



CITY OF BOSTON • MASSACHUSETTS

OFFICE OF THE MAYOR
MARTIN J. WALSH

EXECUTIVE ORDER
OF
MAYOR MARTIN J. WALSH

An Order Relative to Municipal Carbon-neutral Buildings in Boston

Whereas, the City of Boston has committed to being carbon-neutral by 2050; and

Whereas, the City of Boston is an international leader on climate that is committed to the Paris Climate Agreement and is a member of the Global Covenant of Mayors for Climate and Energy, and the C40 Cities Climate Leadership Group; and

Whereas, the Intergovernmental Panel on Climate Change and National Climate Assessment have warned that carbon emissions need to be reduced by 45 percent from 2010 levels by 2030 and come down to zero by 2050 to keep global warming under 1.5 degrees Celsius; and

Whereas, the effects of climate change are already increasing risks to Boston's residents, including sea level rise and coastal flooding, extreme temperatures, and extreme precipitation events; and

Whereas, buildings accounted for 70 percent of Boston's carbon emissions in 2017, and higher standards of building energy performance are essential to reach the City's climate goals; and

Whereas, the City of Boston adopted a LEED Silver standard for new municipal buildings with the 2007 Executive Order Relative to Climate Action in Boston, and committed to exploring a higher performance standard for new municipal construction in the 2014 Climate Action Plan Update;

NOW, THEREFORE, pursuant to the authority vested in me as chief executive officer of the City of Boston by St. 1948, c. 542, § 11, and every other power hereto enabling, I hereby order and direct as follows:

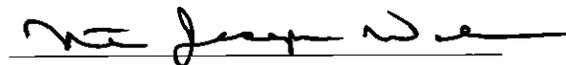
1. Planning and design for all new municipal building construction shall target a Zero Net Carbon onsite or Energy Positive standard, as defined in the Appendix.
2. Buildings may consider the next most stringent standard only if Zero Net Carbon onsite or Energy Positive designs are demonstrated to be clearly infeasible due to site limitations, operational needs, or are determined not cost-effective over the building's useful life.
3. All new municipal projects will include the following elements:

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- a. Project design will include a highly-efficient building enclosure, energy efficient natural and artificial lighting, and energy efficient climate control systems.
 - b. Projects will endeavor to provide onsite renewable energy.
 - c. Projects should not include any onsite fossil fuel combustion. If elimination of onsite fossil fuel combustion is infeasible in the short term, high-efficiency natural gas or steam systems should be prioritized, and shall be designed to allow future conversion to carbon-neutral energy sources.
 - d. Mechanical systems are to be designed to accommodate the anticipated changing climate conditions for the expected life of the mechanical system.
 - e. Carbon-intensive building materials should be avoided and materials that sequester carbon should be preferred where feasible.
 - f. Transportation emissions are excluded from the Zero Net Carbon design calculations; where appropriate, building designs may include features that reduce those emissions with features like electric vehicle charging infrastructure (where parking is provided) and bicycle facilities.
4. This Order does not apply to small all-electric structures (e.g., guard stations, tool sheds), temporary structures, or pump stations.
 5. Design and planning shall also include an evaluation of the risks posed by the likely effects of climate change over the useful life of the project and include steps necessary to avoid, minimize or mitigate those risks.
 6. The provisions of this Order are severable, and if any provision, or portion thereof, should be held to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such unconstitutionality or invalidity will not affect the remaining provisions, which will remain in full force and effect.
 7. The provisions of this Order shall take immediate effect. Projects that have begun the design process are not subject to this order.

I further direct all Cabinet Officers, Department Heads, and City Employees to render such aid and assistance as is required for the implementation of the foregoing policy.

SIGNED THIS 11th DAY OF Dec, 2019



Martin J. Walsh

Mayor of Boston

APPENDIX: Definitions

Zero Net Carbon Standard

Compliance levels by order of stringency:

- **Zero Net Carbon Onsite:** A zero net carbon onsite building is one that is optimally efficient, has no onsite fossil fuel combustion, and over the course of a year, generates energy onsite, using clean renewable resources, in a quantity equal to or greater than the total amount of energy consumed onsite.
- **Zero Net Carbon Offsite:** A zero net carbon offsite building is one that is optimally efficient, has no onsite fossil fuel combustion, but allows for the use of energy from offsite renewable sources. Such fuel sources could include the purchase of renewable energy credits (RECs), or participation in a clean power purchase agreement (PPA), or other forms of zero-carbon energy procurement.
- **Zero Net Carbon Ready:** A zero net carbon ready building is one that is optimally efficient, with no fossil fuel combustion onsite, that would become zero net carbon when its electricity supply is changed over to 100 percent renewable sources.
- **Zero Net Carbon Convertible:** A zero net carbon convertible building is one that is optimally efficient and that uses electricity supplemented with some fossil fuels onsite (e.g., Combined Heat and Power), but that is built such that it may be easily changed over to 100 percent carbon-neutral fuel sources upon availability.

Energy-Positive: An Energy Positive building produces more onsite energy from renewable sources than it consumes for building operations over the course of a year.

Temporary Structure: any proposed building that is intended to be in existence for ten (10) years or less.