

# MIT Energy Initiative Seminar

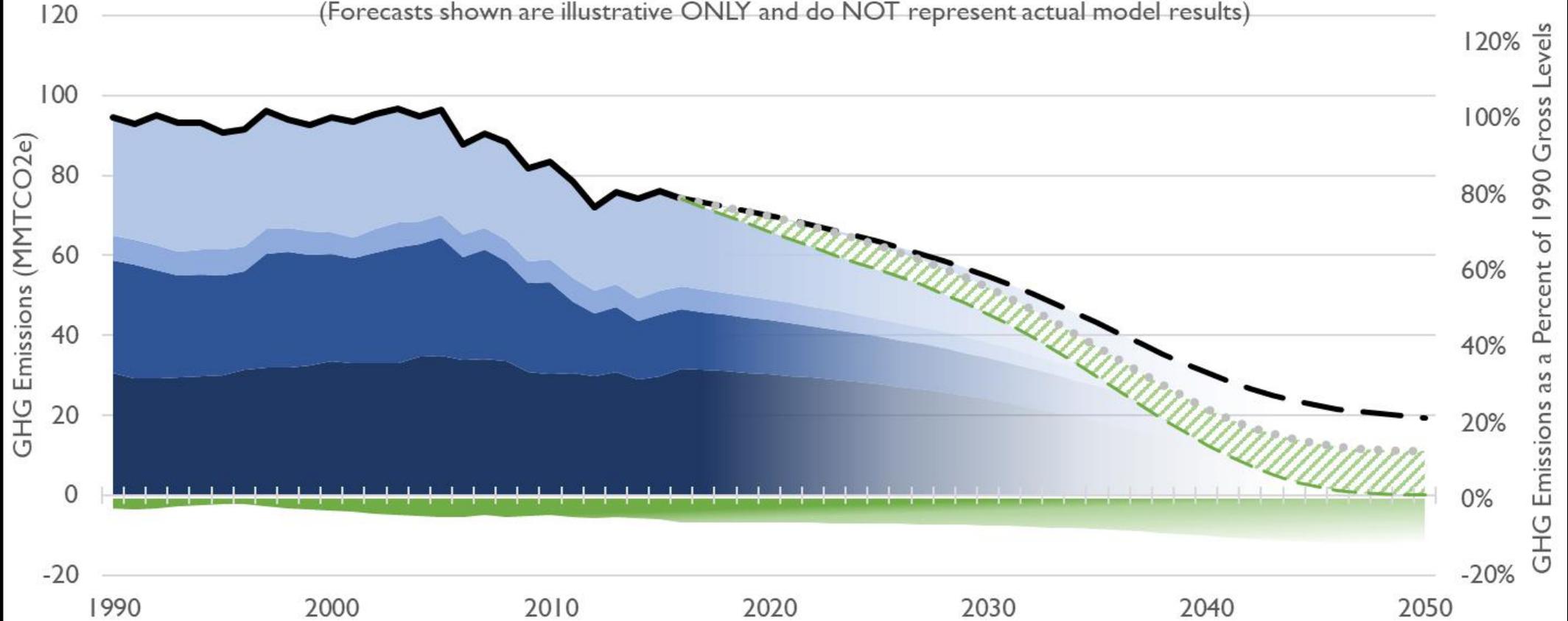
The background of the slide features a photograph of an offshore wind farm. Three large white wind turbines are visible against a clear blue sky. The turbines are mounted on yellow, lattice-structured steel foundations. The water in the foreground is dark blue with some ripples. The overall scene is captured from a low angle, emphasizing the height of the turbines.

Kathleen Theoharides, Secretary  
Massachusetts Executive Office of Energy and  
Environmental Affairs

April 29, 2021

# MA Historical & Hypothetical Future GHG Emissions

(Forecasts shown are illustrative ONLY and do NOT represent actual model results)

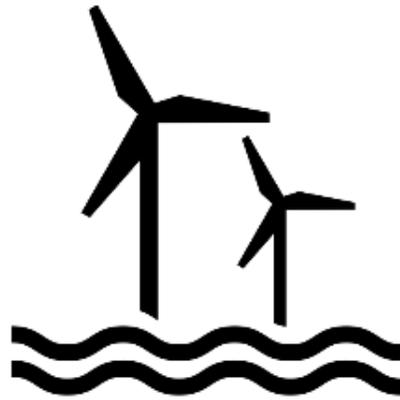


- Transportation
- Electricity Consumption
- (NZ Residual)
- Non-Energy
- Net Carbon Flux
- Net-Zero Emissions
- Buildings
- MassDEP GHG Inventory
- 80x50 (Gross)

