

Embodied Carbon Action Plan

HOPE FURRER ASSOCIATES, INC.



HOPE FURRER
ASSOCIATES

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Education

Firm Wide Announcement – Year One

Embodied Carbon Reduction Champion

Education Program

Reporting

Baseline Project Assessments

Learning Objectives

Elective Documentation

Deliverables



Our Commitment Announced

Date: October 10, 2022

RE: Letter of Commitment to the SE 2050 Program

Dear Laura:

HOPE FURRER ASSOCIATES, INC., a 14 person firm with two offices located in Towson, MD and State College, PA, is hereby signing on to the SE 2050 Commitment Program. We support the vision that all structural engineers shall understand, reduce, and ultimately eliminate embodied carbon in their projects by 2050.

Commitment Letter and Announcements

Hope Furrer Associates joined the SE2050 movement officially by submitting our commitment letter in October 2022.

This was announced internally with a company-wide email including resources in November 2022.

Visit <https://www.hfurrer.com/hfa-joins-se2050/> for our external announcement!

Embodied Carbon Champion



Nicole D. Baer, P.E.

- Associate Principal with several years of experience working on complex projects.
- Committed to working closely with Clients to find efficient solutions that also reduce carbon.
- Participates locally with SEI-MD's Sustainability committee since 2023.
- Has worked on many LEED certified and carbon efficient projects.



Dukes Dining at James Madison University



*Thurgood Marshall Hall at
Morgan State University*

Education Program

EMBODIED CARBON REDUCTION FOR STRUCTURAL ENGINEERS

For our inaugural year as a firm committed to the SE2050 movement, we plan to focus internally by educating all our technical staff in the methods of tracking embodied carbon.

We will begin creating a baseline database available to all employees, which will detail the embodied carbon on select projects, using various methods.

As we become familiar with the calculations, we will begin implementing strategies to reduce embodied carbon on our projects.



11/09/22: Shared the SE2050 library of resources with technical staff by sending links and downloading files to our network.



01/24/23 & 02/28/23: Presented two parts of webinar series “Embodied Carbon 101” to all technical staff members.



10/14/23: Several employees attended a webinar entitled “Tracking Embodied Carbon for Structural Engineers: How to Quickly Estimate and Track Emissions Through the Design Process”.



04/15/23: Distributed our Embodied Carbon Action Plan to all technical staff.

Baseline Project Assessments



Learning Objectives

IN OUR INAUGURAL YEAR OF SE2050
PARTICIPATION, WE

- Will focus on projects representative of materials and client types **typical of our company**
- Will learn what EC Tracking Tools work for us and for our Clients, at **various stages of design**
- Will gather data needed to develop company-specific specifications with reasonable and achievable construction goals
- Will develop company-specific technical memorandums for education of our Clients and Employees on EC tracking
- Will contribute to the SE2050 database to establish a baseline for GWP on typical buildings in our region

Baseline Project Assessments



400,000 SF Office/Lab Building Philadelphia, PA

- Building Usage, Structural System
 - Mixed Use (Primarily Business), Composite Steel (10 Stories)
- EC Tracking Method(s) Used
 - Beacon
- Phase To Be Tracked
 - Design Development
- Goals
 - Determine performance compared to baseline
 - Determine GWP
 - Determine differences in EC between concrete spec and alternate concrete spec

College of Health Professionals Building @ Towson University Towson, MD

- Building Usage, Structural System
 - Educational, Post-Tension Beams and Conventional Concrete Slabs (6 Stories + PH)
- EC Tracking Method(s) Used
 - Beacon
- Phase To Be Tracked
 - Construction
- Goals
 - Determine actual concrete EC performance vs baseline
 - Determine whether alternate concrete spec was utilized
 - Determine if improvements can be made, discuss impact of options with contractor



Rendering courtesy of Perkins & Will

Baseline Project Assessments



Confidential Project A

Anne Arundel County, MD

- Building Usage, Structural System
 - Mixed Use (Primarily Business), Composite Steel (5 Stories + PH)
- EC Tracking Method(s) Used
 - Beacon
- Phase To Be Tracked
 - Construction Documents
- Goals
 - Determine performance compared to baseline
 - Determine GWP
 - Determine differences in EC between concrete spec and alternate concrete spec
 - Compare with other composite steel building to determine if tracking at earlier stage is beneficial

Blackwell Hall Renovation @ Salisbury University

Salisbury, MD

- Building Usage, Structural System
 - Educational, Structure TBD
 - Construction Type TBD: Major Renovation of Existing Building or New Construction Addition
- EC Tracking Method(s) Used
 - ECOM Tool
 - Beacon
- Phase To Be Tracked
 - Concept Design
- Goals
 - See how a renovation/addition project such as this compares with new building projects

Year 1 Electives

Topic	Description	Status
Education	Distribute ECAP within your firm upon publishing	Completed
Education	Make (1) webinar focused on embodied carbon available to employees	Completed
Education	Share the SE2050 Library of Resources with technical staff	Completed
Education	Minimum (1) employee attends a presentation or demo of an LCA-based tool used to calculate embodied carbon, such as Tally, Athena IEB, or One Click LCA	Completed
Reporting	Submit a minimum of (2) projects per US office (total of 4) to the SE2050 Database	In Progress, to be completed by October 2023
Reduction	Collaborate with a concrete supplier to reduce embodied carbon in a mix design	In Progress
Advocacy	Describe the value of SE2050 to clients. Provide associated marketing materials or technical memos.	In Progress
Advocacy	Declare your firm as a member of the SE2050 Commitment with boilerplate proposal language	In Progress, assistance/resource needed from SE2050 Committee
Advocacy	Share our commitment to SE2050 on our company website	Completed
Advocacy	Share presentation on “How to Create an ECAP” with SEI Maryland Chapter members	Scheduled for May 2023

