

2026

ERA

STRUCTURAL
ENGINEERING

**EMBODIED
CARBON
ACTION
PLAN**

**WE THINK
BEYOND
THE BEAM.**



OUR COMMITMENT.

IN 2025, WE SIGNED ON TO SE2050. IN THE SAME YEAR, WE ALSO DEFINED OUR MISSION: **WE THINK BEYOND THE BEAM.** FROM AN EMBODIED CARBON PERSPECTIVE, WE ARE PROUD TO PUT THIS MISSION INTO ACTION IN 2026.

For over four decades, ERA Structural Engineering has advanced the engineering profession by pairing deep technical expertise with a broader, forward-looking perspective.

Our mission—“we think beyond the beam”—reflects a commitment to go past textbook engineering solutions and develop big picture solutions. Going forward, that includes uncovering smarter ways to reduce embodied carbon in our projects while helping our clients and partners achieve their goals.



“Structural engineering plays a paramount role in addressing embodied carbon issues. At ERA, we are dedicated to do our part in the AEC industry so together we can create a more sustainable future.”

ERA’s decision to sign the SE 2050 Commitment reflects a strategic and ethical evolution in practice: to systematically reduce embodied carbon in structural systems and contribute to broader climate mitigation goals. The SE 2050 Initiative provides a structured framework for structural engineering firms like ours to measure, report, and reduce embodied carbon, and ERA’s participation underscores its dedication to innovative problem-solving and sustainable outcomes.

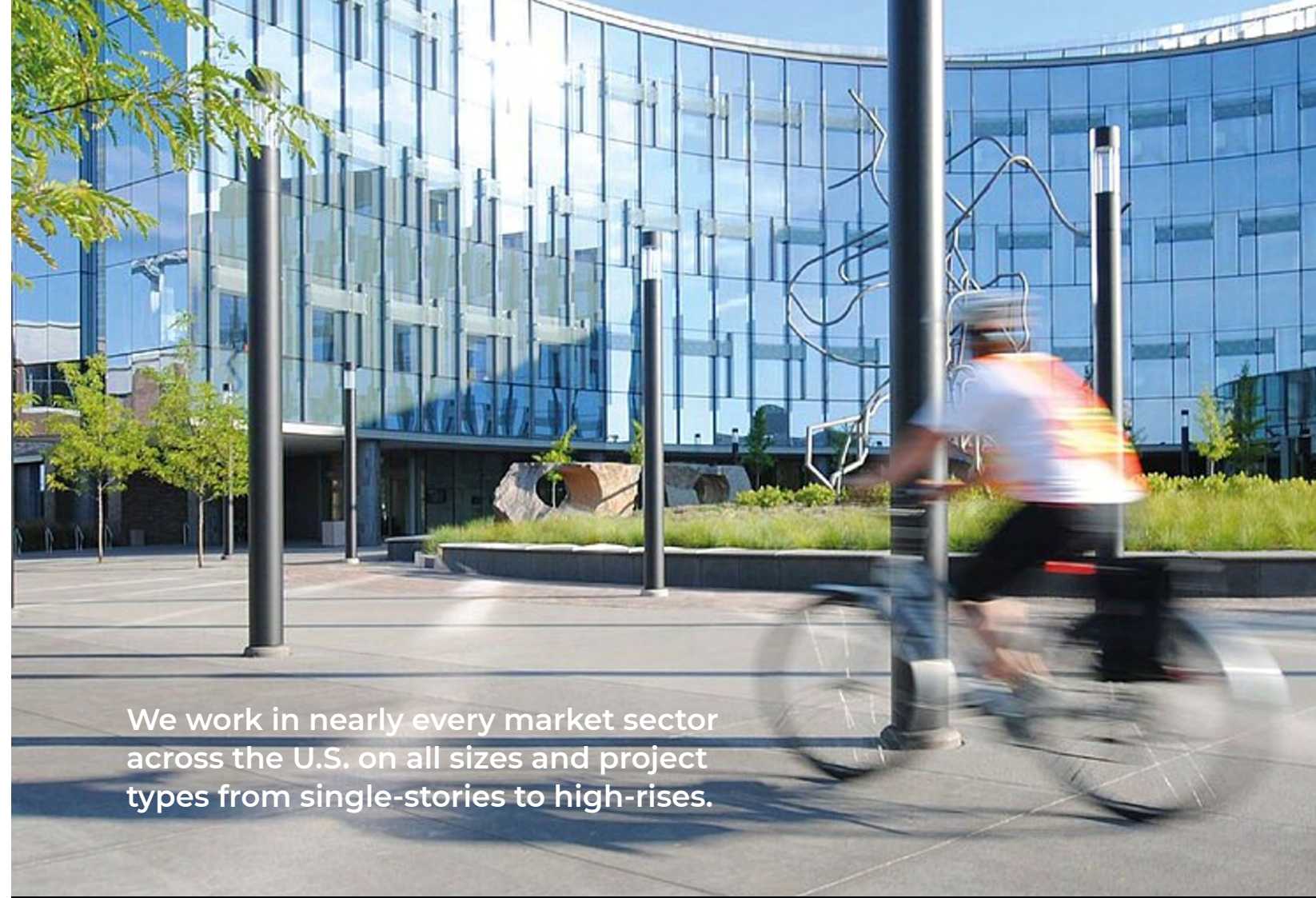
This plan articulates ERA’s approach in its first year of SE 2050 implementation, including education efforts to build staff capacity, consistent reporting methodologies, early embodied carbon reduction strategies grounded in data, and proactive advocacy to engage clients, partners, and the wider AEC community.

