Leading by Example Council Agenda
November 14, 2023

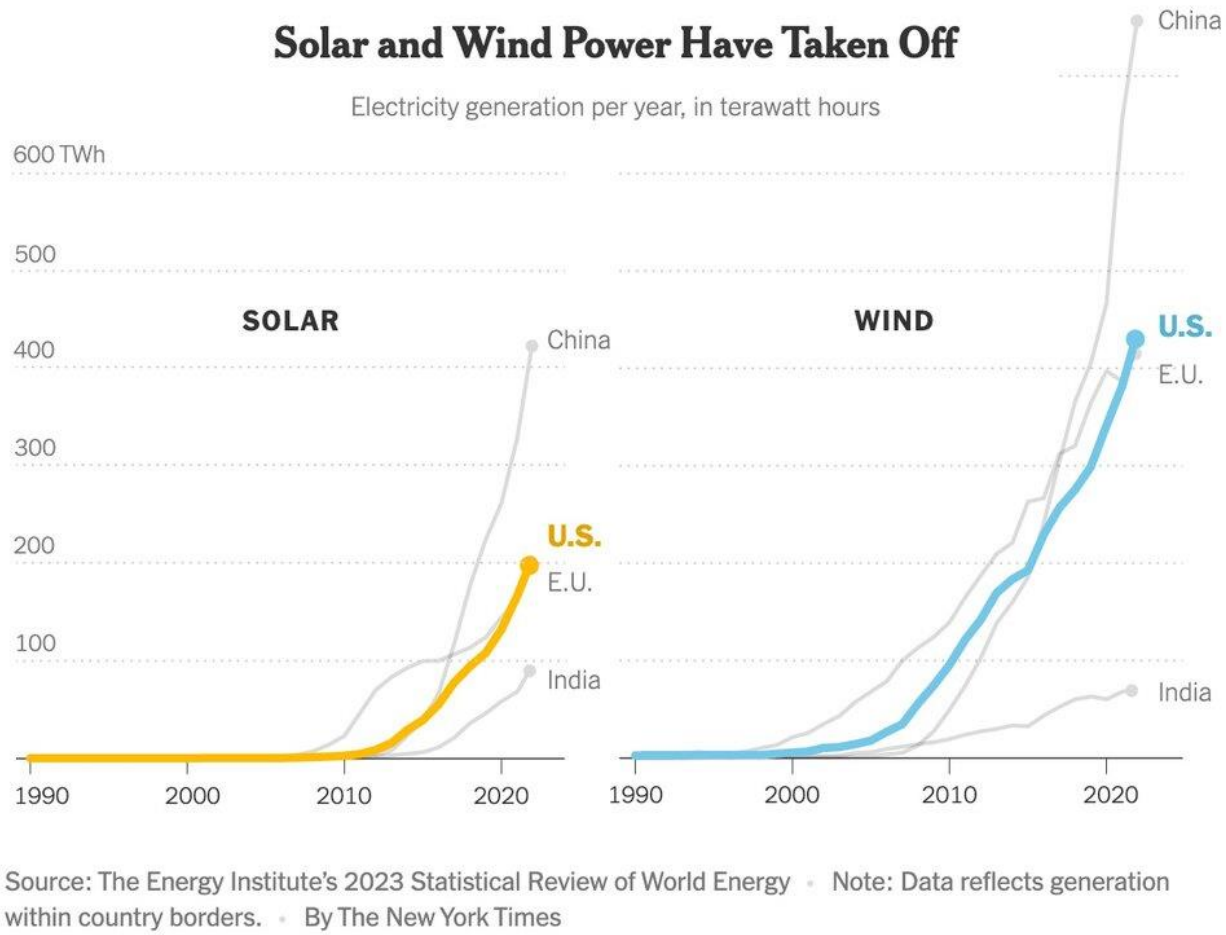
- Welcome
- News and Updates
- EO619 - Single-Use Plastic Bottle Ban
- ResilientMass
- Climate Office Report
- *Optional for in-person: Planetarium Sneak Peak*

Massachusetts Department of Energy Resources

Climate News and Updates

Clean Energy Momentum

- Global demand for oil, natural gas, and coal expected to peak in about seven years
- Between 2010 and 2020, cost of solar cells fell by 15% each year
- Solar PV and onshore wind power are now 48% cheaper than natural gas
- Solar expected to be cheapest source of electricity in almost all countries by 2027



Source: Nature

Vineyard Wind: First Offshore Wind Turbine Installed

- 61* turbines left to go!
- Largest turbine in the western world
- 13 MW capacity, capable of providing power to more than 6,000 MA homes
- In total, Vineyard Wind 1 will generate 806 MW, enough to power ~400,000 homes

**As of mid-October 2023*

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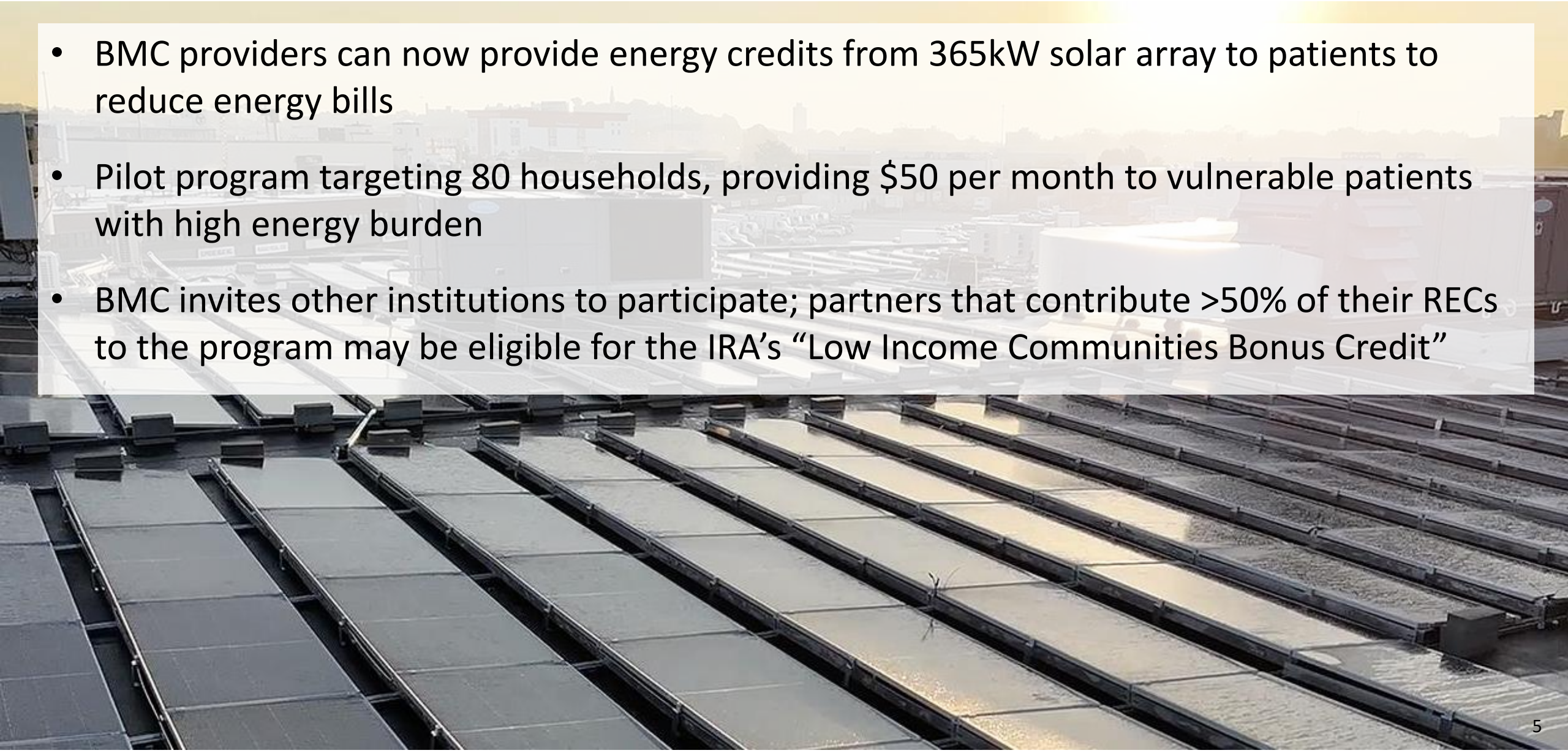
Massachusetts Department of Energy Resources

Clean Power Prescribed by Boston Medical Center

- BMC providers can now provide energy credits from 365kW solar array to patients to reduce energy bills
- Pilot program targeting 80 households, providing $50 per month to vulnerable patients with high energy burden
- BMC invites other institutions to participate; partners that contribute >50% of their RECs to the program may be eligible for the IRA's "Low Income Communities Bonus Credit"



Grid Modernization Efforts

Grid Modernization Advisory Council (GMAC)

GMAC will provide feedback and recommendations on draft Electric Sector Modernization Plans by Nov 20, with final plans submitted to DPU in January

National Grid Future Grid Project

$140 million project, $50 million provided by U.S. DOE grant, will deploy digital technology solutions to improve electric system reliability and resilience and bring more clean energy resources to disadvantaged communities in NY and MA

Executive Order 620: Commission on Clean Energy Infrastructure Siting and Permitting

New Commission will review existing statutes, regulations, and processes around clean energy infrastructure siting and permitting and make recommendations on improvements to Governor by 3/31/23

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Landscaping Equipment Emissions in MA

- Analyzing data from EPA, Environment America found landscaping equipment in MA in 2020 was responsible for:
  - 600,000+ tons of CO2e, equivalent to 135,000 cars
  - PM equivalent to over 5.3 million cars
- MA counties appeared in the top 100 counties in the US for CO2 emissions from landscaping equipment
  - Middlesex County ranked 28th - 153,000 tons
  - Essex County ranked 93rd - 70,000 tons
  - Barnstable County in top 100 for NOx and PM

The study recommends that local and state governments, along with major institutions, should lead by example by using electric equipment for their landscaping needs.

