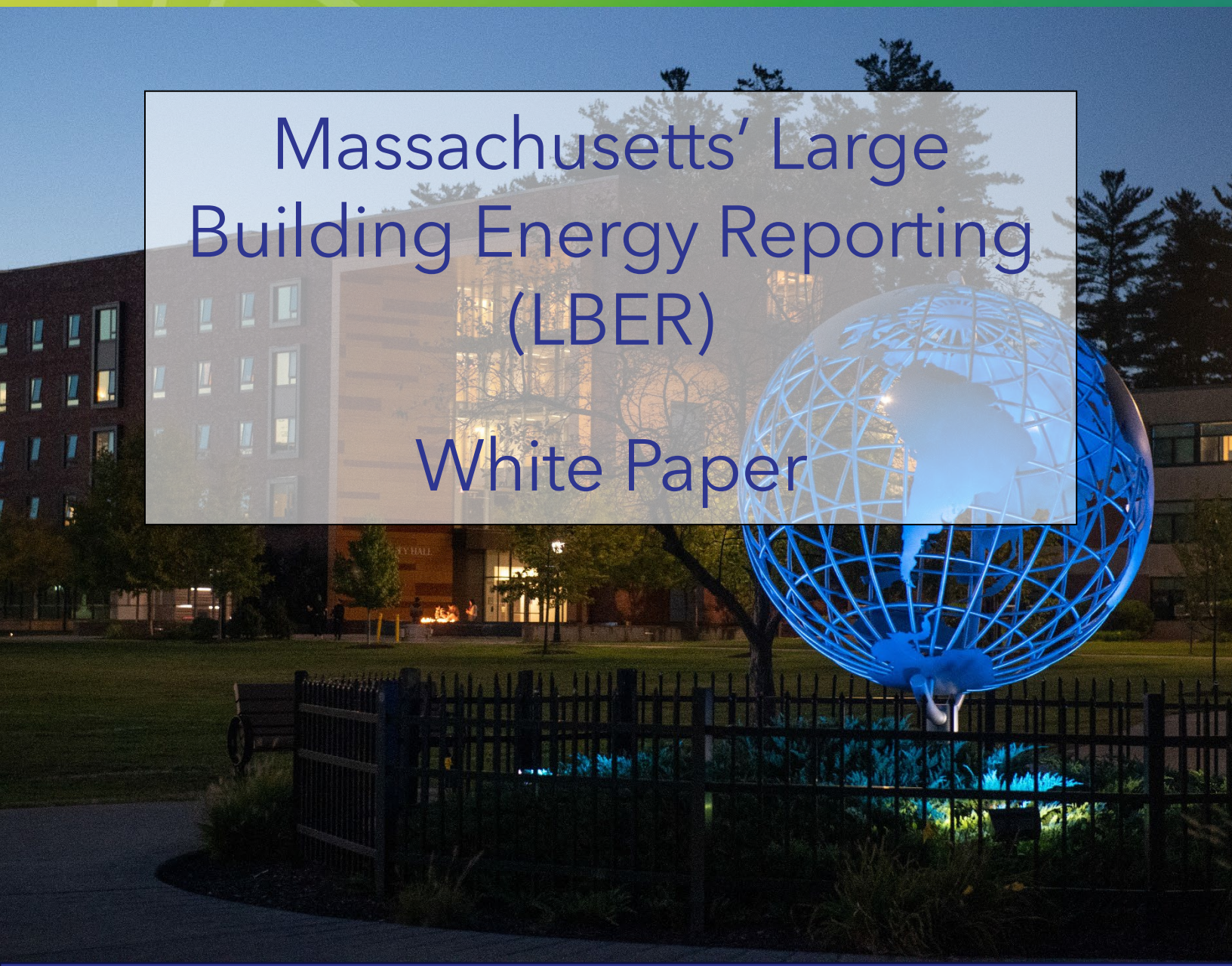

Massachusetts' Large Building Energy Reporting (LBER)

White Paper

Prepared by the

Massachusetts Department of Energy Resources

with Consultant Support

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Executive Summary

33,626

Buildings were identified for inclusion on the Covered Buildings List for 2024

2,694,484,037 Square Feet

Total Gross Floor Area of the buildings identified for inclusion on the Covered Buildings List for 2024

14,480

Buildings with full or partial benchmarking data being reported to the LBER program as of 11/17/2025

1,278,772,251 Square Feet

Total Gross Floor Area of the buildings with full or partial data being reported to the LBER program as of 11/17/2025

The Massachusetts Department of Energy Resources (DOER) launched the Large Building Energy Reporting program (LBER) in 2025 to provide the Commonwealth with its first statewide picture of how Large Buildings[1] use energy. The program, created by *An Act Driving Clean Energy and Offshore Wind* (The Acts of 2022, ch. 179, § 41), requires the disclosure of Energy Usage data for buildings greater than or equal to 20,000 square feet on an annual basis.

DOER published its Covered Buildings List on March 31, 2025. This list identified the Buildings subject to LBER reporting requirements and included over 34,000 Buildings with a combined Gross Floor Area of nearly 2.7 billion square feet.

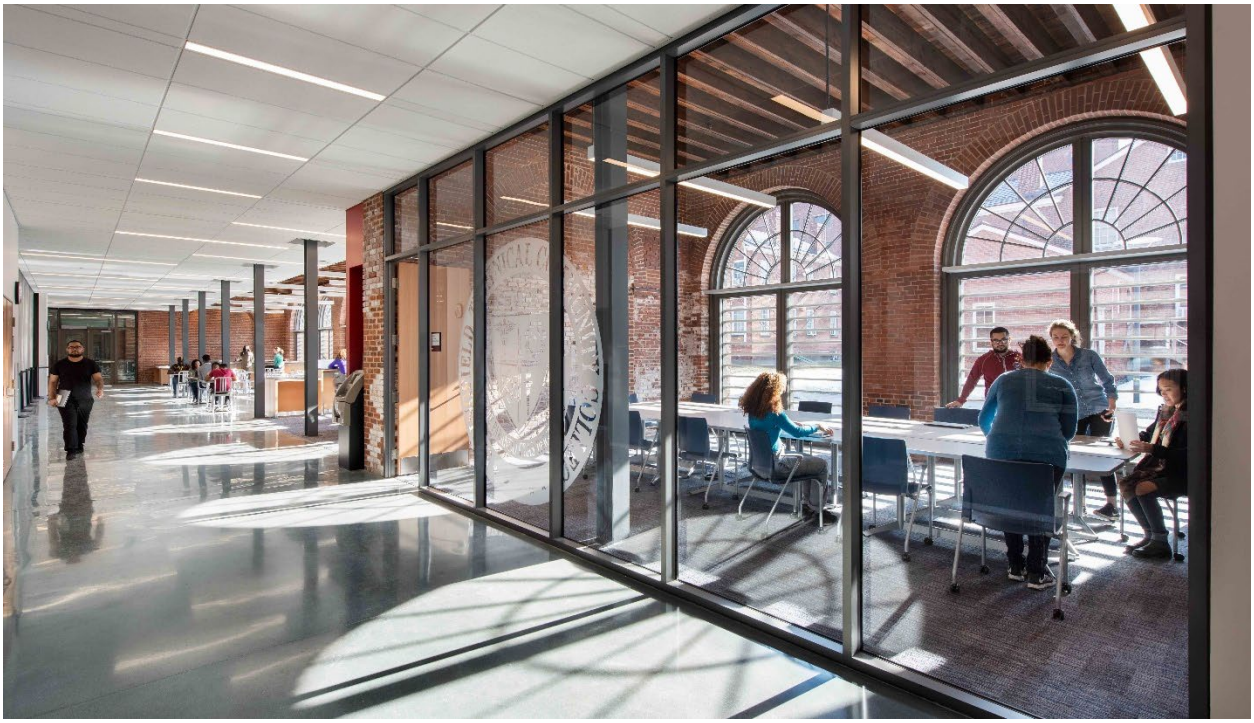
Using an innovative approach to benchmarking Energy Usage, utilities provide most of the Energy Usage data for LBER directly to DOER, greatly reducing the administrative burden for Building Owners and increasing the accuracy of the data.

