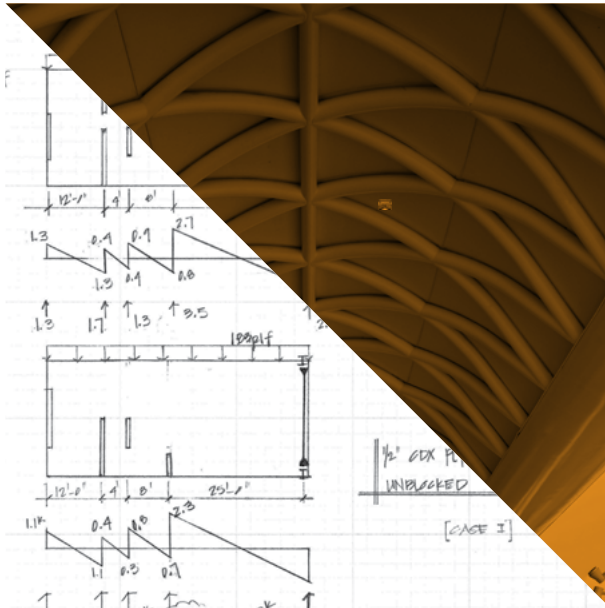
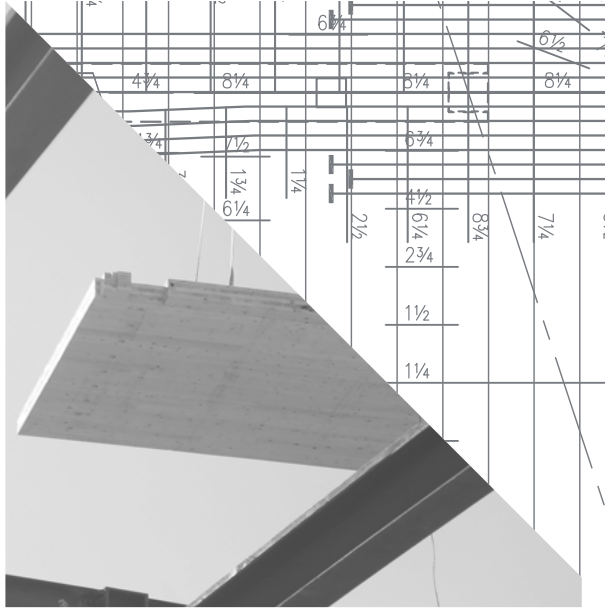




Embodied Carbon Action Plan

2026

We are compelled by engineering possibilities.

We are open to new ideas and not bound by the rote application of rules.

We strive to bring our inquisitiveness to each project for the benefit of our clients.



Holmes is an international design firm with employees around the Pacific Rim and beyond.

We believe projects become great by what you put into them. With inspired practicality, we reconcile the complex, competing interests and constraints, providing not just engineering but optimal solutions. In this way, we create more meaningful, integrated designs as a collaborative process in the vital pursuit of building great things.

US OFFICE LOCATIONS

Los Angeles, Portland, San Francisco, Seattle

WEBSITE

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SAY HELLO TO OUR SUSTAINABILITY LEADS

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1.0 Introduction

A Year of Global Progress

In our sixth year of SE 2050, Holmes has made significant strides in meeting our mid-2026 company embodied carbon targets. In 2025, we set ambitious goals to reduce embodied carbon in our projects by 10% by mid-2026 and operational carbon by 10% (scope 1 & 2) and 5% (scope 3) within the same time frame. In expanding beyond structural engineering, these reduction goals include our Fire and Infrastructure practices across all regions—Australia, New Zealand, the United States, and the Netherlands.

Our practical approach has yielded measurable results, with key focuses on embodied carbon studies on existing building projects, like UC Law SF - 100 McAllister Academic Village Redevelopment, and updating general notes of projects across the Holmes portfolio. We've leaned into additional industry engagement, collaborating on white papers and research initiatives, including thought leadership around design for deconstruction methodologies implemented on our YouTube Campus Expansion project and mass timber parking structure study.

