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Glossary of Relevant and Commonly Used Terms

ACP	Alternative Compliance Payment – A payment of a certain dollar amount per MWh that a retail electricity supplier may submit in lieu of retiring a CEC or a REC to comply with the CES, CES-E, RPS Class I, or RPS Class II.
An Act Driving Clean Energy and Offshore Wind	Enacted in 2022, *An Act Driving Clean Energy and Offshore Wind* expanded the Section 83C requirements of the GCA to require the EDCs to solicit up to 5,600 MW of offshore wind projects by 2027 and required the EDCs to establish statewide electric sector modernization plans (ESMPs) to upgrade the distribution and transmission systems to facilitate achievement of the state's clean energy and climate goals.
Anaerobic Digester	Sealed tanks that allow microorganisms to break down sewage and organic waste without using oxygen. The process emits methane gas that are captured and burned to create electricity and/or useful thermal energy.
ASHP	Air Source Heat Pump – A generation unit that uses compression and evaporation to transfer thermal energy from the ambient outdoor environment to a thermal load as useful thermal energy.
CEC	Clean Energy Certificate – A non-price characteristic of one MWh of electrical energy output produced by a clean generation unit that is qualified under the CES (or CES-E) including, but not limited to, the generation unit's fuel type, emissions, and vintage.
CECP	The Clean Energy and Climate Plan (CECP) for 2025 and 2030 and the CECP for 2050 outline the Commonwealth's plan for achieving its greenhouse gas emission reduction goals. Produced by EEA, this plan includes as key goals transitioning away from fossil fuel generation to clean energy and electrifying the transportation and building sectors, while managing grid impacts and customer costs. The *2050 CECP* also outlines the importance of the electric and natural gas utilities examining opportunities for accelerated electrification and strategic decommissioning of natural gas infrastructure.
CES	Clean Energy Standard – A standard established by MassDEP (310 CMR 7.75) that requires retail electricity suppliers to annually demonstrate the use of new clean energy to supply a specified percentage of their electricity sales.
CES-E	CES for Existing Resources – A standard established by MassDEP (310 CMR 7.75) that requires retail electricity suppliers to annually demonstrate the use of existing clean energy to supply a specified percentage of their electricity sales.
CIP	Capital Investment Project – A set of investments proposed by an EDC under the Provisional Program that is designed to facilitate the interconnection of new DERs and expand distribution grid hosting capacity to accommodate electrification of buildings and transportation.
Clean Heat Standard	Clean Heat Standard is a regulatory program being promulgated by the Massachusetts Department of Environmental Protection (DEP) that would require heating energy suppliers to reduce their GHG emissions over time by acquiring clean heat credits. Regulated companies (suppliers) would include suppliers of heating oil, propane, natural gas, and electricity. Suppliers would demonstrate emissions reductions through clean heat credits. The Clean Heat Standard was a recommendation of the Commission on Clean Heat.

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Clean Peak Program	The Clean Peak Program provides financial incentives to clean energy technologies that supply electricity or reduce demand during peak periods of electric demand. Specifically, eligible clean energy resources that generate, dispatch, or discharge energy during specified peak periods in each season create "CPECs", which can be bought and sold to comply with this standard.
Climate Roadmap Act	*The Climate Roadmap Act of 2021* (Chapter 8 of the Acts of 2021).
CEISP	The Commission on Energy Infrastructure Siting and Permitting (CEISP) was established by Governor Healey to provide recommendations for reforms to remove barriers to responsible clean energy infrastructure development. On March 29, 2024, the CEISP provided its final recommendations to the Governor, many of which were included in legislation passed by both the Massachusetts House and Senate during the formal 2023-2024 legislative session, although a final compromise bill did not pass.
Connected Solutions	A program that provides compensation to customer-owned behind-the-meter storage resources that respond to dispatch signals
DER	Distributed Energy Resource – Small-scale energy systems that generate electricity, store electricity, or reduce on-site consumption, and are connected to the electric distribution system.
DG	Distributed Generation – Small-scale energy systems that generate electricity and are connected to the electric distribution system.
DOER	Massachusetts Department of Energy Resources. DOER develops and implements policies and programs aimed at ensuring the adequacy, security, diversity, and cost-effectiveness of the Commonwealth's energy supply to create a clean, affordable, equitable and resilient energy future for all residents, businesses, communities, and institutions, including the procurement of offshore wind and other renewable resources.
DPU	Massachusetts Department of Public Utilities. The DPU regulates investor-owned electric power, natural gas, and water companies in Massachusetts, including the safety of natural gas pipelines owned by local distribution companies (LDCs) in accordance with regulations promulgated by the federal Pipeline and Hazardous Materials Safety Administration (PHMSA)
DPU Order 20-80 – The Future of Gas Proceeding	In 2024, DPU issued Order 20-80 which requires the LDCs to consider non-gas alternatives to gas expansion projects, prohibits the LDCs from recovering costs for promoting natural gas use, mandates targeted electrification pilot projects, and requires the LDCs to file Climate Compliance Plans for meeting the state's emissions limits every 5 years.
EDC	Electric Distribution Company – A distribution company as defined in M.G.L. 164, § 1, provided, however, an EDC shall not include an MLP. (EDCs are investor-owned and regulated by the DPU)
EEA	Executive Office of Energy and Environmental Affairs
EEAC	Pursuant to G.L. c. 25, §22, as set forth in the *Green Communities Act of 2008*, the Energy Efficiency Advisory Council (EEAC) is charged with reviewing the state's investor-owned electric and gas utilities' (Program Administrators or "PAs") energy efficiency investment plans and budgets (collectively, the "Three-Year Plan"), which are prepared in coordination