[1] Capitalized terms are defined in DOER LBER regulation, 225 CMR 27.00, available at: https://www.mass.gov/doc/building-energy-reporting-final-regulation-225-cmr-2700-clean/download.

A statewide benchmarking policy also provides municipalities with access to local Large Building data without having to set up their own municipal benchmarking program, saving municipal resources and simplifying compliance for Building Owners with Large Buildings in multiple municipalities. The first year of the program concluded with the collection of significant data and an initial picture of Building Energy Usage. DOER expected data completeness and accuracy issues in the first year of data collection and identified several challenges to work through in future reporting cycles. For example, utility companies could not match all Buildings on the Covered Buildings List to their meter records, many Building Owners did not claim their Buildings, and many Building Owners' self-reported data contained errors. DOER will expand outreach to Building Owners, work closely with utilities, develop resources for buildings in MLPs, and continue to refine the Covered Buildings List on an ongoing basis to improve the accuracy and completeness of the dataset in each year going forward.

Introduction

Image 2: Springfield Technical Community College (see attached) of their Robenzahl Student Learning Commons (Building 19), achieved a USGBC LEED for New Construction Silver rating. Photo credit: Springfield Technical Community College.



Purpose of this Report

This white paper details how DOER implemented a novel model for large scale energy benchmarking that relies primarily on utility-submitted data. It also provides the framework used in the first year of implementation to provide a starting point for future public conversations about program improvements. Finally, it provides a comprehensive accounting of public resources to help Large Buildings reduce their Energy Usage and occupant costs.

This report answers five questions, including:

- What data did DOER receive?
- What insight does the received data provide about Massachusetts' building stock?
- What data is missing?
- What will DOER do to improve the data set in the future?
- What resources are currently available to reduce Energy used by Large Buildings?

In addressing these questions, the report offers a first statewide look at the energy performance of Large Buildings in Massachusetts, a sector that is central to achieving the Commonwealth's climate goals and contributing towards reducing electric system costs. "Large Buildings" are defined by the program as those with a Gross Floor Area meeting or exceeding 20,000 square feet, and the data submitted reflects reported energy and emissions performance for a diverse cross-section of commercial, industrial, institutional, and multifamily buildings.

Benchmarking reports can be valuable tools for a variety of audiences. Policymakers use them to understand patterns across the building sector, identify opportunities for efficiency gains, and shape future programs and standards. Building owners and operators can see how their properties compare to statewide peers, highlighting both strengths and areas for improvement. Building tenants can access more accurate information about the operating costs associated with their lease, shrinking the historical information gap in lease markets. Utilities and energy efficiency program administrators, like through Mass Save, can better target technical assistance and incentive programs. The public benefits from increased transparency to help ensure that the building sector is contributing meaningfully towards the Commonwealth's climate, energy, and affordability goals.

At the same time, this report acknowledges the limitations of the first year of data. Some Building Owners did not claim their Buildings, and utilities and building owners did not provide data for all Covered Buildings. These shortcomings are expected in the early years of benchmarking programs. DOER will use the lessons learned from this reporting cycle to improve data quality and completeness in 2026 and beyond, making the dataset over time a reliable foundation for long-term policy, investment, and research.

Large Building Energy Reporting Law

In 2022, the Massachusetts' General Court passed *An Act Driving Clean Energy and Offshore Wind* (The Acts of 2022, ch.179) (Act) created LBER, which is codified at M.G.L ch. 25A §20. This law requires the annual disclosure of Energy Usage data for Buildings greater than or equal to 20,000 square feet (Covered Buildings) starting in 2025.

The Act requires electric, gas, and steam utilities to report Energy Usage data on behalf of Covered Buildings. It requires Building Owners or agents of Covered Buildings to report usage of additional energy sources such as oil, propane, wood, and on-site renewable energy generation.

DOER published its LBER regulation, 225 CMR 27.00, on February 28, 2025.

Why Benchmarking Matters

LBER is an example of a building energy benchmarking program. Energy benchmarking is defined by the ENERGY STAR program as a process to "measure and compare your building's energy to similar buildings, past consumption, or a reference performance level."[2]

By translating raw utility data into meaningful information, benchmarking helps building owners and stakeholders identify opportunities to improve efficiency, reduce costs, enhance occupant comfort, and reduce environmental impact. Specifically, benchmarking building energy use can help building owners and stakeholders:

- **Understand how their building uses energy**

  Benchmarking translates raw utility data into actionable insights. By tracking energy usage over time, building owners can identify patterns, spot anomalies, compare performance with similar buildings, and identify opportunities for improvement[3]

- **Improve affordability through lower operating costs**

  Reducing energy usage lowers utility bills, which makes more room in a building's budget for other operating or capital expenses. Tenants can also benefit from lower costs, which makes leased spaces more affordable.[4]

- **Increase occupant comfort and improve indoor air quality**

  Energy efficiency isn't only about cost savings. It also enhances the experience of building occupants. Improved ventilation, lighting, and insulation contribute to better comfort, air quality, and productivity.[5]

- **Strengthen a building's marketability and tenant appeal**

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[2] "Benchmark Your Building with Portfolio Manager," ENERGY STAR, U.S. Environmental Protection Agency, accessed September 12, 2025, https://www.energystar.gov/buildings/benchmark
[3] Zachary Hart, *The Benefits of Benchmarking Building Performance* (Institute for Market Transformation and Pacific Coast Collaborative, 2015), 6-7.
[4] Hart, *The Benefits of Benchmarking*, 10.
[5] Hart, *The Benefits of Benchmarking*, 18-19

Benchmarking provides transparent, comparable data on energy performance. This visibility helps tenants and buyers identify efficient spaces and may lead to lower vacancies and improved tenant retention.[6]

- **Manage risk and make sound investment and lending decisions**

  Lenders and investors recognize that efficient buildings have lower operating costs and reduced exposure to energy price volatility. Benchmarking provides standardized data that helps to inform underwriting and investment decisions and can help manage the risks associated with shifting to a lower-carbon future.[7]

- **Reduce their building's carbon footprint**

  Benchmarking quantifies and tracks a building's carbon footprint over time and helps building owners identify opportunities to contribute to the Commonwealth's climate goals.[8]

Why a Statewide Policy Matters

Massachusetts is a long-time leader in building energy benchmarking and disclosure. As there is growing interest among municipalities in adopting benchmarking policies, the consistent, statewide approach of LBER will bring consistency and clarity to Building Owners.

