



MASSACHUSETTS
**DEPARTMENT OF
ENERGY RESOURCES**

Fiscal Year 2023 Annual Progress Report

Leading by Example (LBE) Division,
Department of Energy Resources



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MA Department of Energy Resources Leading by Example (LBE)

LBE works with state agencies, quasi-public authorities, and public colleges and universities to advance clean energy and sustainable practices that reduce the environmental impacts of state government operations.

LBE State Portfolio

19 Executive Branch Agencies

15 Community Colleges

9 State Universities

5 UMass Campuses

2 Quasi-Public Authorities



89.2 million sq. ft. of buildings



13,446 vehicles

(includes 9,425 non-emergency and 4,021 exempt emergency vehicles)



16.3 million MMBtus annual energy usage



499,761 MTCO₂e onsite fossil fuel emissions

LBE Executive Order 594 Overview

EO594, “Decarbonizing and Minimizing Environmental Impacts of State Government,” applies to all executive branch agencies and institutions of public higher education.

Objective	Executive Order 594 Targets			
	2025	2030	2040	2050
Reduce emissions from onsite fossil fuels*	-20%	-35%	-60%	-95%
Zero emission vehicles (ZEVs) in light-duty state fleet	5% of fleet	20% of fleet	75% of fleet	100% of fleet
Reduce fuel oil use*	-90%	-95%	TBD	TBD
Energy use intensity (site EUI) reduction*	-20%	-25%	TBD	TBD
EV charging stations at state facilities	350 stations	500 stations	TBD	TBD

**Over a Fiscal Year 2004 (FY04) baseline*

New light-duty vehicles: In FY23, all acquisitions of vehicles with a Gross Vehicle Weight Rating (GVWR) of 8,500 pounds or less must be ZEVs. Starting in FY25, all acquisitions of vehicles with a GVWR of 14,000 pounds or less must be ZEVs.

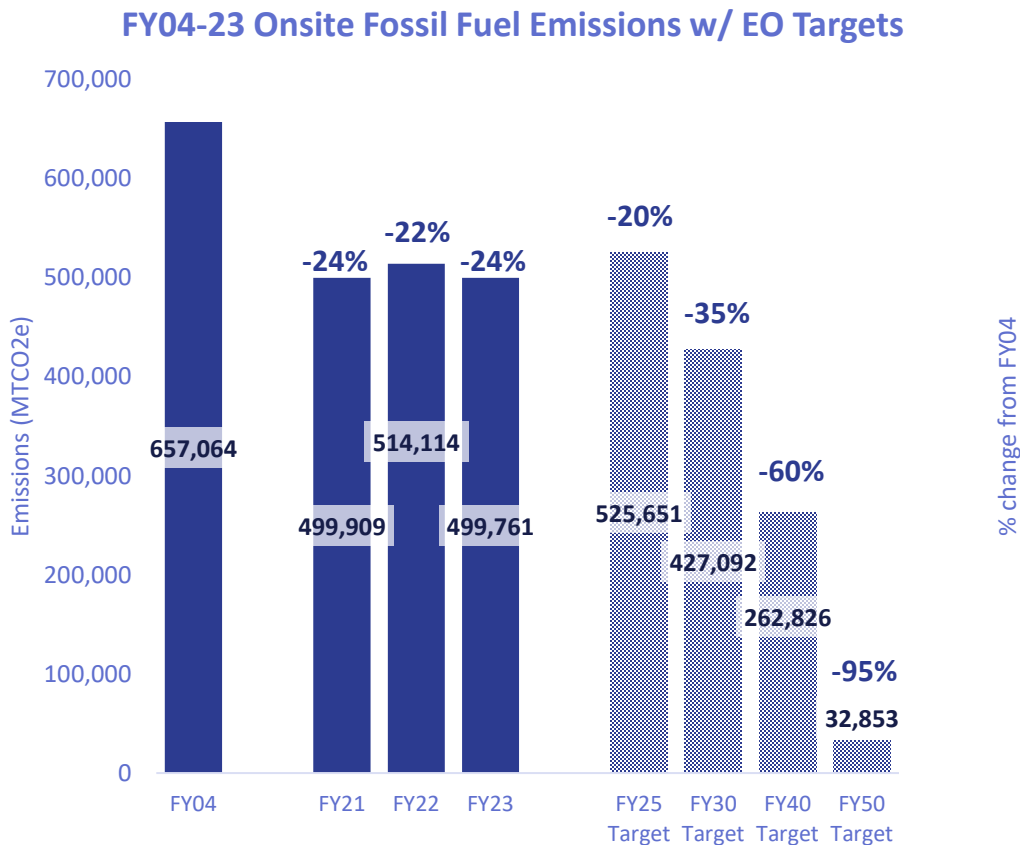
New heavy-duty vehicles: Starting in FY30, all acquisitions of vehicles with a GVWR of more than 14,000 pounds must be ZEVs.