Our Targets

2030

- 40% reduction in embodied carbon on our projects*
- 50% reduction in scope 1 & 2 operational carbon, 25% reduction in scope 3 operational carbon*
- Make meaningful and measurable progress on our broader sustainability targets

2050

- Net zero embodied carbon on our projects*
- Net zero operational carbon*

*Reduction from 2023

Our Vision

Sustainable to the Core: to infuse sustainability into the culture of Holmes so it makes a genuine difference for clients and communities. We want to make sustainability inherent in the way we think about and deliver work—prioritizing social, environmental and economic outcomes for the built environment and communities we serve.



Holmes provided structural and fire engineering as well as fire & life safety for the YouTube Campus Expansion in San Bruno, California. The project design leverages deconstruction methodologies, in support of sustainability goals.

2.0 Education

Where Curriculum Meets Culture

Holmes continues to execute our Group-wide plan into 2026-2027, maintaining our commitment to upskill all staff, sharing resources and expertise across our regions. Our objectives remain consistent with previous ECAPs:

- Infusing sustainability into our company culture.
- Providing all staff the knowledge and skills to discuss sustainability and carbon reduction fluently on projects.
- Performing LCAs as a service and receiving compensation.
- Securing more sustainable projects based on our expertise.

Holmes' Sustainability Targets continue to guide our work toward consistent reductions in the structures we design. Our targets necessitate reductions across the broad spectrum of the projects we work on. We recognize that this is a multi-year effort that requires staying current with the latest research and industry trends. Our Sustainability Champions position themselves among notable industry bodies (see Section 5.0) and ensure the knowledge reaches every level of the company through Quarterly Sustainability Updates and office Lunch & Learns to enact cultural change.

We remain actively engaged in internal discussions to standardize our BIM modelling practices, Structural Materials Quantity (SMQ) calculations and LCA work flows. Standardization in this area remains a priority for our aspirations to perform LCAs on a majority of projects while we acknowledge the practical challenges of implementation across offices and geographical regions.

The internal embodied carbon database that launched last year is in active use, with **almost 30 LCA projects** input from Holmes US and ANZ. Continual input to the database is key to defining our internal baseline so we can measure and demonstrate future reductions over time.

Through 2026 we are continuing to measure and track the emissions from our corporate operations. We recognize that impacts from our corporate emissions are small relative to the embodied carbon of our projects, though we know that holistically, reductions are necessary in all areas of our business. Results in this area equips those in executive and management positions to make meaningful decisions. After our 2024 reporting, Holmes staff were encouraged to order electric ride-share options. We will track the impact of this in change in upcoming results.

With our new financial year beginning on the first of July, we plan on implementing a streamlined approach to calculation of our corporate emissions with a dedicated staff member reviewing results month-to-month.



Engineers catch up at our Portland office around the International Mass Timber Conference.

