

# UZUN +CASE

Structural Engineers + Creative Partners

## > EMBODIED CARBON ACTION PLAN 2022



January 5, 2022

Laura Champion, Director, Structural Engineering Institute

Re: Letter of Commitment to the SE 2050 Program

Dear Laura:

Uzun + Case, LLC, a 70-person firm located in Atlanta, Georgia, and Raleigh, North Carolina, 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.

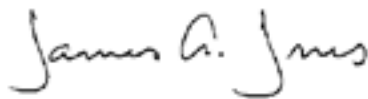
As a company committed to leadership in our field and accountability to our communities, Uzun + Case aims to advance a culture of conviction and responsibility for sustainability in our industry through embodied carbon reduction.

We therefore commit Uzun + Case to take the following steps which are part of the SE 2050 Commitment Program:

- Within six months and annually henceforth, we commit to reporting an Embodied Carbon Action Plan (ECAP) and permit the ECAP document or form be made public on the SE 2050 website.
- Within one year and annually henceforth, we commit to submit data to the SE 2050 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 this coalition and industry effort to achieve the goals of the SE 2050 Program.

Sincerely,



James A. Jones, PE  
Principal

# OUR FIRM

Founded in 1993 by principals Tamer Uzun, James Case, Martin Cuadra and Larry McDowell, Uzun + Case has expanded to over 70 employees and is one of the largest structural engineering firms in the Southeastern US. Our growth has been fueled by our technical expertise, creative design approach and teamwork orientation. We approach our work as creative collaborators, not as specialized consultants. In doing so, we strive for synergistic designs for which the whole is greater than the sum of the parts.

We are committed to making our projects sustainable by proactively advocating environmentally sound principles and ideas. These include the use of fly ash, slag, limestone, and other sustainable materials in concrete. Structural steel is designed using shapes produced in American mills, ensuring maximum recycled content. Timber elements are designed using species that can be regionally sourced and, in some cases, reclaimed materials. By focusing on the structural efficiency, we reduce material usage while providing economical designs for our clients. In addition, we provide embodied carbon content for structural elements to support a Life Cycle Assessment.

# OUR SUSTAINABILITY LEADERS



James W. Case  
*PE, SE*  
*Senior Principal*

A participant in the upcoming Georgia Forestry Commission video regarding the Kendeda Building

A presenter on sustainability at the 2022 ASCE Structures Congress



Martin Cuadra  
*PE, SE, FACI, FPTI*  
*Senior Principal*

Former chair of the PTI DC-100 Committee – Sustainability of Post-Tensioned Concrete Structures



James Jones  
*PE, SE*  
*Principal*

Principal In-Charge of Uzun+Case Sustainability Committee



Robert Weilacher  
*PE, SE*  
*Principal*

Member of the ACI 130 Committee – Sustainability of Concrete



Philip Hatcher  
*PE, SE*  
*Associate Principal*

Chair of Uzun+Case Sustainability Committee

Member of NCSEA Sustainable Design Committee



Thomas Trotter  
*Project Design Engineer*

Head of Uzun+Case SE 2050 Subcommittee

SE 2050 Embodied Carbon Reduction Champion

### PLEDGE ANNOUNCEMENT

On January 25th, 2022, we distributed a firm-wide announcement regarding the firm's pledge to join the SE 2050 commitment. We plan to follow up with an additional announcement sharing this inaugural ECAP.

On February 4th, 2022, Uzun + Case publicly announced our SE2050 commitment on our [website](#).

### SUSTAINABILITY COMMITTEE

Our Sustainability Committee is promoting a firm-wide education program by regularly incorporating updates on sustainability initiatives including SE 2050 into our company meetings and internal blog posts. The Embodied Carbon Subcommittee was initiated with the goals of further understanding embodied carbon tracking and reduction strategies while promoting their use within our firm. We are sharing the SE 2050 library of resources with all of our technical staff and are planning to include an introduction to these resources in a forthcoming company meeting and blog post.

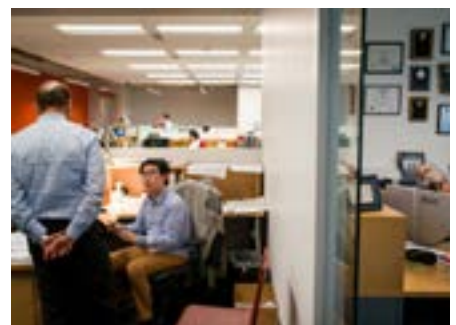
### EMBODIED CARBON 101

Thomas Trotter, our embodied carbon champion, gave an introductory embodied carbon presentation for both the Atlanta and Raleigh offices in June 2022. The recorded presentation was made available firm-wide and incorporated into the training materials for new hires.