Boston was one of the earliest jurisdictions to adopt a benchmarking policy, launching its Building Energy Reporting and Disclosure Ordinance (BERDO) in 2013, which required large buildings[9] in the city to report energy usage annually and provided baseline data for emissions performance targets in place for 2025 under BERDO 2.0.

Cambridge followed in 2014 with its Building Energy Use and Disclosure Ordinance (BEUDO), which mandated annual energy and water usage reporting for large

[6] Hart, *The Benefits of Benchmarking*, 10-11.
[7] Hart, *The Benefits of Benchmarking*, 12.
[8] Hart, *The Benefits of Benchmarking*, 18.
[9] BERDO covers any tax parcel with non-residential buildings totaling 20,000 or more square feet and multifamily buildings with 15 units or more.

buildings.[10] Cambridge also later required certain large buildings to meet an emissions-reduction performance standard beginning in 2026.

In addition, other municipalities pursuing benchmarking or building performance standards include Lexington, Chelsea, and Newton, contributing to a patchwork of thresholds, scopes, and metrics.

While these efforts successfully advance energy transparency and building performance, they also create complexity for Building Owners and operators managing properties across multiple jurisdictions. The Commonwealth's LBER program establishes a single, consistent, and semi-automated statewide reporting standard that may relieve the need for municipalities to establish their own benchmarking processes, simplifying compliance for Building Owners while providing all stakeholders with reliable, uniform data to guide future decarbonization efforts.

The LBER program uniformly collects data that will allow cities and towns across the Commonwealth to focus their resources on designing targeted programs and policies that further improve energy efficiency and affordability.

[10] BEUDO covers any non-residential building totaling 25,000 or more square feet and multifamily buildings with 50 units or more.

Who Reported

Image 3: LBER Covered Building, the Stone Mill Lofts in Lawrence, was one of the first all-electric mixed-income multifamily properties in Massachusetts. Photo credit: Gregg Shupe, Shupe Studios.

Covered Buildings

The Covered Buildings List identifies the Buildings subject to LBER reporting requirements and is intended to capture all Buildings in the Commonwealth that have a Gross Floor Area of at least 20,000 square feet. DOER's vendor partner, ClearlyEnergy, created the January draft 2025 Covered Buildings List for the LBER program using a variety of public data sources, including tax assessor data and MassGIS files to estimate location and building footprint and public LiDAR databases to estimate building height.

To ensure all qualifying Buildings were captured, DOER and ClearlyEnergy included Buildings on the draft Covered Buildings List estimated to have a Gross Floor Area of 19,000 square feet or larger.

After releasing the draft list and allowing Building Owners to update and supplement the draft data, DOER published the final 2025 Covered Buildings List on March 31,

2025. The Covered Buildings List contained the address of each Building covered under the LBER regulation, along with the Building Owner's name, the Building Gross Floor Area, and the building's Unique Building Identifier (UBID). UBIDs encode a building's geographic footprint and location using a methodology developed by the U.S. Department of Energy's Pacific Northwest National Laboratory.[11]

After publication of the Covered Buildings List, DOER mailed a notice to each Building Owner of record informing them that they have a Building on the Covered Buildings List.[12] This notice requested that Building Owners claim their Buildings with DOER, establish a point of contact for the program, select a reporting method (automated or self-reporting), and notify DOER of the presence of delivered fuels or on-site generation. The notice also provided instructions for accessing additional program resources and educational materials. DOER sent a second letter in April to Buildings that were not claimed as of March 30, 2025.

DOER mailed 34,074 total letters to building owners. The U.S. Postal Service returned approximately 3,500 letters to DOER as undeliverable and has continued to return undeliverable letters through the date of this publication.

DOER's website also provided instructions for Building Owners to request updates to their Building's information in the event of an error or to dispute their Building's inclusion on the Covered Buildings List (for example, if its Gross Floor Area is under 20,000 square feet). If a Building Owner confirmed that their Building was under the 20,000 square foot threshold, DOER removed the building from the Covered Buildings List.

DOER did not exempt any Building use types (e.g., parking structures, agricultural buildings) for this reporting cycle; however, the regulations allow Building Owners to request an exemption for their Buildings for the following situations:

1. The Building was vacant for a full calendar year
2. The Building was demolished during the previous calendar year
3. The Building was vacant for more than 50% of the year due to natural causes, including but not limited to fire, floor, and wind damage

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[11] "Unique Building Identification," Pacific Northwest National Laboratory, accessed September 12, 2025 https://www.pnnl.gov/unique-building-identification

[12] An illustrative sample of the notice sent to entities on the Covered Buildings List. Notices were sent in batches and edited for specific building configurations. Therefore, an individual notice may look different than the posted sample.

4. The Building Owner has filed or been dissolved in bankruptcy
5. Other unique or unforeseen circumstances that warrant an exclusion as determined by the Department from the Building Energy Reporting Requirement

Reporting Requirements

The LBER law requires utilities to report Energy Usage data for the Covered Buildings in their service territories. DOER and ClearlyEnergy provided utility companies with the Covered Buildings List and a data template to report monthly Energy Usage data for each UBID in their respective territory.

LBER requires Building Owners to report their Buildings' Energy Usage data for delivered fuels and on-site generation using ENERGY STAR Portfolio Manager. Building Owners can also optionally choose to report their natural gas and electricity usage through ENERGY STAR Portfolio Manager rather than have the utility company report on their behalf. Building Owners tended to choose this option if they were already providing their Buildings' energy use for another benchmarking program (e.g., BERDO/BEUDO, sustainability reports for investors, etc.).

Building Owners self-identified whether they have delivered fuels or on-site generation to report when they claimed their building. Owners also indicated whether they wanted utility companies to provide their Energy Usage data, the "Automated Option," or if they wanted to self-report this data, the "Self-Reported Option." Building Owners who chose the "Automated Option" could request access to utility-provided data through ENERGY STAR Portfolio Manager for their own benchmarking purposes.

