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VIA FIRST CLASS AND ELECTRONIC MAIL

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Subject: Petition for Massachusetts Department of Environmental Protection Rulemaking to Establish Regulations to Implement the Global Warming Solutions Act and An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy

Dear Commissioner Heiple:

Conservation Law Foundation (“CLF”)¹ hereby petitions the Massachusetts Department of Environmental Protection (“MassDEP”) to initiate one or more rulemaking proceedings to promulgate new and amended regulations under the Commonwealth’s Global Warming Solutions Act (“GWSA”), An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy (“Roadmap Law”), and An Act Driving Clean Energy and Offshore Wind (“2022 Energy Law”) pursuant to M.G.L. c. 30A, § 4 and 310 CMR 2.00. As a result of the Commonwealth’s new net-zero emission standard, its statutory requirement to update the Clean Energy and Climate Plan (“CECP”) and the recent directive from the Massachusetts Legislature to consider environmental justice in climate programs, CLF asserts that previously enacted regulations require review and revision at this time. This petition is one of several concurrent petitions that CLF has filed as part of a multi-agency GWSA implementation package in which CLF seeks action by MassDEP, Executive Office of Energy and Environmental Affairs (“EEA”), Energy Facilities Siting Board (“EFSB”), Massachusetts Department of Energy Resources

¹ CLF, on behalf of its members, seeks a multi-agency GWSA implementation plan that puts Massachusetts on the path to be a national leader in both addressing the climate crisis and environmental injustice. Founded in 1966, CLF is a nonprofit, member-supported, regional environmental organization working to conserve natural resources, protect public health, and promote thriving communities for all in the New England region. CLF protects New England’s environment for the benefit of all people. We use the law, science, and markets to create solutions that preserve our natural resources, build healthy communities, and sustain a vibrant economy. CLF serves to protect and promote the interests of its 5,300 members, including more than 2,900 members residing throughout the Commonwealth.

(“DOER”), Massachusetts Department of Public Utilities (“DPU”), and Massachusetts Department of Transportation (“MassDOT”). The multi-agency GWSA implementation package is summarized in Appendix A.

GWSA compliance and achieving our net-zero climate targets requires a comprehensive set of regulatory amendments. While Massachusetts has begun implementing the GWSA and the Roadmap Law, implementation is lacking and falls short of mandatory climate goals. In particular, the Roadmap Law requires the Secretary to promulgate greenhouse gas (“GHG”) emission limits every five years starting in 2025 and to reach carbon neutrality by 2050.² It also requires that the level of emissions in 2050 should not be higher than 85 percent below the 1990 level.³ Executive Order No. 569 holds that agencies should reduce emissions per GWSA limits. With Massachusetts’ new Clean Energy and Climate Plan for 2025/2030 (“2025/2030 CECP”), the state aims to reduce 33 percent of emissions from the 1990 level by 2025 and 50 percent from the 1990 level by 2030.⁴ With this Petition, CLF requests that MassDEP undertake these regulatory changes to ensure the Commonwealth achieves its climate mandates and effectively decarbonizes the economy in a just and equitable manner.

Regulatory amendments must address historic disinvestment in Black, Brown, Indigenous, low-income, and immigrant communities, while also setting the stage for emissions reductions in the transportation, electricity, gas, buildings, and solid waste sectors as required by the GWSA and Roadmap Law.⁵ Climate justice can only be achieved if MassDEP and other executive agencies promulgate regulations that bring about concrete improvements in the health and lives of communities in the Commonwealth, especially those that both continue to be disproportionately impacted by pollution and experience the worst impacts of climate change and COVID-19. The policies must be holistic and developed and implemented with community participation. Unless climate justice is a central component of the Commonwealth’s path to net-zero emissions, the inequities of the Commonwealth’s past energy and environmental policies will be replicated.

CLF’s significant history of climate and environmental justice advocacy has included litigation to enforce the GWSA, legislative support to advance climate and environmental justice bills, as well as general advocacy to increase zero-emission transportation policies, expand energy efficiency services, reduce reliance on fossil fuels, and support greater reliance on clean energy. For example, in the 2016 case *Kain v. Department of Environmental Protection*, CLF contended that the Commonwealth was obligated to create and implement regulations to meet its carbon emission reduction mandates.⁶ The Massachusetts Supreme Judicial Court agreed with CLF’s assertion and held that the plain language of the statute and Section 3(d) required the department to promulgate regulations.⁷ CLF has further worked to uphold the goals and purpose

² St. 2021, c. 8, § 9.

³ *Id.* § 8(b).

⁴ *Massachusetts Clean Energy and Climate Plan for 2025 and 2030*, Executive Office of Energy and Environmental Affairs (June 30, 2022), <https://www.mass.gov/doc/clean-energy-and-climate-plan-for-2025-and-2030/download> (hereinafter 2025/2030 CECP).

⁵ St. 2021, c. 8, § 10; *see also* St. 2021, c. 8, § 56.

⁶ *Kain v. Dep’t of Env’tl. Prot.*, 474 Mass. 278, 288-90 (2016).

⁷ *Id.* at 292.

of the GWSA through its participation as an amicus curiae in the 2018 case, *New England Power Generators Association v. Department of Environmental Protection*.⁸ Following the above-referenced litigation, MassDEP proceeded to successfully meet its confirmed duties by promulgating GWSA regulations directed at compliance with the GWSA's 2020 targets. In the intervening years climate science, law and policy options have advanced. We are now faced with new information about the climate crisis, more aggressive emissions targets, and the need to formulate and implement a new set of policies aimed at achieving the Commonwealth's new, more stringent emissions mandate for 2030.

CLF has engaged with MassDEP on climate policy over the years through its seat on the GWSA Implementation Advisory Committee as an official member, chair of the Electricity Working Group, and co-chair of the Climate Justice Working Group. CLF now seeks to work with MassDEP to implement a regulatory package that will advance climate action and climate justice in the Commonwealth. CLF's advocacy and commitment to Massachusetts' communities, environmental protection and justice have yielded significant expertise among CLF staff members in energy and climate matters, as well as matters relating to the transportation, electricity, solid waste, gas, and building sectors. Pursuant to Section 4 of the Massachusetts Administrative Procedure Act,⁹ CLF formally requests through this petition that MassDEP now enact new and amended regulations to implement the GWSA, the 2050 Roadmap Report, and the Commonwealth's emissions limits to mitigate climate change and protect vulnerable environmental justice populations.

⁸ *New England Power Generators Ass'n, Inc. v. Dep't of Env'tl. Prot.*, 480 Mass. 398, 399 (2018).

⁹ M.G.L. c. 30A, § 4.

TABLE OF CONTENTS

I.	Background.....	7
	Legislative and Planning Actions	7
	MassDEP Implementation	9
II.	The Threat of the Climate Crisis Requires Urgent Action	10
	Dire Warnings from Climate Scientists	10
	Severe Climate Impacts Already Hitting Massachusetts	12
III.	Agencies Must Prioritize and Center Equity and Justice in GWSA Implementation.....	14
IV.	MassDEP Has the Authority to Amend its Regulations to Achieve the GWSA	16
V.	MassDEP Has an Opportunity to Implement a Cross-Sector Rulemaking Process to Implement the GWSA and Work Toward Net Zero Emissions by 2050	17
	A. Achieving a Decarbonized Transportation Sector Requires Implementing the Commission on the Future of Transportation Report	17
	Current Status.....	17
	Legal Authority.....	19
	Needed Action	20
	B. Achieving a Decarbonized Electricity Sector Requires Accurate Reporting of GHG Impacts of Hydroelectric Power and Eliminating Combustion Energy Sources from Clean Energy Programs.....	22
	Current Status.....	22
	Needed Action	23
	C. Achieving a Decarbonized Building Sector Requires Pursuing Deep Energy Efficiency Retrofits, Electrifying Our Heating Systems, and Transitioning Off of Heating Fossil Fuels .	24
	Current Status.....	24
	Needed Action	25
	D. Achieving a Decarbonized Solid Waste Sector Requires Planning for Zero Waste.....	26
	Needed Action	26
	E. Mandating Permit Applicants to Demonstrate No Net Increase in Greenhouse Gas Emissions Will Substantially Support Net Zero by 2050 Efforts	30
	Current Status.....	30
	Legal Authority.....	30
	Needed Action	31
VI.	Conclusion	33
	Appendix A: Comprehensive Multi-Sector Regulatory Package	34
	Appendix B: Redlined Regulations	42

310 CMR 4.01: Purpose, Authority, and General Provisions.....	43
310 CMR 7.00: Statutory Authority; Legend; Preamble; Definitions.....	44
310 CMR 7.02 U Plan Approval and Emission Limitations	45
310 CMR 7.11: U Transportation Media.....	47
310 CMR 7.32: Natural Gas-Fired Furnace and Boiler NOx Emissions Standards.....	48
310 CMR 7.35: Water Heater NOx Emissions Standards	52
310 CMR 7.37: MB High Occupancy Vehicle Lanes	61
310 CMR 7.40: U Low Emission Vehicle Program	65
310 CMR 7.73: Reducing Methane Emissions from Natural Gas Distribution Mains and Services.....	66
310 CMR 7.75: Clean Energy Standard	67
310 CMR 7.77: Net Zero Communities Program.....	68
310 CMR 7.78: Reducing Peak Electric Sector Emissions	70
310 CMR 9.01: Purpose.....	71
310 CMR 9.02: Definitions	72
310 CMR 9.31: Summary of License and Permit Requirements.....	73
310 CMR 10.01: Introduction and Purpose	74
310 CMR 10.04: Definitions.....	75
310 CMR 16.01: General Requirements.....	76
310 CMR 16.02: Definitions.....	77
310 CMR 16.03: Exemptions from Site Assignment	78
310 CMR 16.04: General Permit for Recycling, Composting or Aerobic and Anaerobic Digestion Operations	79
310 CMR 16.05: Permit for Recycling, Composting and Conversion (RCC) Operations	80
310 CMR 16.08: Site Assignment Application Submission Requirements	81
310 CMR 16.13: Department Report on Suitability (Report).....	82
310 CMR 19.001: Authority	83
310 CMR 19.002: Purpose.....	84
310 CMR 19.006: Definitions	85
310 CMR 19.018: Third-party Inspections.....	86
310 CMR 19.032: Permit Procedure for a New Facility or Expansion Permit Application	87
310 CMR 36.01: Authority	88
310 CMR 36.02: Purpose.....	89
310 CMR 36.03: Definitions.....	90

310 CMR 36.07: Registration Conditions	91
310 CMR 36.27: Issuance of Permits	92
310 CMR 60.03: U Conformity to the State Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. Or the Federal Transit Act.....	93
310 CMR 60.05: Global Warming Solutions Act Requirements for Transportation	108

I. BACKGROUND

Legislative and Planning Actions

Recognizing the long-term threat posed by climate change, Massachusetts passed the GWSA in 2008 and was one of the first states to implement a regulatory program to mitigate climate change.¹⁰ The GWSA requires at least an 80 percent reduction in GHG emissions by 2050 from 1990 GHG emission levels.¹¹ It further requires coordinated state agency actions to achieve these GHG emission limits,¹² and mandates MassDEP to promulgate GHG reporting regulations.¹³ The GWSA also sets forth target goals for the reduction of GHG emissions from all sectors of the Commonwealth's economy.

A history of executive, legislative, and judicial actions followed the GWSA to address the grave threats that the climate crisis presents for the people, natural resources, and environment of the Commonwealth. In May 2016, in *Kain*, the Supreme Judicial Court established that MassDEP must set actual enforceable limits for greenhouse gas emissions and not “promulgate regulations that merely establish aspirational goals or unenforceable targets.”¹⁴ The *Kain* decision underscored that the Executive Officer of Energy and Environmental Affairs (“EEA”) and its agencies are primarily responsible for administering the required emission reductions.¹⁵ In September 2016, Governor Baker signed Executive Order 569, which set forth a comprehensive approach to meeting the Commonwealth's GHG emission goals, as well as protecting residents, businesses, and municipalities from the impacts of climate change. In 2018, the Supreme Judicial Court also recognized that the GWSA “is designed to make Massachusetts a national, and even international, leader in the efforts to reduce the greenhouse gas emissions that cause climate change.”¹⁶ In upholding MassDEP's authority to promulgate sector specific regulations under M.G.L. c. 21N, § 3(d), the Supreme Judicial Court stated that the GWSA “establishes significant, ‘ambitious,’ legally binding, short-and long-term restrictions on those emissions.”¹⁷

In January 2020, Governor Baker announced a commitment for Massachusetts to achieve net-zero GHG emissions by 2050 during his State of the Commonwealth Address.¹⁸ A year later, the Legislature passed S.2995, the Roadmap Law, amending the GWSA to incorporate a 2050 net-zero emissions mandate. After an initial veto, refiling, and passage again by the Legislature, a negotiated and amended version of the Act was enacted on March 26, 2021, requiring an updated 2025/2030 Clean Energy and Climate Plan for 2025 and 2030.¹⁹ On June 30, 2022, EEA released its Clean Energy and Climate Plan for 2025 and 2030. On August 11, 2022, Governor

¹⁰ St. 2008, c. 298.

¹¹ M.G.L. c. 21N, § 3B.

¹² M.G.L. c. 21N, §§ 2-3.

¹³ M.G.L. c. 21N §§ 2, 10.

¹⁴ *Kain*, 474 Mass. at 287-290.

¹⁵ See M.G.L. c. 21N, §7; M.G.L. c. 21A, §2 clause (30).

¹⁶ *New England Power Generators Ass'n, Inc.*, 480 Mass. at 399.

¹⁷ *Id.* (citations omitted).

¹⁸ Press Release: *Governor Baker Delivers 2020 State of the Commonwealth Address*, MASS GOV (January 21, 2020), <https://www.mass.gov/news/governor-baker-delivers-2020-state-of-the-commonwealth-address>.

¹⁹ St. 2021, c. 8.

Charlie Baker signed another climate law, An Act Driving Clean Energy and Offshore Wind, which included new measures for clean energy, energy efficiency, and transportation emissions.

EEA has determined that Massachusetts must achieve at least an eighty-five percent gross emissions reduction while meeting the Roadmap Law’s net-zero GHG emissions requirement by 2050. Former EEA Secretary Theoharides issued a Letter of Determination on April 22, 2020, defining the net-zero requirement:

A level of statewide greenhouse gas emissions that is equal in quantity to the amount of carbon dioxide or its equivalent that is removed from the atmosphere and stored annually by, or attributable to, the Commonwealth; provided, however, that in no event shall the level of emissions be greater than a level that is 85 percent below the 1990 level.²⁰

EEA followed this Determination with the Massachusetts 2050 Decarbonization Roadmap (“2050 Roadmap Report”) on December 30, 2020, a technical report that set forth eight pathways to achieve net-zero emissions by 2050. The 2050 Roadmap Report was the culmination of input from a technical advisory committee and implementation advisory committee, in which CLF participates. A plan styled as an “Interim Clean Energy and Climate Plan” for 2030 and a request for comments accompanied the 2050 Roadmap Report.²¹ CLF filed detailed comments on the Interim 2030 CECP.

On June 30, 2022, former EEA Secretary Beth Card released a final Clean Energy and Climate Plan (“CECP”) for 2025 and 2030, which aims to achieve a 33 percent reduction in GHG emissions from the 1990 level by 2025 and the Roadmap Law’s statutorily required 50 percent reduction in GHG emissions from the 1990 level by 2030.²² While the 2025/2030 CECP sets overall objectives for the Commonwealth to tackle the climate crisis, the Plan lacks concrete action goals in multiple areas. Regulatory action is timely as MassDEP needs to establish concrete opportunities to achieve those goals and promulgate adequate regulations to meet its climate mandates.

On December 21, 2022, EEA released the 2050 CECP, a comprehensive plan to achieve net-zero GHG emissions by 2050.²³ The 2050 CECP reflects the state’s strategies to reach emission goals and is on the right track on phasing out fossil fuels, but still requires additional work to ensure that no environmental justice populations are left behind.

In January 2023, Governor Healey signed Executive Order 604, establishing the Office of Climate Innovation and Resilience and appointing a Climate Chief, a new-cabinet level position

²⁰ Secretary Kathleen Theoharides, *Determination of Statewide Emissions Limit for 2050*, Executive Office of Energy and Environmental Affairs (April 22, 2020), Commonwealth of Massachusetts, <https://www.mass.gov/doc/final-signed-letter-of-determination-for-2050-emissions-limit/download>.

²¹ *Interim Clean Energy and Climate Plan for 2030*, Executive Office of Energy and Environmental Affairs, at 47 (2020) (hereinafter Interim CECP).

²² See generally 2025/2030 CECP, *supra* note 4.

²³ *Clean Energy and Climate Plan for 2050*, Executive Office of Energy and Environmental Affairs (Dec. 2022) (hereinafter 2050 CECP), <https://www.mass.gov/doc/2050-clean-energy-and-climate-plan/download>.

responsible for prioritizing climate change policies across all agencies. In the appointment of Climate Chief Hoffer to monitor cross-agency climate work, Governor Healey established Massachusetts as the first state in the nation to establish such a position at the cabinet level.

MassDEP Implementation

The GWSA directs the Commonwealth’s executive agencies to promulgate regulations that achieve compliance. “In implementing its plan for statewide greenhouse gas emissions limits, the commonwealth and its agencies shall promulgate regulations that reduce energy use, increase efficiency and encourage renewable sources of energy in the sectors of energy generation, buildings and transportation.”²⁴ To implement the 2025/2030 CECP and to achieve the emissions limits set forth by the Baker administration, MassDEP must take advantage of the present opportunity and amend its regulations to ensure achievement of the Commonwealth’s climate goals.

MassDEP’s past regulations have been insufficient to meet the mandates of the GWSA and the Roadmap Law. The agency has implemented regulations to match EPA standards but has failed to set more stringent standards across sectors of regulation that would better protect health in environmental justice populations, reduce GHG emissions, or help the Commonwealth prepare for climate change impacts. For example, under 310 CMR. 6.00, the agency set ambient air quality standards for particulate matter, ozone, nitrogen oxide, and lead to match EPA’s standards. Under 310 CMR 10.00, the agency made no mention of implementing a no-net loss policy for wetlands protection, a key part of the natural and working lands sector under the Roadmap Law and the 2025/2030 CECP. Under 310 CMR 9.00’s hazardous waste provisions, regulatory changes missed an opportunity to reduce methane emissions from decaying organic material in landfills. While MassDEP set several regulatory changes on per- and polyfluoroalkyl substances (“PFAS”) under the National Primary Drinking Water Regulations, 310 CMR 22.00, fewer regulations addressed needed changes to meet the Commonwealth’s climate goals.

MassDEP has siloed GWSA compliance regulatory changes under 310 CMR 7.00 (Air Pollution Control) and 310 CMR 60.00 (Air Pollution Control for Mobile Sources). Under 310 CMR 60.00, MassDEP promulgated an emergency regulation to comply with the Massachusetts Supreme Judicial Court decision in *New England Power Generators Ass’n, Inc. v. Dep’t of Env’tl. Prot.*, 480 Mass. 398 (2018). The decision affirmed that the Department has an “obligation to promulgate new regulations ...after December 31, 2020.” *Id.* at 410. In the regulation’s guidance document, MassDEP stated that it “has determined that the regulation should be extended as part of ongoing climate policies and programs to ensure that the Commonwealth remains on track to achieve the goals of the M.G.L. c. 21N, § 3(d) of the Massachusetts Global Warming Solutions Act (GWSA).”²⁵ Since the document was released, no new regulations have been promulgated to ensure the Department is not only complying with the GWSA, but also the Roadmap Law and meeting objectives laid out in the 2025/2030 CECP.

²⁴ M.G.L. c. 21N, § 6.

²⁵ *Background Document on Proposed Amendments to: 310 CMR 7.75 Clean Energy Standard*, Massachusetts Department of Environmental Protection (April 2022), <https://www.mass.gov/doc/310-cmr-775-background-document/download>.

In the 2025/2030 CECP, the EEA estimates that Massachusetts will achieve a 32 percent emissions reduction in 2025 on the way toward a 50 percent reduction emissions requirement by 2030. While existing policies including the 3-Year Energy Efficiency Plan and power plant emissions limits have helped reduce emissions and decarbonize Massachusetts' economy, MassDEP must seize other opportunities to maximize emissions reductions through regulatory actions. The regulatory proposals in this petition will help ensure a transition to a clean energy economy while also considering equity and environmental justice.

II. THE THREAT OF THE CLIMATE CRISIS REQUIRES URGENT ACTION

Climate scientists agree that at least net-zero GHG emissions must be achieved by mid-century to have a chance at mitigating the worst effects of climate change. The Massachusetts Supreme Judicial Court has acknowledged the emerging consensus shared by the scientific community that climate change is attributable to increased emissions, as well as perceptions in the Commonwealth that national and international efforts to reduce those emissions are inadequate.²⁶ As recognized by Governor Healey in her former role as Massachusetts Attorney General, climate change poses an existential threat to living beings.²⁷ The Intergovernmental Panel on Climate Change ("IPCC") has warned that the time between now and 2030 is the most important for climate action.²⁸

Dire Warnings from Climate Scientists

The IPCC has found that global surface air temperature has risen approximately 1.0 degree Celsius (1.8 degrees Fahrenheit) above pre-industrial temperatures.²⁹ The world and the region are also experiencing higher annual temperatures, increased and more severe storms, extreme weather, and rising sea levels as a result of the global rise of GHG emissions.³⁰ A vast majority of these rising emissions are from the burning, extraction, and transportation of fossil fuels over the past decades.³¹

The IPCC emphasizes that the effects of climate change are increasingly getting more severe, and drastic decarbonization is needed to meet climate goals. For example, in 2014 the IPCC concluded that "continued emission of greenhouse gases will cause further warming" and long-lasting impacts and limiting climate change would require "substantial and sustained reductions in greenhouse gas emissions."³² In 2018, the IPCC provided a graver assessment, concluding that with the current pace of emissions, warming will reach 1.5 degrees Celsius

²⁶ *Kain*, 474 Mass. at 281.

²⁷ *Massachusetts v. Exxon Mobil Corp.*, No. 19-3333, at 49 Massachusetts Superior Court (Oct. 24, 2019), <https://www.mass.gov/files/documents/2019/10/24/Complaint%20-%20Comm.%20v.%20Exxon%20Mobil%20Corporation%20-%2010-24-19.pdf>.

²⁸ Press Release: *The evidence is clear: the time for action is now. We can halve emissions by 2030*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (April 4, 2022), <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/>.

²⁹ *Global Land-Ocean Temperature Index*, NASA, <https://climate.nasa.gov/vital-signs/global-temperature/>.

³⁰ *The Effects of Climate Change*, NASA, <https://climate.nasa.gov/effects/>.

³¹ *Climate Change 2014 Synthesis Report Summary for Policymakers*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, (2014), at 5, https://www.ipcc.ch/site/assets/uploads/2018/02/AR5_SYR_FINAL_SPM.pdf.

³² *Id.* at 8.

(2.7 degrees Fahrenheit) by mid-century.³³ At 1.5 degrees Celsius there are still significant impacts on human health, food and water supply, sea level rise and mass species extinction.³⁴ Similar warnings came from the United States Global Change Research Program in 2018³⁵ and the World Economic Forum’s Global Risks Report in 2019.³⁶ In 2020, the global community collectively experienced the highest temperatures on record, alarming heat and wildfires in the Arctic, and a record 29 tropical storms in the Atlantic.³⁷

In 2021, the IPCC issued another dire report, finding that climate change is “unequivocally” caused by human influence,³⁸ and that recent changes in the climate system are “unprecedented” over hundreds to thousands of years.³⁹ The report also stated that human-caused climate change is “already affecting many weather and climate extremes in every region across the globe.”⁴⁰ For instance, heavy precipitation events have increased since 1950 in most land areas and ecological and agricultural droughts have increased as well, mainly due to human-caused climate change.⁴¹ The 2021 IPCC report warned that there is a narrow window to limit climate change to 1.5 degrees Celsius and policies must be enacted immediately to avoid setting off irreversible tipping points.

In fact, the 2021 IPCC report revealed that global surface temperature will continue to rise “until at least mid-century under all emission scenarios considered.”⁴² Mitigating climate change and its most catastrophic effects requires “limiting cumulative CO₂ emissions, reaching at least net zero CO₂ emissions.”⁴³ The 2021 IPCC report also emphasized the importance of timely action, as every ton of carbon dioxide contributes to climate change and “[w]ith every increment of global warming, changes in extremes continue to become larger.”⁴⁴ While some effects of climate change would take millennia to reverse, scenarios that severely limit GHG emissions “would have rapid and sustained effects to limit human-caused climate change,” such as

³³ *Global Warming of 1.5 °C, Chapter 1*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2018), 82, https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_Chapter1_Low_Res.pdf.

³⁴ *Id.* at 9.

³⁵ *Fourth National Climate Assessment, Vol. II: Impacts, Risks, and Adaptation in the United States*, US GLOBAL CHANGE RESEARCH PROGRAM (2018), <https://nca2018.globalchange.gov/>.

