The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Bethany A. Card
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1081
http://www.mass.gov/eea

DETERMINATION OF STATEWIDE GREENHOUSE GAS EMISSIONS LIMITS AND SECTOR-SPECIFIC SUBLIMITS FOR 2025 AND 2030

Pursuant to the Global Warming Solutions Act (Chapter 298 of the Acts of 2008, "GWSA," as amended and codified at M.G.L. c. 21N, "Chapter 21N"), and having consulted with the Department of Environmental Protection (MassDEP) and the Department of Energy Resources (DOER), I hereby adopt the interim 2025 statewide greenhouse gas emissions limit of 33 percent below 1990 level and the interim 2030 statewide greenhouse gas emissions limit of 50 percent below 1990 level.

In consultation with the Secretary of the Executive Office of Housing and Economic Development and the Secretary of the Massachusetts Department of Transportation, I hereby adopt the following sector-based statewide greenhouse gas emission sublimits as components of the 2025 and the 2030 statewide greenhouse gas emissions limits, represented as a percent reduction relative to 1990 levels:

		2025	2030
Statewide Limit		33%	50%
Sector-based Sublimits	**Residential Heating and Cooling**	29%	49%
	Commercial & Industrial Heating and Cooling	35%	49%
	Transportation	18%	34%
	Electric Power	53%	70%
	Natural Gas Distribution & Service	82%	82%
	Industrial Processes	(449%)	(281%)

* All limits shown are represented as percentage reductions as compared to 1990 levels.
* See Clean Energy and Climate Plan for 2025 and 2030, Chapter 3 for more details on the limits and sublimits.

The Massachusetts Clean Energy and Climate Plan for 2025 and 2030, as issued pursuant to Chapter 21N, provides comprehensive, clear and specific roadmap plans for how the Commonwealth will achieve the 2025 and 2030 greenhouse gas (GHG) emissions limits established herein. Establishing these statewide GHG emissions limits and sector-based sublimits and outlining the specific and practical policy measures to achieve those limits is a milestone in the Commonwealth's ongoing efforts to create a reliable clean energy economy,

reduce energy costs for customers, increase energy independence, and contribute to stabilizing our climate.

Background

In 2008, the *Global Warming Solutions Act* (GWSA) was signed into law, making Massachusetts one of the first states in the nation to move forward with a comprehensive regulatory program to address climate change. The GWSA required economy-wide greenhouse gas emissions reduction goals for Massachusetts to achieve emissions levels between 10 percent and 25 percent below 1990 levels in 2020 and at least 80 percent below 1990 levels in 2050. In the same month the GWSA was signed, the *Green Communities Act* (GCA) was also enacted, reforming the Massachusetts energy marketplace to greatly improve the state's ability to achieve the GWSA targets. The GCA supports the development of renewable energy resources, created a greener state building code, removed barriers to renewable energy installations, and helped consumers reduce electric bills.

In December 2010, Massachusetts' first greenhouse gas emissions limit was established at 25 percent below 1990 levels in 2020. It was determined that a 25 percent reduction maximized opportunities to realize energy cost savings, increase energy independence, and would promote clean energy jobs in Massachusetts. The Clean Energy and Climate Plan for 2020 (2020 CECP) included investments in energy efficiency, expansion of the renewable portfolio standard, and clean car consumer incentives. In a compliance statement issued today, it has been determined that the Commonwealth has exceeded its requirements for 2020.

In April 2020, a determination letter was issued, establishing the Commonwealth's legally binding 2050 statewide emissions limit of net zero greenhouse gas emissions.[1] At that time, it was determined that net zero was a reasonable and appropriate emissions limit necessary to adequately protect the health, economy, people, and natural resources of the Commonwealth and maintain Massachusetts' critically important role as a national and international leader in the global effort to reduce the greenhouse gas emissions that cause climate change in a manner consistent with the goals of the Global Warming Solutions Act.[2] Later that year, the 2030 emissions limit was set at 45 percent below 1990 levels and released an interim Clean Energy and Climate Plan was released to achieve the 2030 limit.

In March 2021, Governor Baker signed into law *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy* (2021 Climate Law). This law amended the GWSA, codifying the commitment to achieve net zero emissions in 2050 and requiring emissions reductions of at least 50 percent below 1990 levels in 2030. This legislation required the Secretary to adopt interim emissions limits, including sector-specific sublimits, for every five years between 2020 and 2050 and significantly increased protections for environmental justice communities across Massachusetts.

Since the enactment of the 2021 Climate Law, the Executive Office of Energy and Environmental Affairs (EEA), in consultation with MassDEP, DOER, other Commonwealth agencies, various regional authorities, and stakeholders, has been engaged in an analytical

[1] The Secretary defined net zero as, "a level of statewide greenhouse gas emissions that is equal in quantity to the amount of carbon 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." EEA, Determination of Greenhouse Gas Emissions Limit for 2050 (April 2020).
[2] Id.

process to determine the necessary and appropriate emissions limits, and sector-specific sublimits, for 2025 and 2030 while maximizing the Commonwealth's ability to achieve net zero emissions in 2050. In addition, EEA has engaged in quantitative pathway scenario analyses for several years to help develop the Commonwealth's plans and identify technically and economically viable strategies for Massachusetts to achieve each of the limits and sublimits.

