of agreement and disagreement
- The Department will direct next steps as soon as practical after that
- Further, the EDCs shall:
  - Designate company personnel to be responsible for oversight and management of the process
  - Invite members of the GMAC and the service list for these dockets to the process
  - Ensure each participant receives all relevant correspondence
  - Maintain a participation list and ensure communications are circulated to that list

The LTSPP stakeholder process must consider the following topics (pp. 338-339):

- Factors identified by GMAC and EDCs that drive enablement of DG by hosting capacity in specific locations
- The role of flexible interconnection in deferring or negating the need for upgrades or improving operations
- Cost allocation, such as a Common System Modification fee, export tariff, etc.
- Process for changing or updating the LTSPP over time

Reporting Requirements: Biannual Reports (1) (p. 472-474)

The Companies shall include in their Biannual Reports:

ESMP investments

- Changes and reprioritization of proposed ESMP investments

Forecasts and Demand Assessments

- Comparison of the forecasted demand (according to updated ARR) and actual demand, separated by component (baseload, DERs) for each completed year in the ESMP term; and identification of variances between 5- and 10-year demand forecast components in the approved ESMP and the updated ARR 10-year demand forecast components

Integrated Energy Planning

- Progress on IRP processes including but not limited to updates on the Joint Working Group, data exchange, feasibility assessments, and targeted electrification projects

Grid Services Study

- Updates relating to the Grid Services Study and compensation framework being developed

Reporting Requirements: Biannual Reports (2) (p.462-478)

Reliability, Resiliency, Climate-Driven Impacts

- Updates on finalizing CVA frameworks
- Updates on targeted resiliency investment identification and prioritization method
- Identify and explain adjustments to proposed portfolio of targeted resiliency investments
- Descriptions of planned targeted resiliency investments along with associated costs, regardless of core or ESMP classification

Energy Storage Systems

- Whether the company has conducted testing on company-owned ESS and any corresponding results

Transmission

- Updates on transmission upgrades necessitated by ESMP investments

Alternative Funding Proposals

- Summaries of federal grant, loan, and tax funding sought during the preceding reporting period and planned funding sources during the following reporting period; descriptions of efforts to coordinate with partner entities and impediments to such efforts; and identification of barriers encountered in obtaining funds and recommendations for how the Department can support company receipt of grants, loans, and tax incentives.

Reporting Requirements: Biannual Reports (3) (p.462-478)

Stakeholder Engagement and Equity

- Updates on how the company is addressing distributional and structural equity in the implementation of its ESMP, training its staff on equity matters, and allocating staff resources, and a description of how any lessons learned could shape the next iteration of their equity framework

Non-ESMP investments

- High-level data relating to non-ESMP investments, including summary lists of, for example, relevant DPU proceedings, docketed and non-docketed filings, related stakeholder or working groups, and key metrics

The Department intends to finalize the form and content of biannual reports in a subsequent phase of this proceeding

Responding to EWG Feedback

Feedback	Response to Feedback	Incorporation into next steps/plan
Working group fatigue	Seek participants who are experts in their field, but not necessarily involved with the current constellation of energy-related working groups.	Invite EWG to provide recommendations; work with ASG to help recruit CESAG candidates; use our own networks.
Meaningful collaboration with communities and stakeholders	Reserve one of the seats on the CESAG for CBOs that are experts in community advocacy & engagement.	ASG has a proven track record of successful engagement and meaningful collaboration with historically underrepresented community groups.
Ensuring community organization leadership in CESAG	Seek participants who are experts in their field, but not necessarily involved with the current constellation of energy-related working groups.	Invite EWG to provide recommendations; work with ASG to help recruit CESAG candidates.
Clarify goals of CESAG/definitions of equity and relevant terms	Develop mission statement; seek a facilitator with expertise in equity issues.	Continue to collaborate with EWG as we execute mission and as we prepare reports for the DPU.

RFP Process & Decision

1 RFP

- RFP developed with input from stakeholders
- Facilitator list developed with input from stakeholders
- Mar. 29, 2024: RFP issued
- May 17, 2024: RFP closed. Five responses received

2 Interviews

- Proposals reviewed
- May 29, 2024 – May 30, 2024: Interviews conducted
- Proposals scored
- Focus on equity, diversity, and engagement

3 Award!

Why we're excited to work with ASG!

