

SE 2050  
EMBODIED CARBON  
ACTION PLAN (ECAP)



Nous is committed to promoting the practice of sustainability in our structures to help achieve net zero.



## SE 2050 Commitment

Nous Engineering has joined the SE 2050 Commitment. The SE 2050 Commitment program was developed and launched by the Structural Engineering Institute (SEI) and issued by the Carbon Leadership Forum (CLF). This comprehensive program has been created to ensure substantive embodied carbon reductions in the design and construction of structural systems by the collective structural engineering profession. The sharing of research and data on embodied carbon metrics will open up valuable resources and dynamic collaboration for the entire industry to learn from. Acquired knowledge will be used to teach our staff and clients about the impacts of embodied carbon, providing a valuable dialogue and plan to move forward. By dedicating to SE2050, and committing our resources, we hope to create a process for the elimination of embodied carbon that will be an industry standard.

Nous is committed to finding favorable carbon reduction solutions for all of our projects across various geographic locations.



Based in Los Angeles, with a satellite office in San Diego, Nous works across the globe. Our projects are diverse and dispersed, aligned in their need for innovative solutions to resolve complex requirements, formal, technical or otherwise. All of our projects flow through the Los Angeles office making it easier to enact sustainability initiatives at a firmwide level. Design phase processes, material preference, and contractor knowledge vary by location. Collecting and using data from different markets gives us valuable insight that cannot be achieved by reviewing one area on its own. Collectively, this information helps us in finding the best solutions for each particular geographic location's need.

## Nous is committed to educating our team on how we can best integrate carbon reduction efforts into our practice.

Nous is committed to educating our staff on best practices to reduce embodied carbon. As a first initiative, Nous' core ECAP team will first present an "Embodied Carbon 101" seminar to the firm. The seminar will include an overview of SE 2050, introduction to embodied carbon, and Nous' firmwide commitment. After this initial meeting, Nous' ECAP team will present a series of seminars throughout the year starting with a seminar dedicated to further understanding and quantifying embodied carbon. This seminar will introduce the use of Tally and the required Revit environment, other tools to supplement Tally results, and showcase sustainability review of example projects.

The next seminar presentation will be dedicated to specific strategies for reducing embodied carbon. This seminar will review modifications to office specifications and approaches used in recent projects that have successfully reduced embodied carbon. Additionally, this seminar will look at published work by other structural engineering firms to expand Nous' toolkit. The final seminar in the schedule for the year will present a seminar dedicated to advocacy to clients. This seminar will present strategies for communicating with different clients and explore their motivations and limitations.

### Nous' Embodied Carbon Reduction Champion



Mit Gala, SE  
Associate, Nous

Mit Gala is a licensed structural engineer, focused on advanced analysis, earthquake resilience, and seismic evaluation and rehabilitation of existing buildings. As Nous's Signatory Director to the SE2050 Carbon Reduction Program, he oversees and implements the firm's sustainable design initiatives, with the aim of reducing the carbon footprint of Nous' structures and promoting sustainable design and construction practices industry-wide.

### Key Team Members



Omar Garza, SE  
Principal, Nous



Matt Melnyk, SE  
Principal, Nous



Liz Mahlow, PE  
Principal, Nous



Jeff Roi, SE  
Principal, Nous



Jon Buckley, SE  
Principal, Nous

## Nous is committed to measuring and tracking embodied carbon throughout the design process.

Nous plans to harness the power of 3D BIM models to measure embodied carbon in a structure and to track sustainability metrics throughout the design process. Tally, a plug-in for Revit, is planned to be used as the primary tool for the measurement of embodied carbon. Much of our design work is already reliant on accurate building modeling, allowing for the easy integration of dynamic embodied carbon tracking into our normal workflow. Data obtained from Tally is intended to be supplemented with other industry and in-house computational tools to control data quality and to track a variety of sustainability metrics.

