BOSTON GREEN BUILDINGS

2025 Summary Of Sustainable Building Practices

City of Boston
Planning Department

The City of Boston Planning Department is greatly appreciative of the community, committed project proponents and their design, engineering & construction teams, for partnering with the City of Boston to improve the sustainability and resiliency outcomes of past, present, and future projects.

The Planning Department plans and guides inclusive growth in our city - creating opportunities for everyone to make Boston home. Through our future-focused, city-wide lens, we engage communities, implement new solutions, partner for greater impact and track progress.

The following information is a summary of the Sustainable Development practices from January 1, 2025 through December 31, 2025. The information provided in this report is drawn from the best available data at the time of publication. All or partial use of this report is encouraged but must be cited.

For more information about Article 37 Green Building and Climate Resilience Guidelines, please visit our Article 37 webpage and our Article 25A webpage.

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Front and Back Cover Image: Old Colony Redevelopment, Beacon Communities, *Photography by Andy Ryan*

By embedding sustainability into new projects, we set Boston on a direct path towards a cleaner and healthier future for generations to come."

- Mayor Michelle Wu

EXECUTIVE SUMMARY

The Planning Department's 2025 Summary of Sustainable Building Practices highlights major policy, project, and performance accomplishments advancing Boston towards its sustainability and Carbon-Neutral 2050 goals.

Key Achievements:

- Article 37 Zoning amended to add Net Zero Carbon requirements, lower applicability thresholds, and require embodied carbon LCA reporting.
- Projects implementing Article 25A (CFROD) coastal flood resilience requirements.
- Nearly all new Large Projects commit to LEED Gold.
- First three Net Zero Carbon-zoning-compliant projects approved.
- Two low embodied carbon mass timber buildings completed, two are in construction.

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WHAT IS ZONING ARTICLE 37 GREEN BUILDINGS?

Boston Zoning Article 37 (A37) is dedicated to reducing the adverse environmental impacts of new construction building projects. A37 compliance is determined at three project filing stages:

- Initial - prior to land-use approval,
- Design / Building Permit - prior to building permit issuance, and
- Construction Completion / Certificate of Occupancy - prior to occupancy permit issuance

The review process ensures standards have been met and that exemplary projects and practices are recognized.

ARTICLE 37 REVIEW PROCESS

LAND USE PERMIT	BUILDING PERMIT	OCCUPANCY PERMIT
INITIAL FILING	**DESIGN FILING**	**CONSTRUCTION FILING**
• First substantive submission (PNF, SPRA , NPC) • Describes mitigation measures & performance commitments • Reviewed/Approved prior to Land Use approval by the BPDA Board	• Submitted with Construction Documents • Documents how mitigation measures & building performance commitments will be fulfilled • Reviewed/Approved prior to Building Permit issuance by ISD	• Submitted at Construction Completion • Documents how mitigation measures & building performance commitments have been fulfilled • Reviewed/Approved prior to Certificate of Occupancy issuance by ISD

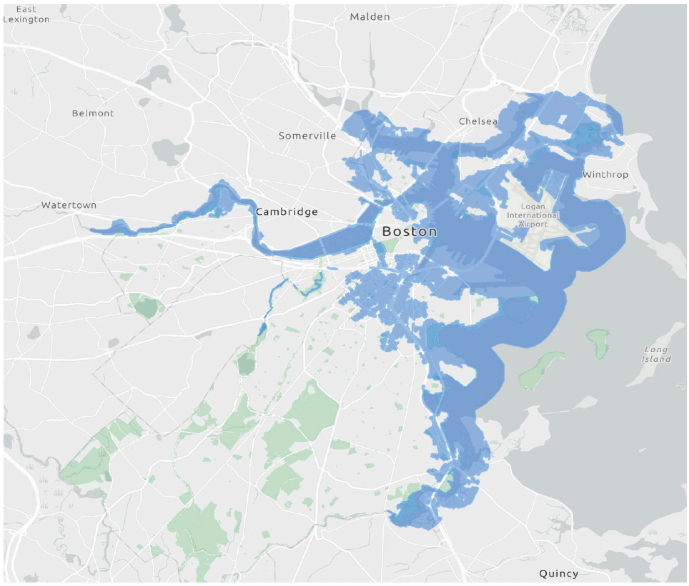
In January 2025, the Boston Zoning Commission amended Article 37 Green Buildings adding new standards and lowering the threshold. **Effective July 1, 2025, the key amendments are:**

- Add Net Zero Carbon standards that reduce the Building Emissions Reduction and Disclosure Ordinance (BERDO) operational greenhouse gas emission limit to zero kg/sf-yr for most new buildings upon operation.
- Lower the applicability threshold to include Small Projects (greater than 20,000 SF or 15 or more residential units); and
- Add an embodied carbon Life Cycle Analysis (LCA) reporting requirement for Large Projects (greater than 50,000 SF).

