GWSA Implementation Advisory Committee (IAC) Meeting

January 23rd, 2025

Executive Office of Energy & Environmental Affairs

Agenda

1. Welcome
   - Review of Meeting Minutes
2. 2024 Climate Report Card
3. Legislative Opportunities to Advance CECP Commitments
4. 2025 Priority Topics and Proposed Schedule
5. Public Comments

2024 Climate Report Card

REPORT

2024 Massachusetts Climate Report Card

The purpose of this report card is to inform Massachusetts residents of the progress the executive offices are collectively making to achieve climate goals and mandates.

ORGANIZATION: Executive Office of Energy and Environmental Affairs

DATE PUBLISHED: January 17, 2025

The Executive Office of Energy and Environmental Affairs (EEA) is releasing the second annual Massachusetts Climate Report Card to assess progress in the past 12 months, provide transparency to the public, and identify interventions needed to achieve net zero greenhouse gas emissions and build resilience to climate impacts. Massachusetts has advanced some of the strongest climate policies nationwide and has made significant progress in the past year, including securing unprecedented federal funds, advancing clean energy infrastructure siting and permitting reforms, significantly increasing the pace of heat pump installations and building weatherization, and expanding state and local investments in climate resilience. Nevertheless, the most challenging period for climate action through 2050 remains 2025-2030, when the sharpest emissions reductions are expected and climate change impacts become more intense.

https://www.mass.gov/report/2024-massachusetts-climate-report-card

Environmental Justice (1/2)

Major progress has been made in advancing environmental justice, including the Executive Office of Energy and Environmental Affairs release of its first-ever Environmental Justice Strategy in February 2024. The EEA Office of Environmental Justice and Equity expanded its capacity and supported the hiring of Environmental Justice liaisons and representatives within each EEA agency, which is enabling the implementation of policies in the EJ Strategy.

Metrics	2023 Report Value	2024 Report Value	Target
Percent of Massachusetts Clean Energy Center (MassCEC) workforce grant budget awarded to programs serving EJ communities	MassCEC awarded 76.9% of $26.1 million in grant dollars to programs serving, in part, EJ communities.[1]	MassCEC awarded 63.59% of $37.9 million in grant dollars to programs serving, in part, EJ communities.	There are no current targets for this metric at this time. OEJE is working closely with EEA agency EJ Liaisons to determine impactful environmental justice metrics for each agency and to establish the structures to effectively track them.
Energy burden[2]	In 2022, the median household spent 2.9% of their income in energy bills. 19.5% of households pay more than 6% of their income in energy bills	In 2023, the median household spent 3.0% of their income in energy bills. 19.8% of households pay more than 6% of their income in energy bills	There are no current targets for this metric at this time. OEJE is working closely with EEA agency EJ Liaisons to determine impactful environmental justice metrics for each agency and to establish the structures to effectively track them.
% of annual spend for diverse suppliers.[3]	In 2022, 7.0% of EEA spending went to Minority Business Enterprises (MBE); 25.9% of spending to Women Business Enterprises (WBE) (14% benchmark)	In 2023, 9.4% of EEA spending to MBE; 28.7% of spending to WBE (14% benchmark)	Targets for diverse supplier spend include meeting EEA's current procurement goal of at least 8% MBE in 2024, increasing to a goal of at least 15% MBE in 2025 and advancing to a goal of at least 25% in 2026.
Number of state-supported climate resilience projects led, planned, and/or implemented by or in collaboration with Tribal Nations and Tribally serving (Native serving) organizations	New in 2024 Report Card	21 from Municipal Vulnerability Program, Department of Conservation and Recreation, Department of Fish and Wildlife, and MassCEC EmPower	To be determined as part of ResilientMass Metrics process

Environmental Justice (2/2)

Examples from the report card include:

Challenges

- The Commonwealth must ensure the value of EJ and equity is clearly understood and truly embedded in all agencies, departments, and offices in relation to their targeted missions and goals
- The Commonwealth must balance meeting the urgency of an equitable clean energy transition with conducting meaningful and equitable engagement
- Cumulative impacts of energy infrastructure and pollution have disproportionately burdened EJ communities and have historically not been assessed