BERDO and BEUDO

For Buildings subject to both LBER and BERDO in Boston or BEUDO in Cambridge, DOER accepted compliance with either ordinance as compliance with LBER. DOER did not require any additional reporting for these Buildings under the LBER program. The Cities of Boston and Cambridge shared energy usage data collected under their ordinances with DOER for inclusion in the LBER database.

Data Collected

Program Overview

Table11: Number of Covered Buildings and claimed[13] Buildings by ENERGY STAR Portfolio Manager Building Category

Building Type	Count of Covered Buildings	Count of Buildings Claimed
Banking/financial services	73	47
Education	3,432	2,111
Entertainment/public assembly	898	354
Food sales and service	150	51
Healthcare	719	422
Lodging/residential	9,016	3,076
Manufacturing/industrial	2,519	1,105
Mixed use	328	143
Office	3,184	1,798
Other[14]	6,124	1,140
Parking	162	65
Public services	809	474
Religious worship	601	313
Retail	2,266	871
Services	304	161
Technology/science	568	322
Utility	127	108
Warehouse/storage	2,346	912
Total	33,626	13,473

[13] Considered one measurement of engagement with LBER, a building is considered "claimed" when a Building Owner provides their contact information and optionally confirms their reporting method for the LBER program and providing contact information to DOER, typically done by completing a Claim My Building Form on the LBER Help Desk.
[14] The "Other" Building Category follows Energy Star Portfolio Manager's guidance for Property Types.

Table 2: Gross Floor Area (GFA) of Covered Buildings by ENERGY STAR Portfolio Manager Building Category

Building Type	Total GFA (Square Feet)	Average GFA (Square Feet)
Banking/financial services	5,787,094	79,275
Education	338,435,369	98,813
Entertainment/public assembly	52,536,584	58,504
Food sales and service	7,278,550	48,524
Healthcare	66,173,579	92,036
Lodging/residential	611,511,653	67,825
Manufacturing/industrial	204,360,419	81,128
Mixed use	24,228,657	74,321
Office	306,122,510	96,265
Other	447,336,081	74,001
Parking	24,492,518	151,188
Public services	48,994,122	60,787
Religious worship	20,530,048	34,160
Retail	176,768,717	78,009
Services	12,271,916	40,368
Technology/science	71,683,591	126,204
Utility	13,729,756	108,108
Warehouse/storage	262,242,875	111,974
Total	2,694,484,037	80,368

Energy Usage

Table 3: Annual Electricity Used by ENERGY STAR Portfolio Manager Building Category[15]

Based on the subset of Buildings that Building Owners claimed and brought into compliance with the LBER program

Building Type	Total Annual Electricity Used (kBtu)	Average Annual Electricity Used (kBtu)
Banking/financial services	125,117,377	3,208,138
Education	2,051,931,063	1,194,372
Entertainment/public assembly	313,955,006	837,213
Food sales and service	39,047,041	534,891
Healthcare	2,267,854,715	6,406,369
Lodging/residential	2,778,755,828	765,708
Manufacturing/industrial	3,371,589,014	3,315,230
Mixed use	604,967,078	4,958,747
Office	3,545,468,450	2,358,928
Other	2,371,528,429	1,167,665
Parking	61,934,571	998,945
Public services	403,033,475	901,641
Religious worship	40,034,955	127,500
Retail	1,725,624,159	1,560,239
Services	31,507,260	302,954
Technology/science	3,594,757,726	9,985,438
Utility	670,861,212	13,154,141
Warehouse/storage	878,309,563	736,219
Total	24,876,276,921	1,715,842

[15] Electricity usage is reported in kBtu to standardize the measurement with other energy sources. 1 kBtu is equal to .293071 kWh.

Table 4: Annual Natural Gas Used by ENERGY STAR Portfolio Manager Building Category

Based on the subset of Buildings that building owners claimed and brought into compliance with the LBER program

Building Type	Total Annual Natural Gas Used (kBtu)	Average Annual Natural Gas Used (kBtu)
Banking/financial services	61,120,581	2,350,792
Education	3,693,481,699	2,933,663
Entertainment/public assembly	573,616,643	2,197,765
Food sales and service	197,896,174	3,957,923
Healthcare	2,896,355,793	11,402,976
Lodging/residential	7,221,045,572	2,733,174
Manufacturing/industrial	4,268,590,319	6,680,110
Mixed use	531,852,139	6,407,857
Office	4,649,381,267	4,369,719
Other	3,375,582,362	2,347,415
Parking	119,593,128	3,737,285
Public services	614,442,944	1,920,134
Religious worship	153,239,688	736,729
Retail	1,855,643,398	2,224,992
Services	48,137,694	776,414
Technology/science	2,792,776,879	11,399,089
Utility	738,805,807	26,385,922
Warehouse/storage	899,353,693	1,194,361
Total	34,690,915,780	3,401,737

Table 5: Annual District Steam Usage by ENERGY STAR Portfolio Manager Building Category

Based on data that the cities of Boston and Cambridge forwarded for Buildings in compliance with BERDO and BEUDO

Building Type	Total Annual District Steam Used (kBtu)	Average Annual District Steam Used (kBtu)
Banking/financial services	0	0
Education	1,451,770,469	10,296,244
Entertainment/public assembly	53,199,139	2,659,957
Food sales and service	2,887,590	2,887,590
Healthcare	2,466,300,783	117,442,894
Lodging/residential	96,077,286,995	1,746,859,764
Manufacturing/industrial	42,335,657	42,335,657
Mixed use	27,743,679	13,871,839
Office	586,702,646	9,167,229
Other	1,294,772,815	31,579,825
Parking	51,321,673	17,107,224
Public services	24,328,557	4,054,760
Religious worship	4,169,478	1,389,826
Retail	9,362,739	9,362,739
Services	9,326,510	9,326,510
Technology/science	818,856,904	37,220,768
Utility	0	0
Warehouse/storage	0	0
Total	102,920,365,634	269,425,041

Table 6: Annual Delivered Fuel Usage[16]

Fuel Type	Buildings Using Fuel Count	Total Annual Fuel Usage (kBtu)
Fuel Oil #1	11	22,533,261
Fuel Oil #2	256	582,944,037
Fuel Oil #4	11	22,195,752
Fuel Oil # 5 & 6	4	5,830,140
Diesel	135	63,228,634
Kerosene	0	0
Propane	106	171,955,111
Coal – Bituminous Use	0	0
Coal – Anthracite Use	0	0
Coke Use	0	0
Wood Use	2	181,564,439
Other Use	0	0

Table 7: Annual On-site Renewables Usage

Generation Type	Buildings Using On-site Renewables Count	Annual Renewables Usage (kBtu)
On-site Renewables	261	258,681,349

[16] The "Count" noted in these tables refers to the number of buildings with reported energy usage from the noted fuel type. Buildings may use one or more of the listed fuel types and DOER may need to identify additional buildings that use these sources.