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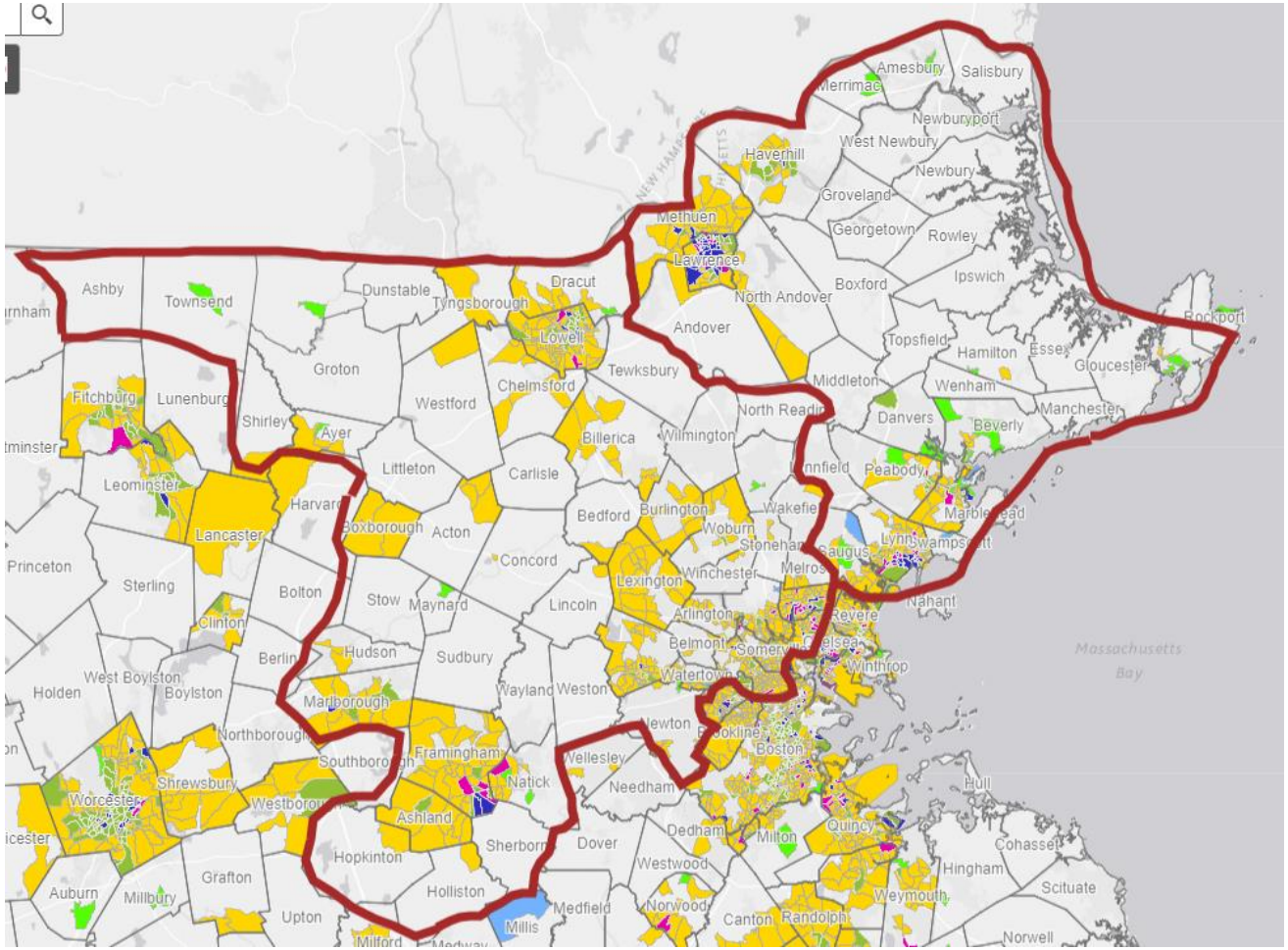
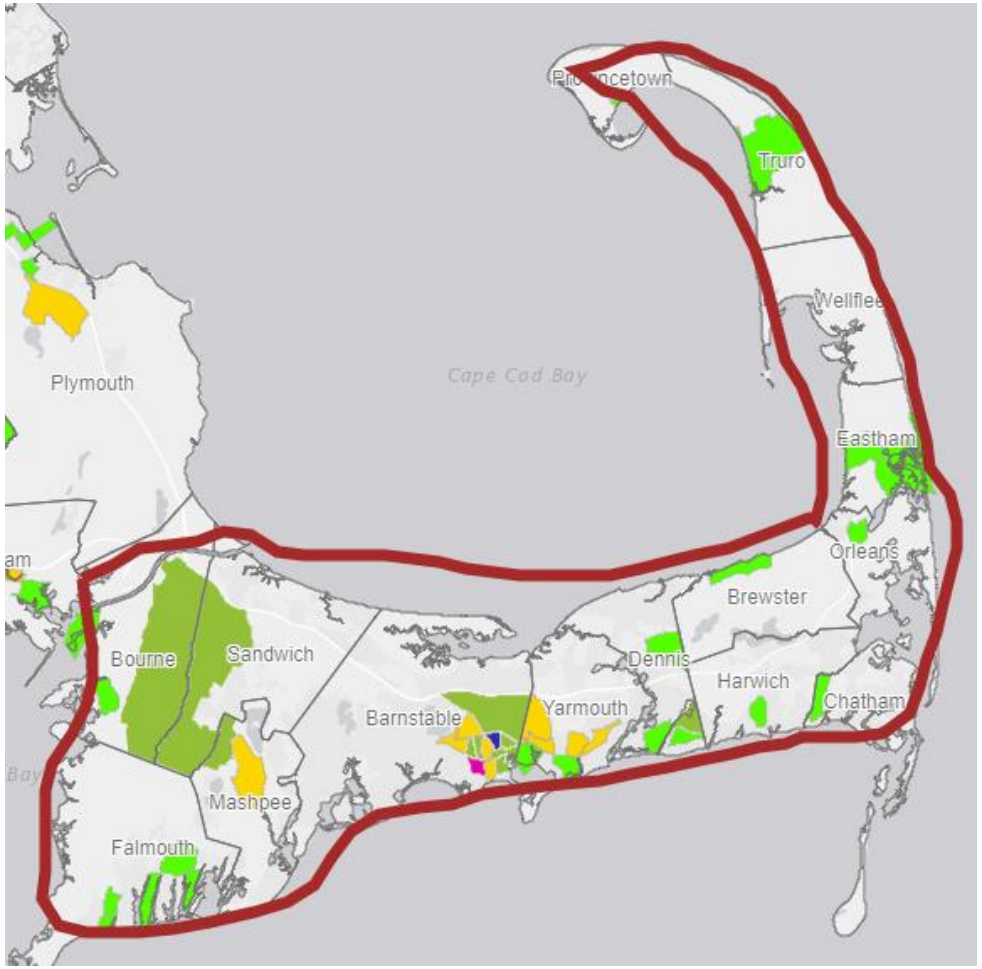
Landscaping Equipment Emissions in MA

Middlesex, Essex, and Barnstable Counties are home to numerous Environmental Justice populations as defined by EEA





Chevy Equinox EV Pricing Released

- Expected winter 2024, starting at $48,995 for 320-mile range model
- Base model expected late 2024, starting at $34,995 with a 250-mile range
- Eligible for state and federal incentives
  - Potential federal tax credit: $7,500
  - MassEVIP for public fleets: $7,500
  - MOR-EV rebate for individuals: $3,500

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MASSACHUSETTS LEADING BY EXAMPLE PROGRAM
PUBLIC LEADERSHIP, STEWARDSHIP, COMMITMENT

News and Updates: LBE

FY23 LBE Tracking From

- Submission deadline: **December 15th, 2023**

- FY23 Form updates include:
  - **Vehicle fleet**

    Updated fleet tables to better align with EO594 targets & improve MD/HD reporting

  - **Sustainability**

    Detail on waste diversion programs & outdoor water use and conservation practices

THANK YOU!

Click **here** to download the FY23 Tracking Form!

September LBE Council: Identifying Challenges

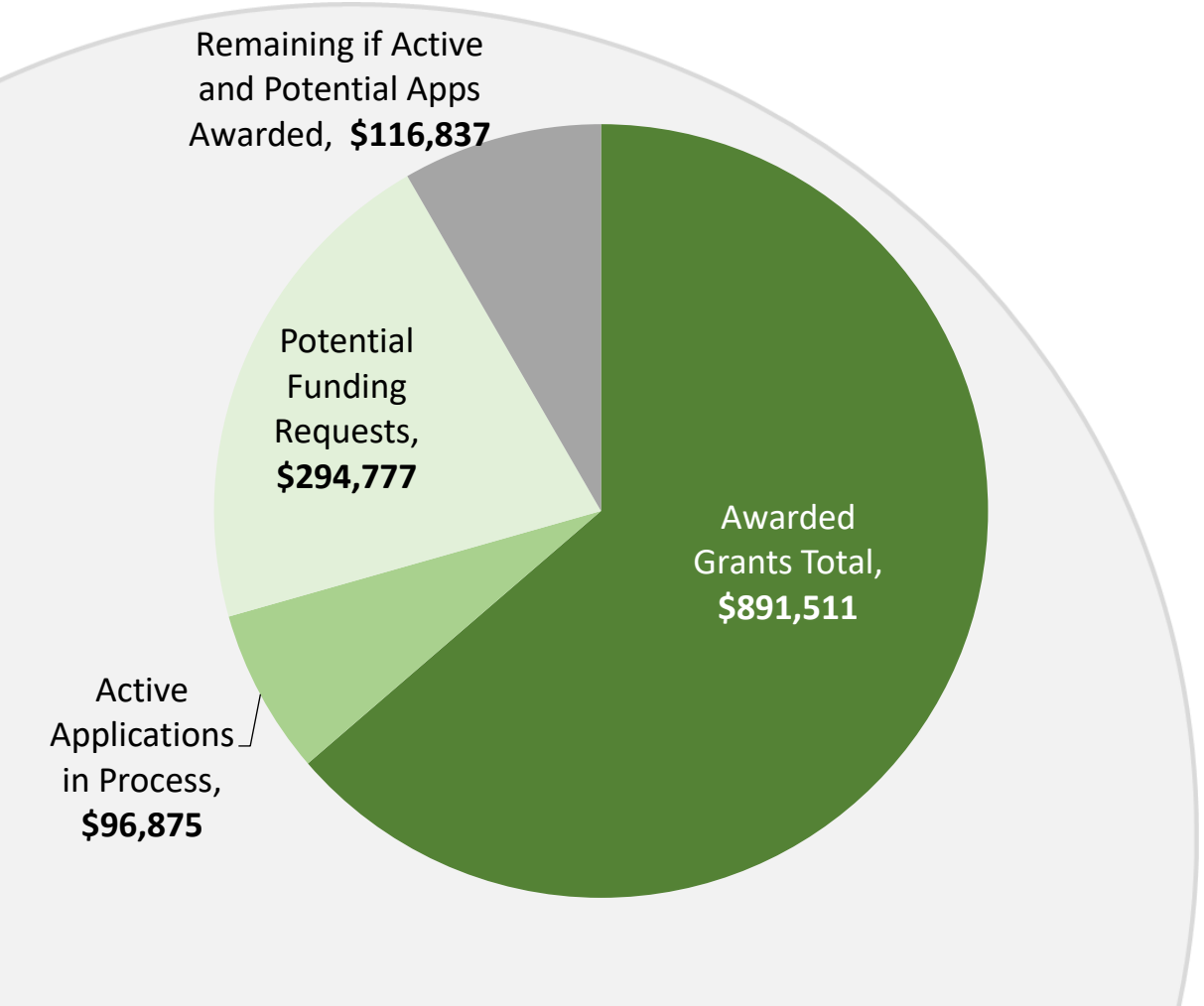
Breakout room discussions at the last LBE Council Meeting identified a number of challenges state entities are facing as they work to decarbonize, including:

Limited staff bandwidth	Ensuring buy-in from appropriate staff	Hesitancy of staff to try new technologies	Funding needs	And more…

With release of Climate Office Recommendations, several entities are working on plans and strategies to address some of these challenges…stay tuned!

LBE Fleet EV Charging Grant Program

Fleet EVSE Grant Program Budget



Grant Impact Sum:

- 10 Agencies
- 16 Locations
- 99 ports and 6 make-ready spots

Awarded Grants: Project Cost per Port + Make-Ready Spot

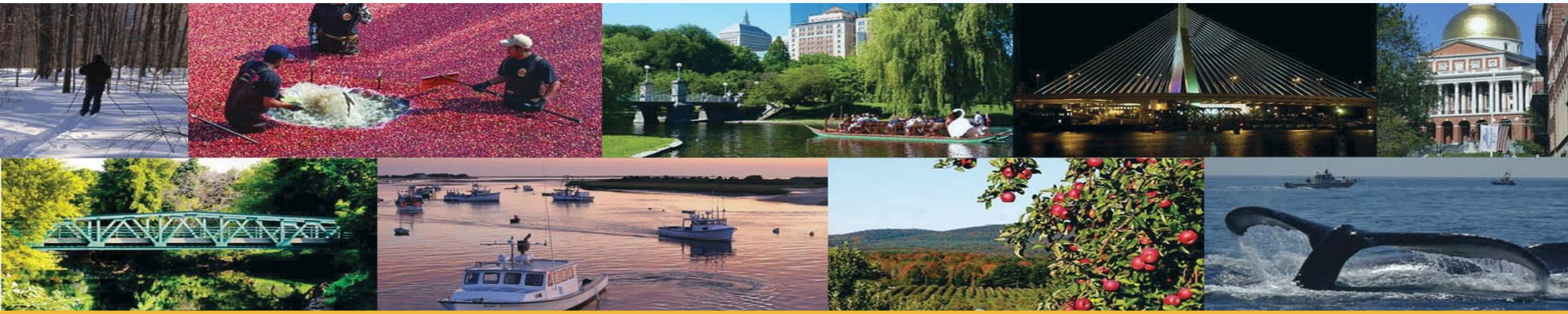
Agency	# of Ports + Pre-Wire Spots	Avg Cost /Spot
UMass Amherst	30	$6,549
Military Division	4 + 4	$14,496
Division of Marine Fisheries	4	$11,569
Division of Standards	2	$13,070
Division of Fisheries and Wildlife	4	$7,130
UMass Chan Medical School	16	$13,917
Bridgewater State University	4 + 2	$24,337
Plymouth County Mosquito Control Project	8	$3,678
DCR	23	$7,560
Cape Cod Mosquito Control Project	4	$17,825

OPERATIONAL SERVICES DIVISION

Eliminating the Purchase by the Executive Department of Single-Use Plastic Bottles: Complying with Executive Order No. 619

Acting General Counsel, Jennifer C. Lyons

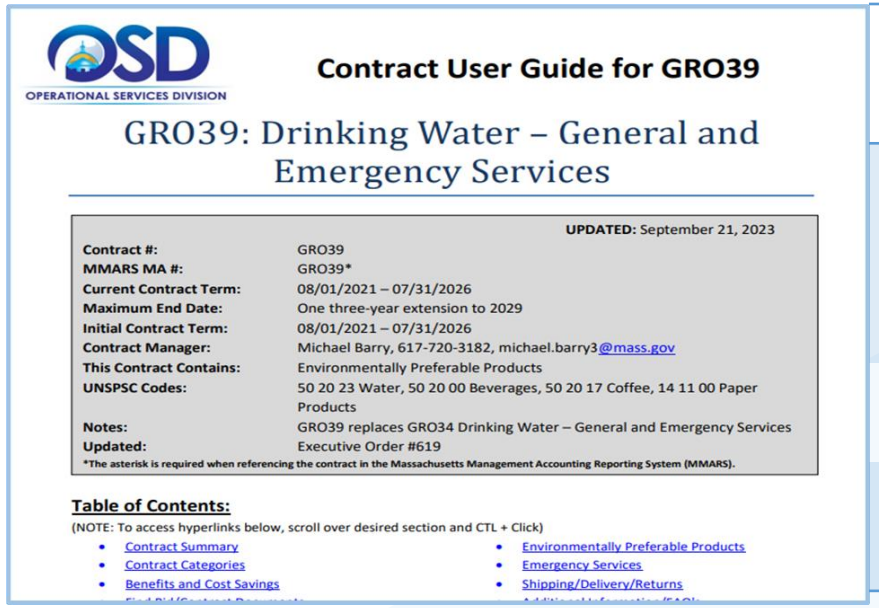
November 14, 2023



Agenda

- What's available on Statewide contract for bottled water?
- What alternatives are available on Statewide contracts
- Planning for elimination & your departmental contracts
- Utilizing the OSD justification form
- Q & A

GRO39 Highlights



OPERATIONAL SERVICES DIVISION

Contract User Guide for GRO39

GRO39: Drinking Water – General and Emergency Services

UPDATED: September 21, 2023

Contract #:	GRO39
MMARS MA #:	GRO39*
Current Contract Term:	08/01/2021 – 07/31/2026
Maximum End Date:	One three-year extension to 2029
Initial Contract Term:	08/01/2021 – 07/31/2026
Contract Manager:	Michael Barry, 617-720-3182, michael.barry3@mass.gov
This Contract Contains:	Environmentally Preferable Products
UNSPSC Codes:	50 20 23 Water, 50 20 00 Beverages, 50 20 17 Coffee, 14 11 00 Paper Products
Notes:	GRO39 replaces GRO34 Drinking Water – General and Emergency Services
Updated:	Executive Order #619

*The asterisk is required when referencing the contract in the Massachusetts Management Accounting Reporting System (MMARS).

