SE 2050 ECAP Submission Form

Email *

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Firm Name *

KICSEC Ltd.

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 understand the impact of embodied carbon and our team is on board with this mission and strongly support the vision to minimse greenhouse gas emissions released during the various project life cycles. Our aim is to arrive at design solutions while considering the minimization of related products during all phases of the project including in raw material extraction, transportation, manufacturing, construction, maintenance, renovation, and end-of-life for a product or system. As we are a small company mainly focusing on bridges, we plan to study the latest developments and guidelines in this area in the New Zealand context to help in our successful implementation of the plan.

Name of Embodied Carbon Champion (Point Person) *

Yadav Khwaounjoo

Email of Embodied Carbon Champion *

yadav.khwaounjoo@kicsec.com

Phone number of Embodied Carbon Champion *

+642102896755

LinkedIn URL

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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):

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)

0

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

0

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

We plan to calculate embodied carbon in every part of our design process and help implement efficiency in areas of systems and materials. This will involve implementing the following during the project delivery process:

- Life Cycle Assessment - quantify the environmental impacts of products and service
- Select and specify materials that are efficient while ensuring they're safe and durable
- Establish an agreed set of principles for the measuring of embodied carbon by ways of utilizing available tools (e.g. The Structural Carbon Tool)
- Reduce the amount of carbon used
- Quantify the benefits of low carbon design to the client and society

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

Once appropriate studies have been completed in the area relevant to us, we plan to provide suitable training to our team by engaging them with the principles outlined above. One of the key feasibility considerations will be to include direct and indirect ways for the reduction of embodied carbon. In general, considerations will be given by each team member to the following:

1. Overall structural materials used
2. Equipment and methodology for different stages
   - Construction
   - Maintenance in the design life
   - Decommissioning
3. Calculation of whole of life cost of the project together with various breakdowns on the cost implications from embodied carbon content - construction to decommissioning
4. Possibilities in optimizing the structural form, analysis, and design

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) *

As we are a small company mainly focusing on bridges, we plan to study the latest developments and guidelines in this area in the New Zealand context to help in the wider development and successful implementation of the plan to reduce embodied carbon. We recognize that there are shortcomings, especially for the environmental impact of infrastructures such as bridges. For such projects, the embodied carbon becomes the main part of the environmental impact. In summary, we plan to implement the following during the project delivery process:

- Select and specify materials that are efficient while ensuring they're safe and durable
- Establish an agreed set of principles for the measuring of embodied carbon
- Reduce the amount of carbon used
- Discuss the benefits of low carbon design to the client

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.

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):

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 intend to establish and maintain an open dialogue with our clients from the outset about minimizing embodied carbon at all stages of the project. One of our goals is to reduce resource demand and increase the reuse/recycling of old structures as much as possible and to enable such reuse in new designs too. From these discussions, appropriate implementation will be considered in all aspects of the project delivery as described above.

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

At this stage, we are studying and preparing various strategies to make our commitment feasible and transparent. We plan to develop appropriate guidelines/marketing materials in due course for this.

Optional: Upload any documents you would like to exhibit.

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: