

# **BERDO POLICIES & PROCEDURES**

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*Air Pollution Control Commission*

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# 1. INTRODUCTION

This document includes policies of the Air Pollution Control Commission related to the Building Emissions Reduction and Disclosure Ordinance (BERDO). These policies may be updated by the Air Pollution Control Commission. All policies are to be considered in conjunction with the BERDO ordinance language and with all adopted Regulations.

## 2. DEFAULT ENERGY USE VALUES

Pursuant to BERDO Regulations Section 1.04(e), if no Energy use is known for a floor area, the appropriate energy use per square foot per month shall be multiplied by the floor area of that Building Use for which Energy use is unknown. If Energy use is known for one or more fuel types for a floor area, but is missing for others, report the actual Energy use for the known fuel types, and also report the net of the default values minus the actual Energy use.

<b>Building Use</b>	<b>Total Energy Use (kBtu/sq ft/month)</b>	<b>2021 Emissions Factors (kgCO<sub>2</sub>e/MMBtu)</b>
Assembly	13.7	68.3
College/University	17.0	67.1
Education	9.3	59.8
Food Sales & Service	34.0	71.7
Healthcare	32.4	69.8
Lodging	11.8	66.6
Manufacturing/Industrial	53.7	54.9
Multifamily housing	8.0	63.9
Office	9.4	75.0
Retail	6.9	72.6
Services	14.9	65.8
Storage	3.9	70.2
Technology/Science	33.5	69.6

Default values are based on 2018 BERDO data. They represent total annual Energy use (kBtu) by each Building Use type, divided by the square footage of buildings of that Building Use type, divided by 12 to obtain the monthly value, and multiplied by 150%. Since the total annual Energy use is the sum of multiple fuel types, each Building Use type has a blended emissions factor that represents the mix of fuels for that Building Use, applying the

emissions factors used in the Technical Methods Overview. Blended emissions factors by Building Use type will be updated annually.

### 3. THIRD-PARTY VERIFICATION

- A. The third-party verifier of a Building cannot be the same person who completes reporting for that Building.
- B. The following credentials are approved as Qualified Energy Professional Credentials. All third-party verifiers must have at least one active credential from this list.

Profession	Credential	Organization
Architect	Licensed Architect	National Council of Architectural Registration Boards (NCARB)
Architect	Registered Architect (RA)	American Institute of Architects (AIA)
Building Operator	Building Operator Certification (BOC) Level 2	Northwest Energy Efficiency Council
Building Operator	BREEAM USA In-Use Assessor	BREEAM USA
Certified Passive House Consultant	Certified Passive House Consultant (CPHC) Training	Passive House Institute US (PHIUS)
Commissioning Professional	Commissioning Process Management Professional Certification (CPMP)	American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
Commissioning Professional	Certified Commissioning Professional (CCP)	Building Commissioning Association (BCA)
Commissioning Professional	Associate Commissioning Professional (ACP)	Building Commissioning Association (BCA)
Commissioning Professional	Certified Building Commissioning Professional (CBCP)	Association of Energy Engineers (AEE)

<b>Profession</b>	<b>Credential</b>	<b>Organization</b>
Commissioning Professional	Existing Building Commissioning Professional (EBCP)	Association of Energy Engineers (AEE)
Commissioning Professional	Certified Commissioning Authority (CxA)	AABC Commissioning Group (ACG)
Commissioning Professional	Qualified Commissioning Process Provider (QCxP)	UW-Madison
Commissioning Professional	Phius Certified Verifier	Passive House Institute US (PHIUS)
Energy Auditor	Building Energy Assessment Professional (BEAP)	American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
Energy Auditor	Certified Energy Auditor (CEA)	Association of Energy Engineers (AEE)
Energy Auditor	Building Energy Modeling Professional (BEMP)	American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
Energy Auditor	RPA/FMA High Performance Designation (RPA/FMA-HP)	BOMI International
Energy Auditor	Certified Measurement and Verification Professional (CMVP)	Association of Energy Engineers (AEE)
Energy Auditor	LEED Advanced Professional (AP) Building Operations & Maintenance	U.S. Green Building Council (USGBC)
Energy Auditor	SEP Performance Verifier	Association of Energy Engineers (AEE)
Energy Manager	Operations and Performance Management Professional (OPMP)	American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
Energy Manager	Certified Energy Manager (CEM)	Association of Energy Engineers (AEE)

<b>Profession</b>	<b>Credential</b>	<b>Organization</b>
Energy Manager	Energy Management Professional (EMP)	Energy Management Association (EMA)
Energy Manager	50001 Certified Practitioner in Energy Management Systems	Association of Energy Engineers (AEE)
Energy Modeler	Phius Certified Consultant	Passive House Institute US (PHIUS)
Engineer	Professional Engineer (PE)	National Society of Professional Engineers (NSPE)
Greenhouse gas verification professional	Greenhouse Gas Validation/Verification according to ISO 14065 standard.	ANSI National Accreditation Board (ANAB)

C. Pursuant to the Regulations Section 1.08(a), the Review Board may approve additional credentials for designation as qualified energy professionals.

## 4. SPECIAL CONDITIONS

- A. The Environment Department may determine a building is vacant and therefore not subject to third-party verification. A vacant building shall be demonstrated by one or more of the following: demolition permits, insurance policies, no active water or gas utilities, transfer of all utilities to a construction company with an active construction permit, or if energy use is less than 5% of previously reported annual BERDO data. Owners must submit documentation in writing to the Environment Department. The Environment Department may ask for additional documentation and will issue a determination in writing to the Owner. An Owner may appeal the Environment Department's decision to the Commission in writing.
- B. Buildings with active demolition permits in 2021 or 2022, as demonstrated by an Article 85 approval from the Boston Landmarks Commission and a demolition permit from Inspectional Services, do not need to complete third-party data verification of their 2021 data.

## 5. EMISSIONS FACTORS (RESERVED)

## 6. CALCULATING BUILDING EMISSIONS

- A. Emissions from fuel or electricity consumption shall be calculated by multiplying the total amount of each fuel used by the Emissions Factor for each fuel or electricity type.
- B. The total Emissions per square foot shall be calculated by adding all emissions from all fuel and electricity consumption and then dividing this amount by the gross square footage of the Building or the corresponding primary use(s), as defined in the Blended Emissions Standard. This number shall be used to determine compliance with the appropriate Emissions Standard.



# 7. BLENDED EMISSIONS STANDARDS

- A. Building Owners shall use the following equation to calculate a blended emissions standard:

$$\begin{aligned}
 BES &= \frac{\sum_{i=1}^m (SF_i \times ES_i) + (SF_{np} + ES_1)}{\sum_{i=1}^m (SF_i) + SF_{np}} \\
 &= \frac{(SF_1 \times ES_1) + (SF_2 \times ES_2) + \dots + (SF_m \times ES_m) + (SF_{np} \times ES_1)}{SF_1 + SF_2 + \dots + SF_m + SF_{np}}
 \end{aligned}$$

Where BES = blended CO2 Emissions standard, measured in kgCO2e/SF/yr  
 SF = square footage of a primary use  
 ES = emissions standard of a primary use, as defined by the Ordinance  
 SF<sub>1</sub> = square footage of the largest primary use  
 ES<sub>1</sub> = emissions standard of the largest primary use  
 SF<sub>np</sub> = total square footage of all non-primary uses

- B. For the purposes of calculating a building's blended emissions standard, the square footage of all non-primary uses shall be aggregated and added to the square footage of the largest primary use.
- C. The sum of the gross square footages allocated to each primary use shall be equal to the total Gross Floor Area of the Building.
- D. Blended emissions standards shall be third-party verified. The Third-party verified blended emissions standards shall be used for compliance until the following Verification Year unless there are changes in primary use(s).
- E. If a building changes a primary use between verification years, a revised, third-party verified blended emissions standard shall be submitted.
- F. If errors are identified, a revised standard may be submitted. A variation in area of primary use(s) of 2% or less shall not be considered an error, so long as the sum of areas of primary uses equals the total gross floor area of the Building.
- G. Valid documentation to verify the primary use(s) include the Gross Floor Area listed in City of Boston Assessing Department records or Building documentation such as blueprints, architectural plans, or capital needs assessments.

## 8. ADDITIONAL COMPLIANCE MECHANISMS (RESERVED)

## 9. REVIEW BOARD POLICIES

### A. COMPENSATION OF REVIEW BOARD MEMBERS

- a. Review Board members who are eligible for and request compensation shall receive a stipend of \$200 per day of service, up to a maximum of \$4,800 per year. Compensation rates may be updated from time to time by the Commission.
- b. Staff and volunteers of nominating Community-Based Organizations who are appointed as Review Board members shall be eligible for compensation.

### B. DESIGNATION OF COMMUNITY-BASED ORGANIZATIONS

- a. Section XIII.a.i.a. of the Regulations states that, “the requirement in Section 7-2.2(b) that the majority of the governing body and staff in Community-Based Organizations be “local residents” means residents of the Greater Boston area.” “Greater Boston area” shall be defined as the municipalities in the Metropolitan Area Planning Council’s Inner Core Committee subregion.
  - i. The definition of Greater Boston may be reevaluated by the Commission prior to each application period for Community-Based Organizations and may be revised as needed.
  - ii. All other references to residents in the definition of Community-Based Organization in the Ordinance shall mean residents of the City of Boston.
- b. Applications to qualify as a nominating Community-Based Organization shall request evidence on how the applicant meets the requirements defined by Section 7-2.2(b), including:
  - i. What not-for-profit status does the organization have?
  - ii. Where do members of the governing body and staff live?
  - iii. Where are the operating offices located?
  - iv. How are priority issues for action and/or advocacy defined and developed?
  - v. How are Boston residents involved in leadership?

- vi. How are Boston residents involved in program design, implementation, and/or evaluation?
- vii. How long has the organization been active in Boston?

**C. SELECTION OF REVIEW BOARD MEMBERS**

- a. The nomination form for Review Board members shall request evidence on how the nominee meets the requirements defined in the Ordinance and Regulations, including:
  - i. Self-attestation of Boston residency
  - ii. Self-attestation of expertise(s) represented
  - iii. Resume
  - iv. Personal statement
  - v. If the nominee is nominated by a nominating Community-Based Organization, the CBO shall provide a statement of support for the nominee. Additional letter(s) of support detailing how the nominee represents said expertise(s) may be submitted for all nominees.
- b. Preference will be given to nominees that:
  - i. Demonstrate more than one of the required expertise.
  - ii. Demonstrate expertise in areas not represented by active Review Board members.
  - iii. Bring diversity, including experience, expertise, geography, and background, to the Review Board.

**D. WORKING GROUPS**

- a. Within 90 days of being seated, the Review Board shall convene (i) a working group focused on healthcare institutions connected to district energy systems and (ii) a working group focused on commercial real estate.
- b. Individuals with appropriate expertise should be invited to participate in working groups. Boston residency is not a requirement to participate in working groups.
- c. Working group meetings shall be open to the public.
- d. Working groups shall provide updates to the Review Board and Environment Department periodically.