EO594 targets and directives relate to:

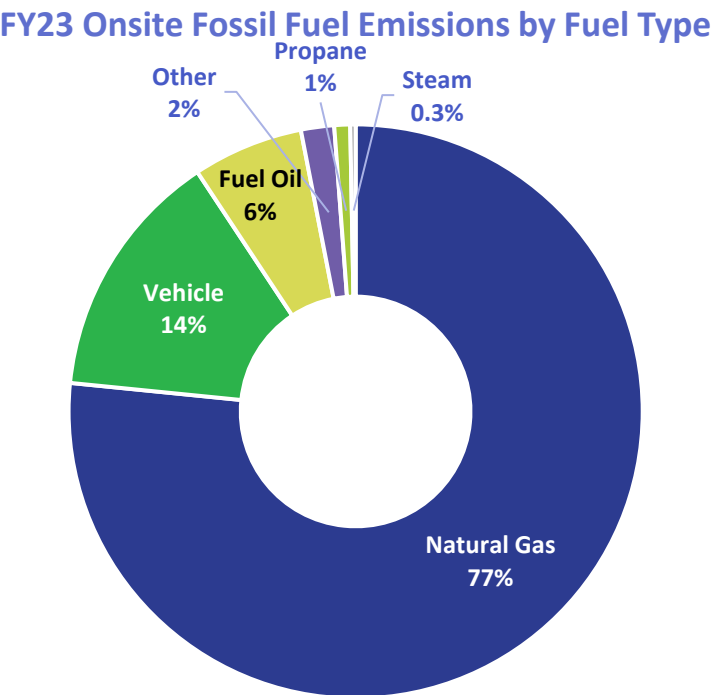
- ☐ Onsite fossil fuel emissions
- ☐ Fuel oil usage
- ☐ Buildings & energy performance
- ☐ Renewable energy deployment
- ☐ Fleet electrification & EV charging
- ☐ Budgeting & planning
- ☐ Data tracking & reporting

EO594 Target: Onsite Fossil Fuel Emissions

Target: Reduce onsite fossil fuel emissions by 20% in FY25, by 35% in FY30, by 60% in FY40, by 95% in FY50.



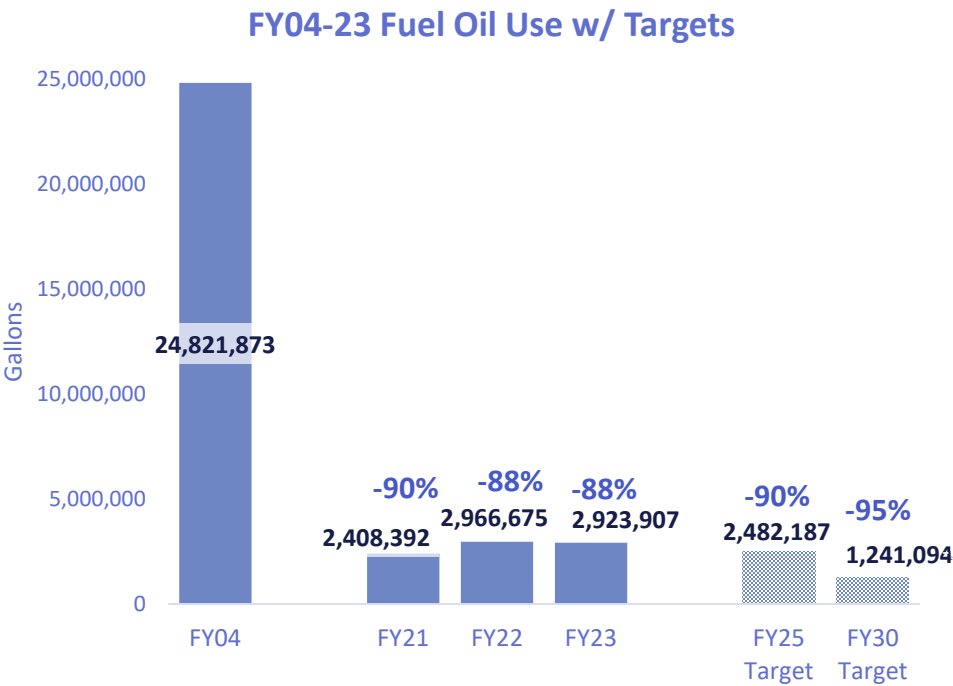
As of FY23, the state portfolio has reduced onsite fossil fuel emissions by 24% from the FY04 baseline, surpassing the FY25 target.



