



Massachusetts Department
of Energy Resources

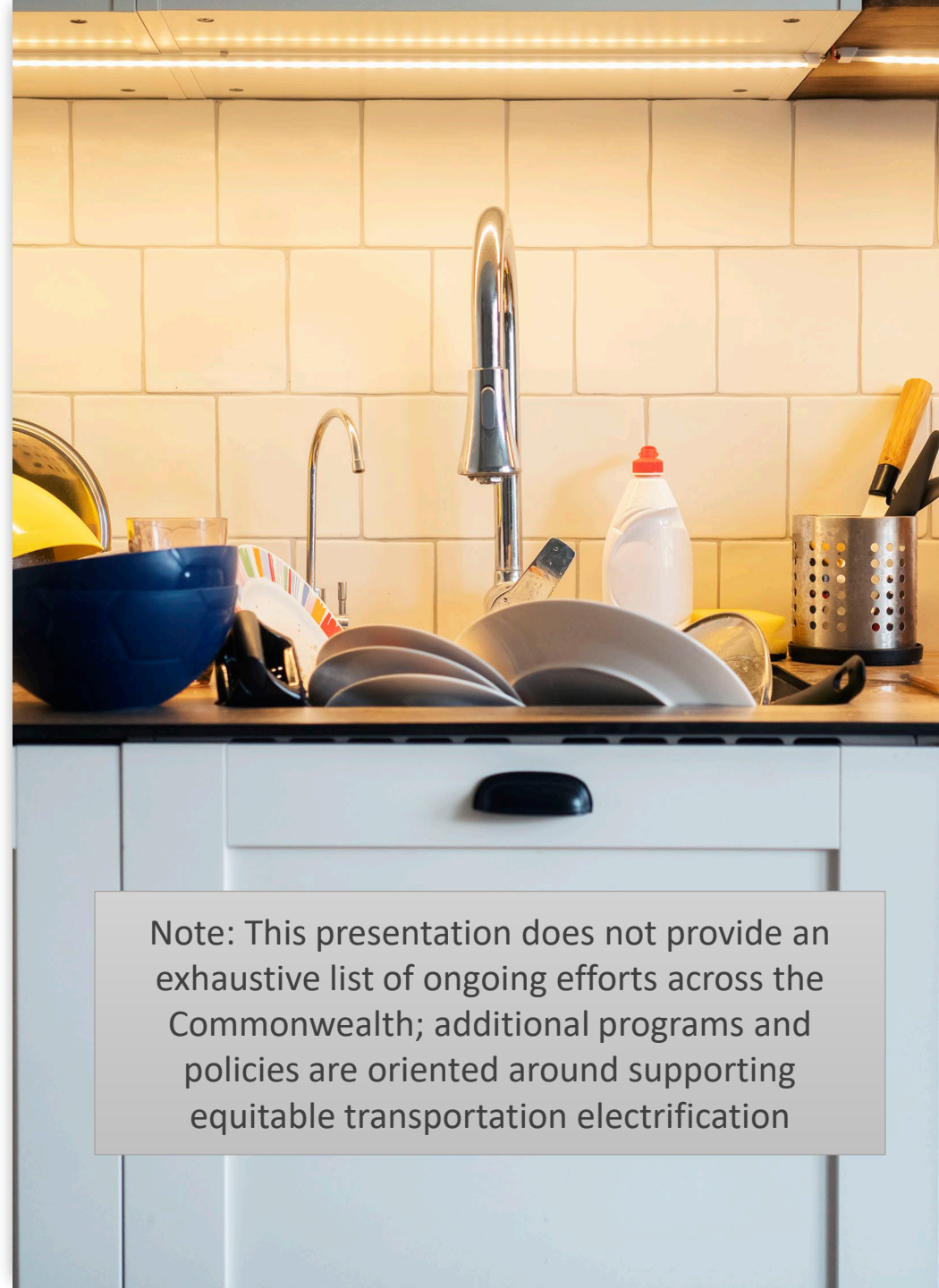
Zero Emission Vehicle Adoption: Massachusetts Policy and Program Approaches