Table of Contents:

(NOTE: To access hyperlinks below, scroll over desired section and CTL + Click)

- Contract Summary
- Contract Categories
- Benefits and Cost Savings
- Environmentally Preferable Products
- Emergency Services
- Shipping/Delivery/Returns

Category 1	Bottled water – 5-gallon, 1 gallon, 24 oz purified or spring water
Category 2	Water Filtration Systems and Coolers including Reverse Osmosis Water Systems (R.O.), Hot/cold floor models, cook/cold floor models, cook/cold countertop model, under the sink filtration, and Touch – free Hot/Cold Floor Model
Category 3	Coffee Services, Commercial Coffee various blends and size packs
Category 4	Emergency Bottled Water, **16/9-oz.,** 1-gal., 24-oz., 5-gal bottles, tankers (potable and non-potable)

- **There are four (4) vendors on this contract, three (3) of which can provide bottled water – DS Services of America, BlueTriton Brands d/b/a Nestle, and WB Mason.**

OPERATIONAL SERVICES DIVISION

Category 2:
Cost Effective, Environmentally Preferable Choices

- **Water Filtration Services** – These systems supply single water cooler dispensers from NSF Certified filtration systems and are installed into the building's existing potable water supply and, if required, sanitary drainage system, by Massachusetts licensed plumbers.

- **Reverse Osmosis** (RO) with Related Services and Supplies – These systems are provided by vendors whose RO water systems supply multiple water cooler dispensers from single Central Head Units. A Head Unit contains the RO membranes and performs the RO filtration. Note that water waste for this type of system is estimated to be three gallons per each gallon of water provided.

Benefits and Cost Savings

- Water Filtration Services pricing for coolers includes everything needed (filters, membranes, and any other required materials) to properly service the system, as well as all labor for scheduled maintenance and all other service calls and repairs.

- With reverse osmosis systems, there is no cost to the Commonwealth and/or purchasing entities for the installation of RO water systems. The only cost to users is the monthly service fee.

- Prompt Pay Discounts are available from all Contractors.

- Contracts were awarded to those Contractors providing the most competitive pricing.

Large Bottled Water Delivery

For organizations whose facilities cannot accommodate either of the Category 2 options, GRO39 offers bottled water delivery services. GRO39 purchasers requiring this option should know that the plastic bottles used under the contract are free of Bisphenol A – a chemical linked to numerous diseases and developmental problems. Furthermore, to help reduce waste, the 5-gallon bottles are picked up by the vendor, cleaned, and reused.

Planning for Single-Use Plastic Bottle Elimination

OPERATIONAL SERVICES DIVISION

EO No. 619 requires that no later than December 31, 2023, all executive department offices and agencies shall submit to the Operational Services Division and the Office of Climate Innovation and Resilience a summary of the steps they have taken in the form of a Planning Report including answering the following:

(i) halting the expenditures of state funds for the purchase of single-use plastic bottles and

(i) reducing the sale or re-sale of single use plastic bottles on state owned property.

- Planning Reports should be sent to **OSD.Compliance@mass.gov**

***Planning Reports should address anything affecting Section 4. part iii of EO. No. 619, i.e. contract requirements or labor agreements which are already in existence as of the effective date 9/21/23 or agreements solicited before 9/21.**

All Massachusetts quasi-public authorities and boards are encouraged to adopt their own plans to eliminate their purchasing and sale of single-use plastic bottles.

Justification Form

There is NO PRE-APPROVAL REQUIRED : Form will be used for audit purposes only:

1. Where no alternative is available or practicable;

2. When necessary to protect health, safety or welfare;

3. When compliance with the Order would conflict with contract requirements or labor agreements in existence as of the effective date of this Order or agreements solicited before the effective date of this Order

4. To prepare for or respond to an emergency

https://www.mass.gov/doc/single-use-plastic-bottle-procurement-justification/download

OPERATIONAL SERVICES DIVISION

Q & A

DOER
Massachusetts Department of Energy Resources

Meeting Spotlight:

ResilientMass and Climate Office Report

2023 ResilientMass Plan

Mia Mansfield,
EEA Assistant Secretary
for Resilience

Marybeth Groff,
MEMA Hazard Mitigation and Climate
Adaptation Coordinator

ResilientMass

2023 ResilientMass Plan: Overview and Next Steps

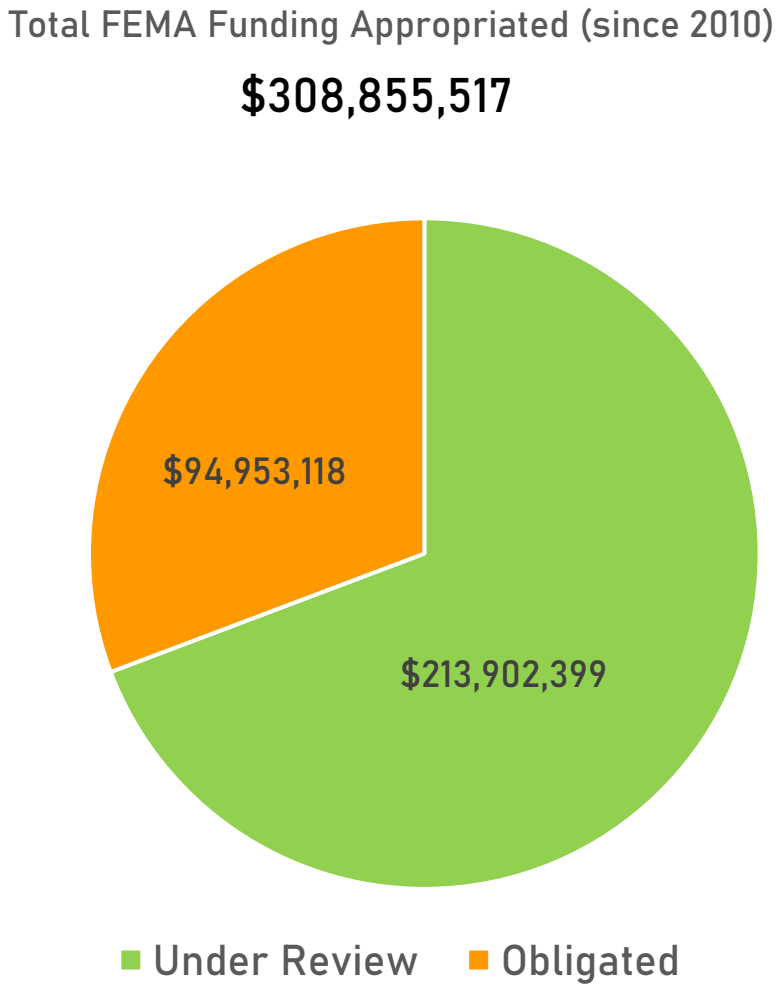
- Background and context
- 2023 ResilientMass Plan
  - 2022 MA Climate Assessment Top Impacts
  - Vulnerability and Risk Assessment
  - Action Strategy
- Implementation Next Steps
- Q&A

Benefits of Hazard Mitigation Planning and Climate Adaptation Plans

- **Limits** damage, disruption, and loss
- **Reduces** risk
- **Increases** ability to bounce back after disasters
- **Provides** a shared understanding
- **Helps** obtain funding

Why do we need a state hazard mitigation and climate adaptation plan?

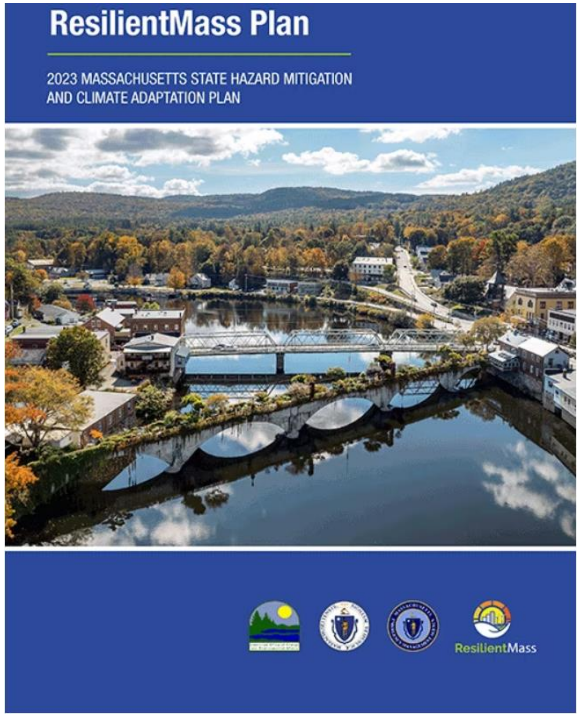
HMA Funding History
~ $309M since 2010



- Federal mandate to **maintain eligibility** for FEMA Hazard Mitigation Assistance (HMA)
- Plan must be **updated** every 5 years

What is the 2023 Resilient Mass Plan?

- ✓ Federally mandated update to the 2018 State Hazard Mitigation and Climate Adaptation Plan (SHMCAP)
- ✓ Identifies collaborative strategies and specific actions to increase resilience to climate change across the Commonwealth in accordance with Executive Order 569 – Establishing an Integrated Climate Change Strategy for the Commonwealth.
- ✓ Prioritizes projects that reduce risks from the priority impacts and high-consequence vulnerabilities across Massachusetts.
- ✓ Establishes 142 cross-government and state agency actions to address the impacts the Commonwealth faces due to climate change



Read the full plan at resilient.mass.gov

2016

EXECUTIVE ORDER 569

Institutes a comprehensive approach to GHG emissions reduction and climate change adaptation

2018

ENVIRONMENTAL BOND

Allocates $2.4 billion with climate resiliency focus, and codifies E.O. 569, including MVP Program

2021

AN ACT CREATING A NEXT GENERATION ROADMAP FOR MA CLIMATE POLICY

Sets decarbonization goals statewide and for specific sectors, and creates Environmental Justice Council

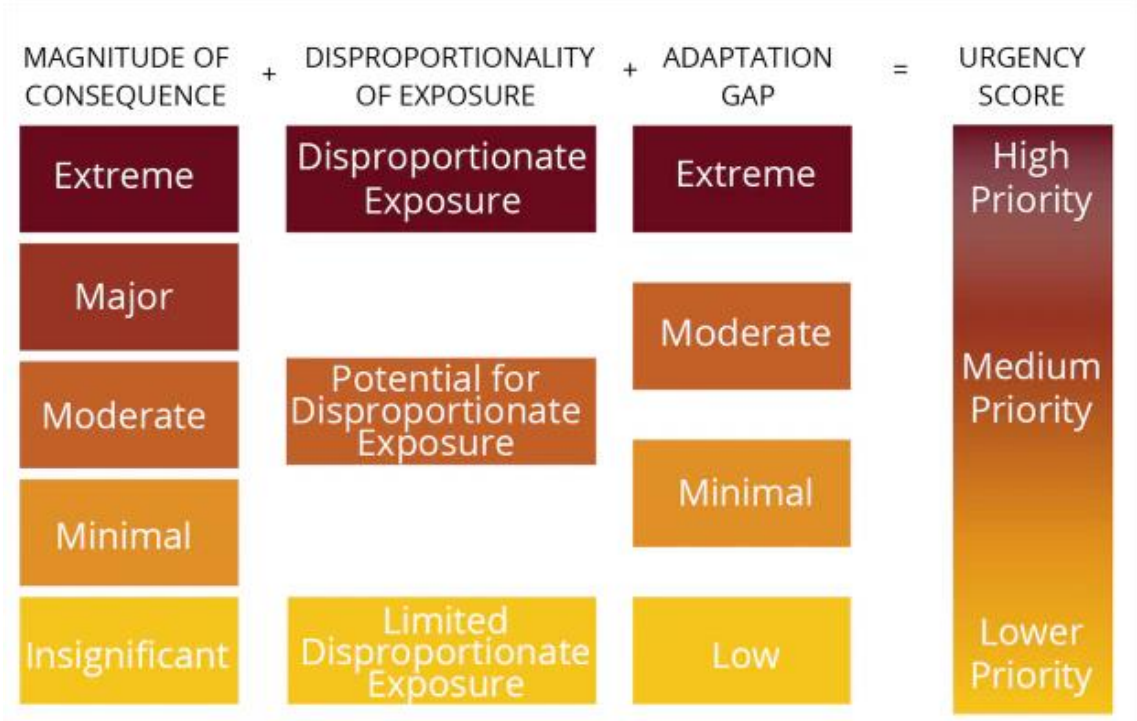
2023

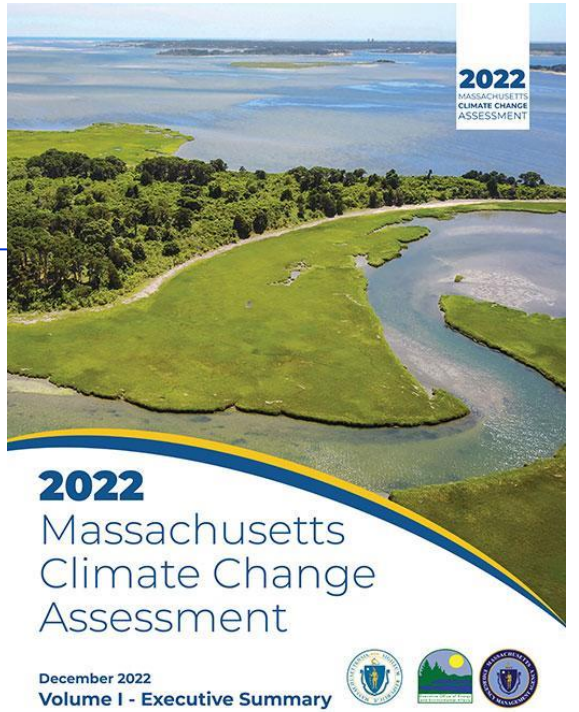
EXECUTIVE ORDER 604

Establishes role of Climate Chief, and Office of Climate Innovation and Resilience