³⁶ *The Global Risks Report 2019*, WORLD ECONOMIC FORUM (2019), <https://www.weforum.org/reports/the-global-risks-report-2019>.

³⁷ Damian Carrington, *Climate Crisis: 2020 was joint hottest year ever recorded*, THE GUARDIAN (January 8, 2021), <https://www.theguardian.com/environment/2021/jan/08/climate-crisis-experts-2020-joint-hottest-year-ever-recorded>.

³⁸ *Climate Change 2021: The Physical Science Basis, Summary for Policymakers*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2021), at 4, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf (hereinafter 2021 IPCC Report).

³⁹ *Id.* at 6.

⁴⁰ *Id.* at 10.

⁴¹ *Id.* at 8, 10.

⁴² *Id.* at 14.

⁴³ *Id.* at 27.

⁴⁴ 2021 IPCC Report, *supra* note 38, at 15 (“For example, every additional 0.5°C of global warming causes clearly discernible increases in the intensity and frequency of hot extremes, including heatwaves (very likely), and heavy precipitation (high confidence), as well as agricultural and ecological droughts in some regions (high confidence).”

flooding.⁴⁵ Limiting emissions in the near term is imperative to minimize future warming and avoid the most devastating and irreversible impacts of climate change.⁴⁶

Since the dire 2021 report, two reports have been released that support cross-cutting regulatory action in Massachusetts. In the 2022 Summary for Policymakers Report on Mitigation, the IPCC recognized that “[c]limate governance is most effective when it integrates across multiple policy domains, helps realise synergies and minimize trade-offs.”⁴⁷ The IPCC further stated that policies shifting behavioral changes can also “open up a broader range of mitigation efforts,” including promoting walkable urban areas, electrification, and renewable energy.⁴⁸ Overall, this report called for “a substantial reduction in overall fossil fuel usage,” as well as the “widespread electrification of the energy system.”⁴⁹ The 2022 Summary for Policymakers Report on impacts, adaptation, and vulnerability stated that “[s]oft limits to some human adaptation have been reached,” emphasizing the need for clear action.⁵⁰ The 2022 IPCC Adaptation Report concluded that “[i]nclusive governance contributes to more effective and enduring adaptation outcomes and enables climate resilient development.”⁵¹

Severe Climate Impacts Already Hitting Massachusetts

Massachusetts is already experiencing harmful impacts from climate change and remains particularly vulnerable if GHG emissions continue to rise. Temperatures in Massachusetts already have increased more than the national average, and heavy precipitation in the region is greater than anywhere else in the country.⁵² Severe storms have pounded the state in recent years causing flooding, displacement, and millions of dollars of property damage.⁵³ Residents living in urban areas such as Boston, particularly the young, ill, and elderly, will also face additional challenges if they live in buildings without air conditioning and “will face greater risks of serious heat-related health illnesses” as heat waves are projected to become more frequent and intense.⁵⁴ Boston is also at risk of coastal flooding, storm surges, and sea level rise, jeopardizing Boston Logan Airport, the train system, and those living throughout the city. Other coastal areas in Massachusetts are also particularly vulnerable to sea level rise and extreme sea level events that previously occurred once per century and are projected to occur at least annually in many areas by 2100. Low-lying areas will experience increases in the frequency and intensity of flooding,

⁴⁵ *Climate Change 2022: Impacts, Adaptation and Vulnerability, Summary for Policymakers*, Intergovernmental Panel on Climate Change, at 31 (2022), IPCC AR6 WG II, https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf (hereinafter 2022 IPCC Adaptation Report).

⁴⁶ *Id.* at 27-28.

⁴⁷ *Climate Change 2022: Mitigation of Climate Change, Summary for Policymakers*, Intergovernmental Panel on Climate Change, at 59 (2022), IPCC AR6 WG III, https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_SummaryForPolicymakers.pdf.

⁴⁸ *Id.*

⁴⁹ *Id.* at 36.

⁵⁰ 2022 IPCC Adaptation Report, *supra* note 45, at 28.

⁵¹ *Id.* at 33.

⁵² *Rising Temperatures*, RESILIENT MA CLIMATE CHANGE CLEARINGHOUSE FOR THE COMMONWEALTH, <https://resilientma.org/changes/rising-temperatures>.

⁵³ *Billion-Dollar Weather and Climate Disasters: Events*, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, <https://www.ncdc.noaa.gov/billions/events>.

⁵⁴ *Id.*

and sandy coasts will undergo more severe coastal erosion. These impacts are most severely felt by environmental justice populations, frontline, and marginalized communities. For example, in addition to Boston, Revere (an environmental justice population), Marshfield, Quincy (an environmental justice population), Hull, and Salisbury are particularly exposed to sea level rise and flooding.⁵⁵

Failing to reduce GHG emissions will force higher costs on the people of Massachusetts and impose greater threats to their health, safety, and property.⁵⁶ This will exacerbate issues felt by environmental justice populations already overburdened by pollution.

As the United Nations Secretary-General stated:

Today's IPCC Working Group I Report is a code red for humanity. The alarm bells are deafening, and the evidence is irrefutable: greenhouse gas emissions from fossil fuel burning and deforestation are choking our planet and putting billions of people at immediate risk. Global heating is affecting every region on Earth, with many of the changes becoming irreversible.

The internationally agreed threshold of 1.5 degrees Celsius is perilously close.

[...]

We must act decisively now to keep 1.5 alive.⁵⁷

The regulations proposed herein provide concrete steps that the Commonwealth should take to immediately implement the GWSA and 2050 Roadmap Law, and align with the spirit and urgency of the most recent 2022 IPCC report to maintain climate change at 1.5 degrees Celsius.

⁵⁵ *U.S. Coastal Property at Risk from Rising Seas*, Union of Concerned Scientists, <https://ucsusa.maps.arcgis.com/apps/MapSeries/index.html?appid=cf07ebe0a4c9439ab2e7e346656cb239>.

⁵⁶ *Id.*

⁵⁷ Press Release, *Secretary-General's statement on the IPCC Working Group I Report on the Physical Science Basis of the Sixth Assessment*, UNITED NATIONS (Aug. 9, 2021), <https://www.un.org/sg/en/content/secretary-generals-statement-the-ipcc-working-group-1-report-the-physical-science-basis-of-the-sixth-assessment>.

III. AGENCIES MUST PRIORITIZE AND CENTER EQUITY AND JUSTICE IN GWSA IMPLEMENTATION

The “climate crisis, species loss, pollution, and predatory capitalism have placed increased pressures on our natural and built environment, often leaving the most marginalized communities, especially people of color, low-income residents, and limited English proficient residents, to bear the worst of the burden of environmental pollution.”⁵⁸ Race determines which neighborhoods are safe and healthy places to live, learn, work, commute, and play,⁵⁹ and the COVID-19 pandemic has exacerbated these long-standing inequities in health outcomes between white people and people of color.⁶⁰ Specifically, environmental justice populations⁶¹ are at risk of suffering from health conditions from criteria pollutants such as particulate matter, ground-level ozone, lead, carbon monoxide, nitrogen oxides, volatile organic compounds, black carbon, and

⁵⁸ *Recommendations for 80x50 Study Scenario Planning*, Climate Justice Working Group (February 24, 2020), <https://www.mass.gov/doc/gwsa-iac-climate-justice-working-group-memo/download>.

⁵⁹ Daniel R. Faber and Erie J. Krieg, *Unequal Exposure to Ecological Hazards 2005: Environmental Injustices in the Commonwealth of Massachusetts*, Report by Philanthropy and Environmental Justice Research Project Northeastern University (October 2005), at 1, <https://web.northeastern.edu/ejresearchnetwork/wp-content/uploads/2014/10/Final-Unequal-Exposure-Report-2005-10-12-05.pdf>.

⁶⁰ *Weekly COVID-19 Public Health Report*, Massachusetts Department of Public Health COVID-19 Dashboard, at 46 (Dec. 24, 2022) (The most recent data set released by the Department of Public Health regarding COVID-19 as of December 2020 shows that 19 of the 20 municipalities with the highest total average daily cases in the Commonwealth contain EJ populations), <https://www.mass.gov/doc/weekly-covid-19-public-health-report-december-24-2020/download>; *See also Weekly Dashboard Data, City/Town* and “Race and Ethnicity” Tabs, <https://www.mass.gov/doc/weekly-public-health-report-raw-data-december-24-2020/download> compared to 2010 *Environmental Justice Populations*, <https://www.mass.gov/doc/ej2010communitystatisticspdf/download>. Many of these communities also have poor air quality and are home to essential workers who do not have the luxury of being able to work remotely. *See COVID-19 and Health Neighborhoods Study Communities*, Conservation Law Foundation (2020), <https://www.clf.org/covid-19-and-healthy-neighborhoods-study-communities/>; *see also Data Show COVID-19 is Hitting Essential Workers and Communities of Color Hardest*, ACLA Massachusetts (2020), <https://www.aclum.org/en/publications/data-show-covid-19-hitting-essential-workers-and-people-color-hardest>; and *see Lisa Friedman, New Research Links Air Pollution to Higher Coronavirus Death Rates*, NEW YORK TIMES (April 7, 2020), <https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html>.

⁶¹ M.G.L. c. 30, § 56 (“Environmental justice population”, a neighborhood that meets 1 or more of the following criteria: (i) the annual median household income is not more than 65 per cent of the statewide annual median household income; (ii) minorities comprise 40 per cent or more of the population; (iii) 25 per cent or more of households lack English language proficiency; or (iv) minorities comprise 25 per cent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 per cent of the statewide annual median household income; provided, however, that for a neighborhood that does not meet said criteria, but a geographic portion of that neighborhood meets at least 1 criterion, the secretary may designate that geographic portion as an environmental justice population upon the petition of at least 10 residents of the geographic portion of that neighborhood meeting any such criteria; provided further, that the secretary may determine that a neighborhood, including any geographic portion thereof, shall not be designated an environmental justice population upon finding that: (A) the annual median household income of that neighborhood is greater than 125 per cent of the statewide median household income; (B) a majority of persons age 25 and older in that neighborhood have a college education; (C) the neighborhood does not bear an unfair burden of environmental pollution; and (D) the neighborhood has more than limited access to natural resources, including open spaces and water resources, playgrounds and other constructed outdoor recreational facilities and venues.”).

researchers found that more people have died from fossil fuel pollution than earlier suggested.⁶² The Commonwealth will not succeed in achieving net zero emissions without ensuring emission reductions in all communities and concurrent improvements in air quality, public health, and economic opportunity in historically disinvested communities.

MassDEP, EEA, EFSB, DOER, DPU, and MassDOT have a responsibility and opportunity to concurrently meet their obligations under the GWSA, Green Communities Act (“GCA”), Green Jobs Act, Executive Order No. 552 on Environmental Justice (“EO 552”), the EEA’s 2021 Environmental Justice Policy, and to begin to redress environmental injustice and work toward climate justice. Environmental justice means that all people have a right to be protected from environmental pollution and to live in and enjoy a clean and healthy environment regardless of race, income, national origin, or English language proficiency.⁶³ Climate justice focuses on the root causes of climate change – human-caused GHG emissions – and making systemic changes that are required to address unequal burdens to our communities and realign our economy with our natural systems.⁶⁴ At its core, climate change is a social and ethical issue as the effects of climate change will be most severely felt by low-income and underserved communities. As a form of environmental justice, climate justice advocates hold that all humans (some would say species/living beings too) have the right to access and obtain the resources needed to have an equal chance of survival and freedom from discrimination.

The GWSA requires the EEA secretary to determine “whether activities undertaken to comply with state regulations and efforts disproportionately impact low-income communities” and to “consider overall societal benefits, including reductions in other air pollutants, diversification of energy sources and other benefits to the economy, environment and public health.”⁶⁵

Massachusetts passed the GCA in 2008 “to help municipalities become more sustainable, control rising energy costs, and incubate clean energy technologies and practices.”⁶⁶ The GCA also laid out several provisions to ensure that low-income communities have access to the benefits of energy efficiency resources. Section 141 states that “[i]n all decisions or actions regarding rate designs, the department [of energy resources] shall consider the impacts of such actions” and “[w]here the scale of on-site generation would have an impact on affordability for low-income customers, a fully compensating adjustment shall be made to the low-income rate discount.”⁶⁷ Additionally, the GCA requires the Secretary of EEA to prepare “a 5-year plan for meeting the renewable and alternative energy and energy efficiency goals of the commonwealth” that addresses the “equitable distribution of program benefits to all customers and particularly

⁶² *Conservation Law Foundation Comments on Interim 2030 Clean Energy and Climate Plan*, at 12, 14-15 (March 22, 2021) (hereinafter CLF Comments on Interim 2030 CECP).

⁶³ EXEC. ORDER No. 552 (2014).

⁶⁴ *Climate Justice Working Group Memorandum*, Massachusetts GWSA Implementation Advisory Committee (Feb. 24, 2020), <https://www.mass.gov/doc/gwsa-iac-climate-justice-working-group-memo/download>.

⁶⁵ M.G.L. c. 21N, § 5.

⁶⁶ *Massachusetts Clean Energy and Climate Plan for 2020*, Secretary of Energy and Environmental Affairs Matthew A. Beaton, at 111 (2015), <https://www.mass.gov/files/documents/2017/12/06/Clean%20Energy%20and%20Climate%20Plan%20for%202020.pdf>.

⁶⁷ St. 2008, c. 169, § 141.

low income customers to address the affordability and adverse impacts on low-income households of energy costs and demand mitigation strategies, and mitigation of such adverse impacts, such as by compensating adjustments to the low-income rate discount.”⁶⁸

In November 2014, former Governor Deval Patrick issued EO 552 “to encourage sustained and continued efforts now and into the future to ensure that environmental justice (EJ) remains a priority for the Executive branch.” Each Secretariat, including the EEA and MassDOT, must develop a strategy to incorporate environmental justice considerations into its programs, including through permitting processes, economic development opportunities, and public participation and outreach.⁶⁹ EO 552 directs the EEA Secretary to update the Environmental Justice Policy originally issued in 2002.⁷⁰ The 2017 Environmental Justice Policy requires that, “EEA agencies shall consider the current and future impacts that climate change will have on EJ populations” and “shall take appropriate measures towards ensuring that EJ populations are equally protected from hazards and health risks imposed by future climate changes and properly informed of appropriate measures taken to increase their adaptive capacity.”⁷¹

Through initiating rulemaking proceedings as recommended by this petition, executive agencies can simultaneously advance work to achieve the 2030 and 2050 climate targets while complying with a variety of other statutory mandates and benefiting environmental justice populations that have been marginalized and face additional burdens from climate change.

IV. MASSDEP HAS THE AUTHORITY TO AMEND ITS REGULATIONS TO ACHIEVE THE GWSA

The right to petition agencies to engage in rulemaking is enshrined in Section 4 of the Massachusetts Administrative Procedure Act, which provides that “[a]ny interested person may petition an agency requesting the adoption, amendment or repeal of any regulation, and may accompany his petition with such data, views and arguments as he thinks pertinent.”⁷² It further states: “Each agency shall prescribe by regulation the procedure for the submission, consideration and disposition of such petitions.”⁷³ Agencies in Massachusetts also have a right to engage in the rulemaking process. See *Borden, Inc. v. Commissioner of Public Health*, 338 Mass. 707 (1983) (citing *Cambridge Elec. Light Co. v. Department of Pub. Utils.*, 363 Mass. 474, 486-487 (1973)) (“The nature of the rule-making process is such that one may reasonably contemplate that the regulatory body will, either on the basis of some external or internal impetus, determine that a potential problem exists and further investigation is warranted to determine whether (1) such a problem does, in fact, exist and (2) some regulation is necessary to resolve the problem.”); see also *Arthurs v. Board of Registration in Medicine*, 383 Mass. 299, 312-313, (1981) (“an agency may adopt policies through adjudication as well as through rule-making.”).

⁶⁸ St. 2008, c. 169, § 116(b)(3).

⁶⁹ EXEC. ORDER No. 552 § 5.

⁷⁰ *Id.* § 3.

⁷¹ *Environmental Justice Policy of the Executive Office Of Energy And Environmental Affairs*, at 13, Executive Office of Energy and Environmental Affairs (June 24, 2021), https://www.mass.gov/files/documents/2017/11/29/2017-environmental-justice-policy_0.pdf.

⁷² M.G.L. c. 30A, §4.

⁷³ *Id.*

MassDEP regulations state that “[a]ny interested person or his attorney may at any time petition the department to adopt, amend, or repeal any regulation,” and that “[t]he petition may be accompanied by any supporting data, views or arguments.”⁷⁴ The regulations further require that the petitioner “set forth clearly and concisely the text of the proposed regulation.”⁷⁵ Once a petition is received, the regulations require MassDEP to consider the petition at a “meeting,” where it “may, but shall not be required to, entertain comments or questions from members of the audience.”⁷⁶ At the meeting, MassDEP is required to “determine whether to schedule the petition . . . for further proceedings in accordance with [its regulations for adopting the regulation proposed in the petition with or without a public hearing],” and notify the petitioner of its action “within ten days” of the meeting.⁷⁷ CLF proposes the following regulatory amendments to enable the Commonwealth to achieve the 2030 and 2050 climate goals and work toward climate justice.

V. MASSDEP HAS AN OPPORTUNITY TO IMPLEMENT A CROSS-SECTOR RULEMAKING PROCESS TO IMPLEMENT THE GWSA AND WORK TOWARD NET ZERO EMISSIONS BY 2050

Based upon the expertise gained through its experience advocating for climate policies, CLF is confident that the best strategy to achieve the Commonwealth’s decarbonization and emissions goals is a multi-sectored approach,⁷⁸ wherein the largest gains will come from reforming the building and transportation sectors. Because MassDEP regulations affect five sectors, it is an appropriate starting place to ensure necessary thorough and sweeping changes. The regulations below should be enacted and implemented by sector to achieve the best possible and practicable results.

A. Achieving a Decarbonized Transportation Sector Requires Implementing the Commission on the Future of Transportation Report

Current Status

The transportation sector is the largest contributor of GHG emissions in Massachusetts. In 2017, transportation accounted for 42 percent of GHG emissions in the state.⁷⁹ “60 percent of those emissions from the transportation sector come from light-duty passenger cars, trucks and sport utility vehicles (“SUVs”).”⁸⁰ “14 percent of transportation emission arise from medium- and heavy-duty vehicles (“MDHDVs”), rail, and aviation.”⁸¹ The Commonwealth’s strategy to

⁷⁴ 310 CMR 2.02.

⁷⁵ *Id.*

⁷⁶ 310 CMR 2.03-2.04.

⁷⁷ 310 CMR 2.03.

⁷⁸ *Massachusetts 2050 Decarbonization Roadmap*, at 12 Massachusetts Executive Office of Energy and Environmental Affairs (Dec. 2020), <https://www.mass.gov/doc/ma-2050-decarbonization-roadmap/download> (hereinafter 2050 Roadmap Report).

⁷⁹ *Summary of Massachusetts GHG Emissions – October 2020*, Greenhouse Gas Baseline, Inventory, and Projection, Appendix C: Massachusetts Annual Greenhouse Gas Emissions Inventory: 1990-2017 with Partial 2018 & 2019 Data, MASSDEP (October 2020), <https://www.mass.gov/doc/appendix-c-massachusetts-annual-greenhouse-gas-emissions-inventory-1990-2017-with-partial-2018/download>.

⁸⁰ 2050 Roadmap Report, *supra* note 78, at 21.

⁸¹ *Id.* at 38.

reduce light-duty transportation emissions is to switch from “fossil-fueled vehicles to zero emissions vehicles (“ZEVs”),” in addition to “maintaining and supporting existing public transit systems, reducing single occupancy vehicle use where possible, making complementary land use decisions, and supporting active transportation infrastructure such as bike lanes and sidewalks.”⁸² The primary types of ZEVs include electric vehicles (“EVs”) and hydrogen fuel electric vehicles (“FCEVs”).⁸³ For MDHDVs, battery-electricity technology is seen as a “viable strategy,” as well as implementing battery electric vehicles and FCEVs.⁸⁴

Reducing car trips is a key climate measure, but Massachusetts’ public transportation systems are in crisis. On a continuing basis, environmental justice populations have disproportionately “borne the environmental and health burdens associated with our current energy economy.”⁸⁵ Before the pandemic, service cuts, safety failures, delayed infrastructure upgrades, and chronic delays denied riders the service they needed, while reliance on fossil fuel vehicles degraded public health and the health of our climate. During the pandemic, riders making essential trips faced crowded conditions on transit routes serving environmental justice populations. Race determines which neighborhoods are safe and healthy places to live, learn, work, commute, and play,⁸⁶ and the COVID-19 pandemic has and is continuing to exacerbate these long-standing inequities in health outcomes between white people and people of color.⁸⁷ Yet, our transportation system is overwhelmed, underfunded, and utterly unprepared for changing climate conditions.

According to the 2025/2030 CECP, “[t]he 2025 GHG emissions sublimit for the transportation sector is set at 24.9 MMTCO₂e, or an 18% reduction from 1990 level.”⁸⁸ In 2020, transportation accounted for 37% of emissions in the State.⁸⁹ “To achieve the 2025 sublimit, the Commonwealth set a goal of 200,000 total EVs on the road and 15,000 public charging stations in 2025. To achieve the 2030 sublimit, the Commonwealth set a goal of 900,000 total EVs on the road.”⁹⁰ However, the CECP failed to set annual air pollution reduction targets. CLF recommends that the Commonwealth implement a transportation strategy that identifies and reduces air pollution hotspots attributed to transportation and launches air quality monitoring programs, especially along routes serving environmental justice populations.

As of December 31, 2020, 21,010 EVs were registered with the Registry of Motor Vehicles according to the U.S. Department of Energy.⁹¹ In 3 years, only 9,010 more EVs were registered within the state of Massachusetts, resulting in the total amount of EVs on the road at

⁸² *Id.* at 33.

⁸³ *Id.* at 35.

⁸⁴ *Id.* at 39.

⁸⁵ 2050 Roadmap Report, *supra* note 78, at 17.

⁸⁶ Faber et al., *supra* note 59.

⁸⁷ *Weekly COVID-19 Public Health Report*, *supra* note 60; *see also Building Toward Racial Justice and Equity in Health: A Call to Action*, at 10-13 Massachusetts Attorney General Maura Healey (2020), <https://www.mass.gov/doc/building-toward-racial-justice-and-equity-in-health-a-call-to-action/download>.

⁸⁸ 2025/2030 CECP, *supra* note 4, at 31.

⁸⁹ *Id.*

⁹⁰ *Id.* at 31-32.

⁹¹ *Maps and Data – Electric Vehicle Registrations by State*, U.S. DEPARTMENT OF ENERGY, <https://afdc.energy.gov/data/10962> (last accessed on June 15, 2022).

31,000 in 2022,⁹² with more than 16,000 EV owners obtaining a state rebate as of October 2022.⁹³ Over 750,000 EVs are needed to reach GHG emission targets by 2030, demonstrating the need for regulatory amendments.⁹⁴

Legal Authority

Massachusetts law requires MassDEP to set emission regulations consistent with and equally stringent as those passed in California pursuant to the Clean Air Act.⁹⁵ As such, MassDEP recently promulgated the final regulations approving the Advanced Clean Trucks (ACT), Heavy-Duty omnibus, and Phase 2 Greenhouse Gas regulations for medium-and heavy-duty vehicles, and the Low Emission Vehicle Program, tightening emissions standards for cars, sport utility vehicles, minivans, and light-duty trucks under Advanced Clean Cars II.⁹⁶ To decarbonize, this strategy includes three general transitions: (1) replace conventional vehicles with EVs, replace conventional vehicles with FCEVs, and substitute decarbonized fuels for petroleum-based fuels in internal combustion engine vehicles (“ICEVs”).⁹⁷ As of 2017, only 1.4 percent of light-duty vehicles sold in Massachusetts were EVs and 12,000 EVs were registered with the Registry of Motor Vehicles.⁹⁸

Pursuant to Executive Orders Nos. 579 and 580, the Commission on the Future of Transportation issued its report identifying transportation initiatives to achieve by 2040 that will both reduce GHG emissions and expand access to transportation options. Per the Commission on the Future of Transportation, “[w]ithout further action, transportation sector GHG emissions are projected to increase.”⁹⁹ The Commission on the Future of Transportation recommended that “bus service, in particular, needs to be reinvented.”¹⁰⁰ The Commission on the Future of Transportation also concluded that all buses purchased with state resources should be zero emissions by 2030.¹⁰¹

Executive Order No. 594: Leading By Example, sets out targets for the decarbonization of the state fleet, but such targets are too modest to make sufficient contributions to achieving the

⁹² Sabrina Shankman, Taylor Dolven, *Massachusetts needs at least 750,000 electric vehicles on the road by 2030. We are nowhere close*, BOSTON GLOBE (April 9, 2022).

⁹³ Massachusetts Offers Rebates for Electric Vehicles, <https://mor-ev.org/program-statistics> (last accessed on December 5, 2022).

⁹⁴ *Id.*

⁹⁵ *Transportation Sector Report: A Technical Report of the Massachusetts 2050 Decarbonization Roadmap Study*, Cadmus Group and Evolved Energy Research, at 8 (Dec. 2020), <https://www.mass.gov/doc/transportation-sector-technical-report/download>.

