

EMBODIED CARBON ACTION PLAN

2025





OUR EXPERTS

Our plans for the next year include continued involvement in the Carbon Leadership Forum and expanded advocacy on the importance of embodied carbon reduction to our clients and our peers in the industry.

Experts from TLC are leaders in these industry organizations and committees:

- AIA Florida Embodied Carbon
- Lifecycle Building Center Advisory Board



REBECCA CEGELIS, EI Embodied Carbon Reduction Champion Structural Engineer



DERICK THOMPSON, PE Director of Structural Operations Principal



EDUCATION

TLC is committed to advancing embodied carbon education and is dedicated to empowering both our employees and clients with the knowledge to make informed, sustainable decisions.

- We launched commitment to SE2050 with the Embodied Carbon Action Plan (ECAP) and an Engineering Green Week Webinar on September 17th, 2024.
- We are developing a firm-wide education program for embodied carbon, with presentations customized for each engineering discipline within TLC.
- We are sharing the entire SE 2050 library of resources TLC's staff.
- We are committed to attending quarterly seminars provided by SE 2050.
- TLC plans to develop a company-wide on boarding program, to expose all new structural engineers at TLC to sustainable design and embodied carbon within their first year at TLC.

The decisions we make concerning refrigerants, materials, systems types, and equipment sizing have a profound impact on both embodied and operational carbon emissions.

Michael P Sheerin, PE, LEED AP Chief Executive Officer





KNOWLEDGE SHARING

TLC is dedicated to sharing knowledge and data to drive the reduction of embodied carbon across the design and construction industry. We actively engage with the SE2050 community and other industry groups that champion embodied carbon reduction.

- For the past three years, we have delivered external presentations on embodied carbon to industry partners.
- We have incorporated language in our template proposals that recognizes our firm as a member of the SE2050 Commitment.
- In collaboration with a confidential client, we have established an Embodied Carbon baseline for all their new warehouse projects, with support from industry partners specializing in Life Cycle Assessments.
- We are working owners and actively contacting local concrete mix plants specific project goals.

Below is a partial list of embodied carbon presentations and sessions our experts have given during in recent years.



DECARBONIZATION THROUGH CARBON-CONSCIOUS DESIGN AIA Florida, July 2024

ADAPTIVE REUSE AND EMBODIED CARBON AIA Florida, July 2023

UNDERSTANDING EMBODIED CARBON IN BUILDINGS ASCE Florida, 2022





REDUCTION STRATEGY

We plan to employ the following strategies to track and reduce embodied carbon over the next year:

1. TLC aims to track embodied carbon for projects representing 50% of our structural engineering group new design revenue for the year 2025.

2. Our goal is to integrate data visualization into our 2025 embodied carbon tracking, enabling our team to pinpoint carbon-intensive areas in our projects and effectively convey these insights to our design team and clients.

3. When agreed upon with clients, we will incorporate embodied carbon recommended limits into our general notes and our classes of concrete matrix.

Our current focus will be on measuring and tracking embodied carbon across similar completed and ongoing projects to establish a baseline. Once the baseline is in place, we will set targeted reduction goals and broaden our tracking to include additional project types.





CONFIDENTIAL WAREHOUSE PROJECTS *LOCATED ACROSS THE NATION*

We are collaborating closely with owners and industry partners to reduce embodied carbon in warehouse structures nationwide, with these projects serving as a central focus for our efforts. These warehouse structures have prototype templates, enabling us to establish a clear baseline and assess how material selection and various structural framing systems impact overall embodied carbon.

Additionally, we collaborate closely with our MEP engineers to balance the trade-offs between operational carbon and embodied carbon across disciplines.



REPORTING PLAN

In 2025, we will refine our carbon tracking process and focus on developing a system of REVIT tracking methods and schedules.

By year's end, we expect to have projects with embodied carbon calculations using different methods. Some will be based on material quantity schedules from Construction Documents, while others will rely on data from industry-specific and supplier-provided Environmental Product Declarations (EPDs).