Defining statewide climate impacts and priorities:
2022 MA Climate Change Assessment

The 2022 MA Climate Change Assessment assigns **urgency rankings** to priority climate impacts across **five sectors** and **seven regions.**





Human | Infrastructure | Natural Environment | Governance | Economy

Urgent Climate Impacts by Sector

HUMAN

Health and Cognitive Effects from Extreme Heat, including premature death and learning loss in children.

Health Effects from Degraded Air Quality, including childhood asthma cases and premature death due to the climate impact on particulate matter and ozone air quality.

Emergency Service Response Delays and Evacuation Disruptions from extreme storms, leading to injuries, loss of life, and urgent need for health, safety, and traffic first responders.

Loss of life or injury due to high-vulnerability dams, hurricanes, wildfires, extreme flooding, or extreme temperatures.

Disproportionate impacts on unhoused populations from extreme temperatures or extreme flooding.

INFRASTRUCTURE

Damage to Inland Buildings from heavy rainfall and overwhelmed drainage systems.

Damage to Electric Transmission and Utility Distribution Infrastructure associated with heat stress and extreme events.

Damage to Rails and Loss of Rail/Transit Service, including flooding and track buckling during high heat events.

Damage or loss of unreinforced masonry buildings due to earthquakes.

Damage to infrastructure, utilities, and buildings in liquefaction zones due to earthquakes.

Damage or loss to homes and critical facilities in the wildland urban interface.

NATURAL ENVIRONMENT

Freshwater Ecosystem Degradation due to warming waters, drought, and increased runoff.

Marine Ecosystem Degradation because of warming, particularly in the Gulf of Maine, and ocean acidification.

Coastal Wetland Degradation from sea level rise and storm surge.

Forest Health Degradation from warming temperatures, changing precipitation, increasing wildfire frequency, and increasing pest occurrence.

Loss of biodiversity, habitats, and native species due to climate change impacts.

GOVERNANCE

Reduction in State and Municipal Revenues, including a reduced property tax base due to coastal and inland flood risk.

Increase in Costs of Responding to Climate Migration, including planning for abrupt changes in local populations.

Increase in Demand for State and Municipal Government Services, including emergency response, food assistance, and state-sponsored health care.

Inability to carry out mission and services due to damage, disruption, or loss of state assets and services.

ECONOMY

Reduced Ability to Work, particularly for outdoor workers during extreme heat, as well as commute delays due to damaged infrastructure.

Decrease in Marine Fisheries and Aquaculture Productivity from changing ocean temperatures and acidification, which leads to decreased catch and revenues and impacts on related industries.

Reduction in the Availability of Affordably Priced Housing from direct damage (e.g. flooding) and the scarcity caused by increased demand.

Damage, disruption, or loss of coastal infrastructure such as seaports, airports, and maritime industries.

Climate Projections and Impacts in Massachusetts

RISING TEMPERATURES[1]

23–29 high heat days per year expected by **2050** and annual average temperature increase of **5.9 to 7.9°F.**

Those most likely to be affected from high heat include unhoused populations, those working outdoors, the elderly, infants, individuals with chronic diseases (e.g., asthma), and environmental justice and other priority populations.

Extreme temperatures are projected to increase annual transportation infrastructure maintenance costs by over **$140 million** by the end of the century.

CHANGES IN PRECIPITATION[2]

By **2070,** Massachusetts is expected to receive **12–42%** more winter precipitation.

Environmental justice and priority populations live near commercial and industrial buildings that have a **57% higher risk of flood** damage than the rest of the Commonwealth.

Annual economic flood damage is estimated to increase by **$9.3 million** by **2030** across the Commonwealth.

COASTAL FLOODING[3]

Massachusetts is planning for sea level rise by up to **2.5 feet by 2050** compared to present day (2008) if global emissions are not significantly reduced. Both tidal and storm-related flooding are projected to increase.

Risks and consequences from inundation will be more significant among sensitive assets such as hospitals, schools, prisons, care facilities, and underground and at-grade living quarters.

Coastal flooding is projected to cause over **$52 million** in damage annually to state-owned coastal properties, a **550%** increase from today.

SEVERE WEATHER[4]

Includes strong winds, tornadoes, extreme precipitation, and droughts. Precipitation amounts from the heaviest storms in the Northeast has increased by **55%** since **1958.**

High winds are of particular concern to coastal areas, where wind speeds can reach **110+ miles per hour.**

Populations living or working outdoors will be increasingly exposed to dangers of more frequent and increasingly severe weather.

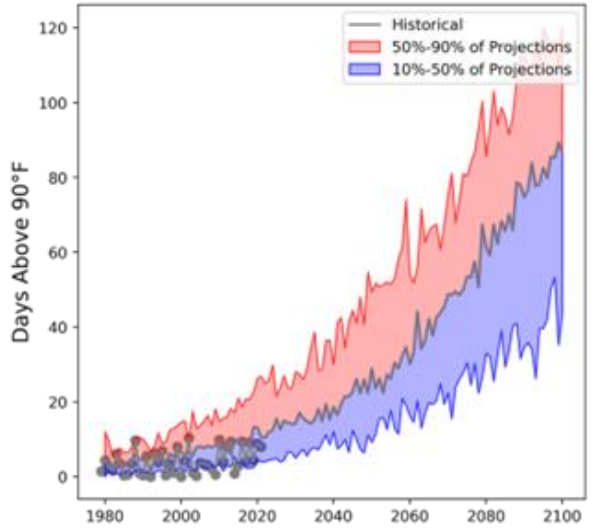
Lightning was responsible for **$20.4 million** in damage in Massachusetts between 2002 and 2022.[5]

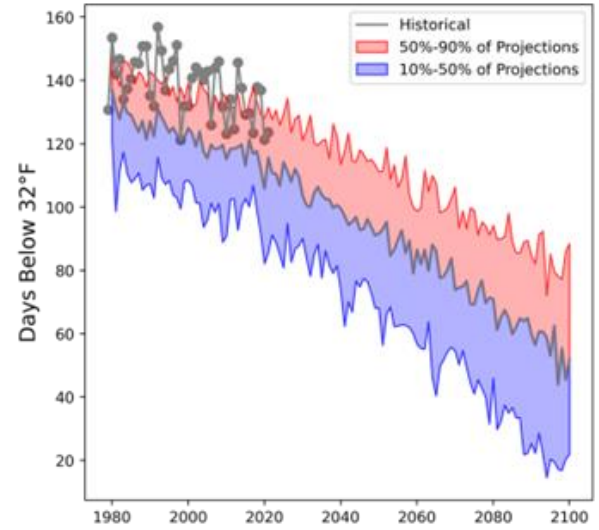
Risk and Vulnerability Assessment

- **Hazards included** *(draws from Climate Assessment vs new analysis):*
  - Inland flooding
  - Dam overtopping
  - Drought
  - Coastal flooding and storm surge
  - Coastal erosion
  - Average and extreme temperatures
  - Wildfires
  - Invasive species
  - Hurricanes/tropical storms
  - Winter storms/Nor'easters
  - Groundwater rise
  - Tsunami
  - Landslides
  - Tornados
  - Other Severe Weather
  - Earthquake

- **Concepts covered for each hazard:**
  - **Location:** geospatial reach
  - **Likelihood**: of occurrence, considering changing climate
  - **Magnitude of Consequence**: of impact and ability to respond
  - **Qualitative**: adaptive capacity and disproportionate impacts
  - **Vulnerability** by sector

- **Example hazard: *Average/Extreme Temperatures***
  - Occurrences and Frequency
    - 2010-2022 had 7 of 10 warmest summers on record; 2 hottest summers on record are 2020 and 2022
    - Certainty in increase in high, low, average temperatures, and humidity
      - 2050 summer temps like MD; 2090 like GA
  - Vulnerability by sector
    - ***Human***: Health effects from extreme heat and degraded air quality
    - ***Governance***: Increase in demand for services; adaptation coordination
    - ***Infrastructure***: Damage to rails and loss of rail service; Damage to electric transmission and distribution infrastructure
    - ***Natural Environment***: Freshwater and marine ecosystem degradation; Forest health degradation
    - ***Economy***: Reduced ability to work

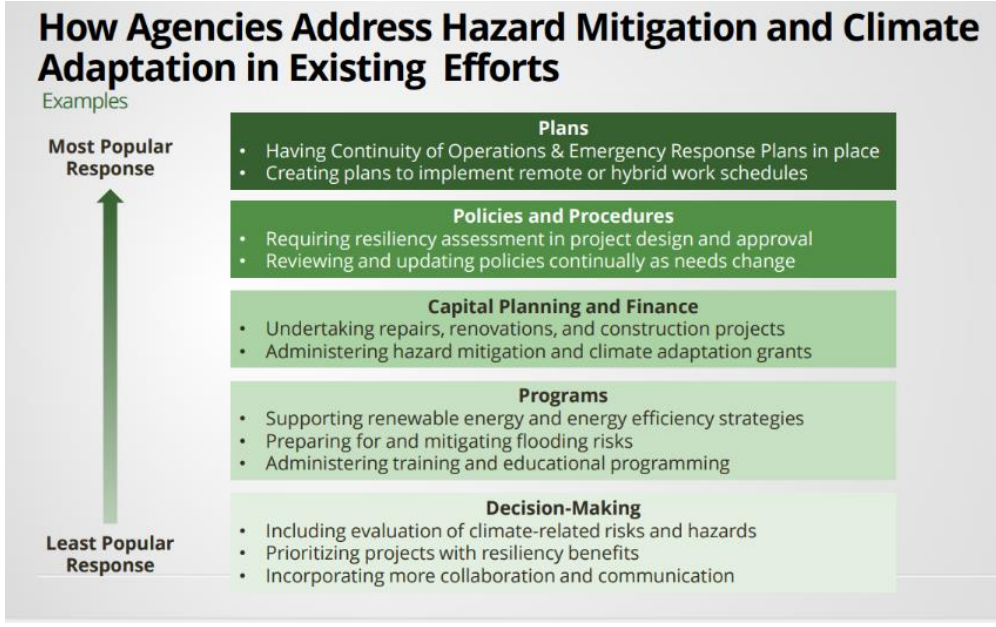


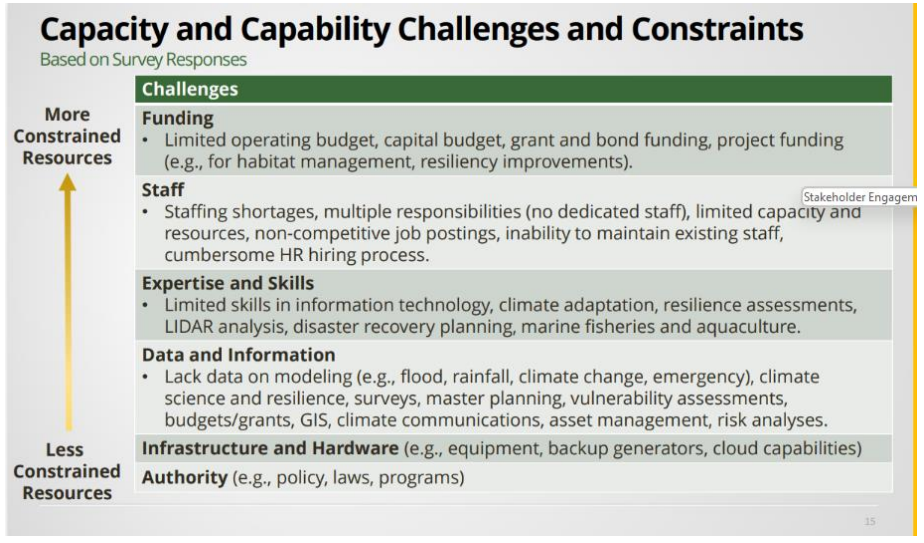


State Capability and Adaptive Capacity Analysis

- **Inventory and evaluation of the Commonwealth's existing capabilities and key challenges for agencies to implement hazard mitigation and climate adaptation actions:**
  - 86 agency survey responses (11 no responses) that identified 182 existing capabilities to reducing hazard risk and vulnerability
    - E.g. regulatory jurisdiction; coastal management programs, energy resilience initiatives; data; planning
  - and 90 new capabilities since the 2018 update, including:
    - ***New coordinating structures***: RMAT launch, DOER LBE
    - ***New data and tools***: Development of Climate Assessment, Drought Management Plan, and RMAT Resilience Tool
    - ***New funding sources***: SHMCAP Implementation Funding, MVP expansion