- ☆ Values-driven
- ☆ Certified minority and woman-owned business; multilingual
- ☆ Diverse experience across the Commonwealth
- ☆ Partners and connections across the Commonwealth
- ☆ Expertise in cultural competency, lowering barriers to participation and building trust in historically hard-to-reach communities

Standing up the CESAG

EVERSOURCE nationalgrid Unitil

CESAG Scope

The primary objective of CESAG is to develop a community engagement framework, centered in equity, that can be applied to major clean infrastructure projects related to the clean energy transition before they are submitted to the Department and/or the Energy Facilities Siting Board (EFSB).

Anticipated timeline

9/27/2024	Oct. 2024	Nov. 2024	Dec. 2024
Provide preliminary CESAG CBO* candidate list to EWG	Finalize CESAG CBO candidate list and begin recruitment	Confirm participants and schedule kick-off meeting	Kick-off meeting

*Community Based Organization

CBO Recruitment		
Affordability and Low/Fixed Income	Environmental Justice and Equity	Affordable Housing
Community Advocacy and Engagement	Transit/Transportation	Public Health

Discussion

- Based on our discussions today, are there priority topics you'd like to see on the Equity Working Group agenda for 2025?
  - Suggestions based on previous discussions include: Continue conversation on metrics, clarify equity in biannual report, community benefit agreements
- How can the GMAC consultants provide support to the EWG?
- How often should the Working Group meet in 2025?
- Are we comfortable with the membership of the working group? Would we like to consider adding additional members?
- Other topics or ideas for discussion

Stakeholder Engagement Materials

- DOER and the consultants have been working on stakeholder engagement materials throughout the summer.
  - Thank you to the GMAC members/EDC communications teams who offered feedback in group meetings/via email.
  - Thank you to Marybeth Campbell for organizing a focus group of community-facing contacts in August.

- Materials development has been focused on:
  1. **New Page on GMAC Website:** Includes introductory information on electric grid planning, summaries of ESMPs and GMAC, and roles of different grid planning entities (ex. DOER, DPU, EDCs, CESAG).
     - Includes Supplementary information on relevant orders, links to other ESMP-related pages, and links to resources on incentives, bill assistance, and relevant contact information.
  2. **Two Factsheets:** Digital factsheets targeting 101 and 201 level education on Massachusetts' grid modernization efforts using plain-spoken language. Factsheets will be translated into the top 5 spoken languages in the Commonwealth.

What do EWG members think of latest iterations? (next slides)

101 Level
Target Audience:
Ratepayers/LMI Ratepayers

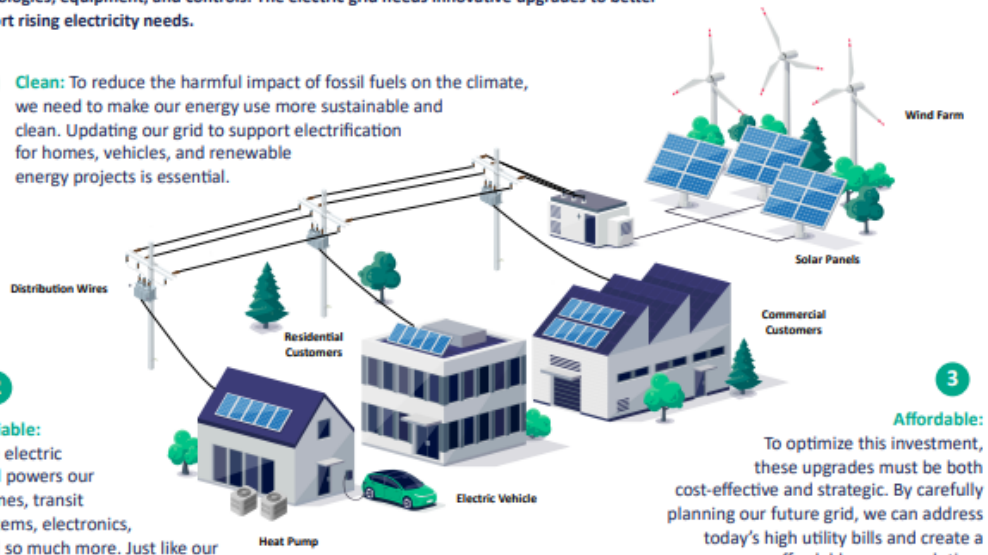
Your Electric Grid, Your Future: Get Involved

Because your electricity should be clean, affordable, and reliable.