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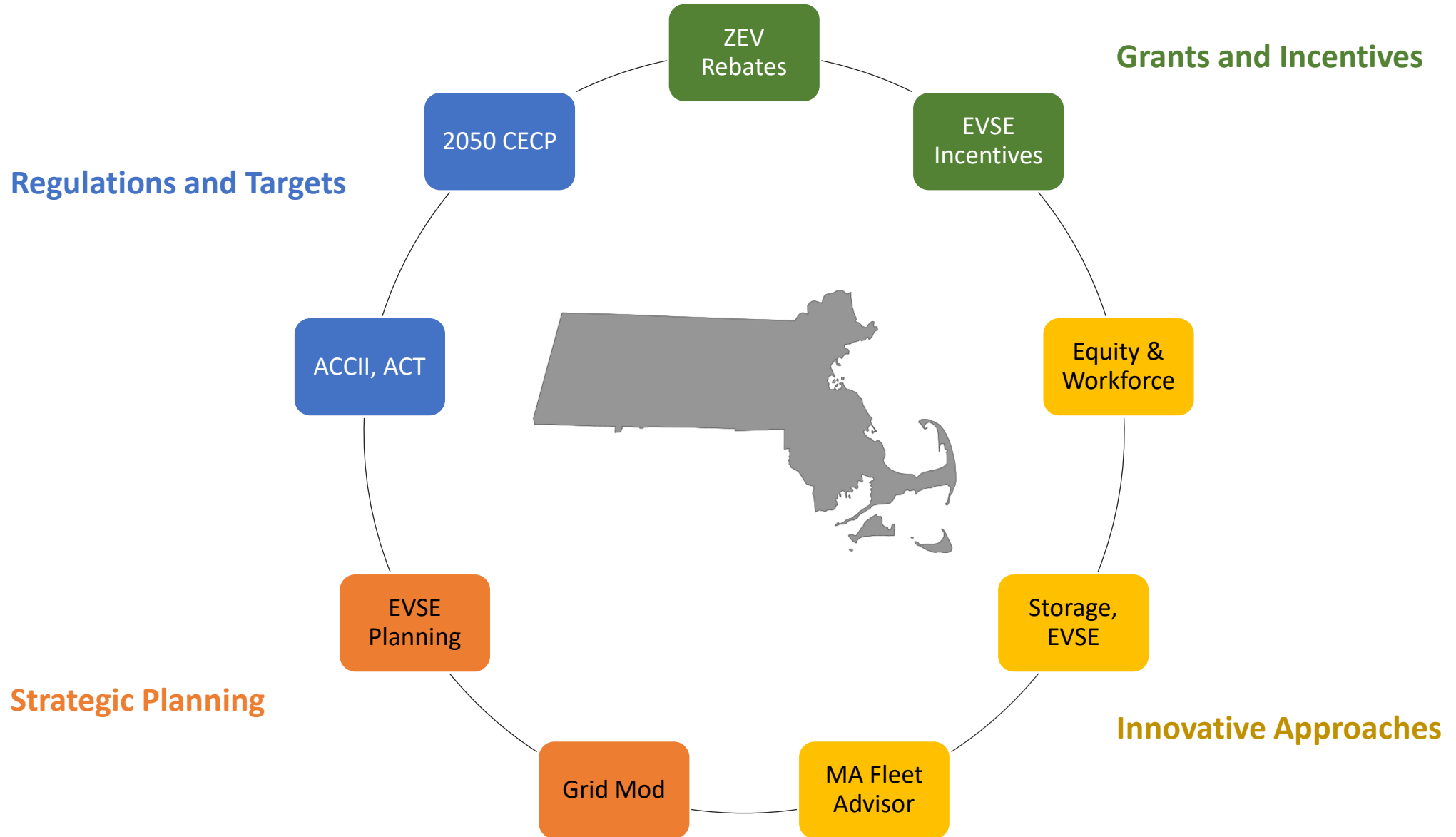
The Kitchen Sink(ing Emissions)

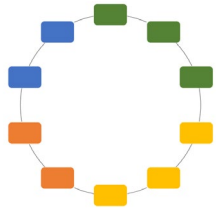
- Integrated approach to **reduce transportation emissions** by applying leverage from multiple angles
- Massachusetts is combining...
 - + ZEV adoption and emission reduction targets, focused on BEVs
 - + Regulations (e.g., air quality, building codes, etc.)
 - + Incentives and funding support
 - + Charging infrastructure funding and planning
 - + Innovative technologies and approaches
- ...with an Environmental Justice overlay
- All these components, and their interactions with each other, matter – *can't electrify fleets without supporting infrastructure, can't deploy infrastructure without considering the expansion and location of grid capacity, etc.*



