

SE 2050 ECAP Submission Form

Email *

sarah@maffei-structure.com

Firm Name *

Maffei Structural Engineering

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. *

We have shared and made easily available the embodied carbon resources prepared by SE 2050. Topics related to embodied carbon on various projects are brought up during all-hands meetings so that the entire company can get involved and learn about what others are doing. Every year, our ECAP is shared with the company, so that all employees are aware of our goals and what we've accomplished in the past year.

Name of Embodied Carbon Champion (Point Person) *

Sarah Chen

Email of Embodied Carbon Champion *

sarah@maffei-structure.com

Phone number of Embodied Carbon Champion *

4434742444

LinkedIn URL

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):

We've set up a company-wide chat space for informally sharing information and ideas related to embodied carbon. We've set up an in-house digital library for reference materials, templates, and other tools.

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. *

We will use the EC3 tool to measure cradle-to-gate (A1-A3) embodied carbon for at least 2 projects, calculating structural material quantities by hand. If a BIM model is readily available from the project, we will use Tally to help streamline those calculations into EC3. We will begin measuring embodied carbon in the SD phase, updating our calculations through the DD and CD phases.

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

Every year, as part of SE 2050's reporting requirement, we will train a team member on our measurement process using training or experience from the past year.

Since 2023, we have been developing an in-house life-cycle assessment calculator based on specific project EPDs. This tool allows us to visualize the environmental impacts of chosen materials and better communicate with clients about embodied carbon reduction strategies.

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) *

We will work to develop a benchmark of our firm average embodied carbon by performing an LCA on completed projects to add to our database.

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.

Achieving a reduction goal has been difficult for our firm in the past years because of the variety of work we have and relatively small scope projects. Because a majority of our work is renovation or retrofit, we are constrained in design choices and have less impact on final construction decisions. However, our passion for embodied carbon reduction has reached certain clients to request LCAs from us in hopes of reducing their company average embodied carbon. We hope this trend continues moving forward, and so we may expand our expertise and apply reduction strategies to more projects.

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):

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. *

We will look for opportunities to advocate for the adoption of embodied carbon targets in building codes, following Marin County's example for concrete. We will share our discoveries of available methods and materials to reduce embodied carbon with our architecture and engineering clients and colleagues.

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

Eliminating embodied carbon from our projects is of benefits to all stakeholders on a projects and comes at no loss. The goal of SE 2050 is to achieve the same performance and value, while also reducing harm to our planet. This requires a collaborative effort that needs buy-in from the entire design team. Change will not happen without a dedicated team willing to innovate and lead the industry to a better future.

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):

Program Feedback

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

Comments:

Environmental sustainability is one of the core values of our firm, and we are eager to support the SE 2050 initiative. Working together with a focus on sustainable design and carbon reduction, we can help make our planet a better place for the generations to come.

This content is neither created nor endorsed by Google.

Google Forms