How We're Meeting the Moment

- Historic reforms for the siting and permitting of clean energy to ensure it advances environmental justice
- Developing an EEA Office of Environmental Justice (OEJE) and Equity Action Plan
- OEJE worked to develop, adopt and fully fund Language Access Plans
- OEJE developed and implemented an EJ & equity tool for agencies to utilize to evaluate Capital Improvement Plans and incorporate EJ and equity principles
- Coordinate and work to plan and implement an equitable and just clean energy workforce development pipeline

Transportation Decarbonization (1/2)

After a nationwide slowdown for much of 2024, electric vehicle sales rose to record levels in November and December, making it possible to meet the state's 2025 electric vehicle targets. This sector is poised for significant growth through 2030 and beyond so long as major charging infrastructure programs and procurements, federal electric vehicle incentives extended through 2032, and a ramp up in state mandates to increase zero emission vehicle sales remain in place.

Metrics	2023 Report Value	2024 Report Value	Target
Number of registered electric light-duty and medium-/heavy-duty vehicles	There were 68,815 battery electric vehicles (BEV) or plug-in hybrid light-duty vehicles (PHEV) on the road as of 12/31/2022 and 103,434 on the road as of 12/31/2023. There were 54 electric medium-/heavy-duty vehicles on the road as of 12/31/2022 and 98 as of 12/31/2023.	There are 139,085 BEV or PHEV light-duty vehicles on the road as of 12/31/2024. There are 301 electric medium/heavy-duty vehicles on the road as of 12/31/2024.	CECP modeling projected about 150,000 EVs on the road by end of 2024. The 2025/2030 CECP states a goal of 200,000 total EVs on the road by 2025 and 900,000 by 2030.
Number of installed electric vehicle public charging ports[5]	There were 6,767 installed electric vehicle public charging ports as of 12/31/2023.	There were 8,791 installed electric vehicle public charging ports as of 12/31/2024. In 2024, 2,024 charger ports were installed.	The 2025/2030 CECP estimates the need for 15,000 public charging station ports by 2025 and 75,000 by 2030.[6]
VMT for light-duty and medium-/heavy-duty vehicles[7]	Light-duty vehicles travelled 55,229 million miles in 2021. Medium-/heavy-duty vehicles travelled 3,887 million miles in 2021.	Light-duty vehicles travelled 53,321 million miles in 2022 and 57,191 million miles in 2023 Medium-/heavy-duty vehicles travelled 3,626 million miles in 2022 and 3,557 million miles in 2023.	CECP modeling projects total light-duty VMT to increase to about 57,900 million miles travelled in 2025 and about 59,100 million in 2030 even while per household VMT decreases over the same period. CECP modeling projects total medium-/heavy-duty VMT at about 3,400 million miles travelled in 2025 and about 3,500 million in 2030.

Transportation Decarbonization (2/2)

Examples from the report card include:

Challenges

- Macroeconomic forces including supply chain costs, interest rates and tariffs can decrease EV availability and uptake.
- Medium- and heavy-duty fleets face specific obstacles to electrification
- EV charger availability, reliability, pricing transparency, and adaptability to different vehicle types are barriers to EV adoption.
- Electric grid capacity constraints continue to be a barrier for installing charging infrastructure

How We're Meeting the Moment

- Improving access to Direct Current Fast Charging (DCFC) stations along major highway corridors.
- Electric Vehicle Infrastructure Coordinating Council (EVICC) invested $50 million for EV and charging infrastructure support
- Department of Energy Resources (DOER)'s MOR-EV rebate updates
- The Healey-Driscoll Administration announced an $8 billion investment over 10 years into transportation and transit infrastructure
- $54 million agreement to bring battery-electric train service to the Fairmount Commuter Rail Line by 2028.
- The Massachusetts Clean Energy Center (MassCEC) awarded $20 million to electrify nearly 200 school buses

Buildings Decarbonization (1/2)

The pace of heat pump installations and weatherization projects has increased significantly, putting the Commonwealth on track to meet 2025 targets. Additional interventions will be needed to continue to accelerate this pace and meet 2030 implementation targets.

