

SE 2050 ECAP Submission Form (No PDF)

Email *

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Firm Name *

Blackwell

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 quarterly tech talks focused on embodied carbon, some are internal focusing on updates to our processes or successes in our projects, others bring in industry leaders.

Name of Embodied Carbon Champion (Point Person) *

Simon Rayment

Email of Embodied Carbon Champion *

srayment@blackwell.ca

Phone number of Embodied Carbon Champion *

416 593 5300 x 124

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):

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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)

5

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

2

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

We have developed our own internal tracking system using revit, dynamo scripts and a database of local EPDs for various materials. While cumbersome to set up, now that it is in place we are able to rapidly quantify design options and changes in terms of carbon.

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

We provide yearly internal tech talks on our process, including any updates to our carbon accounting system.

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) *

This year our goal is to continue to build our library of the embodied carbon of common structural systems. This will allow designers to provide timely feedback on proposed construction types and floor layouts early in projects.

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.

We continue to have success specifying lower GWP concrete in the local market. Re-use of steel sections from demolished buildings would require a massive industry shift and seems unlikely in the near future. Mass timber solutions are not always the lowest GWP, we have found replacing large glulam beams with steel trusses made of low GWP steel has benefited a project. The connections in mass timber systems can be up to 5% of the GWP of the system.

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):

We routinely use mass timber in our projects that are seeking low embodied carbon. We place wood where it is most effective.

Our specification notes bench marks and targets for all concrete mixes. We routinely work with suppliers, most of whom are engaged and informed, on ensuring they are able to satisfy the requirements in our specification.

In some cases, we have specified low carbon steel to meet mandated embodied carbon bench marks, in these cases we work with the contractor to source appropriate materials.

We incorporate carbon accounting on our reduced embodied carbon projects, we report the carbon cost of various design options during the early stages of the project.

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. *

- Share our commitments and involvement with the SE2050 initiative through a variety of communication channels including social media, website and news letters
- Communicate with our clients and industry peers about the SE2050 initiative and the importance of embodied carbon reduction. Become involved within our industry and in broader contexts to advocate for more sustainable practices.
- Continue to request type III EPDs from industry contacts and project partners to build our internal library and maintain focus on carbon reduction within the industry.

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

The SE2050 Commitment is our industry's initiative to transform the way we design, aiming for net-zero embodied carbon structural systems by the year 2050. Because the structural frame and foundation typically account for the vast majority of a building's upfront carbon emissions, our role is critical. It provides value to the client in the following areas:

- Meeting ESG goals of your organization
- Future regulation risk mitigation (meet the requirements of proposed green building legislation to streamline future project delivery)
- Increased asset valuation and rentability
- Streamlined green certification
- Material efficiency

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):

- Last year we published an article in Canadian Architect magazine, highlighting our approach to reduced carbon design in our structures. We will look for similar opportunities this year.

Program Feedback

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

Comments:

Regional benchmarks should be established that can be used by AHJ's to set realistic limits, so the AHJ does not have to reinvent the wheel.

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