In FY23, natural gas emissions accounted for the largest share of onsite fossil fuel emissions (77%). Emissions from vehicle fuels accounted for 14% of onsite fossil emissions and fuel oil for 6%. The “Other” category includes fuel used for emergency generation and uses not directly related to standard operations as well as vehicle fuels used for non-car purposes such as jet fuel or marine fuel.

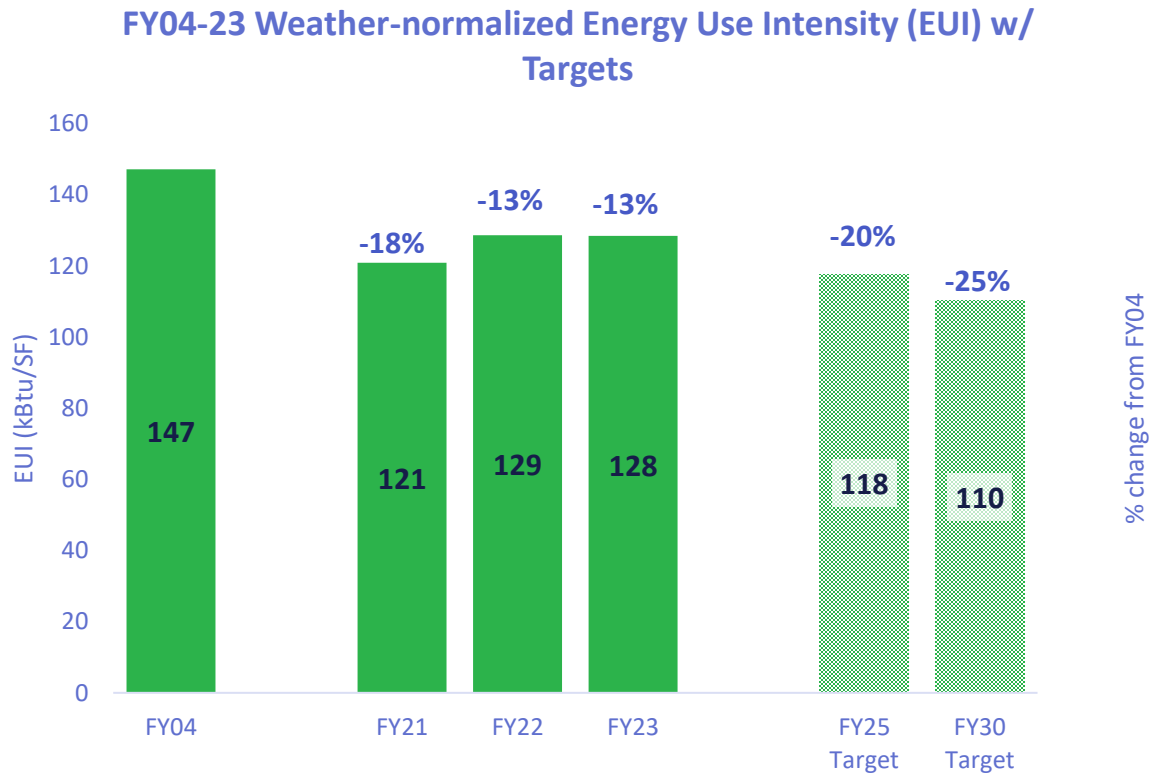
EO594 Targets: Fuel Oil Use & Energy Use Intensity (EUI)

Target: Reduce non-vehicle, petroleum-based oil consumption used to satisfy thermal loads for building and non-building uses by 90% in FY25 and 95% in FY30.