ABOUT US.

ERA Structural Engineering (“ERA”) is a full-service structural engineering firm with more than 40 years of experience delivering innovative, high-quality solutions across the country and beyond. Headquartered in St. Paul, Minnesota, with a second office in Eau Claire, Wisconsin, ERA’s team of over 80 professionals has completed more than 17,000 projects ranging from healthcare and education to commercial, institutional, and adaptive reuse work. The firm is licensed in all 50 states and collaborates with architects, owners, contractors, and fabricators to solve complex structural challenges while anticipating constructability and performance needs.

In 2025, ERA proudly became a signatory to the **SE 2050 Commitment**, committing to the industry-wide goal of net zero embodied carbon structural systems by 2050. As embodied carbon represents a significant portion of a building’s life-cycle emissions — particularly in concrete and steel — ERA recognizes structural engineers’ pivotal role in addressing this challenge and advancing sustainable design practice.

This Embodied Carbon Action Plan (ECAP) — ERA’s first as an SE 2050 signatory — outlines the firm’s initial efforts to educate staff, report accurate embodied carbon data, identify reduction opportunities, and advocate for broader industry engagement. It reflects ERA’s values of service, expertise, teamwork, and quality, and builds on a foundation of rigorous analysis, thoughtful design, and a commitment to environmental responsibility.



We work in nearly every market sector across the U.S. on all sizes and project types from single-stories to high-rises.