The Grid Modernization Challenge

Think of the electric grid as a large network of power lines that carries electricity from power plants to your home so you can use it to turn on your lights. Grid modernization is the process of updating the grid to make it more resilient through new technologies, equipment, and controls. The electric grid needs innovative upgrades to better support rising electricity needs.

1 **Clean:** To reduce the harmful impact of fossil fuels on the climate, we need to make our energy use more sustainable and clean. Updating our grid to support electrification for homes, vehicles, and renewable energy projects is essential.



2 **Reliable:** The electric grid powers our homes, transit systems, electronics, and so much more. Just like our roads, we need to update our grid infrastructure (wires, poles, and substations). To meet future demand our grid infrastructure will need to support double the amount of electricity we use now.

3 **Affordable:** To optimize this investment, these upgrades must be both cost-effective and strategic. By carefully planning our future grid, we can address today's high utility bills and create a more affordable energy solution.

Turning Massachusetts' Challenge into Progress

Massachusetts' 2022 Climate Law requires utilities to develop strategic plans for modernizing the electric grid and advancing an equitable clean energy future. The plans must:

- promote renewable energy and energy storage adoption
- improve the grid's reliability and resiliency to the impacts of climate change
- enable electrified transportation and buildings
- minimize impacts on customers

Learn More About Your Electric Grid!

Massachusetts is convening a stakeholder group that provides recommendations on best practices for grid modernization planning. The Grid Modernization Advisory Council (GMAC) represents many interests and organizations, including low-income consumers, environmental advocacy groups, and the renewable energy industry.

Take the next step to learn more about your electric grid by visiting our website! Sign up for the GMAC newsletter at mass.gov/gmac for regular updates on our activities Send us questions or public comments at MA-GMAC@mass.gov.

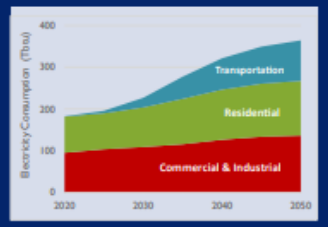
201 Level
Target Audience: Municipal Leaders/ Communities hosting infrastructure

Your Electric Grid, Your Community

Have a say in your community's energy infrastructure!

A Closer Look: Innovative grid solutions are becoming a reality in Massachusetts. The Hyde Park Battery Project by Eversource is addressing rising energy demand in several Boston neighborhoods whose electrical substations are already at full capacity. Community input will guide plans for siting and paying for this project to support Boston's clean and reliable energy future.

Why Modernize the Grid?



We need to double our electricity supply by 2050 to meet the Commonwealth's climate goals as more people purchase electric vehicles and switch from fossil fuel burning to electric heating systems. This means that our grid infrastructure needs to be updated to ensure we meet our climate goals.

The Challenge

Our current grid cannot support the rapid electricity growth needed to meet increasing demand and our climate goals. Traditional utility investments (substations, poles, and wires) are not enough. An expanded, modern grid will also need alternative clean energy technologies based in local homes and businesses. All these new resources need to be developed strategically, cost-effectively, and equitably.

Your Community's Involvement

Throughout the state, every town has a role to play in contributing to grid modernization discussions, promoting and installing new clean technologies, identifying the most cost-effective options for expanding the grid, and minimizing siting issues from new infrastructure installations.

How Are We Addressing This Challenge?

Massachusetts' 2022 Climate Law requires utility companies to create short- and long-term plans for modernizing the grid that:

- promote an equitable clean energy future that includes renewable energy and energy storage
- improve grid reliability and climate resiliency
- enable electrified transportation and buildings
- maximize net benefits to customers.

What Is the GMAC?

A new stakeholder group established by the Climate Law, the Grid Modernization Advisory Council (GMAC) provides advice and recommendations on best practices for utilities' grid-enhancing Electric-Sector Modernization Plans (ESMPs). The Grid Modernization Advisory Council (GMAC) represents many interests and organizations, including low-income consumers, municipal planners, and the renewable energy industry.

How Can I Represent My Community?