As of FY23, the state portfolio has reduced fuel oil usage by 88% from the FY04 baseline. To meet the FY25 target, the portfolio must reduce fuel oil use by 441,720 gallons.

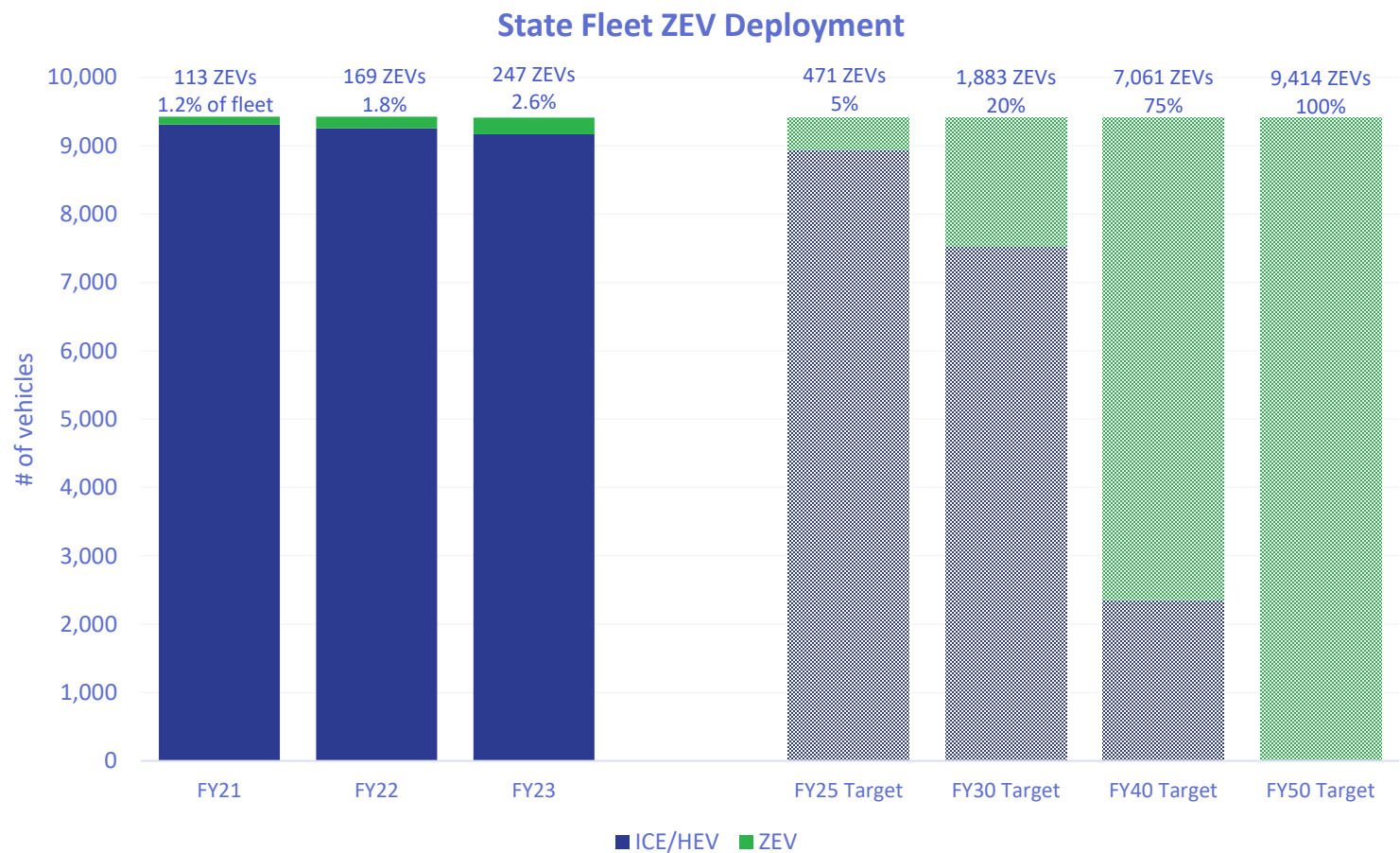
Target: Reduce EUI by 20% in FY25 and by 25% in FY30.