3.0 Reporting

SE 2050 Database Contributions

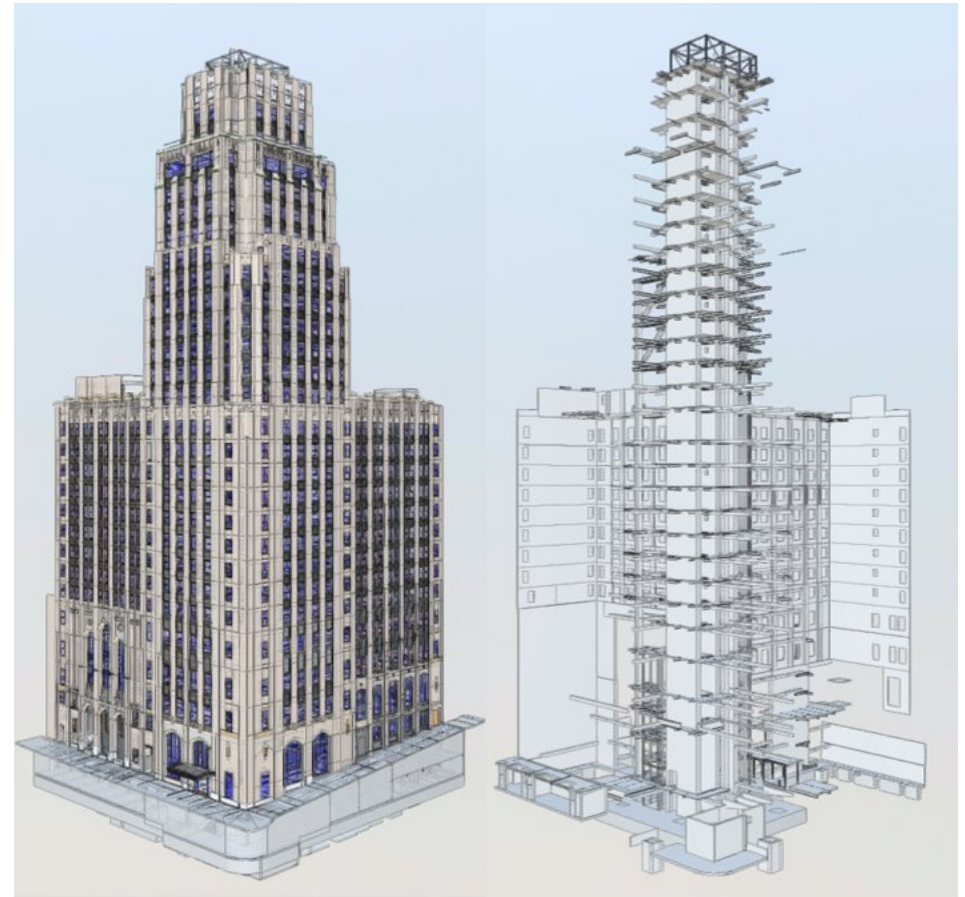
Holmes has reported embodied carbon data on five projects this year. We have included a variety of multi-family housing projects, a large single-family residence, as well as a large seismic retrofit. As in past years, we undertook assessments by using OneClick LCA with bills of quantities extracted from Revit. Embodied carbon data in Table 1 does not include any reduction due to biogenic carbon sequestration.

UC Law SF - 100 McAllister Academic Village Redevelopment

This 28-story steel and concrete tower is a 1920's landmark, originally built as a hotel, it is now a mixed-use student housing building owned by UC Law San Francisco. The performance-based seismic retrofit included a new concrete core, shotcrete walls, and a new mat foundation, and results in 2,192 tCO₂e. The project had a special opportunity to assess the existing structure, which was laser-scanned and modeled in Revit. The existing structure, assuming today's manufacturing emissions and impacts, would emit 4,777 tCO₂e. While the retrofit is 20 times the global warming potential of demolishing the existing building, the retrofit is a fraction of the global warming potential of the initial existing building or a brand new replacement building, therefore providing a functional space for less embodied carbon.

Albany YMCA Housing

YMCA Housing in Albany, Oregon is a 32,000 SF, three-story multi-family residential building with a very efficient structure utilizing strip footings, slab-on-grade, sawn lumber, glulam, I-joists, and plywood sheathing. For this project we conducted a Tier 2 LCA in accordance with the ASCE Prestandard for Assessing the Embodied Carbon of Structural Systems. Expanding the assessment from Tier 1 to Tier 2 by including accessory framing elements increased total global warming potential from 174 to 184 tCO₂e, or about 6%, indicating that these secondary elements had a relatively modest effect on the overall result. The building achieved a low overall carbon intensity of 60 kgCO₂e/m².



