

## Summary of Enacted Building Performance Standards and Their Impact on Laboratories

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Jurisdiction	Labs Covered by Mandate	Coverage Criteria	Reporting Tool	Lab Classification	Performance Metric Type	Performance Metric Target	Compliance Timeline	Exemptions or Alternative Compliance Pathways
<b>Boston, Massachusetts</b>	Yes	Non-residential buildings ≥ 20,000 SF  Any parcel with multiple buildings that sum to at least 20,000 SF	ENERGY STAR Portfolio Manager, Building Emissions Reduction and Disclosure Ordinance (BERDO) Reporting Form, Third party verification	Technology/ Science	GHG emissions intensity (Scope 1 and 2)	19.2 kgCO <sub>2</sub> e/SF/yr 11.1 kgCO <sub>2</sub> e/SF/yr 7.8 kgCO <sub>2</sub> e/SF/yr 5.1 kgCO <sub>2</sub> e/SF/yr 2.5 kgCO <sub>2</sub> e/SF/yr 0.0 kgCO <sub>2</sub> e/SF/yr	2025 - 2029 2030 - 2034 2035 - 2039 2040 - 2044 2045 - 2049 2050+	<b>Compliance Pathways</b> - Laboratory owners can develop and request to use their own compliance schedule. - Laboratory owners can request a hardship compliance plan. - Laboratory owners can purchase renewable electricity produced offsite to offset emissions. - Laboratory owners can pay into the Equitable Emissions Investment Fund at a rate tied to the average retrofit cost per MTCO <sub>2</sub> e of \$234.
<b>Chula Vista, California</b>	Yes	Non-residential buildings ≥ 20,000 SF	ENERGY STAR Portfolio Manager	Technology/ Science	Site energy use intensity (EUI)	Percent reduction of a building's weather normalized site EUI (kBtu/SF/yr) <b>Baseline ≥ 80 kBtu/SF/yr: 30%</b> <b>Baseline ≥ 51 and ≤ 79 kBtu/SF/yr: 20%</b> <b>Baseline ≥ 19 and ≤ 50 kBtu/SF/yr: 10%</b> <b>Baseline ≥ 0 and ≤ 18 kBtu/SF/yr: 0%</b>	- For buildings ≥ 50,000 SF, every five years beginning in 2023.  - For buildings between 20,000 SF and 49,999 SF, every five years beginning in 2026.	<b>Exemptions</b> - Laboratories may receive an exemption if under financial hardship, occupied for less than five years, or if not previously covered by the benchmarking requirement. - Properties owned by the County of San Diego; State of California; Federal Government; Metropolitan Transit Service; Chula Vista and Sweetwater School Districts.  <b>Compliance Pathways</b> - A lab owner may elect for an energy audit and building retrofit pathway which must be met every five years as an alternative to meeting the performance target. After 10 years, the building will need to meet minimum improvement targets set below its baseline site EUI.
<b>State of Colorado</b>	Yes	Buildings ≥ 50,000 SF	ENERGY STAR Portfolio Manager	Technology/ Science	To be determined by May 2023	To be determined by May 2023	2026 2030 2034 2038 2042 2046 2050	<b>Exemptions</b> - Exemptions include a building where over 50% of the gross floor area is used for manufacturing, industrial, or agricultural purposes. This may or may not apply to labs.

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<b>Denver, Colorado</b>	Yes	Buildings $\geq$ 25,000 SF	ENERGY STAR Portfolio Manager	Laboratory	Site EUI	Determined by building's 2019 baseline (interim target), Determined by building's 2019 baseline (interim target), 153.9 kBtu/SF/yr (final target)	2024 (interim target) 2027 (interim target) 2030 (final target)	<b>Compliance Pathways</b> <ul style="list-style-type: none"> <li>- Different compliance timelines may be granted to building owners under financial hardship, or if it will be more cost-effective to wait until the end of a system's life cycle before undergoing a major renovation.</li> <li>- Building owners may apply for a performance target adjustment.</li> <li>- Buildings <math>\geq</math> 25,000 SF and <math>\leq</math>100,000 SF can have the 2024 and 2027 interim targets satisfied by electrifying 70% of its heating and water heating equipment and by replacing all lights with LEDs.</li> <li>- On-site and off-site solar generation can be subtracted from a building's energy consumption. However, RECs are not eligible to be subtracted energy usage from a building's total consumption.</li> </ul>
<b>State of Maryland</b>	Yes	Commercial or state-owned buildings with a gross floor area $\geq$ 35,000 SF	Beginning in 2025, report direct emissions to the Maryland Department of the Environment	TBD	Direct GHG emissions (GHG emissions produced on-site)	Performance standards are to be set no later than June 1, 2023. The standards shall be set to achieve a 20% reduction in net direct GHG emissions, from a 2025 baseline, for the average building of the specific building type.	2030 2040	<b>Exemptions</b> <ul style="list-style-type: none"> <li>- Buildings designated as historical under federal, state or local law.</li> <li>- Elementary or secondary schools</li> <li>- Buildings designated as manufacturing or agriculture.</li> <li>- Further provisions or exemptions may be provided for laboratories and will be determined by June 1, 2023.</li> </ul> <b>Compliance Pathways</b> <ul style="list-style-type: none"> <li>- Building owners will be allowed to pay a fee for the remaining amount of GHG emissions above the target. The fee will be set no lower than social cost of GHGs as set by the U.S. Environmental Protection Agency.</li> </ul>