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	with the EEAC. The GCA requires that the state's investor-owned EDCs and the Cape Light Compact prepare energy efficiency plans that will "provide for the acquisition of all available energy efficiency and demand reduction resources that are cost-effective or less expensive than supply." These programs are implemented through Mass Save.
EMT	Everett Marine Terminal
ESMP	Electric Sector Modernization Plan – An EDC plan designed to: (1) proactively upgrade its electrical system to improve grid reliability, communications, and resiliency; (2)enable increased, timely adoption of renewable energy and DERs; (3) promote energy storage and electrification technologies necessary to decarbonize; (4) prepare for future climate driven impacts on electric grid; (5) accommodate increased transportation electrification, building electrification and other potential future demands on the electric grid; and (6) help the Commonwealth realize its statewide greenhouse gas emissions limits and sub-limits under Chapter 21N. ESMPs were required by An Act Driving Clean Energy and Offshore Wind. DPU approved with modifications the EDCs' ESMPs on August 29, 2024.
EVICC	The Electric Vehicle Infrastructure Coordinating Council (EVICC) was established by statute to develop a comprehensive plan for transportation emission reductions through strategies that result in an equitable, interconnected, accessible and reliable electric vehicle (EV) charging network in Massachusetts. EVICC is required to report on these strategies to the legislature through a formal assessment submitted every two years, starting in August 2023.
GCA	The Green Communities Act of 2008 (Chapter 169 of the Acts of 2008).
GHG	Greenhouse Gas – Greenhouse gases, such as carbon dioxide, methane, nitrous oxide, different types of hydrofluorocarbons, and sulfur hexafluoride, trap heat and cause the average global air temperature to rise, thus changing weather patterns globally.
GHG Inventory	Greenhouse Gas Inventory – A list of emission sources and their annual emissions quantified using standardized methods.
GMAC	The Grid Modernization Advisory Council (GMAC) is a legislatively mandated and gubernatorially appointed council charged with reviewing and providing recommendations on the EDCs' ESMPs. It is an integral part of increasing transparency and stakeholder engagement in the grid planning process. The GMAC provided its recommendations on the EDCs' first draft ESMPs on November 20, 2023.
Grid Modernization Plans	DPU-approved EDC plans designed to: (1) optimize system performance through grid visibility, command and control, and self-healing; (2) optimize system demand (by facilitating consumer price responsiveness), and (3) interconnect and integrate DERs.
GSHP	Ground Source Heat Pump - A generation unit that uses compression and evaporation to transfer thermal energy from the ambient underground or water environment to a thermal load as useful thermal energy.
GW	Gigawatt - A unit of power equal to one billion watts.
GWh	Gigawatt hours – Unit of energy that is equivalent to one billion watts of power operating for one hour, and often used as a measure of the output of large electricity power stations.
GWSA	Passed in 2008, the *Global Warming Solutions Act* (GWSA) eshablished a comprehensive regulatory program to reduce greenhouse gas emissions. The GWSA, as amended, requires

