

## Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs DEPARTMENT OF ENERGY RESOURCES



# Executive Order No. 594 LEADING BY EXAMPLE: DECARBONIZING AND MINIMIZING ENVIRONMENTAL IMPACTS OF STATE GOVERNMENT

### **Section 2 Guideline Executive Order Targets and Calculating Progress**

Guideline Effective Date: April 18, 2023

#### Background and Purpose

On April 22, 2021 Governor Baker signed <u>Leading by Example Executive Order 594</u>, *Decarbonizing and Minimizing Environmental Impacts of State Government* (the "Order").

The Order sets forth targets and establishes policies, programs, and strategies to substantially reduce greenhouse gas emissions from state government operations at state owned and managed buildings, facilities, and campuses, as well as enhance their resilience. This will be achieved by advancing high performance buildings for new construction; expanding energy efficiency and decarbonizing fuels in existing buildings; acquiring fuel efficient and zero emission vehicles and continuing the deployment of new renewable energy.

This document provides guidance regarding the terms of significance and directives of Section 2 of the Order that relate to the targets established therein, as well as information relating to how progress toward these targets will be calculated and reported. Additional LBE Executive Order 594 Guideline documents can be downloaded from the LBE web page at <a href="https://www.mass.gov/info-details/leading-by-example-executive-order-594-decarbonizing-and-minimizing-environmental-impacts-of-state-government">https://www.mass.gov/info-details/leading-by-example-executive-order-594-decarbonizing-and-minimizing-environmental-impacts-of-state-government</a>.

#### **Definitions**

- a) **Acquisition -** In the context of this Guideline, acquisition refers to the purchase or lease of on-road vehicles (whether used or new) by and for the Commonwealth, either to replace an existing fleet vehicle(s) or to expand a fleet. Executive branch departments are required to make acquisitions from Statewide Contracts or otherwise follow the procurement guidance outlined in 801 CMR 21.00.
- b) **Alternative Energy Portfolio Standard (APS)** Provides requirements and incentives for alternative electricity technologies in Massachusetts; requires a certain percentage of the state's electric load to be met by eligible technologies.

- c) Electric vehicle supply equipment (EVSE) or electric vehicle (EV) charging station An electric component assembly or cluster of component assemblies specifically designed to charge batteries within electric vehicles (EVs) by permitting the transfer of electric energy to a battery or other storage device in an electric vehicle.
- d) **Energy use intensity (EUI)** A building's gross annual site energy relative to its total conditioned space. Site EUI is measured as kBtu per square foot (kBtu/sf). All energy consumed by the building, regardless of the source, shall be included in the EUI calculations. Energy used for zero emission vehicle charging is excluded from building total energy consumption for EUI calculations.
- e) **Fleet vehicles** In the context of this Guideline, refers to owned or leased vehicle assets operated by Commonwealth entities.
- f) **Neighborhood/utility electric vehicles (NEVs/UEVs)** –These vehicles may or may not be registered and plated, and may be used for on-road purposes, off-road purposes, or both.
- g) **Off-road vehicle** Any vehicle that is not registered, plated, and is primarily used for off-road maintenance or construction purposed.
- h) **On-road vehicle** Any vehicle that is registered, plated, and <u>not</u> used for off-road construction purposes.
- i) **Onsite fossil fuel emissions** See Scope 1 emissions.
- j) **Scope 1 Emissions** Direct greenhouse gas (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles). In the context of the Order and this Guideline, refers to the Scope 1 emissions associated with the operation of assets owned and operated by the Commonwealth, including both buildings and vehicles; may also be referred to as onsite fossil fuel emissions.
- k) **Scope 2 Emissions** Indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling.
- 1) **Zero-emission vehicles** (**ZEVs**) Include battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), and fuel cell vehicles (FCEVs); if the current definition of ZEVs per the Massachusetts Zero Emission Vehicle Commission diverges from this scope, the Commission definition shall take precedence.

#### Calculating Progress: Guidance on Executive Order 594 Targets

This guideline document provides detail on how progress for each of the Executive Order 594 targets will be tracked and measured. For further information on the directives and specific objectives of other sections of EO 594, please visit the corresponding guideline documents here.