As of FY23, the state portfolio has reduced weather-normalized energy use intensity (EUI) by 13% from the FY04 baseline.

EO594 Target: State Fleet Electrification

Target: Transition 5% of fleet to electric in FY25, 20% in FY30, 75% in FY40, 100% in FY50.



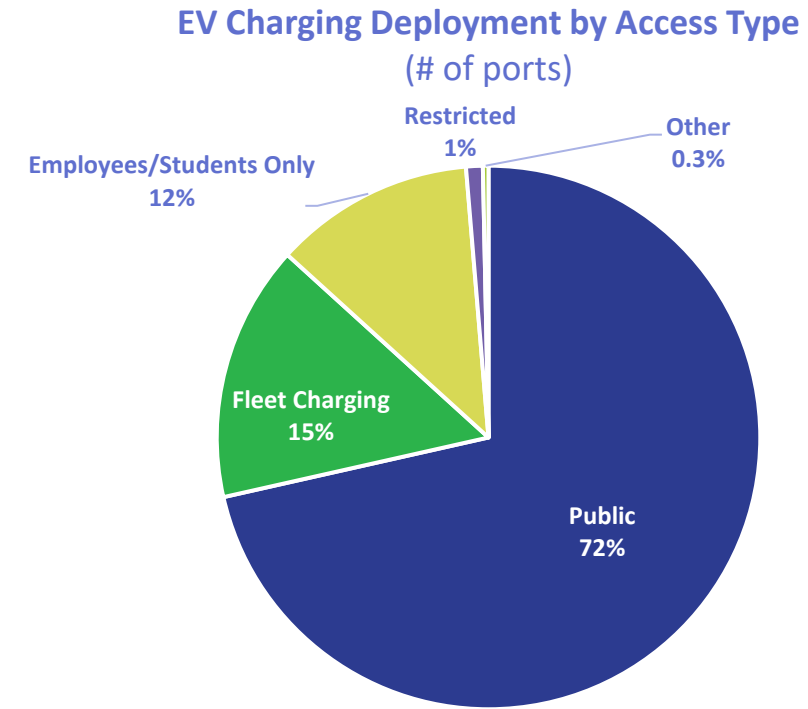
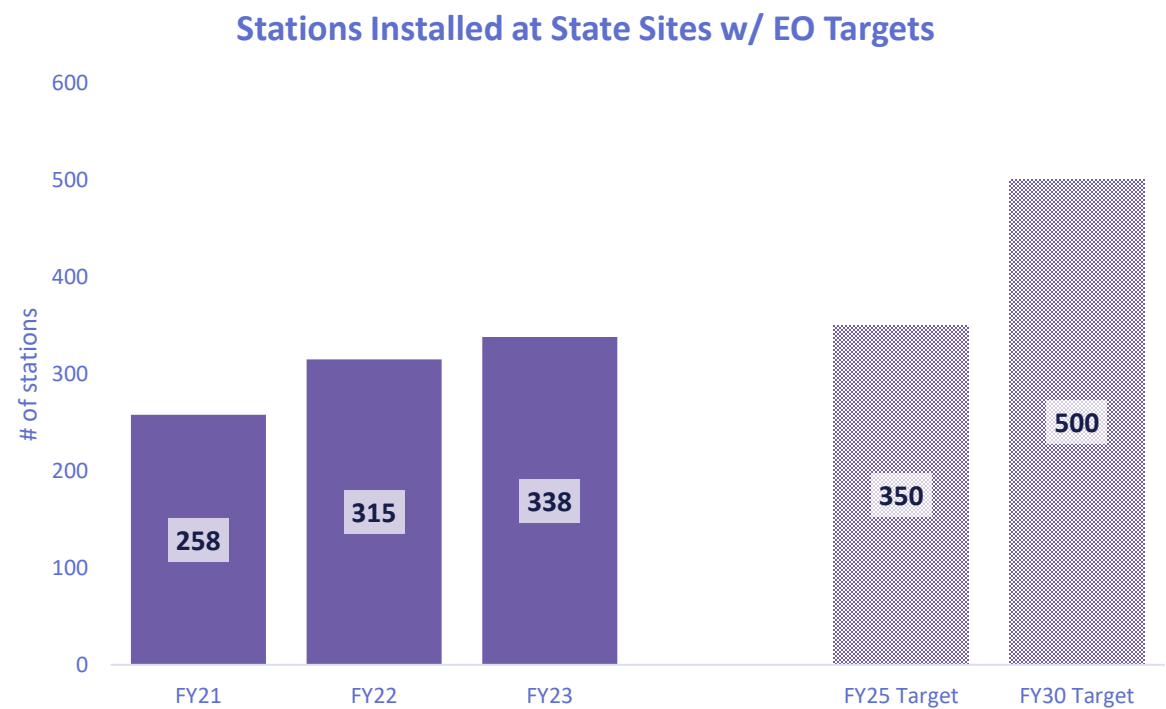
As of FY23, **about 2.6% of the state fleet is electric**. This includes battery electric and plug-in hybrid vehicles, as well as electric neighborhood and utility vehicles. To meet the FY25 fleet electrification target set in EO594, the state fleet must transition about 224 additional vehicles to electric.

