



Commonwealth of Massachusetts

MBTA Fiscal and Management Control Board

Clean Energy and Climate Plan for 2030 (interim)

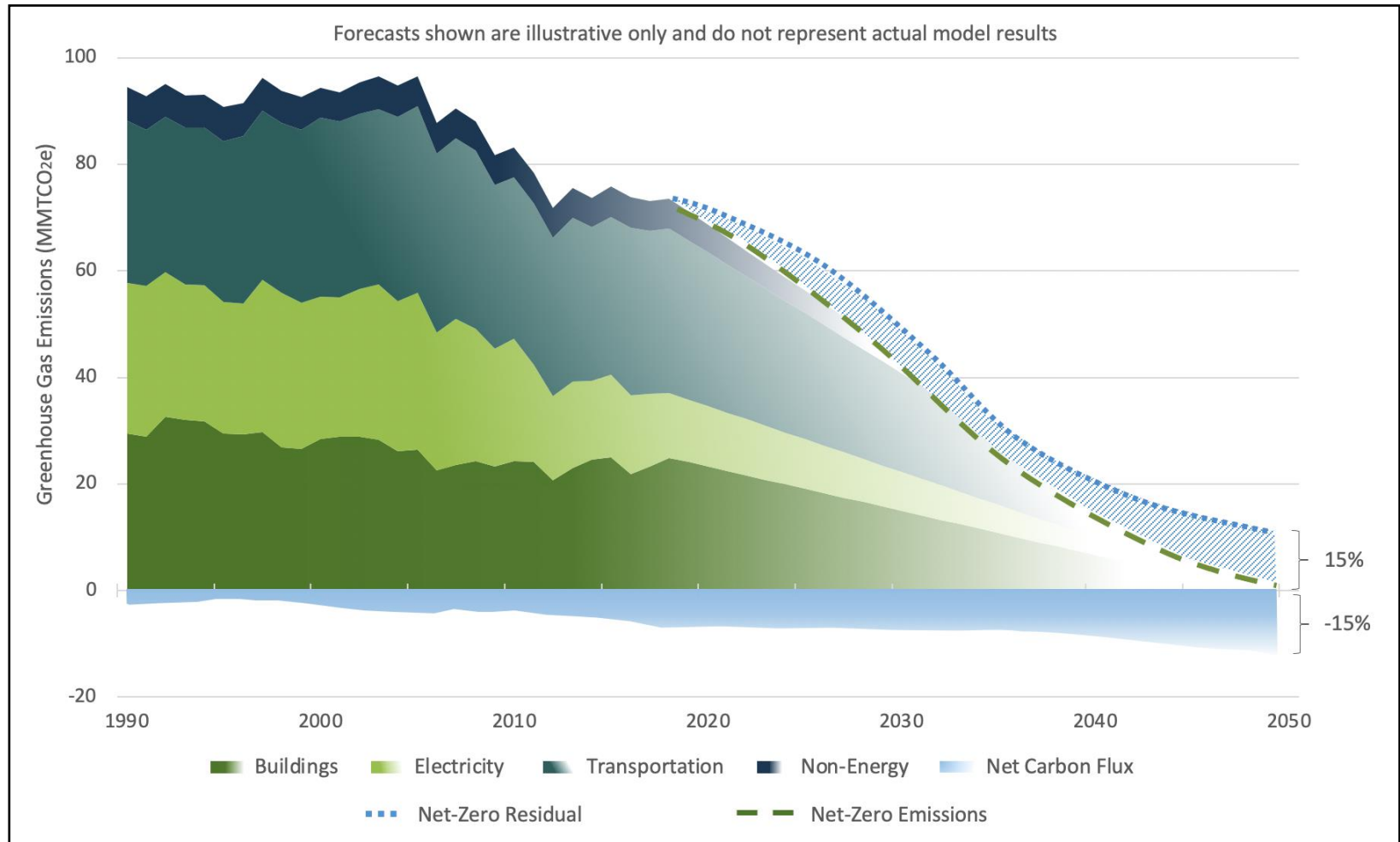
David Ismay

Undersecretary for Climate Change
Executive Office of Energy and Environmental Affairs