Note: This presentation does not provide an exhaustive list of ongoing efforts across the Commonwealth; additional programs and policies are oriented around supporting equitable transportation electrification

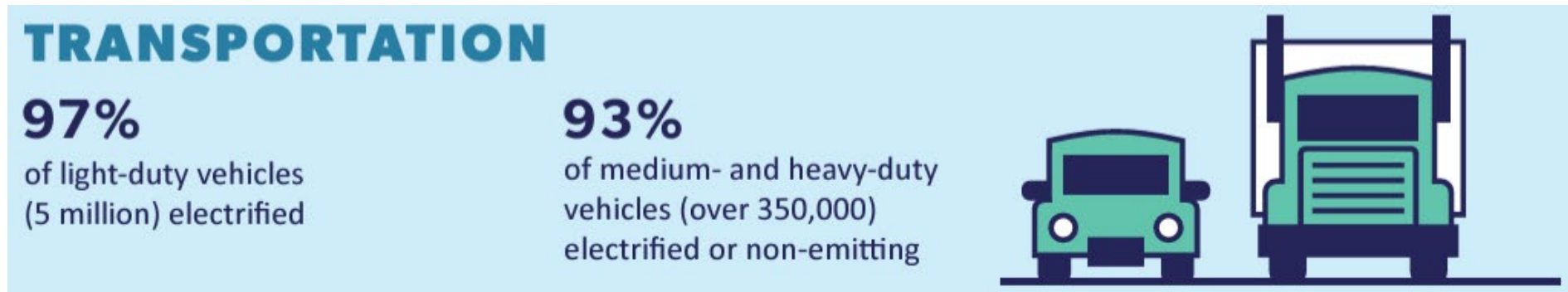
Examples of Massachusetts Policy and Program Mechanisms





Statewide Targets for Electrification

- Massachusetts has adopted a statewide GHG emissions limit and sector-specific sub-limits for 2050
- The 2050 Clean Energy & Climate Plan ([CECP](#)) highlights a broad suite of specific goals, strategies, policies, and actions by sector
- Two of the CECP's key benchmarks:

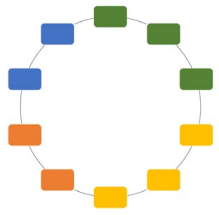


- MA is orienting applicable policy and programmatic decisions around the CECP sub-limit for transportation