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Montgomery County, Maryland	Yes	<p><b>Group 1 and 2</b> County buildings and private non-residential buildings <math>\geq</math> 50,000 SF</p> <p><b>Group 3</b> County buildings and private non-residential buildings <math>\geq</math> 20,000 SF and <math>\leq</math> 50,000 SF</p>	ENERGY STAR Portfolio Manager	TBD	Site EUI	<p>Performance standards will be set after building type groupings have been established. The proposed compliance path has a final target based on building grouping, with an interim target based on a building's baseline site EUI.</p>	<p><b>Group 1 and 2</b> 2028 (interim) 2033 (final)</p> <p><b>Group 3</b> 2030 (interim) 2035 (final)</p>	<p><b>Exemptions</b> - Any building with 10 percent or more of its covered floor space being used for public assembly in a building without walls; warehousing; self-storage; or a use classified as manufacturing, industrial, transportation, communication, or utilities.</p> <p><b>Compliance Pathways</b> - <b>Building Performance Improvement Plan:</b> Building that will not meet the interim performance metric can draft a building performance improvement plan. This plan will be reviewed by the BEPS Advisory Board and must be followed if the building is to be deemed compliant. Additional compliance pathways are TBD.</p>
New York City	Yes	<p>Commercial and multi-family buildings <math>\geq</math> 25,000 SF</p> <p>A parcel with two or more buildings that sum to <math>\geq</math> 50,000 SF</p>	ENERGY STAR Portfolio Manager	Occupancy Group B or F	GHG emissions intensity* (Scope 1 and 2)	<p><b>Occupancy Group B (non-production laboratory)</b> 0.02381 tCO<sub>2</sub>e/SF/yr 0.01330 tCO<sub>2</sub>e/SF/yr</p> <p><b>Occupancy Group F (low- and moderate-hazard production laboratory)</b> 0.00574 tCO<sub>2</sub>e/SF/yr 0.00167 tCO<sub>2</sub>e/SF/yr</p> <p><b>High-hazard laboratories will be categorized into the occupancy group they most resemble</b></p>	2024 - 2029 2030 - 2034	<p><b>Exemptions</b> - City-owned buildings</p> <p><b>Compliance Pathways</b> - Alternative emissions limits are available for building owners who will need to undertake capital improvement projects that would prevent the owner from receiving a reasonable financial return, have tried to purchase carbon offsets but the amount needed was not available, or have participated in utility incentive programs where available.</p>

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Saint Louis, Missouri	Yes	Commercial, multifamily, institutional, and municipal buildings over 50,000 SF	ENERGY STAR Portfolio Manager	Laboratory	Site EUI	<p><b>Performance pathway</b> 219.2 kBtu/SF/yr</p> <p>Future performance metrics will be determined in each year following a compliance cycle's end.</p>	<p>May 4, 2025 2030 2035 2040 2045+</p>	<p><b>Exemptions</b></p> <ul style="list-style-type: none"> <li>- Laboratory owners who would be under financial hardship through compliance or where compliance would not be in the public's best interest.</li> <li>- Laboratories that a predominantly used for industrial purposes.</li> <li>- State or Federal laboratories.</li> </ul> <p><b>Compliance Pathways</b></p> <ul style="list-style-type: none"> <li>- <b>Performance Pathway:</b> Meet the performance standard for laboratories by 2024.</li> <li>- <b>Early Adopters Pathway:</b> For laboratories with a site EUI at or below the 35th percentile performance metric, and reduced site EUI by 20 percent or more by the end of the first compliance cycle. Labs that meet these criteria are considered to be compliant for the first and second compliance cycles. If site EUI was reduced by 50 percent or more, the building is considered compliant for the first, second, and third compliance cycles.</li> <li>- <b>Narrow the Gap Pathway:</b> Reduce site EUI by 50 percent of the difference between baseline performance in 2018 and the standard metric (219.2 kBtu/SF/yr).</li> <li>- <b>Alternative Compliance Pathway:</b> Requires an ASHRAE Level 3 audit and the implementation of the recommended energy conservation measures. A technical report must be submitted to and approved by the Office of Building Performance.</li> </ul>