January 25, 2021

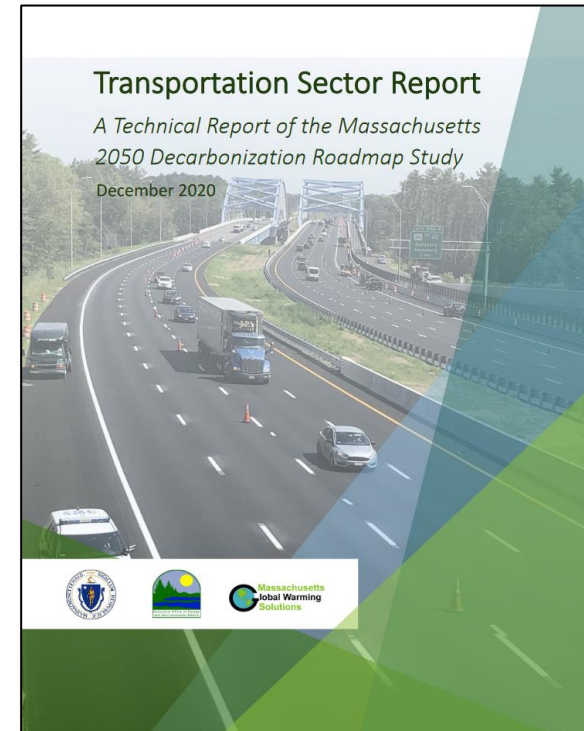
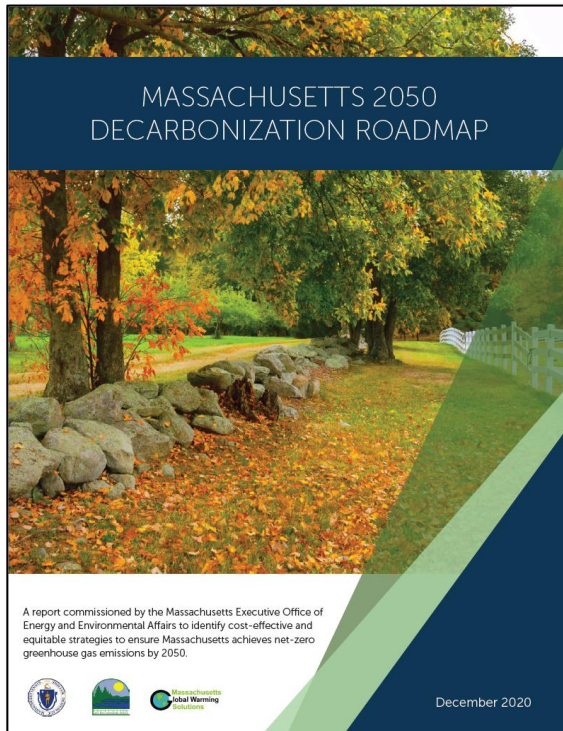