- **Key opportunities to address challenges raised include:**
  - Staff capacity and subject matter expertise
  - Authority and bureaucracy
    - Data access and consistent use, filling gaps
    - Resilience standards and capital planning evaluation
  - Increased funding and metrics
  - Consistent collection and use of data
  - Increased inter-agency coordination and local capabilities





Agency Action Strategy: Bridging Hazards, Impacts, and Actions

Governance Sector: Urgent Impact #6

Damage to Inland State and Municipal Buildings and Land

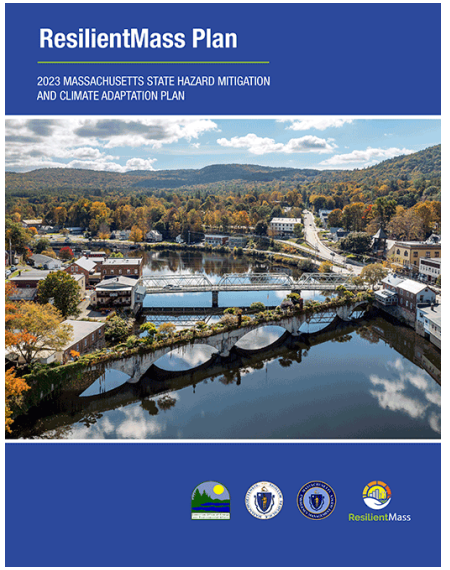
Risk to vulnerable state and municipal owned structures and other property from flooding, extreme heat, and extreme storms. Includes damage repair costs and service losses during closures.

Minimal Level of Consequence	Limited Disproportionality	Minimal Adaptation Gap
• Less than 10 state-owned major facilities fall in areas expected to experience significant inland flooding by the end of the century.	• None of the potentially impacted buildings are located in EJ block groups.	• Current facilities siting decisions are adequately addressing the risk of inland flooding.

Identification of impact and magnitude in MA Climate Change Assessment

↓

State agency actions in ResilientMass Plan



https://resilient.mass.gov

ACTION 10: Incorporate hazard and climate change vulnerability into capital planning, master planning, and facilities management functions

Incorporate climate change vulnerability, resilience, and adaptation standards into capital planning and at the outset of projects with client agencies. Complete the RMAT's Climate Resilience Design Standards Tool and DCAMM climate resilience assessments during project planning. Refer to these assessments during project design and master planning exercises to identify planning horizons and specific high-priority threats.

Continue to revise and update the existing DCAMM resilience assessment process as appropriate utilizing RMAT-supported climate data sets, and integrate climate change and natural hazard vulnerability information into an asset management system (CAMIS).
Other priority impacts addressed by action: This action has the potential to address elements of all priority impacts.

Scale	Lead(s) and Partner(s)	Hazard(s) Addressed
Statewide, state assets	Lead: DCAMM	All hazards
Goal(s) Addressed		**Timeframe**
3 and 4		5+ years

ResilientMass Plan Agency Actions - Example actions focused on state facilities

*Actions can address multiple risks

Increase energy resilience of critical assets

Leads: DOER; Timeframe: 3-5 years

Resilient siting of new or modified jurisdictional transmission facilities

Lead: DPU; Timeframe: Less than 3 years

Conduct climate vulnerability assessments

Leads: MBTA; Timeframe: 3-5 years

Labor Workforce Development Climate Change Impact Risk Assessment

Lead: Dept. of Labor Standards; Timeframe: Less than 3 years

ResilientMass Plan Agency Actions - Example agency and cross-government actions

Extreme storms

- **MBTA design standards update** with new standards that include climate resilience considerations for all MBTA new construction and retrofits. (Lead: MBTA; Timeframe: Less than 3 years)
- **Statewide emergency management training needs assessment** to ensure emergency preparedness of state public safety officials to natural hazards, especially climate change-exacerbated hazards. (Lead: MEMA; Timeframe: Less than 3 years)

Leveraging the Government Toolbox: Examples of State Agency and Cross-Government Actions

Provide funding and technical assistance

- **Increase funding to support municipal and agency resilience actions and funding** by identifying new and sustainable revenue streams and developing a funding portal for state grant programs. (Leads: EEA, A&F; Partner: DPH; Timeframe: 5+ years)
- **Develop a strategy to identify resilience funding needs and leverage federal funding to support adaptation projects,** standardizing approaches to identifying resilience needs for state capital planning. (Leads: A&F; Partners: DCAMM, MEMA, EEA, OCIR, Governor's Office Director of Federal Funds and Infrastructure, DOT, EOED; Timeframe: Less than 3 years)
- **Provide municipal and local health climate equity training and technical support** with a Massachusetts-specific training module for local health officials to increase awareness about the disproportionate health impacts of exposure to climate change hazards, and meaningfully engaging vulnerable communities. (Lead: DPH; Partners: DOC, MDAR; Timeframe: 3-5 years)

Plan, regulate, and demonstrate

- **Implement a resilience strategy at state-aided public housing** and request grant funding for climate resilience projects, including five in-progress projects. (Lead: HLC; Partners: EEA, MEMA, DPH; Timeframe: less than 3 years)
- **Develop a framework for statewide resilience progress tracking**, identifying statewide climate resilience goals and associated metrics to inform funding strategies. (Lead: EEA; Partners: DCR, DOT, EOED; Timeframe: 5+ years)
- **Conduct a climate migration assessment** on the scale, impacts, and timing of climate migration to Massachusetts and identify opportunities, challenges, and approaches to preparing for in-migration. (Lead: EEA; Partners: OCIR, MEMA, EOED, HHS; Timeframe: Less than 3 years)

Convene, communicate, and prioritize

- **Launch an Office of Climate Science** to serve as an authoritative resource on statewide climate data and models, and to partner with universities on climate science needs. (Lead: EEA; Partners: TSS, DOT, DMF; Timeframe: 5+ years)
- **Launch a statewide Climate Communications Campaign,** targeting climate actions for decarbonization and resilience and access to resources to take critical action. (Lead: EEA; Timeframe: 5+ years)
- **Update school curriculum to include climate science and green workforce development,** piloting clean energy innovation pathway for high school students to gain applied learning experience in the renewable energy sector. (Lead: EOE; Partners: HLC, LWD, HHS; Timeframe: 5+ years)

ResilientMass Plan Action Tracker

State agencies identified over 100 initial priority actions to increase resilience and reduce the Commonwealth's risks and vulnerabilities related to natural hazards and projected climate changes. This tracker is maintained by the inter-agency ResilientMass Action Team (RMAT) and contains a list of actions identified through the 2023 ResilientMass planning process. All actions address at least one of the primary statewide climate change impacts identified in the 2022 Massachusetts Climate Change Assessment. This tracker will be updated periodically to reflect progress in implementing these actions.

Search Clear All

state facilities

Apply filters

Executive Office

Lead Agency

Priority

Actions By Sector 1

- [ ] Human Health & Safety
- [x] Infrastructure
- [ ] Natural Environment
- [ ] Governance
- [ ] Economy

Status

Completion

Category

Scale

Cross-Government Actions

Viewing 15 of 142 Actions

High

Expand evaluation of climate resilience for state capital investments

Executive Office: A&F Lead Agency: A&F

Category: Capital planning | Status: In Progress | Completion: Less than 3 years | Type: Cross-Government Action

High

Resilient siting of new or modified jurisdictional transmission facilities

Executive Office: EOEEA Lead Agency: DPU

Category: Building and infrastructure projects | Status: In Progress | Completion: Less than 3 years

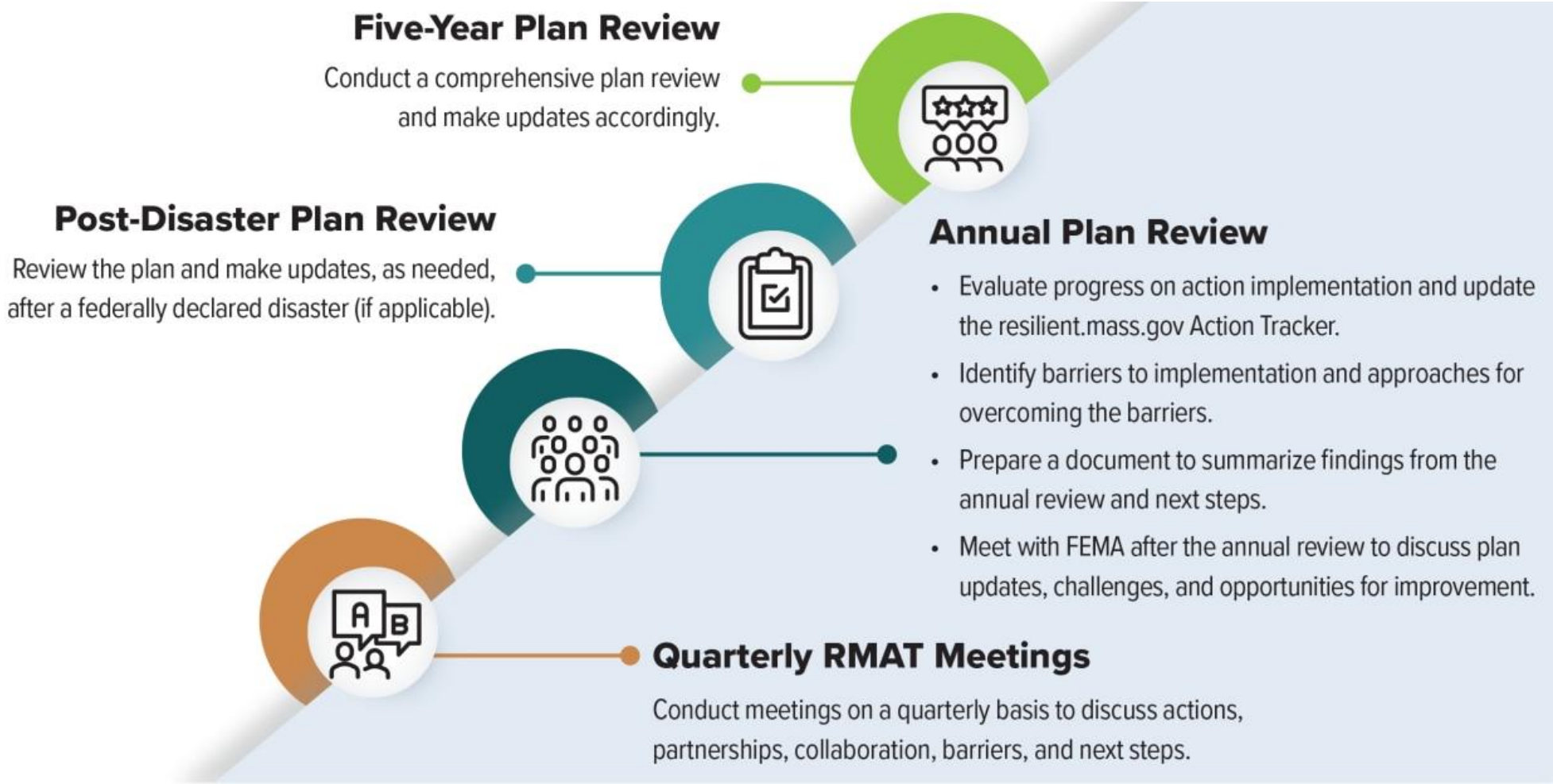
Medium

Enhance the mobility of the state workforce through the continued deployment (and refresh) of devices to implement COOP plans impacted by climate

Executive Office: EOTSS Lead Agency: EOTSS

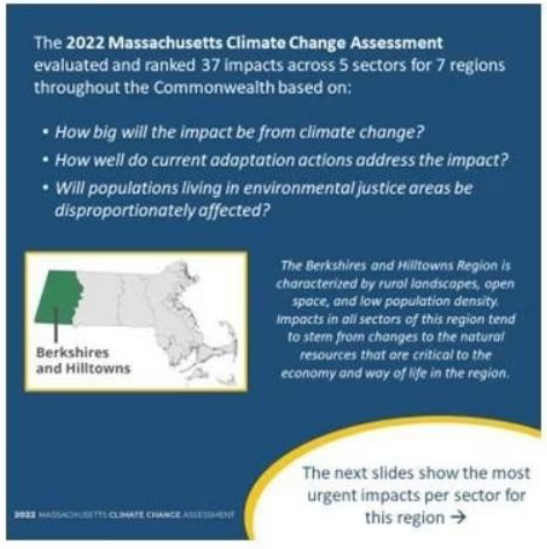
Category: Technical support and assistance | Status: In Progress | Completion: 3-5 years