Language taken directly from the Order is italicized herein.

#### **Part I: Introduction**

In support of statewide clean energy and emissions reduction goals, Massachusetts state government will strive to substantially reduce and eliminate emissions from the onsite combustion of fossil fuels across its buildings and fleets.

The following targets are designed to drive progress toward meeting the statewide 2050 net zero emissions limit. By the end of Fiscal Year 2029, LBE, in collaboration with the LBE Council, established in Section 9A, shall revisit these targets and assess whether a new or revised Leading by Example Executive Order is appropriate for setting additional targets or objectives prior to 2050.

The Order sets goals and requirements that will accelerate the decarbonization of fuels used to heat, cool, and power state-owned and operated facilities, state-occupied leased facilities<sup>1</sup>, and fleet vehicles. In addition, the directives of the Order will help state government demonstrate new technologies and strategies necessary to meet the Commonwealth's energy goals and prioritize the electrification of the building and transportation sectors.<sup>2</sup>

Cognizant of the rapidly changing technology landscape and the need to adapt to the growing threats posed by climate change, the Order will be reevaluated before the end of the decade to assess progress and future objectives. The LBE Council<sup>3</sup> is expected to contribute to the evaluation of the Order on an ongoing basis and before the end of fiscal year 2029, which will be facilitated by LBE staff.

#### Part II: Tracking and Reporting on Executive Order 594 Targets

Agencies as a whole, and to the greatest extent feasible, individually, shall meet or exceed the following fiscal year targets where applicable:

To help guide and measure the collective progress toward meeting these objectives, the Order sets specific energy-related targets for Massachusetts state government between 2025 and 2050. Official progress towards all targets of the Order will be tracked at the portfolio level and include the aggregated progress of all eligible state entities. Portfolio progress will be shared with LBE partners annually for each prior fiscal year (i.e., in FY 2022, LBE will report FY 2021 progress). While targets will be tracked at the portfolio level, LBE will also track progress at the individual agency and campus levels to ensure that progress is occurring across a range of facility types and use cases. LBE recognizes that the feasibility of each state entity achieving these targets

<sup>&</sup>lt;sup>1</sup> Eligible long-term leased facilities include those that are occupied entirely by one or more state entity, where the state pays for all associated utilities to operate the facility, and/or those where the state-occupied space is sub-metered and energy costs are paid for by the state.

<sup>&</sup>lt;sup>2</sup> The objectives of the Order support the broader statewide directives established in Chapter 8 of the Acts of 2021(<u>Creating a Next Generation Roadmap for Massachusetts Climate Policy</u>), which includes the statewide mandate to achieve net zero emissions in 2050.

<sup>&</sup>lt;sup>3</sup> Additional information on the role and responsibilities of the LBE Council can be found in the <u>Section 9 Guideline</u> on <u>Program Administration</u>.

individually may vary depending on the type, size, and purpose of said entity. However, because overall goals will not be achieved without full participation across state government, it is expected that each LBE partner will pursue strategies that enables them to meet these targets to the best of their abilities.

The <u>LBE Strategic Priorities and Efforts webpage</u> provides an overview of portfolio-level progress, as well as links to annual progress reports and additional webpages that detail progress within specific program areas. Upon request, LBE staff will provide annual agency progress reports to partners that detail their progress against the targets and requirements set forth in the Order.

Progress towards targets will be tracked annually. State partners will report on the applicable target areas through the annual LBE tracking form or other agreed-upon reporting processes, while LBE will collect additional data from various sources. The chart below provides an overview of the scope, tracking process, and reporting parameters for each target:

Target	Fiscal Year Baseline	Details
Onsite fossil fuel emissions	2004	LBE will calculate onsite fossil fuel emissions based on the Scope 1 fuels collected through the annual tracking process (e.g., tracking forms, statewide contract data, MassEnergyInsight, etc.). Emission factors from multiple sources will be used to convert consumption data into GHG emissions. See Part III of this Guideline for more details on emissions accounting.
Energy use intensity	2004	LBE will calculate energy use intensity (EUI) based on total annual energy consumption and entity square footage collected through the annual tracking process. Square footage must be included for all active buildings in an eligible state entity's portfolio. Conditioned space square footage is desirable, but overall square footage is also acceptable for calculating EUI. See Part VI of this Guideline for more details on EUI calculation and target tracking and reporting.
Fuel oil	2004	LBE will calculate annual fuel oil consumption based on data collected through the annual tracking process. In cases where there are multiple or specific facilities with fuel oil consumption, LBE may request facility-level data from entities. Delivered fuel oil information may be submitted when actual fuel oil consumption is not known. See Part V of this Guideline below for more details on fuel oil target tracking and reporting.

Zero- emission vehicles	2020	LBE will track zero-emission vehicle data (e.g., BEV, FCEV, and PHEV technologies) through both the annual tracking process and ad hoc requests during the fiscal year. LBE will request detailed fleet inventories from any partners with on-road vehicle assets across all light-, medium-, and heavy-duty classes. See Part IV of this Guideline for more details on ZEV target tracking and reporting.
EV charging stations	2020	LBE will track EV charging station deployment and installation through both the annual tracking process and ad hoc requests throughout the fiscal year. LBE will request detailed information for installed, in progress, and planned EV charging stations (e.g., station type and configuration, location, accessibility, etc.). See Part VII of this Guideline for more details on EV charging station target tracking and reporting.

LBE may request additional data as needed during the fiscal year to enhance tracking and reporting efforts for specific metrics.

#### **Part III: Fossil Fuel Emissions**

1) Reduce emissions from a 2004 baseline associated with the burning of onsite fossil fuels at buildings and in vehicles:

- 20% in 2025
- 35% in 2030
- 60% in 2040
- 95% in 2050

The onsite fossil fuel reduction targets<sup>4</sup> of the Order are designed to drive progress toward achieving emissions reductions in the two largest GHG emitting sectors in the Commonwealth – buildings and vehicles – in support of key priorities highlighted in the <u>Massachusetts 2050</u> <u>Decarbonization Roadmap</u>, <u>Clean Energy and Climate Plan for 2050</u>, and the <u>Clean Energy and Climate Plan for 2025</u> and 2030.

The emissions associated with electricity generation in New England have been in decline and are likely to continue to decrease in intensity as the regional electricity grid is increasingly powered by clean and renewable energy resources. Therefore, meeting these reduction targets and focusing

<sup>&</sup>lt;sup>4</sup> Opportunities to reduce or eliminate onsite fossil fuels should come from assets owned and operated by the Commonwealth, including both new and existing facilities as well as all segments of the fleet vehicle sector. To learn more about requirements and considerations for each sector, review the <u>Section 3 Guideline on New Construction</u>, <u>Section 4 Guideline on Existing Buildings</u>, and <u>Section 5A Guideline on Zero Emission Vehicle Acquisitions</u>.

on onsite fossil fuel emissions<sup>5</sup> from state buildings and fleets will support the broader transition away from the combustion of onsite fossil fuels to cleaner electricity.

#### Onsite Fossil Fuel Emission Sources

To measure progress toward the reduction targets, when calculating total annual onsite fossil fuel emissions from across the LBE portfolio, the following sources will be counted as onsite fossil fuel<sup>6</sup>:

- Stationary combustion sources: natural gas, liquified natural gas (LNG), ultra-low sulfur diesel (ULSD), fuel oils, propane, liquified propane gas (LPG), non-Alternative Portfolio Standard (APS) biomass, non-APS biofuel.
- Mobile combustion sources: gasoline, E-85, ULSD, compressed natural gas (CNG), LNG, Propane, LPG, biodiesel.

#### Advanced Biogenic Fuels

The objective of the Order is to eliminate the combustion of onsite fossil fuels; the utilization of advanced biogenic fuels in state buildings and fleets may serve as a bridge strategy in the longer-term transition to full electrification since they present lower-emitting alternatives to traditional petroleum-based sources. For limited, unique circumstances, the use of biogenic fuels may be the optimal near-term solution<sup>7</sup> for hard-to-electrify state government operations. Whenever possible, electrification of vehicles and building systems should be prioritized.