Metrics	2023 Report Value	2024 Report Value	Target
Number of households with heat pump installations	18,362 households installed heat pumps as their primary heating source in 2022 through Mass Save. As of the end of 2022, 34,769 households had installed heat pumps as their primary heating source since 2020 through Mass Save.	28,273 households installed heat pumps as their primary heating source in 2023 through Mass Save. As of September 2024, 90,384 households had installed heat pumps as their primary heating source since 2020 through Mass Save.	The 2025/2030 CECP estimates heat pumps will be installed in at least 100,000 homes between 2020 and 2025 and at least 500,000 homes between 2020 and 2030.
Number of communities that have adopted the base, stretch, and specialized building energy codes.	Base energy code: 8.5% of the population live in these municipalities (50 cities/towns) Stretch energy code: 66.6% of the population live in these municipalities (272 cities/towns)	Base energy code: 8.5% of the population live in these municipalities (50 cities/towns) Stretch energy code: 61.6% of the population live in these municipalities (253 cities/towns)	There is no current target for this metric, but increased numbers indicate progress toward highly efficient building envelopes in new construction which reduces impacts to our electric system.
Number of residential energy audits and weatherization projects	There were 100,817 residential energy audits and 49,839 weatherization projects via Mass Save in 2022. 9,179 weatherization projects were for low-income participants.	There were 117,131 residential energy audits and 59,877 weatherization projects via Mass Save in 2023. 11,865 weatherization projects were for low-income participants.	There is no current target for this metric, but increased numbers indicate reduced total energy use in buildings and may allow for smaller and less expensive heating electrification measures.

Buildings Decarbonization (2/2)

Examples from the report card include:

Challenges

- Residential buildings account for more than half the state's building emissions, and decarbonizing them is complicated, costly, and requires a multi-pronged approach given the age and variety of structures
- Mass adoption of decarbonization technologies requires significant behavioral changes
- Mass Save must deliver building decarbonization outcomes while also maintaining cost-effectiveness
- Incentive-based programs require property owner cooperation, making it more challenging for renters to participate in and benefit from these programs
- Significantly increasing the pace of heat pump adoption will require considerable workforce training and re-training

How We're Meeting the Moment

- DPU Order 20-80 set a new regulatory framework to guide the natural gas distribution industry evolution to clean energy
- The Interagency Rates Working Group issued a study and accompanying recommendations in December on near-term electric rate designs that would lower operating costs associated with electrification
- Massachusetts actively pursued federal funds to advance building decarbonization
- The Massachusetts Community Climate Bank launched the Energy Savers Home Loan in April 2024
- MassCEC launched the Home Modernization Navigator in Springfield and Lowell
- DEP continues to develop a Clean Heat Standard to drive fuel suppliers to replace fossil heat with clean heat.

Power Decarbonization (1/2)

While the Commonwealth has made considerable progress in reducing emissions in the power sector, delays in the construction of the critical New England Clean Energy Connect transmission line and offshore wind construction will postpone the deployment of major new clean energy sources. New clean energy procurements, substantive regional collaboration, federal awards, and the enactment of historic legislation streamlining clean energy infrastructure siting and permitting are addressing many of these challenges, but additional interventions are needed to maintain progress toward 2040 and 2050 emissions limits.

Metrics	2023 Report Value	2024 Report Value	Target
Percent of state electricity consumption met with clean power	48.2% of the state's electricity consumption was met with in-state and out-of-state clean sources in 2021.	50.0% of the state's electricity consumption was met with in-state and out-of-state clean sources in 2022.	Massachusetts has multiple standards that require a certain percentage of electricity served to customers come from clean resources in the regional market. In 2022, the combined standards required that more than 54% of all electric load in Eversource's, National Grid's and Unitil's service territories be sourced from qualified clean and renewable energy resources.
In-state renewable electric capacity	There were 113 MW of in-state wind capacity in 2022. There were 3,325 MW AC of in-state solar capacity in 2022.	There were 110 MW of in-state wind capacity in 2023.[16] There were 4,023 MW AC of in-state solar capacity in 2023.	The 2025/2030 CECP modeling estimates 180 MW of wind capacity (all onshore) in 2025 and 3,650 MW of wind capacity (onshore and offshore combined) in 2030 as necessary to achieve the power sector emissions sublimit. The 2025/2030 CECP modeling estimates 4,470 MW alternating current (AC) of solar capacity will be needed by 2025 and 8,360 MW AC of solar capacity will be needed by 2030 to achieve the power sector emissions sublimit.