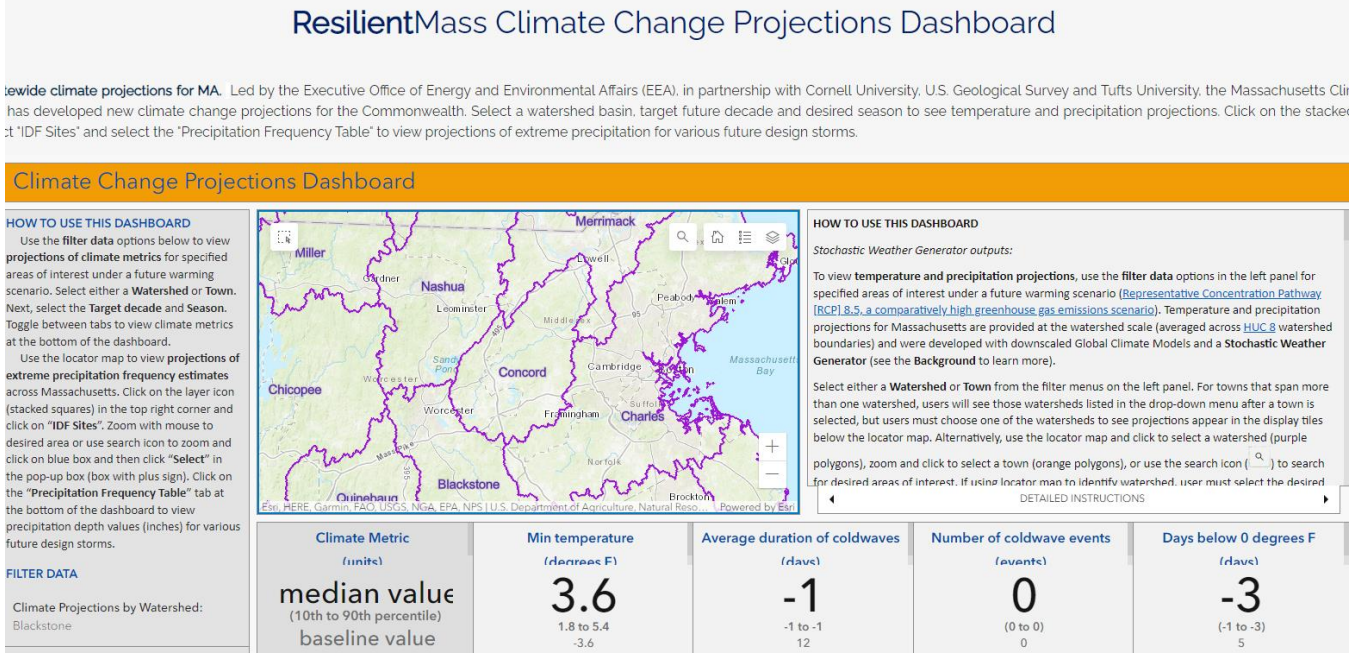
A Living Plan



Applying the Findings: Tools and Data

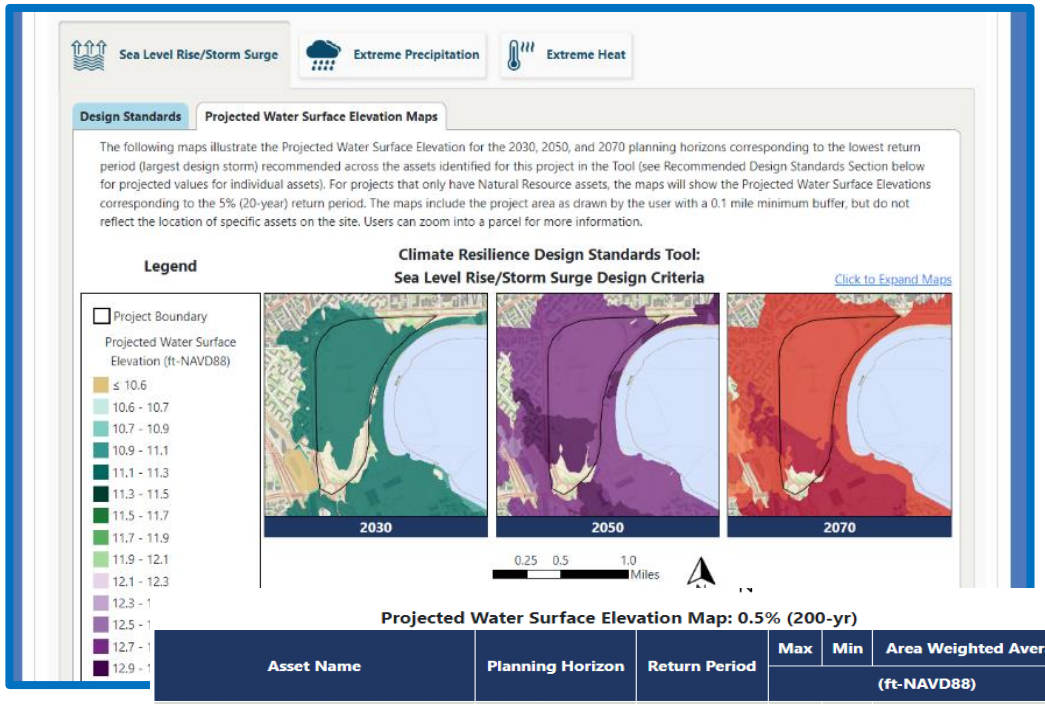
- Regional findings sample slide decks and social media content: bit.ly/2022maclimate
    - Summary slides and materials to help partners and organizations share findings in their own networks
- [Resilient.mass.gov Maps and Data Center](Resilient.mass.gov): Ongoing and growing resource for Massachusetts-specific best available climate information for users
    - Local and regional planning
    - Funding applications and resource prioritization
    - Communication and advocacy tools





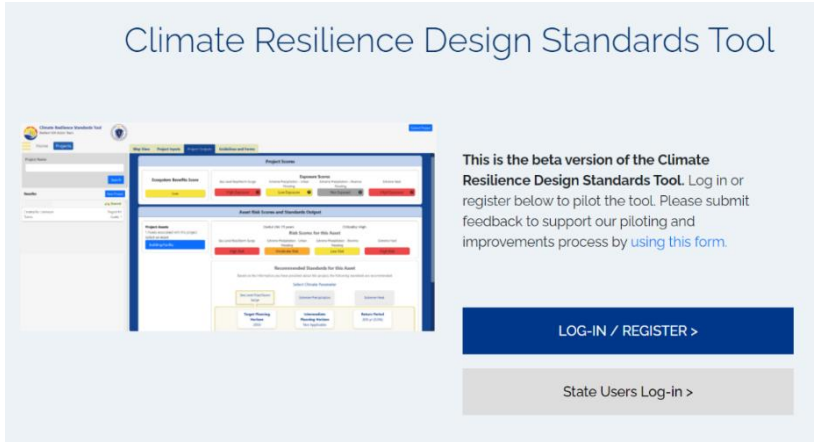
Applying the Data: Climate Resilience Design Standards Tool

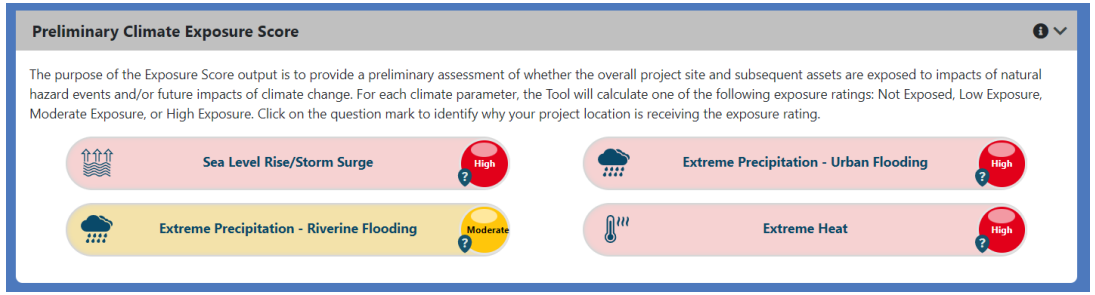
An interactive web-based tool that automates the Commonwealth's available climate change data and provides a preliminary climate exposure screening and planning recommendations for projects



Projected Water Surface Elevation Map: 0.5% (200-yr)

Asset Name	Planning Horizon	Return Period	Max	Min	Area Weighted Average
			(ft-NAVD88)		
Flood Barrier - South Boston Protection	2030	0.5% (200-yr)	11.3	10.6	11.1
	2050	0.5% (200-yr)	12.9	12.7	12.8
	2070	0.5% (200-yr)	14.7	14.6	14.6



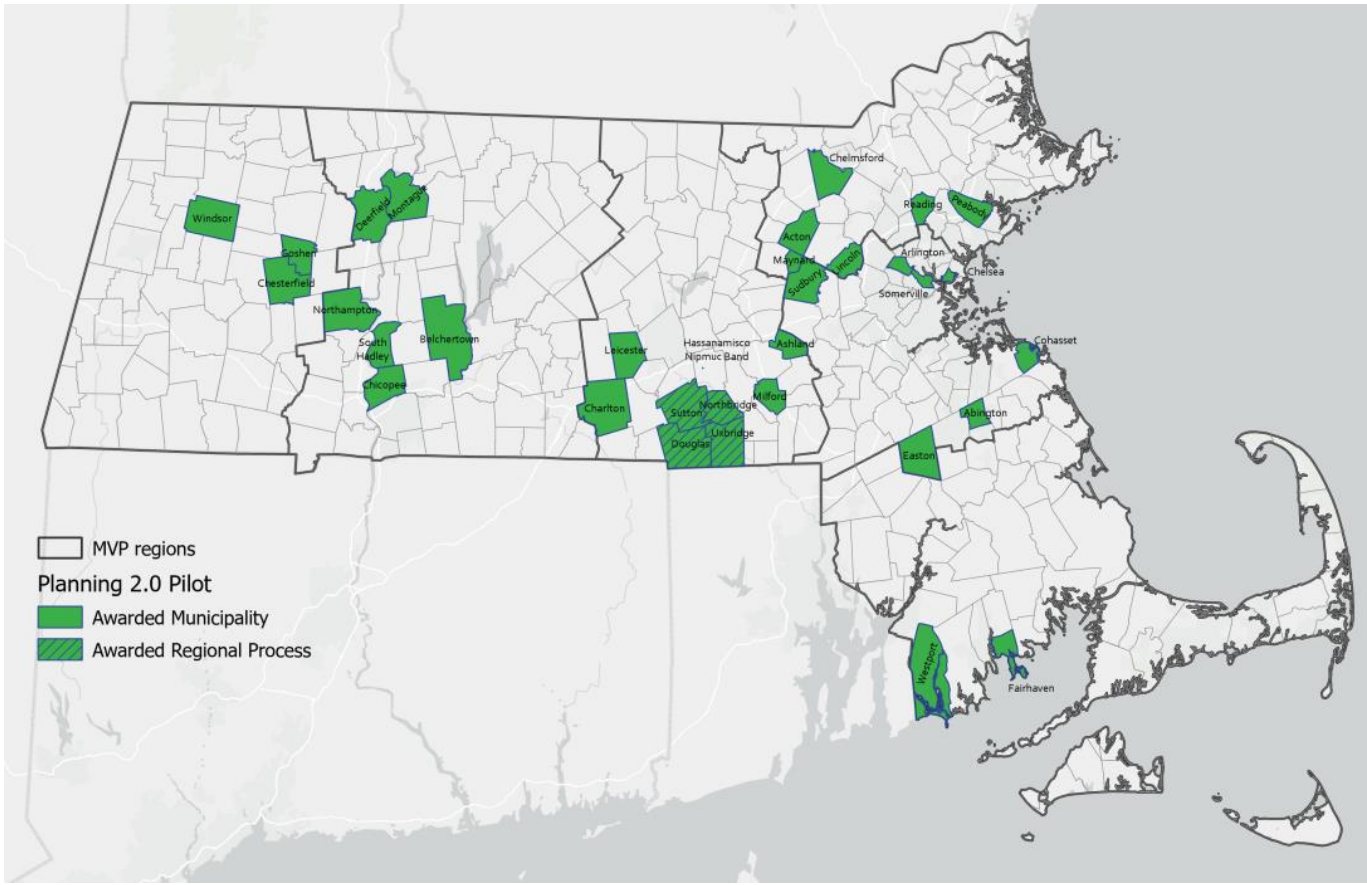


EEA and A&F are working to revise the process for use of the Tool in the Capital Investment Planning cycle, with a goal of expanding usage across agencies

https://resilient.mass.gov/rmat_home/designstandards/

Implementing ResilientMass: MVP 2.0

For MVP communities at the 5-year mark, MVP Planning 2.0 will build on the work done to date, and will support communities with new processes, tools, and resources for inclusive and actionable climate resilience planning.