Depending on the feedstock, some biogenic fuels can reduce GHG emissions, relative to fossil fuels, when evaluated on a lifecycle basis. The Massachusetts Alternative Energy Portfolio Standard (APS) provides a means to ensure eligible alternative energy systems and fuels provide the greatest emissions reduction potential by setting minimum performance and sustainable sourcing requirements that limit eligibility to best-in-class commercially feasible technologies.

<sup>&</sup>lt;sup>5</sup> In the context of EO 594, onsite fossil fuel emissions encompass the contributions of any Scope 1 emissions from fossil fuels combusted onsite to support the operation of state-owned buildings and facilities, infrastructure (e.g., dams and pump stations), fleet vehicles, and off-road vehicle assets; Scope 2 emissions are excluded from this metric.

<sup>&</sup>lt;sup>6</sup> If an entity is unsure whether a particular fuel is considered an onsite fossil fuel, please reach out to <u>LBE staff</u> for clarification.

<sup>&</sup>lt;sup>7</sup> There may be a role to leverage such resources in some hard-to-electrify buildings or district systems. Woody biomass may also have some limited applications for space heating, especially when using waste wood or trimmings (source: Massachusetts 2050 Decarbonization Roadmap). For example, modern wood heating systems can work well when replacing fossil fuel infrastructure in existing buildings when it is impractical to replace heating distribution systems. If distribution is driving path dependency, then modern wood can serve as a non-fossil fuel-based approach to meet space heating demands with hot water.

<sup>&</sup>lt;sup>8</sup> Massachusetts Clean Energy and Climate Plan for 2050. <a href="https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2050">https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2050</a>.

<sup>&</sup>lt;sup>9</sup> Under the APS program, biomass and liquid biofuels are eligible only if they meet strict standards for conventional air pollutants and the use of low-greenhouse gas feedstocks such as wastes and residues. Furthermore, any forest-

Due to evolving scientific analyses, biogenic emissions inventory conventions, guiding principles and accounting methodologies, a future Massachusetts net emissions accounting framework may include some or all biogenic fuel emissions.<sup>10</sup> The emissions accounting outlined herein for verifiably sustainable and advanced biogenic fuel sources, namely APS-eligible liquid biofuel<sup>11</sup> and APS-eligible woody biomass<sup>12</sup>, is subject to change over time and DOER will reevaluate it on an ongoing basis as new information becomes available.

Massachusetts' current gross emissions inventory generally excludes biogenic fuel emissions.<sup>13</sup> When tracking toward EO 594 targets and calculating state government emissions changes, LBE will count the consumption of APS-eligible biofuel and biomass as offsetting 100% of emissions from every unit of fossil fuels eliminated.<sup>14</sup>

Emissions from the non-biogenic portion of APS-eligible biofuel blends for state buildings and fleet vehicles will be calculated using the standard emissions factor for that fuel (see Emissions Tracking and Reporting section below). Non-APS liquid biofuel emissions will be counted as if from traditional diesel or #2 heating oil for buildings. Non-APS woody biomass emissions will be calculated based on the Btus converted to #2 heating oil.

#### **Emissions Tracking and Reporting**

Progress toward the onsite fossil fuel emissions reduction targets will be tracked each Fiscal Year; this progress will be evaluated and reported after the close of each Fiscal Year and once all relevant data have been collected.

Onsite fossil fuel emissions will be calculated using the annual consumption of each fuel used by all assets owned and operated by any eligible state entity. LBE will use standard emission factors developed by the EIA and EPA, as well as those determined by the Department of Energy Resources and the Massachusetts Department of Environmental Protection, to calculate individual state entity and LBE portfolio changes over time. All onsite fossil fuel emissions are calculated

derived biomass must meet sustainable forestry practices. Source: <u>Appendices to the Massachusetts Clean Energy and Climate Plan for 2025 and 2030.</u>

<sup>&</sup>lt;sup>10</sup> Massachusetts Clean Energy and Climate Plan for 2050. <u>https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2050</u>.

