
The Honorable Steven T. James
Office of the Clerk of the House
State House, Room 145
Boston, MA 02133

The Honorable Michael D. Hurley
Office of the Clerk of the Senate
State House, Room 335
Boston, MA 02133

January 2, 2025

Electric Vehicle Availability Projection Memorandum

RE: Electric Vehicle Availability Projection Memo to satisfy Chapter 179 of the Acts of 2022, *An Act driving clean energy and offshore wind*

Summary

To satisfy Chapter 179 of the Acts of 2022, *An Act Driving Clean Energy and Offshore Wind*, MassCEC has developed a projection of the availability of Light-Duty Battery Electric Vehicles (“BEVs”) for the remainder of 2024. This estimate excludes Plug-In Hybrid Electric (“PHEVs”) and Fuel Cell Electric Vehicles (“FCEVs”). Based on IEA Global EV Data, Mass Vehicle Census registration values, and anecdotal data, MassCEC estimates that around 40,000 light-duty battery electric vehicles will have been made available in Massachusetts through the end of 2024. MassCEC estimated this value based on the analysis of the International Energy Agency (“IEA”) Global EV Outlook 2024 and the Massachusetts Registry of Motor Vehicles (“RMV”) Mass Vehicle Census. This is an estimate based on current available data; actual EV availability will be subject to change based on numerous factors such as consumer demand and supply chain availability.

Background

In 2022, the Massachusetts Legislature directed MassCEC through Chapter 179 of the Acts of 2022, *An Act Driving Clean Energy and Offshore Wind*, to develop an annual projection of the availability of electric vehicles (“EVs”):

*“SECTION 86. The Massachusetts clean energy technology center shall develop a guide and website to provide information about the costs and availability of electric vehicles and **shall develop an annual projection of the availability of such vehicles in the next year. The projection shall be posted electronically and filed with the clerks of the senate and house of representatives.**”¹*

¹ See [Bill H.5060: An Act Driving Clean Energy and Offshore Wind](#), signed August 11, 2022

To satisfy the first half of this directive, MassCEC created the EV Webpages Program, which includes four distinct webpages aimed at educating different audiences on electric vehicles and electric vehicle supply equipment.² The audiences targeted are: (1) residential consumers; (2) private and commercial entities; (3) vehicle dealers; and (4) Municipal Light Plant residents. In addition to the residential consumer webpage, there will be a customer support service to respond to phone and email inquiries from MA residents.

Based on the latter half of this directive, MassCEC has compiled IEA Global EV Outlook 2024 data, Mass Vehicle Census BEV registration counts, and anecdotal data from vehicle dealers in Massachusetts to inform the predicted availability of EVs for the entirety of 2024.³⁴ This Memorandum will serve as MassCEC's annual projection for 2024. MassCEC will submit subsequent memorandums each January, beginning in 2025, to inform that year's EV availability.

Methodology

MassCEC researched and compiled EV inventory data from IEA and EV registration data from the Mass Vehicle Census for the following analysis. Both data sets used in the analysis only cover light-duty battery electric vehicles ("BEVs"), with light-duty referring to passenger vehicles with a gross vehicle weight rating of 8,500 pounds or less.⁵

The IEA Global EV Outlook 2024 data covers EV sales and inventory values from 2010 to 2023 and includes predicted EV availability for the United States.⁶ MassCEC relied heavily on IEA's Stated Policies Scenario ("STEPS") prediction for BEV availability to estimate the number of light-duty BEVs available in Massachusetts through the end of 2024. To narrow the nation-wide data down to Massachusetts, MassCEC used Mass Vehicle Census Data to identify the number of EVs registered in the Commonwealth from 2020 to 2023 and found that, on average, Massachusetts receives roughly 2% of the total number of EVs available in the country. MassCEC extrapolated this percentage into 2024 to estimate the total number of vehicles available in the Commonwealth. MassCEC used this forecasted percentage to determine the number of available electric vehicles estimated to be in Massachusetts through the end of 2024 based on IEA's nation-wide prediction of 1,977,020 EVs.

To provide context for the data analysis, MassCEC contacted ten car dealerships in Massachusetts using existing stakeholder lists and a Google search of dealerships in Massachusetts to obtain geographically diverse information. Questions asked to dealerships included:

² See the Press Release [here](#)

³ See IEA data [here](#)

⁴ See Mass Vehicle Census data [here](#)

⁵ See [here](#) for the EPA's Vehicle Weight Classifications

⁶ See IEA data sets here: <https://www.iea.org/data-and-statistics/data-sets>

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- About how many EVs does your dealership receive and sell a year?
 - How does your dealership project how many EVs you may have on the lot in a given month? Annually?
 - Around what percentage of EV buyers are buying vehicles off the lot versus pre-ordering vehicles online?
 - Do all of your EVs typically get purchased every year? If not, how many do you typically have left in stock?
 - Have there been any EV supply chain issues that your dealership has encountered?