For additional information and/or project applicability, please visit our Article 37 Webpage or the City of Boston's Zoning Code, Article 37.

WHAT IS ZONING ARTICLE 25A?

In October 2021, the City adopted the Zoning Article 25A Coastal Flood Resilience Overlay District (CFROD) to protect persons and structures from the adverse effects of sea level rise and storm surge associated with climate change. The CFROD identifies areas the City of Boston anticipates to flood during a one percent chance storm event with 40-inches of sea level rise; conditions which are expected to be reached between 2070 and 2100. The zoning works to promote resilient design by establishing use and dimensional regulations that apply to projects within the overlay, formalizing the Coastal Flood Resilience Design Guidelines, establishing sea level rise Design Flood Elevations, and requiring Resilience Review. The Article 25A review process is run concurrently with the Article 80 and 37 review processes.



Map of Boston's CFROD

52 Plympton Street Rendering from STACK Architecture.

Resilience strategies can include raised entrances, elevated ground floors, and deployable flood barriers.

To address rising sea levels, there are a variety of resilient design strategies that can be applied to projects. The Boston Coastal Flood Resilience Design Guidelines help Boston property owners and developers make informed, forward-looking flood protection decisions for new and existing buildings. The Guidelines outline a variety of flood resilience strategies which are organized into three major categories: wet floodproofing, dry floodproofing, and site adaptation strategies.

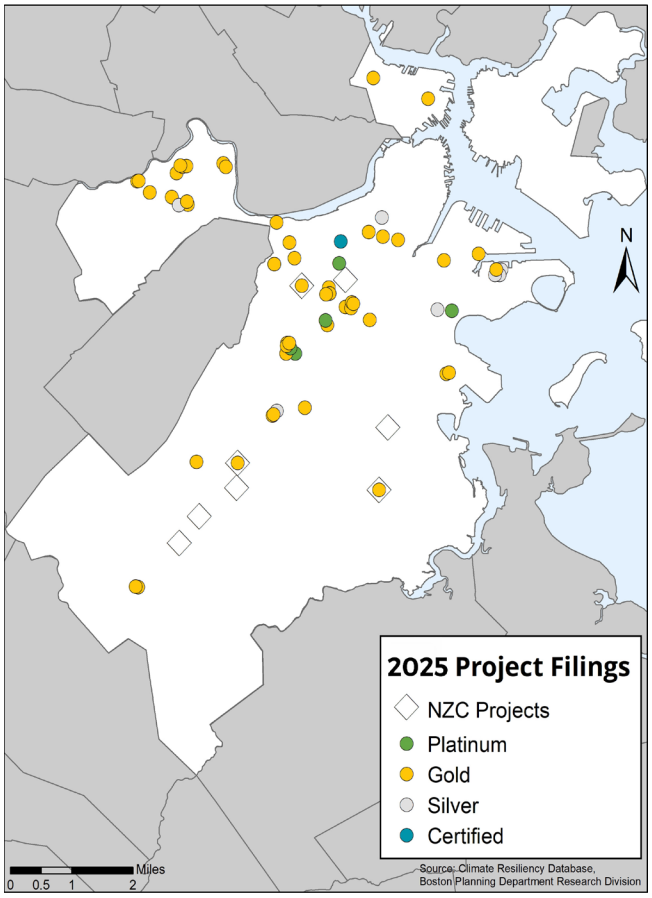
In 2025, staff reviewed more than 60 projects for sea level rise resilience design strategies in compliance with Article 25A. These projects employed a variety of resilient design strategies, with exemplary projects employing design measures such as: raising their ground floors above the minimum Design Flood Elevation, designing district-scale resilience measures seamlessly into their sites, providing equal site and building access for all to raised buildings and sites, utilizing automatic flood gates or smart flood vents, creating operations and maintenance plans and testing schedules for deployable barriers, and many more.