Implementing ResilientMass: EEA Office of Climate Science

- Serve as an authoritative resource, and provide subject matter experts on statewide climate data and models, and support consistent application across agencies.

- Convene the academic climate science community and identify opportunities to partner with universities on climate science needs and next steps.

- Staffed by:
  - Edwin Sumargo, Ph.D, Climate Scientist
  - Caitlin Spence, Ph.D, Assistant Climate Scientist/Hydrologist
  - Margot Mansfield, Assistant Climate Scientist/Coastal Hazards Specialist

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Thank you!

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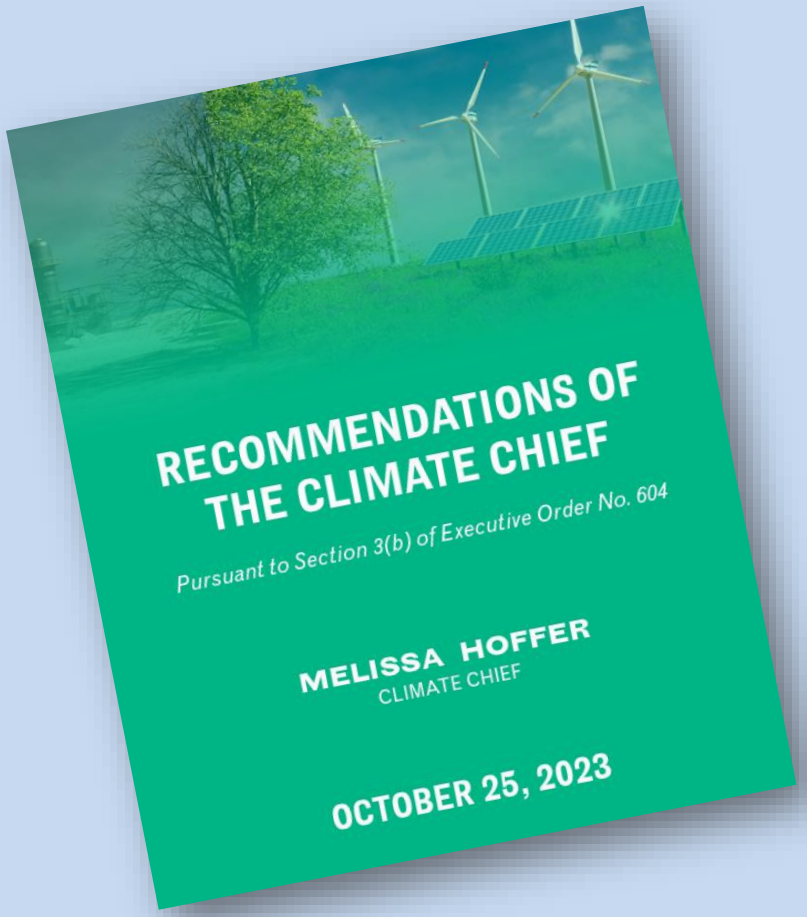
ResilientMass



New Report from the Office of Climate Innovation and Resilience (OCIR)

https://www.mass.gov/info-details/recommendations-of-the-climate-chief
View the full report here

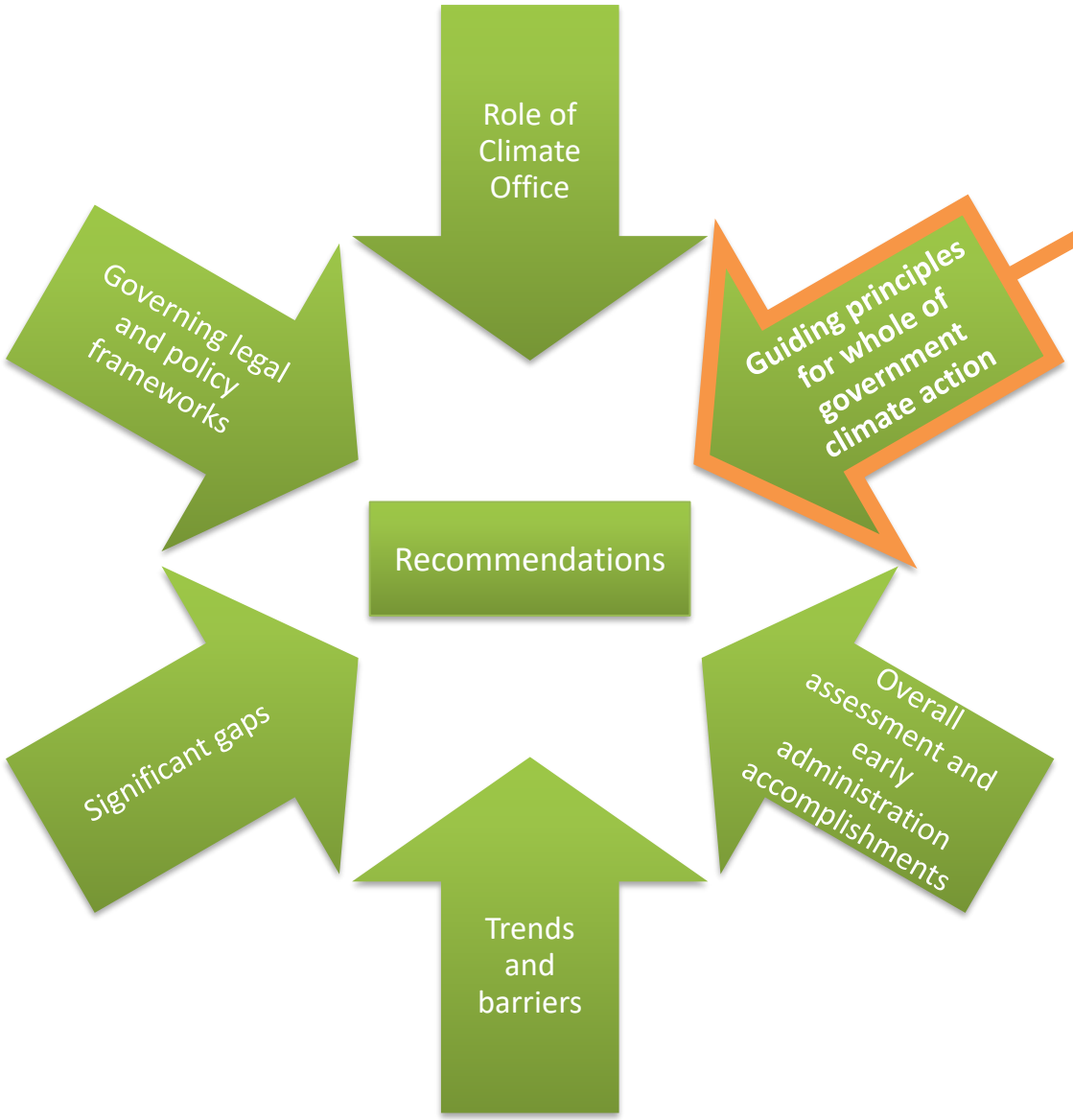
The Call to Action

Massachusetts must play a leading role in climate policy and implementation, spurring innovation in technology, climate finance, and resilience

*"Every state agency **must prioritize, as a core function, efforts to drive effective action to reduce emissions, build resilience, and mitigate the impacts of climate change** on our communities and the natural world."*

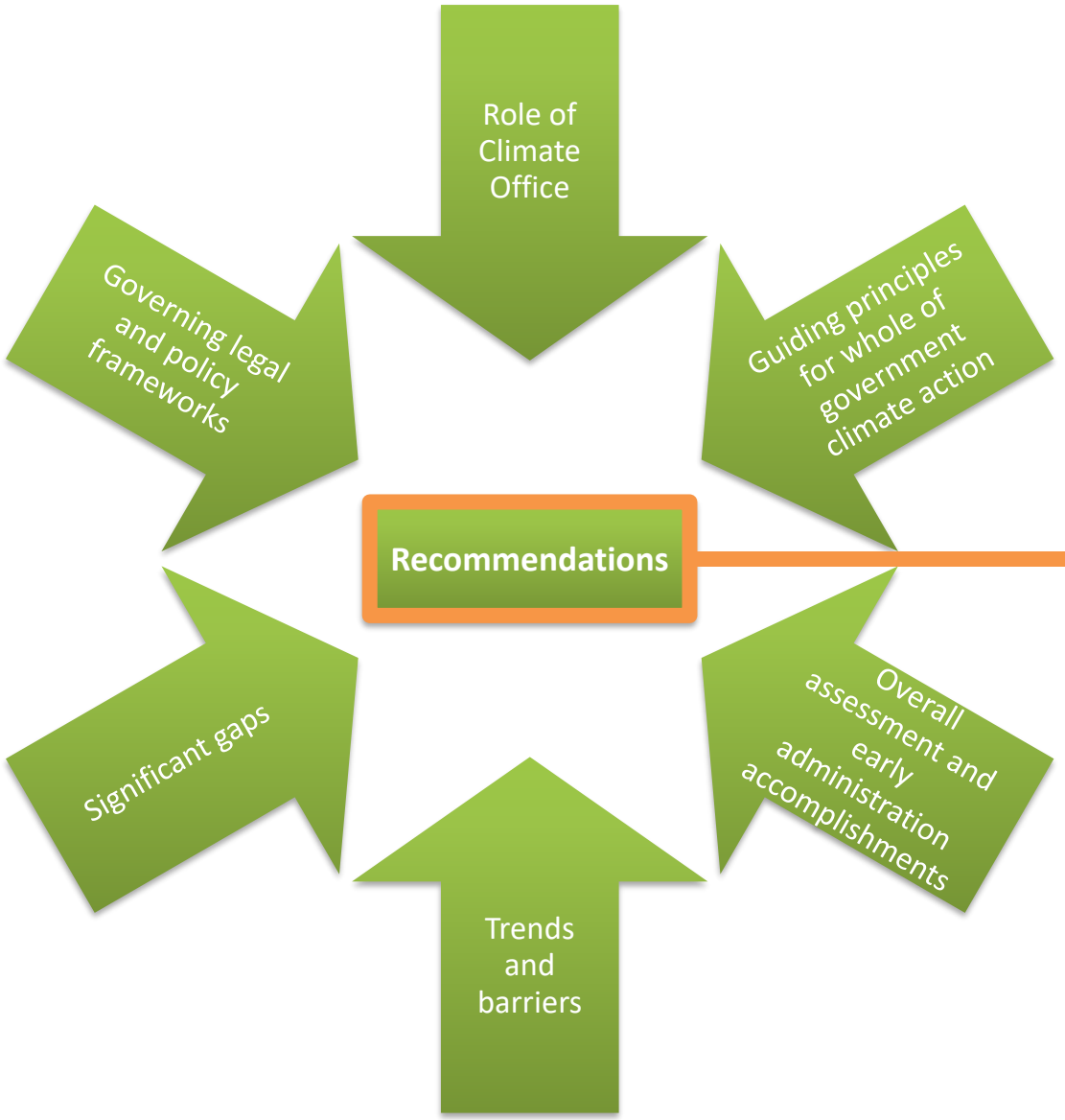
Note: This presentation will focus on recommendations most relevant to LBE-related efforts

Guiding Principles



- Adopt a **systems-thinking** approach
- Incorporate **climate science and data** into decision-making
- Center **equity and environmental justice**
- Consider **resilience and adaptation** in decision-making
- Implement **comprehensive planning and project management** for cross-agency priorities
- Align state **spending** with climate mandates
- Deploy **innovative funding strategies** for decarbonization, adaptation, and resilience
- Focus on **multi-solving**
- Enhance **transparency**

Recommendations



39 recommendations in 8 categories:

1. Funding
2. State capital investment, asset management, grant making, procurement, and Environmental Justice
3. Emissions mitigation
4. Public health and resilience
5. Workforce
6. Economic development
7. Education
8. Process for implementation

Investment and Revenue Generation

Funding Needed and Mechanisms

- A&F, Climate Office should conduct economic analysis of the **investment needed to achieve CECP mandates** and **develop a funding strategy**
- EEA and other agencies should analyze feasible policies that both **reduce emissions** and **generate additional revenue streams** to invest in further decarbonization, including market-based mechanisms to internalize the cost of carbon

December 2024

Resilience

Resilience Planning

- Coastal Resilience: Led by Office of Coastal Zone Management, establish interagency advisory body with EEA, MEMA, DFG, DCR, DEP, MassDOT, EOHLC, DPH, and Climate Office to implement plan, secure funding, and inform state-led coastal resiliency projects
- Build on work of Resilient MA Action Team: Ensure RMAT is properly supported to reduce climate impacts; focus on inland flooding, heat, migration, regional food and water security, climate disaster planning, and public health

Energy System Resilience

- Prioritize investment in MassCEC's and DOER's energy resilience programming
- DPU should clarify regulatory treatment of microgrids and identify necessary statutory changes

EJ and Public Health

Environmental Justice

- The EJ Office is developing a framework for tracking funding to EJ communities to ensure they are receiving at least 40% of the overall benefits of certain federal and state investment in accordance with the federal Justice40 initiative

Public Health

- EEA Office of Climate Science to serve as resource and provide subject matter expertise on statewide climate data and models, and support consistent application across agencies
- EEA to work closely with colleagues in EOHHS agencies who have or are developing data and expertise on the medical/health impacts of climate change