40+
YEARS IN
BUSINESS

80+
EMPLOYEES

2
OFFICES
ST. PAUL, MN
EAU CLAIRE, WI

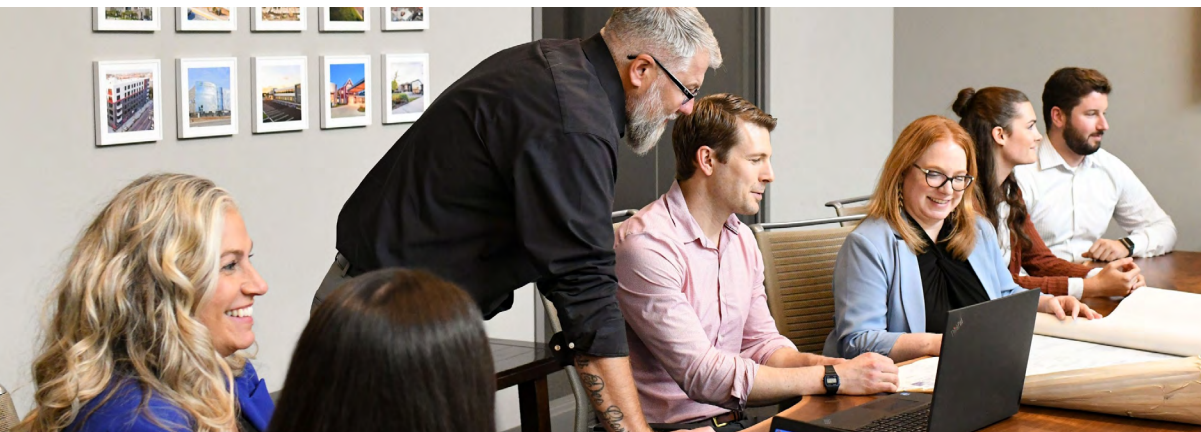
50
STATES
WE’RE
LICENSED
+ MANITOBA
+ BRITISH COLUMBIA

EDUCATION.

Empowering ERA staff to understand, measure, and reduce embodied carbon.

ERA recognizes that firmwide education is foundational to meaningful embodied carbon reduction. As a first-year signatory to the SE 2050 Commitment, ERA is focused on building internal awareness, shared understanding, and practical skills related to embodied carbon in structural design.

To support this effort, ERA established an Embodied Carbon Committee, currently consisting of five members, to serve as a resource for the firm and to guide early implementation of embodied carbon strategies. The committee's role includes educating staff on embodied carbon fundamentals, sharing lessons learned from completed projects, and encouraging efficient structural design decisions that can reduce material use and global warming potential without adding cost or schedule impacts.



5
EMBODIED
CARBON
COMMITTEE
MEMBERS

7
EMBODIED
CARBON
COMMITTEE
MEETINGS

10
EXTERNAL
EDUCATION
SEMINARS
ATTENDED

5
SE 2050
MEETINGS
ATTENDED

Education is delivered through multiple internal channels, including:

- **Internal Lunch & Learns (L&Ls) presentations** focused on embodied carbon and ERA's SE 2050 commitment
- **Regular updates in ERA's monthly internal newsletter**, highlighting tools, case studies, and industry developments
- **Presentations at company-wide meetings**, sharing progress, findings from LCAs, and upcoming goals

The Embodied Carbon Committee is dedicated to ongoing internal education. In the past year, two committee members attended the inaugural **Towards Zero Carbon 2025 Summit and Symposium** held June 26-27, 2026 in Boulder, Colorado. As participants in the first-ever summit, ERA was proud to be among the founding firms engaging in this milestone event, reinforcing our commitment to advancing embodied carbon reduction within the structural engineering community across the nation.

ERA is also developing an **internal embodied carbon workshop** intended to expand hands-on experience beyond the committee. This workshop will allow staff to:

- Perform basic structural system comparisons
- Use LCA tools with Revit-based material quantities
- Compare results and discuss design tradeoffs

Additionally, ERA maintains an **internal resource hub** where employees can access:

- Internally developed tools
- Examples of past projects with sustainable or low-carbon achievements
- Reference materials related to embodied carbon, LCAs, and specifications

Internal Embodied Carbon Champion & In-house Sustainability Advisor



Mariah Fournier, EIT
mfournier@eraeng.com

REPORTING.



Establishing consistent methods to measure and share embodied carbon data.

ERA is committed to transparent and consistent reporting of embodied carbon data in alignment with SE 2050 program requirements. During this first year, ERA's reporting efforts focus on developing reliable workflows and establishing baseline data across a variety of project types.