NET ZERO CARBON IMPLEMENTATION

Implementing Net Zero Carbon Zoning is not only the right thing to do, it will also make Boston more competitive, and stronger in the future." - Kairos Shen, Chief of Planning

In preparation for the Article 37 (A37) and Net Zero Carbon (NZC) updates, the A37 Review Team engaged with professional organizations, stakeholders, community members, and leading practitioners seeking to ensure seamless implementation of the new standards and the streamlining of review procedures.

In support of Mayor Wu's focus on new affordable housing, the Mayor's Office of Housing, Local Initiatives Support Corporation (LISC) Massachusetts, Boston's Environment Department, and the A37 Team convened four working sessions with local affordable housing development leaders. The sessions focused on compliance procedures, state energy codes, renewable electricity and energy, compliance with Boston's Building Emissions Reduction & Disclosure Ordinance (BERDO), industry best practices, and supporting resources.



Participants reviewed draft procedures, guidelines, and tools, resulting in new and updated submission guidelines for Large Projects and Small Projects, corresponding Climate Resiliency Checklists, and Embodied Carbon Reporting Guidelines.

IN DECEMBER 2025, THE BPDA BOARD APPROVED THE FIRST THREE NZC ZONING COMPLIANT PROJECTS; ALL THREE ARE AFFORDABLE MULTIFAMILY RESIDENTIAL SMALL PROJECTS.

To support consistent evaluation of project-level emissions under the new Net Zero Carbon standards, the Planning Department developed a Carbon Emissions Intensity Calculator. The tool translates building operational energy use into carbon emission performance metrics and helps teams evaluate different strategies for meeting net zero carbon standards. Fully aligned with BERDO emissions limits, the tool is an easy-to-use resource for projects assessing and reporting compliance.

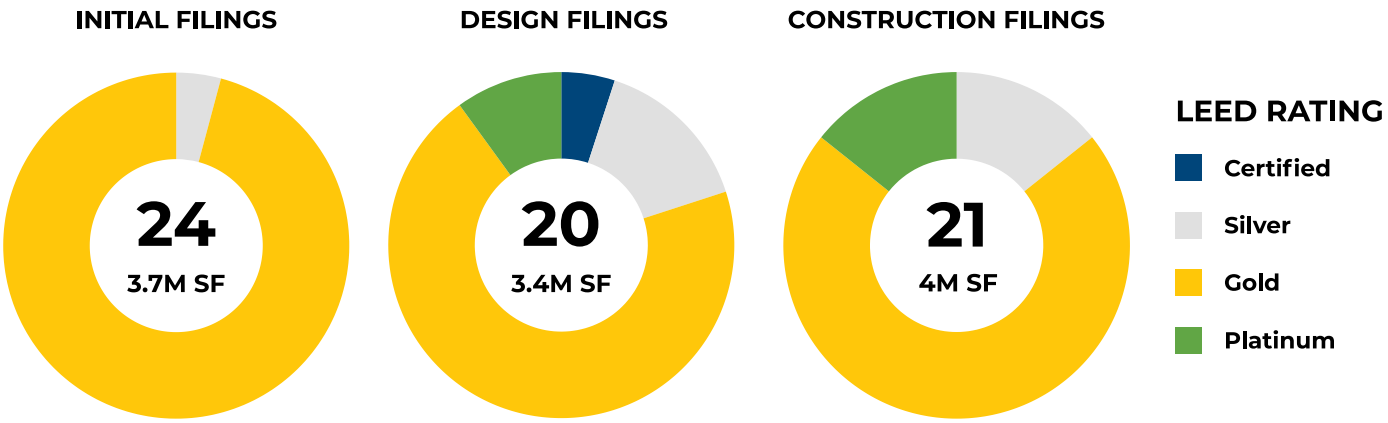
E+ 273 Highland Street. - Rees-Larkin Development, Studio G Architects (In Construction)

BOSTON CARBON-NEUTRAL 2050 & NET ZERO CARBON

Boston continues to progress towards our Carbon Neutral 2050 goals with 2025 marking the completion of several new carbon neutral buildings, new developer commitments to carbon neutrality, and the July 1, 2025, enactment of the new Net Zero Carbon building standards. With the completion of the Rubenstein Treehouse Conference Center at Harvard, Boston is now home to nine carbon neutral buildings. With the start of construction at the E+ 273 Highland Street, eight more carbon neutral buildings are on the way. E+ 273 Highland Street is a four-story, 23-unit, deeply affordable, LEED Platinum, energy positive multifamily residential building designed by Studio G architects. Part of the City of Boston's E+ Green Building Program, E+ 273 Highland Street is designed to produce more energy than it consumes and will be Boston's largest energy-positive residential building.