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	EEA to issue, every five years, a Clean Energy and Climate Plan and to set interim limits on greenhouse gas emissions for , 2025, 2030, 2035, 2040, and 2045, and a net zero emission limit for 2050.
ISO-NE	Independent System Operator New England, Inc. – The independent system operator and regional transmission organization for New England, which administers the wholesale electricity market, transmission planning process, and operates the region's high-voltage electricity grid. ISO-NE's activities are regulated by the Federal Energy Regulatory Commission.
LNG	Liquified Natural Gas
MassCEC	Massachusetts Clean Energy Center. MassCEC is an economic development agency dedicated to accelerating the growth of the Massachusetts clean energy sector.
Mass Save	Mass Save is a collaborative of Massachusetts' electric and natural gas utilities and energy efficiency service providers. Mass Save empowers residents, businesses, and communities to make energy efficient upgrades by offering a wide range of services, rebates, incentives, trainings, and information. Mass Save budgets and programs are established as part of a collaborative effort via the legislatively defined EEAC under the governance of DOER. The DPU approves all budgets prior to implementation. The costs of Mass Save are recovered in customer rates.
MLP	Municipal Light Plant – A municipally owned and operated utility that provides electric service established pursuant to the provisions of M.G.L. c. 164.
MLP GGES	Municipal Lighting Plant Greenhouse Gas Emissions Standard – A standard established by the *Climate Roadmap Act* that requires all MLPs to sell certain percentages of non-carbon emitting energy to their customers in 2030, 2040, and 2050.
MW	Megawatt - A unit of power equal to one million watts.
MWh	Megawatt hours – Unit of energy that is equivalent to one million watts of power operating for one hour.
NECEC	New England Clean Energy Connect – Proposed transmission line capable of delivering up to 1,200 megawatts (MW) of clean energy from Québec to New England.
NEPOOL	NEPOOL is a FERC-approved stakeholder group that advises ISO New England on all matters relating to competitive wholesale market rules and transmission tariff design. NEPOOL provides the stakeholder process for member participants in energy sectors, including transmission, generation, alternative resources, electricity suppliers, publicly owned entities, and end users, to provide recommendations to ISO New England on system planning and changes to ISO New England's transmission, markets, and services tariff.
NESCOE	NESCOE is the regional state committee that represents the New England states' interests in regional electricity matters before FERC and ISO New England. NESCOE is governed by a board of managers appointed by the Governors of the six New England States. NESCOE focuses on two areas: resource adequacy, and transmission system planning and expansion.
Net Metering	A policy that allows utility customers to generate their own electricity with a DG facility and receive credit from their utility company for the net monthly excess electrical energy the facility produces.
Provisional Program	A DPU-established provisional framework that allows EDCs to file CIP proposals.

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REC	Renewable Energy Certificate – A non-price characteristic of one MWh of electrical energy output produced by a clean generation unit that is qualified under the RPS (or RPS Class II) including, but not limited to, the generation unit's fuel type, emissions, and vintage.
RGGI	Regional Greenhouse Gas Initiative – A cooperative, market-based effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont to cap and reduce CO_2 emissions from the power sector.
RPS Class I	Renewable Portfolio Standard – A standard established by DOER (225 CMR 14.00) that requires retail electricity suppliers to annually demonstrate the use of new (post-1997) renewable energy to supply a specified percentage of their electricity sales.
RPS Class II	Renewable Portfolio Standard - Class II – A standard established by DOER (225 CMR 15.00) that requires retail electricity suppliers to annually demonstrate the use of existing (pre-1998) renewable energy and waste-to-energy generation to supply a specified percentage of their electricity sales.
SMART	Solar Massachusetts Renewable Target – A program established by DOER pursuant to Chapter 75 of the Acts of 2016 that is designed to create a long-term sustainable solar incentive program that promotes cost-effective solar development in the Commonwealth.
TERC	The Tax Expenditure Review Commission as established by Chapter 207 of the Acts of 2018.
Voluntary Certificate	A REC or CEC that is retired voluntarily as opposed to being retired by a retail electricity supplier to meet a specific state established requirement.
Waste-to-Energy Generation	A municipal waste combustor, incinerator, or waste-to-energy plant.

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Overview of Massachusetts' Climate and Clean Energy Legislative and Policy History

Massachusetts has been a leader in advancing clean energy and combatting climate change for more than two decades, starting with the adoption of its Renewable Energy Portfolio Standard (RPS) in 2003, as required by the Electric Restructuring Act of 1997.[9] The goal of the RPS is to increase the proportion of renewable energy delivered to Massachusetts electric ratepayers every year, starting at 1% of total retail sales in 2003 and originally increasing by 0.5% in each subsequent year.

