



Embodied Carbon Action Plan



STRUCTURAL
ENGINEERING
INSTITUTE



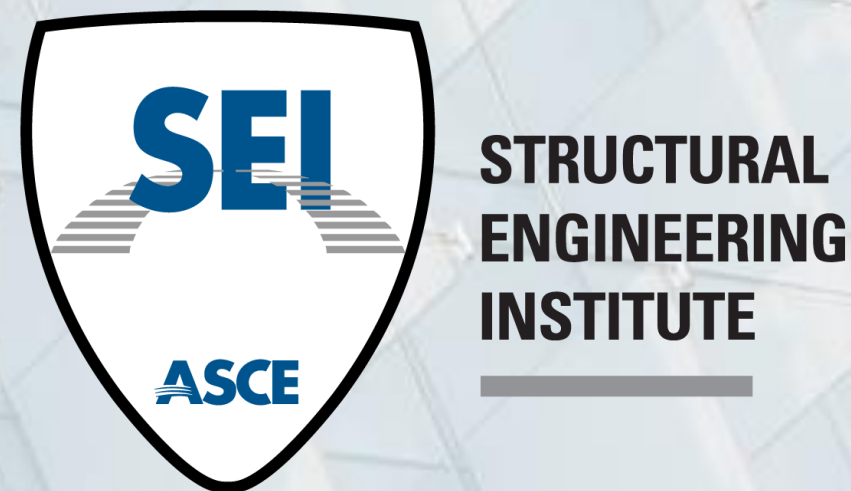
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SE2050 Announcement

DHA has joined the SE2050 commitment in 2026 highlighting our dedication to sustainable, low-impact design solutions.

- **SE2050 is a voluntary commitment made by members of the structural engineering profession**
- **DHA will choose 2 two projects each year to perform a life cycle analysis (LCA) that will be submitted to the SE2050 database**



Mamo Assefa, P.E., President

J. Douglas Nauman, P.E.
Ervin L. Rogers, Jr., P.E.
Michael S. Nye, P.E.

Civil and Structural Engineers | Construction and Program Managers

February 27, 2026

To all DHA Structural Colleagues,

In recent years, the construction industry has received increased scrutiny for the pollution and carbon emissions it is responsible for. To address this, The SEI (Structural Engineering Institute) and the ASCE have created an industry-wide voluntary pledge called SE2050. This pledge is a way for the structural engineering industry to reduce its emissions by having firms that join the pledge learn from each other's experience about ways to make their structural designs more energy efficient and less carbon intensive. As a firm committed to innovation and sustainability, we are proud to announce that the DHA structural team has officially joined the SE2050 commitment.

Firms who commit to the SE2050 pledge must complete several program requirements each year that demonstrate an effort at teaching and advocating principles and methods of sustainable design to colleagues and peers. These requirements are related to documenting and reporting the impacts of our structural designs, instructing our structural team on how to document and report the impacts of our designs, and advocating to our clients and the public why reporting and reducing these impacts is important.

One of the most important requirements for the SE2050 commitment is that we perform a Life Cycle Assessment (LCA) for two of our projects each year and submit it to the SE2050 project database. There is a Revit plugin program called Tally that helps us do so, and everyone who uses Revit will be taught how to use Tally to perform a structural LCA. SE2050 also requires DHA to present at least one seminar each year to the structural team about embodied carbon in structural design. These seminars will provide instruction on how to do an LCA and other skills, as well as discuss the latest innovations and methods for sustainable construction.

Our goal is to learn how to help clients reduce their environmental impacts by having a more efficient structural design. As we get more experience, we will better understand how to reduce carbon emissions in our structural designs and suggest more efficient design solutions to clients.

A handwritten signature in blue ink, which appears to read 'Ervin L. Rogers, Jr.'.

Ervin L. Rogers, Jr., P.E.
Principal/Structural Group Manager

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SE2050 Education Plan

DHA will instruct and encourage team members to understand and consider environmental impacts in their designs. To support this, all structural engineers will be trained on:

- **The different phases of life cycle analysis**
- **The environmental impacts of the different structural materials used in our projects**
- **How to perform an LCA using the Tally Revit plugin**
- **How to upload LCA results to the SE2050 database**

This instruction will be provided by DHA's 'Embodied Carbon Champion', who will also provide at least one additional presentation per year for continuing education.



DHA Embodied Carbon Champions Liam Denham (left) and David Harrison (right)

03/26/2026 - Intro to Embodied Carbon

SE2050 **Knowledge Sharing**

Dialogue with clients and peers will be necessary to

- Explain the purpose of LCA to clients at the beginning of a project.
- Explain how design choices effect environmental impact and the options available to reduce those impacts.

DHA will actively seek opportunities to lead or participate in conferences and seminars related to embodied carbon and sustainability

DHA is committed to share it knowledge with clients and peers as it participates in SE2050 to further promote the goals and ideas of sustainability.



SE2050 Reduction Plan

As we grow our knowledge of sustainable practices in structural engineering, DHA will promote solutions that reduce embodied carbon and engage with clients on how to meet their needs with the lowest possible environmental impact.

DHA will implement strategies that are considered best practice for embodied carbon reduction. These include:

- **Updating materials specifications to prescribe sustainable construction materials such as recycled steel, supplemental cementitious materials (SCMs), and sustainable wood products**
- **Engaging with clients to see how to optimize layout and structural systems to meet their needs with the lowest impact possible**



SE2050 **LIFE CYCLE ANALYSIS** **REPORTING**

DHA structural engineers will learn how to perform an LCA, understand what EPDs are, and the different life cycle pollutants considered for an LCA.

DHA will structural LCAs for 2 projects every year to the SE 2050 database and will compare total embodied carbon of its projects to those included in SE2050 database.

- **Embodied Carbon will be tracked using precise 3D modeling in Revit with the support of the Tally Revit plugin.**
- **The scope of LCAs will be limited to structure only for phases A1-A3, meaning only the embodied carbon involved with manufacture and transportation of materials will be considered.**
- **EPDs for building materials are sourced through Tally from the EC3 database managed by Building Transparency**



SAMPLE PROJECTS

Marlow Heights Community Center



Location:

Temple Hills, MD

Project Size:

20,300 SF

Structural System:

Steel framing supported by masonry shear walls and concrete spread footings .

Embodied Carbon Totals:

367,751 kgCO₂e

Embodied Carbon Intensity:

195 kgCO₂e/m²

SAMPLE PROJECTS

1201 L St NW



Location:

Washington, DC

Project Size:

132,544 SF

Structural System:

Post-tensioned concrete supported by concrete columns, shear walls and deep foundations.

Embodied Carbon Totals:

3,232,444 kgCO₂e

Embodied Carbon Intensity:

263 kgCO₂e/m²