



BOSTON ZONING CODE ARTICLE 37 GREEN BUILDINGS AND NET ZERO CARBON EMBODIED CARBON LIFE CYCLE ASSESSMENT REPORT INSTRUCTIONS

These instructions outline the reporting documentation for Article 80B, 80C, and 80D projects subject to the Embodied Carbon Life Cycle Assessment (LCA) reporting provisions of [Article 37 Green Buildings and Net Zero Carbon](#), amended February 6, 2025 and effective July 1, 2025, and the [Boston Climate Change Review Policy](#).

With the Design / Building Permit Filing, Projects are to report the Global Warming Potential (GWP) of the proposed building's structure and enclosure. Please utilize the [Embodied Carbon LCA Microsoft Excel](#) template for reporting and refer to the [Embodied Carbon LCA Reference Guide](#) for additional descriptions and links to reference standards.

1. LCA COMPLIANCE PROCEDURES

Compliance with the LCA reporting requirements shall be demonstrated by:

- Calculating the embodied carbon of the building at the building permit stage, following the guidance in this document.
- Submitting the building Embodied Carbon LCA Microsoft Excel Reporting Template and raw results from software tools as proof of compliance, covered in more detail in the Reporting Requirements section.

This is a reporting requirement. No comparative analysis or reduction requirement is required at this time, though project teams are encouraged to explore and document embodied carbon reduction strategies in the Building LCA Reporting Template narrative section, and/or in the Green Building Report.

Multiple buildings that are part of the same permit application may be combined and submitted as one calculation of embodied carbon for submission to the City of Boston, or multiple buildings may be submitted separately, at the team's discretion.

Please refer to [Article 37](#), Section 31-7. Procedures of Zero Net Carbon for further information on submission credentials and applicable provisions.

Projects must follow one of two LCA compliance procedures from the table below based on whether the project satisfies the criteria for applicable projects. Note: the "Additional Stage Estimation" method is further outlined in section 2.2 of the [LCA Reference Guide](#) document.

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| Pathway | Applicable Projects | Compliance Procedure |
|----------------------------------|--|--|
| Primary Pathway | Available to all projects meeting the applicability criteria outlined in the Applicability section | Projects shall submit a life cycle assessment using an LCA tool that covers all life cycle stages covered by the guidance (minimum A1-A3, B4, C2-C4). These projects must provide manual calculations (as described in the Life Cycle Stages section) for A4 and A5 if missing from the LCA tool selected. |
| Multifamily Residential Pathway* | Available only to project of Type V construction under 100,000 ft ² | Applicable projects shall submit a life cycle assessment using a tool that covers only a subset of key life cycle stages covered by the guidance (A1-A3 or A1-A5) and use the “Additional stage estimation method” to report impacts from missing stages. These projects must provide manual calculations for all the stages missing from the tool selected. |

* Informative note: This pathway is meant to act as a lower-cost and lower-effort option for a subset of housing projects. It is aligned with the forthcoming RESNET Standard 1550¹ using the HERS rating and the LEEDv5 prerequisite: MRp2 Quantify and Assess Embodied Carbon.

2. COVERED PROJECT ELEMENTS

Compliance requirement: Article 37, Section 37-7 requires that each assessment include above and below-grade structural and enclosure building product materials. The life cycle assessment submitted for compliance shall therefore include substructure, superstructure, and enclosure systems, consistent with the detailed list of included and excluded elements provided in Table 3 in the LCA Reference Guide document.

Parking structures and elements (below or above-grade) must be included in the embodied carbon estimate, but the square footage of parking is not included in the adjusted gross floor area used for LCA reporting (see gross floor area in the Definitions section). This adjustment to GFA is handled automatically in the Building LCA Reporting Template.

Optional: In addition to the required covered project elements, project teams are encouraged to optionally include additional project scopes, such as interior constructions and finishes; site work; mechanical, electrical and plumbing systems; and furniture, fixtures and equipment (FF&E).

3. REPORTING SUBMISSION REQUIREMENTS

The following documentation is to be submitted at the conclusion of project design and in conjunction with seeking Planning Department Certification of Compliance, Certificate of

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Office of General Counsel | One City Hall Square | Boston, MA 02201 | BostonPlans.org | T 617.722.4300 | F 617.248.1937
Michelle Wu, Mayor | Kairos Shen, Chief of Planning

Consistency (if applicable), and post-board design review approval, but prior to receipt of the Building Permit from ISD.

Compliance Requirements:

- Embodied Carbon LCA Reporting Template: To submit the LCA for compliance, project teams are required to report the results of the life cycle assessment in the [Embodied Carbon LCA Microsoft Excel](#) reporting spreadsheet, to demonstrate compliance. This template must include the combined results from the LCA tool and the manual calculations (if used). The projects shall break out the required results into two scopes: Structure (Substructure and Superstructure) and Enclosure and report the impacts by life cycle stage. See the Building LCA Reporting Template for the full reporting format. Projects shall report results in total embodied carbon (kgCO₂e) and normalized per gross floor area in units of embodied carbon intensity (ECI) per the definition in this guidance that has been adjusted from the gross floor area calculation required by Boston's Zoning Code.
- Raw results from software tool: Project teams are required to submit spreadsheet tabular LCA results exported by the LCA tool. The export of raw data from the software tool used should contain both the embodied carbon emissions breakdown and the bill of materials (i.e. material quantities). Depending on the software tool used, this data may be provided in a spreadsheet format as a single document or multiple separate documents. The total GWP and ECI of the project, however, should be reported in aggregate within the building LCA Reporting Template.
- Manual calculations: Where manual calculations have been conducted outside the software tool due to the limitations in the tool, a document or documents containing these calculations shall be submitted. This submission shall be submitted in spreadsheet format. This is in addition to the raw results submission. The manual calculations may be a modified version of the raw data exported from the software tool, if changes are made directly on the raw data from the tool, or may also be a separate file containing the manual calculations. One tab should be labeled "Boston totals for reporting template" and should include the sum of the values from both the raw results and manual calculations to show how the user derived the totals reported in the Building LCA Reporting Template.

Additional Optional Information:

- Green Building Report: Projects should describe embodied carbon reduction strategies or practices in consideration or to be included in the Green Building Report Summary and details. If including embodied carbon information, this informational LCA report may be auto-generated by the software tool or be a customized report created by the project team. This report shall be in PDF format. The report may contain further information that could not be included in the reporting template, such as modeling assumptions, data sources, or more discussion of approaches taken to reduce embodied carbon emissions.

For more information, please contact your Planning Department Article 37 Reviewer, Project Manager or visit: [Article 37 Green Building and Net Zero Carbon Webpage](#)

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