To ensure all future development projects are able to achieve NZC operation upon occupancy, the A37 Review Team actively supports integrated project planning and early building performance modeling. During the design review process, project proposals are reviewed for environmental and energy performance and project teams are offered best practice guidance. Strategies prioritize air-tight, well-insulated building enclosures and efficient, all-electric heating/cooling and hot water systems prior to using renewable electricity to zero out carbon emissions.

GREEN BUILDING OUTCOMES IN 2025



2025 Large Projects LEED Ratings

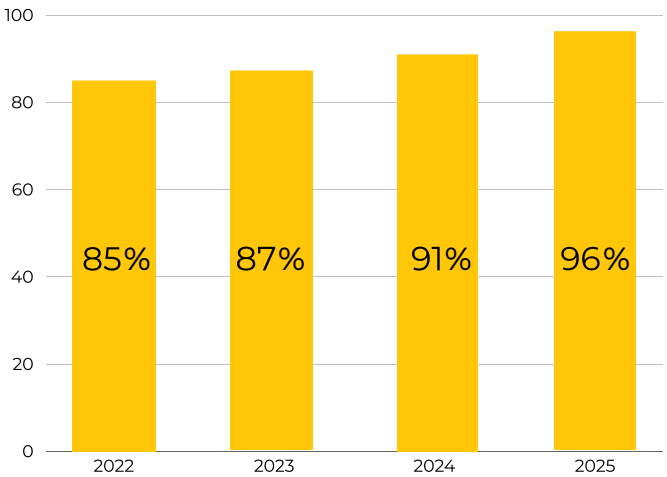
In 2025, the Article 37 Team reviewed 65 Large Project filings that totaled 11.1m SF. With the July 1 implementation of the new zoning Article 37 NZC requirements, the Team also reviewed five Small Project filings totaling 170,000 SF. Note: Article 37 Green Buildings LEED requirements only apply to Large Projects. Article 37 NZC requirements apply to all Small and Large Projects.

Since 2022, the percentage of Large Project Initial Filings with LEED Gold commitments has continually increased. In 2025, 96 percent of Large Projects submitting Initial Filings committed to LEED Gold outcomes, a five percent increase from 2024.

Coinciding with the increase in LEED Gold ratings is an increase in LEED points earned in the Energy and Atmosphere - Optimize Energy Performance credit. Projects that achieve more LEED points for this credit are more efficient and better performing buildings with lower carbon emissions.

Common to the project teams leading sustainable development in Boston is the practice of setting aggressive but achievable building performance targets early in conceptual design. This ensures resilience and sustainability strategies are foundational and inform project design decisions throughout the design and building process. With projects already past the adoption phase for many new high performance building practices, we are optimistic building performance will continue to improve.

MORE BUILDINGS TARGET LEED GOLD



The annual percentage of new buildings targeting LEED Gold continues to increase year after year