Embodied carbon is calculated by:

- Extracting material quantities directly from Revit models
- Inputting quantities into LCA tools to evaluate structural materials
- Quantity takeoff by hand calculation from structural drawings

4
SE 2050
PROJECTS
SUBMITTED

3
STATES
INCLUDED IN
SE 2050
PROJECT
SUBMITTALS

11
CONSTRUCTION
TYPES

3
COMPLETED
CONSTRUCTION
PROJECTS

2
ANALYSIS
TOOLS

ERA uses **SE 2050 ECOM** and EC tools to perform LCAs and is currently reporting embodied carbon for **four completed projects**, each representing different structural systems. Analyzing completed projects allows ERA to capture full material quantities and gain confidence in reporting accuracy.

Key elements of ERA's reporting methodology include:

- Use of **life cycle stages A1-A3** for embodied carbon analysis
- Reliance on **industry-average** and local supplier average EPDs
- Submission of **Structural Material Quantities (SMQs)** alongside project data to support SE 2050 database consistency

As data collection continues, ERA intends to use reported results to:

- Identify trends across structural systems
- Implement successful strategies across all projects
- Establish benchmarks to inform future reduction targets



REDUCTION.

Using data-driven design decisions to lower embodied carbon.

As a first-year SE 2050 signatory, ERA's embodied carbon reduction strategy is currently focused on **baseline development and opportunity identification**. By analyzing completed projects and comparing structural systems, ERA is building the data foundation needed to establish specific and measurable reduction targets.

Early reduction efforts have centered on:

- **Comparing structural system options** during design to understand embodied carbon tradeoffs
- Identifying opportunities where **material efficiency and system selection** can reduce embodied carbon without increasing project cost or schedule
- Making **early design decisions** in collaboration with architects and owners to minimize unnecessary material use

ERA has already observed that system comparisons at schematic design can meaningfully influence project direction, particularly when embodied carbon results are shared alongside cost and constructability considerations.

As ERA continues to collect and analyze data, the firm plans to:

- Set short-term and long-term embodied carbon reduction targets
- Formalize workflows that integrate embodied carbon considerations earlier in design
- Expand the use of structural system comparisons as a standard design practice

By analyzing completed projects and comparing structural systems, ERA is building the data foundation needed to establish specific and measurable reduction targets.



ADVOCACY.

Sharing knowledge and promoting embodied carbon reduction beyond ERA.

ERA believes that meaningful embodied carbon reduction requires collaboration across disciplines and active engagement beyond the firm. As part of its SE 2050 commitment, ERA has begun advocating for embodied carbon awareness and action within the broader design and construction community.



1
AIA-ACCREDITED
CLIENT
PRESENTATION
CREATED



1
PODCAST-STYLE
PROMO VIDEO OF
AIA-ACCREDITED
PRESENTATION



6
INTERNAL
PRESENTATIONS
TO ERA
COLLEAGUES



8
INTERNAL
NEWSLETTER
ARTICLES

ERA's advocacy efforts include:

- Delivering an **AIA-accredited presentation** on embodied carbon, highlighting the importance of the SE 2050 Commitment and its alignment with **AIA 2030 Commitment and MEP 2040 Challenge**
- Explaining the role of structural engineers in reducing embodied carbon and how SE 2050 supports industry-wide progress
- Promoting ERA's SE 2050 signatory status through **social media posts and a promotional video** associated with the AIA presentation



Podcast-style promotional video for ERA's AIA-accredited Embodied Carbon Course

ERA has also engaged with the **Carbon Leadership Forum Minnesota** by attending virtual roundtable meetings to:

- Learn about specification language for low-carbon structural materials
- Stay informed on emerging best practices and regional initiatives

Through these advocacy efforts, ERA is raising awareness of embodied carbon reinforcing its commitment to SE 2050, and encouraging broader adoption of low-carbon design strategies.

ERA Structural Engineering is a full-service structural engineering firm that is proud to be a signatory firm of SE2050 as of 2025.



Internal Embodied Carbon Champion & In-house Sustainability Advisor

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