2050 CECP: Transportation Sector

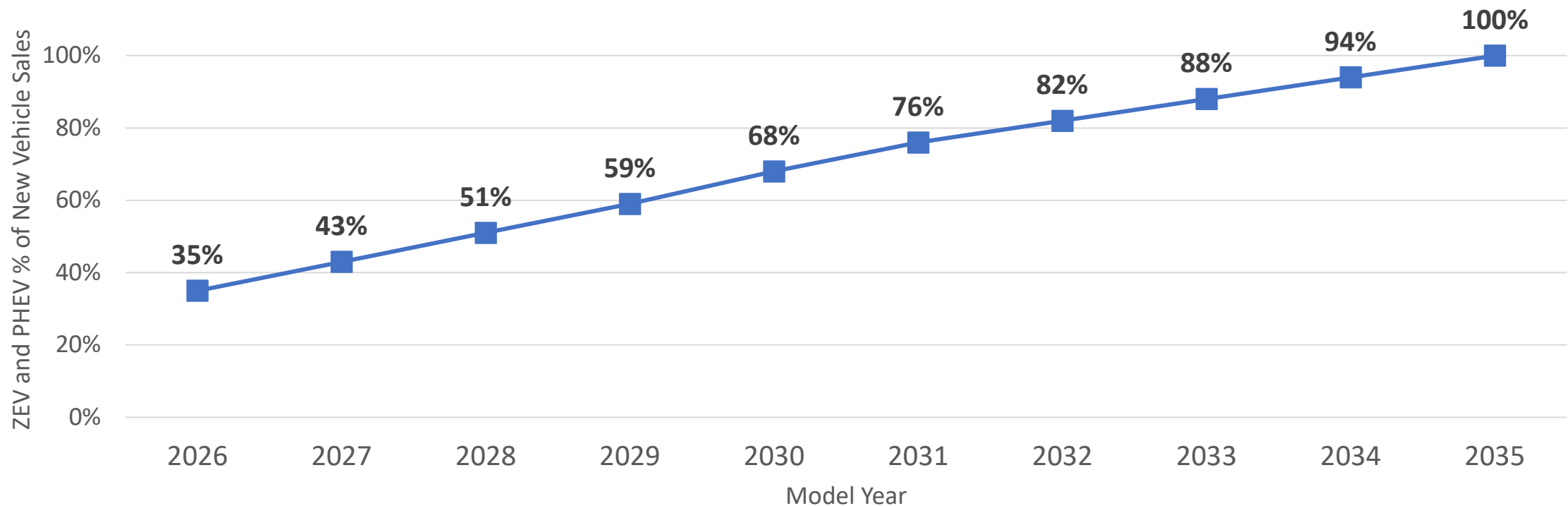


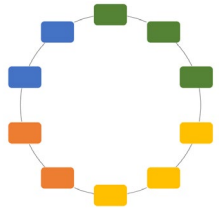
*GHG targets reflect reduction from a transportation-specific baseline



Regulations: Advanced Clean Cars II

- MA General Law requires Commonwealth to adopt California vehicle emissions standards if they achieve greater reductions than federal standards
- ACCII (adopted end of 2022) requires an increasing portion of ZEVs at retail:



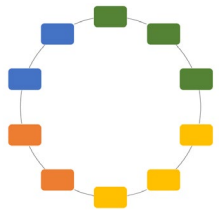


Regulations: Advanced Clean Trucks

- Under Advanced Clean Trucks, ZEVs must be a minimum percentage of annual sales starting MY25
- Auto manufacturers achieve compliance in different ways:
 - ZEVs = credits, non-ZEVs = deficits
 - Retired credits must equal deficits
- Credits can be generated early, banked, and traded or sold between manufacturers



Model Year	Class 2b-3	Class 4-8	Class 7-8
2024	5%	9%	5%
2025	7%	11%	7%
2026	10%	13%	10%
2027	15%	20%	15%
2028	20%	30%	20%
2029	25%	40%	25%
2030	30%	50%	30%
2031	35%	55%	35%
2032	40%	60%	40%
2033	45%	65%	40%
2034	50%	70%	40%
2035+	55%	75%	40%



Grid Modernization

2022 Climate Law directed the state's electric distribution companies to develop Electric Sector Modernization Plans

- ESMPs describe current state of grid, proposed investments, future reliability and needs, and impacts and strategies for renewables, buildings, and EVs

EDCs are proposing a combined \$9.2B in investments over 5-year period (2025-2029)

- In current proposals, EVs represent a small fraction of total estimated spending needed to modernize grid
- Ongoing discussions about managed charging and rate design