# S.9, An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy



GWSA Updates



Offshore Wind

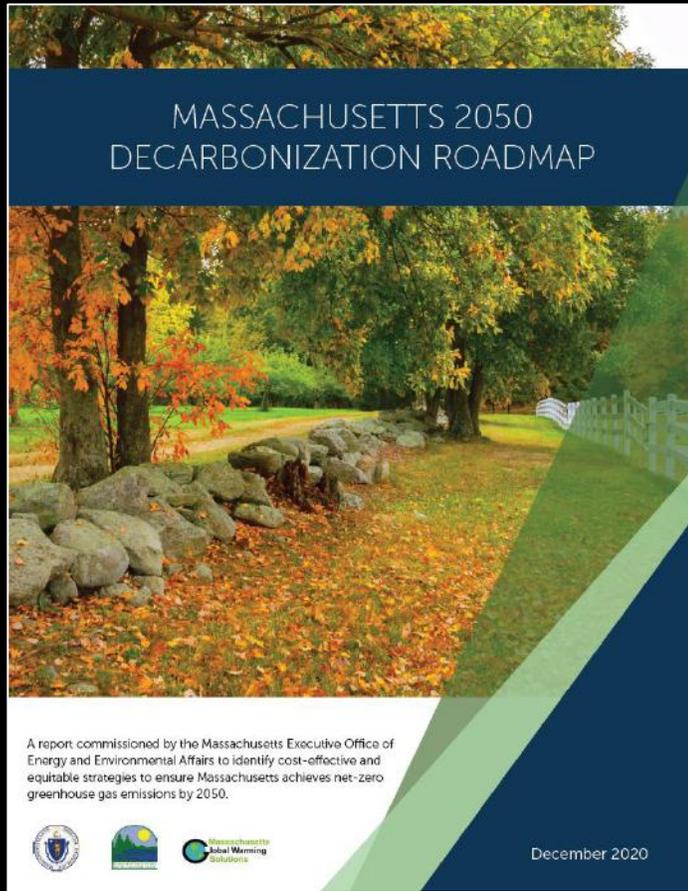


EE Building Code



Environmental Justice

# 2050 Decarbonization Roadmap



- Examined 8 economy-wide decarbonization scenarios through 2050
- Provides technologies, implementation options and overall cost
- Summary Report + six technical reports, each detailing analysis and detailed conclusions by sector (energy supply, transportation, buildings, non-energy, land use, economic and health impacts)
- **EEA used results of 2050 Roadmap Study analysis to develop cost-effective climate strategy for the current decade**

## 2050 Roadmap: Top-Level Findings

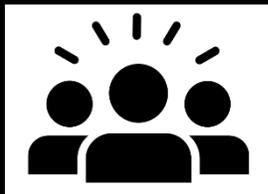
Massachusetts can achieve our 2050 climate goals, and if we are smart about our approach and the strategies we select:



Can do so affordably



Maintain a thriving economy



Ensure we bring everyone along, especially our most vulnerable residents

# 2050 Roadmap: Key Findings

**Commonwealth has a range of options, but the most cost-effective, low-risk pathways share core elements:**



A balanced clean energy portfolio anchored by a significant offshore wind resource



More interstate transmission to allow us to access renewable generation in other states and in Canada



Widespread electrification of transportation and building heat



Reduce cost by replacing energy infrastructure at end of service life.

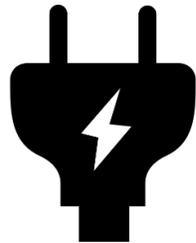
# How Do We Get to 2030?