100 McAllister existing building and new retrofit structure.

Table 1: Embodied Carbon Data of 5 Holmes Projects

Project	Size (SF)	Usage	Phase LCA Evaluated	# of Stories (Abv Grade)	Vertical Gravity System	GWP Intensity (kgCO ₂ e/m ²)
UC Law SF - 100 McAllister	180,000	Education	Construction Documents	28	Steel Frame + Concrete	130
Trillium	28,000	Multi-Family Residential	Construction Documents	4	Mass Timber	80
3300 Mission	22,000	Multi-Family Residential	Construction Documents	6	Light-Frame Wood on Podium	145
YMCA Housing	32,000	Multi-Family Residential	Construction Documents	3	Light-Frame Wood	55
Sol Sky	26,000	Single-Family Residential	Design Development	2	Steel Frame + Concrete	195

4.0 Reduction

Higher Standards, Lower Carbon

Holmes lowers embodied carbon on projects through a variety of strategies including:

Specifying Low-Carbon Materials & Championing New Technologies

We actively drive down project impacts by annually updating the carbon limits within our General Notes. This year, we further reduced the allowable carbon limits for concrete and introduced new carbon limits for structural steel. These undated General Notes are now implemented on all projects across all regions. Additionally, we are pushing industry boundaries by utilizing innovative technologies, such as incorporating C-Crete—a zero-cement concrete—into a recent project.

Tracking Towards Our Company Targets

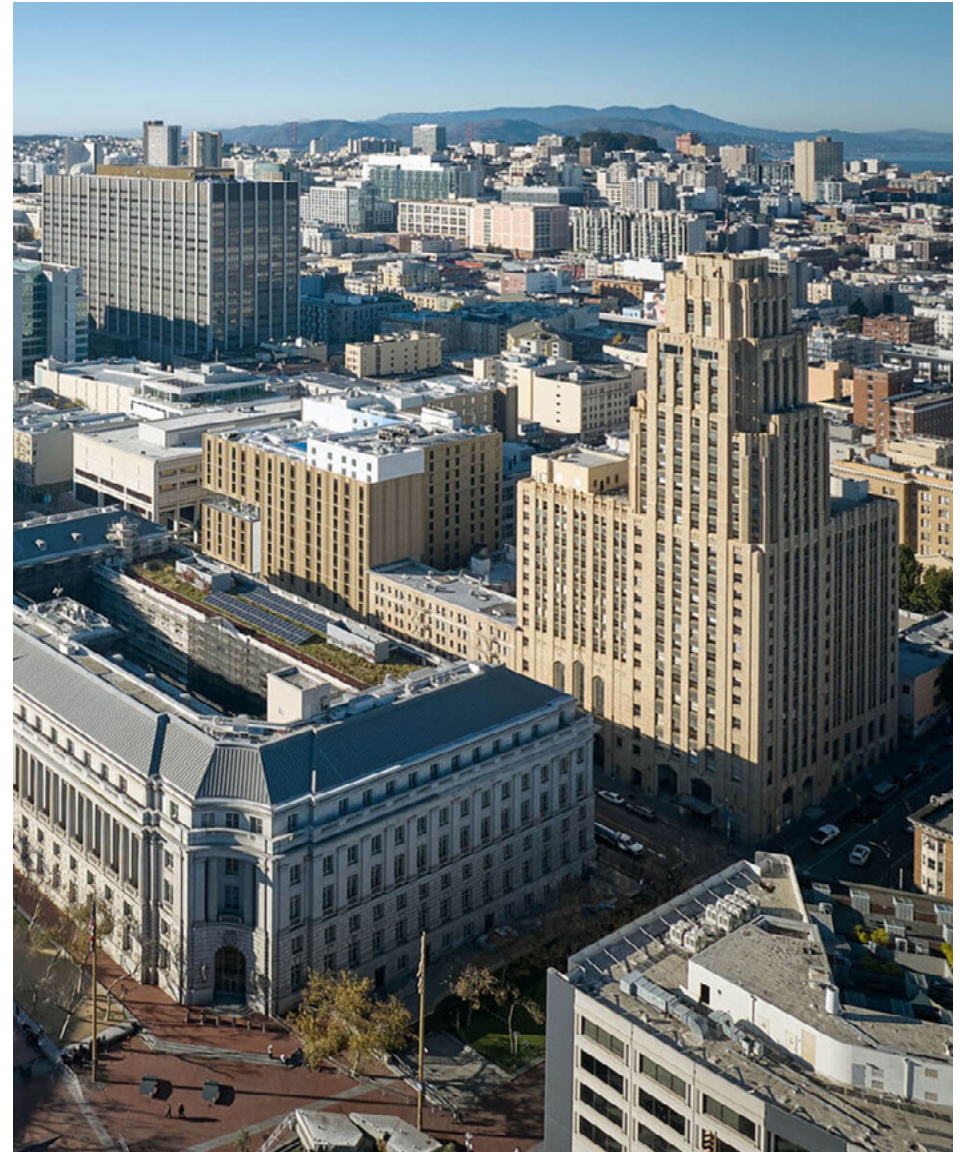
Holmes is actively tracking progress toward our company-wide target of a 10% embodied carbon reduction across our portfolio. We monitor the project-specific strategies that enable these reductions and are committed to sharing these insights widely. Our goal is to ensure embodied carbon reductions are realized across all our projects, rather than just a select few.