Recognizing the value that other stakeholders bring to that process and the importance of the 2025 and 2030 limits to the Commonwealth, EEA posted online in April 2022 for public review and comment the proposed emissions limits, sublimits, natural and working land goals, and strategies, policies, and actions to achieve those targets for 2025 and 2030. EEA conducted three public hearings by webinar, which included live translation in Spanish, Portuguese, and Cantonese, and the recordings were made available online. EEA also accepted written comments through May 1, 2022. EEA has reviewed the more than 1,200 individual comment submissions, including comments to the interim 2030 Clean Energy and Climate Plan, released in December 2020, which were valuable input in making this determination.

Statutory Mandate

The GWSA "was passed to address the grave threats that climate change poses to the health, economy, and natural resources of the Commonwealth. The act is designed to make Massachusetts a national, and even international, leader in the efforts to reduce the greenhouse gas emissions that cause climate change."[3] The GWSA, as amended by the 2021 Climate Law, requires the Secretary of EEA to adopt interim statewide greenhouse gas emissions limits and sector-based sublimits to maximize the ability for the Commonwealth to achieve net zero emissions in 2050 and requires that each interim limit be accompanied by publication of a comprehensive, clear, and specific roadmap plan to realize said limit.

The GWSA requires consultation on each part of the limits, sublimits, and accompanying roadmap plans with various state and regional entities, as well as stakeholder engagement. Among other requirements, the Secretary must consider all relevant information pertaining to greenhouse gas emissions reduction goals and programs in other states and nations, evaluate the total potential costs and economic and noneconomic benefits of various reduction measures, and take into account the relative contribution of each source or source category to statewide greenhouse gas emissions.

Findings of Fact

Based on the findings and recommendations in the Massachusetts Interim Clean Energy and Climate Plan for 2030; the regional and Massachusetts-specific quantitative analysis conducted as part of EEA's 2050 Decarbonization Roadmap effort; and the analysis conducted in connection with the development of the 2025 and 2030 Clean Energy and Climate Plans, I make the following findings:

- The 2025/2030 CECP identifies ambitious but viable plans to achieve emissions reductions of at least 33% below the 1990 level for 2025 and at least 50% below the 1990 level for 2030 that balances targeted emissions reductions among and between sectors based on assessments

[3] New England Power Generators Assoc. v. Dept. of Envt'l Prot., 480 Mass. 398, 399 (2018).

of technical opportunities and limitations in each sector, cost-effectiveness, and the scope and pace of transformation in each sector necessary to maximize the Commonwealth's ability to achieve Net Zero in 2050.

- The analysis supporting the 2025/2030 CECP shows that aggressive electrification of transportation sector assumes that the residents of the Commonwealth will increase their purchases and use of electric vehicles and that sufficient supplies of electric vehicles would be available in the marketplace.
- The analysis also shows that the lowest cost and lowest risk approach to decarbonize buildings is to immediately and aggressively pursue the use of electric heat pumps, capturing the interest of those who are interested in using heat pumps for cooling in the summers, providing financial incentives and opportunities to gain experience with using heat pumps, and help heating systems transition away from the use fossil fuels. Thus, the Commonwealth's dominant building decarbonization strategy is electrification. Future analyses will be needed to update the potential costs and risks associated with additional approaches, particularly as new technologies evolve and their relative costs change over time.
- Deploying renewable and clean energy to provide emission-free electricity is at the core of Massachusetts' clean energy transition. Such deployment requires a substantial number of investments in offshore wind, solar PV, energy storage, and transmission. All of these investments will require the Commonwealth to work closely with neighboring states, the Independent System Operator of New England, and federal agencies to reform the way the electricity wholesale market is designed and transmission system is planned and deployed.
- Natural and working lands are Massachusetts' most valuable assets and protecting them will be a key to achieving the 2050 net zero emissions. Thus, great efforts are needed to protect, manage, and restore our natural and working lands. In addition to their ability to sequester and store greenhouse gases, they provide natural habitats for diverse ecosystems of plants and animals, and valuable places for recreation.
- Requiring emissions reductions in excess of 33% below the 1990 level in 2025 or 50% below the 1990 level in 2030 risks imposing undue expense and unnecessary economic impact on Commonwealth households and businesses without materially increasing the Commonwealth's ability to achieve Net Zero. Additionally, the amount of time between today's date and December 31, 2025, places feasibility constraints on what measures could be implemented to achieve GHG emissions reductions for 2025.

Determination of 2025 and 2030 Limits

Based on the findings above, I hereby determine that the interim statewide greenhouse gas emissions limits and associated sector-based sublimits listed above for 2025 and 2030, are reasonable and appropriate statewide emissions limits necessary to adequately protect the health, economy, people and natural resources of the Commonwealth, maximize the Commonwealth's ability to achieve net zero emissions in 2050, and maintain Massachusetts critically important role as a national and international leader in the global effort to reduce the greenhouse gas emissions that cause climate change in a manner consistent with the goals of the GWSA.

6/30/2022
Date

Bethany A. Card