### EXTERNAL EDUCATION

We will have a representative from our firm attend quarterly external education programs provided by SE 2050, and a member from each office get involved in the local Carbon Leadership Forum.

In addition, our engineers regularly attend webinars on sustainability topics, and the invitations are distributed to entire staff to encourage participation.



## MEASURING, TRACKING, AND REPORTING

We are calculating the embodied carbon of our structures using a combination of commercially available Life Cycle Assessment software and tools developed in-house. We will refine our embodied carbon data with Environmental Product Declarations (EPD's) for specific project regions and product manufacturers where available by searching the Embodied Carbon in Construction Calculator (EC3) as well as reaching out to manufacturers to directly obtain EPD's.

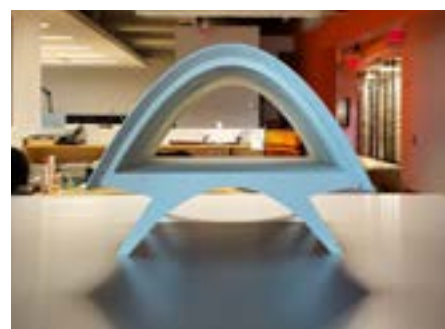
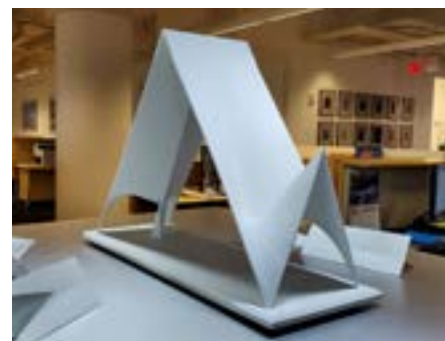
We will track embodied carbon in our structures by creating Revit families with expanded material properties to include embodied carbon quantities. We will develop in-house tools to periodically extract quantities from Revit to visualize and track embodied carbon across the project phases to help better understand how material selections impact overall embodied carbon in our structures.

## TRAINING

We will provide training via our internal wiki page, blog posts, and presentations on topics including the use of Life Cycle Assessment software and in-house tools for tracking embodied carbon. We will provide updated training for all staff modeling structures in Revit which incorporates the embodied carbon material properties and stresses the importance of accurate and intentional material selections.

## SE 2050 DATABASE

We will submit embodied carbon data for at least two projects to the SE 2050 database this year.



## EDUCATION AND TRAINING

We will focus on developing our embodied carbon tracking and reporting tools while communicating to our technical staff the background knowledge required to implement them on future projects. We will create a pre-design checklist document to encourage embodied carbon conversations with other firms of the design team and provide guidance on setting up a project for successful embodied carbon tracking starting with the schematic design phase.

## REDUCTION STRATEGIES

In addition to developing in-house tools for extracting and visualizing embodied carbon data from our Revit models, we will be incorporating embodied carbon metrics into our project database to establish a firm average benchmark for embodied carbon. We will develop methods of comparing embodied carbon across our projects with a specific focus on understanding how reduction strategies are impacting total embodied carbon and project costs.

We will update our specifications and general notes to include practices consistent with embodied carbon reduction. We will communicate with concrete suppliers to incorporate more sustainable mix designs (Type II cement, supplemental cementitious materials, blended cements, carbon sequestration) as they become available in our project markets. We will communicate with contractors to develop strategies for reducing the need for mix designs with high quantities of cement (56-day strength criteria for example).

We will continue to advocate for the use of biogenic and recycled materials on our projects and expand our expertise in mass timber construction.



## DECLARATION OF COMMITMENT

On February 4th, we publicly announced our commitment to SE 2050 on our firm's website and social media accounts. We incorporated language into our proposals and marketing material to reflect our commitment to reduce embodied carbon in our structures.

## SHARING KNOWLEDGE

In addition to contributing to the SE 2050 database, we will share the knowledge we gain through this first year with our clients through presentations and information in our proposals.

We will get connected with our local Carbon Leadership Forum hubs with the goal of finding opportunities to give external presentations on embodied carbon and lessons learned.

## COLLABORATION

We will describe to our clients the value of reducing embodied carbon in structures and advocate for an active role for the structural engineer in formulating the sustainability goals at the beginning of projects. We will discuss with clients the option of requiring that some of the structural materials come with product-specific EPD's in an effort to make embodied carbon reduction part of the project scope.