<sup>&</sup>lt;sup>11</sup> Liquid biofuel qualified under the APS, as defined in <u>225 CMR 16.00</u>, must be derived from organic waste feedstock and meet the quality and performance criteria; this includes a 50% reduction in lifecycle GHG emissions over the fuel being displaced.

<sup>&</sup>lt;sup>12</sup> Woody biomass fuels qualified under the APS must meet the criteria for Clean Wood (as defined in <u>310 CMR 19.006</u>, definitions) and be from verifiably sustainable origins. Qualified biomass fuels are obliged to achieve a 50% reduction in carbon emissions over a 30-year period over the traditional fuel that has been replaced, calculated via a <u>GHG lifecycle analysis</u> established by DOER.

<sup>&</sup>lt;sup>13</sup> Massachusetts 2050 Decarbonization Roadmap. <a href="https://www.mass.gov/doc/ma-2050-decarbonization-roadmap/download">https://www.mass.gov/doc/ma-2050-decarbonization-roadmap/download</a>.

<sup>&</sup>lt;sup>14</sup> Conceptually, advanced biogenic fuel emissions calculations in Massachusetts are predicated on the understanding that the emissions associated with transportation and production (e.g., gasoline use in the transportation sector), and any associated carbon sequestration, are captured elsewhere as part of broader emissions and carbon accounting efforts.

and reported in metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e). These emission factors and their sources can be found in the 'Reference' section of the <u>LBE GHG Conversion Calculator</u>, which is regularly maintained and updated by LBE staff.

In calculating <u>overall</u> LBE portfolio emissions, <sup>15</sup> LBE will use the appropriate emission factors for all reported fuel consumption by buildings, vehicles, and other state operations. In addition to the sources mentioned above, LBE will use emission factors determined by DOER and the Renewable Fuel Standard for biogenic fuel sources. When reporting Scope 1 or Scope 2 emissions for internal or external purposes, state entities should either request annual GHG data from LBE directly or use the <u>LBE GHG Conversion Calculator</u> to ensure that emissions outputs are consistent with LBE accounting.

#### **Part IV: ZEV Fleet Composition**

#### 2) Acquire vehicles such that the total state fleet consists of:

- 5% zero emission vehicles in 2025
- 20% zero emission vehicles in 2030
- 75% zero emission vehicles in 2040
- 100% zero emission vehicles in 2050

The primary objective of the ZEV fleet targets is to ensure that all agency and campus fleets transition away from internal combustion engine vehicles in support of the fossil fuel reduction targets of the Order and broader statewide efforts to decarbonize the transportation sector. These targets are intended to complement the ZEV acquisition requirements in Section 5 of the Order that will ensure a steady uptake of ZEV technologies throughout all segments of the state fleet.

For in-depth information on ZEV acquisition requirements and considerations, please refer to the <u>Section 5A Guideline on Zero Emission Vehicle Acquisitions</u>. Additional policy and procurement considerations related to ZEV acquisitions and fleet planning can be found in the upcoming <u>Section 5B Guideline on the Fuel Efficiency Standard & Green Fleet Committee</u>.

#### Eligible Assets and Technologies

The ZEV targets apply to all on-road vehicle assets that are owned or leased and operated by the state. The ZEV targets must be met with eligible ZEV technologies as defined in the definitions section of this Guideline. ZEV models currently offered on statewide vehicle contracts can be found on the <u>Statewide Contract Zero-Emission Vehicle Models List</u>. Neighborhood or utility electric vehicles (NEVs/UEVs) may also contribute to this target if they are plated and registered. NEV/UEV models are currently offered via Category 3 of statewide contract <u>FAC116</u>: <u>Lawns and Grounds Equipment</u>, <u>Parts and Services</u>.

<sup>&</sup>lt;sup>15</sup> Overall LBE portfolio emissions include all Scope 1 and Scope 2 emissions generated from state government operations.

#### **Exempt Assets**

Off-road vehicles, equipment used for construction, and marine vessels are excluded from the ZEV targets in the Order. Marked and unmarked police cruisers are also excluded from meeting the ZEV targets. However, LBE encourages all off-road assets and safety vehicles to acquire ZEVs whenever possible. Additional exemptions may be granted on a case-by-case basis, as detailed in the Section 5A Guideline on Zero Emission Vehicle Acquisitions.

