



Embodied Carbon Action Plan 2024

Education

SLAM has an internal team committed to sustainability called the GREEN Team. This team is comprised of architects, interior designers, and engineers since SLAM is an architecture and engineering firm. Each team member specializes in researching different areas of sustainability, and currently there are multiple members within the GREEN Team involved in embodied carbon specific research. The GREEN Team presents to the entire firm multiple times a year about different sustainable topics and project case studies for implementation of these sustainable practices. There is also a GREEN Team representative for each studio, and that representative is in charge of relaying any of the latest news/information from the GREEN Team to their respective studio.

The GREEN Team has presented multiple times on Embodied Carbon to the entire SLAM firm. Each presentation is recorded, so everyone in the firm can always go back and rewatch them. Since the last ECAP, the structural studio has leveraged some of these Embodied Carbon presentations and woven them into our new employee information documents so that new employees know where to watch these presentations and will have a basic understanding of what Embodied Carbon is.

Looking ahead, one goal for this year is to train all of the structural studio members on how to gather and report project data to the SE 2050 database, so that the Embodied Carbon Reduction Champion is not the only person who is trained to do this. Along with this, an ongoing goal is to continue to educate the rest of the structural studio about the basics of embodied carbon, and continue to relay project embodied carbon data information to the studio so people can start to get familiar with the Embodied Carbon units of measurement.

Reporting

This year, SLAM Collaborative submitted 3 projects to the SE 2050 database, which is more than the 2 projects that were submitted last year to SE 2050. SLAM has formally submitted a total of 5 projects to the SE 2050 database so far.

The GREEN Team has come up with some project Sustainability Checklists that are starting to be implemented and discussed at each project Design Charette. This checklist breaks down sustainable practices to consider at each project phase.

SLAM has been testing out multiple different ways of measuring the embodied carbon data for projects. The Revit plug-in Beacon has been tested, along with Tekla Structural Designer (TSD) new embodied carbon capabilities. It has been determined for now that the Revit

material quantity schedules that SLAM has set up for the purposes of estimation, can also be utilized for embodied carbon reporting. These Revit quantity schedules have been the most efficient way to measure the total embodied carbon of the structural materials in projects so far.

Looking ahead, one goal for the upcoming year is to come up with a more formalized method for measuring the total embodied carbon of the structural materials in a project. This task will be accomplished by coming up with a tutorial for measuring the embodied carbon of a project and going over that tutorial with the rest of the structural studio. Training others to be able to measure the embodied carbon will allow others to become more familiar with embodied carbon information, and then comparisons between projects can start to be made.

Reduction

One Embodied Carbon reduction goal for this year is to measure and report the embodied carbon for more projects so there is more data to glean potential EC savings from. The internal SLAM structural studio is also looking at other EC savings to reduce total quantity of structural material, like potentially reducing the typical slab on grade from 5 inches to 4 inches, or possibly reducing the strength of slab on deck concrete to 3000psi.

The Steel and Concrete Specifications have been updated in the structural studio to include submittal requirements for EPD's along with final quantities of steel and concrete materials for each mix design. There has also been much research and discussion with local concrete plants about embodied carbon reductions in concrete, which ultimately lead to the sustainable updates that have been made to the concrete specifications which include requiring SCM's, allowing for PLC concrete, and including more SCM's so concrete plants have more options for compliance. Because SLAM is a national firm, the coordination with local concrete plants has been discovered to be an ongoing task that needs to be implemented in more areas that SLAM is starting to win more projects in. The structural studio has learned that it is relatively simple to start including these requirements in specifications, but it is a little harder to get contractors to adhere to the requirements. These requirements need to get pushed on every project, and need to be a point of discussion at concrete pre-construction meetings and before concrete is out to bid.

Advocacy

The GREEN Team presents webinars throughout the year to all of SLAM about sustainable topics, including embodied carbon. The GREEN Team also reports out to each studio with updates that the GREEN Team is working on. Outside of SLAM, multiple members of the GREEN team are a part of other sustainability related committees such as AIA COTE (Committee on the Environment), NCSEA Sustainability Committee, NCSEA Sustainable Policy Sub-Committee, etc. This year, GREEN Team members have also given presentations to these committees about embodied carbon.

Internally, the SLAM structural studio has been working to make the architects at SLAM aware of embodied carbon in general, and that it's important and should be discussed during the project design and with the client.

The GREEN Team has been working to come up with more marketing materials for architects to use when they are in front of clients, but there have been some hurdles with this marketing task. A goal for this year is to internally come up with some material about SLAM, SE 2050, and embodied carbon for architects to use at client meetings.

Another goal for this year is to get the sustainability page back up on the SLAM website. SLAM did have a sustainability page that consisted of information about SLAM's commitment to SE 2050 and AIA 2030, however that page has since been removed. The GREEN Team has been working with IT to get this page back up and running. The firm did post a blog to the SLAM website with information about SE 2050 and SLAM's declaration of commitment to SE 2050.