From FY22, the share of EVs in the state fleet grew by 78 vehicles or nearly 1% of the total fleet.

*ZEV (zero-emission vehicle) includes battery electric, plug-in hybrid electric, and neighborhood and utility electric vehicles

EO594 Target: EV Charging Deployment

Target: Reach 350 EV charging stations deployed at state sites in FY25 and 500 in FY30.

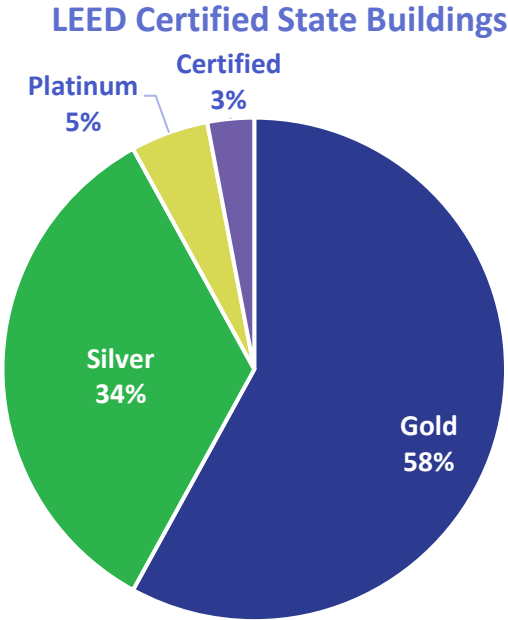


As of FY23, there are **338 active and installed EV charging stations** (603 charging ports) at state sites. To meet the FY25 target set in EO594, an additional 12 stations must be installed at state sites. Of the 603 ports, 72% are for public use, 15% for state fleet use, 12% for employee or student use, and about 1% for other or more restricted access uses.

From FY22, the number of EV stations increased by 23 stations or 7%.

