

SE 2050 ECAP Submission Form (No PDF)

Email *

eakah@smbhinc.com

Firm Name *

SMBH Inc.

Education

The first step to increased engagement within your firm is through education. We all should strive to understand the impacts of our design decisions and their effects on our environment.

Distribute firm-wide announcement of your firm's pledge to join the SE 2050 Commitment. *



Completed



Not Completed

Provide a brief narrative describing how your firm is promoting a firm-wide education program for embodied carbon reduction and the firm's commitment to SE 2050. *

In 2025, firm goals were introduced and established to further define, outline, and internally understand our company baseline of standard procedures and operations for project approach, design, and performance. In 2026, our firm created a new supplemental role - Sustainability Lead! The role is being filled by our Embodied Carbon Champion, Ebiji Akah. The role is focused on the environmental impacts of our inherent design standards, and requires completing (3) annual goals through the process of establishing G.O.A.L.s: Gather knowledge on impacts; Offer information to colleagues; Assess reduction strategies and align to firm vision; Lead education and implementation of improvements.

Name of Embodied Carbon Champion (Point Person) *

Ebiji Akah

Email of Embodied Carbon Champion *

eakah@smbhinc.com

Phone number of Embodied Carbon Champion *

614-643-5579

LinkedIn URL

linkedin.com/in/ebijiakah

Set a date within the first year to present the “Embodied Carbon 101” Webinar to your firm. *
Incorporate this information into your orientation/on-boarding programs.

- ☒ Committed / Completed
- ☐ Not Committed / Not Completed

Minimum (1) additional elective to educate your firm about embodied carbon and a narrative of its significance. *

- ☒ Committed / Completed
- ☐ Not Committed / Not Completed

ELECTIVES (Min. (1) required, recommended to achieve (4) per year): *

- ☒ Have one representative of your firm (any employee) attend quarterly external education programs (e.g. webinar, workshop) provided by SE 2050, Carbon Leadership Forum (CLF), or other embodied carbon resources.
- ☒ Share the SE 2050 library of resources with technical staff.
- ☒ Share embodied carbon reduction strategies with your firm as outlined in Top 10 Carbon Reducing Actions for Structural Engineers document produced by SE 2050.
- ☒ Nominate a minimum of (1) employee per office to participate in a CLF Community Hub.
- ☒ Provide narrative outlining plans for minimum (2) firm-wide presentations per year on the topic of embodied carbon
- ☐ Present the document, "How to measure and report embodied carbon" to all technical staff.
- ☐ Attend a presentation or demo of an LCA-based tool used to calculate embodied carbon.
- ☐ Initiate an embodied carbon interest group within your firm and provide a narrative of their goals.
- ☐ Provide a narrative of how the Embodied Carbon Reduction Champion will engage embodied carbon reduction at each office. (intended for multi-office firms)
- ☐ Other actions you feel appropriate and a narrative for why.

Elective Narrative (Optional):

Our office assigns an internal Production Mentor to help on-board new hires. The on-boarding process includes a list of tasks to complete within the first few months of being hired. On that list includes watching the original "SMBH and Sustainability" video from 12/4/2023, and the "Embodied Carbon 101" webinar from CLF.

The Sustainability Lead has (3) goals for the first three quarters of 2026: 1) submit SE 2050 commitment requirements; 2) update concrete general notes and specifications to be performance based; 3) organize internal resources that refer back to SE 2050 and CLF for quick access and education. Progress will be included in quarterly internal newsletters, and the last quarter of the year will be used for internal education and further implementation of updating standards.

We continue to attend and be involved in the SEAoO Sustainable Design Committee and CLF Ohio Hub.

Reporting

Quality data is essential to making informed decisions and setting important benchmarks and the development of appropriate embodied carbon reduction targets. The SE 2050 database is a central component to building a successful Commitment Program and reaching our collective embodied carbon reduction goals by 2050.