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Washington State	Yes	<p><b>Tier 1:</b> Buildings ≥ 50,000 SF</p> <p><b>Tier 2:</b> Buildings ≥ 20,000 SF and ≤ 50,000 SF, and multifamily buildings ≥ 50,001 SF</p>	ENERGY STAR Portfolio Manager	<p><b>Portfolio Manager Type:</b> Technology/ Science</p> <p><b>Sub-type:</b> Laboratory</p>	Site EUI	<p><b>Climate Zone 4C:</b> 237 kBtu/SF/yr</p> <p><b>Climate Zone 5B:</b> 249 kBtu/SF/yr</p>	<p><b>Tier 1:</b></p> <ul style="list-style-type: none"> <li>- Buildings ≥ 220,000 SF: June 1, 2026</li> <li>- Buildings ≥ 90,000 SF and &lt; 220,000 SF: June 1, 2027</li> <li>- Buildings ≥ 50,000 SF and &lt; 90,000 SF: June 1, 2027</li> </ul> <p><b>Tier 2:</b></p> <ul style="list-style-type: none"> <li>- No standard to be met. Must report benchmarking data and implement an energy management plan by June 1, 2027.</li> </ul>	<p><b>Exemptions</b></p> <ul style="list-style-type: none"> <li>- Buildings that have under 50 percent of floor space occupied, or where the primary use is for industrial or agricultural purposes.</li> </ul> <p><b>Compliance Pathways</b></p> <ul style="list-style-type: none"> <li>- An investment-based path exists for building owners. A building owner will need to have an ASHRAE Level II energy audit conducted and will need to implement all cost-effective energy efficiency measures.</li> <li>- "Conditional Compliance" is available for building owners that will not meet the "verification requirements" will not be met by the original compliance deadline.</li> <li>- Tier 1 buildings are eligible for the Early Adopter Incentive Program. Buildings more than 15 EUI (kBtu/SF/yr) above the target and in full compliance of the standard may receive a payment worth \$.85 per SF from the state.</li> </ul>

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Washington, D.C.	Yes	<p><b>Period 1:</b> Private buildings <math>\geq</math> 50,000 SF and District-owned buildings <math>\geq</math> 10,000 SF</p> <p><b>Period 2:</b> Private buildings <math>\geq</math> 25,000 SF and District-owned buildings <math>\geq</math> 10,000 SF</p> <p><b>Period 3:</b> Private buildings and District-owned buildings <math>\geq</math> 10,000 SF</p>	ENERGY STAR Portfolio Manager	Laboratory	Source EUI (for "high-performing building types")	<p><b>Standard Target Pathway:</b> 318.12 kBtu/SF/yr</p> <p><b>Performance Pathway:</b> Reduce Building site EUI by 20%</p>	<p><b>Period 1:</b> December 31, 2026 (one-year COVID-19 extension)</p> <p>December 31, 2025 (opting out from one-year COVID-19 extension)</p>	<p><b>Extensions</b></p> <p>- A building may be granted a three-year compliance extension by the Washington D.C. Department of Energy and Environment (DOEE) if the building owner can demonstrate good cause for a delay, accompanied by an Extended Delay Milestone Plan.</p> <p><b>Compliance Pathways</b></p> <p>If opting out of the one-year COVID-19 exemption, pathway selection is due April 1, 2022. If following the one-year COVID-19 exemption, pathway selection is due April 1, 2023.</p> <p>- <b>Performance Pathway:</b> Reduce building site EUI by 20 percent.</p> <p>- <b>Standard Target Pathway:</b> Only available for high-performing property types, which include laboratories. Buildings would be required to meet or exceed a source EUI target (318.12 kBtu/SF/yr in the case of labs) for Period 1 by implementing the measures they think are best for reducing energy consumption in their building.</p> <p>- <b>Prescriptive Pathway:</b> Complete specific actions and requirements set by the Washington D.C. DOEE.</p> <p>- <b>Alternative Compliance Pathway:</b> Contains four alternative pathway options that meet or exceed the energy savings achieved in the three primary pathways. This pathway is reserved for a building owner with a building in a unique circumstance. This can include a building undergoing deep energy retrofits, new construction or change of property type, that need a baseline adjustment, or that will require a custom pathway plan.</p>

\*New York City's Local Law 97 uses total GHG emissions as its performance metric. The GHG emissions limit is found by multiplying a building's square footage by an emissions intensity coefficient assigned by the city. The term "GHG emissions intensity" is used in this section because the emissions intensity coefficient assigned by the city dictates what the total GHG emissions limit for a building will be.

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