⁹⁶ *Id.*; 310 CMR 7.40, 310 CMR 7.71, 310 CMR 7.75.

⁹⁷ *Id.* at 10.

⁹⁸ *Choices for Stewardship: Recommendations to Meet the Transportation Future: Executive Summary*, Commission on the Future of Transportation, at 4 (December 2018), <https://www.mass.gov/files/documents/2018/12/14/FOTC-ExecutiveSummary.pdf> (Hereinafter *Recommendations to Meet the Transportation Future: Executive Summary*).

⁹⁹ *Id.* at 3.

¹⁰⁰ *Choices for Stewardship: Recommendations to Meet the Transportation Future*, Volume 1: Submitted Pursuant to Executive Orders 579 and 580, Commission on the Future of Transportation in the Commonwealth, at 36, <https://www.mass.gov/doc/choices-for-stewardship-recommendations-to-meet-the-transportation-future-volume-1/download>.

¹⁰¹ *Id.* at 54.

emissions reductions goals of the GWSA and Roadmap Law.¹⁰² For instance, the Order encourages the state fleet only consist of 20 percent ZEVs by 2030 and reduce emissions “associated with the burning of onsite fossil fuels at building and in vehicles” only 20 percent by 2025 and 35 percent in 2030.¹⁰³ Bolder action is needed to dramatically reduce GHG emissions within the transportation sector.

Needed Action

Massachusetts must pursue a suite of policies to address disproportionate burdens of pollution, reduce greenhouse gas emissions, and improve our transportation systems, particularly for those that were hardest hit by COVID-19. Studies reveal that “ridership on the Massachusetts Bay Transportation Authority (“MBTA”) ... has been declining for the past several years.”¹⁰⁴ Yet transit routes that serve environmental justice populations have shown the lowest reduction in ridership because people must ride buses and trains to get to and from work and make other essential trips.¹⁰⁵ MassDEP should implement low-income fares to incentivize commuters to take public transit, thereby reducing single occupancy trips which produce more GHG emissions per mile than public transportation.¹⁰⁶ For example, a study conducted by the Federal Transit Administration showed that “heavy rail transit, such as subways and metros ... produce 76% less in greenhouse gas emissions per passenger mile than an average single-occupancy vehicle. Light rail systems produce 62% less and bus transit produces 33% less.”¹⁰⁷ Public transit continues to be a useful means to reduce congestion and can help revitalize communities by giving them access to jobs, schools, grocery stores, and healthcare facilities.¹⁰⁸ Access to transit is also a lifeline for many who have no other means of transportation. Incentivizing workers to use public transit and keeping rail fares at a lower cost will also help reduce the burden on environmental justice communities.¹⁰⁹

While An Act Driving Clean Energy and Offshore Wind will assist in reducing emissions from the transportation sector, MassDEP must still maximize opportunities to effectively promulgate regulations. The law requires that all new MBTA bus purchases to be electric by 2030 and the entire bus fleet to be all-electric by 2040.¹¹⁰ The law also requires other agencies such as the Department of Public Utilities to promulgate vehicle electrification and GHG emission regulations for transportation network companies and for DOER to provide MOR-EV program data, including data on participation on low-and moderate-income households, for the

¹⁰² EXEC. ORDER No. 594 (2021).

¹⁰³ *Id.*

¹⁰⁴ Recommendations to Meet the Transportation Future: Executive Summary, *supra* note 98, at 3.

¹⁰⁵ *Report from the General Manager to the Fiscal and Management Control Board*, Massachusetts Bay Transportation Authority, at slides 4-8 (October 5, 2020), <https://cdn.mbta.com/sites/default/files/2020-10/2020-10-05-fmcb-E-report-from-general-manager-accessible.pdf>.

¹⁰⁶ 2030 SECP Joint Transportation Comment Letter, at 2-3 (March 22, 2021).

¹⁰⁷ 2050 Roadmap Report, *supra* note 78, at 3.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*; see also *Choices for Stewardship: Recommendations to Meet the Transportation Future: Volume I*, at 36 (2018), <https://www.mass.gov/doc/choices-for-stewardship-recommendations-to-meet-the-transportation-future-volume-1/download>.

¹¹⁰ St. 2022, c. 179, § 78.

previous calendar year by June 30th of each year to MassDOT.¹¹¹ MassDOT is also required by law to install EV charging stations at all service plazas on the Massachusetts Turnpike, and at least five MBTA commuter rail stations, five subway stations, and one ferry terminal.¹¹²

Overall, to reach the 2030/2050 climate goals, decarbonizing and reducing emissions from the transportation sector is essential. CLF urges MassDEP to establish specific annual targets for GHG and air pollution reductions under M.G.L. c. 21N, § 3(b). Further, MassDEP should bolster ZEV programming by requiring the MBTA and regional transit agencies to have ZEV fleets by 2030 and for the Commonwealth’s vehicle fleet to be fully ZEV by 2030. School buses should also be replaced with ZEV by 2030. Highway projects which trigger an environmental impact review (“EIR”) should, where possible, consider the addition of high-occupancy vehicle (“HOV”) lanes and bicycle lanes. Programs that encourage commuters to take public transportation should also be implemented.

Below is a summary of the regulatory amendments that CLF recommends MassDEP integrate into proposed regulations for public comment. Full redline amendment language is included in Appendix B.

Transportation Sector Regulatory Proposals

Encourage electric vehicle penetration

- Amend 310 CMR 7.11 to require electrification of state vehicles by 2035.
- Amend 310 CMR 7.40 to require new public vehicle purchases be ZEV by at least 2027 and all municipalities owning, operating, leasing, or contracting school buses be ZEV by 2030.
- Amend 310 CMR 60.03 to establish a schedule to ensure that no internal combustion engine vehicles are sold in Massachusetts during and after 2040.
- Amend 310 CMR 60.03 to install mobile air monitors in air pollution hotspots adjacent to transportation infrastructure, including highways, ports, airports.

Require air pollution reduction and GHG emissions reduction in the transportation sector with specific annual targets

- Amend 310 CMR 60.05 to include specific annual reduction targets.
- Amend 310 CMR 7.11 to prohibit MBTA operation of diesel trains after 2035.

¹¹¹ *Id.* § 45

¹¹² *Id.* § 88(b).

Mandate MBTA and Regional Transit Authorities to ZEV By 2030

- Amend 310 CMR 60.05 to require electrification of commuter rail and MBTA and RTA buses, with priority for routes serving environmental justice populations.
- Amend 310 CMR 60.05 to implement programs that encourage commuters to shift transportation modes from private vehicles to public transportation and to report annually to determine progress.

Prioritize Environmental Justice Populations and Implement Low-Income Fares

- Amend 310 CMR 60.05 to implement reduced public transit fare structures that encourage people to take public transportation instead of private vehicles by ensuring that commuter rail fares are less expensive than the cost of driving a car and parking at the terminus of each commuter rail line.
- Amend 310 CMR 60.05 to implement and maintain a low-income fare on all public transportation modes, including the MBTA, RTA, commuter rail, and The RIDE.

Expand high-occupancy vehicle lanes and bicycle lanes

- Amend 310 CMR 7.37 to add additional permanent high-occupancy vehicle lane designations on highways and consider adding high-occupancy tolling, enforcement mechanisms that reduce congestion.
- Amend 310 CMR 7.37 to mandate MassDEP and MassDOT work with municipalities to establish bus priority lanes and transit signal priority in congested locations.
- Amend CMR 7.37 to require the quantifying of GHG emission reductions due to micro-mobility devices, such as scooters and electric bicycles, on state and local roads, sidewalks, and multi-use paths to encourage non-driving travel options.

B. Achieving a Decarbonized Electricity Sector Requires Accurate Reporting of GHG Impacts of Hydroelectric Power and Eliminating Combustion Energy Sources from Clean Energy Programs

Current Status

The Massachusetts electricity sector has achieved GHG reductions, in part, due to the Regional Greenhouse Gas Initiative as the first cap-and-invest regional initiative.¹¹³ However, there is still ample opportunity to do more and declare the end of dirty electricity in Massachusetts. “To achieve a statewide 50% GHG emissions reduction economy-wide below the 1990 baseline in 2030, GHG emissions from the electricity sector must decrease by more than 53% by 2025 and 70% by 2030.”¹¹⁴ Emissions in the electricity sector are expected to come from

¹¹³ See The Regional Greenhouse Gas Initiative: an initiative of Eastern States of the US, <https://www.rggi.org/>.

¹¹⁴ 2025/2030 CECP, *supra* note 4, at 63.

“in-state fossil fuel generation, municipal solid waste combustion, and imported fossil fuel generation.”¹¹⁵

The GWSA defines “greenhouse gas emission source” as a source “at a level of significance, as determined by the Secretary.”¹¹⁶ MassDEP can implement regulatory change in mandating reduced peak demand usage of high emission, low-efficiency electric generation facilities. In doing so, MassDEP can simultaneously prevent and abate conditions of harmful air pollution and reduce greenhouse gas emissions within the electricity sector.

Needed Action

About 17 percent of New England’s electricity was from imports, most of that from Hydro-Quebec, in 2019.¹¹⁷ Generating hydroelectricity, while important to replace fossil fuel generation technologies, still emits GHG as constructing dams and flooding boreal forests to create artificial reservoirs releases CO₂ and the potent GHG methane. It is crucial that the Commonwealth measure and account for those emissions.

Acknowledging that emissions from Hydro-Quebec may be considered “significant,”¹¹⁸ it is important for Massachusetts to account for such emissions in the GWSA GHG inventory. The GWSA requires MassDEP to set actual limits for “sources or categories of sources that emit GHG through the promulgations of regulations.” The Commonwealth plans to use Canadian hydropower to meet Clean Energy Standard requirements for GHG reductions, but it does not know what the emissions from this generating source are.

Attribute markets represent an opportunity for additional emissions reductions. Specifically, amendments to the Clean Energy Standard (“CES”) can help reduce emissions in the electricity sector. The CES is MA’s overall electric sector emissions accounting program, and while not expected to drive construction of new resources, it is still a source of revenue for existing facilities. “MassDEP has proposed to increase the CES minimum standard to 60% by 2030 (20% incremental above the RPS)” to 310 CMR 7.75.¹¹⁹ This should be accompanied by removal of all woody biomass combustion from the CES. Biomass facilities threaten the health of local communities and degrade air quality. The 2022 Energy Law excluded from RPS Class I qualification all woody biomass generation that did not have a Statement of Qualification as of January 1, 2022. In order to protect public health and ensure accuracy in GHG emissions accounting, MassDEP should also eliminate existing woody biomass from the CES.

In a letter revoking the operating permit for the proposed Palmer Renewable Energy plant in Springfield, MassDEP cited health concerns related to the plant’s emissions, including “multiple studies establishing a relationship between low-income and minority communities with

¹¹⁵ *Id.*

¹¹⁶ M.G.L. c. 21, § 1.

¹¹⁷ *Testimony of Ann George: Vice President, External Affairs & Corporate Communications, ISO New England, U.S. International Trade Commission Hearing (July 29, 2020)*, https://www.iso-ne.com/static-assets/documents/2020/07/anne_george_isone_usitic_july292020_final.pdf (hereinafter *Testimony of Ann George*).

¹¹⁸ *Id.*

¹¹⁹ 2025/2030 CECP, *supra* note 4, at 65.

elevated air pollution levels and increased severity of disease and/or mortality for COVID-19 patients in these communities.”¹²⁰ Inclusion of biomass facilities in the CES will undermine the Commonwealth’s goal of reducing emissions as set forth in the GWSA and the Roadmap Law.

Below are regulatory amendments that CLF recommends MassDEP integrate into proposed regulations for public comment.

Electricity Sector Regulatory Proposals

Require emissions reporting and include emissions in the Greenhouse Gas inventory

- Amend 310 CMR 7.75 to require electricity retailers to separately report hydroelectric power GHG emissions associated with the creation of any reservoirs and their ongoing biological matter decomposition.

Reduce peak electricity demand

- Implement new regulation 310 CMR 7.78 to reduce peak electric sector emissions through reducing peak electricity demand, which drives the use of high emission, low-efficiency electric generating facilities.

Remove biomass and other combustion technology from Clean Energy Standard

- Amend 310 CMR 7.75 to remove woody biomass as an eligible fuel under the Clean Energy Standard.

C. Achieving a Decarbonized Building Sector Requires Pursuing Deep Energy Efficiency Retrofits, Electrifying Our Heating Systems, and Transitioning Off of Heating Fossil Fuels

Current Status

The Commonwealth aims to electrify heating systems by 2050, which would avoid cardiovascular deaths, create jobs, and improve public health.¹²¹ According to the 2025/2030 CECP, buildings now account for 30 percent of statewide GHG emissions as of 2020.¹²² Most of our 2050 building stock is already standing today. Heating and water heating account for sixty percent of emissions in the building sector.¹²³ Transforming our building sector to become 2050-compliant is required to decarbonize the economy and limit the impacts of climate change. The

¹²⁰ *Joint Environmental Comments on Phase 2 Proposed Changes to the Renewable Energy Portfolio Standard Biomass Regulations* (25 CMR 14.00 and 225 CMR 15.00), Conservation Law Foundation, Partnership for Policy Integrity, at 3 (May 17, 2021).

¹²¹ 2050 Roadmap Report, *supra* note 78, at 43.

¹²² 2025/2030 CECP, *supra* note 4, at xiii.

¹²³ 2050 Roadmap Report, *supra* note 78, at 21.

State aims to achieve a 28 percent reduction in 2025 and 47 percent reduction in 2030 for heating buildings by deploying efficiency improvements and electric heat pumps installations.¹²⁴

To reach those goals, the Commonwealth plans to implement policies aimed at helping consumers install electric heat pumps (ground-source heat pumps, variable refrigerant flow heat pumps, heat pump water heaters, and induction stove tops).¹²⁵ The Commonwealth also aims to invest in efficiency measures and to blend zero-carbon gas into the pipeline.¹²⁶ The 2030 CECP also proposes the development of a long-term, declining cap on heating fuel (gas, oil, propane) emissions consistent with meeting or exceeding GWSA required emissions reductions. Furthermore, the Commonwealth's policies acknowledge the importance of educating consumers about efficiency measures and engaging in outreach to educate consumers about the benefits and various incentives.¹²⁷ The Commonwealth must ensure that EJ populations participate in the transition to energy efficiency programs at comparable rates to other communities in the Commonwealth.

On November 30, 2022, the Commission and Task Force on Clean Heat released a report which recommended numerous legislative and policy changes to achieve equitable and affordable buildings sector decarbonization.¹²⁸ Based on recommendations from the CECP processes and bolstered by the Clean Heat Report, CLF understands that MassDEP is currently working on regulatory processes for a Clean Heat Standard and for a scientifically accurate emissions accounting framework for methane and other combustion fuels. CLF supports these undertakings and will plan to participate in the regulatory process. CLF is not proposing redline regulatory language for these undertakings at this time.

Needed Action

In addition to the regulatory provisions MassDEP is currently working on, compliance with the GWSA demands immediate actions to reduce emissions from the gas system that must extend well beyond leak repair. Within the gas sector, CLF proposes that MassDEP establish annual methane limits. CLF urges MassDEP to eliminate barriers to the adoption of electric heating systems through 310 CMR 7.73 and mandate the decreased use of fossil fuel appliances by establishing methane limits and setting fines.

Below are regulatory amendments that CLF recommends MassDEP integrate into proposed regulations for public comment.

¹²⁴ 2025/2030 CECP, *supra* note 4, at 47.

¹²⁵ *Id.*

¹²⁶ 2050 Roadmap Report, *supra* note 78, at 43-49.

¹²⁷ 2025/2030 CECP, *supra* note 4, at 48-49.

¹²⁸ *Learn about the Commission on Clean Heat*, MASS.GOV, <https://www.mass.gov/info-details/learn-about-the-commission-on-clean-heat#:~:text=The%20Commission%20has%20explored%20options,issued%20on%20November%2030%2C%202022> (last accessed on Dec. 21, 2022); *see also Final Report, Massachusetts Commission on Clean Heat* (Nov. 30, 2022), SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS, <https://www.mass.gov/doc/massachusetts-commission-on-clean-heat-final-report-november-30-2022/download>.

Building Sector Regulatory Proposals

- Amend 310 CMR 7.73 to establish annual methane limits from 2025-2030.
- Implement new regulations 310 CMR 7.32 and 310 CMR 7.35 to phase out NO_x-emitting natural-gas fired furnaces and water heater sales and installations within the Commonwealth between 2024 and 2030.

D. Achieving a Decarbonized Solid Waste Sector Requires Planning for Zero Waste

Needed Action

EEA's basic long-range analysis shows that by 2050, burning trash will become the main source of electricity sector emissions. To transition to a zero-waste system and aid the Commonwealth in achieving the 2030/2050 climate goals, the solid waste sector needs to be reformed to: (1) phase out existing high heat waste processing facilities, (2) prohibit new high heat waste processing facilities, and (3) enforce existing waste bans. For purposes of these recommendations, "high heat waste processing facility" refers to any facility that disposes of, processes, or treats solid waste, solid waste that is separated for reuse, recyclable materials, construction and demolition debris, hazardous waste, or medical waste through any process that exposes waste to temperatures above four hundred degrees Fahrenheit (400°F).

High Heat Facilities Are a False Solution To Waste Reduction and Harm The Environment and Public Health

High heat facilities in the Commonwealth, including its seven municipal waste combustors ("MWCs"), are toxic, harmful, and unnecessary. Currently, MWCs contribute to 9 percent of emissions within the electricity sector of Massachusetts, which contributes to 20 percent of statewide emissions.¹²⁹ First, MWCs produce GHG emissions, particulate matter, and ash that are harmful to public health and the environment.¹³⁰ Second, six of the seven MWCs are located in or adjacent to environmental justice populations, further burdening those that suffer from pollution, experience negative public health impacts, and often lack access to environmental benefits, such as renewable energy and green spaces. Third, aging MWCs cost more to operate and maintain than other forms of electricity generation and provide fewer jobs

¹²⁹ 2025/2030 CECP, *supra* note 4, at 62.

¹³⁰ *Trash Incineration More Polluting Than Coal*, ENERGY JUSTICE NETWORK, <http://www.energyjustice.net/incineration/worsethancoal>; *Waste-To-Energy: Dirtying Maryland's Air by Seeking a Quick Fix on Renewable Energy?*, Environmental Integrity Project, at 3–8 (2011), <https://environmentalintegrity.org/wp-content/uploads/2016/11/FINALWTEINCINERATORREPORT-101111.pdf>, *U.S. Municipal Solid Waste Incinerators: An Industry in Decline*, The New School: Tishman Environment and Design Center, at 34 (2019), https://static1.squarespace.com/static/5d14dab43967cc000179f3d2/t/5d5c4bea0d59ad00012d220e/1566329840732/CR_GaiaReportFinal_05.21.pdf; *Municipal Solid Waste in the United States: 2011 Facts and Figures*, U.S. EPA Archive Document, at 143–44 (2013), https://archive.epa.gov/epawaste/nonhaz/municipal/web/pdf/mswcharacterization_fnl_060713_2_rpt.pdf.

than alternatives such as composting and recycling.¹³¹ Fourth, the Commonwealth’s MWCs have also outlasted their useful lifespans and require significant, disruptive, and expensive repairs. Finally, MWCs are not needed to dispose of the Commonwealth’s solid waste.

The proactive pursuit of zero waste alternatives, such as composting and recycling, could divert most materials from going to landfills or MWCs.¹³² In 2019, paper, plastic, metal, glass, or organic material, most of which could have been recycled or composted, accounted for at least 70 percent of the municipal solid waste incinerated in Massachusetts, and¹³³ the MWCs are not efficient uses of energy. Zero waste practices such as source reduction, recycling, and composting conserve three to five times more energy, per ton of waste, than incineration can generate.¹³⁴

Phase Out Existing High Heat Facilities and Prohibit Development of New Facilities

MassDEP should require existing MWCs to comply with more stringent permit conditions that may lessen the public health and environmental damage caused by these facilities. These more stringent conditions should be formulated to ensure that MWCs are phased out by 2030. Additionally, to comply with the ambitious emissions reduction targets established by the Roadmap Law, MassDEP should ensure that no new “high heat waste processing facility,” as defined above, becomes operational. At a time when the Commonwealth must aggressively reduce emissions, renewable energy programs cannot support the development of resources that will release GHG emissions for decades to come; instead, MassDEP should direct its efforts toward retiring existing polluting generation units. EEA expects that the volume of waste to be processed by the Commonwealth’s existing MWCs will decrease, underscoring the lack of need to build additional facilities.¹³⁵

In the new 2025/2030 CECP, MassDEP stated it “will implement tighter standards on municipal waste combustors, while the solid waste master plan significantly decreases solid waste disposal in the Commonwealth.”¹³⁶ However, the agency did not state it will phase out high heat facilities in the 2025/2030 CECP.

¹³¹ *Capital Cost Estimates for Electricity Generation Plants*, U.S. Energy Information Administration, at 7 (2010), <http://large.stanford.edu/courses/2018/ph241/wang-k2/docs/eia-nov10.pdf>; see also *More Jobs, Less Pollution: Growing the Recycling Economy in the U.S.*, Tellus Institute, at 34–35 (2011), https://www.nrdc.org/sites/default/files/glo_11111401a_0.pdf (hereinafter Tellus Institute).

¹³² See *Overall Waste Composition By Primary Material Category—Winter and Fall 2016 Sampling*, Massachusetts DEP, <https://www.mass.gov/doc/summary-of-waste-combustor-class-ii-recycling-program-waste-characterization-studies-includes/download>; See Tellus Institute, *supra* note 131, at 3.

¹³³ *Id.*

¹³⁴ Marie Donahue, *Waste Incineration: A Dirty Secret in How States Define Renewable Energy*, Institute for Local Self-Reliance, at 11 (2018), <https://ilsr.org/wp-content/uploads/2018/12/ILSRIncinerationFInalDraft-6.pdf>.

¹³⁵ Interim CECP, *supra* note 21, at 47.

¹³⁶ 2025/2030 CECP, *supra* note 4, at xv.

Emphasize Waste Reduction and Diversion Policies

MassDEP can help the Commonwealth achieve a zero-waste system by strengthening its waste ban inspections to enforce existing waste ban rules. Reducing and diverting waste is critical to phasing out high heat facilities and reducing methane production at landfills. Once a MWC is built, it requires a certain level of waste inputs to remain profitable.¹³⁷ A state or municipality may be contractually obligated to provide a certain level of waste to the incinerator.¹³⁸ In a practical sense, a municipality that has relied on a MWC for years, if not decades, may be disinclined from pursuing zero waste policies that would disrupt the status quo and require the municipality to devote time and resources to the development of new policies. In these ways, the continued existence of high heat facilities guarantees a consistent level of waste generation and will prevent the adoption of waste reduction and diversion policies.¹³⁹

The 2025/2030 CECP emphasized the “commitment to the longer-term goal of reducing the Commonwealth’s solid waste disposal to 4 million tons by 2030 and by about 90% (to 570,000 tons) by 2050, and diverting recoverable material from disposal to higher uses.”¹⁴⁰ MassDEP also stated that it “will make a concerted effort to improve the performance of existing combustion capacity and analyze the potential approaches to reduce carbon dioxide emissions from municipal waste combustors, including capping the emissions from MWCs.”¹⁴¹ However, the agency failed to explain the concrete tangible steps it will take to reduce CO₂ emissions from MWCs.

While all operating Massachusetts landfills are planned to close by the early 2030s, these sites will continue to produce methane because of slowly decaying organic matter, mostly food waste.¹⁴² Discarded food that ends up in landfills unnecessarily releases GHG emissions, particularly methane and nitrous oxide from “sludge management and effluent.”¹⁴³ In fact, the “combustion of petroleum-based municipal solid waste (e.g., plastics) at Massachusetts’ seven waste combustors “is the largest source of emission from the solid waste stream.”¹⁴⁴ The Decarbonization Report further acknowledged that the “future role of plastics ... merits additional analysis” beyond the scope of the study.¹⁴⁵

In recent years, the Commonwealth has failed to achieve a meaningful reduction in waste. Over the last ten years, the disposal rate has remained flat despite increased diversion of food scraps, the decline of hard copies of newspapers, and the practice of “light loading”

¹³⁷ See *2019 Solid Waste Data Update*: October 2020, Department of Environmental Protection, at 3 (Oct. 2019), <https://www.mass.gov/doc/2019-solid-waste-data-update/download>.

¹³⁸ *Id.*

¹³⁹ See *Draft for Public Comment, Massachusetts 2030 Solid Waste Master Plan*, Department of Environmental Protection, at 3 (Sept. 2019), <https://www.mass.gov/doc/draft-2030-solid-waste-master-plan/download> (hereinafter *Draft 2030 Solid Waste Master Plan*).

¹⁴⁰ 2025/2030 CECP, *supra* note 4, at 78.

¹⁴¹ *Id.*

¹⁴² 2050 Roadmap Report, *supra* note 78, at 70.