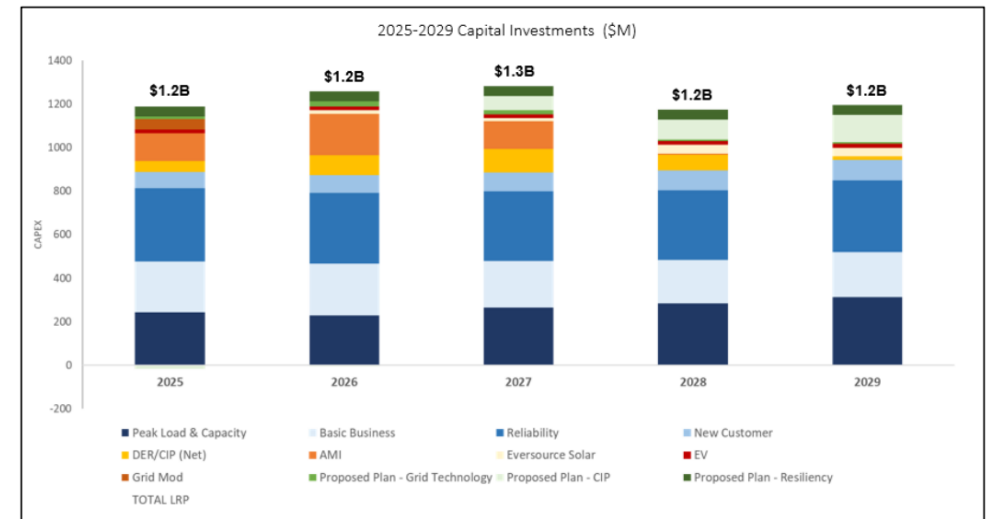
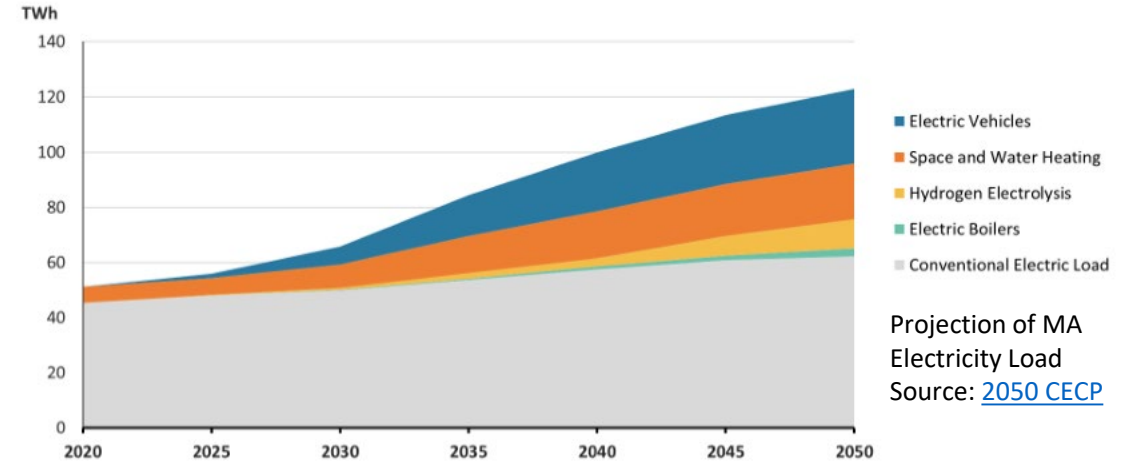
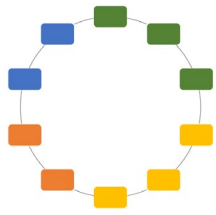


Figure 182: 2025-2029 Capital Investments (\$M)
Source: Eversource ESMP Chapter 7, pg. 378



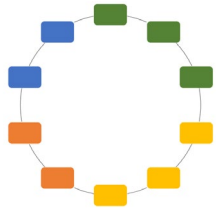
Coordinated Infrastructure Planning

The Electric Vehicle Infrastructure Coordinating Council ([EVICC](#)) was established in 2022 Climate Law to “assess and report on strategies and plans to deploy electric vehicle charging infrastructure to establish an equitable, interconnected, accessible and reliable electric vehicle charging network” for all vehicle classes and charging needs

Interdisciplinary membership (departments of transportation, housing, economic development, public utilities, energy resources, environmental protection, finance, transit authorities, regional planning, etc.)

EVICC has made recommendations and will now focus on implementation actions across a range of areas:

- Improve process to inspect/register charging stations
- Support “right to charge” legislation for tenants and condo owners
- Update appliance efficiency standards for EVSE
- Expand curbside and overnight charging for tenants
- Focus on EJ populations and rural areas
- Communicate EVSE locations on highway signage
- Reduce transmission and distribution infrastructure burden
- (and more)



Fleet Advisory Services



Free technical advisory service open to private and non-profit fleets and public fleets within Municipal Light Plants

- Fleets must have 3 or more vehicles
- At least one vehicle must be medium- or heavy-duty
- Fleets must be registered and depoted within MA
- \$5M budget (funding via MassCEC and ARPA)



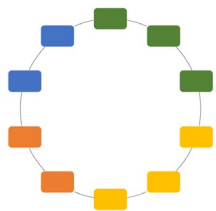
Phase 1: Electrification Analysis – up to 200 fleets

- In-person site assessment for EV charging stations, solar and/or battery storage
- Total cost of ownership analysis
- One-to-one vehicle replacement analysis
- Detailed fleet analysis report



Phase 2: Procurement – up to 75 fleets

- Determined by fleet interest/readiness to procure vehicles
- Incentive application support
- Utility coordination for infrastructure installation
- Workforce training



School Bus Advisory Services

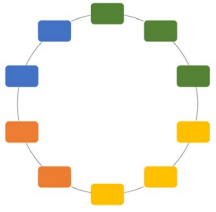
Advisory Program

- Free electrification planning for up to 25 fleets
- Includes preparation for districts to access additional or future funding opportunities
- Feasibility designs, financial models, procurement plans