HIGH-PERFORMANCE MULTIFAMILY HOUSING

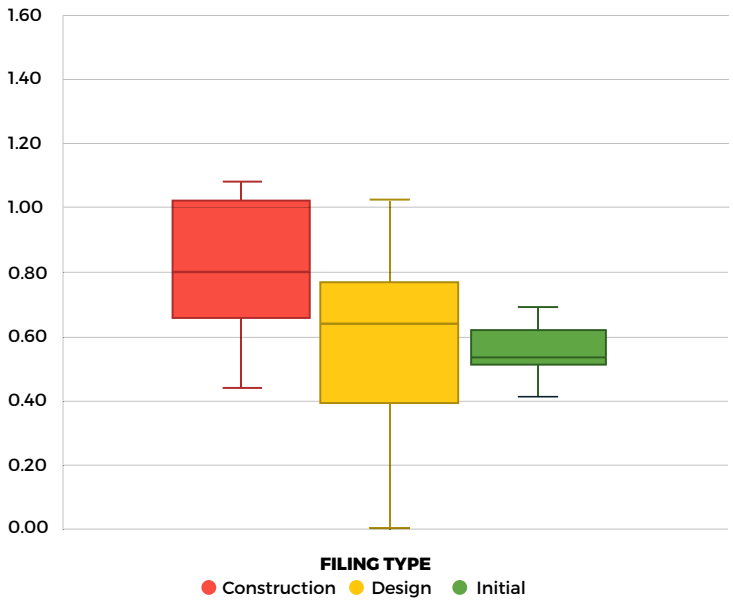
With Mayor Wu's focus on new affordable housing production, residential project filings exceed all other use types for a fourth consecutive year. In 2025, the Article 37 Team reviewed 51 residential projects totaling over 6m SF, 22 of which are affordable. Despite significant cost constraints, affordable housing projects are leading in sustainable development practices and demonstrating high building performance and net zero carbon is achievable within typical project budgets.

To better understand and compare building performance relative to carbon emissions, designers and engineers are utilizing building performance models to predict Carbon Emission Intensity (pCEI). A "Building pCEI" represents the annual carbon emissions from operational energy use per occupied square foot of building. The year 2035 - the typical half-life of new mechanical equipment - serves as a benchmark for comparing building performance across buildings constructed in different years.

The box plot below charts Building 2035 pCEI values for Large Project Filings for multifamily residential buildings at each A37 review stage. The boxes represent the carbon emission intensity of the middle 50 percent of buildings, with the line inside the box signifying the 50th percentile or median pCEI values for the respective filing stage.

Initial Filings are the newest projects and typically reflect the most up-to-date best practices and best building performance. In 2025, Initial Filings on average outperformed older projects submitting Design and Construction Filings. Notably, the variability in Building 2035 pCEI values are much lower in projects submitting Initial Filings compared to projects submitting Design and Construction Filings. With operational carbon emissions limited to zero kg/sf-yr for most new projects, we anticipate building performance will continue to improve as projects strive to more easily meet BERDO zero .

MODELED RESIDENTIAL BUILDING CARBON EMISSIONS CONTINUE TO DECLINE IN NEWER FILINGS



Building 2035 Preliminary Carbon Emission Intensity at each filing stage for Multifamily Residential Projects in 2025

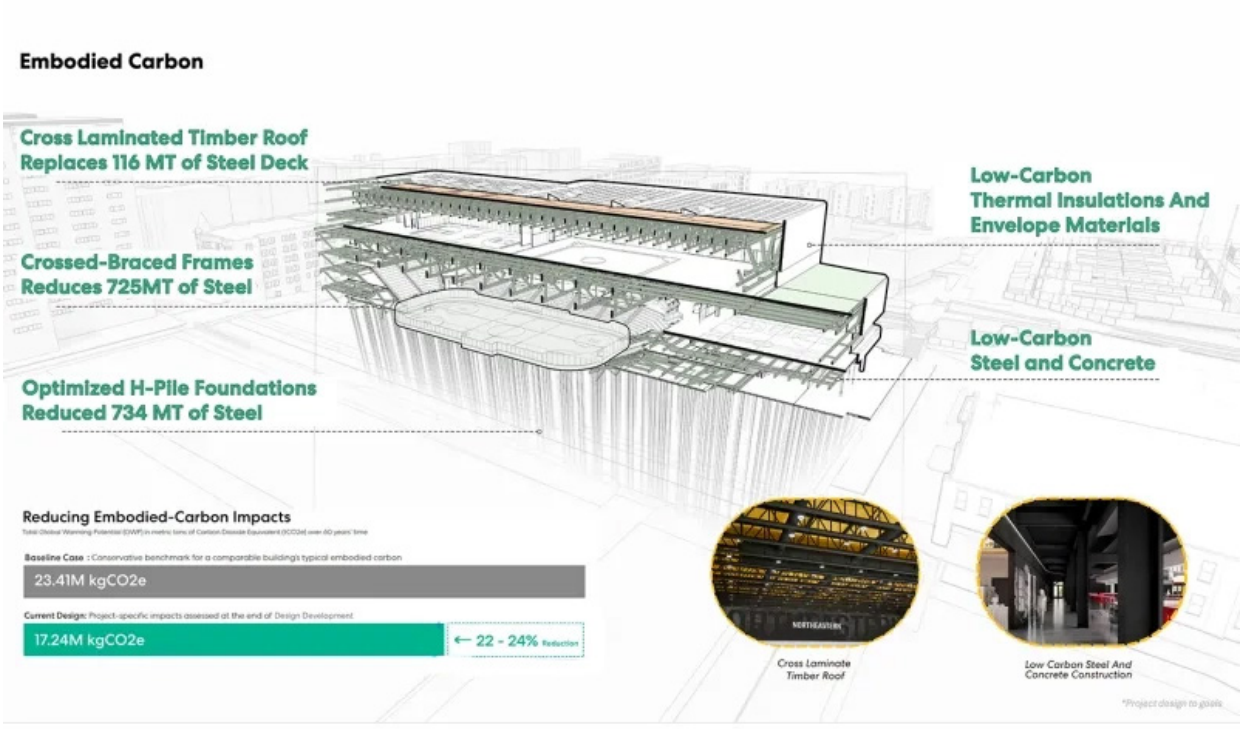
Rubenstein Treehouse Conference Center at Harvard University, STUDIO GANG ARCHITECTS ; Photography by Jason O'Rear

