

# Embodied Carbon Action Plan 2022



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## Commitment Letter

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To: Structural Engineering Institute  
SE2050 Commitment Program Team

Re: Letter of Commitment to the SE2050 Program

Dear Team,

Stone Fleet is signing on to the SE2050 Commitment Program. We are a new and growing structural engineering design firm out of Providence, RI, with a strong background and familiarity with the reduction of embodied carbon. We support the vision of all structural engineers understanding and reducing embodied carbon in their projects, with the ultimate goal of eliminating embodied carbon in their projects by 2050. With our current knowledge, we believe we are well-positioned to educate about and reduce embodied carbon in the built environment. We are excited to help educate our staff, clients, and the industry to achieve the Program's goals.

Stone Fleet commits to take the following steps as part of the SE2050 Commitment Program:

- Within six months and annually, we commit to reporting an Embodied Carbon Action Plan (ECAP) and permit the ECAP document or form to be made public on the SE2050 website.
- Within one year and annually, we commit to submitting data to the SE2050 project database in a collaborative effort to understand embodied carbon in structural engineering projects and to set attainable targets for future projects.

We look forward to joining the industry's effort to reduce embodied carbon and achieve the goals of the SE2050 Program.

Respectfully,



Justin A. Kordas, P.E.  
President  
Stone Fleet, Inc.

## Introduction

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Stone Fleet was founded in 2022 and formally committed to SE 2050 shortly after. We committed to SE 2050 because we believe that structural engineers must find innovative ways to reduce the impacts that structural systems impart on the environment. We are building our firm with the goal of optimizing our designs, enabling contractors to optimize their materials, and using new technologies that support us in this mission.

The SE 2050 challenge was issued by the Carbon Leadership Forum and structural engineers in the Sustainability Committee of the Structural Engineering Institute of the American Society of Civil Engineers accepted the challenge and developed the SE 2050 Commitment Program. This program is intended to have all structural engineers understand what embodied carbon is how it can be reduced on their projects. The ultimate goal being to eliminate embodied carbons on their projects by the year 2050.

## Firm Champions

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Justin A. Kordas, P.E.

President

## Internal Announcement

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In October of 2022, all employees of Stone Fleet were notified that we have fully pledged to the SE 2050 Commitment Program. The announcement summarized the intent and requirements of the commitment as well as shared our commitment letter. They were also notified that we have created a folder on our server specifically for this program that all employees have access to. All future employees will also be made aware of this commitment during their onboarding.

## Education

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- Introduction to the SE2050 Initiative
  - Provide an overview of the SE2050 initiative, its goals, and its significance within the structural engineering profession.
  - Explain how the initiative aims to reduce the embodied carbon emissions of structural engineering projects and contribute to mitigating climate change.
- Fundamentals of Embodied Carbon
  - Conduct training sessions to educate staff on the concept of embodied carbon and its implications for structural engineering.
- Materials Selection and Specification
  - Educate staff on sustainable materials selection criteria, including embodied carbon content, recycled content, and environmental certifications.

## Knowledge Sharing

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- Discussing Best Practices
  - Share examples of successful projects and initiatives that have effectively reduced embodied carbon emissions.
- Learning from Challenges
  - Discuss the obstacles we encounter and the solutions we develop for each unique challenge we encounter.
- Engaging with Industry Partners
  - Actively engage with industry partners, suppliers, and other SE2050 participants to exchange ideas, share resources, and collectively address the challenges of reducing embodied carbon emissions.
- Promoting Open Dialogue
  - Create platforms for open dialogue and discussion where team members feel comfortable sharing their ideas, concerns, and questions related to sustainability. Encourage participation from everyone, regardless of their role or level within the organization.

## Reduction Strategy

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- Material Selection Optimization
  - Develop guidelines for selecting materials with lower embodied carbon content, focusing on factors such as carbon intensity, recycled content, and local sourcing.
  - Explore innovative materials and construction techniques that offer sustainable alternatives to traditional high-carbon materials.
  - Collaborate with suppliers to identify and source low-carbon materials and encourage the adoption of sustainable practices.
- Design Efficiency Enhancement
  - Implement design optimization strategies to minimize material use and reduce embodied carbon emissions without compromising structural integrity.
  - Embrace lightweight construction methods and advanced engineering techniques to maximize structural efficiency and minimize environmental impact.
- Continuous Monitoring and Improvement
  - Establish a system for monitoring and reporting embodied carbon emissions on our projects, tracking progress towards our reduction targets.
  - Regularly review and update our reduction strategy based on lessons learned, technological advancements, and evolving best practices.

## Reporting Plan

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- Establishing Reporting Framework
  - Define key performance indicators (KPIs) and metrics for measuring embodied carbon emissions and tracking progress towards our reduction targets.
  - Develop a standardized reporting template to ensure consistency and comparability across projects and teams.
- Data Collection and Analysis
  - Implement systems and processes for collecting data on material quantities and embodied carbon.
- Reporting Frequency and Format
  - Establish a regular reporting schedule, with updates provided as required.
  - Determine the appropriate format for reporting.
- Stakeholder Engagement and Communication
  - Engage with internal and external stakeholders to communicate our progress, share insights, and gather feedback on our sustainability efforts.
  - Provide opportunities for stakeholders to participate in discussions, workshops, and events focused on embodied carbon reduction and sustainable design.

## Elective Documentation

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### Education

- Distribute ECAP within Stone Fleet upon publishing.
- Embodied Carbon 101 video series is available for all Stone Fleet employees.
  - [Embodied Carbon 101 Video Series](#)
- SE2050 library of resources is available for all Stone Fleet employees.
  - [SE2050 Library of Resources](#)
- Top 10 Carbon Reduction Actions for Structural Engineers is available for all Stone Fleet employees.
  - [Top 10 Carbon Reduction Actions](#)
- How to calculate embodied carbon PDF is available for all Stone Fleet employees.
  - [How to Calculate Embodied Carbon](#)

### Reporting

- Submit a minimum of (2) projects per U.S. office with structural engineering services to the SE2050 Database.

### Reduction

- Collaborate with your concrete supplier to reduce embodied carbon in a mix design.

### Advocacy

- Describe the value of SE2050 to clients.
- Declare Stone Fleet as a member of the SE2050 Commitment.