Deployment Program

- Up to \$2.5M in ARPA funding available for 1-3 school bus fleets
- Optional technical assistant to guide the EV bus deployment process
- Charging station planning, infrastructure deployment, and data collection





Innovative Technologies and Approaches

- State and municipalities adopting innovative tech to meet site-specific needs
- Considering updates to buildings codes and portfolio standards (e.g., the Clean Peak Standard) to facilitate greater EVSE deployment and innovative approaches to grid management with expected increase in charging



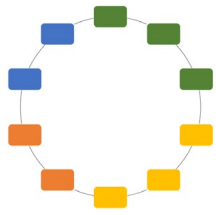
Pole-mounted EV charging stations installed in Melrose, MA, to support “garage orphans”



MassDOT deployed mobile charging stations (aka charging as a service) to meet holiday weekend demand



Beverly, MA, uses its electric school buses to sell power back to grid during peak summer days



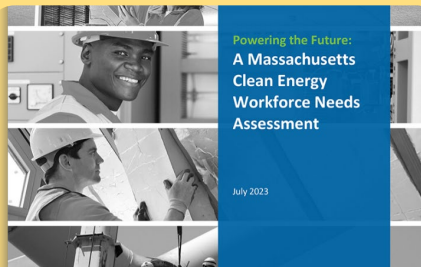
Equity / Workforce Development Considerations

MA Office of Climate Innovation and Resilience has initiated the process of integrating equity and environmental justice screening into capital investment plan requests and state-funded grant programs (including vehicles and charging infrastructure)



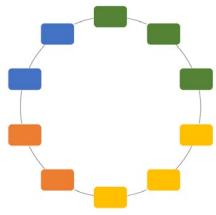
EV and EVSE Funding

- Additional rebate funding for income-restricted residents for both purchased and leased vehicles (MOR-EV)
- Incentivizing MD/HD conversions in locations that meet EJ criteria (MOR-EV Trucks)
- Providing up to 100% of EVSE cost coverage in EJ communities (utility make-ready programs)
- Ensuring EJ communities are served by DCFC at a rate equal to or greater than non-EJ communities (NEVI plan)



Workforce Development

- [Workforce Equity Programs](#) through MA Clean Energy Center grants (training, MWBE support, equity workforce planning and capacity)
- Current [RFP](#) for equity workforce training, equipment, and infrastructure for climate-critical occupations
- Component of the Mass. Fleet Advisor Program



Vehicle Incentives: MOR-EV Rebates



MOR-EV

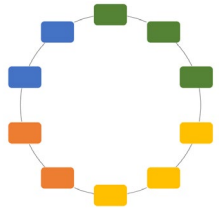
Massachusetts Offers Rebates
for Electric Vehicles

Light-Duty Passenger Vehicles, Pickup Trucks, and Class 2b of any Body Type

- \$3,500 or \$7,500 base rebate for new ZEVs
- \$1,500 rebate adder for income-qualifying residents
- \$3,500 rebate for used ZEVs, limited to income-qualifying residents

Medium-/Heavy-Duty Vehicles

- \$15,000–\$90,000 rebate (by GVWR)
- 10% adder for vehicles registered or operating in EJ communities
- Rebate reservation process allows for ordering lead times/supply chain delays
- Decreasing rebate value as program is subscribed to encourage early adoption



EV Charging Incentives



Utility Make-Ready Programs

([residential, commercial](#))



MassEVIP Grants

([public access, MUDs, fleet/workplace](#))



Green Communities Grants

([municipal fleets](#))



State Fleet Charging

([state agency and public higher education fleets](#))

Thank You!

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<https://www.mass.gov/leading-by-example-program>

Transportation Program and Policy Landscape

Modeled Targets

Strategies

Electrification

Incentives (light-, medium-, and heavy-duty rebates, vehicles for hire, etc.)

Regulations (air quality, building codes, etc.)

Infrastructure (state and utility programs, coordinated planning, etc.)

Technical support

Market demonstration projects

Mode Shift / ↓ VMT

Incentives (e-bikes, complete streets, etc.)

Regulations (rideshare, etc.)

Transit authority zoning

Public transit (bus modernization, etc.)

Aviation & Marine

Federal and international policies (limited jurisdiction)

Short-haul aviation

Land use decisions

*Environmental Justice
Overlay*

Measure progress with predetermined indicators