

GLOTMAN · SIMPSON

SE 2050

Our commitment to Net Zero

Embodied Carbon Action Plan 2021

GS



1.0 EDUCATION

Firm Wide Announcement

Glottman•Simpson will internally announce its pledge to join the SE 2050 Commitment via an email from our Chief Operating Officer.

Firm Wide Education Program

In addition to the firm-wide announcement about our pledge to join the SE 2050 Commitment, Glottman•Simpson will develop a holistic education program - one that is both accessible and informative - for our staff.

Components of this education program include the following:

- **Committee - The Sustainability Committee**
 - We will form a Sustainability Committee. This will be spearheaded by our Embodied Carbon Reduction Champion.
- **Internal Newsletter - The Take-Down**
 - Our quarterly internal newsletter will always have a section devoted to sustainability, particularly embodied carbon elimination.
 - In particular, we will also include key information about the “Top 10 Carbon Reducing Actions for Structural Engineers” in “The Take-Down”, our firm’s quarterly internal newsletter.
- **Webinar - Embodied Carbon 101**
 - We will craft our own “Embodied Carbon 101 - GS Edition” webinar modelled off of the SE 2050 program requirements guidance document.
- **Intranet - GS Wiki**
 - Our in-house material related to embodied carbon reduction (including “The Take-Down” and the “Embodied Carbon 101 - GS Edition” webinar) will be stored in our intranet, the “GS Wiki”.
 - Further, all relevant resources provided by SE 2050 will be stored in the “GS Wiki” as well.



Embodied Carbon Reduction Champion



“The need to phase out carbon emissions is more pressing than ever. The built environment is responsible for over 70 percent of global CO2 emissions, mostly from buildings; the opportunity we have to change this through smart, efficient and carbon-informed design decisions is exciting.”

- Harrison Glotman, MS, P Eng

Harrison Glotman has been nominated as Glotman•Simpson’s Embodied Carbon Reduction Champion.

Harrison Glotman is a Project Manager and Design Engineer with several years of experience working on complex projects across Canada and the U.S. Prior to joining Glotman•Simpson, Harrison worked on high-end homes and retrofits in some of the most iconic buildings in New York and San Francisco. He completed his Master of Science in Structural Engineering with a full scholarship to Stanford University where he specialized in seismic engineering. The knowledge gained through this degree has proven to be incredibly valuable in building design on the West Coast. Harrison takes the utmost pride in finding the most efficient solution that achieves both the architect’s and client’s vision. He enjoys digging into the details and exercising his technical skills to ensure construction drawings are concise and well-coordinated. He is committed to working closely with the team at every stage of the project.

Since the start of his professional career, Harrison has grown an extensive repertoire of LEED Certified projects and carbon efficient projects including:



SoLo
(Perkins&Will)



5th and Main
(Henriquez Partners Architects)



22nd and Bellevue
(Perkins&Will)



Embodied Carbon 101 Webinar

Our Sustainability Committee will come together to create a bespoke “Embodied Carbon 101 Webinar - GS Edition” per the SE 2050 program requirements guide, specifically geared towards our staff and our top clients.

Our ultimate goals are as follows:

- To educate our staff on embodied carbon reduction
- To raise awareness about embodied carbon reduction within our client base

We will present this webinar to our entire team, but will record it for later access should some staff be unable to attend the webinar session. Our firm will be presenting this webinar before the end of 2021.

Further, we will include this in our orientation and onboarding programs to ensure our new staff begin work with sustainability at top of mind.

Electives

We understand that only 1 elective needs to be achieved, but Glotman•Simpson is committed to achieving a few additional electives as well:

The electives are as follows:

- **Share the SE 2050 library of resources with technical staff**
 - Our firm disseminates an internal newsletter, The Take-Down, quarterly. This can be among the key pages in the newsletter. The next issue is slated for release in Fall 2021.
- **Share embodied carbon reduction strategies with you firm as outlined in Top 10 Carbon Reducing Actions for Structural Engineers document produced by SE 2050**
 - Our firm can dedicate a spread for “Carbon Reduction Strategies” in the Fall 2021 issue of The Take-Down
- **Present the document “How to Calculate Embodied Carbon”**
 - Our SE 2050 firm champion, Harrison Glotman, will be presenting this information during our firm’s next technical staff meeting.
- **Initiate an embodied carbon interest group within your firm and provide a narrative of their goals.**
 - Our firm is committed to forming a committee of technical staff interested in embodied carbon. This committee will be led by our SE 2050 firm champion, Harrison Glotman.