- Attend a public meeting, share your thoughts, and sign up for the GMAC newsletter at mass.gov/gmac.
- Send us questions or public comments at MA-GMAC@mass.gov.

Timeline

- Plan to **release factsheets in October.**
- Push communications through distribution channels:
  - State-level email distribution lists (GMAC listserv, EEA's EJ Office)
  - GMAC member organizations and distribution lists
  - EDC communications → aligning messaging on ESMPs/GMAC

Close

GMAC activities
ESMP activities from Order
Holidays

- **The next Equity Working Group meeting is TBD.**

SEPTEMBER

M	T	W	TH	F
2 Labor Day	3	4	5	6
9	10	11	12	13 GMAC Meeting
16	17	18	19	20
23	24	25	26	27 EWG Meeting + ExCom Meeting
30 NGrid Rate Case Order				

OCTOBER

M	T	W	TH	F
	1 LTSPP Initiated by EDCs	2	3	4
7	8	9	10 GMAC Meeting	11
14 Indigenous People's Day	15	16	17	18 2025 GMAC Budget Due
21	22	23	24	25
28	29	30	31	

NOVEMBER

M	T	W	TH	F
				1
4	5	6	7	8
11 Veteran's Day	12	13	14	15
18 New CIP Proposals filed	19	20	21 Thanksgiving	22
25	26	27	28	29

DECEMBER

M	T	W	TH	F
2	3	4	5	6
9	10	11	12	13
16	17 GMAC Meeting	18	19	20
23	24	25 Christmas Day	26	27
30	31			

Appendix

Equity Metrics

Proposed by the Equity Working Group

EWG Equity Metrics: Accessibility and Community Engagement

Category	Problem Statement	How ESMPs Propose to Address This	EWG's Desired Outcomes from Final ESMPs	Metrics of Success
1. Accessibility and community engagement	a. Siting and grid modernization decisions have historically been made without significant stakeholder input b. Not all relevant information is shared with the public c. Information is overly technical and in many cases is not translated	d. Written informational materials are produced in multiple languages e. Utility-led Community Engagement Stakeholder Advisory Group (CESAG) f. DPU-required joint stakeholder meetings in Fall 2023 g. Eversource states the urgency of near-term projects (2025–2029) may afford less engagement than later (2030 and after) h. For projects, the utilities have stated they will engage impacted communities before submitting filings to the Energy Facilities Siting Board (however, it is unclear which specific projects this would apply to) i. Utilities have discussed negotiating community benefit agreements for communities impacted by projects, but form of agreements unclear. j. National Grid plans for public engagement on multiple channels, including translation where needed and an initiative to engage Federally Recognized Tribes in New England k. Eversource's pending Grid Resiliency and Innovation Partnership (GRIP) program application included a community engagement plan designed to lead to a community benefit agreement	l. Plain language is used / layperson's terms and translation of materials m. Utilities provide easy-to-interpret visualizations n. There are clear avenues for input early in planning processes o. Stakeholder input is used to inform data-driven decisions p. Stakeholder engagement exists beyond infrastructure siting and is integrated more broadly with grid modernization investments q. Utilities publicize the data they currently have on equity (disparities in program participation, % of customers with high energy burden, etc.), enabling stakeholders to participate with full information about the baseline	r. Fewer customer complaints s. Fewer infrastructure siting delays t. Survey and other data indicate stakeholders' demonstration of positive and improving experiences with EDCs over time u. Participation is tracked and includes diverse demographics v. Documented responses to community comments presented in engagement and via the CESAG w. Inventory of documents available in multiple languages x. Number of executed community benefits agreements y. Increase in EJC community participation in utility surveys, events or other engagement venues z. Documentation of stakeholder partnerships and community leadership on working groups and committees