Table 8: Average Site EUI (Energy Use Intensity) by ENERGY STAR Portfolio Manager Building Category [17]

Site EUI is a metric that indicates a building's annual energy usage relative to its size. The average is based on buildings with enough data to generate a metric. In some cases, buildings had less than 12 months of energy usage data reported.

Building Type	Average Site EUI (kBtu/ft^2)
Banking/financial services	59
Education	66
Entertainment/public assembly	50
Food sales and service	102
Healthcare	92
Lodging/residential	151
Manufacturing/industrial	99
Mixed use	70
Office	51
Other	49
Parking	160
Public services	66
Religious worship	22
Retail	54
Services	25
Technology/science	377
Utility	399
Warehouse/storage	23
Portfolio-Level EUI	90

Data Completeness

Table 9: Self-Managed Building Owner Reporting Rate by ENERGY STAR Portfolio Manager Building Category

Self-Managed Reporting is when a Building Owner, Designated Building Owner, or Reporting Entity enters Energy Usage data directly into ENERGY STAR Portfolio Manager and shares that data with DOER.

Building Type	Count of Fully Self-Managed Buildings	Count of Fully Self-Managed Buildings with Complete Reporting
Banking/financial services	8	4
Education	827	526
Entertainment/public assembly	119	80
Food sales and service	9	6
Healthcare	134	72
Lodging/residential	1,292	938
Manufacturing/industrial	96	41
Mixed use	33	24
Office	529	409
Parking	1,317	729
Public services	39	31
Religious worship	138	89
Retail	37	25
Technology/service	153	119
Services	22	12
Utility	221	185
Warehouse/storage	21	15
Other	100	50
Total	5,095	3,355

Table 10: Utility-Provided Data Match Rate by ENERGY STAR Portfolio Manager Building Category

A measurement of how many Buildings utility Distribution Companies could match to their records, resulting in utility companies submitting Energy Usage data to DOER

Building Type	Count of buildings that DOER sent to utilities for reporting	Count of Buildings with Electricity Data Matched	Count of Buildings with Natural Gas Data Matched	Count of Buildings with Both Electricity and Natural Gas
Banking/financial services	65	43	41	31
Education	2,600	1,267	1,228	750
Entertainment/public assembly	779	401	335	209
Food sales and service	141	85	70	52
Healthcare	584	361	350	245
Lodging/residential	7,721	4,470	3,715	2,715
Manufacturing/industrial	2,422	1,269	1,297	827
Mixed use	295	171	177	125
Office	2,652	1,551	1,395	946
Parking	4,807	1,990	1,998	1,249
Public services	123	49	44	23
Religious worship	669	391	358	250
Retail	564	340	296	205
Technology/service	2,113	1,253	1,187	819
Services	282	145	141	88
Utility	346	223	190	121
Warehouse/storage	106	46	44	25
Other	2,246	1,244	1,223	778
Total	28,515	15,299	14,089	9,458

Average ENERGY STAR Score

The ENERGY STAR Score is a benchmarking tool that rates a building's energy performance on a scale from 1 to 100, rating the building's energy efficiency relative to similar buildings across the United States. A score of 50 indicates median performance, with higher scores indicating better performance. Buildings which earn

a score of 75 or higher may be eligible for recognition with an ENERGY STAR building certification.[18]

Table 11: Average ENERGY STAR Scores by ENERGY STAR Portfolio Manager Building Category

Based on the subset of Buildings that Building Owners claimed and brought into compliance with the LBER program

Building Type	Buildings with ENERGY STAR Score Count	Average ENERGY STAR Score
Banking/financial services	13	71
Education	244	54
Entertainment/public assembly	7	38
Food sales and service	2	51
Healthcare	77	49
Lodging/residential	1,033	62
Manufacturing/industrial	44	70
Mixed use	9	61
Office	450	62
Other	470	71
Parking	6	80
Public services	14	19
Religious worship	28	52
Retail	269	51
Services	2	66
Technology/science	23	36
Utility	0	
Warehouse/storage	125	46
Total	2,816	60

[18] "How the 1-100 ENERGY STAR Score is Calculated," ENERGY STAR, U.S. Environmental Protection Agency, accessed September 12, 2025, https://www.energystar.gov/buildings/benchmark/understand-metrics/how-score-calculated

Data Quality

Image 5: Rivermark Cambridge Housing Authority apartment complex in Cambridge, MA. The renovation of the Rivermark was complete in 2023 and received Zero Carbon Planning funding from the Local Initiatives Support Corporation (LISC). Photo Credit: Richard Mandelkorn.

Summary

DOER strives to collect and report quality data through LBER, recognizing that challenges exist in the first years of a benchmarking program. The LBER statutory provision requiring utility companies to provide Energy Usage directly to DOER is unique among other benchmarking programs in the United States and may lead to more accurate reports compared to alternative methods of benchmarking because it reduces the amount of manual data entry required of building owners. DOER also sought quality data through outreach to owners, claimed building reporting by owners, and use of resources such as assessors' data, MassGIS, LiDAR, and other public geospatial data resources.

Identified data quality issues from the first year of reporting include gaps in data from utility companies, unverified meter aggregations from utility companies, estimated and unverified building sizes, errors in self-reported energy data, qualifying Buildings missing from the Covered Buildings List, and unknowns resulting from unclaimed Buildings, as further described below.

Data Gaps

The LBER program relies predominantly on Energy Usage data from utility companies for the Buildings they supply. There were numerous instances where investor-owned utility companies were unable to match their records with Buildings on the Covered Buildings List, resulting in a significant number of Buildings with missing data. DOER will work with the investor-owned utility companies and Building Owners to improve the number of matched Buildings in future reporting cycles.

DOER granted a request from the MLPs to waive the reporting requirements for MLPs for Compliance Year 2025. As a result, DOER received limited 2025 LBER data from Municipal Light Plant (MLP) service areas, with some building owners in MLP territories self-reporting their building usage as of October 31, 2025. DOER is working with the MLPs to determine the most effective method for DOER to collect Energy Usage for Large Buildings in MLP service territories. Building Owners in MLP territory should work with their MLPs to self-report 2025 LBER data after the October 2025 results publication.

Unverified Meter Aggregations

225 CMR 27.00 requires utilities to submit meter level data for Covered Buildings. This requirement is intended to allow greater transparency into the matching of meters with each UBID and allow Building Owners the ability to identify meters that are either missing from or incorrectly attributed to their Covered Building.

225 CMR 27.00 allows utilities to request to provide aggregated whole-building energy if it is not possible or practicable to provide meter level data. For Compliance Year 2025, the investor-owned utilities requested to submit aggregated whole-building energy, citing Department of Public Utilities precedent requiring customer consent to provide non-aggregated customer information to a public agency. DOER granted this request for Compliance Year 2025.

