

# SE 2050 ECAP Submission Form

Email \*

jlinford@reaveley.com

Firm Name \*

Reaveley Engineers

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. \*

Reaveley Engineers is performing life cycle analyses on projects that we've worked on and acting as a resource for engineers in the firm who have projects where clients have interest in reducing embodied carbon. We have begun discussions with firm leadership about potential reduction strategies related to concrete mix designs, material types, life cycle analyses, and efficient engineering design.

Name of Embodied Carbon Champion (Point Person) \*

Jacob Linfoord

Email of Embodied Carbon Champion \*

jlinford@reaveley.com

Phone number of Embodied Carbon Champion \*

8015054004

LinkedIn URL

[www.linkedin.com/in/jacob-linfoord-7b6a4481](https://www.linkedin.com/in/jacob-linfoord-7b6a4481)

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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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 continue to provide the requirement of 2 life cycle analyses per year. As part of our work for this year, we have been developing spreadsheets and internal guidelines for how to use Beacon, things to watch out for in material quantification, and best practices for options selected in the tools. We will continue to organize these tools in the coming year to make our upcoming life cycle analyses more efficient and put us on a path to performing quick life cycle analyses on many more of our projects each year.

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

We have an internal guideline for things to consider in our LCA's. We will continue to flesh this out throughout the coming year.

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) \*

Perform an internal study into how we might use a performance based concrete spec and begin the process of working with concrete suppliers to see which ones in the region have EPD's. Encourage the development of EPD's for all basic mix designs at each concrete supplier in Utah.

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 are a small firm and our region doesn't have the demand for these yet. We really don't have a way to implement solutions that are cost-impactful at this point since the client's are not asking for them. Our main focuses are to reach out to architects and work with them on promoting this to clients, reach out to clients to educate them about how this will help them meet their sustainability goals, and then focus on things that can reduce embodied carbon without cost or architectural considerations. We are going to be focusing on concrete mix designs this year, but we are realizing that there aren't very detailed guidelines or samples of this out there which means we will have to do some more legwork on it than originally anticipated.

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):**

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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. \*

There are several clients that are likely to be more amenable to embodied carbon goals in their projects in Utah. Two in particular represent a large portion of our projects. There are several loose opportunities for us to reach out to representatives from these organizations to discuss their sustainability goals and how embodied carbon reduction might benefit those. We will seek to meet with two individuals throughout the year to make this happen.

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

SE 2050 currently is not valuable to our clients. We believe it will be, but they haven't seen that picture yet. One collaboration opportunity would be for SE 2050 to provide a sample concrete performance specification and a quick training on how to interact with concrete suppliers on this. We are planning to go through this this year and it's still a grey area in terms of how we are going to succeed in 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):**

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**Program Feedback**

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

**Comments:**

Thank you for all you do! We realize that much of this effort is voluntary. We are slowly trying to help Utah to progress in this movement and believe that we'll get there. We are definitely in a category of states and engineering firms that are very young in this type of thinking. Any efforts from those with more resources and experience to "walk through" the path ahead are always appreciated. If there were a group of engineers that were meeting specifically with certain regions to organize local NCSEA groups on sustainability or to help make action plans to spread awareness then that could be helpful. Either way, we'll be working from our end to make things happen.

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