Net Zero in 2050





MA 2050 Decarbonization Roadmap

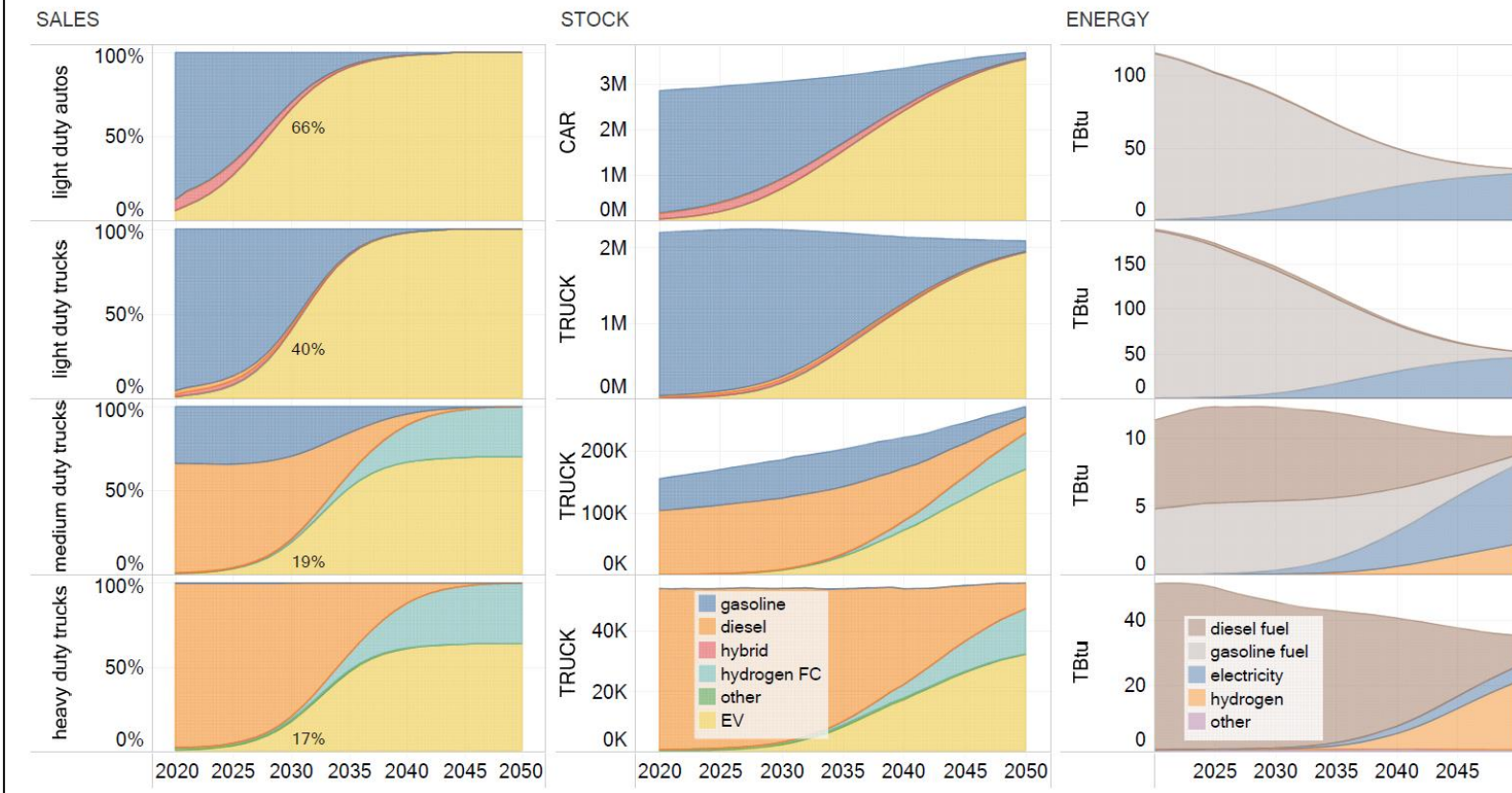


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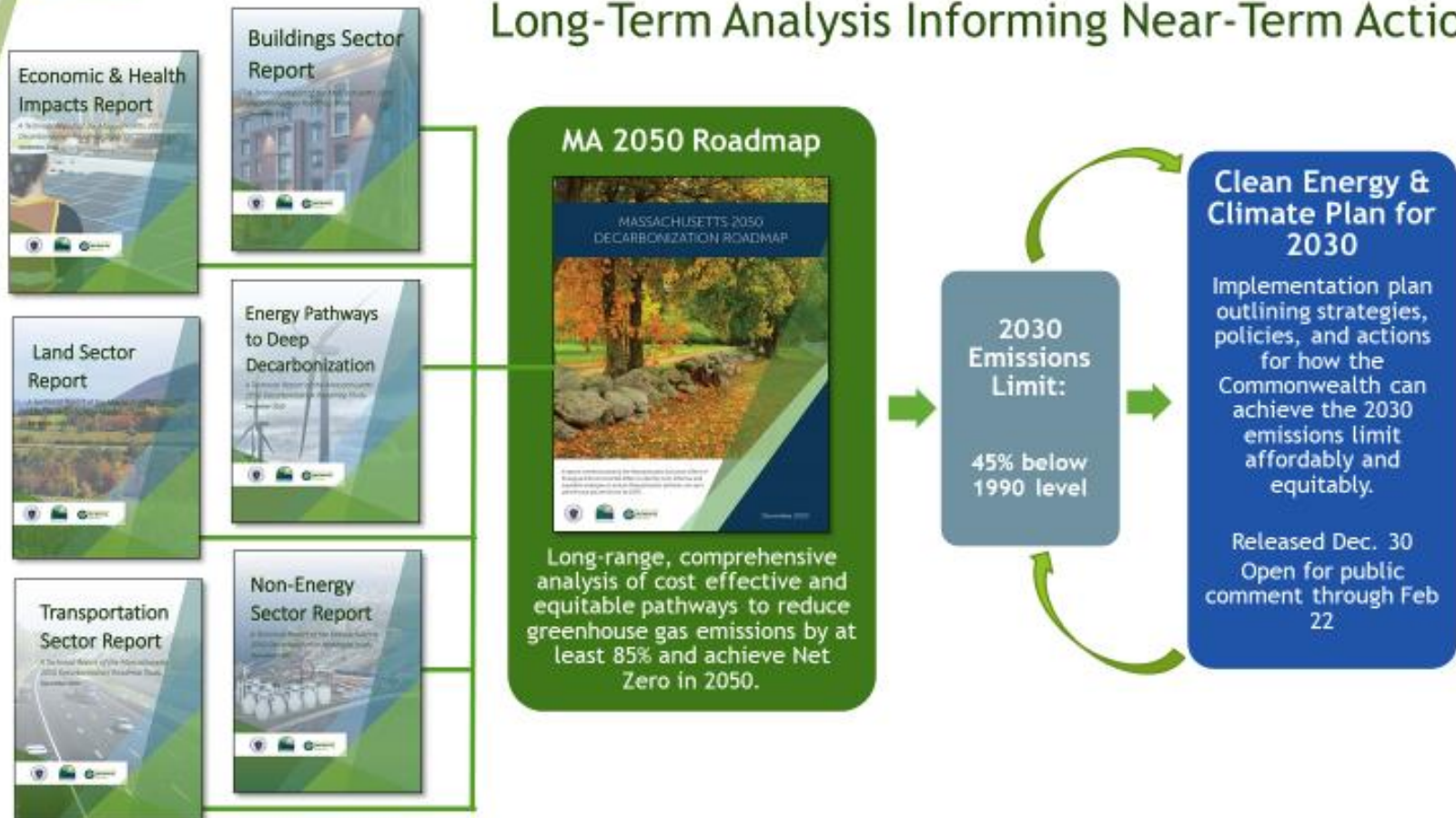
MA 2050 Decarbonization Roadmap