Submit an annual minimum of (2) projects per U.S structural office or (5) total projects for the firm to the SE 2050 Database. *

- ☐ Completed
- ☒ Committed and on track
- ☐ Need help reaching this target
- ☐ Not Completed

Number of Projects Reported Last Year (zero in first year)

2

Number of Offices Reporting Last Year (zero in first year)

1

Provide a narrative on how your firm plans to measure, track, and report embodied carbon data. *

During these first few years, we will select projects that require cost estimating - typically schools - to be used for embodied carbon data submissions. We will use the SE 2050 ECOM tool for material reporting, and compare a c.scale output (schematic data) with Construction Document data. Project process will be reviewed to incorporate check-ins at the beginning of the project, and at the end of the project for the purpose of reporting data.

Describe the internal training for embodied carbon measurement you provided or will provide. *

A technical development session will be scheduled near the end of the year to explain calculating embodied carbon through c.scale and the ECOM tool. Data measurement processes can then be assessed, established into incremental training for project teams, and developed into goals to update standards for 2027.

ELECTIVES (Not required, recommended to achieve (1) per year):

- ☐ Submit all projects to the SE 2050 Database
- ☐ Meet your target average embodied carbon reduction from the previous year.
- ☐ Report a greater percentage of projects than the preceding year.
- ☒ For a project submitted to the database, ask the Architect or Owner if the project has a carbon budget or if there are established project sustainability goals at the project kickoff meeting.
- ☐ Other actions you feel appropriate and a narrative for why.

Elective Narrative (Optional):

Embodied Carbon Reduction Strategies

Embodied carbon reduction of structural materials is the ultimate goal of the SE 2050 program. As a starting point, you will have access to the SE 2050 project database and Program resources to identify and set strategies. This section also serves to share lessons learned and incite innovation. Demonstrate leadership by not only applying, but developing best practices and actively collaborating with the design community. This is our profession's opportunity to take action and make an impact.

Set an EC reduction goal for the coming year and an implementation narrative (Qualitative goals focused on education are appropriate for the first year) *

The first year (2025) was mainly focused on educating the EC Champion and firm leaders to establish the Sustainability Lead role. The reduction goals for 2026 are to establish performance based concrete specifications and goal tracking methods, so that we understand the baseline to inform future strategies.

For second year's ECAP and beyond, provide a narrative about what you have learned about embodied carbon reduction in the past year. Describe successes and misses to help the program improve.

The most sustainable building is said to be one that is already built. That can be true when the project scope takes into consideration the existing structural system to inform how the project will proceed. Every project has the potential to be optimized for EC reduction through the products specified, the structural systems selected during the design process, and the effective communication during overall project procedure. Systems thinking has helped pursue integrated design on a project basis by communicating structural demands early, and recommending cost saving alternatives.

Successes: 1) in SD, collaborated with a retail owner that's modifying an existing exterior storefront; instead of replacing an existing wood shear wall with a steel moment frame, the wall was partially removed/reinforced with interior sheathing and added concrete to foundations. 2) in SD, communicated with school architect the added costs and inefficiencies of supporting exterior elevated CMU walls with steel beams/columns; programs were modified to align walls and reduce transfer conditions. 3) in SD, collaborated with steel joist manufacturer about a school project with girders spanning 138 feet; optimized girder profile with architect to reduce steel tonnage.

Misses: 1) in SD, coordinated with school contractor the preferred construction methods: cold weather construction required all exterior and interior foundations to be at frost depth, increasing the concrete volume; elevated floors were composite steel beams, increasing the tonnage compared to steel joists. Both choices add EC and costs to the owner.

Minimum (1) additional elective to educate your firm about embodied carbon and a narrative of its significance. *