Reviving Our Existing Buildings

Over the past year, Holmes has been heavily involved in numerous existing building retrofits. We advocate for retaining existing structures over demolition and rebuilding, and we actively quantify the embodied carbon saved by these preservation efforts. Furthermore, we leverage Performance-Based Design as a key strategy to further reduce carbon impacts.

Research & Development Efforts

- **Mass Timber Parking Garage Study:** Quantifying the embodied carbon savings of mass timber compared to traditional concrete structures.
- **Deconstruction Projects:** Exploring strategies across multiple projects to increase end-of-life material reuse and divert viable building materials from landfills.



UC Law SF - 100 McAllister Academic Village Redevelopment will reposition this 1920's tower into a vibrant community for students.

5.0 Advocacy

Amplifying Our Voices

We initiate climate-conscious conversations and advocate for carbon reduction. Informed by lessons learned from built solutions, we're holding international dialogues with project teams and the broader AEC community. Last year, we spread the word on sustainable practices around existing buildings, life cycle assessments, mass timber construction, and wildfire resiliency.

Leveraging a Dynamic Approach to Sustainability

Holmes has continued to advance our sustainability assessment capabilities while broadening our advocacy into the intersection of climate resilience and embodied carbon. This year, our work expanded beyond retrofits into active research and code development in climate risk. By contributing to risk-related research, we're able to take a dynamic approach to our sustainability practice, both by proactively designing for lower carbon emissions, and protecting our communities from current climate risks. We've been heavily integrating our Urban Wildland Interface expertise across our portfolio, supporting owners in protecting their buildings from growing climate risks.

Spreading the Word

We continue to have a strong record of Holmes speakers at industry events. Regularly, we present to clients at informal lunch and learns on how we progress sustainability benchmarks. Our team members also contribute to building codes, design guidelines, and research projects that expand possibilities for sustainable construction.

BUILDING CODE & DESIGN DEVELOPMENT

- NHERI TallWood-Research
- REACT Consortium
- US Mass Timber Floor Vibration Design Guide
- Project-Specific Testing Including:
 - Long-Span Timber-Timber Composite Floor Cassettes
 - Point-Supported CLT Panel Testing
 - Timber Diagrid System
 - Reclaimed Lumbar Partitions

PROFESSIONAL COMMITTEES

- Carbon Leadership Forum
- NCSEA Sustainable Design Committee
- SEI Sustainability Committee
- SEI SE 2050 Committee
- SEO Code Advisory Committee (Mass Timber)
- SEAONC Sustainable Design Committee
- SEAOSC Sustainable Design Committee
- SEAW Sustainable Design Committee
- Seattle AIA Mass Timber Committee Chair
- USGBC - California Council of Experts & Los Angeles Chapter

RECENT SPEAKING OPPORTUNITIES

- AIA SF
- AIA National
- California Green Building Conference
- International Mass Timber Conference
- SEAONC Association Meeting
- SEAOSC 2026 Sustainability Summit

We're All in on Net Zero.