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*

(making lighter plastic containers).¹⁴⁶ Specifically, the Commonwealth generated roughly 5.4 million tons of solid waste disposal in 2010 and roughly 5.5 million tons in 2019.¹⁴⁷ While there has not been a marked increase in waste given that the economy has improved since 2008-2009,¹⁴⁸ this is a highly concerning lack of progress. Without immediate action by the Commonwealth, this trend suggests that waste levels will remain stagnant through 2030, contrary to the CECP's expressed expectation.

Indeed, the 2025/2030 CECP and 2050 CECP recognize that waste reduction is needed to stabilize emissions from MWCs over the next decade.¹⁴⁹ However, reliance on the 2030 Solid Waste Master Plan: Working Together Toward Zero Waste ("SWMP") is insufficient to achieve 2030 emissions goals with respect to solid waste. Notably, the Draft SWMP is not enforceable: there is no assurance that its waste reduction goals will be realized. The SWMP lacks incentives and enforcement mechanisms, making it less likely that its goals will be achieved.¹⁵⁰ In addition, its waste reduction goals are too distant and conservative. The SWMP proposes a diversion of 90 percent of current waste by 2050, with a shorter-term goal of reducing waste by 30 percent per decade.¹⁵¹ To reduce the need for MWCs, MassDEP should enforce the waste bans established by 310 CMR 19.000, which could divert 40 percent of waste (excluding food scraps), through more frequent inspections and the allocation of additional resources to support at least six full-time waste inspectors at MassDEP.

CLF urges MassDEP to promulgate regulations that require waste inspectors to measure and evaluate GHG emission reductions and strengthen the inspection of landfills, incinerators, and trash transfer stations.

Below are regulatory amendments that CLF recommends MassDEP integrate into proposed regulations for public comment.

Waste Sector Regulatory Proposals

Revise solid waste facility regulations to implement waste bans

- Amend 310 CMR 19.018 to require waste ban inspections at least twice per month at each landfill (10), incinerator (7), and trash transfer stations (17), if burying or burning 200,000 tons or more a year.

¹⁴⁶ See Sara Muznik, "Deliver or pay", or how waste incineration causes recycling to slow down, Zero Waste Europe (Oct. 31, 2017), <https://zerowasteurope.eu/2017/10/deliver-pay-waste-incineration-causes-recycling-slow/>.

¹⁴⁷ *Id.*

¹⁴⁸ See *Taxonomy Technical Report*, EU Technical Expert Group on Sustainable Finance, at 292 (June 2019), https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190618-sustainable-finance-teg-report-taxonomy_en.pdf.

¹⁴⁹ Interim CECP, *supra* note 21, at 47.

¹⁵⁰ *Id.*

¹⁵¹ *Id.*; see also Draft 2030 Solid Waste Master Plan, *supra* note 139, at 7-8.

- Amend 310 CMR 19.018 to require waste ban inspections at least one time per month at each landfill (10), incinerator (7), and trash transfer stations (17), if burying or burning less than 200,000 tons a year.
- Amend 310 CMR 16.02 to redefine “high heat waste processing facility” and to phase out incinerators by 2030.
- Amend 310 CMR 16.03 to require 100 percent diversion of residential food waste by 2027.
- Amend 310 CMR 16.05 to phase out incinerators by 2030 through the development of a high heat waste processing facility decommissioning plan by 2024, prohibiting the approval of new permits for high heat waste processing facilities, and prohibiting operation of currently permitted high heat waste processing facilities by 2030.
- Amend 310 CMR 16.08 to require new facility applications to explain how greenhouse gas emissions will not increase or cause a negative impact upon environmental justice populations.
- Amend 310 CMR 19.006 to update the definition of “post-consumer recyclables” to require MassDEP to review and publish a guidelines document of recyclable post-consumer recyclables every two years.

E. Mandating Permit Applicants to Demonstrate No Net Increase in Greenhouse Gas Emissions Will Substantially Support Net Zero by 2050 Efforts

Current Status

Massachusetts can implement several regulatory changes to strengthen its commitment to reducing greenhouse gas emissions while also ensuring that environmental justice communities are protected. Other states have demonstrated a strong commitment to incorporating climate justice within their siting and permitting practices. For example, New York Department of Environmental Conservation has enacted regulations that “[e]nsure that activities...do not result in a net increase in co-pollutant emissions.”¹⁵² It is gravely concerning that EEA and its agencies have not expressed a commitment to considering emissions and equity in permitting and other approvals. Ensuring that permitting and review processes consider net emissions will help minimize local impacts and achieve mandates established by the Commonwealth’s climate goals.

Legal Authority

Massachusetts’ laws, including the GWSA, the Roadmap Law, the GCA, and the 2022 Energy Law, require agencies to implement reductions in greenhouse gas emissions to net zero

¹⁵² N.Y. Env’t Conserv. Law § 75-0109 (McKinney, 2019).

by 2050. MassDEP has broad authority under M.G.L. c. 21N to act to reduce greenhouse gas emissions.

Needed Action

Impacts considered individually may seem small but will still result in damage to communities and the environment when aggregated over time or within geographic proximity to each other. It is also crucial that projects of any size be assessed not only for the potential to cause damage to the environment but also for how they may contribute to and be impacted by climate change impacts and how they may impact environmental justice populations. It is important that MassDEP's permitting, licensing, and siting processes do not result in a net increase in greenhouse gas emissions.

Environmental justice communities are often located near facilities that produce greenhouse gas emissions and their co-pollutants. The regulatory amendments proposed under this category ensure that environmental justice populations are protected from exposure to unnecessary GHG emissions and pollution during the transition to cleaner, renewable technology.

While MassDEP acts at the state level, municipalities should also be empowered to accelerate the clean energy transition within their borders. Most municipalities within the Commonwealth have achieved green community designation under the GCA and can take additional steps to push their communities toward net zero emissions, which aligns with the Commonwealth's greenhouse gas emissions reductions goals adopted pursuant to the GWSA. MassDEP can encourage local municipalities to take the next step toward net zero by creating another designation, 'Net Zero Community', through proposed 310 CMR 7.77.

Permitting Regulatory Proposals

Revise regulatory review and permitting approval processes to ensure no increase in net greenhouse gas emissions or harm to environmental justice populations

- Amend 310 CMR 4.01 to ensure MassDEP does not approve any permit under Chapter 4.00 that results in an increase in net greenhouse gas emissions.
- Amend 310 CMR 7.00 and 310 CMR 7.02 to define "net greenhouse gas emissions" and prohibit air permit approvals for facilities or emissions units that result in an increase in net greenhouse gas emissions.
- Amend 310 CMR 9.01 and 310 CMR 9.02 to ensure all coastal zone management permits approved by MassDEP comply with the no net greenhouse gas emissions increase requirement.
- Amend 310 CMR 9.31 to prohibit MassDEP from issuing licenses or permits for projects resulting in an increase in net greenhouse gas emissions.

- Amend 310 CMR 10.01 and 310 CMR 10.04 to prohibit MassDEP from granting approval for any action, project or activity that results in an increase in net greenhouse gas emissions.
- Amend 310 CMR 16.01 to add the reduction of greenhouse gases as a purpose for MassDEP's regulation of solid waste facility siting and recycling operations.
- Amend 310 CMR 16.02, 310 CMR 16.03, and 310 CMR 16.08 to ensure solid waste facility site assignments do not result in an increase in net greenhouse gas emissions, including those facilities that do not require a site assignment, a facility permit, or a general permit.
- Amend 310 CMR 16.04 to prohibit owners or operators of an operation that handles recyclable materials or that composts or aerobically or anaerobically digests organic materials do not increase net greenhouse gas emissions.
- Amend 310 CMR 16.08 to require applications include an analysis demonstrating that a new facility will not increase net greenhouse gas emissions or harm an environmental justice population.
- Amend 310 CMR 16.13 to require that applications that increase net greenhouse gas emissions or harm an environmental justice population receive negative determinations net emissions of suitability.
- Amend 310 CMR 19.001 and 310 CMR 19.002 to reference the GWSA and add the reduction of greenhouse gas emissions as a purpose for the regulation of solid waste within the Commonwealth.
- Amend 310 CMR 19.006 and 310 CMR 19.032 to ensure all solid waste permits approved by MassDEP comply with the no net emissions increase requirement.
- Amend 310 CMR 36.01 through 310 CMR 36.03, 310 CMR 36.07 and 310 CMR 36.27 to ensure all water management permits approved by MassDEP comply with the no net emissions increase requirement.

Empower local municipalities to accelerate climate action and enforce consistency with climate plans

- Implement 310 CMR 7.77, the Net Zero Communities Program, to empower communities already designated as green communities under the GCA to achieve net zero emissions levels.

VI. CONCLUSION

As outlined above, CLF contends that a multi-sectoral approach will best allow the Commonwealth to achieve its 2030 and 2050 climate targets, while meeting additional statutory mandates and working toward climate justice. CLF is ready and able to work with MassDEP and other agencies to amend current regulations and promulgate new ones, as needed, to meet the 2030 emissions target and more pressing timeline facing Massachusetts. CLF urges MassDEP to take action to make these changes to help protect Massachusetts residents, communities, and natural resources from the devastating effects of climate change.

Thank you for your continued work and dedication. CLF looks forward to continuing to work together to achieve just, equitable, and effective solutions for the Commonwealth.

Respectfully submitted,



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APPENDIX A: COMPREHENSIVE MULTI-SECTOR REGULATORY PACKAGE

Department of Environmental Protection

Regulation	Description
<u>310 CMR 4.01: Purpose, Authority, and General Provisions</u>	Ensures all permits of any kind approved by DEP comply with no net emissions increase requirement
<u>310 CMR 7.00: Statutory Authority; Legend; Preamble; Definitions</u>	Defines net GHG emissions and zero emissions vehicles; adds the GWSA as statutory authority under DEP’s air pollution control chapter
<u>310 CMR 7.02 U Plan Approval and Emission Limitations</u>	Ensures all air permits approved by DEP comply with no increase in net GHG emissions requirement
<u>310 CMR 7.11: U Transportation Media</u>	Accelerates zero emission vehicle deployment for MBTA trains and state or municipality-owned fleets
<u>310 CMR 7.32: Natural Gas-Fired Furnace NOx Emissions Standards</u>	Phases out NOx emitting natural gas-fired furnace and boiler sales and installations between 2024 and 2030
<u>310 CMR 7.35: Water Heater NOx Emissions Standards</u>	Phases out NOx emitting water heater sales and installations between 2024 and 2030
<u>310 CMR 7.37: MB High Occupancy Vehicle Lanes</u>	Increases deployment of bus-only and HOV lanes
<u>310 CMR 7.40: U Low Emission Vehicle Program</u>	Accelerates zero emission vehicle deployment for state or municipality-owned fleets
<u>310 CMR 7.73: Reducing Methane Emissions from Natural Gas Distribution Mains and Services</u>	Accelerates methane emissions reductions from and phase out of gas distribution system
<u>310 CMR 7.75: Clean Energy Standard</u>	Eliminates biomass from Clean Energy Standard; Requires hydroelectric power GHG emissions reporting
<u>310 CMR 7.77: Net Zero Communities Program</u>	Empowers municipalities to accelerate climate action and enforce consistency with climate plans
<u>310 CMR 7.78: Reducing Peak Electric Sector Emissions</u>	Requires electric utilities to reduce the difference between peak and average electric system demand
<u>310 CMR 9.01: Purpose</u>	Ensures all coastal zone management permits approved by DEP comply with no net emissions increase requirement
<u>310 CMR 9.02: Definitions</u>	Ensures all coastal zone management permits approved by DEP comply with no net emissions increase requirement
<u>310 CMR 9.31: Summary of License and Permit Requirements</u>	Ensures all coastal zone management permits approved by DEP comply with no net emissions increase requirement
<u>310 CMR 10.01: Introduction and Purpose</u>	Ensures all wetlands permits approved by DEP comply with no net emissions increase requirement
<u>310 CMR 10.04: Definitions</u>	Ensures all wetlands permits approved by DEP comply with no net emissions increase requirement

<u>310 CMR 16.01: General Requirements</u>	Ensures all solid waste permits approved by DEP comply with no net emissions increase requirement
<u>310 CMR 16.02: Definitions</u>	Ensures all solid waste permits approved by DEP comply with no net emissions increase requirement; Phases out high heat waste processing facilities
<u>310 CMR 16.03: Exemptions from Site Assignment</u>	Ensures all solid waste permits approved by DEP comply with no net emissions increase requirement; Reduces methane emissions feedstocks from landfills
<u>310 CMR 16.04: General Permit for Recycling, Composting or Aerobic and Anaerobic Digestion Operations</u>	Ensures all solid waste permits approved by DEP comply with no net emissions increase requirement
<u>310 CMR 16.05: Permit for Recycling, Composting and Conversion (RCC) Operations</u>	Phases out high heat waste processing facilities
<u>310 CMR 16.08: Site Assignment Application Submission Requirements</u>	Requires application for site suitability to confirm that facility will not increase GHGs or harm EJ populations
<u>310 CMR 16.13: Department Report on Suitability (Report)</u>	Requires that applications that increase net greenhouse gas emissions or harm an environmental justice population receive negative determinations of suitability
<u>310 CMR 19.001: Authority</u>	Adds the GWSA as statutory authority under DEP's solid waste permitting chapter
<u>310 CMR 19.002: Purpose</u>	Adds the reduction of GHG emissions as a purpose under DEP's solid waste permitting chapter
<u>310 CMR 19.006: Definitions</u>	Ensures all solid waste permits approved by DEP comply with no net emissions increase requirement; Requires amendment to definition of recyclable material to create recyclable guidelines document every two years
<u>310 CMR 19.018: Third-party Inspections</u>	Improves enforcement of waste ban requirements
<u>310 CMR 19.032: Permit Procedure for a New Facility or Expansion Permit Application</u>	Ensures all solid waste permits approved by DEP comply with no net emissions increase requirement
<u>310 CMR 36.01: Authority</u>	Adds the GWSA as statutory authority under DEP's water management permitting chapter
<u>310 CMR 36.02: Purpose</u>	Adds the reduction of GHG as a purpose under DEP's water management permitting chapter
<u>310 CMR 36.03: Definitions</u>	Defines net GHG emissions within DEP's water management permitting chapter.
<u>310 CMR 36.07: Registration Conditions</u>	Ensures all DEP-registered withdrawals comply with no net GHG emissions increase requirement

<u>310 CMR 36.27: Issuance of Permits</u>	Ensures all water management permits approved by DEP comply with no net GHG emissions increase requirement
<u>310 CMR 60.03: U Conformity to the State Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. Or the Federal Transit Act</u>	Updates environmental justice and greenhouse gas emissions reduction requirements for transportation implementation plan; adds increased EV charging requirements and reduced internal combustion engine sales numbers as supplemental measures
<u>310 CMR 60.05: Global Warming Solutions Act Requirements for Transportation</u>	Accelerates transportation sector greenhouse gas reduction requirements

Department of Energy Resources

Regulation	Description
<u>225 CMR 4.02: RCS Program</u>	Focuses the RCS program on equity, affordability, and deployment of heat pumps
<u>225 CMR 14.02: Definitions</u>	Restores and strengthens MA’s nation-leading standards for biomass electricity generation to be eligible for RPS incentives
<u>225 CMR 14.05: Eligibility Criteria for RPS Class I, Solar Carve-out Renewable Generation Units, and Solar Carve-out II Renewable Generation Units</u>	Restores and strengthens MA’s nation-leading standards for biomass electricity generation to be eligible for RPS incentives
<u>225 CMR 15.02: Definitions</u>	Restores and strengthens MA’s nation-leading standards for biomass electricity generation to be eligible for RPS incentives; tightens standards for waste combustion to qualify for RPS incentives
<u>225 CMR 15.05: Eligibility Criteria for RPS Class II Generation Units</u>	Restores and strengthens MA’s nation-leading standards for biomass electricity generation to be eligible for RPS incentives; tightens standards for waste combustion to qualify for RPS incentives
<u>225 CMR 15.06: Statement of Qualification Process for RPS Class II Renewable Generation Unit</u>	Tightens standards for waste combustion to qualify for RPS incentives
<u>225 CMR 15.07: Renewable Energy Portfolio Standard -- Class II</u>	Tightens standards for waste combustion to qualify for RPS incentives
<u>225 CMR 15.08: Compliance Procedures for Retail Electricity Suppliers</u>	Tightens standards for waste combustion to qualify for RPS incentives
<u>225 CMR 22.1.00: [Re] Scope and Administration</u>	Updates municipal opt-in stretch building code to fully implement Roadmap Law, empower

	municipalities to eliminate fossil fuel use in new buildings, and increase EV readiness
<u>225 CMR 22.2.00: [Re] Definitions</u>	Updates municipal opt-in stretch building code to fully implement Roadmap Law, empower municipalities to eliminate fossil fuel use in new buildings, and increase EV readiness
<u>225 CMR 22.4.00: [Re] Residential Energy Efficiency</u>	Updates municipal opt-in stretch building code to fully implement Roadmap Law, empower municipalities to eliminate fossil fuel use in new buildings, and increase EV readiness
<u>Appendix RC: MASSACHUSETTS MUNICIPAL OPT-IN SPECIALIZED STRETCH CODE 2023</u>	Updates municipal opt-in stretch building code to fully implement Roadmap Law, empower municipalities to eliminate fossil fuel use in new buildings, and increase EV readiness
<u>225 CMR 23.2.00: [Ce] Definitions</u>	Updates municipal opt-in stretch building code to fully implement Roadmap Law, empower municipalities to eliminate fossil fuel use in new buildings, and increase EV readiness
<u>225 CMR 23.4.00: [Ce] Commercial Energy Efficiency</u>	Updates municipal opt-in stretch building code to fully implement Roadmap Law, empower municipalities to eliminate fossil fuel use in new buildings, and increase EV readiness
APPENDIX CC - MASSACHUSETTS MUNICIPAL OPT-IN SPECIALIZED ENERGY CODE 2023	Updates municipal opt-in stretch building code to fully implement Roadmap Law, empower municipalities to eliminate fossil fuel use in new buildings, and increase EV readiness
<u>780 CMR 2.02 Definitions</u>	Addresses embodied carbon in construction materials
<u>780 CMR 13 C408.1: Carbon Limits for Building Materials Procurements</u>	Addresses embodied carbon in construction materials
<u>780 CMR 13 C408.2 Low-Embodied Carbon Concrete</u>	Addresses embodied carbon in construction materials
<u>780 CMR 13 C408.3 Establish a Materials Reuse Facility</u>	Addresses embodied carbon in construction materials
<u>780 CMR 13 C408.4 Carbon Reduction or Salvaging Requirement for Demolitions</u>	Addresses embodied carbon in construction materials
<u>780 CMR 13 C408.5 Renovation vs. Knock-Down and Rebuild Comparison</u>	Addresses embodied carbon in construction materials

Department of Public Utilities

Regulation	Description
<u>220 CMR 5.02: Format of Tariffs, Schedules and Contracts</u>	Ensures all tariffs explain in plain language how rates reflect resilient infrastructure based on climate science
<u>220 CMR 10.000: Hazard Mitigation and Climate Plans</u>	Mandating the filing of Hazard Mitigation and Climate Plans; prescribing what should be included
<u>220 CMR 11.02: General Definitions</u>	Facilitates ZEV deployment
<u>220 CMR 11.04: Distribution Company Requirements</u>	All contracts and rate increases must reduce GHGs; Facilitates ZEVs; Prohibit utilities from using customer money for political activities or advertising of false climate solutions
<u>220 CMR 11.09: Forward Capacity Market</u>	Triggers for leaving ISO
<u>220 CMR 11.10: Charge Electric Vehicles Utility Pole Program (Charge EVs UPP)</u>	Accelerating municipal EV charging on utility poles
<u>220 CMR 11.11: Electric Vehicle Charging Station Installation</u>	Prohibiting approval of EV charging station installation by EDCs w/o a Dept finding that it will withstand climate change stressors
<u>220 CMR 14.01: Purpose and Scope</u>	Updates LDC purpose to include networked geothermal
<u>220 CMR 14.02: General Definitions</u>	Updates LDC definitions to include networked geothermal
<u>220 CMR 14.03: Local Distribution Company Requirements</u>	All contracts and rate increases must reduce GHGs; Updates LDC requirements to include networked geothermal; Prohibits utilities from using customer money for political activities or advertising of false climate solutions
<u>220 CMR 14.05: Information Disclosure Requirements</u>	Updates LDC info disclosure requirements to include networked geothermal; requires GHG disclosures; requires analysis before using alternative gases
<u>220 CMR 17.05: General Criteria for Long-term Contracts and Renewable Energy Generation Sources</u>	Ensures long-term contracts have RE generation sources that are resilient to current and future climate hazards
<u>220 CMR 19.03: Performance Standards for Emergency Preparation and Restoration of Service</u>	Ensures LDCs consider their Hazard Mitigation and Climate Adaptation Plan and general hazard mitigation and climate resilience planning in the development of emergency preparation
<u>220 CMR 19.04: Emergency Response Plans</u>	Requires LDCs to identify applicable components of their Hazard Mitigation and Climate Adaptation Plans that considers climate science in making hazard predictions and response plans

<u>220 CMR 19.05: Department Investigation into Company Performance; Remedies</u>	Allows Department denial of LDC recovery for failure to follow a Hazard Mitigation and Climate Adaptation Plan during outages
<u>220 CMR 79.01: Annual Return for Gas Companies</u>	Requires reporting of just transition workforce data for LDCs
<u>220 CMR 79.04: Annual Return for Electric Companies</u>	Requires reporting of just transition workforce data for EDCs
<u>220 CMR 112.11: Plans and Procedures</u>	Ensures that LNG plant operators update plans and procedures every 5 years for safety planning, using climate science
<u>220 CMR 115.04: Annual Reporting Requirements</u>	Requires accurate tracking of methane emissions from gas leaks
<u>220 CMR 274.02: Definitions</u>	Requires TNC fleet decarbonization
<u>220 CMR 274.08: Transportation Network Vehicle Requirements</u>	Requires TNC fleet decarbonization
<u>220 CMR 274.12: Reporting Requirements</u>	TNC fleet reporting statistics

Energy Facilities Siting Board

Regulation	Description
<u>980 CMR 1.01: Scope and Construction of Rules</u>	Environmental justice and GHG emissions updates to definitions
<u>980 CMR 1.04: Institution of an Adjudicatory Proceeding</u>	Environmental justice, GHG emissions, and climate resilience pre-filing requirement
<u>980 CMR 1.08: Rendering of Decisions in Adjudicatory Proceedings</u>	Environmental justice, GHG emissions, and climate resilience conditions for granting petitions
<u>980 CMR 1.09: Supplemental Procedures</u>	Environmental justice site visit procedures
<u>980 CMR 5.02: Environmental Assessment</u>	Environmental justice requirements for environmental assessments
<u>980 CMR 13.01: Facility Construction and Maintenance</u>	Environmental justice, GHG emissions
<u>980 CMR 14.00: Site Restoration and Decommission</u>	Requiring a decommissioning site and restoration plan

Executive Office of Energy and Environmental Affairs

Regulation	Description
<u>301 CMR 11.01: General Provisions</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 11.02: Definitions</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 11.03: Review Thresholds</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 11.04: Fail-Safe Review</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 11.05: ENF Preparation and Filing</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 11.06: ENF Review and Decision</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 11.07: EIR Preparation and Filing</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 11.08: EIR Review and Decision</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 11.11: Waivers</u>	Ensures all MEPA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 20.01: Authority and Purpose</u>	Ensures all CZMA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 20.02: Definitions</u>	Ensures all CZMA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 20.03: Implementation of the Coastal Zone Management Program</u>	Ensures all CZMA approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 23.01: Purpose</u>	Ensures all MHP approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 23.02: Definitions</u>	Ensures all MHP approvals by EEA comply with no net GHG emissions increase requirement
<u>301 CMR 23.04: Review Procedures</u>	Ensures all MHP approvals by EEA comply with no net GHG emissions increase requirement
<u>310 CMR 40.01: Authority and Purpose</u>	Ensures all Toxics Use Reduction approvals by EEA comply with no net GHG emissions increase requirement
<u>310 CMR 40.02: Definitions</u>	Ensures all Toxics Use Reduction approvals by EEA comply with no net GHG emissions increase requirement
<u>310 CMR 40.03: Toxic Use Fees</u>	Ensures all Toxics Use Reduction approvals by EEA comply with no net GHG emissions increase requirement
<u>310 CMR 40.05: Fee Waiver</u>	Ensures all Toxics Use Reduction approvals by EEA comply with no net GHG emissions increase requirement

Department of Transportation

Regulation	Description
<u>700 CMR 4.01: Purpose</u>	Accelerates deployment of electric rail
<u>700 CMR 4.02: Definitions</u>	Accelerates deployment of electric rail
<u>700 CMR 4.04: Administration</u>	Accelerates deployment of electric rail
<u>700 CMR 4.07: Application Process</u>	Accelerates deployment of electric rail
<u>700 CMR 4.08: Evaluation Criteria</u>	Accelerates deployment of electric rail
<u>700 CMR 7.01: Scope and Effect</u>	Adds equity and GHG reductions to Purpose of DOT
<u>700 CMR 7.02: Definitions</u>	Defines electric vehicle
<u>700 CMR 7.09: Traffic, Operation, and Safety</u>	Accelerates deployment of HOV lanes
<u>700 CMR 11.05: Vehicle Operations</u>	Codifies Tobin Bridge bus-only lane
<u>700 CMR 14.08: Miscellaneous for Contractors</u>	Requires GHG-related disclosures in bidding documents
<u>700 CMR 15.00 Planning and Transit Operations</u>	Accelerates electrification of MBTA-owned vehicles

APPENDIX B: REDLINED REGULATIONS

310 CMR 4.01: Purpose, Authority, and General Provisions

(1) Purpose. The purpose of 310 CMR 4.00 is to provide for the orderly and efficient administration of the regulatory programs administered by the Department through the establishment of schedules for timely action on permit applications, permit application fees, and annual compliance assurance fees, thereby contributing to the protection of the public health and safety and of the environment; and to otherwise implement the provisions of M.G.L. c. 21A, § 18, ~~and~~ M.G.L. c. 21E, § 3B, and the Global Warming Solutions Act, M.G.L. c. 21N, § 3(d). Except to the extent specifically provided, nothing in 310 CMR 4.00 shall be construed to affect any rights, duties, or obligations established by any statute or by any regulation promulgated by the Department.