EWG Equity Metrics: Workforce and Economic Benefits

Category	Problem Statement	How ESMPs Propose to Address This	EWG's Desired Outcomes from Final ESMPs	Metrics of Success
2. Workforce and economic benefits	a. There is a lack of economic opportunities for historically underserved populations. The energy sector has a lack of diversity, particularly in leadership or higher-wage roles[37] b. Immigrants, workers of color, and women are disproportionately impacted by wage and hour violations[38]	c. Community Solar Resilience Program (Eversource) prioritizes workforce development for minority- and women-owned business enterprises (MWBEs) d. National Grid identified temporary and permanent, union, non-union, and management roles needed, and using a "strategic workforce development" program to hire underrepresented people in their workforce e. Eversource has workforce development programs, Electric Power Utility Technology Program and Clean Energy Pathways, which aims to expand the energy efficiency workforce and increase access to individuals who are historically underrepresented f. Eversource applied to the U.S. Department of Energy Grid Resiliency and Innovation Partnership (GRIP) program which would create a pipeline for clean energy jobs with local partnerships	g. Well-paid permanent jobs h. Full-time positions i. Jobs located within or near EJCs[39] j. Jobs accommodating of different languages k. Workforce training for entry-level employees l. Opportunities for learning, development, and advancement m. Increased job safety n. Clear plans for recruitment, training, and retention for underserved populations o. Integration of EDCs' efforts with existing training programs throughout Massachusetts	p. Hours of work per employee at minimum wage q. Number of additional jobs with livable wages r. Reduced hazardous occupational exposures resulting in injuries, deaths, and chronic disease s. Annual progress reports towards the additional ~38,000 workers to support grid modernization and to reach the Commonwealth's clean energy goals t. Job placement rates for utility-proposed programs u. Post-training position retention rates for new employees v. Increases in local hire requirements or supplier diversity requirements w. All ESMPs need to be provide clarity on the incremental job impacts of the plan. Categories of anticipated job growth should be shared with public and educational partners. x. Job training programs by geographic service territories to address "training deserts"

EWG Equity Metrics: Health Benefits

Category	Problem Statement	How ESMPs Propose to Address This	EWG's Desired Outcomes from Final ESMPs	Metrics of Success
3. Health benefits	a. Emissions from burning natural gas b. Emissions from burning heating oil c. Emissions from grid electricity source mix d. While air emissions impact the entire state, recent studies have indicated impacts are higher in EJ communities[40]	e. Eversource acknowledges inequities in health impacts from pollution/high GHG emissions plans to electrify transportation to mitigate impacts do not factor in equity f. National Grid generally highlights that energy efficiency programs and electrification measures will improve health overall and that EJ/LMI customers are currently impacted the most g. Plans offer no quantification of health benefits	h. Less air pollution i. Better indoor air quality j. Improved cardiovascular, respiratory, kidney, and cerebrovascular health outcomes k. Reduced excess mortality l. Improved quality of life m. Increased stakeholder education on climate-related health impacts	n. Reduced statewide incidences of heart disease, bronchitis, and lung cancer from inhalable particulate matter (PM) o. Reduced statewide incidences of asthma, respiratory and lung diseases from nitrous oxide (NO_x) from fuel combustion p. Reduced statewide incidences of respiratory infections and lung disease from sulfur dioxide (SO_2) released from fuel combustion q. Calculations in the ESMPs of the incremental impact of the grid modernization plan on health indicators

EWG Equity Metrics: Financial Benefits and Incentives

Category	Problem Statement	How ESMPs Propose to Address This	EWG's Desired Outcomes from Final ESMPs	Metrics of Success
4. Financial benefits and incentives	a. Renters, low-income, and non-English-speaking households are less likely to have used Mass Save energy efficiency incentives[41] b. Low to moderate income housing is more likely to have pre-weatherization barriers creating challenges for both energy efficiency and electrification	c. National Grid has incentives covering up to 100% of costs of EV charging equipment, energy efficiency upgrades, and weatherization for EJCs[42] d. Eversource offers several EV charging equipment incentives for EJCs[43] e. Unitil currently offers low-income residential customers 100% of the cost of improvements for energy efficiency and up to 100% of EVSE installation costs for multi-unit dwellings (MUDs) of up to four units and $1,700 of capital costs[44] f. Three programs—Eversource Community Solar Access Program (ECSAP), Community Solar Resilience Program, and Affordable Solar Access Program—are geared toward EJCs g. At present, additional net benefits such as health, economics, and greenhouse gas emissions are largely described qualitatively h. A public park atop an underground substation in Kendall Square in Cambridge is proposed (Eversource). It is proposed as a community benefit to the Kendall Square neighborhood and could serve as a model for other communities i. EDCs identified customer benefits associated with investments and alternatives including safety, grid reliability and resilience, electrification of buildings and transportation, reduced GHG emissions and air pollutants, mitigation of impacts to the ratepayer, and more; to be filed with the DPU in January 2024	j. Access to innovative financing or tech k. Installation of energy-efficiency upgrades l. Widespread updated weatherization to ready residential units for energy-efficiency upgrades m. Widespread adoption of electric vehicles	n. Increases in: o. Community solar enrollment in EJCs p. Residential solar enrollment in EJCs q. EVSE enrollment in EJCs r. Energy-efficiency upgrade enrollment in EJCs s. Customer ownership of DERs within EJCs t. Participation in all programs by renters u. Pre-weatherization and electrical upgrade support v. For community solar customers: w. Percent reduction (or increase) in energy rate (cents) per kWh after enrollment in community solar x. Percent reduction (or increase) in overall bill amount after enrollment in community solar y. Comparison of EV/solar electrification adoption by zip code and by census block group to identify communities underserved by programs z. Net economic, greenhouse gas emissions, and health benefits resulting from ESMPs (in aggregate and per capita) aa. Integration of tracking and metrics for renters from the EEAC process bb. Tracking the offset of demand that non-wires solutions accomplish

