

Net Zero Carbon Zoning Proposal Summary

The City of Boston aims to achieve carbon neutrality by 2050. Buildings account for nearly 71% of our community's carbon emissions. Fossil fuels and electricity power the majority of buildings' operations, including heating and cooling systems. Buildings can be designed to minimize greenhouse gas emissions and climate impact by reducing energy use (*i.e.*, maximizing energy efficiency), reducing reliance on fossil fuels (*e.i.*, decarbonizing), increasing electrification (transitioning to electric-powered systems), and using renewable energy sources. The Net Zero Carbon Zoning Proposal will help ensure that new construction takes advantage of these opportunities to decrease greenhouse gas emissions and is positioned to benefit from a greening electricity grid.

Impact:

1. Support decarbonization of new buildings: Advancing electrification, reducing reliance on fossil fuels, and encouraging low-carbon materials.
2. Reduce future expensive building retrofits: Design new buildings to achieve net zero emissions from the outset and mitigate the need for costly retrofits in the future.
3. Accelerate the adoption of renewable energy
4. Position Boston as a climate leader at the forefront of building sustainability, setting an example for other cities and communities to follow.

Zoning Draft Proposal

1. Net Zero Emissions in 2025:

- a. Beginning July 1, 2025, new buildings filing a Project Notification Form (PNF) in Boston with 15 units or more, a minimum of 20,000 sq. ft., and additions of a minimum of 50,000 sq. ft. or more to existing buildings, will be required to meet a net-zero emissions standard (*i.e.* BERDO 2050 CO₂e Emissions Standard). Buildings shall demonstrate net zero emissions every year through the compliance pathways in the Building Emissions Reduction and Disclosure Ordinance (BERDO). The existing BERDO reporting and regulatory framework will enforce the annual emissions limits established under zoning.
- b. New hospitals, general manufacturing, and labs will have phased-in emissions standards that accelerate what would otherwise be required for existing buildings. In 2025, Hospitals and General Manufacturing will be required to meet the BERDO 2030-2034 CO₂e Emissions standard for their respective building uses and reach net zero by 2045. Labs will be required to meet the BERDO 2040-2044 CO₂e Emissions standard for Technology/Science building uses in 2025 and reach net zero by 2035.

2. Continued LEED Certifiability Pathway

Large projects will continue to be required to demonstrate compliance with LEED certifiability. This decision is made to capitalize on the familiarity stakeholders have with the review process while simultaneously providing flexibility for new buildings to pursue additional sustainability

certifications. LEED v5 will be introduced in 2025, advancing more holistic sustainability requirements.

3. Embodied Carbon Reporting Requirements

Research and policy on embodied carbon are evolving quickly. At this time, there is no standardized approach to reporting and reducing embodied carbon. The zoning proposal aims to gather data on embodied carbon in Boston to inform future policy development related to embodied carbon.

- a. Small and Large projects will be required to report on embodied carbon.
- b. Projects with a gross floor area (GFA) exceeding 50,000 sq. ft. will conduct a building life cycle analysis.

Zoning Proposal Exemptions

The Net Zero Emissions and Embodied Carbon Reporting proposals would not apply to renovations and changes of use.

Key Concept Definitions

Building emissions are greenhouse gas emissions produced during the day-to-day operation of a building, including energy consumption for heating, cooling, lighting, and electricity use.

Embodied Carbon is carbon dioxide emissions associated with the manufacturing, transportation, and construction of building materials throughout the entire life cycle of a product.

Net-Zero Emissions in this context means achieving net-zero building emissions utilizing the compliance pathways in BERDO, which include directly reducing emissions, procuring eligible renewable energy, and making Alternative Compliance Payments.

How does the Net Zero Zoning proposal align with other building decarbonization policies?

Specialized Stretch Energy Code (2023) Boston adopted the Specialized-Opt in Municipal Stretch Energy Code, which took effect in the City of Boston January 1, 2024. The Code requires high levels of energy efficiency and promotes electrification by requiring new buildings that connect to fossil fuels to pre-wire for electrification and, where feasible, install solar. The Code also requires Passive House design certification for all new multifamily housing over 12,000 sq. ft, which focuses on reduced energy demand for space heating and cooling using passive measures.

[Building Emissions Reduction and Disclosure Ordinance \(BERDO\)](#): BERDO requires all residential buildings with 15+ units and non-residential buildings 20,000 SF and above in Boston to comply with declining emissions limits and achieve net-zero emissions by 2050. A cost-effective way for new buildings to comply with BERDO is to design highly energy-efficient buildings that minimize the use of fossil fuels.