MASS TIMBER IN BOSTON

Recognizing the significant embodied carbon reduction potential, the City launched the Boston Mass Timber Accelerator Program and selected the first-round participants in 2022. The Accelerator program, which focused on broadening awareness, identifying new opportunities, and accelerating the use of low carbon mass timber, partnered with ten project teams. Now a national model, the Boston Mass Timber Accelerator Program identified both significant mass timber building opportunities and challenges. A Final Report was issued on Earth Day 2024.

In 2025, two mass timber building projects were completed: Bunker Hill Housing Building M and the David Rubenstein Treehouse at Harvard University. At Bunker Hill, an affordable housing project being developed by Leggat McCall and designed by Stantec Architects, mass timber cut construction time by one third, saved money, reduced carbon emissions, and delivered beautiful residential units and spaces with exposed wood. The Rubenstein Treehouse, a state-of-the-art conference center designed by Studio Gang, celebrates the beauty of wood and exemplifies sustainability leadership. By using mass timber and low carbon concrete, the project achieved a remarkable 60% reduction in embodied carbon.

Additionally, construction started on the new American Repertory Theater at Harvard University and, in early 2026, the Bunker Hill Housing Building F, together totaling over 336,000 SF. Another five mass timber buildings are in planning or permitting, increasing the total gross floor area to over 1M SF. Proposed projects, including Boston University's Pardee School, will extend mass timber building heights to 12 stories.



Embodied Carbon Reduction Strategies Being Utilized in Northeastern University's new Multipurpose Athletic Facility

EMBODIED CARBON & LIFE CYCLE ASSESSMENT

By prioritizing building reuse, material recycling, and low carbon materials, the City is reducing embodied carbon emissions.

In 2025, as part of the new Net Zero Carbon standards, Boston introduced building Life Cycle Assessment (LCA) reporting requirements for Large Projects. The reporting standards, which focus on building structure and enclosure elements, will advance embodied carbon assessment practices and awareness, and encourage the use of low embodied carbon materials and products. A reporting framework and worksheet, developed in collaboration with the Carbon Leadership Forum, aligns Boston's standards with national standards for measuring and reporting embodied carbon. To advance professional awareness of embodied carbon, the City hosted public "Office Hours" and "Embodied Carbon 101" sessions with industry leaders, partner organizations, and individual project teams.

Northeastern University's Multipurpose Athletic Facility exemplifies embodied carbon reduction in Boston. Calculations show the project is reducing the embodied carbon of the structure, enclosure and site materials by 27 percent, or 6.27M kg CO2e, compared to baseline.

Recognizing the significant opportunities to reduce embodied carbon emissions, numerous Large and Small Projects are already assessing and including low embodied carbon solutions and submitting LCAs documenting impacts. With the lessons learned from early adopters and future LCA reporting, Boston is contributing to growing industry knowledge and advancing low embodied carbon practices.