☒ Committed / Completed

☐ Not Committed / Not Completed

ELECTIVES (Min. (1) required, recommended to achieve (4) per year): *

- ☐ Incorporate data visualization into your ECAP. How are you looking at data to make informed design decisions and communicate design options to your clients?
- ☒ Provide a project case study in your ECAP that captures a reduction of embodied carbon or some lessons learned.
- ☐ Create a project-specific embodied carbon reduction plan.
- ☐ Complete a system embodied carbon design comparison study during the project concept phase.
- ☐ Participate in a project LEED design charrette and speak to potential design considerations impacting embodied carbon.
- ☐ Calculate your firm average benchmark for embodied carbon.
- ☒ Update your specifications and incorporate embodied carbon performance. Include embodied carbon in your submittal review requirements.
- ☒ Collaborate with your concrete supplier to reduce embodied carbon in a mix design.
- ☐ Work with a contractor during material procurement to meet an embodied carbon performance criteria on at least (1) project.
- ☐ Have an Environmental Product Declaration (EPD) created as a result of a project.
- ☒ Incorporate biogenic materials on at least one project annually.
- ☐ Provide a narrative of how circular economy has been used on your projects. Incorporate re-use or design for deconstruction into at least one project.
- ☐ Quantify construction waste reduction on a project and the impact to embodied carbon.
- ☒ Integrate embodied carbon mitigation strategies in your General Notes.
- ☐ Other actions you feel appropriate and a narrative for why.

Elective Narrative (Optional):

Sustainability is about playing the infinite game. Change takes time, and requires communicating in a way that speaks to the specific audience. Any new ask of our own team and of the project teams requires patience, understanding, and repetitive education. Focusing on school projects for EC data, we will begin to compare structural systems and provide recommendations to project teams to reduce EC and ultimately save costs. Internal assessments will help establish a standard practice for school projects and inform future conversations with clients.

Advocacy

True change can only come with industry-wide adoption. This section recognizes that our impact reaches beyond any one firm. Plan opportunities to share your experience and knowledge within your firm, with your design community, and beyond. Host a webinar or lunch 'n learn, attend a conference, connect with the SEI Sustainability Committee, or reach out to manufacturers and policy-makers.

Provide a narrative about how you plan to share knowledge and data to accelerate adoption of embodied carbon reduction. *

Our Sustainability Lead is actively engaged in SEAO Sustainable Design Committee, CLF Ohio, and AIA COTE in Columbus, Ohio. Over the last few years he has been speaking at sustainability conferences, and will continue to seek out new opportunities.

Describe the value of SE 2050 to clients. How can we collaborate to drive adoption? At your option, attach any associated marketing materials. *

AIA 2030, MEP 2040, SE 2050: these commitments push us to see beyond the projects to answer: "what is it that we are working toward as a firm?" And ask clients and owners, "what is it that you are working toward that we can help with?" Projects can benefit from design teams communicating and establishing common goals. These commitments help each discipline individually be more efficient – reducing waste, energy, and costs – for specified products and design processes. Having cross-disciplinary goals and commitments moves us toward integrated design to improve the effectiveness of design teams to deliver a project that meets or exceeds expectations and satisfies the client.

Optional: Upload any documents you would like to exhibit.

 Add file

Declare your firm as a member of the SE 2050 commitment on boilerplate proposal language. *

- ☒ Committed / Completed
- ☐ Not Committed / Not Completed

ELECTIVES (Not required, recommended to achieve (2) per year):

- ☒ Share your commitment to SE 2050 on your company website
- ☒ Give an external presentation on embodied carbon that demonstrates a project success or lessons learned (Tip: Get connected at a CLF local hub near you!)
- ☐ Discuss with the Owner / Client the option of requiring that some of the structural materials come with facility-specific or product-specific EPDs
- ☒ Share education opportunities with clients
- ☐ Provide a narrative of how you have encouraged industry and policy change incentivizing availability of low-carbon and carbon sequestration materials
- ☐ Start an embodied carbon community of practice or mentorship program in your office
- ☐ Mentor a firm new to the embodied carbon space
- ☐ Other action you feel appropriate and a narrative for why.

Elective Narrative (Optional):

See above for industry engagement. We will also link our 2025 ECAP and SE 2050 Signatory badge on our firm website.

Program Feedback

Please add any comments that you wish to share publicly. The Program Leadership Group is committed to transparently improving SE 2050.

Comments:

I think SE 2050 would benefit from more marketing narratives. To get widespread adoption, sustainability concepts can be emphasized in ways that are understood by a broader audience; each new build is a global investment that impacts 60+ years of: community (people), economy (profit), and pollution (planet). The design process will dictate the product's degree of impact - helpful or harmful - for each category. Please reach out to Ebiji Akah (eakah@smbhinc.com) for more ideas.

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