Power Decarbonization (2/2)

Examples from the report card include:

Challenges

- Delivery of offshore wind energy is delayed several years due to macroeconomic forces resulting in the termination of previous contracts with projects on the east coast
- Additional procurement authority is needed beyond 2025
- Revenues from existing energy market structures are not certain enough to enable long-term financing of new, clean generation outside state-run procurements
- Utilities have traditionally been incentived to build new infrastructure vs optimizing existing, managing demand, or encouraging distributed energy resources. Incentives are needed for utilities to optimize use of existing and new electric grid infrastructure

How We're Meeting the Moment

- Governor Healey signed An Act Promoting a Clean Energy Grid, Advancing Equity, and Protecting Ratepayers (St. 2024 c. 239) to reform siting and permitting for clean energy infrastructure
- Massachusetts and Rhode Island jointly selected 2,878 megawatts of offshore wind, the largest procurement of offshore wind in New England history
- Massachusetts and other New England states were awarded $389 million from the DOE's Grid Innovation Program for the Power Up New England project
- DOER released a straw proposal of changes to the Commonwealth's solar incentive program, the Solar Massachusetts Renewable Target (SMART) Program, to better support the growth of solar

Natural & Working Lands (1/2)

The Natural and Working Lands sector is currently on track to meet the 2025 land conservation target due in large part to an influx of federal funding through the American Rescue Plan Act and Inflation Reduction Act. However, Massachusetts continues to lose forested land each year due to development, and sustained funding for land conservation is needed to meet 2030 conservation targets and increase the capacity for offsetting residual emissions to meet 2050 net zero commitments.

Metrics	2023 Report Value	2024 Report Value	Target
Natural and working lands conserved, expressed as area and percent of MA	Approximately 27.9% of statewide land area (1.396 million acres) was conserved as of June 2023.[17]	Approximately 28.1% of the statewide land area (1.405 million acres) was conserved as of June 2024.	The CECPs set goals to increase permanent conservation of land and waters to at least 28% of the state by 2025, at least 30% by 2030, and at least 40% by 2050.
Natural and working land area and forest land area	NWL accounted for 88% of the state (or 4.576 million acres) in 2021.	No update – the landcover data used to calculate NWL and forest area has not been updated since 2021 as the U.S. Geological Survey works on an improved landcover data product.	There is currently no target for this metric, but minimizing the loss of NWL is a goal of the CECPs and RLI, and a goal for reducing forest loss will be an outcome of the Forests as Climate Solutions Initiative.
Trees planted in urban and EJ neighborhoods	At least 2,728 trees were planted in urban areas through Greening Gateway Cities and other state programs in 2022, with 94% of those trees planted in EJ neighborhoods. Approximately 35,000 trees have been planted in urban areas through the Greening Gateway Cities program between its inception in 2014 and 2022, with 89% of these planted in EJ neighborhoods.	At least 5,504 trees were planted in urban areas through Greening Gateway Cities and other state programs in 2023, with 95% of those trees planted in EJ neighborhoods. At least 5,866 trees were planted in urban areas through Greening Gateway Cities and other state programs in 2024, with 94% of those trees planted in EJ neighborhoods.	Tree planting efforts advance the CECP and the RLI goals of expanding urban and riparian tree cover by 16,100 acres between 2023 and 2033 and by 64,400 acres between 2023 and 2050.[18]

Natural & Working Lands (2/2)

Examples from the report card include:

Challenges

- Intensified storms and drought, sea level rise, and other climate disturbances can stress ecosystems and reduce carbon sequestration capacity
- Balancing land use for conservation, housing, and energy and transportation infrastructure is a significant challenge
- Doubling the pace of conservation requires consistent long-term funding for land acquisition, incentives for more privately-owned forests and farms to be protected with conservation restrictions, and full and equitable compensation to hosts of conserved land
- Expanding restoration efforts will require increased capacity and resources