- ❑ *New Buildings*: Highly-efficient new construction
- ❑ *Existing Buildings*: ~ 1,000,000 Homes and ~ 350 million sq-ft of commercial property retrofitted with clean heating, high-efficiency insulation
- ❑ *Building Heat*: Fewer residential and commercial gas customers than today



- ❑ *Light-Duty*: Over 750,000 new EVs cars & trucks on the road
- ❑ *Med. & Heavy*: > 2,000 new ZEVs on the road + cleaner diesel fuel blends
- ❑ *Miles Travelled*: 15% reduction in light-duty commuter miles traveled



- ❑ *Generation*: 6,000 MW of new clean energy built and interconnected
- ❑ *Transmission*: First of several new regional transmission lines operational
- ❑ *System*: New ISO-NE transmission planning & clean energy markets are ready to add 1GW offshore wind & 500MW of solar every year, plus 2 or 3 more large transmission lines, through 2050



# Senate Bill 9: Next Steps

# 83C Offshore Wind Procurements

- On March 11, 2021, DOER filed the next offshore wind RFP with the DPU for approval
  - Proposals up to 1600 MW
  - New provisions related to diversity, equity, inclusion, and environmental justice
  - Enhanced criteria for economic development
- Pending DPU approval, DOER is working to release final RFP in May, 2021.



# Wholesale Market Reform

**2020:** New England states agreed to pursue structural changes to the wholesale power market and released a joint “Vision Statement” articulating the need for these changes to the public

**Winter 2021:** Technical sessions were held by states around four reform areas: **System operator governance, wholesale electricity markets, transmission planning, and environmental justice**

Through this process, states have heard from national and international experts:

1. ISO New England must adopt a governance structure that accommodates greater transparency and better reflects states
2. The region should adopt a technology-neutral forward clean energy market model
3. The region needs to engage in forward looking, scenario-based long-term transmission planning to meet the energy needs of the future, and siting around this infrastructure must accommodate greater participation from EJ voices



# First-in-the-Nation Commission on Clean Heat

- Baker-Polito Administration will convene a Commission of stakeholders representing a wide range of impacted parties and experts across the built environment.
- Group provide recommendations to the Governor around the future of Clean Heat for the Commonwealth.
- In 2021, Commission to focus on informing a long-term, declining caps on heating fuel emissions (gas, oil, propane) to be established in regulations by MassDEP in 2022.
- In 2022, Commission to focus on development of supporting policies to transition towards Clean Heat and meet the cap.
- Commission will be convened in May/June, supported by an inter-agency Task Force on Clean Heat made up of staff at DOER, MassDEP, DPU, HED, and MassCEC.

# Future of Natural Gas Investigation

**October 2020:** DPU issued Order opening investigation into the role of local natural gas distribution companies in the future of the Commonwealth's energy portfolio.

- As part of the investigation, DPU will assess the role of gas companies in ensuring a low-carbon future and explore strategies that enable the Commonwealth to achieve Net Zero by 2050 while **safeguarding ratepayer interests and securing safe, reliable, and affordable natural gas service.**
- Work will dovetail with Administration's 2050 Decarbonization Roadmap and the 2030 Clean Energy and Climate Plan.



# 2022-2024 Energy Efficiency Plan Priorities

*Planning underway, to be filed with DPU in October 2021*

## Align Energy Efficiency with Massachusetts climate goals, including:

- Expanding **electrification**, weatherization, and deeper efficiency measures
- Strategically phase out fossil fuel heating incentives

## Improve Program Equity, through increased investment in workforce development and dedicated strategies to increase participation from:

- Moderate income customers
- Renter/landlords
- Customers with English isolation
- Small businesses
- Environmental Justice communities



# Energy Storage

- Launched the Energy Storage Initiative in 2015
- Committed \$20 million in Energy Storage Grants
- First-in-the-nation to include an energy storage incentive in the SMART Program and the statewide Energy Efficiency Program.
- Commenced the Clean Peak Energy Standard (CPS)



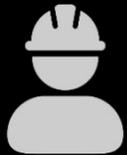
# Transportation and Climate Initiative Program



On December 21, 2020, Massachusetts, Connecticut, Rhode Island, and Washington, D.C. signed a bipartisan Transportation and Climate Initiative Program (TCI-P) MOU committing to a groundbreaking multi-state program that will cap and reduce emissions from transportation by 26% by 2032 while raising \$1.8 billion for clean transportation investments.



Invest in equitable, cleaner transportation options, and create significant new employment opportunities



Substantially improve public health across the Commonwealth and New England.



THANK YOU