Figure 17 Massachusetts on-road transportation subsectors breakdown by sales (based on input assumptions), the resulting stock, and final energy demand. All pathways share a common set of on-road vehicle assumptions. The percent of 2030 sales assumed to be electric is displayed on the first panel. Service demand (vehicle miles traveled) increases in all pathways, but final energy demand decreases due to the efficiency of electric drivetrains.



2050 Roadmap → 2030 CECP

Long-Term Analysis Informing Near-Term Action



For More Information: www.mass.gov/2050Roadmap



2030 Clean Energy and Climate Plan (CECP)

- Dec. 30, 2020: EEA issued the CECP for public comment to be updated and finalized in March/April 2021 following two months of public comment
- Framed by findings of 2050 Roadmap analysis – designed to maximize the Commonwealth’s ability to meet its target of Net Zero by 2050
- Establishes a blueprint for achieving the 2030 emissions limit of 45% below 1990 levels, which will require MA to reduce its statewide emissions about 19 million metric tons below current levels (about 8 MMTCO₂e from Transportation)
- Balance between cost/benefit and assessment of technical ability to achieve



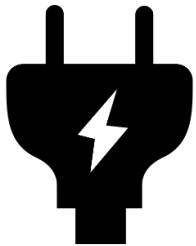
What Does Getting to 45% in 2030 Look Like?



- ❑ *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 ZEVs 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

2030 CECP: Policy Proposals to Achieve 45% Reduction



Buildings



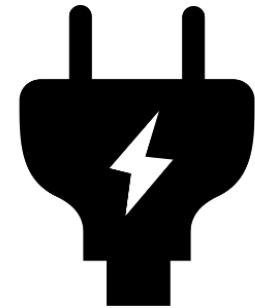
- Pivot MassSave
- High-Efficiency Energy Code
- Cap Heating Fuel Emissions
- Convene Commission on Clean Heat

Transportation



- Transportation and Climate Initiative Program
- Implement 100% EV Sales by 2035 & Advanced Clean Trucks/Fleets
- MOR-EV Program
- EV Charging + Smart Charging
- Work with partners/stakeholders to explore Low-Carbon Fuel Standard (20% reduction by 2030)
- Limit Commuter Vehicle Miles Traveled (15% reduction)

Electricity



- Execute on Existing Procurements + Additional 2,000MW Clean Energy
- Review & Revise Clean Energy Programs & Include MLPs
- Revise Wholesale Energy Markets & Planning



2030 Clean Energy and Climate Plan (CECP)

Chapter 2. Transforming our Transportation Systems (pp.17-26)

Table 3: Transportation Sector— illustration of the most likely, cost-effective, and technologically feasible approach to achieve the emissions reduction expected and required by this plan (incorporating background trends and other known or expected non-policy related changes).

Transportation				
Equipment or Subsector	Metric	Strategy	Action	GHG Emissions Reduction
Cross-Cutting	≥ \$130 million raised per year to invest in clean transportation systems	T1	TCI-P	0.1 MMTCO ₂ e
Light-duty vehicles (LDVs), including passenger cars and trucks	At least 750,000 zero-emission vehicles on the road, depending on standard compliance mechanisms and rebate levels. New rate classes and demand response programs established to enable the participation of EVs in retail and wholesale electricity markets.	T2	ZEV Standards	5.1 – 5.4 MMTCO ₂ e
		T3	ZEV Incentives	
		T4	EVSE Programs	
		T5	Market Facilitation	
Medium-duty and heavy-duty vehicles (MDHDVs)	~ 20% reduction in carbon intensity of diesel fuel.	T1	LCFS	1.8 MMTCO ₂ e
	Pilot deployment of ZEVs across all duty-cycles, engage fleet operators, and invest in EVSE infrastructure.	T2 – T5	Pilot MDHDV Programs	
Vehicle-Miles Traveled (VMT)	LDV VMT stabilized around 56 billion miles per year, despite 7% growth in anticipated fleet size from today.	T6	Smart Growth	0.1 MMTCO ₂ e
		T6	Commuter VMT	0.7 MMTCO ₂ e
Transportation Subtotal				7.8 – 8.1 MMTCO ₂ e