As a result, meters associated with each UBID are not verifiable, creating potential for errors such as missing meters or meters being incorrectly attributed to Buildings. Meter level data would provide a more transparent dataset.

Estimated and Unverified Building Sizes

ClearlyEnergy primarily used assessor data to determine a Building's size and therefore its inclusion or exclusion on the Covered Buildings List. Some Building Owners have reported that the Covered Buildings List contained incorrect size estimates, likely due to inaccuracies in the assessor's data.

In addition, the LBER program threshold is based on Gross Floor Area, but assessor's data often listed "livable area" or "residential area," which could exclude common area hallways, basements, stairwells, or other spaces included in Gross Floor Area.

Where multiple Buildings exist on a single tax lot, DOER may have attributed the parcel's cumulative Gross Floor Area to each individual Building. This approach can overstate an individual Building's size and may result in placing some Buildings on the Covered Buildings List that would not otherwise meet the 20,000 SF threshold.

In cases where assessor's data was not available, ClearlyEnergy used a combination of MassGIS, LiDAR, and other public geospatial data resources to estimate a Building's Gross Floor Area based on its elevation and footprint. As these are estimates, the actual Gross Floor Area of some Buildings on the Covered Buildings List varied from the estimate.

Building Owners had an opportunity to submit corrections to their Buildings' Gross Floor Area prior to the publication of the final Covered Buildings List. DOER will again conduct outreach to Building Owners to improve the accuracy of the list.

Self-Reported Data Errors

Building Owners are required to self-report their energy-use data when reporting delivered fuels and on-site generation and may they choose to self-report their

electric, gas, and steam usage.[19] Self-reported data is not verified by a third party but is subject to internal data quality checks.

Because LBER is in its first year and many Massachusetts Building Owners benchmarked their Buildings for the first time, DOER identified several opportunities to improve the completeness and accuracy of data self-reported in ENERGY STAR Portfolio Manager. These insights will help DOER target efforts to support these improvements in future years.

Qualifying Buildings Missing from the Covered Buildings List

DOER and ClearlyEnergy determined building sizes using publicly available assessor data, LiDAR measurements, and other publicly available geospatial datasets. At times, this process may have missed Buildings that are potentially over 20,000 square feet in Gross Floor Area. DOER will work to identify missed Buildings in subsequent years, and Building Owners have an ongoing opportunity to submit their Building for addition to the Covered Buildings List through the LBER Help Desk.

Unknowns Related to Unclaimed Buildings

DOER sought to contact all Building Owners on the draft Covered Buildings List, but the U.S. Postal Service returned a significant number of letters as undeliverable, and not all Building Owners claimed their Buildings as requested. Utility companies may still provide Energy Usage data for Buildings that owners did not claim, however there may be delivered fuels or on-site generation at these Buildings which are not being reported, and there may be greater potential for unresolved errors in the Gross Floor Area for unclaimed buildings.

DOER will continue outreach to building owners with the goal of increasing the number of claimed Buildings in the next reporting period.

[19] Other Massachusetts benchmarking programs include BERDO in Boston, BEUDO in Cambridge, MassEnergyInsight and CommonwealthEnergyInsight for public buildings. Other Large Building owners may benchmark their buildings for reasons besides local laws, including to quantify sustainability efforts for investors.

Emissions

Image 4: LBER Covered Building, Martha's Vineyard Hospital, earned a Mass Save Climate Leader Award in 2024 for its ongoing investments in energy efficiency, including HVAC and lighting upgrades that have reduced energy use and greenhouse gas emissions. Photo credit: Martha's Vineyard Hospital.

Emissions Factors

DOER chose to use the statewide retail sellers of electricity emissions factors from MassDEP to ensure the most consistent possible reporting of emissions for the Commonwealth's reporting on its progress toward mandated emissions limits.[20] LBER uses one statewide average number for non-biogenic electricity consumer retail level

[20] Please note that emissions reports in Boston's BERDO program, Cambridge's BEUDO program, or other benchmarking programs, may differ from the emissions reported in LBER due to the difference in emissions factors.

emissions.[21] The Commonwealth used the following sources for non-electric LBER emission factors:[22]

- Fossil fuel emissions factors sourced from ENERGY STAR Portfolio Manager;
- District energy source emissions were estimated from ENERGY STAR Portfolio Manager factors, generally choosing the highest emissions factor when there were a variety of technologies or vendors available[23];
- Biomass emissions factor sourced from 40 CFR Part 98 Subpart C.

Table 12: LBER Emissions Factors List

Fuel Type	$MTCO_2e$
Statewide average electricity	459 lb CO2e/Retail MWh
Natural gas	53.11 kg/mmBtu
Propane	64.25 kg/mmBtu
Fuel Oil (no. 1)	73.50 kg/mmBtu
Fuel Oil (no. 2)	74.21 kg/mmBtu
Fuel Oil (no. 4)	75.29 kg/mmBtu
Fuel Oil (no. 5,6)	75.35 kg/mmBtu
Diesel Oil	74.21 kg/mmBtu
Kerosene	77.69 kg/mmBtu
Biomass	93.8 kg/mmBtu
District Steam	66.4 kg/mmBtu
District Chilled Water	73.89 kg/mmBtu
District Hot Water	66.4 kg/mmBtu

[21] Based on DEP's preliminary 2023 reports from reporting under 310 CMR 7.75. DOER can update emissions factors online when actual 2024 emissions have been reported in 2026.
[22] DOER may issue a Methodology for Calculating Greenhouse Gas Emissions Guideline which could retroactively modify the emissions factors listed here for the historical record. DOER shall take appropriate steps to ensure any such modifications are accounted for and highlighted in previously reported data.

Emissions by Building Type

Table 13: Total GHG Emissions by ENERGY STAR Portfolio Manager Building Category

Based on the subset of Buildings that have been claimed and complied with the LBER program

Building Type	Total Annual GHG Emissions ($MTCO_2e$)	Average Annual GHG Emissions ($MTCO_2e$)
Banking/financial services	11,031	283
Education	656,755	384
Entertainment/public assembly	56,513	151
Food sales and service	13,236	181
Healthcare	522,133	1,475
Lodging/residential	7,003,188	1,934
Manufacturing/industrial	439,352	433
Mixed use	67,032	554
Office	512,489	342
Parking	437,334	216
Public services	13,756	222
Religious worship	60,703	136
Retail	11,613	37
Technology/service	259,982	235
Services	5,844	56
Utility	586,012	1,632
Warehouse/storage	93,465	1,833
Other	102,734	86
Total	10,853,172	750

Next Steps for LBER

Image 5: Dr. Martin Luther King, Jr. School fulfills its LBER obligation by reporting to the City of Cambridge BEUDO program. It is a high efficiency building with an on-site solar array, ground source heat pumps, and LEED Platinum certification.