Nous is in the process of advancing in-house BIM modeling standards to incorporate parameters important to the tracking of embodied carbon, ensuring compatibility with Tally throughout the design process. The evolution and longevity of a project BIM model is consistent with the goal of tracking and understanding embodied carbon data throughout the design process. Continuity in approach across projects within the firm and developing some degree of automation are important goals. Embodied carbon data will be reported both internally, to Nous project teams, and externally, to our clients.

Starting in 2024, a majority of new domestic design projects will be subject to an internal embodied carbon review at each major design milestone (SD, DD, and CD). Data generated at each project milestone will be used as the base for an in-house sustainability review aimed at optimizing embodied carbon in ways consistent with the motivations of the client. Results of these internal sustainability reviews will then be reported to clients and approaches to sustainable design will be tailored to the motivations of the client. Sustainability reviews will be emphasized during the early stages of design, using Tally to efficiently illustrate the potential for embodied carbon reduction associated with different design approaches and material specifications. Our regular use of parametric modeling during Schematic Design can be easily expanded to include sustainability topics.

In 2025, Nous plans to submit (2) projects to the SE2050 database that are representative of different building typologies. These projects will prompt us to start an internal database that tracks differences in primary construction materials, regions, and building typology.

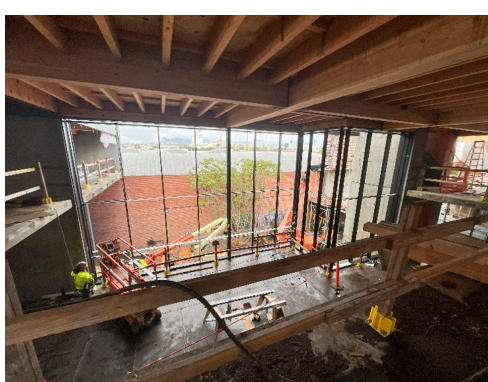
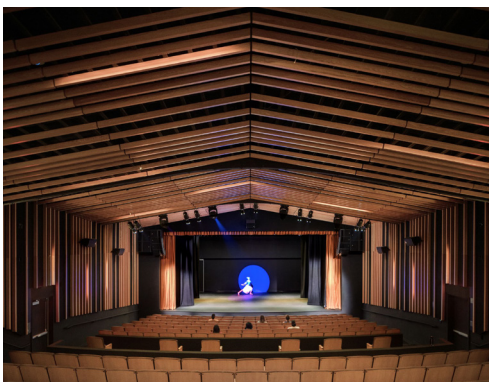


Nous is committed to engaging with our industry partners to continue to explore carbon reduction strategies together.

Embodied carbon reduction strategies for our first year of involvement in SE2050 will be focused primarily on educating our engineers on concepts related to embodied carbon reduction and on creating processes for educating our clients and contractors.

Our strategy will be comprehensive, focusing on all parties involved in the construction of our projects including clients, contractors, and material suppliers. We are constantly strengthening existing relationships with local concrete suppliers and collaborating on the development of sustainable concrete mixes. Working with architects and clients to incorporate biogenic building materials, where appropriate, is an important part of our design process. Our team is constantly incorporating these concepts into updated specifications, allowing us to realize sustainable construction.

Nous is focused on developing embodied carbon reduction strategies that can be applied to our diverse portfolio of projects around the world. Strategies will be flexible enough for application to buildings of every typology, allowing us to serve all of our clients.



## Nous is committed to enhancing our commitment to net zero through industry organization involvement.

Nous will engage with the broader design, construction and real estate industries as we partner on educating each other and enhancing our commitment to carbon reduction together. Nous will utilize our network of clients and design collaborators to expand our knowledge on the best practices for carbon reduction and informing clients and contractors of the benefits for the study and use of innovative materials and efficient designs. Our industry organization involvement includes:

- American Council of Engineering Companies (ACEC) of California
- American Institute of Architects, Los Angeles (AIA|LA)
- American Institute of Steel Construction (AISC)
- American Society of Civil Engineers (ASCE)
- Association for Women in Architecture + Design (AWA+D)
- LA Forum for Architecture and Urban Design
- Structural Engineers Association of California (SEAOC)
- National Organization of Minority Architects
- Urban Land Institute (ULI)





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