(2) Authority. 310 CMR 4.00 is adopted pursuant to M.G.L. c. 21A, § 18, ~~and~~ M.G.L. c. 21E, § 3B, ~~and~~ M.G.L. c. 131, § 40, and the Global Warming Solutions Act, M.G.L. c. 21N, § 3(d).

...

(6) Net Greenhouse Gas Emissions: The Department shall not approve any permit under this Chapter that results in an increase in net greenhouse gas emissions, as defined in 310 CMR 7.00.

(7) This regulation shall take effect on and after January 1, 2025.

310 CMR 7.00: Statutory Authority; Legend; Preamble; Definitions

STATUTORY AUTHORITY: All provisions of 310 CMR 7.00 are adopted pursuant to the authority granted by M.G.L. c. 111, §§ 142A through 142J, and the Global Warming Solutions Act, M.G.L. c. 21N, § 3(d). In addition, 310 CMR 7.08(2) is adopted pursuant to the authority granted by M.G.L. c. 111, § 150A and the following provisions of 310 CMR 7.00 are adopted pursuant to the authority granted by M.G.L. c. 21C, §§ 4 and 6 and by M.G.L. c. 21E, § 6.

...

DEFINITIONS

...

NET GREENHOUSE GAS EMISSIONS means the gross annual anthropogenic greenhouse gas emissions of a facility, development, project, or other entity subject to permitting in the Commonwealth, including construction, demolition or renovation emissions amortized over the first ten years of project life, less the emissions calculated by multiplying the total amount of zero-emissions electricity generated on-site, the environmental or zero-emissions attributes of which have been retained, by the average emissions factor of the ISO-NE at the time of calculation.

...

ZERO EMISSION VEHICLE (or “ZEV”) means any passenger car or light duty truck which produces zero emissions of any criteria pollutants under any and all possible operational modes and conditions. Incorporation of a fuel fired heater shall not preclude a vehicle from being certified as a ZEV provided the fuel fired heater cannot be operated at ambient temperatures above 40°F and the heater is demonstrated to have zero evaporative emissions under any and all possible operational modes and conditions. In addition, ZERO EMISSION VEHICLE (or ZEV), means any ZEV placed in service in compliance with the California Project pursuant to the requirements of the Master Memorandum of Agreement adopted by the California Air Resources Board March 29, 1996.

310 CMR 7.02 U Plan Approval and Emission Limitations

(1) Purpose and Applicability.

(a) Purpose. The purpose of 310 CMR 7.02 is to provide procedures and standards for the issuance of approvals in the Commonwealth of Massachusetts, and establish emission limitations and/or restrictions for a facility or emission unit to ensure that permitted activities do not result in an increase in net greenhouse gas emissions.

(b) Plan Approvals to Construct, Substantially Reconstruct or Alter. Except as provided in 310 CMR 7.02(2), a plan approval is required prior to any construction, substantial reconstruction, alteration, or subsequent operation of a facility or emission unit that may emit air contaminants to the ambient air. No plan approvals shall be granted for a facility or emission unit that results in an increase in net greenhouse gas emissions.

...

e) Department Participation. In approving or denying an application for plan approval, the Department shall limit its action to matters that may cause or contribute to a condition of air pollution or result in an increase in net greenhouse gas emissions.

(2) Exemptions from Plan Approval.

(a) Introduction. 310 CMR 7.02(2)(b) specifies changes that may be made at a facility that are exempt from the approval requirements of 310 CMR 7.02(4) and (5); provided however, that no facility shall be exempt from the requirement that permitted activities do not result in an increase in net greenhouse gas emissions. 310 CMR 7.02(2)(c) specifies situations that are not eligible for such exemption. 310 CMR 7.02(2)(d) through (f) specify record keeping, reporting and enforcement provisions.

...

(3) General Requirements for Plan Approval.

...

(c) Conditions of Approval. The Department may impose any reasonable conditions in a plan approval including conditions determined to be necessary to ensure that the facility will:

1. be built, operated, and maintained as specified in the application for plan approval; and
2. not increase net greenhouse gas emissions.

(d) Monitoring and Testing. The Department may require the applicant to monitor and/or test emissions as a condition of approval. The plan approval may include conditions that direct the

applicant to install sampling ports of a specified size, number or location, direct the applicant to provide safe access to each sampling port or direct the applicant to install instrumentation to monitor and record emissions data and/or operating parameters; or any other conditions to ensure that permitted activities do not result in an increase in net greenhouse gas emissions.

...

(14) This regulation shall take effect on and after January 1, 2025.

310 CMR 7.11: U Transportation Media

(1) Motor Vehicles.

(a) All motor vehicles registered in the Commonwealth shall comply with pertinent regulations of the Registry of Motor Vehicles relative to exhaust and sound emissions.

(b) No person shall cause, suffer, allow, or permit the unnecessary operation of the engine of a motor vehicle while said vehicle is stopped for a foreseeable period of time in excess of five minutes. 310 CMR 17.11 shall not apply to:

1. vehicles being serviced, provided that operation of the engine is essential to the proper repair thereof, or
2. vehicles engaged in the delivery or acceptance of goods, wares, or merchandise for which engine assisted power is necessary and substitute alternate means cannot be made available, or
3. vehicles engaged in an operation for which the engine power is necessary for an associated power need other than movement and substitute alternate power means cannot be made available provided that such operation does not cause or contribute to a condition of air pollution.

(c) 10 CMR 7.11(1)(b) is subject to the enforcement provisions specified in 310 CMR 7.52. All motor vehicles with an original registration in the Commonwealth belonging to the Commonwealth or a municipality shall be electric vehicles by 2035.

(2) Diesel Trains.

(a) No person owning or operating a diesel powered locomotive shall cause, suffer, allow, or permit said locomotive to be operated in a manner such as to cause or contribute to a condition of air pollution.

(b) No person shall cause, suffer, allow, or permit the unnecessary foreseeable idling of a diesel locomotive for a continuous period of time longer than 30 minutes. 310 CMR 7.00 shall not apply to diesel locomotives being serviced provided that idling is essential to the proper repair of said locomotive and that such idling does not cause or contribute to a condition of air pollution.

(c) 310 CMR 7.11(2)(a) and 7.11(2)(b) are subject to the enforcement provisions specified in 310 CMR 7.52. The MBTA shall not operate diesel trains after 2035.

310 CMR 7.32: Natural Gas-Fired Furnace and Boiler NOx Emissions Standards

(1) Purpose and Applicability. This regulation applies to any person who sells, installs, or offers for sale a natural gas-fired furnace or boiler for use within the Commonwealth and any manufacturer who intends to sell or distribute for sale or installation a natural gas-fired furnace for use within the Commonwealth.;

(2) Definitions.

(a) “Annual Fuel Utilization Efficiency” or “AFUE” means the efficiency as defined by Section 4.2.35 of the Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

(b) “BTU” means British thermal unit or units.

(c) “Fossil Fuel-Fired Boiler” means a unit (or combustion of such units) which combusts fossil fuel (or receives energy from other fossil fuel-fired units) to produce steam by indirect transfer and includes such units that produce steam for electric generation. As used in this regulation, “fossil fuel-fired boiler” refers to fossil fuel-fired boilers designed to be a source of residential interior space heating.

(d) “Furnace” means a product with a heat input rate less than 175,000 BTU/hr which is designed to be a source of interior space heating.

(e) “Heat input” means the heat of combustion based on the gross (higher) heating value of the fuel, excluding the enthalpy of incoming combustion air.

(f) “Natural gas” means a mixture of gaseous hydrocarbons containing at least 80% methane by volume as determined by ASTM Standard D1945, 2003.

(g) “Natural gas-fired furnace” means a furnace that utilizes a single-phase, three-phase or direct current in conjunction with natural gas.

(h) “Natural gas-fired fan type central furnace” means a self-contained space heater providing for circulation of heated air at pressures other than atmospheric through ducts more than 25 cm (10 in) in length with a heat input rate of less than 175,000 BTU/hr. This includes combination heating/cooling units with natural gas heating and an electric cooling rate less than 65,000 BTU/hr.

(i) “Useful heat delivered to the heated space” means the annual fuel utilization efficiency (expressed as a fraction) multiplied by the heat input.

(3) Natural Gas-Fired Furnace Emissions Standards: A person shall not sell, install, or offer for sale within the Commonwealth:

(a) On and after January 1, 2024, any stationary residential natural gas-fired fan type central furnace that emits more than 40 nanograms of nitrogen oxides expressed as NO₂ per joule of useful heat delivered to the heated space;

(b) any natural gas-fired fan type central furnace manufactured after January 1, 2027, that emits more than 14 nanograms of nitrogen oxides expressed as NO₂ per joule of useful heat delivered to the heated space;

(c) Any natural gas-fired furnace manufactured after January 1, 2030, that emits more than 0.0 nanograms of nitrogen oxides expressed as NO₂ per joule of useful heat delivered to the heated space. This includes non-central installations such as wall furnaces as well as units installed in non-residential applications.

(4) Fossil Fuel-Fired Boiler Emission Standards: On and after January 1, 2027, a person shall not sell, install, or offer for sale within the Commonwealth a fossil fuel-fired boiler that emits more than 0.0 nanograms of nitrogen oxides expressed as NO₂ per joule of useful heat delivered to the heated space.

(5) Certified furnaces and fossil fuel-fired boilers. A person shall not sell, install, or offer for sale any furnace within the Commonwealth unless such furnace is certified in accordance with this regulation. On and after January 1, 2027, a person shall not sell, install, or offer for sale any fossil fuel-fired boiler within the Commonwealth unless such fossil fuel-fired boiler is certified in accordance with this regulation.

(a) Certification. A manufacturer shall have each furnace or fossil fuel-fired boiler, as applicable, tested in accordance with the following:

1. Nitrogen oxides, carbon dioxide and oxygen measurements, test equipment, and other required test procedures in accordance with this regulation.

2. Operation of a furnace shall be in accordance with the procedures specified in Section 3.1 of the Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

3. One of the two formulas shown below shall be used to determine the emissions of NO_x in units of nanograms per joule of useful heat delivered to the heat space:

$$N = \frac{3.655 \times 10^{10} \times P}{(20.9 - Y) \times Z \times E}$$

$$N = \frac{4.566 \times 10^4 \times P \times U}{H \times C \times E}$$

Where:

N = Calculated mass emissions of NO_x per unit of useful heat (nanograms per joule of useful heat delivered to the heated space)

P = Measured concentration of NO_x in flue gas (parts per million by volume)

Y = Measured concentration of O₂ in flue gas (percentage by volume)

Z = Gross heating value of gas (joules per cubic meter at 0.0 degrees Celsius, 1 atm)

E = AFUE (percentage), as defined by this regulation

U = Concentration of CO₂

H = Gross heating value of the fuel (BTU per cubic foot, 60 degrees Fahrenheit, 30-in Hg.)

C = Measured concentration of CO₂ in flue gas (percentage by volume)

(b) Compliance Statement. The manufacturer shall submit to the Department either of the following:

1. A statement that each affected furnace or fossil fuel-fired boiler, as applicable, meets the standards set forth in this regulation. The statement shall be signed, dated, and attest to the accuracy of all information. The statement shall include the brand name and model number as it appears on the furnace or fossil fuel-fired boiler rating plate; or

2. a valid South Coast Air Quality Management District certification or other Department-approved certification for furnaces or fossil fuel-fired boilers, as applicable, demonstrating compliance with this regulation. For purposes of this regulation, the South Coast Air Quality Management District Rule 1111 is herein adopted by reference.

(c) Identification. The manufacturer shall display the model number of the furnace or fossil fuel-fired boiler, as applicable, complying with this rule on the shipping carton and rating plate.

(d) Enforcement. The Department may periodically, as the Department deems necessary to ensure compliance with this section, conduct on-site inspections (including inspection of records) or require emissions tests. If the Department determines that a person is in violation of any provision of this section, that violation is subject to civil administrative penalties under 310 CMR 5.00 *et seq.*

(e) Interim Report. At least two years prior to the compliance date listed in this regulation, the Department shall present for consideration at a public meeting a report that includes the technology options currently (and projected to be) available to be sold, installed or offered for sale that do not conflict with the standard in this regulation; the projected costs of purchase and installation of such technology, including any ancillary costs, as applicable; any incentive programs available to reduce these costs; and infrastructure readiness associated with rule compliance.

(6) Determination of Emissions. Furnaces and fossil fuel-fired boilers subject to this regulation shall be tested in accordance with the following provisions:

(a) Each furnace or fossil fuel-fired boiler model shall receive certification based on emission tests of a randomly selected unit of that furnace or fossil fuel-fired boiler model.

(b) The measurement of nitrogen oxides emissions shall be conducted in accordance with U.S. EPA Reference Method RM-7 (40 CFR Part 60, Appendix A, Test Method 7E).

(c) The measurement of carbon dioxide shall be conducted in accordance with the Manual of Procedures, Volume IV, Method ST-5 or U.S. EPA Method 3A.

(d) The measurement of oxygen shall be conducted in accordance with the Manual of Procedures, Volume IV, Method ST-14 or U.S. EPA Method 3A.

310 CMR 7.35: Water Heater NOx Emissions Standards

(1) Purpose and Applicability. This section limits emissions of nitrogen oxides from covered water heaters with a rated heat input capacity of 2,000,000 BTU per hour or less that are sold or offered for sale in Massachusetts for use in Massachusetts or installed in Massachusetts and applies to manufacturers, refurbishers, distributors, retailers, and installers of water heaters.

(2) Definitions.

(a) “BTU” means British thermal unit or units.

(b) “Category 1 water heater” means any covered water heater with a rated heat input capacity of 75,000 BTU per hour or less that is designed to combust methane, excluding mobile home water heaters.

(c) “Category 2 water heater” means any covered water heater with a rated heat input capacity of greater than 75,000 BTU per hour and no more than 2,000,000 BTU per hour that is designed to combust methane, excluding mobile home water heaters.

(d) “Category 3 water heater” means a mobile home water heater designed to combust methane, propane, or heating oil and any other covered water heater that is not a Category 1 or Category 2 water heater and is designed to combust propane or heating oil.

(e) “Certification status” means, for a covered water heater, information showing, if applicable, in a format specified by the Department: (i) Whether the model of the water heater is certified in Massachusetts under 220 CMR 7.35; and (ii) If so, the lowest amount of nanograms of nitrogen oxides emissions (calculated as NO₂) per joule of heat output for which the model is so certified.

(f) “Combination heater” means a water heater that is designed and manufactured exclusively to heat potable water directly within the appliance and to provide space heating directly or indirectly by distributing heated fluid to either a fan coil or similar appliance for space heating purposes and that is designed so that the heating fluid temperature cannot exceed 210 degrees Fahrenheit (99 degrees Celsius) under any circumstances during normal operation.

(g) “Covered water heater” means any water heater with a rated heat input capacity of 2,000,000 BTU per hour or less, except for the following water heaters:

1. Water heaters that are designed and manufactured exclusively to heat water for use in an industrial process.

2. Water heaters that are designed and manufactured exclusively to heat water for space heating.

3. Combination heaters.

4. Pool heaters.

5. Water heaters designed and manufactured exclusively for installation and use in a recreational vehicle.

(h) “Distributor” means a person who purchases or obtains a water heater from a manufacturer, refurbisher, or other person for resale. A distributor may also be a manufacturer, refurbisher, retailer, or installer.

(i) “Heat input” means the heat of combustion released by fuels burned in a water heater based on the higher heating value of fuel. This does not include the enthalpy of incoming combustion air.

(j) “Heat output” means the enthalpy of the working fluid output of a water heater, which is computed as required in Section 9.3 of the Protocol as the term H_0 or computed as required in any other certification testing method determined by the Department to be acceptable.

(k) “Heating oil” means a distillate fuel oil that has distillation temperatures of 400 degrees Fahrenheit (204 degrees Celsius) at the 10-percent recovery point and 640 degrees Fahrenheit (338 degrees Celsius) at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 396.4.

(l) “Independent testing laboratory” means a testing laboratory that is approved by the South Coast Air Quality Management District, or the Department, to conduct certification testing under the Protocol or any other certification testing method that the Department determines to be acceptable.

(m) “Installer” means a person who puts a water heater in place and ready for use. An installer may also be a manufacturer, refurbisher, distributor, or retailer.

(n) “Instantaneous water heater” means a water heater that heats water only when it flows through a heat exchanger. Instantaneous water heaters are sometimes referred to as tankless water heaters or on-demand water heaters.

(o) “Joule” means a unit of work or energy equal to the work done by a force of one newton acting through one meter.

(p) “Manufacturer” means a person who produces, assembles, or imports a new water heater for sale. A manufacturer may also be a refurbisher, distributor, retailer, or installer.

(q) “Methane” means a mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined according to Standard Method ASTM D1945 (2003).

(r) “Mobile home” means any dwelling that is designed to be made mobile and manufactured or constructed to provide a permanent residence for one or more persons.

(s) “Mobile home water heater” means a water heater designed and manufactured exclusively for use in a mobile home.

(t) “Model” means, for water heaters other than refurbished water heaters, a group of identical or essentially identical water heaters produced, assembled, or imported by a manufacturer or, for refurbished water heaters, a group of previously manufactured water heaters that, after repair or improvement by a refurbisher, are identical or essentially identical.

(u) “Nitrogen oxides” or “NOx” means the sum of nitric oxide and nitrogen dioxide in the flue gas.

(v) “Person” means any individual, public or private corporation, partnership, association, firm, limited liability company, trust, or estate, government agency, department, or bureau, political subdivision, municipality, or any legal entity whatsoever.

(w) “Pool heater” means a water heater that is designed and manufactured exclusively to heat water for use in a pool, spa, sauna, or hot tub.

(x) “Propane” means a normally gaseous paraffinic compound (C₃H₈).

(y) “Protocol” means the South Coast Air Quality Management District’s protocol, “Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers” (amended January 1998) or the most current version as amended.

(z) “Rated heat input capacity” means the maximum heat input capacity specified on the nameplate of a water heater.

(aa) “Recreational vehicle” means a motor home, travel trailer, truck camper, or camping trailer, with or without motive power, designed and manufactured exclusively for temporary human habitation for recreational, emergency, or other occupancy.

(bb) “Refurbisher” means a person who repairs or improves a previously manufactured water heater for sale. A refurbisher may also be a manufacturer, distributor, retailer, or installer.

(cc) “Refurbished water heater” means a previously manufactured water heater that is repaired or improved.

(dd) “Retailer” means a person who sells a water heater to another person for use. A retailer may also be a manufacturer, refurbisher, distributor, or installer.

(ee) “Sell or offer to sell in Massachusetts” means, regarding a water heater, transfer or offer to transfer, in Massachusetts, ownership of the water heater.

(ff) “South Coast Air Quality Management District” means the air quality agency located in southern California that is recognized by the United States Environmental Protection Agency and the State of California as having authority to regulate air pollution sources within a defined geographic area encompassing large portions of Los Angeles, Orange, Riverside, and San Bernardino counties.

(gg) “Tank type water heater” means a water heater with an integral closed vessel in which water is heated and stored for use external to the vessel. Tank type water heaters are sometimes referred to as storage tank water heaters.

(hh) “Water heater” means equipment that is used solely to heat water for use external to the equipment and qualifies as tank type or instantaneous. Water heater includes new, pre-owned, or refurbished equipment.

(3) NOx Emissions Limits.

(a) No person shall sell or offer to sell in Massachusetts for use in Massachusetts, or install in Massachusetts any Category 1 water heater on or after the compliance dates in Column A of Table 1, unless the model of such water heater is certified under 310 CMR 7.35 to emit nitrogen oxides at a rate less than or equal to the emissions limit in Column B of the corresponding row of Table 1, except that, notwithstanding the prohibition in this paragraph, any Category 1 water heater manufactured or refurbished before one or more such compliance dates may be sold or offered for sale in Massachusetts for use in Massachusetts or installed in Massachusetts within 180 days after the first such compliance date for which its model lacks certification for the corresponding emissions limit.

Table 1: Emissions Limits for Category 1 Water Heaters

<u>A. Compliance Dates</u>	<u>B. Emissions Limits</u>
<u>January 1, 2024</u>	<u>10 nanograms of NOx (calculated as NO₂) per joule of heat output</u>
<u>January 1, 2027</u>	<u>7 nanograms of Nox (calculated as NO₂) per joule of heat output</u>
<u>January 1, 2030</u>	<u>0 nanograms of Nox (calculated as NO₂) per joule of heat output</u>

(b) No person shall sell or offer to sell in Massachusetts for use in Massachusetts or install in Massachusetts any Category 2 water heater on or after the compliance dates in Column A of Table 2 unless the model of such water heater is certified under 310 CMR 7.35 to emit nitrogen oxides at a rate less than or equal to the emissions limit in Column B of the corresponding row of Table 2, except that, notwithstanding the prohibition in this paragraph, any Category 2 water heater manufactured or refurbished before one or more such compliance dates may be sold or offered for sale in Massachusetts for use in Massachusetts or installed in Massachusetts within 180 days after the first such

compliance date for which its model lacks certification for the corresponding emissions limit.

Table 2: Emissions Limits for Category 2 Water Heaters

<u>A. Compliance Dates</u>	<u>B. Emissions Limits</u>
<u>January 1, 2024</u>	<u>14 nanograms of NOx (calculated as NO₂) per joule of heat output</u>
<u>January 1, 2027</u>	<u>7 nanograms of Nox (calculated as NO₂) per joule of heat output</u>
<u>January 1, 2030</u>	<u>0 nanograms of Nox (calculated as NO₂) per joule of heat output</u>

(c) No person shall sell or offer to sell in Massachusetts for use in Massachusetts or install in Massachusetts any Category 3 water heater on or after the compliance dates in Column A of Table 3 unless the model of such water heater is certified under 310 CMR 7.35 to emit nitrogen oxides at a rate less than or equal to the emissions limit in Column B of the corresponding row of Table 3, except that, notwithstanding the prohibition in this paragraph, any Category 3 water heater manufactured or refurbished before one or more such compliance dates may be sold or offered for sale in Massachusetts for use in Massachusetts or installed in Massachusetts within 180 days after the first such compliance date for which its model lacks certification for the corresponding emissions limit.

Table 3: Emissions Limits for Category 3 Water Heaters

<u>A. Compliance Dates</u>	<u>B. Emissions Limits</u>
<u>January 1, 2030</u>	<u>0 nanograms of NOx (calculated as NO₂) per joule of heat output</u>

(4) Safe Harbor Provision. A manufacturer, refurbisher, or distributor who sells or offers to sell in Massachusetts a covered water heater whose model is not certified under 310 CMR 7.35 to meet the applicable NOx emissions limit in Table 1, Table 2, or Table 3 shall not be in violation of 310 CMR 7.35 regarding such water heater if:

(a) The manufacturer or distributor can demonstrate that:

1. The water heater is intended for shipment and installation outside of Massachusetts; and
2. It has taken reasonable, prudent precautions to assure that the water heater is not sold for installation in Massachusetts; and

(b) the water heater was not sold by any person to a retail outlet in Massachusetts.

(5) Certification Procedures.

(a) A manufacturer may request certification from the Department that one or more of its models of new water heaters comply, and a refurbisher may request certification from the Massachusetts that one or more of its models of refurbished water heaters comply, with one or more applicable emissions limits in Table 1, Table 2, or Table 3 of 310 CMR 7.35 by submitting:

1. The certification information as specified in this regulation; or

2. Proof that the model(s) have a currently valid certification by any of the following authorities that they emit nitrogen oxides at a rate less than or equal to one or more such emissions limits:

(i) South Coast Air Quality Management District; or

(ii) any other air pollution control agency that is designated by the Department as having acceptable emissions testing and certification requirements for water heaters; provided however, if such air pollution control agency subsequently requires that the model(s) be recertified regarding such emissions limit(s), the manufacturer or refurbisher must request recertification from the Department by submitting proof of the air pollution control agency's recertification.