Recommendations with Direct Implications for State Entities

State Building Decarbonization

DCAMM

- Complete development of a strategic plan for state building decarbonization
  - Identify timeline and costs for completing decarb roadmaps currently under development
  - Identify the need and cost to complete future roadmaps
  - Aggregate costs reflected in roadmaps will inform the CIP

Other Entities

- Those beyond scope of DCAMM's process should establish their own facility decarbonization and resilience roadmaps, working with LBE, in line with the goals and directives of EO 594

March 1, 2024

State Fleet Electrification

OCIR to convene a working group consisting of OSD, LBE, DCAMM, MassDOT, EEA, and EOPSS

Vehicle and Equipment Electrification

- Outline process for electrifying the state-owned vehicles and equipment
- Offer preliminary recommendations concerning the creation or designation of a centralized body to coordinate and implement the working group's plan

State-Sited Charging Stations

- Outline process for effective deployment of charging stations for state fleet
- Prioritize high-traffic garaging locations throughout the fleet and build out infrastructure accordingly
- Develop a draft strategy for long-term O&M of publicly maintained and operated fast chargers

February 1, 2024

Embodied Carbon

Reducing Emissions Impacts of Construction **February 1, 2024**

- DCAMM, MassDOT, MassCEC, and LBE, in consultation with the Climate Office and other relevant agencies will...
  - Lead the Buy Clean Initiative to prioritize the Commonwealth's purchase and use of lower embodied carbon, made-in-America construction materials, such as concrete and steel
  - Provide specific recommendations to Climate Office to implement Buy Clean Initiative

State Capital Investment

Capital Budget Mitigation Tool

January 15, 2024

- Climate Office and A&F will lead working group composed of EEA, LBE, and other relevant agencies to **develop a "mitigation tool"** that will allow A&F to evaluate proposed capital investment plans (CIPs) in terms of reduced GHG emissions
- Working group to report on recommended design of a preliminary screening tool

Waste Reduction

Beneficial Diversion of Organic Waste 2024

- MassDEP with EEA, LBE, EOHHS, DCAMM, and other agencies must implement a plan in 2024 to ensure entities generating >0.5 ton of commercial organic waste per week divert that waste to beneficial use in composting, biogas generation, and reuse
- Applies to all hospitals, colleges, universities, schools, supermarkets, prisons, Commonwealth-owned properties, and others (including businesses)

EO 594 Awareness

Meaningful Agency Participation

- Each Secretariat must direct its agencies to prioritize LBE efforts as part of day-to-day operations and management of state assets
- Every agency with 75+ employees must ensure at least two individuals with sufficient access to agency leadership and with the authority to make decisions about their facilities be given the role of LBE Coordinator
- Agencies with multiple facilities should consider appointing staff from different facilities to ensure that they are fully aware of the resources and objectives of key programs
- Agencies should consider the establishment of internal leading by example teams that would serve to track and report on progress within the agency and ensure that key units within each agency are supporting these efforts

Agency-Specific Implementation Planning

Implementation Plans and Progress Tracking

- With the review and approval of the Secretary and OCIR, secretariat climate officers (SCOs) for each Secretariat should develop a plan to implement the recommendations in this report
- All Secretariats must undertake necessary actions to implement the recommendations of the report consistent by the timelines set forth
- EOTSS will assist OCIR in tracking implementation progress

Discussion and Q&A

DOER
Massachusetts Department of Energy Resources

Next LBE Council Meeting

Save the Date!

January 9th

10am-12pm

Upcoming Tentative Meeting Dates:
March 12th
May 14th

DOER
Massachusetts Department of Energy Resources

OCIR Report: Early Climate Accomplishments of the Healey-Driscoll Administration

- Creating the Massachusetts Community Climate Bank, the country's first green bank dedicated to affordable housing
- Pursuing federal funding opportunities to support climate-related priorities, in coordination with the Office of Federal Funds and Infrastructure and Secretariats
- Creating a new Clean Energy Innovation Pathway offering high school students applied, hands-on learning opportunities in the renewable energy sector
- Announcing MassTalent, an online hub that connects employers with workers in high-growth industries like clean energy
- Creating a new Bureau of Climate and Environmental Health within DPH and designating climate as a public health priority, expanding and prioritizing the collection of data on the impacts of climate change on public health
- Proposing a Capital Investment Plan that integrates climate change as a core consideration
- Issuing Executive Order 620, establishing the Commission on Energy Infrastructure Siting and Permitting
- Beginning development of MassDOT's climate Program Management Office
- Creating the Youth Climate Council
- Launching the "Forests as Climate Solutions" initiative
- Led a bipartisan request to form a "Northeast States Collaborative on Interregional Transmission"
- Launched a Vehicle Census Dashboard through MassDOT to view total vehicle miles traveled and number of electric vehicles
- Establishing the Commission on Clean Energy Siting and Permitting and the Interagency Offshore Wind Council
- Issuing Executive Orders 618 and 619, protecting biodiversity and eliminating the purchase of single use plastic bottles by the Executive Department
- Filing the largest housing bond bill in state history to spur housing production and preservation in line with emission reduction mandates

Source: https://www.mass.gov/info-details/recommendations-of-the-climate-chief

OCIR Report Recommendations: Funding

All agencies must think creatively about ways to leverage innovative clean energy, decarbonization and resilience funding tools to support policy goals. Massachusetts should prepare economic analyses of the investment needed to achieve both the greenhouse gas emissions reductions within the Clean Energy and Climate Plan (CECP), including the 2050 Net Zero mandate, and ResilientMass, the statewide hazard mitigation and climate adaptation plan. These analyses should be paired with specific funding and financing strategies. Agencies should analyze feasible policies that both reduce emissions and generate additional revenue streams to invest in further decarbonization. The Division of Insurance should accelerate its efforts to manage climate risk and resiliency for the Massachusetts insurance market.

Source: https://www.mass.gov/info-details/recommendations-of-the-climate-chief

OCIR Report Recommendations: Capital Investment, Asset Management, Grants, Procurement, And Environmental Justice

Broadly speaking, discretionary state spending should align with and not undermine our CECP emissions reductions mandates. The administration prioritized climate and environmental justice considerations in the capital and operating budget development process and should now formalize a protocol for evaluating proposed capital projects to align with the CECP. Recommendations in the report include continuing to center environmental justice in climate policy and program implementation; implementing a statewide plan for electrifying the state-owned vehicle and equipment fleet; ensuring grant-making and other incentives are used as a tool to drive and amplify decarbonization and resilience **efforts;** and updating procurement practices to require disclosure of emissions and climate risk.

Source: https://www.mass.gov/info-details/recommendations-of-the-climate-chief

DOER
Massachusetts Department of Energy Resources

OCIR Report Recommendations: Emissions Mitigation

The report presents a range of recommendations to reduce greenhouse gas emissions and achieve the mandate of Net Zero emissions in 2050. These include reviewing the best use of ratepayer funds currently allocated to Mass Save in light of existing building decarbonization needs and accelerating work to establish a decarbonization clearinghouse; issuing an annual climate report card on the state's progress to meet CECP emissions reduction mandates; taking action to reduce aviation emissions; and ensuring new housing production and preservation and construction of new schools is consistent with building sector electrification and decarbonization mandates. Last month, the MBTA **announced** a new Climate and Resiliency Policy and Planning team that will be tasked with decreasing the Agency's environmental footprint and increasing the resilience of the MBTA system.

Source: https://www.mass.gov/info-details/recommendations-of-the-climate-chief

DOER
Massachusetts Department of Energy Resources

OCIR Report Recommendations: Public Health & Resilience

Massachusetts must respond to the impacts that climate change is having and will have on our communities, ecological systems, built environment and infrastructure. The report's public health and resilience recommendations include efforts to establish consistent guidance, standards and use of statewide climate science and data; develop and implement a Comprehensive Coastal Resilience Plan; prioritize investment to develop more energy resilient infrastructure, such as microgrids, that can maintain power to critical infrastructure during extreme weather events; and ready Massachusetts for the increasingly disruptive and dangerous impacts of climate change such as inland flooding, heat, migration, crop loss, droughts, and adverse health effects, including increased disease transmission and mental health issues.

Source: https://www.mass.gov/info-details/recommendations-of-the-climate-chief

OCIR Report Recommendations: Workforce

Massachusetts must build the workforce needed to power the clean energy transition and make communities more resilient. Recommendations include developing a comprehensive, cross-agency plan that includes measurable targets and goals to build a clean energy, climate, and resilience workforce. The report also calls for the establishment of a Climate Service Corps to drive awareness, engage residents and institutions, and develop career paths integral to climate-critical solutions. The Climate Corps would provide volunteer opportunities and have programs focused on youth, preparing them for good-paying jobs in clean energy and climate resilience.

Source: https://www.mass.gov/info-details/recommendations-of-the-climate-chief

OCIR Report Recommendations: Economic Development

Massachusetts should develop and implement a comprehensive clean energy and climate economic development plan that results in the creation of new, good paying jobs and further strengthens long-term economic growth. An investment strategy must ensure that climate tech companies have access to the capital required to innovate and scale in Massachusetts.

Source: https://www.mass.gov/info-details/recommendations-of-the-climate-chief

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Massachusetts Department of Energy Resources

OCIR Report Recommendations: Education

Massachusetts should enhance its efforts to educate communities, including students, about the climate crisis. These efforts should include promoting a basic understanding of climate science and fostering the capacity of communities to deploy climate solutions. The administration will work to support the broad-based adoption by public school districts of a K-12 curriculum addressing climate change.

Source: https://www.mass.gov/info-details/recommendations-of-the-climate-chief

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Role of the Climate Office

- Elevate and connect climate work across executive branch agencies
- Break down siloes, align agency action with legislatively mandated emissions reduction requirements and climate policy, create opportunities for cross-pollination among agencies with stakeholders and partners
- Drive collaboration, spur different ways of defining problems and opportunities, lift up innovation and successful models, interrogate conventional wisdom, ensure policy choices are informed by climate science
- Ensure a strategic and coordinated effort to use federal funding to support projects and work

DOER
Massachusetts Department of Energy Resources

Federal Funds and Infrastructure Office

Economic Analysis of Investments Needed

- By December 2024, A&F and Climate Office, with input from MassDOT/MBTA, EEA, EOHLC, MassHousing, and MassCEC, should conduct an economic analysis of the investment needed to achieve our CECP mandates, including Net Zero by 2050, and develop a funding strategy.
- Climate Office and EEA developing a Priority Climate Action Plan under EPA's Climate Pollution Reduction Grant to support this effort

DOER
Massachusetts Department of Energy Resources

Estimate Investment Needed for Resilience Measures

- The Massachusetts Climate Change Assessment, SHMCAP, and other analyses identify a number of vital resilience needs and recommend actions. To ensure these measures are funded and implemented on an expedited and cost-effective basis, however, greater coordination and accountability is vital.
- A&F should, in conjunction with other agencies and Climate Office, provide recommendations for resilience funding strategies by December 2024

Insurance Market Regulation

- The Massachusetts Division of Insurance should review existing insurance market guidance across the states to determine whether additional guidance would be appropriate for the Massachusetts insurance market.
- DOI should continue to advocate for appropriate regulatory approaches to climate risk and resiliency for the Massachusetts insurance market, including reporting and disclosures, considering innovative insurance solutions to ensure a robust marketplace, and identifying sustainability, resilience and mitigation issues and solutions in the insurance industry.

DOER
Massachusetts Department of Energy Resources

Account for Climate in Capital Investment Planning

- Climate Office and A&F will lead a working group of technical experts to develop a standard, user-friendly “mitigation tool” or set of metrics to evaluate all proposed capital projects in terms of climate mandates.
- The working group will consist of EEA, including DOER’s Leading By Example LBE program, EOED, EOHLC, and other relevant agencies
- Preliminary design will be shared by January 15, 2024

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Massachusetts Department of Energy Resources

Center Environmental Justice

- To achieve widespread market deployment of technologies such as EVs and heat pumps, the Commonwealth should conduct outreach to people in rural areas, Gateway Cities, immigrant communities, working class neighborhoods, indigenous populations, and communities of color.
- When making significant siting decisions, the Commonwealth should consider the ways in which EJ populations have historically been impacted.
- The Commonwealth should encourage the ownership of renewable resources by EJ populations and increase access to these renewable energy resources in ways that align with the Commonwealth's responsible land use goals.

Complete Development of DCAMM Strategic Plan for Decarbonization

- The Division of Capital Asset Management and Maintenance (DCAMM) is in the process of developing “roadmaps” for each campus-style location and for each stand-alone facility over 100,000 square feet. As of August 2023, seven roadmaps are complete, two are in a draft-final form, and eight more are in the process of being drafted.
- By March 1, 2024, DCAMM should complete development of a strategic plan for state building decarbonization.

Executive Order No. 620: Commission on Energy Infrastructure Siting and Permitting

- The Commission will advise the Governor on:
  - Accelerating deployment of clean energy through siting and permitting reform
  - Facilitating community input into siting and permitting of clean energy
  - Ensuring that the benefits of the clean energy transition are shared equitably
- The Commission will review existing statutes, regulations, and processes and make recommendations to the Governor by 3/31/24