In 2008, the *Green Communities Act* (GCA)[10] and *Global Warming Solutions Act* (GWSA)[11] contained a variety of new and updated statutory requirements, including:

- increasing the rate at which the RPS grew each year from 0.5% to 1%;
- directing the Department of Energy Resources (DOER) to establish a carve-out of the RPS for distributed generation resources;
- establishing a second tier of the RPS for existing (pre-1998 commercial operation date) renewable and waste-to-energy resources (commonly known as RPS Class II);
- requiring electric distribution companies (EDCs) to solicit long-term contracts for new renewable energy generation sources in an amount not to exceed 3% of the total energy demand from all distribution customers; and
- expanding the eligibility of distributed generation resources to net meter.

The GWSA required the Executive Office of Energy and Environmental Affairs (EEA) to set emissions limits for 2020, 2030, 2040, and 2050. Specifically, it required MassDEP to establish a 1990 baseline level for greenhouse gas (GHG) emissions and further required that the 2020 emissions limit be set between 10% and 25% below the 1990 baseline and the 2050 limit to be set at least 80% below the 1990 baseline.

In 2012, the state legislature further expanded net metering eligibility and also expanded the requirements for long-term contracting under the GCA by adding a new Section 83A, which required EDCs to solicit long-term contracts for new renewable energy generation sources in an amount not to exceed 4% of the total energy demand from all distribution customers.[12]

In 2016, two laws were enacted that focused on expanding clean energy. The first, *An Act Relative to Solar Energy*,[13] again expanded net metering eligibility and authorized DOER to establish a new solar incentive program, which it did through the creation of the Solar Massachusetts Renewable Target (SMART) Program.[14] The second, *An Act to Promote Energy Diversity*,[15] further amended the GCA to establish two new long-term contracting requirements:

- Section 83C, which required EDCs to solicit contracts for up to 1,600 MW of offshore wind facilities by 2027; and

- Section 83D, which required EDCs to solicit contracts for approximately 9.45 million MWh of clean energy generation from either RPS Class I eligible or certain non-RPS eligible resources, such as large hydroelectric.

In 2017, MassDEP exercised its statutory authority under the GWSA to establish the Clean Energy Standard (CES),[16] which like the RPS, is designed to require retail electricity suppliers to provide an increasing amount of clean energy to their customers each year. The RPS Class I requirements are effectively a subset of the CES requirement, as all RPS eligible generation is eligible under the CES. Unlike the RPS, though, the CES allows large hydroelectric and new nuclear facilities to qualify. Accordingly, the CES captures new hydroelectric resources, such as those selected under the Section 83D solicitation process.

In 2018, *An Act to Advance Clean Energy*[17] further increased the rate of growth in the RPS and established the Clean Peak Energy Portfolio Standard (CPS), which is designed to encourage the dispatch and generation of clean energy resources (including energy storage and demand response) during periods of peak electric use.

In 2020, MassDEP expanded the CES by establishing the CES-E, which requires retail electricity suppliers to provide a certain percentage of electricity to their customers from existing clean energy resources, which includes existing large hydroelectric and nuclear resources. This allows Massachusetts to claim clean energy that it has historically consumed (primarily from power produced out of state) and count it towards meeting its GWSA requirements.

In 2021, *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy*[18] (Climate Roadmap Act) increased the growth rate of the RPS, increased the amount of offshore wind capacity that must be solicited by 2027 from 1,600 MW to 4,000 MW, and made significant revisions to the GWSA, most notably:

- Requires EEA to establish interim GHG emissions limits every five years;
- Requires the 2030 statewide GHG emissions limit to be at least 50% below, the 2040 limit to be at least 75% below, and the 2050 limit to be at least 85% below 1990 levels;
- Requires net zero emissions by 2050; and
- Requires EEA to establish sector specific (i.e., electric power, transportation, commercial and industrial heating and cooling, residential heating and cooling, industrial processes, and natural gas distribution and service) emission sublimits every five years in addition to the overall statewide limits.

Most recently, in 2022, *An Act Driving Clean Energy and Offshore Wind*[19] requires the EDCs to establish statewide electric sector modernization plans (ESMPs) that propose improvements to the electric grid to meet statewide goals and further expanded the Section 83C requirements of the GCA to require the EDCs to solicit up to 5,600 MW of offshore wind projects by 2027.

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Examples of Massachusetts Decarbonization and Clean Energy Milestones 2007 to 2024