Additional Policy Development

DOER published a draft Gross Floor Area Guideline and issued stakeholder questions on building exemptions for public comment on March 31, 2025. Upon review of the public comments, in light of the statutory deadline for publishing the first annual building database and this report, and considering the challenges DOER faced reaching affected stakeholders, DOER elected to delay the finalization of all guidelines. Now that DOER has accurate contact information for a significant subset

of Covered Building Owners, it can initiate a more meaningful public engagement process on this and other issues in future Compliance Years. DOER will notify Covered Building Owners by direct email and other stakeholders through DOER's LBER mailing list if it seeks additional public feedback.

Sign up for DOER's LBER mailing list or claim your building to receive notifications of public comment periods for Guidelines.

Additional Building Owner Outreach

Moving forward, DOER will work to reach the Building Owners who have not yet claimed their Buildings, including those whose mailed notices the U.S. Postal Service returned undeliverable, to improve the rate of engagement and compliance with the LBER program in future reporting cycles.

On an ongoing basis, DOER and ClearlyEnergy will engage Building Owners who have claimed their Buildings but have incomplete data for the current reporting cycle with a goal of improving data completeness.

DOER will make reasonable efforts, subject to available resources, to provide educational materials needed for Building Owners to understand and comply with the program in their requested language and accessible format. All communications will include a standing notice indicating that it contains vital information and should be translated or otherwise made accessible.

Additional Utility Company Outreach

Prior to the publication of the 2026 Covered Buildings List, DOER and ClearlyEnergy will work with the utility companies to improve the match rate between the Covered Buildings list and the utility company records.

Further Coordination with the Cities of Boston and Cambridge

DOER will continue to work with the Cities of Boston and Cambridge to make the LBER reporting process as seamless as possible for owners with Buildings already covered by these municipal ordinances. DOER will also invite Boston and Cambridge to engage in the public process about how LBER reports emissions to ensure further statewide consistency.

Coordination with Other Municipalities

DOER will provide technical assistance and share public LBER information as appropriate with other municipalities that have passed ordinances to implement local energy reporting or building performance ordinances.

Covered Buildings List Updates

DOER and ClearlyEnergy will continually process any updates submitted by Building Owners to update and improve the Covered Buildings List, including corrections to a Building's street address, Gross Floor Area, or owner information.

ClearlyEnergy will use publicly available resources to capture newly constructed or expanded Buildings and assign UBIDs to these Buildings for the next reporting cycle. DOER will publish the next Covered Buildings List on its website on March 31, 2026, and will notify building owners directly of their inclusion on the list in April 2026.

Resources for Managing Energy Use in Large Buildings

Image 5: University of Massachusetts Amherst built the Olver Design Building, which earned USGBC LEED Gold in 2018. Photo Credit: John Solem, UMass Amherst

As program benchmarks give owners a clear picture of how their Buildings perform, and Building Owners identify opportunities to cut waste, lower costs, and enhance comfort, DOER encourages Building Owners to make use of available resources. Massachusetts agencies and partner organizations offer a robust set of incentives, technical assistance, and tools to help Building Owners transform these insights into action and support energy and emissions management for Large Buildings.

Mass Save Programs for Multifamily Buildings

Mass Save for Market Rate Multifamily (5+ units) Properties

Integrating energy-saving solutions into a multifamily property can lead to long-term savings for the Building Owner and year-round comfort for tenants. Mass Save Programs for Market Rate Multifamily Properties are available to help Building Owners

afford energy management upgrades to existing property and to build energy efficient new properties. Mass Save also funds the Low Income Energy Affordability Network (LEAN) programs for low income multifamily retrofits and deep energy retrofits.

Mass Save Programs for Commercial and Industrial Buildings

Sector Specific Programming

Mass Save provides sector-specific support for energy efficiency for the following industries:

1. Data centers
2. K-12 Education
3. Food Service
4. Grocery Stores
5. Healthcare
6. Hospitality
7. Laboratories
8. Manufacturing
9. Municipalities
10. Offices
11. Property Management
12. Retail

Mass Save Programs for Existing Buildings

Facility Assessments

Mass Save provides energy efficiency consultants who assess all facility areas like insulation, heating and cooling equipment, lighting, and more. The consultant then identifies energy-saving opportunities, such as updating and controlling equipment for occupancy changes throughout the day.

Small Business Assessments

Assessments for businesses that use less than 1.5 million kWh in annual electric usage or less than 40,000 therms annually on natural gas bills. The program provides consultants who help small businesses discover energy-saving opportunities that can save money on overhead costs, increase profit margins, and boost the comfort of customers and employees.

Commercial Heat Pump Consultations

Consultants that help commercial customers understand how heat pumps and Variable Refrigerant Flow (VRF) systems work, find the best solution for a building or business, navigate the rebate process, and review and compare quotes.

Deep Energy Retrofit Program

Comprehensive resources to help commercial customers target and upgrade significant efficiency and greenhouse gas emissions reductions.

Equipment & System Performance Optimization (ESPO)

ESPO services help prolong the life of equipment and ensure building systems are performing at their best. Simply making equipment run as intended can significantly improve energy savings.

Business Financing

Business financing assistance to help customers and financial institutions facilitate the use of eligible customer incentive payments to defray or otherwise offset financing-related costs, such as interest, associated with loans for energy efficiency upgrades.

Mass Save New Construction and Major Renovation Programs

A suite of comprehensive incentives and technical support to help design a low carbon, energy-efficient building or renovation that is comfortable, durable, and less costly to operate.

Massachusetts Energy Efficiency Partnerships

Massachusetts Energy Efficiency Partnership (MAEEP) is supported by Mass Save sponsors Eversource and National Grid and operated by the Energy Transition Institute at the University of Massachusetts Amherst. MAEEP provides educational opportunities on energy efficiency and decarbonization at no cost to contractors serving Massachusetts businesses, facility owners and managers, and other stakeholders, in support of reducing greenhouse gas emissions on our mission towards carbon neutrality.

Retail Discounts

Shop for smart power strips, lighting products, small appliances, showerheads, and smart thermostats with ratepayer-financed discounts applied automatically.
In addition, you can shop for qualified products at your local retailer.

Massachusetts Clean Energy Center (MassCEC) Programs

Building Performance Exchange

MassCEC provided funds to Built Environment Plus (BE+) to create the Building Performance Exchange, a centralized resource for people and organizations statewide seeking to reduce emissions and improve energy efficiency in larger existing buildings. Preliminary resources are currently available on the Exchange website, and expanded resources will be available in Summer 2026.

Building Electrification and Transformation Accelerator (BETA) Decarbonization Planning

The BETA: Project Planning program gives commercial buildings and multifamily properties (15+ units) no-cost, customized energy assessments and step-by-step decarbonization roadmaps—accepting applications on a rolling basis until a ~15-building cohort is filled.