#### **ZEV Tracking and Reporting**

Progress towards the Fiscal Year targets will be tracked as a percentage of the entire on-road state fleet, which consists of roughly 6,500 vehicles that span all vehicle classes (e.g., if the fleet is comprised of 6,500 vehicles at the end of Fiscal Year 2025, the 5% target requires 325 vehicles to be ZEVs by that that date). The total state fleet and number of ZEVs in the fleet will be tracked and evaluated annually to ensure target values are adjusted to any changes in fleet size.

ZEV progress will be tracked and reported each Fiscal Year. Progress will be evaluated and reported after the close of each Fiscal Year and once all relevant data have been collected. Following the close of a Fiscal Year for which a target is set, LBE staff will work with partners to ensure that all vehicles eligible to be counted toward the target are accounted for, either through the annual LBE tracking form or other agreed-upon tracking method.

#### Part V: Fuel Oil

3) Reduce non-vehicle, petroleum-based oil consumption used to satisfy thermal loads for building and non-building uses from a 2004 baseline at state-owned facilities:

- 90% in 2025
- 95% in 2030

The fuel oil reduction targets aim to virtually eliminate the combustion of fuel oils used by state entities for a variety of end uses in buildings and non-traditional facilities by 2030. These end uses include, but are not limited to, heating and hot water, combined heat and power, water/wastewater operations, and all other fuel oil-using activities not excluded below.

Information on key strategies and technologies for transitioning away from fuel oil and associated emissions are detailed in the <u>Section 4 Guideline on Existing Buildings</u> and the <u>Sections 4D and 5D Guideline on Biofuels</u>.

#### Eligible Fuels

The fuel oil targets of the Order apply to #2, #4, and #6 heating oil and ULSD used for non-vehicle, non-emergency purposes for buildings operations and operations related to infrastructure (e.g., pump stations and dams).

#### Excluded Fuels

Fuel oils (including ULSD) used in on-road vehicles, off-road vehicles, and equipment, and for emergency generation are excluded from these targets, though facilities should be reducing consumption of these fuels as they comply with other sections of the Order (e.g., ZEVs, biofuels, battery storage, etc.).

#### Fuel Oil Tracking and Reporting

Fuel oil will be tracked in native units and progress will be evaluated as the overall percentage reduction in portfolio fuel oil consumption. For tracking and reporting purposes, actual fuel oil consumption data is preferred; delivered fuel oil data will also be accepted when actual consumption is impractical or impossible to collect. Fuel oil progress will be tracked and reported each Fiscal Year. Progress will be evaluated and reported after the close of each Fiscal Year and once all relevant data have been collected.

#### Part VI: Energy Use Intensity (EUI)

4) Reduce overall site energy use intensity (EUI), defined as weather-normalized Btu per square foot, from a 2004 baseline at state owned buildings:

- 20% in 2025
- 25% in 2030

The primary objective of the EUI targets in the Order is to reduce building consumption intensity of electricity and thermal energy across the state portfolio, helping to minimize or reduce demand on the grid, reduce current and future energy costs (especially as facilities and fleets electrify), facilitate the effectiveness of non-fossil fuel alternatives that may require lower temperature thermal resources, and generally support the emissions reductions targets of the Order. Moreover, the EUI targets support a continued focus on reducing the consumption of both fossil fuels and electricity, while still maintaining the Order's focus on fossil fuel emissions.

Opportunities to reduce EUI should be explored through various energy efficiency measures in both new and existing buildings. To learn more about key requirements and considerations for these building sectors, visit the <u>Section 3 Guideline on New Construction</u> and <u>Section 4 Guideline on Existing Buildings</u>.

#### Eligible Fuels

Fuels that contribute to the EUI reduction targets outlined above include all fuels combusted onsite such as natural gas, fuel oil, propane, purchased steam, biomass, biofuels, etc., as well as all electricity consumed for building use, including electricity purchased from the grid and the generation of any renewable energy used by the building or facility. Only fuels that support the operation of state-owned buildings and facilities will be included.