(b) The Department may approve a request for certification under and certify the model(s) of water heater involved as in compliance with one or more applicable emissions limits in Table 1, Table 2, or Table 3 if the Department determines that the submitted certification information demonstrates such compliance.

(c) A request for certification shall be deemed approved, and the model(s) of water heater involved shall be deemed certified as in compliance with one or more applicable emissions limits in Table 1, Table 2, or Table 3, by the Department unless, within 90 days of receipt of the request, the Department requests more information from the manufacturer or refurbisher or determines that the certification is not based on emissions test results demonstrating such compliance.

(6) Certification Information.

(a) Any manufacturer or refurbisher requesting certification of one or more of its models of water heater under this regulation shall submit to the Department the following information in an electronic format specified by the Department:

1. A statement that each model complies with one or more applicable emissions limits in Table 1, Table 2, or Table 3 and an explanation of how the model achieves compliance;

2. Name and address of the manufacturer or refurbisher;

3. Brand name, product line, and model number of each model;

4. A description of each model in terms of rated heat input capacity and fuel(s) that the model is designed to combust;

5. For any model designed to combust methane, a source test report verifying compliance with one or more applicable emissions limits in Table 1, Table 2, or Table 3. Such report shall be prepared by an independent testing laboratory and shall contain, for the water heater(s) tested:

(i) All the elements identified in the forms in Section 10.2 of the Protocol, or in the provision of other certification testing method(s) determined by Department to be acceptable, and applicable to the model; and

(ii) The following statement signed and dated by the person responsible for the report at the independent testing laboratory: “Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information in this source test report are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant civil and criminal penalties for submitting false statements or information or omitting required statements or information, including the possibility of fine or imprisonment.”; and

6. The following statement signed and dated by a managerial level employee responsible for the certification request at the manufacturer or refurbisher: “Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information in this request for certification are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant civil and criminal penalties for submitting false statements or information or omitting required statements or information, including the possibility of fine or imprisonment.”

(7) Enforcement and Penalties.

(a) The Department may periodically, as the Department deems necessary to ensure compliance with this section, conduct on-site inspections (including inspection of records) in Massachusetts of manufacturers, refurbishers, distributors, retailers, or installers.

(b) If the Department determines that a manufacturer, refurbisher, distributor, retailer, or installer or other person is in violation of any provision of this section, that violation is subject to civil administrative penalties under 310 CMR 5.00 *et seq.*

(c) For purposes of this regulation, a violation constitutes a separate violation with respect to each water heater involved.

(d) For purposes of this subsection, administrative civil penalties may be levied against an installer who installs a water heater in violation of this section but not against such installer's nonmanagerial employee(s), if any, who perform such installation.

(e) Fines and penalties collected under this regulation may be used for supplemental environmental programs to offset the cost of water heater replacements in low-income homes.

(8) Record Keeping, Reporting, and Labeling Requirements.

(a) On and after January 1, 2025, a manufacturer or refurbisher who sells in Massachusetts any covered water heater (including any such water heater that is intended for shipment and installation outside of Massachusetts) shall maintain, for at least 5 years from the later of the date of creation of the record or the date of manufacture or refurbishing of the water heater, copies of all measurements, tests, reports, logs, and other records necessary to demonstrate compliance with this section, including the following, and make these records or information available to the Department upon request:

1. For each water heater, all records addressing any information submitted by the manufacturer or refurbisher under this regulation about the model of the water heater; and

2. For each water heater, its brand name, product line, model number, serial number, date of manufacture or refurbishment, certification status, date of sale by the manufacturer or refurbisher, and date and destination (including recipient and address) of shipment by the manufacturer or refurbisher.

(b) Starting on January 1, 2024, a manufacturer or refurbisher who sells or offers to sell in Massachusetts for use in Massachusetts any covered water heater shall display:

1. On the individual shipping container of each water heater, its brand name, product line, model number, serial number, date of manufacture or refurbishment, and certification status; and

2. On a nameplate permanently affixed to each water heater and in a format specified by the Department, its model number, serial number, maximum heat input capacity, date of manufacture or refurbishment, and certification status.

(c) Starting on January 1, 2024, a distributor who sells in Massachusetts any covered water heater (including any such water heater that is intended for shipment and installation outside of Massachusetts) shall maintain for at least 5 years from the later of the date of creation of the record or the date of sale of the water heater, copies of all

records necessary to demonstrate compliance with this section, including the following, and make these records or information available to Massachusetts upon request, for each water heater: the brand name, product line, model number, serial number, date of manufacture or refurbishment, certification status, date of sale by the distributor, and date and destination (recipient and address) of shipment by the distributor.

(d) Starting on January 1, 2024, a retailer who sells in Massachusetts any covered water heater (including any such water heater that is intended for shipment and installation outside of Massachusetts) shall maintain, for at least 5 years from the later of the date of creation of the record or the date of sale of the water heater, copies of all records necessary to demonstrate compliance with this section, including the following, and make these records or information available to the Department upon request, for each water heater: the brand name, product line, model number, serial number, date of manufacture or refurbishment, certification status, date of sale by the retailer, and date and destination (recipient and address) of shipment by the retailer.

(e) A manufacturer, refurbisher, distributor, or retailer, as applicable who makes available to the Department, upon request any record or information under this regulation, shall provide to the Department, along with such record or information, the following statement signed and dated by a managerial level employee responsible for responding to the request at the manufacturer, refurbisher, distributor, or retailer: “Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the records or information provided, as applicable, are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant civil and criminal penalties for submitting false statements or information or omitting required statements or information, including the possibility of fine or imprisonment.

310 CMR 7.37: MB High Occupancy Vehicle Lanes

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(2) Applicability. 310 CMR 7.37 applies where indicated, to the Massachusetts Department of Transportation (~~EOTC~~MassDOT), the Massachusetts Highway Department (MHD), and the Massachusetts Turnpike Authority (MTA).

...

(7) Attainment of Performance Standards.

(a) At the time that a new high occupancy vehicle lane or facility opens for public use, and at the time that any existing high occupancy vehicle lane is expanded, the MHD with respect to the roadway segments identified in 310 CMR 7.37(3)(a), and the MTA with respect to the roadway segments identified in 310 CMR 7.37(3)(c), shall monitor the high occupancy vehicle lane or facility performance, as measured by trip times, during peak periods of travel, to ensure that high occupancy vehicle performance standards are being met. Trip times shall be measured at least monthly and during at least five sample days each month. Measurements shall be taken on at least one Monday, Tuesday, Wednesday, Thursday and Friday during each month. On each of the sample days, a minimum of two time runs shall be made during peak hours of travel in each direction for each high occupancy vehicle lane roadway segment.

(b) The MHD and the MTA shall use all appropriate and feasible measures to maintain compliance with the high occupancy vehicle lane performance standards.

(c) Should high occupancy vehicle lane or facility performance standards for a given roadway segment be violated for 75% of the time runs in a particular month, the agency responsible for the operation of the lane shall file a written report describing the violations with the Department within ten days following the end of the month in which the violation was detected. This report shall describe the violations and shall describe a commitment by the responsible agency to take whatever measures are feasible and necessary to return the high occupancy vehicle lane to compliance with the performance standards, including but not limited to changes in high occupancy vehicle eligibility or high occupancy vehicle facility metering, and measures to increase the use of buses, car-pools and van-pools.

(d) Such reports shall be submitted to the Department for a period of two years following the opening of each HOV lane or facility. Thereafter the MHD and the MTA shall continue to monitor high occupancy vehicle lane and facility performance, to measure trip times as required by 310 CMR 7.37(7)(a), and to maintain records of such monitoring and measurements, and upon written request shall send reports to the Department containing the information and commitments described in 310 CMR 7.37(7)(c), provided however that trip times shall be measured at least quarterly and during at least five

sample days each quarter, and provided further that compliance with performance standards during this later period shall be determined on a quarterly basis.

(e) MassDOT shall conduct a feasibility study for implementing a bus-only or high-occupancy vehicle lane for all highway projects aimed at repairing a structurally deficient bridge and on a roadway that carries an average of 10,000 vehicles per day as determined by an average over the past three years.

(8) Substitute High Occupancy Vehicle Projects.

(a) Based on the feasibility studies conducted pursuant to 310 CMR 7.37(3), if the MHD or the MTA can demonstrate to the Department that a specific HOV lane listed in 310 CMR 7.37(3) is not feasible due to adverse environmental impacts or associated engineering and financial issues, an alternative project shall be substituted in the following manner:

1. The MHD with respect to the roadway segments identified in 310 CMR 7.37(3)(a) and (b), and the MTA with respect to the roadway segments identified in 310 CMR 7.37(3)(c), must petition the Department to accept a substitute project. All such petitions shall be approved by EOTCMassDOT prior to submission to the Department. All such petitions shall include a demonstration that the substitute project achieves equal or greater emission reductions of VOC, CO and NO_x from mobile sources, than the installation of an HOV lane, and that said substitute project provides for greater improvement in air quality for VOC, CO and NO_x in the area where the required high occupancy vehicle lane is targeted, in both the short and long terms. Park and ride facilities may be proposed as substitutes for the requirements for HOV lanes pursuant to the substitution provisions of 310 CMR 7.37(8). Any park and ride facilities which have been built to fulfill the requirements of, or are required to be built pursuant to 310 CMR 7.36(2), or are proposed and accepted as substitute projects pursuant to 310 CMR 7.36, cannot also be proposed as substitute projects pursuant to, 310 CMR 7.37(8).

2. Within 30 days of receipt of a petition and demonstration for project substitution, the Department shall make a determination whether all information necessary for review of said petition has been submitted, and shall notify the project proponent. The Department shall review the petition and shall, after notice and public hearing, accept or reject said petition in writing no later than 90 days after the Department determines that all information necessary to review the petition and demonstration has been submitted.

3. Within 30 days after the Department accepts or rejects such a petition and demonstration for project substitution, the Department shall file a copy of said petition and supporting documentation and a copy of the Department action with U.S. EPA, Region I.

(9) High Occupancy Vehicle Enforcement and Promotion.

(a) By January 31, 1993, the MHD and the MTA shall each prepare and submit to the Department a plan describing the general program for enforcement of the high occupancy vehicle lane system. These program submittals shall include a commitment to implementation of the enforcement program as defined therein. Within 30 days of receiving the enforcement program plans, the Department shall review and make recommendations regarding the plans. Said recommendations shall be incorporated by the MHD and the MTA into the final enforcement program plan for each agency. Specific enforcement measures applicable to a particular high occupancy vehicle lane shall be identified in the final design phase of the high occupancy vehicle system.

(b) By May 31, 1992, the MHD and the MTA shall prepare and submit to the Department a plan for a general program designed to promote high occupancy vehicle use. Said plan shall be based on a comprehensive review of techniques used to manage or promote high occupancy vehicle use in other locations throughout the United States and Canada. The MHD and the MTA shall, in said program, commit to implementation of selected measures to promote the use of the high occupancy vehicle system of each agency. A specific promotional plan for each roadway segment shall be prepared in conjunction with the final design for each high occupancy vehicle facility.

(c) For all highway projects that require an Environmental Impact Report pursuant to M.G.L. c. 30, section 62B, the Department shall require consideration of adding additional permanent high-occupancy vehicle lane designations on highways and consider adding high-occupancy tolling, enforcement mechanisms that reduce congestion. As part of this consideration, the project proponent must assess the feasibility and emission reduction potential of adding a bus lane and bike lane. Such lane must be constructed and maintained if the feasibility study finds a public benefit and reduction in greenhouse gas emissions.

(10) High Occupancy Vehicle Expansion to the Local Roadway Network.

(a) ~~EOTC and MHD~~ MassDOT shall encourage the City of Boston to incorporate high occupancy vehicle lanes and non-lane based incentives or mechanisms which promote the use of high occupancy vehicles.

(b) ~~EOTC~~ MassDOT shall work with the Massachusetts Port Authority to conduct studies of high occupancy vehicle needs at Logan Airport. The Department and MassDOT shall work with municipalities to establish bus priority lanes and transit signal priority in congested locations.

(11) Reports Regarding Effects on Air Quality. Within two years from the opening for public use of each HOV lane or substitute project on any of the roadway segments described in 310 CMR 7.37(3), the MHD, for roadway segments described in 310 CMR 7.37(3)(a) and (b), and the MTA for roadway segments described in 310 CMR 7.37(3)(c) shall submit a report to the Department documenting the quantitative effects of such HOV lanes or projects on levels of

VOC, CO and NOX in the areas affected. The method of determining the quantitative effects of such HOV lanes or substitute project on air quality shall be determined in consultation with the Department. Such report shall also quantify the reduction of greenhouse gas emissions related to micro-mobility devices, such as scooters and electric bicycles, on state and local roads, sidewalks, and multi-use paths to encourage non-driving travel options.

(12) HOV Lanes and Substitute Projects Permanent. All HOV lanes built pursuant to 310 CMR 7.37(1) through (7) and all substitute projects implemented pursuant to 310 CMR 7.37(8) shall be permanently operated and maintained by the MHD for all HOV lanes and projects built and implemented by it and by the MTA for all HOV lanes and projects built and implemented by it. Either transportation agency may petition the Department to either reduce or terminate the operation, maintenance or implementation of any HOV lane or substitute project built or implemented by it, by petitioning the Department to build another HOV lane, extend an existing HOV lane, or implement a substitute project by demonstrating that such lane or project will achieve equal or greater emission reductions of VOC, CO and NOX from mobile sources and will provide for greater improvement in air quality for VOC, CO and NOX in both the short and long term. The Department shall act upon such petitions as provided in 310 CMR 7.37(8)(a)2. and 3.

310 CMR 7.40: U Low Emission Vehicle Program

...

(2) Emissions Requirements and Prohibitions

(c) Exceptions

1. Motor vehicles held for daily lease or rental to the general public or engaged in interstate commerce which are registered and principally operated outside Massachusetts, shall not be subject to the requirements of 310 CMR 7.40(2)(a) and (b).
2. Motor vehicles defined as test vehicles, as emergency vehicles, or qualifying for exemption under Section 43656 of the California Health and Safety Code, incorporated herein by reference, shall not be subject to the requirements of 310 CMR 7.40(2)(a), (b), and (d).

(2) New public vehicle purchases must be zero-emission vehicles:

- a. The secretary, in consultation with the executive office for administration and finance, shall require that new motor vehicles purchased, operated, or leased by the Commonwealth shall be zero-emission vehicles according to the following deadlines:
 1. fifty percent of all purchases and leases in 2025;
 2. Seventy-five percent of all purchases and leases in 2030; and
 3. one hundred percent of all purchases and eighty percent of all leases in 2035.
- b. All municipalities owning, operating, leasing, or contracting school buses shall require that such buses be zero emission vehicle by 2035.
- c. All autonomous vehicles must be electric and not add to congestion.

310 CMR 7.73: Reducing Methane Emissions from Natural Gas Distribution Mains and Services

...

(9) Program Review. Not later than December 31, 2024, the Department shall complete a review, including an opportunity for public comment on the program review, of the requirements of 310 CMR 7.73 to determine whether the program should be amended or extended. This review shall:

(a) evaluate whether to require the use of feasible technologies to detect and quantify gas leaks and any other information relevant to review of the program;

(b) establish annual methane limits from 2025 to 2030 by at least a 65 percent reduction from 2020 CH₄ limits by 2030;

(c) consider ways to prioritize pipeline retirement for leak mitigation instead of pipeline replacement; and

(d) establish regulations for gas operators ensuring that necessary mitigation, repair, or retirement of natural gas pipeline infrastructure within environmental justice population service areas are promptly responded to and resolved to reduce the potential for unfair or inequitable treatment and public health consequences.

310 CMR 7.75: Clean Energy Standard

...

(2) Definitions. The terms used in 310 CMR 7.75 are defined in 310 CMR 7.75(2) and 310 CMR 7.00: *Definitions*. Where a term is defined in both 310 CMR 7.00: *Definitions* and 310 CMR 7.75, the definition in 310 CMR 7.75 shall apply.

Clean Generation Unit means a generation unit or aggregation that has received a CES statement of qualification from the Department, or that has received an RPS statement of qualification from DOER, unless such generation unit utilizes woody biomass fuel.

RPS Class I Renewable Generation Unit means a generation unit or aggregation that has received a statement of qualification as an RPS Class I renewable generation unit from DOER pursuant to 225 CMR 14.00: *Renewable Energy Portfolio Standard - Class I*. For the purposes of 310 CMR 7.75, RPS Class I Renewable Generation Unit shall exclude generation units that were derived from a woody biomass fuel.

...

(9) Reporting Requirements.

...

(c) Greenhouse Gas Emissions Reporting.

1. Each retail seller shall report annually to the Department its MWh sold and associated greenhouse gas emissions. The first required reporting year for retail sellers which are new competitive suppliers is the first year after 2017 in which they sell electricity in Massachusetts. Biogenic and non-biogenic greenhouse gas emissions shall be reported separately. Hydroelectric power greenhouse gas emissions from the creation of any associated reservoirs and their ongoing biological matter decomposition shall be reported separately. This report shall be on a form provided by the Department.

310 CMR 7.77: Net Zero Communities Program

(1) Purpose and Scope. The Purpose of 310 CMR 7.77 is to assist the Commonwealth in achieving the greenhouse gas emissions reduction goals adopted pursuant to M.G.L. c. 21N, § 3(b), by empowering municipalities that are qualified as green communities under M.G.L. c. 25A, § 10 to achieve net zero emissions levels.

(2) Applicability. Any municipality within the Commonwealth that is qualified as a green community under M.G.L. c. 25A, § 10 is eligible for designation as a Net Zero Community subject to the requirements of 310 CMR 7.77.

(3) Net Zero Community Designation. To qualify as a Net Zero Community, a municipality or other local governmental body shall:

(a) achieve designation as a green community under M.G.L. c. 25A, § 10;

(b) establish an energy use baseline inventory for municipal buildings, vehicles and street and traffic lighting; and

(c) create a comprehensive energy reduction plan to reduce this baseline by 50 percent by 2030, 75 percent by 2040, and 90 percent by 2050;

(d) adopt the municipal net-zero specialized stretch code 2023, 225 CMR 22 and 225 CMR 23;

(e) by 2030: (i) Adopt an electric vehicle policy requiring all municipal departments and divisions to purchase electric vehicles, as defined by 225 CMR 22; and (ii) create a plan for replacing municipal non-electric vehicle inventory and creating electric vehicle ready spaces, as defined by 225 CMR 22, for both municipal and non-municipal-owned electric vehicles;

(f) submit a grant project capstone project to the division of green communities which involves at least two of the following: (i) generation of renewable electrical energy built within the municipality that meets 100% or more of the average energy load used by all municipal-owned buildings; (ii) creation and implementation of a plan of 75% diversion of recyclables and compostables from landfill by 2030 and zero waste to landfill or incineration by 2035; or (iii) energy efficiency improvements or energy conservation measures within municipal buildings or property;

(g) adopt a net zero community climate action plan. In the development of such plan, the municipality shall specify all feasible measures to be taken by the municipality to reduce the potential for unfair or inequitable effects upon environmental justice populations. In addition, the municipality shall not approve projects or contracts inconsistent with or contrary to the municipality's net zero community climate action plan, the Global Warming Solutions Act, M.G.L. c. 21N, §§ 1-9, or the Commonwealth's greenhouse gas emissions reduction goals adopted pursuant to M.G.L. c. 21N, § 3(b);

(h) create a net zero community advocacy team that can provide net zero climate action plan and zero net carbon pollution solutions and recommendations to the municipality's governing body. Such net zero community advocacy team shall include, but not be limited to, community advocates, community stakeholders, and environmental justice advocates. In the development of its recommendations, the net zero community advocacy team shall consider the results of the municipality greenhouse gas inventory assessment conducted pursuant to 310 CMR 7.77(3)(i);

(i) undertake a municipality greenhouse gas inventory assessment that includes what the municipality's emissions levels will be in calendar years 2030, 2040 and 2050 if no measures are imposed to lower emissions other than those formally adopted and implemented as of the effective date of this regulation;

(j) create a public education and outreach plan and timeline for future implementation of the municipality's net zero community climate action plan. If applicable, such public education and outreach plan shall be translated into the languages most appropriate for neighborhoods within the municipality that are identified as environmental justice populations due to lacking English language proficiency; and

(k) submit an application to the Department of Public Utilities' Charge Electric Vehicles Utility Pole Program (Charge EVs UPP) pursuant to 220 CMR 11.10, for the development of utility pole electric vehicle charging infrastructure within the municipality.

(4) Annual Reporting. Net Zero Community municipalities shall submit a report annually to the division of green communities documenting updates on how the municipality is progressing toward its energy reduction goals and steps taken by the municipality within the calendar year to maintain its Net Zero Community designation and eligibility for division of green communities program grants.

310 CMR 7.78: Reducing Peak Electric Sector Emissions

(1) Purpose, Scope and Authority. The purpose of 310 CMR 7.78 is to assist the Commonwealth in achieving the greenhouse gas emissions reduction goals adopted pursuant to M.G.L. c. 21N, § (3)(b) by reducing the use of high emission low-efficiency electric generating facilities by reducing the difference between peak and average electricity demand. 310 CMR 7.78 is promulgated pursuant to M.G.L. c. 21N, § 3(d) and is also promulgated pursuant to M.G.L. c. 21A, §§ 2, 8 and 16, and M.G.L. c. 111, §§ 2C and 142A through 142E, to prevent and abate conditions of air pollution.

(2) Definitions. The terms used in 310 CMR 7.78 are defined in 310 CMR 7.78(2) and in 310 CMR 7.00: Definitions. Where a term is defined in 310 CMR 7.00: Definitions and 310 CMR 7.78 the definition in 310 CMR 7.78 shall apply.

Electric Distribution Company means an investor-owned electric distribution company as defined in M.G.L. c. 164, § 1.

(3) Applicability. Every Massachusetts electric distribution company.

(4) Annual Reporting Requirements.

(a) By April 15, 2024 and on April 15th of each year thereafter, each electric distribution company must submit an annual plan detailing how the electric distribution company will reduce the difference between peak and average electric demand by 30 percent by 2030.

(b) The annual plans shall include but not be limited to the following:

1. Use of customer incentives for load shifting;
2. Accelerated interconnection of behind-the-meter customer-owned electric generation;
3. Accelerated replacement of inefficient customer air conditioning equipment with heat pumps;
4. Innovative rate structures, and
5. Any other information requested by the Department.

310 CMR 9.01: Purpose

(1) Authority. 310 CMR 9.00 is adopted by the Commissioner of the Department of Environmental Protection (DEP) under the authority of M.G.L. c. 91, § 18 to establish procedures, criteria, and standards for uniform and coordinated administration of the provisions of M.G.L. c. 91, §§ 1 through 63 and M.G.L. c. 21A, §§ 2, 4, 8 and 14. 310 CMR 9.00 also form part of the Massachusetts Coastal Zone Management (CZM) Program, established by M.G.L. c. 21A, § 4A, and codified at 301 CMR 20.00: Coastal Zone Management Program. The interpretation and application of 310 CMR 9.00 shall be consistent with the policies of the CZM Program, 301 CMR 20.00, and the Global Warming Solutions Act, M.G.L. c. 21N, § 3(d), to the maximum extent permissible by law.

(2) Purpose. 310 CMR 9.00 is promulgated by the Department to carry out its statutory obligations and the responsibility of the Commonwealth for effective stewardship of trust lands, as defined in 310 CMR 9.02. The general purposes served by 310 CMR 9.00 are to:

(a) protect and promote the public's interest in tidelands, Great Ponds, and non-tidal rivers and streams in accordance with the public trust doctrine, as established by common law and codified in the Colonial Ordinances of 1641-47 and subsequent statutes and case law of Massachusetts;

(b) preserve and protect the rights in tidelands of the inhabitants of the Commonwealth by ensuring that the tidelands are utilized only for water-dependent uses or otherwise serve a proper public purpose;

(c) protect the public health, safety, and general welfare as it may be affected by any project in tidelands, great ponds, and non-tidal rivers and streams;

(d) support public and private efforts to revitalize unproductive property along urban waterfronts, in a manner that promotes public use and enjoyment of the water; and

(e) foster the right of the people to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment under Article XCVII of the Massachusetts Constitution; and

(f) reduce greenhouse gas emissions.

(3) This regulation shall take effect on and after January 1, 2025.

310 CMR 9.02: Definitions

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Net greenhouse gas emissions shall have the meaning as defined in 310 CMR 7.00.

...

Wetlands Protection Act means M.G.L. c. 131, § 40 and 310 CMR 10.00: *Wetlands Protection*.

This regulation shall take effect on and after January 1, 2025.