How We're Meeting the Moment

- EEA maintains an annual budget of approximately $25 million and is spending more than $50 million in one-time ARPA funding for land conservation
- EEA has expended nearly $5 million of separate ARPA funding to support healthy soil practices and conserve farmland
- EEA is exploring ways to further limit NWL loss to development through incentives and regulatory actions.
- Building upon the success of the Greening the Gateways Cities Program, EEA launched the Cooling Corridors Grant Program to increase tree planting in urban areas subject to heat island effects

Climate Adaptation and Resilience (1/2)

The Healey-Driscoll Administration has made significant progress in the past 15 months implementing the 2023 ResilientMass Plan, including doubling funding for municipal climate resilience action and a seven-fold increase in capital funding to state agencies to implement resilience plan actions. As increasing flooding, extreme heat, and wildfires increasingly affect human health, the natural and built environment, government services and the economy, new ways of reducing climate risk and funding resilience actions are needed.

Metric	2024 Report Value	Target
Amount of federal and state resilience funding	State resilience-related funding: $155 million in FY25 Federal resilience-related funding: $38.6 million in FEMA funding for natural hazard mitigation and resilience from CY19-24 $235 million through ARPA, BIL/IIJA, and other federal funding sources	As part of the development of ResilientMass Metrics, more specific targets related to resilience measures will be developed.
Number of communities with updated (MVP) 2.0 or Hazard Mitigation Plans (HMPs)	MVP 2.0: 33 municipalities (10%) 349 (99%) of communities completed MVP 1.0 plans by 2024 Hazard Mitigation Plans: 196 (56%) communities	Incorporate lessons learned from pilot into MVP 2.0 and have 100% of communities and Regional Planning Agencies participating in MVP 2.0 and/or having updated Hazard Mitigation Plans by 2030.
Percent of 2023 ResilientMass Plan actions in progress or complete	82% of 2023 ResilientMass Plan actions are either in progress or in development (preparing for implementation)	100% of 2023 ResilientMass Plan actions should be in progress by 2026.
Percent tree canopy cover within developed areas	46%: satellite imagery % of foliage in developed areas (2021 data; update in process)[20]	To be determined as part of ResilientMass Metrics process
Percent of population with public outdoor recreation opportunities for cooling within half mile of home	69.1% of population living within half mile of Department of Conservation and Recreation (DCR) Conservation-based Open Space[21]	To be determined as part of ResilientMass Metrics process
Acres of drinking water supply watersheds protected through state programs	138,338 acres under DCR Division of Water Supply Protection control	To be determined as part of ResilientMass Metrics process
Amount of funding for climate resilient food distribution systems	$27 million in FY25 (MDAR's Food Security Infrastructure and MVP Action grants)	To be determined as part of ResilientMass Metrics process
% of state-aided housing developments identified as highly vulnerable to multiple climate hazards that have received climate resilience funding	23 of 180 (13%) state-aided housing developments that are highly vulnerable to multiple climate hazards have received climate resilience funding and 16 of 45 (36%) of developments vulnerable to sea level rise and storm surge in addition to other hazards have received climate resilience funding	To be determined as part of ResilientMass Metrics process
Amount of capital funds for MBTA projects with resilience benefits	$1.8 million to 135 projects	To be determined as part of ResilientMass Metrics process

Climate Adaptation and Resilience (2/2)

Examples from the report card include:

Challenges

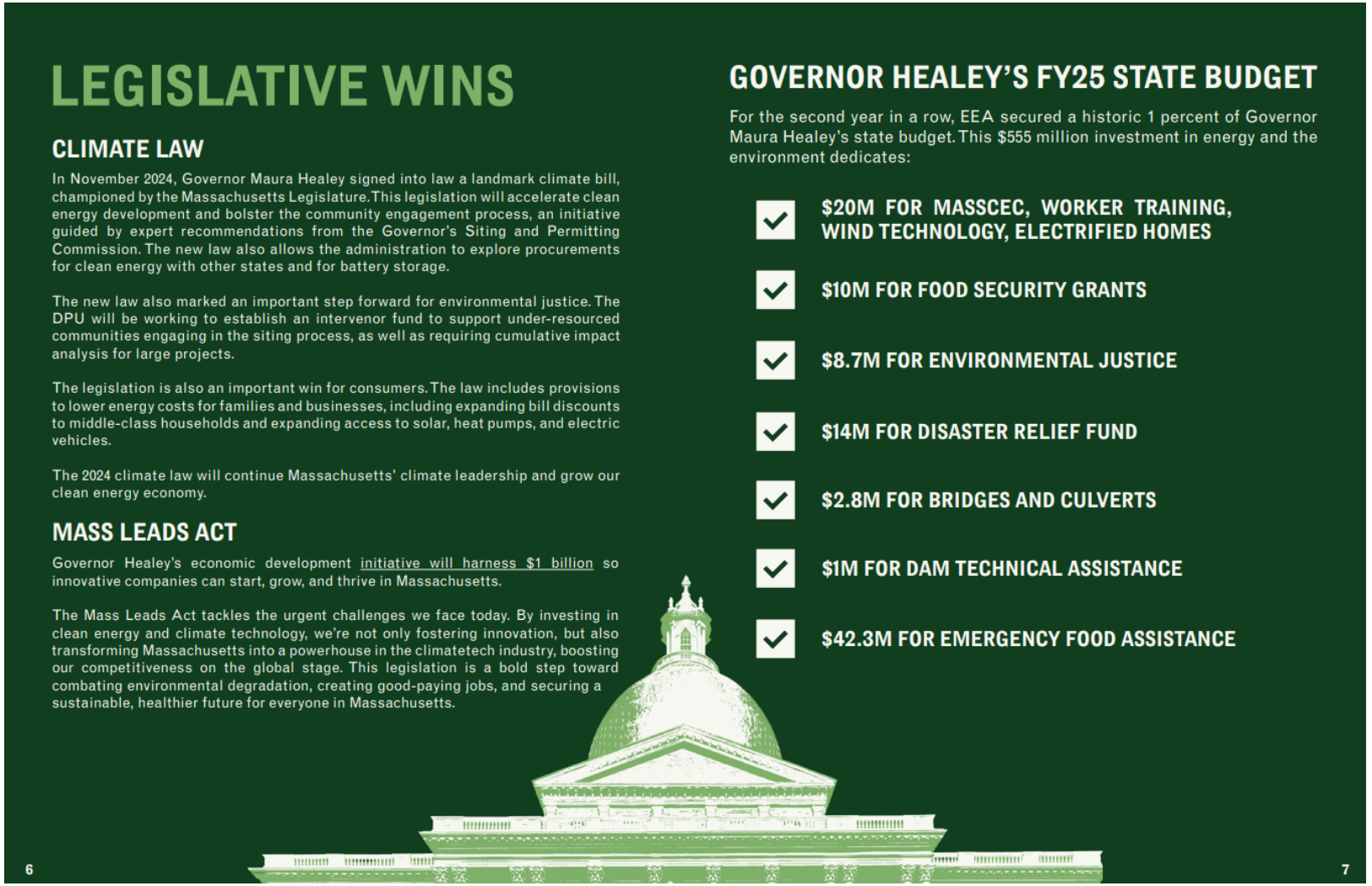
- Extreme weather exacerbated by climate change is already causing catastrophic economic, social, and environmental losses
- Downscaling climate projections to an actionable, local scale is difficult and comes with uncertainty
- Environmental Justice (EJ) communities continue to be most affected by climate change and require resources to grow meaningful government-community relationships and build resilience
- Workforce capacity throughout the state for implementing resilience projects remains constrained

How We're Meeting the Moment

- Most funding to date - $52.4 million - awarded through MVP Action Grants to local and regional priority projects, with a focus on building resilience to inland flooding
- Launched ResilientMass Finance and Investment Strategy to identify new and sustainable options for funding and financing state and local climate resilience projects
- Office of Climate Science is providing technical assistance to increase access to and understanding of statewide climate change projections and trends
- City of Boston received $9.8M NOAA grant to create the Greater Boston Coastal Resilience Jobs Alliance in coordination with EEA to train 800 workers
- EEA, in partnership with MEMA, developed resilience metrics to measure and assess statewide progress implementing ResilientMass Plan and inform priorities