From these conversations, MassCEC learned that many dealerships across the Commonwealth have a “Turn-to-Earn” system in which dealerships must sell new and existing EV models before being sent additional vehicles from the manufacturer. Therefore, if demand is not high enough for these vehicles, fewer will be available for purchase in the next year. This also means that vehicle availability is roughly compensate with vehicle sales as dealerships do not retain a surplus of electric vehicles under a “Turn-to-Earn” system. Dealerships also mentioned that most consumers today will only purchase an EV if it is seen as a higher quality and better value when compared to an internal combustion engine vehicle. This is a shift from the “early EV adopter” perspective that sought to purchase EVs because of the impact on the environment.⁷

Analysis

MassCEC analyzed nation-wide EV inventory values for battery electric light-duty vehicles to determine the predicted EV availability. Through this analysis, MassCEC estimates that the number of available BEVs in MA will be approximately 40,000 in 2024. This projection is formulated based upon the estimated number of new vehicle registrations, calculated using past Mass Vehicle Census data. Based on previous trends in electric vehicle registrations, MassCEC anticipates that from January to December 2024, around 41,000 EVs will be registered in the Commonwealth. The difference in these numbers may be due to used electric vehicle registrations, which this projection does not include.

However, based on conversations with vehicle dealers, vehicle availability can be difficult to predict and is impacted by multiple factors such as supply chain issues, consumer demand, and changes in manufacturing output, which limit MassCEC’s ability to project electric vehicle availability with a high degree of confidence. This analysis should be taken as a good faith estimate based on currently available data and may not reflect actual 2024 EV availability which may vary due to the factors cited above.

⁷ See Forbes article on Early Adopters [here](#)

Figure 1

Estimates indicate availability of new battery electric vehicle's in Massachusetts will reach approximately **40,000 in 2024**

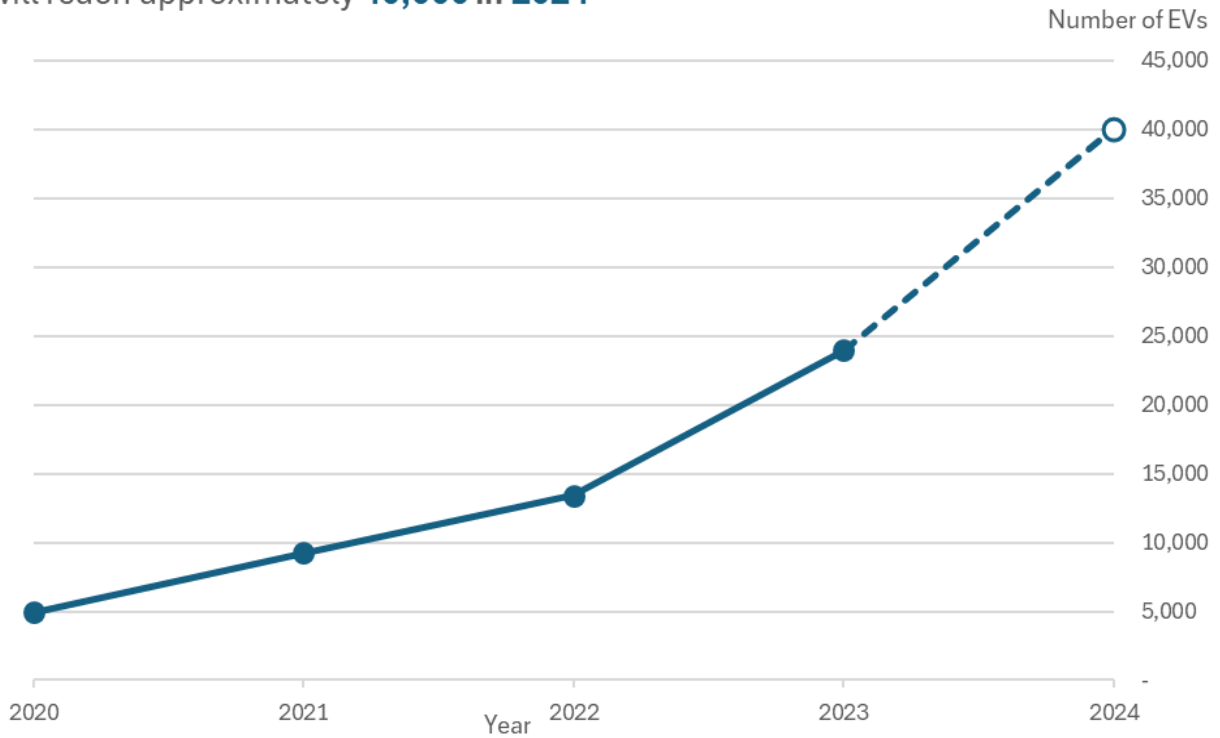


Figure 1 depicts the growth in available EVs in Massachusetts based on actual EV registrations from 2020 to 2023 and projected EV registrations through the end of 2024. If this trend in light-duty BEV availability continues, Massachusetts will see an increase in the number of vehicles being sold and registered. An increase in EV purchasing will also yield an increase in the number and types of EV makes and models delivered and sold to dealerships and residents across the Commonwealth.