EO594 Additional Progress

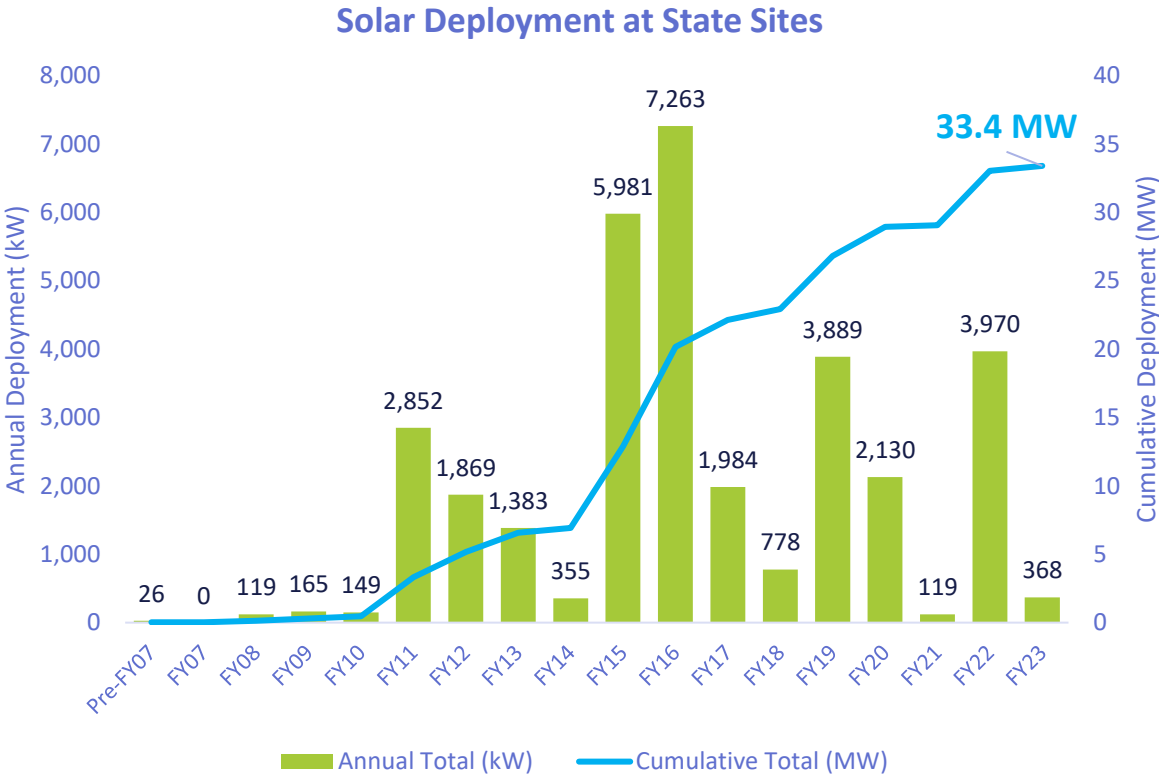
State LEED Buildings



As of FY23, there are **100 LEED certified buildings** in the state portfolio, accounting for over 12.1 million square feet of space. Of these 100 buildings, 63% are at the highest level of Platinum and Gold, 34% at silver, and 3% are certified. These LEED buildings are distributed across 37 entities and represent a variety of sectors, including transportation, higher education, public safety, and others.

In FY23, 3 state buildings became LEED certified (250,000 SF).

On-site Solar Deployment



As of FY23, there are 33.4 MW of solar capacity installed at state sites. Solar canopies make up over half of the capacity (57%) while rooftop PV systems account for 23% and ground-mounted systems for 20%.

LBE Key Accomplishments & LBE Awards

2023 LBE Awards Recipients by Category

Category	Award Recipients		
Agency	DCR Net Zero Task Force	Mass. Water Resources Authority	
Public Higher Education	Mass. Bay Community College		
Municipality	City of Lowell	Town of Windsor	
Individual	Suzanne Wood, UMass Chan Medical School	Hope Davis, DCAMM	Hank Haff, Town of Needham

Fleet EV Charging Development Grant



In FY23, LBE launched a new **Fleet EV Charging Deployment Grant** to accelerate the installation of charging for state fleet vehicles. The grant covers up to 100% of the cost of fleet EV charging installation including prepaid maintenance, warranty, and networking packages. This grant is designed to create a more streamlined funding structure for fleet EVSE.

LEED Certification Milestone



In FY23, Coburn Hall at UMass Lowell became the **100th LEED-certified building** in the state portfolio. Coburn Hall, which is a 74,500 square foot academic building, achieved LEED Silver and is the 8th LEED certified building at UMass Lowell. There are now over 12.1 million square feet in LEED certified space in the state building portfolio.