#### **Excluded Fuels and Entities**

Fuels used to power on-road, off-road, and marine vessels will not be included in EUI calculations. Any renewable energy generation that is exported to the grid or otherwise not consumed directly by a state property will likewise not be included in EUI calculations. Additionally, LBE has determined that EUI targets are not appropriate for and will not apply to certain entities that oversee operations where square footage is not the primary driver of energy use. These include but are not limited to agencies that manage water supply and water treatment facilities (MWRA), airports (MassPort), dams, seasonal operations and recreational facilities (DCR), and highway operations (MassDOT). The LBE partner agencies that are exempt from the EUI targets will be notified and will be exempt from reporting on square footage data. All other Executive Order and reporting requirements remain the same. LBE may elect to track and report on specific buildings within these agencies, when applicable and when data is readily available.

#### **EUI Tracking and Reporting**

All calculations, targets, and references to EUI in the Order refer to site EUI (as opposed "source"), which accounts for the Btus of energy consumed onsite. LBE Program staff will use standard conversion factors to covert energy native units (e.g., kWh, therms, gallons) to kilo-British thermal units <sup>16</sup> (kBtus), so that all energy consumption can be aggregated.

Before the fuel kBtus are aggregated, the data are weather normalized. Weather normalization adjusts energy consumption according to average weather conditions over time. Many standard weather normalization formulas require monthly, building specific energy usage. However, since LBE tracking and reporting relies on annual data, LBE uses a weather normalization process that considers weather dependency of specific fuels and geographic location of the entity. The total weather normalized kBtus are then divided by total annual square footage to calculate the EUI. State partners that seek to calculate EUI for internal purposes should contact LBE staff or reference the LBE GHG Conversion Calculator.

EUI progress will be tracked and reported each Fiscal Year. Progress will be evaluated and reported after the close of each Fiscal Year and once all relevant data have been collected.

<sup>&</sup>lt;sup>16</sup> Btus measure heat energy; each Btu equals the amount of heat needed to raise one pound of water one degree Fahrenheit. For EUI calculation, each kBtu equals 1,000 Btu. LBE uses the <u>U.S. Energy Information Administration</u> Btu conversion factors.

#### Part VII: EV Charging Infrastructure

#### 5) Increase the total number of electric vehicle charging stations on state properties to:

- 350 in 2025
- 500 in 2030

The primary objective of the EV charging station targets in the Order is to increase the infrastructure required to support the electrification of the state fleet as well as support the EV charging needs of the employees, students, and visitors frequenting state facilities.

There are a host of aspects to consider when procuring and installing EV charging stations at a facility. Key requirements and considerations for EV charging station procurement and installation can be found in the Section 5C Guideline on Electric Vehicle Supply Equipment.

LBE partners are encouraged to reach out to LBE staff to discuss opportunities for EV charging stations at state facilities; entities may also refer to the clean transportation tools and resources on the <u>LBE website</u>.

#### **Eligible EV Charging Stations**

Eligible EV charging stations that can contribute to these targets include any stations sited on state-owned or leased properties where the state entity has played a role in the deployment of said station(s). Furthermore, any station for use by state fleets, state employees, or the general public can support the EV charging station targets. Eligible EV chargers include Level 1, Level 2 or DC fast charger, as well as less traditional or innovative EV charging solutions (e.g., off-grid, portable chargers, etc.).

#### **Excluded EV Charging Stations**

Stations at leased facilities that have already been installed before state entity occupancy or those installed by a non-state entity at a facility with state agency occupancy will not count toward the EV charging station targets of the Order. In the case of leased spaces, state partners should seek guidance from DCAMM or the applicable oversight entity to determine an EV charging station strategy.

#### **EV Charging Station Tracking and Reporting**

Progress towards the EV charging station targets will be evaluated each Fiscal Year. Substantial completion of EV charging stations shall count as installed, even if the station is not yet fully operational at the point of data collection. LBE staff will work with partners to ensure that all eligible installations towards the target are accounted for, either through the annual LBE tracking form or alternative tracking process. Stations that are removed, replaced, or become permanently inoperable should be reported as part of the tracking process, and shall be removed from the state total.