310 CMR 9.31: Summary of License and Permit Requirements

(1) Basic Requirements. No license or permit shall be issued by the Department for any project subject to 310 CMR 9.03 through 9.05 and 9.09, unless said project:

(a) includes only fill and structures for uses that have been categorically determined to be eligible for a license, according to the provisions of 310 CMR 9.32;

(b) complies with applicable environmental regulatory programs of the Commonwealth, according to the provisions of 310 CMR 9.33;

(c) conforms to applicable provisions of an Approved Municipal Harbor Plan, if any, and local zoning law, according to the provisions of 310 CMR 9.34;

(d) complies with applicable standards governing the preservation of water-related public rights, according to the provisions of 310 CMR 9.35;

(e) complies with applicable standards governing the protection of water-dependent uses, according to the provisions of 310 CMR 9.36;

(f) complies with applicable standards governing engineering and construction of structures, according to the provisions of 310 CMR 9.37;

(g) complies with applicable standards governing use and design of boating facilities for recreational or commercial vessels, according to the provisions of 310 CMR 9.38 and 9.39;

(h) complies with applicable standards governing dredging and disposal of dredge materials, according to the provisions of 310 CMR 9.40; and

(i) does not deny access to its services and facilities to any person in a discriminatory manner, as determined in accordance with the constitution of the Commonwealth of Massachusetts, of the United States of America, or with any statute, regulation, or executive order governing the prevention of discrimination; and

(j) does not result in an increase in net greenhouse gas emissions.

...

(5) This regulation shall take effect on and after January 1, 2025.

310 CMR 10.01: Introduction and Purpose

(1) Introduction. 310 CMR 10.00 is promulgated by the Commissioner of the Massachusetts Department of Environmental Protection pursuant to the authority granted under The Wetlands Protection Act, M.G.L. c. 131, § 40. 310 CMR 10.00 shall complement M.G.L. c. 131, § 40, and the Global Warming Solutions Act, M.G.L. c. 21N, § 3(d), and shall have the force of law.

...

(3) Net Greenhouse Gas Emissions: The Department shall not grant approval under this Chapter for any action, project, or activity that results in an increase in net greenhouse gas emissions.

(4) The amendments to 310 CMR 10.01(3) shall take effect on and after January 1, 2025.

310 CMR 10.04: Definitions

...

Net Greenhouse Gas Emissions shall have the meaning as defined in 310 CMR 7.00.

...

This regulation shall take effect on and after January 1, 2025.

310 CMR 16.01: General Requirements

(1) Purpose and General Description. The purpose of 310 CMR 16.00 is to protect public health, safety and the environment and reduce greenhouse gas emissions by comprehensively regulating:

- (a) the siting of solid waste facilities; and
- (b) operations which recycle, compost, or convert recyclable or organic materials.

...

(3) Authority. Pursuant to M.G.L. c. 21A, §§ 2 and 8, c. 21H, § 7, and c. 111, §§ 150A and 150A1/2, and the Global Warming Solutions Act, M.G.L. c. 21N, § 3(d), the Department has the authority to:

- (a) establish a process for a board of health and the Department to issue site assignments; and
- (b) regulate recycling, composting and conversion operations.

...

(13) The amendments to 310 CMR 16.01(3) shall take effect on and after January 1, 2025.

310 CMR 16.02: Definitions

The following words when used in 310 CMR 16.00, except as otherwise required by the context, shall have the following meaning:

...

High Heat Waste Processing Facility means any facility that disposes of, processes, or treats solid waste, solid waste that is separated for reuse, recyclable materials, construction and demolition debris, hazardous waste, or medical waste through any process that exposes such waste to temperatures above four hundred degrees Fahrenheit (400°F).

...

On and after January 1, 2025, Net Greenhouse Gas Emissions shall have the meaning as defined in 310 CMR 7.00.

310 CMR 16.03: Exemptions from Site Assignment

(2) The activities listed in this subsection at 310 CMR 16.03(2)(a) through (c) do not require a site assignment, a facility permit pursuant to 310 CMR 19.000: *Solid Waste Management*, a general permit pursuant to 310 CMR 16.04, or a recycling, composting or conversion permit pursuant to 310 CMR 16.05, provided that the owner and operator incorporates best management practices in a manner that prevents an unpermitted discharge of pollutants to air, water or other natural resources of the Commonwealth, does not create a public nuisance, ~~and~~ does not present a significant threat to public health, safety or the environment, and does not result in an increase in net greenhouse gas emissions.

...

(c) Handling or Disposal of Organic Materials.

1. Activities Located at an Agricultural Unit. Activities located at an agricultural unit as defined in 330 CMR 25.02: *Definitions*, provided that the owner and operator comply with the regulations and guidelines of the Department of Agricultural Resources. If the Department of Agricultural Resources determines that the activity at a specific agricultural unit is no longer regulated by the Department of Agricultural Resources, then the owner and operator shall be subject to 310 CMR 16.00.
2. Diversion of Food Material. The Department shall ensure that 100% of residential food material waste is diverted from landfills and high heat waste processing facilities by 2027.

...

(3) The amendments to 310 CMR 16.03(2) shall take effect on and after January 1, 2025.

310 CMR 16.04: General Permit for Recycling, Composting or Aerobic and Anaerobic Digestion Operations

...

(2) General Permit Requirements for a Recycling Operation. The owner and operator of an operation that handles recyclable materials shall:

(a) ensure the operation and its products do not result in an unpermitted discharge of pollutants to air, water, land or other natural resources of the Commonwealth, do not result in an increase in net greenhouse gas emissions, create a public nuisance, or present a significant threat to public health, safety or the environment;

...

(3) General Permit Requirements for Composting or Aerobically or Anaerobically Digesting Organic Materials.

(a) The owner and operator of an operation that composts or aerobically or anaerobically digests organic materials shall:

1. ensure the operation and its products do not result in an unpermitted discharge of pollutants to air, water or other natural resources of the Commonwealth, do not result in an increase in net greenhouse gas emissions, create a public nuisance, or present a significant threat to public health, safety or the environment;

2. Ensure that such organic materials are not mixed with sewage sludge from a wastewater treatment plant;

...

(4) The amendments to 310 CMR 16.04(2)(a) and 310 CMR 16.04(3)(a)(1.) shall take effect on and after January 1, 2025.

310 CMR 16.05: Permit for Recycling, Composting and Conversion (RCC) Operations

...

(5) High Heat Waste Processing Facilities.

(a) Permits. The Department shall not approve a permit for a High Heat Waste Processing Facility after the effective date of this Regulation.

(b) Decommissioning of High Heat Waste Processing Facilities. The Department shall establish a plan by 2024 to decommission all high heat waste processing facilities currently in operation by 2030.

(c) Prohibition of Operations. No High Heat Waste Processing Facility shall continue to operate on and after January 1, 2030.

310 CMR 16.08: Site Assignment Application Submission Requirements

(1) General. Any person wishing to establish a new facility at a New Site or to Expand a Site onto an area not previously assigned must file a Site Assignment Application (application) with the board of health and provide copies as specified at 310 CMR 16.08(2)

...

(7) Net Greenhouse Gas Emissions; Environmental Justice Populations: All applications shall include an analysis demonstrating that such new facility will not:

(a) increase net greenhouse gas emissions; and

(b) harm an environmental justice population.

(8) This regulation shall take effect on and after January 1, 2025.

310 CMR 16.13: Department Report on Suitability (Report)

...

(2) Content. The Report shall include:

(a) the Report Number;

(b) a statement indicating that the application does or does not contain sufficient data to allow the Department to determine if the site meets the criteria. A determination that an application did not contain sufficient information to allow a determination on each criteria shall be sufficient grounds for a negative determination of suitability;

(c) a statement that the site meets or fails to meet each the site suitability criteria set forth in 310 CMR 16.40, including any conditions; ~~and~~

(d) a statement that the site will or will not:

1. increase net greenhouse gas emissions; and

2. harm an environmental justice population. A determination that an application either increased net greenhouse gas emissions or harmed an environmental justice population shall constitute sufficient grounds for a negative determination of suitability; and

~~(d)~~(e) findings of fact pertaining to the application, any waiver that was requested, and the suitability of the site.

...

(6) This regulation shall take effect on and after January 1, 2025.

310 CMR 19.001: Authority

310 CMR 19.000 is promulgated by the Commissioner and the Department of Environmental Protection pursuant the authority granted by St. 1987, c. 584, M.G.L. c. 21A, §§ 2 and 8 and c. 111, § 150A, [and the Global Warming Solutions Act, M.G.L. c. 21N, § 3\(d\)](#).

310 CMR 19.002: Purpose

310 CMR 19.000 is intended to protect public health, safety, and the environment, and reduce greenhouse gas emissions by comprehensively regulating the storage, transfer, processing, treatment, disposal, use and reuse of solid waste in Massachusetts. Protection of public health, safety and the environment is primarily the prevention of pollution from the site, but also encompasses the operation of the facility within an integrated solid waste management system which maximizes material reuse and the conservation of energy.

310 CMR 19.006: Definitions

On and after January 1, 2025, Net Greenhouse Gas Emissions shall have the meaning as defined in 310 CMR 7.00.

...

Post-consumer Recyclables means the following materials which have served their intended end use and have been pre-sorted:

(a) containers, films and wraps and other forms of packaging made from metal, glass, plastic or paper;

(b) newspaper, office paper, cardboard and other grades of paper. Post-consumer recyclables may include additional materials which have served their intended end use and have been pre-sorted, based upon Department review every two years. The Department shall publish a post-consumer recyclables guidelines document on its website following each biennial review. The first post-consumer recyclables guidelines document shall be published on or before January 1, 2024.

310 CMR 19.018: Third-party Inspections

...

(3) Types of Inspections. The owner and operator of a facility listed at 310 CMR 19.018(2)(a) shall have the following types of third-party inspections conducted at the facility in accordance with the performance standards and other requirements of 310 CMR 19.018:

- (a) facility operation and maintenance inspections;
- (b) waste ban inspections at any facility with a waste ban compliance plan approved by the Department in accordance with 310 CMR 19.017, which inspections shall be conducted at least (i) twice monthly if such facility buries or burns 200,000 tons or more annually; or (ii) at least once monthly if such facility buries or burns less than 200,000 tons annually; and
- (c) any other third-party inspection as directed by the Department.

310 CMR 19.032: Permit Procedure for a New Facility or Expansion Permit Application

...

(6) Net Greenhouse Gas Emissions: On and after January 1, 2025, no permit approved by the Department shall result in an increase in net greenhouse gas emissions.

~~(6)~~ (7) Issuance of the Final Decision on a Permit Application.

310 CMR 36.01: Authority

310 CMR 36.00 is promulgated by the Department pursuant to the authority granted by M.G.L. c. 21G, § 3, [the Global Warming Solutions Act, M.G.L. c. 21N, § 3\(d\)](#), and by M.G.L. c. 30A, §§ 2 and 3. 310 CMR 36.00 should be read together with the Massachusetts Water Management Act, M.G.L. c. 21G, which has many important provisions not repeated in 310 CMR 36.00.

310 CMR 36.02: Purpose

The Commonwealth's water resources are public resources that require sustainable management practices for the well-being and safety of its citizens, protection of the natural environment, reduction of greenhouse gas emissions, and for economic growth. 310 CMR 36.00 is intended to establish enforceable standards, criteria and procedures that will enable the Department to comprehensively manage withdrawals above the threshold volume throughout the Commonwealth to ensure an appropriate balance among competing water withdrawals and uses and the preservation of the water resource.

The Department's current understanding of the impacts of water withdrawals and other human influences on the sustainability of water resources has been informed by technical studies and the MA Executive Office of Energy and Environmental Affairs (EOEEA) Sustainable Water Management Initiative (SWMI). SWMI was convened by EOEEA and involved its environmental agencies, the Department of Environmental Protection, the Department of Fish and Game and the Department of Conservation and Recreation, and public water suppliers, environmental organizations, scientists, policy-makers and planners. SWMI's goal was to develop an approach to sustainable management of the Commonwealth's water resources that balances human and ecological water needs based on the best available science. In November 2012, EOEEA and the environmental agencies issued the *Final Framework Summary for the Massachusetts Sustainable Water Management Initiative*, which provides recommendations for the permitting of water withdrawals under 310 CMR 36.00, including safe yield, streamflow criteria, and permit tiers. These SWMI recommendations informed the 2014 amendments to 310 CMR 36.00.

310 CMR 36.03: Definitions

As used in 310 CMR 36.00, the following terms shall have the following meanings:

...

Net Greenhouse Gas Emissions shall have the meaning as defined in 310 CMR 7.00.

This regulation shall take effect on and after January 1, 2025.

310 CMR 36.07: Registration Conditions

(1) The registrant shall comply at all times with the requirements and conditions imposed by the Department, M.G.L. c. 21G, and 310 CMR 36.00, and all other applicable state and federal statutes and regulations.

(2) The Department may impose, at a minimum, the following conditions on a registered withdrawal:

(a) the installation of flow meters within a specified time; and

(b) the accurate recording and reporting annually of the quantity of the water that is being withdrawn.

(3) All registrants shall file the annual statement of withdrawal as specified in 310 CMR 36.11.

(4) All registrants wishing to renew registration statements shall file a renewal registration request as specified in 310 CMR 36.10.

(5) On and after January 1, 2025, no registered withdrawal shall result in an increase in net greenhouse gas emissions.

310 CMR 36.27: Issuance of Permits

...

(10) The Department shall not grant a permit under this Chapter that results in a net increase in greenhouse gas emissions.

(11) This regulation shall take effect on and after January 1, 2025.

310 CMR 60.03: U Conformity to the State Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. Or the Federal Transit Act

(2) Definitions. Terms but not defined in this section shall have the meaning given to them by the CAA, titles 23 and 49 U.S.C., Environmental Protection Agency regulations or U.S. Department of Transportation regulations, in that order of priority.

...

EOTCMassDOT means the Massachusetts Department of Transportation.

...

Motor vehicle emissions budget is that portion of the total allowable emissions defined in a SIP revision (or in a SIP revision which was endorsed by the Governor or his or her designee, subject to a public hearing) and submitted to EPA but not yet approved by EPA for a certain date for the purpose of meeting reasonable further progress milestones or attainment or maintenance demonstrations, for any criteria pollutant or its precursors, allocated by the SIP to highway and transit vehicles. The SIP for an ozone nonattainment area shall include a NO_x motor vehicle emissions budget if NO_x reductions are being substituted for reductions in volatile organic compounds in milestone years required for reasonable further progress. Notwithstanding anything herein to the contrary, any motor vehicle operated exclusively by electric power shall be exempt from inclusion in any motor vehicle emissions budget.

...

(5) Frequency of conformity determinations.

(a) Conformity determinations and conformity redeterminations for transportation plans, TIPs and FHWA/FTA projects must be made according to the requirements of 310 CMR 60.05 and the SIP.

(b) Transportation plans.

1. Each new transportation plan shall be found to conform with this section, the environmental justice principles in M.G.L. c. 30, § 62, and greenhouse gas emissions targets in M.G.L. c. 21N before the transportation plan is approved by the MPO or accepted by DOT.
2. All transportation plan revisions shall be found to conform before the transportation plan revisions are approved by the MPO or accepted by DOT, unless the revision merely adds or deletes exempt projects listed in 310 CMR 60.03(30). The conformity determination shall be based on the transportation plan and the revision taken as a whole.
3. Conformity of existing transportation plans shall be redetermined within 18 months of the following, or the existing conformity determination will lapse:

a. November 24, 1993; (May 24, 1995)

b. EPA approval of a SIP revision which:

i. Establishes or revises a transportation-related emissions budget (as required by CAA sections 175A(a), 182(b)(1), 182(c)(2)(A), 182(c)(2)(B), 187(a)(7), 189(a)(1)(B) and 189(b)(1)(A).

ii. Adds, deletes, or changes TCMs.

c. EPA promulgation of a SIP which establishes or revises a transportation-related emissions budget, or adds, deletes or changes TCMs.

4. Conformity determinations shall be made no less frequently than every three years and shall lapse within three years of a determination.

(c) Transportation improvement programs.

1. A new TIP shall be found to conform with this section, the environmental justice principles in M.G.L. c. 30, § 62, and greenhouse gas emissions targets in M.G.L. c. 21N before the TIP is approved by the MPO or accepted by DOT.

2. TIP amendment requires a new conformity determination for the entire TIP before the amendment is approved by the MPO or accepted by DOT, unless the amendment merely adds or deletes exempt projects listed in 310 CMR 60.03(30).

3. After an MPO adopts a new or revised transportation plan, conformity shall be redetermined by the MPO and DOT within six months from the date of adoption of the plan, unless the new or revised plan merely adds or deletes exempt projects listed in 310 CMR 60.03(30). Otherwise, the existing conformity determination for the TIP will lapse.

4. Conformity determinations shall be made no less frequently than every three years and shall lapse within three years of a determination.

(d) Projects. FHWA/FTA projects shall be found to conform before they are adopted, accepted, approved, or funded. Conformity shall be redetermined for any FHWA/FTA project if none of the following major steps has occurred within the past three years: NEPA process completion; start of final design; acquisition of a significant portion of the right-of-way; or approval of the plans, specifications and estimates.

(6) Consultation.

(a) Agency Responsibilities.

1. Executive Office of Transportation and Construction (EOTC)-Massachusetts Department of Transportation (MassDOT)

a. coordinates overall consultation process for conformity findings of transportation

plans and TIPs;

- b. provides guidance and assistance to MPOs in determining conformity of transportation plans, TIPs and projects, as appropriate;
- c. reviews MPO transportation plans, TIPs and project air quality conformity determinations for acceptability and content and coordinates submittal to the Department, EPA and DOT;
- d. performs project-level conformity determinations during the environmental review process under NEPA and MEPA;
- e. provides the Department with traffic-related parameters for calculating mobile source emissions of the SIP;
- f. serves as the lead agency, in consultation with other MPO members, in SIP planning and implementation for transportation initiatives pursuant to section 174(a) of the Clean Air Act.

2. Metropolitan Planning Organizations (MPOs)

- a. develops transportation plans and TIPs;
- b. performs regional emissions analysis of transportation plans and TIPs;
- c. makes conformity findings on transportation plans and TIPs;
- d. develops public consultation procedures in accordance with 23 CFR Part 450;

3. Department of Environmental Protection (DEP)

- a. serves as lead agency in overall SIP development, coordination and implementation;
- b. coordinates overall consultation process for the SIP;
- c. coordinates with EPA on SIP-related issues;
- d. provides ~~EOTC~~MassDOT and the MPOs with mobile source inputs for air quality modeling of transportation plans, TIPs and projects;
- e. conducts conformity reviews of transportation plans, TIPs and projects and issues findings of concurrence or non-concurrence.

4. Environmental Protection Agency (EPA)

- a. provides input and guidance, as needed, on analysis procedures for air quality estimates, SIP preparation, conformity analyses and interpretation of EPA rules and guidance;

b. consults with the U.S. DOT on review of conformity determinations.

4. U.S. Department of Transportation (DOT)

a. provides input and guidance, as needed, on the transportation planning process and issues that arise during the conformity process;

b. makes final conformity findings;

c. sends copies of conformity determinations to EPA for input.

(b) The MPO shall make conformity determinations according to this subsection and with the SIP and in accordance with the public involvement procedures established by the MPO in compliance with 23 CFR part 450. This criterion applies during all periods.

(c) State and Federal Agency Consultation.

1. Prior to such time that conformity analyses on transportation plans, TIPs and projects are performed, or at the request of an involved agency, ~~EOTCMassDOT~~ shall convene a consultation meeting(s) with representatives from the MPOs, the Department, EPA and DOT. Prior to a consultation meeting(s), ~~EOTCMassDOT~~ shall circulate a meeting agenda to the involved agencies. The specific purposes of the state and federal agency consultation meeting are to:

a. select CO, ~~and~~ PM₁₀, PM_{2.5} and ultrafine PM hotspot modeling procedures;

b. select regional emissions analysis models including consulting on model development and assessing project design factors for modeling;

c. identify analysis methods to estimate vehicle miles traveled (VMT) and emissions from non-regionally significant projects as required by 310 CMR 60.03(26)(b).

d. select inputs to the most recent EPA-approved emissions factor model;

e. identify regionally significant projects to be included in the regional emissions analysis including non-federally funded projects;

f. identify projects which have changed in design and scope from the transportation plan or TIP;

g. identify exempt projects;

h. identify exempt projects and categories of exempt projects which should be treated as non-exempt because they may have adverse air quality impacts and determining appropriate air quality analysis methodologies for analyzing such projects;

i. identify transportation plan and TIP revisions which add or delete exempt projects;

j. identify the latest planning assumptions and determining consistency with SIP assumptions;

k. determine if the transportation plan and TIP are fiscally constrained; and

l. develop factors to reconcile Highway Performance Monitoring System (HPMS) VMT estimates with network-based model VMT estimates pursuant to 310 CMR 60.03(25)(b)2.

2. ~~EOTCMassDOT~~ shall document the outcome(s) of the consultation meeting(s) and shall circulate said documentation to the MPOs, the Department, EPA and DOT.

(d) State Agency Consultation.

1. Prior to such time that conformity analyses on transportation plans, TIPs and projects are performed, or at the request of an involved agency, ~~EOTCMassDOT~~ shall convene a consultation meeting(s) with representatives from the MPOs and the Department.

~~EOTCMassDOT~~ shall circulate a meeting agenda to involved agencies. The specific purpose of the state agency consultation meeting are to:

a. identify which events trigger conformity in addition to events listed in 310 CMR 60.03(6);

b. consult on emissions analyses for transportation activities which cross the borders of MPO or nonattainment areas; and

c. consult on conformity determinations outside MPO and nonattainment or maintenance areas.

2. ~~EOTCMassDOT~~ shall document the outcome(s) of the consultation meeting(s) and shall circulate said documentation to the MPOs and the Department.

(e) CMAQ Consultation.

1. Prior to the time that the MPOs perform required conformity analyses on transportation plans, TIPs and projects, ~~EOTCMassDOT~~ shall convene a consultation meeting(s) with representatives from the MPOs and the Department for the purpose of:

a. determining and establishing criteria and procedures for projects to be selected under the CMAQ program. Criteria to select projects shall include, but shall not be limited to, whether or not the project is a TCM in the SIP or listed as TCM under § 108(f) of the CAA, quantity of potential emissions reductions, timing of air quality benefits, impact on multiple pollutants, potential to reduce VMT, potential to alleviate congestion, the intermodal aspects of the projects, cost effectiveness, regional applicability, public awareness, promotion of technology, educational value, innovation and potential to reduce emissions from heavy duty vehicles; and

b. determining air quality analysis procedures for CMAQ projects.

2. Prior to performing the required conformity analyses on transportation plans, TIPs and projects, the MPOs shall:

- a. develop a list of potential projects to be funded under the CMAQ program;
- b. convene a consultation meeting which includes representatives from the MPO and the Department for the purpose of selecting CMAQ projects using the criteria developed pursuant to 310 CMR 60.03(6)(d)1.a.

(f) Transportation Control Measures.

1. Prior to making conformity determinations for a transportation plan, TIP or project, the MPOs and EOTCMassDOT shall submit a list and status report of SIP TCMs, including TCMs contained in the SIP prior to passage of the Clean Air Act Amendments of 1990, to the Department for review and approval.

2. In the event that a SIP TCM has not been implemented or is behind the schedule required by the SIP, the MPO and/or EOTCMassDOT shall submit to the Department, in writing:

- a. the reasons why the SIP TCM has not been implemented or has been delayed;
- b. the steps being taken to get the SIP TCM on schedule;
- c. the funding source to be used to fund and implement the SIP TCM; and
- d. an assessment of whether the SIP TCM may need to be replaced with substitute SIP TCM and SIP revision in order to create the expected emissions reductions.

(g) Concurrence.

1. After a final conformity determination has been made by an MPO, EOTCMassDOT and the MPOs shall submit MPO-endorsed transportation plans, TIPs or projects within 30 days of endorsement to the Department for concurrence with the conformity determination.

2. The Department shall review the conformity determinations of transportation plans, TIPs or projects and shall issue a finding of concurrence or non-concurrence with the conformity determination, in writing, within 30 days. If the Department has not issued a finding of concurrence or non-concurrence within 30 days, the transportation plan, TIP or project shall be presumed to conform to the SIP by the Department.

3. If the Department issues a finding of non-concurrence with the conformity determination, EOTCMassDOT and the MPO shall have 30 days to resolve any issues which resulted in the finding of non-concurrence. If the issues which resulted in the finding of non-concurrence are not resolved to the Department's satisfaction, the state air agency shall issue a finding, in writing, of non-conformance with the SIP to EPA and DOT for further action.

(h) Public consultation procedures. Prior to making conformity determinations on transportation plans, TIPs and projects, ~~EOTC~~MassDOT and MPOs shall comply with the public review processes required under 23 CFR Part 450 planning regulations and provide an opportunity for public review and comment. All public comments regarding plans for regionally significant projects not receiving FHWA or FTA funding or approval which were not reflected in the emissions analysis shall be specifically addressed in writing.

(i) Circulation of documents.

1. Draft Transportation Plans, TIPs and projects shall be circulated to the Department, EPA, FHWA and FTA and shall be available for public review by each MPO at each Regional Planning Agency. Such materials shall be available in multiple languages to ensure meaningful public participation.

2. Transportation Plans, TIPs and projects which have received a final conformity determination by an MPO and have been approved by DOT shall be circulated to the Department, EPA, FHWA and FTA and shall be available for public review by each MPO at each Regional Planning Agency.