BETA Roadmaps

The BETA: Roadmaps pilot program provides non-profit and public-entity building owners with a high-level overview of decarbonization opportunities aligned with building capital needs across their portfolios, with the target of zero-emissions building portfolios by 2050. The pilot provides actionable roadmaps that enable efficient, effective procurement strategies.

Green School Works Implementation Grants

As part of the Green School Works program, Technical Assistance offers an excellent opportunity for eligible schools, districts, and collaboratives to receive low- or no-cost support for decarbonization planning that focuses on modern, energy efficient school buildings and facilities.

Additional Massachusetts Resources for Decarbonizing Buildings

Green Communities Program for Municipalities

The Green Communities Division of DOER serves all 351 Massachusetts cities and towns helping them find clean energy solutions that reduce long-term energy costs and strengthen local economies. The Division provides technical assistance and financial support for municipal initiatives.

Leading by Example Program for State Facilities

DOER's Leading by Example Program (LBE) works collaboratively with state agencies and public colleges and universities to advance clean energy and sustainable practices that reduce the environmental impacts of state government operations. LBE serves as a trusted resource and helps transform policy into action through strategic partnerships, technical assistance, grant funding, and nation-leading best practices. By demonstrating leadership within state government, LBE strives to empower residents and businesses to take action to collectively address the energy and environmental challenges facing the Commonwealth.

Massachusetts' Commercial Property Assessed Clean Energy

MassDevelopment Finance Agency (MDFA), with the technical assistance of DOER, launched a Property Assessed Clean Energy (C-PACE) program for commercial and multifamily buildings. Massachusetts C-PACE allows owners of commercial, industrial, and multifamily (5 or more units) properties to make energy efficiency and renewable improvements to existing and new facilities, and finance the improvements over a long term (up to 20 years). The loan is repaid via a municipal betterment assessment on the property and attaches to the property, allowing the benefits and payments flow to subsequent purchasers. New or recently completed commercial construction projects can receive low-interest financing for pursuing all or mostly electric pathways and choosing highly-efficient construction methods. Retrofits and renewable energy projects can finance 100% of their project costs. This program helps alleviate the barrier of high up front costs so that large building owners can make energy improvements.

Climate Smart Agriculture Program

The Climate Smart Agriculture Program funds agricultural operations for the implementation of practices that address the agricultural sector's vulnerability to climate change, mitigate climate changes, improve economic resiliency and advance general goals identified in the Massachusetts Local Action Food Plan. Innovative proposals are sought for practices that protect the environment, improve soil health, protect water resources, conserve water, and increase energy efficiency.

Climate Ready Housing Program

Executive Office of Housing and Livable Communities (EOHLC) partnered with Local Initiatives Support Corporation (LISC) and the Mass Housing Partnership to offer the Climate Ready Housing Program to fund deep energy retrofits in existing multifamily affordable housing. The Program is available for public, nonprofit, and for-profit

multifamily affordable housing sponsors. At least 25% of housing occupants must have incomes not exceeding 60% of the area median income (AMI).

Mass Cultural Council – Cultural Facilities Fund

The Massachusetts Cultural Facilities Fund (CFF) is an initiative of the Commonwealth of Massachusetts that makes grants to support the acquisition, design, repair, rehabilitation, renovation, expansion, or construction of nonprofit cultural facilities statewide.

The goal of CFF is to increase investments from both the public and private sector to support the sound planning and development of cultural facilities. All grants from the Fund have a 1:1 cash match requirement. Nonprofit cultural organizations, municipalities, and colleges or universities that own cultural facilities are eligible to apply.

Glossary

- **Automated Reporting** - The process of the utility company providing a Building's Energy Usage data directly to DOER. This is the default process for each Building covered by LBER if the Building Owner does not otherwise elect to self-report Energy Usage data.
- **Benchmarking** - The practice of measuring and tracking a building's Energy Usage over time and comparing it to similar Buildings, past performance, or established standards.[24]
- **BERDO (Building Emissions Reduction and Disclosure Ordinance)** - Boston's municipal ordinance requiring large buildings to report energy and water usage annually and setting performance standards to reduce greenhouse gas emissions over time.
- **BEUDO (Building Energy Use Disclosure Ordinance)** - Cambridge's municipal ordinance requiring large buildings to report energy and water usage annually and setting performance standards to reduce greenhouse gas emissions over time.
- **Claiming a Building** - The process of a Building Owner providing their contact information and optionally confirming their reporting method for the LBER program to DOER. If the owner chooses not to confirm their reporting method while filling out the "claim my building" form, they are required to provide this through the Portfolio Manager Information Form.
- **Delivered Fuels** - Energy sources delivered directly to a building, such as oil, propane, coal, or wood, rather than supplied by a utility company's transmission lines or pipelines.
- **Emissions Factor** - A number that represents the amount of greenhouse gases released per unit of energy used.
- **ENERGY STAR Rating** - A score from 1 – 100, generated in EPA's ENERGY STAR Portfolio Manager platform, which indicates a building's energy performance relative to similar buildings nationwide. For example, an ENERGY STAR score

[24] ENERGY STAR, "Benchmark Your Building With Portfolio Manager."

of 70 means that the building is more efficient than 70% of comparable buildings in the United States.[25]

- **Investor-Owned Utility (IOU)** - A shareholder-owned company that delivers electricity or natural gas, Eversource, Unitil, National Grid, Liberty Utilities, and Berkshire Gas are the IOUs in Massachusetts.
- **Municipal Light Plant (MLP)** - A locally owned and operated utility company that provides electric or gas services to certain cities and towns. In Massachusetts, there are forty-one MLPs serving fifty municipalities.
- **On-site Generation** - Energy produced at the Building itself, such as from roof-mounted solar panels.
- **Self-Managed Reporting** - When a Building Owner, Designated Building Owner, or Reporting Entity enters Energy Usage data directly into ENERGY STAR Portfolio Manager and shares that data with DOER. Delivered fuels and on-site generation must be self-reported under LBER.
- **Site Energy Use Intensity (Site EUI)** - A metric that indicates a Building's annual Energy Usage relative to its size.
- **Universal Building Identifier (UBID)** - Developed by the DOE's Pacific Northwest National Laboratory, a UBID is a unique identifier containing a building's geographic footprint and location.[26]

[25] ENERGY STAR, "How the 1-100 ENERGY STAR Score is Calculated."
[26] PNNL, "Unique Building Identification."

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LBER covered building Fitchburg Art Museum in Fitchburg, MA. The museum earned a 2024 Mass Save Climate Leader Award for its leadership implementing energy saving measures through the program. Photo credit, Bill White, Unitil.

The cover photo is LBER covered building University Hall at Westfield State University. Photo credit, David Fried, Westfield State University.