Legislative Opportunities to Advance CECP Commitments

- **IAC Discussion**
  - As we enter a new legislative session, opportunity to discuss statutory areas to address in order to advance CECP commitments
  - Please share any comments that you have



LEGISLATIVE WINS

CLIMATE LAW

In November 2024, Governor Maura Healey signed into law a landmark climate bill, championed by the Massachusetts Legislature. This legislation will accelerate clean energy development and bolster the community engagement process, an initiative guided by expert recommendations from the Governor's Siting and Permitting Commission. The new law also allows the administration to explore procurements for clean energy with other states and for battery storage.

The new law also marked an important step forward for environmental justice. The DPU will be working to establish an intervenor fund to support under-resourced communities engaging in the siting process, as well as requiring cumulative impact analysis for large projects.

The legislation is also an important win for consumers. The law includes provisions to lower energy costs for families and businesses, including expanding bill discounts to middle-class households and expanding access to solar, heat pumps, and electric vehicles.

The 2024 climate law will continue Massachusetts' climate leadership and grow our clean energy economy.

MASS LEADS ACT

Governor Healey's economic development initiative will harness $1 billion so innovative companies can start, grow, and thrive in Massachusetts.

The Mass Leads Act tackles the urgent challenges we face today. By investing in clean energy and climate technology, we're not only fostering innovation, but also transforming Massachusetts into a powerhouse in the climatetech industry, boosting our competitiveness on the global stage. This legislation is a bold step toward combating environmental degradation, creating good-paying jobs, and securing a sustainable, healthier future for everyone in Massachusetts.

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GOVERNOR HEALEY'S FY25 STATE BUDGET

For the second year in a row, EEA secured a historic 1 percent of Governor Maura Healey's state budget. This $555 million investment in energy and the environment dedicates:

- ✓ $20M FOR MASSCEC, WORKER TRAINING, WIND TECHNOLOGY, ELECTRIFIED HOMES
- ✓ $10M FOR FOOD SECURITY GRANTS
- ✓ $8.7M FOR ENVIRONMENTAL JUSTICE
- ✓ $14M FOR DISASTER RELIEF FUND
- ✓ $2.8M FOR BRIDGES AND CULVERTS
- ✓ $1M FOR DAM TECHNICAL ASSISTANCE
- ✓ $42.3M FOR EMERGENCY FOOD ASSISTANCE

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2025 Work Group Priority Topics and Proposed Schedule

Proposed 2025 Land Use & Nature-Based Solutions Work Group Topics

Review and discuss strategies to operationalize EEA's climate mitigation and adaptation goals for natural and working lands, such as:

- Doubling pace of protection: funding, partnerships, capacity
- Holistic Land Use Strategy, permitting and policies to protect carbon storage and sequestration
- Discuss study findings and next steps: Forest Carbon, No Net Loss of Wetland Carbon, Blue Carbon
- Strategies to foster sustainable wood products
- Consider legislative provisions for binding/quantifiable metrics and goals
- Residual Emissions & Carbon Dioxide Removal Strategy

Proposed 2025 Buildings Work Group Topics

- Building Decarbonization Clearinghouse
- Building Energy Reporting and Performance Standards
- Buildings Analytics

Proposed 2025 Transportation Work Group Topics

- M/HD Vehicle Electrification
- VMT Reduction Strategy
- 2nd EVICC Assessment
- Transit and Mode Shift

Proposed 2025 Electricity Work Group Topics

- Interconnection
- Energy Affordability/Rates Task Force
- Siting & Permitting Engagement

Proposed 2025 Climate Justice Work Group Topics

- New Chair Selection
- Environmental Justice Metrics & Analytics
- Work across sectors to advance climate justice through initiatives

Proposed 2025 GWSA IAC Work Plan

January

- 2024 Climate Progress
- Legislative Opportunities to Advance CECP Commitments
- 2025 Priority Topics

April

- Forest Carbon Study & its implications for achieving Net Zero in 2050
- M/HD Vehicle Electrification

September

- Legislation & Funding Updates
- Energy Siting and Permitting

November

- Holistic Land Use Study
- Buildings Analytics Model

Public Comments