(7) Content of Transportation Plans.

(a) Transportation plans adopted after January 1, 1995 shall specifically describe the transportation system envisioned for certain horizon years.

1. The agency or organization developing the transportation plan may choose any years to be horizon years, subject to the following restrictions:

a. Horizon years shall be no more than ten years apart.

b. The first horizon year shall be no more than ten years from the base year used to validate the transportation demand planning model.

c. If the attainment year is in the time span of the transportation plan, the attainment year shall be a horizon year.

d. The last horizon year shall be the last year of the transportation plan's forecast period.

2. For these horizon years:

a. The transportation plan shall quantify and document the demographic and employment factors influencing expected transportation demand, including land use forecasts, in accordance with the SIP and consultation procedures in 310 CMR 60.03(6);

b. The highway and transit system shall be described in terms of the regionally significant additions or modifications to the existing transportation network which the transportation plan envisions to be operational in the horizon years. Additions and modifications to the highway network shall be sufficiently identified to indicate intersections with existing regionally significant facilities, and to determine their effects

on route options between transportation analysis zones and impacts on greenhouse gas emissions and air quality. Each added or modified highway segment shall also be sufficiently identified in terms of its design concept and design scope to allow modeling of travel times under various traffic volumes, consistent with the modeling methods for area-wide transportation analysis in use by the MPO. Transit facilities, equipment, and services envisioned for the future shall be identified in terms of design concept, design scope, and operating policies sufficient to allow modeling of their transit ridership. The description of additions and modifications to the transportation network shall also be sufficiently specific to show that there is a reasonable relationship between expected land use and the envisioned transportation system; and

c. Other future transportation policies, requirements, services, and activities, including intermodal activities, shall be described.

(b) Savings The requirements of 310 CMR 60.03 supplement other requirements of applicable law or regulation governing the format or content of transportation plans.

...

(11) Latest Planning Assumptions.

(a) During all periods, conformity determinations, with respect to all other applicable criteria in 310 CMR 60.03(12) through (23), shall be based upon the most recent planning assumptions in force at the time of the conformity determination. The conformity determination shall satisfy the requirements of 310 CMR 60.03(11)(b) through (f).

(b) Assumptions including but not limited to VMT per capita or per household, trip generation per household, vehicle occupancy, household size, vehicle fleet mix, vehicle ownership, greenhouse gas emissions, and the geographic distribution of population growth shall be derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other agency authorized to make such estimates and approved by the MPO. The conformity determination shall also be based on the latest assumptions about current and future background concentrations. Any revisions to these estimates uses as part of the conformity determination, including projected shifts in geographic location or level of population, employment, travel, and congestion shall be approved by the MPO or other agency authorized to make such estimates for the area after consultation with the Department.

(c) The conformity determination for each transportation plan and TIP shall discuss how transit operating policies (including fares and service levels) and assumed transit ridership have changed since the previous conformity determination.

(d) The conformity determination shall include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time.

(e) The conformity determination shall use the latest existing information regarding the effectiveness of the TCMs which have already been implemented.

(f) Key assumptions shall be specified and included in the draft documents and supporting materials used for the interagency and public consultation required by 310 CMR 60.03(6).

(12) Latest Emissions Model.

(a) During all periods, conformity determinations shall be based on the latest emission estimation model available. This requirement is satisfied if the most current version of the motor vehicle emissions model specified by EPA and used in the preparation or revision of the SIP is used for the conformity analysis and the consultation requirements in 310 CMR 60.03(6) are met. Notwithstanding anything herein to the contrary, electric vehicles shall be exempt from inclusion in any motor vehicle emissions model.

(b) EPA shall consult with DOT to establish a grace period following the specification of any new model.

1. The grace period shall be no less than three months and no more than 24 months after notice of availability is published in the *Federal Register*.

2. The length of the grace period shall depend on the degree of change in the model and the scope of re-planning likely to be necessary by MPOs in order to assure conformity. If the grace period will be longer than three months, EPA shall announce the appropriate grace period in the *Federal Register*.

(c) Conformity analyses for which the emissions analysis was begun before the *Federal Register* notice of availability of the latest emission model or during the period which allows the use of the previous emissions model as defined in the *Federal Register* and known as the “grace period” may continue to use the previous version of the model for transportation plans and TIPs. The previous model may also be used for projects if the analysis was begun during the grace period or before the *Federal Register* notice of availability, provided no more than three years have passed since the draft environmental document was issued.

...

(15) Projects from a Transportation Plan and TIP.

(a) During all periods, transportation projects shall come from a conforming transportation plan and TIP. If this criterion is not satisfied, the project shall satisfy all criteria for a project not from a conforming transportation plan and TIP referenced in 310 CMR 60.03(10)Table 1. A project is considered to be from a conforming transportation plan if it meets the requirements of 310 CMR 60.03(15)(b) and from a conforming TIP if it meets the requirements of 310 CMR 60.03(15)(c).

(b) A project is considered to be from a conforming transportation plan if one of the following conditions applies:

1. For projects which are required to be identified in the transportation plan in order to satisfy 310 CMR 60.03(7), the project is specifically included in the conforming transportation plan and the project’s design concept and scope have not changed

significantly from those which were described in the transportation plan, or in a manner which would significantly impact use of the facility; or

2. For projects which are not required to be specifically identified in the transportation plan, the project is identified in the conforming transportation plan, or is consistent with the policies and purpose of the transportation plan and will not interfere with other projects specifically included in the transportation plan.

(c) A project is considered to be from a conforming TIP if the following conditions are met:

1. The project is included in the conforming TIP and the design concept and scope of the project were adequate at the time of the TIP conformity determination to determine its contribution to the TIP's regional emissions, environmental justice principles as defined in M.G.L. c. 30, § 62, and have not changed significantly from those which were described in the TIP, or in a manner which would significantly impact use of the facility; and

2. If the TIP describes a project design concept and scope which includes project-level emissions mitigation or control measures, enforceable written commitments to implement such measures shall be obtained from the project sponsor and/or operator as required by 310 CMR 60.03(29)(a) in order for the project to be considered to come from a conforming program. Any change in these mitigation or control measures that would significantly reduce their effectiveness constitutes a change in the design concept and scope of the project.

(16) Localized CO, ~~and~~ PM₁₀, ~~PM_{2.5}~~, and ultrafine PM Violations (Hot Spots).

(a) During all periods FHWA/FTA projects shall not cause or contribute to any new localized CO, ~~or~~ PM₁₀, ~~or~~ PM_{2.5} violations or increase the frequency or severity of any existing CO, ~~or~~ PM₁₀, ~~PM_{2.5}~~ violations in CO or PM₁₀ nonattainment and maintenance areas. This criterion is satisfied if it is demonstrated that no new local violations will be created and the severity or number of existing violations will not be increased as a result of the project.

(b) The demonstration shall be performed according to the requirements of 310 CMR 60.03(6)(c)1.a. and (27).

(c) For projects which are not of the type identified by 310 CMR 60.03(27)(a) or (d), this criterion may be satisfied if consideration of local factors clearly demonstrates that no local violations presently exist and no new local violations will be created as a result of the project. Otherwise, in CO nonattainment and maintenance areas, a quantitative demonstration shall be performed according to the requirements of 310 CMR 60.03(27)(b).

...

(18) Motor Vehicle Emissions Budget (TIP).

(a) In order to be found in conformity, the TIP shall be found consistent with the motor vehicle emissions budget(s) in the SIP or SIP package submitted to EPA through a

quantitative demonstration. This criterion applies during the transitional period and the control strategy and maintenance periods. This criterion may be satisfied if the requirements in 310 CMR 60.03(18)(b) and (c) are met:

(b) For areas with a conforming transportation plan that fully meets the content requirements of 310 CMR 60.03(7)(a), [the environmental justice principles in M.G.L. c. 30, § 62, and greenhouse gas emissions targets in M.G.L. c. 21N](#), this criterion may be satisfied without additional regional analysis if:

1. Each program year of the TIP is consistent with the Federal funding which may be reasonably expected for that year, and required State/local matching funds and funds for State/local funding-only projects are consistent with the revenue sources expected over the same period; and

2. The TIP is consistent with the conforming transportation plan such that the regional emissions analysis already performed for the plan applies to the TIP also. This requires a demonstration that:

a. The TIP contains all projects which shall be started in the TIP's timeframe in order to achieve the highway and transit system envisioned by the transportation plan in each of its horizon years;

b. All TIP projects which are regionally significant are part of the specific highway or transit system envisioned in the transportation plan's horizon years; and

c. The design concept and scope of each regionally significant project in the TIP is not significantly different from that described in the transportation plan.

3. If the requirements in 310 CMR 60.03(18)(b)1. and 2. are not met, then:

a. The TIP may be modified to meet those requirements; or

b. The transportation plan shall be revised so that the requirements in 310 CMR 60.03(18)(b)1. and 2. are met. Once the revised plan has been found to conform, this criterion is met for the TIP with no additional analysis required except a demonstration that the TIP meets the requirements of 310 CMR 60.03(18)(b)1. and 2.

(c) For areas with a transportation plan that does not meet the content requirements of 310 CMR 60.03(7)(a), a regional emissions analysis shall meet all of the following requirements:

1. The regional emissions analysis shall estimate emissions from the entire transportation system, including all projects contained in the proposed TIP, the transportation plan, and all other regionally significant highway and transit projects expected in the nonattainment or maintenance area in the timeframe of the transportation plan;

2. The analysis methodology shall meet the requirements of 310 CMR 60.03(26)(c); and

3. The regional analysis shall satisfy the requirements of 310 CMR 60.03(17)(b)1., 5., and

(c).

(19) Motor Vehicle Emissions Budget (Project not from a Plan and TIP).

(a) In order to be found in conformity, a project which is not from a conforming transportation plan and a conforming TIP shall be found consistent with the motor vehicle emissions budget(s) in the SIP or SIP package submitted to EPA, the environmental justice principles in M.G.L. c. 30, § 62, and greenhouse gas emissions targets in M.G.L. c. 21N through a quantitative demonstration. This criterion applies during the transitional period and the control strategy and maintenance periods. It is satisfied if emissions from the implementation of the project, when considered with the emissions from the projects in the conforming transportation plan and TIP and all other regionally significant projects expected in the area, do not exceed the motor vehicle emissions budget(s) in the SIP or SIP package submitted to EPA.

(b) For areas with a conforming transportation plan that meets the content requirements of 310 CMR 60.03(7)(a):

1. This criterion may be satisfied without additional regional analysis if the project is included in the conforming transportation plan, even if it is not specifically included in the latest conforming TIP. This requires a demonstration that:

a. Allocating funds to the project will not delay the implementation of projects in the transportation plan or TIP which are necessary to achieve the highway and transit system envisioned by the transportation plan in each of its horizon years;

b. The project is not regionally significant or is part of the specific highway or transit system envisioned in the transportation plan's horizon years;

c. The project complies with the environmental justice principles in M.G.L. c. 30, § 62 and greenhouse gas emissions targets in M.G.L. c. 21N; and

~~e. d.~~ The design concept and scope of the project is not significantly different from that described in the transportation plan.

...

(25) Requirements for Adoption or Approval of Projects by Recipients of Funds Designated under Title 23 U.S.C. or the Federal Transit Act. No recipient of federal funds designated under Title 23 U.S.C. or the Federal Transit Act shall adopt or approve a regionally significant highway or transit project, regardless of funding source, unless there is a currently conforming transportation plan and TIP consistent with the requirements of 310 CMR 60.03(14) and the requirements of 310 CMR 60.03(25)(a) through (e) are met and there is consistency with the environmental justice principles in M.G.L. c. 30, § 62 and greenhouse gas emissions targets in M.G.L. c. 21N (Adopt or approve, for the purposes of this subsection, shall mean the point after which the review of project alternatives has been completed and the project has been defined by the final NEPA document or by the final MEPA environmental document and after

which the final project alternative for final design and construction have been determined):

...

(26) Procedures for Determining Regional Transportation-Related Emissions

(a) General requirements.

1. The regional emissions analysis for the transportation plan, TIP, or project not from a conforming plan and TIP shall include all regionally significant projects expected in the nonattainment or maintenance area, including FHWA/FTA projects proposed in the transportation plan and TIP and all other regionally significant projects which are disclosed to the MPO as required by 310 CMR 60.03(6). Projects which are not regionally significant are not required to be explicitly modeled using the network-based transportation demand model, but VMT and emissions from such projects shall be estimated by the MPO in accordance with reasonable professional practice. The effects of TCMs and similar projects that are not regionally significant may also be estimated in accordance with reasonable professional practice.

2. The emissions analysis shall not include for emissions reduction credit any TCMs which have been delayed beyond the scheduled date(s) until such time as implementation has been assured. If the TCM has been partially implemented and it can be demonstrated that it is providing quantifiable emission reduction benefits, the emissions analysis may include that emissions reduction credit.

3. Emissions reduction credit from projects, programs, or activities which require a regulation in order to be implemented shall not be included in the emissions analysis, **including electric vehicles**, unless the regulation is already adopted by the enforcing jurisdiction. Adopted regulations are required for demand management strategies for reducing emissions which are not specifically identified in the SIP, and for control programs which are external to the transportation system itself, such as tailpipe or evaporative emission standards, limits on gasoline volatility, inspection and maintenance programs, and oxygenated or reformulated gasoline or diesel fuel. A regulatory program may also be considered to be adopted if an opt-in to a Federally enforced program has been approved by EPA, if EPA has promulgated the program (if the control program is a Federal responsibility, such as tailpipe standards), or if the Clean Air Act requires the program without need for individual State action and without any discretionary authority for EPA to set its stringency, delay its effective date, or not implement the program.

...

(27) Procedures for Determining Localized CO Concentrations (Hot-Spot Analysis).

...

(d) PM₁₀ hot-spot analysis must be performed for projects which are located as sites at which violations have been verified by monitoring, and at sites which have essentially identical

vehicle and roadway emission and dispersion characteristics (including sites near one at which a violation has been monitored). The projects which require PM₁₀ hot-spot analysis shall be determined through the interagency consultation process required in 310 CMR 60.03(6). In PM₁₀ nonattainment and maintenance areas, new or expanded bus and rail terminals and transfer points which increase the number of diesel vehicles congregating at a single location require hot-spot analysis. DOT may choose to make a categorical conformity determination on bus and rail terminals or transfer points based on appropriate modeling of various terminal sizes, configurations and activity levels. The requirements of 310 CMR 60.03(27)(d) for quantitative hot-spot analysis will not take effect until EPA releases modeling guidance on this subject and announces that these requirements are in effect in the *Federal Register*. Recognizing that health impacts of ultrafine particulate matter is significant, analyses are encouraged to determine whether there is an ultrafine particulate matter hotspot.

...

(29) Enforceability of Design Concept and Scope and Project-Level Mitigation and Control Measures.

(a) Prior to determining that a transportation project is in conformity, the MPO, other recipient of funds designated under title 23 U.S.C. or the Federal Transit Act, FHWA, or FTA shall obtain from the project sponsor and/or operator written commitments to implement in the construction of the project and operation of the resulting facility or service any project-level mitigation or control measures which are identified as conditions for NEPA process completion with respect to local CO or PM₁₀ impacts. Before making conformity determinations written commitments shall also be obtained for project-level mitigation, which shall reflect mitigation supported by the impacted residents and any environmental justice populations, or control measures which are conditions for making conformity determinations for a transportation plan or TIP and included in the project design concept and scope which is used in the regional emissions analysis required by 310 CMR 60.03(17) through (19) and (21) through (23) or used in the project-level hot-spot analysis required by 310 CMR 60.03(16) and (20).

...

(37) Supplemental Measures. In furtherance of the purpose of this Chapter, as defined in 310 CMR 60.03(1), supplemental measures to be taken under 310 CMR 60.03 shall include, but are not limited to, the following:

(a) The Department shall establish a schedule of annual reductions in the number of permitted sales of internal combustion engine vehicles in Massachusetts through 2039, such that no further sales of such vehicles shall occur on or after January 1, 2040.

The Department shall require that all owners of existing multi-unit commercial and residential buildings with more than five parking spaces for occupant use install electric vehicle (EV) charging stations according to the following schedule:

1. Ten percent of parking spaces shall have an EV charging station, or at least one EV charging station by 2022;
 2. 25 percent of parking spaces shall have an EV charging station, or at least three EV charging stations by 2025; and
 3. 50 percent of parking spaces shall have EV charging stations, or at least five EV charging stations by 2030.
- (b) The Department shall require that all owners of newly-built or substantially renovated multi-unit commercial and residential buildings with ten or more parking spaces for occupant use install electrical service and conduit systems sufficient so that the greater of one parking space or five percent of parking spaces shall have an EV station.

In addition to the hot-spot analysis procedures set forth in 310 CMR 60.03(16) and 310 CMR 60.03(27), the Department shall install mobile air monitors in air pollution hot spots adjacent to transportation infrastructure, including highways, ports, and airports.

310 CMR 60.05: Global Warming Solutions Act Requirements for Transportation

(1) Purpose Scope and Authority. 310 CMR 60.05 is promulgated pursuant to M.G.L. c. 21N, § 3(d) and is also promulgated pursuant to M.G.L. c. 21A, §§ 2, 8 and 16, and M.G.L. c. 111, §§ 2C and 142A through 142M, to prevent and abate conditions of air pollution from the greenhouse gas emissions from the mobile sources specified in 310 CMR 60.05. The purpose of 310 CMR 60.05 is to assist the Commonwealth in achieving the GHG emissions reduction goals adopted pursuant to M.G.L. c. 21N, § (3)(b) and to establish an annually declining aggregate GHG emissions limit pursuant to M.G.L. c. 21N, § 3(d), by:

(a) Requiring MassDOT to demonstrate **(i) that its aggregate MassDOT GHG emissions reduction limits as established in 310 CMR 60.05(6) are achieved and (ii) that aggregate transportation GHG emissions reduction targets as established in 301 CMR 60.05(7) are achieved;**

(b) Requiring the MPOs to evaluate and report the aggregate transportation GHG emissions impacts of Regional Transportation Plans (RTPs), and Transportation Improvement Programs (TIPs);

(c) Requiring the MPOs, in consultation with MassDOT, to develop and utilize procedures to prioritize and select projects in RTPs and TIPs based on factors that include aggregate transportation GHG emissions impacts; and

(d) Requiring MassDOT to evaluate and report the aggregate transportation GHG emissions impacts of State Transportation Improvement Programs (STIPs) and state-funded projects that are not included in STIPs.

(2) Definitions.

Aggregate Transportation GHG Emissions means total GHG emissions estimated by MassDOT, in collaboration with the Department, from the multimodal surface transportation system and its facilities including the highway and transit networks.

Aggregate Transportation GHG Emissions Reduction Target means the required annual reduction in total GHG emissions estimated by MassDOT, in collaboration with the Department, from the multimodal surface transportation system and its facilities including the highway and transit networks.

Aggregate MassDOT GHG Emissions means total GHG emissions estimated by MassDOT as occurring from the combustion of fuels in mobile equipment owned by MassDOT and the MBTA and of heating fuels at MassDOT and MBTA facilities.

Aggregate MassDOT GHG Emissions Reduction Target means the required annual reduction in total MassDOT GHG emissions, estimated by MassDOT, as occurring from the combustion of fuels in mobile equipment owned by MassDOT and the MBTA and of heating fuels at MassDOT and MBTA facilities.

...

(6) Requirements for Aggregate MassDOT GHG Emissions.

(a) MassDOT shall:

1. Quantify aggregate MassDOT GHG emissions annually to demonstrate (i) whether the aggregate emissions limits in Table 310 CMR 60.05(6)(i) have been achieved and (ii) the aggregate emissions reduction targets in Table 310 CMR 60.05(6)(ii) have been achieved.

2. Report to the Department, by March 1, 2019, March 1, 2020 and March 1, 2021, aggregate MassDOT GHG emissions for the prior calendar year, in an electronic format specified by the Department.

3. Report to the Department, by March 1 of each year from 2020 through 2030, the reduction in aggregate MassDOT GHG emissions for the prior calendar year, in an electronic format specified by the Department

4. The March 1st report shall address any exceedance of the limits in 310 CMR 60.05(6): *Table*, in consultation with the Department, through supplemental measures proposed in the March 1st report, including an estimate of the emission reductions expected from each supplemental measure and the implementation status and schedule of each supplemental measure listed in a March 1st report, until the supplemental measure is complete.

310 CMR 60.05(6)(i): Table

**Maximum Annual Aggregate MassDOT
GHG Emissions**

Calendar Year	Maximum Allowable Aggregate MassDOT GHG Emissions (million metric tons of CO₂)
2018	0.303
2019	0.298
2020	0.293

310 CMR 60.05(6)(ii): Table

**Maximum Annual Aggregate MassDOT
GHG Emissions**

-

-

<u>Calendar Year</u>	<u>Aggregate MassDOT GHG Emissions Reduction Target (million metric tons of CO₂)</u>
<u>2021</u>	<u>23.182</u>
<u>2022</u>	<u>22.682</u>
<u>2023</u>	<u>22.182</u>
<u>2024</u>	<u>21.682</u>
<u>2025</u>	<u>21.182</u>
<u>2026</u>	<u>20.682</u>
<u>2027</u>	<u>20.182</u>
<u>2028</u>	<u>19.682</u>
<u>2029</u>	<u>19.182</u>
<u>2030</u>	<u>18.682</u>

(b) Supplemental measures taken by MassDOT may shall include, but are not limited to, the following:

1. Decrease vehicle miles travelled within the MBTA and MassDOT fleet;
2. Promote Transportation Demand Management;
3. Increase plug-in and plug-in hybrid electric vehicle use within the MBTA and MassDOT fleet;
4. Promote plug-in and plug-in hybrid electric vehicle use by motorists;
5. Increase energy efficiency of MBTA and MassDOT facilities; and
6. Increase the use of renewable energy at MBTA and MassDOT facilities.

(7) General Requirements for Determining Aggregate Transportation GHG Emissions in the Transportation Planning Process.

(a) MassDOT shall:

1. Quantify aggregate transportation GHG emissions annually to demonstrate (i) ~~whether~~ the aggregate emissions targets in Table 310 CMR 60.05(7)(i): ~~Table~~ have been achieved and (ii) that the aggregate transportation emissions reduction targets in Table 310 CMR 60.05(7)(ii) have been achieved.

2. Report to the Department, by July 1, 2019, July 1, 2020 and July 1, 2021, aggregate transportation GHG emissions for the prior calendar year, in an electronic format specified by the Department.

3. Report to the Department, by July 1 of each year from 2020 through 2030, the reduction in aggregate transportation GHG emissions for the prior calendar year, in an electronic format specified by the Department.

310 CMR 60.05(7)(i): Table

**Maximum Annual Aggregate
Transportation GHG Emissions**

Calendar Year	Maximum Allowable Aggregate Transportation GHG Emissions (million metric tons of CO₂)
2018	24.582
2019	24.122

2020	23.682
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310 CMR 60.05(7)(ii): Table

<u>Maximum Annual Aggregate Transportation GHG Emissions</u>	-
-	
<u>Calendar Year</u>	<u>Aggregate Transportation GHG Emissions Reduction Target (million metric tons of CO₂)</u>
-	-
<u>2021</u>	-
<u>2022</u>	-
<u>2023</u>	-
<u>2024</u>	-
<u>2025</u>	-
<u>2026</u>	-
<u>2027</u>	-
<u>2028</u>	-
<u>2029</u>	-
<u>2030</u>	-
-	

(8) Requirements for RTA Operation of Zero-Emissions Vehicles.

- (a) All RTAs shall require electrification of commuter rail vehicles and MBTA or other RTA buses, and shall prioritize the electrification of bus routes serving environmental justice populations, according to the following schedule:
1. Beginning in 2024, the MBTA shall operate electric trains on the Fairmount Line, Newburyport/Rockport Line through Salem, and Providence / Stoughton Line.
 2. Beginning in 2026, each purchased or leased MBTA or other RTA passenger bus shall be a zero-emissions vehicle, and beginning on January 1, 2040, all such passenger buses shall be zero-emissions vehicles.
 3. By 2030, all rail vehicles procured, owned, or operated by the MBTA, other RTAs, or their contractors shall be zero-emissions vehicles.
 4. Beginning on January 1, 2035, all subway, trolley, and commuter rail trains operated by the MBTA shall be electric.
- (b) MassDOT, MassDEP, Department of Public Utilities, the Department of Energy Resources, and the intergovernmental coordinating council established by the Acts of 2022, chapter 179, section 81, shall together conduct and update a study of opportunities for near-term electrification of vehicles owned by municipalities, school districts, and RTAs.

(9) Requirement for RTA Programs to Encourage Transit Mode Shift.

- (a) All RTAs shall implement reduced public transit fare structures that will encourage commuters to choose public transportation over private vehicles by ensuring that commuter transit fares are less than the cost of parking at the terminus of each commuter rail line.
- (b) All RTAs shall implement and maintain either fare-free buses or a low-income fare on all public transit modes, including the MBTA, all RTAs, commuter rail, and the RIDE.