TLC currently employs SE2050's ECOM tool for carbon tracking. In 2025, we aim to enhance our embodied carbon tracking approach by incorporating additional software tools, including One Click LCA.

TLC will submit five projects to the SE2050 database.



EMBODIED CARBON OF CONFIDENTIAL WAREHOUSE PROJECT USING SE2050'S ECOM TOOL



ELECTIVE DOCUMENTATION



EDUCATION

- Our embodied carbon reduction leader will collaborate with the structural team to implement strategies for reducing embodied carbon.
- TLC will provide our team with SE2050 resources.
- TLC will host at least one webinar annually focused on embodied carbon.
- TLC will integrate embodied carbon education into our on boarding process.

REPORTING

- Contribute five projects to the SE2050 Database.
- Enhance and fine-tune our carbon tracking methodology.





ELECTIVE DOCUMENTATION



ADVOCACY

- Officially announce TLC's membership in the SE2050 Commitment.
- Offer embodied carbon educational opportunities to clients.
- Present external presentations to industry partners. Create marketing materials that emphasize TLC's dedication to the SE2050 initiative and demonstrate how reducing embodied carbon can add value for clients.

REDUCTION

- *Short-term goal:* Track embodied carbon for projects accounting for 50% of the structural engineering group's new design revenue in 2025 to establish a baseline.
- Long-term goal: Once the baseline is established, set clear reduction targets to achieve.
- Revise specifications to reflect embodied carbon performance and incorporate it into submittal review criteria.





COMMITMENT LETTER & INTERNAL ANNOUNCEMENT



July 14, 2023

SEI: Sustainability Commitment The American Society of Civil Engineers 10801 Alexander Bell Drive Reston, Virginia 20191

Re: Commitment Letter SE2050 Program

Dear SE2050 Team:

TLC Engineering Solutions, Inc. (TLC) is delighted that our company has agreed to formally commit to meeting the requirements of the SE2050 program (the Program) as defined by the Structural Engineering Institute's (SEI) Sustainability Committee (the Committee). We look forward to expanding our relationship with the Committee and other engineers in the Structural Engineering community, as we work together to make the Program's ambitious goal possible for the sake of preserving our planet for future generations.

This letter will stand to confirm our commitment to begin following the Program's requirements and submitting project data as per the current SE2050 guidelines. We understand that the program will be evolving as the engineering community deepens its understanding of Embodied Carbon and how to reduce it on projects to the point of net zero. We hope to continue to contribute actively to this evolution through the participation of our current "champion" for these efforts, Rebecca Cegelis.

We are very pleased to have the opportunity to work with SEI and the Committee. Our signatures below confirm this commitment.

Yours truly,

TLC ENGINEERING SOLUTIONS, INC.

Rebecca Cegelis, 🕅 Embodied Carbon Champion

J. Derick Thompson, PE Principal / Director of Structural

TLC ENGINEERING SOLUTIONS, INC. 255 South Orange Avenue, Suite 1600. Orlando, FL 32801-3463

ANNOUNCEMENT DISTRIBUTED TO ALL TLC STAFF

Since our very beginning, structural engineering has been a core discipline of TLC for much of our 67+ year existence. The structural team at TLC has amassed a long resume that spans from small renovations to historic restorations, to million-square-foot tilt-up distribution centers, to worldrenowned performing arts centers. With projects that span from coast to coast, TLC structural engineers are shaping the skylines across the country.

As a sustainability-focused firm, our structural teams are committed to reducing embodied carbon through the designs we provide our clients. TLC is in the process of becoming a signatory for the SE2050 Challenge. By signing this challenge, TLC commits to prioritizing the reduction of embodied carbon, through the use of less and/ or less impactful structural materials, participating firms can more easily work toward net-zero embodied carbon structural systems by 2050. To learn more about SE2050, click here: <u>https://se2050.org/</u>

Michelle Hubbard, CPSM Director of Marketing