EWG Equity Metrics: Affordability

Category	Problem Statement	How ESMPs Propose to Address This	EWG's Desired Outcomes from Final ESMPs	Metrics of Success
5. Affordability	a. Low-income Massachusetts households spend a disproportionately high percentage of their income on energy[45] b. As electrification increases energy usage, current rate structures may increase affordability challenges. c. Gas introduces significant volatility into the region's energy prices	d. Advanced metering infrastructure (AMI) e. Demand response f. Improved customer communications g. Distributed energy resources (DER) h. Eversource proposes an Affordable Solar Access Program and plans to tackle on-bill financing	i. Access to utility incentives j. Future rates are designed fairly and with public participation k. Utility service charges are on an income-based sliding scale l. EDCs include plans for future performance incentive mechanisms that incentivize the EDCs to limit energy burden for customers at all income levels m. Access to customer-sited opportunities n. Utilities develop and enroll customers in arrear forgiveness programs o. Utility costs for the ESMP are publicly disclosed in a uniform digestible format	p. Percent reduction (or increase) in rates / residential energy rate (cents) per kWh q. Percent reduction (or increase) in bills r. Percent reduction in energy burden by customer income bracket s. Reduction in number of customers, by income bracket, with excess energy burden t. Reduction in number of customers in arrears u. Anticipated net cost per customer of ESMPs v. Rate reform recommendations and impacts of alternative rate structures for electrification customers, particularly in winter w. Percent and count of residential customers disconnected for non-payment, including by census block group[46] x. Percent and count of residential customers with accounts past due more than 60 days y. Potential bill impacts

EWG Equity Metrics: Reliability and Resilience

Category	Problem Statement	How ESMPs Propose to Address This	EWG's Desired Outcomes from Final ESMPs	Metrics of Success
6. Resilience and reliability	a. EJCs are receiving differing power quality and reliability than other customers [47] b. Urban heat island impacts denser, less forested communities across Massachusetts, which tend to be EJ communities[48]	c. Resilient Neighborhoods Program (National Grid) is designed to address climate-related power outages, prioritizing EJCs d. Investments in vegetation management, hardening and undergrounding infrastructure across all plans e. There are proposed new design and construction standards based on results of climate vulnerability study f. Joint-EDC Equitable Transactional Energy Study offering "a more dynamic locational value compensation framework" to offer options for consumers to participate in virtual power plants (VPPs) that offer a better representation of distributed energy resources in EJCs g. Eversource plans to use their equity framework for construction of proposed new substations h. Plan lacks specific mention of EJCs and resiliency measures	i. Increased resilience against outages from infrastructure failures, storms, accidents, other j. Reduced methane leaks k. Cleaner water for human consumption, recreation, and natural ecosystems l. Increased access to land for recreation, agriculture, and infrastructure; decreased erosion and ecosystem destruction m. Increased reliability against outages and/or brownouts n. Increased publication and access data to climate-related impacts on EJCs	o. Fewer incidences and shorter durations of power outages p. Increased deployment of distributed energy resources in EJ communities during outages q. Shorter outage periods, particularly in EJC communities r. Targeted infrastructure investments based on climate vulnerability to flooding, heat and other anticipated impacts. s. Decrease or elimination of disconnection during heat waves