2.0 REPORTING

Over the last year, we've experimented with a number of different ways to measure, track and report embodied carbon:

- We started by inputting quantities exported from REVIT into ECOM and generating graphs for the relevant projects.
- Going forward, we plan to use the LCA software Tally.
- Typically we will rely on the EPD database within Tally, but we may also use other databases such as EC3 or region-specific data from local manufactures (i.e. Structurlam).
- We are working to formalize a process for when data is extracted from the REVIT plug-in and used to inform the design. We typically have two internal reviews. There is a design concept review (DCS) when the outline drawings and concept are complete and a final concept review (FCR) when the detailed design is complete. These milestones typically coincide with 100% schematic drawings and 100% construction drawings. We will start with extracting the quantities at these two milestones.
- We will strive to compare and benchmark buildings at the concept stage to inform the design. This is the stage where we can best influence the architect/owner and improve design efficiencies.
- Eventually we'd like to incorporate embodied carbon quantities over sketches and in the incipient stages of the project.

To ensure adoption of these tools and formalize the data extraction process in the office, we will do the following:

- Our BIM lead, Jason Winterbottom, will hold a training session for all drafters to ensure that they are familiar with how to extract quantities from Tally.
- Our SE2050 champion and BIM lead will work closely to ensure that the material assignments reflect the local marketplace and general practice.
- We will form a sustainability committee within the firm that circulates research papers, embodied carbon calculation guides, and hosts quarterly education sessions.

3.0 EMBODIED CARBON REDUCTION STRATEGIES

At this point, we do not have sufficient data or benchmarks to set quantitative reduction targets.

- Our primary goal for the first year is to ensure wide-spread adoption of the Tally plug-in and carbon data extraction at regular increments.
- Through the electives described in the earlier sections, we will continue to educate our staff on how to calculate embodied carbon and ensure it is part of their everyday lexicon in client meetings.



- We will encourage many of our clients, where possible, to pursue the CaGBC's Zero Carbon Building Standard. This year we are working on two projects that are striving to achieve this certification.
- We will start extracting data in the concept phases and presenting this data to our clients when assessing important decisions such as whether or not to introduce a transfer slab.
- We will revamp both our Canadian and American general notes section to allow for more sustainable cement mixes through the introduction of admixtures, ensure sustainable sourcing of steel and aggregate etc. Our notes need to be reviewed through an embodied carbon lens.
- We are currently working closely with a sustainability consultant on two large office projects in San Jose. Through close collaboration with them, the contractor and concrete supplier, we are working to establish the most efficient concrete mix design.
- For concrete buildings, we will push for post-tensioned slabs. Through comparison studies with the sustainability consultant, this was found to be the most efficient solution over mild-steel construction and structural steel. Post-tensioning reduces slab depths, loads on the foundation, seismic demands on the core and often the larger spans can avoid the requirement for a transfer slab from residential to parking.
- We have seen a push towards timber design in the private residential and office sectors. We will work closely with our clients and architects to devise an efficient design/grid that can remain cost-competitive with a more conventional concrete solution.



4.0 ADVOCACY

Acceleration Adoption of Embodied Carbon Reduction – Glottman•Simpson’s Contributions to the Cause

As a contribution to the cause, Glottman•Simpson will share tips and insights from our “Embodied Carbon 101” webinar on our digital channels, including our website and our social media platforms.

Sharing SE 2050 with Clients

We are providing submissions to speaker callouts at local industry events. We will also put together a presentation to share with architects and owners that we work with often.

Boiler Plate of Commitment

Our proposals now contain the following text:

For Glottman•Simpson, success means finding solutions that will make the structure, and the project, more efficient and economical, as well as environmentally sustainable. To demonstrate this commitment, our firm has pledged compliance to SE 2050, a worldwide structural engineering movement to eliminate the use of embodied carbon in structural design by the year 2050.

Electives

We understand that at least 2 electives need to be achieved per year. Our electives of choice are as follows:

- **Share your commitment to SE 2050 on your company website**
 - We will share our commitment to SE 2050 on our company website.
- **Share education opportunities with clients**
 - We will provide a copy of our bespoke “Embodied Carbon 101” to our top clients, clearly stating that we are available as a resource should they have any further questions.