

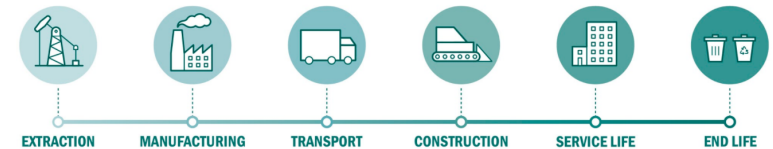
Studio NYL Embodied Carbon Action Plan | SE 2050

March 2025



01 | Education

Studio NYL established itself as a firm strongly guided by innovative and responsible design. As such, the firm previously established a “Lunch and Learn (LnL)” presentation series to keep all members of the team abreast with new practices, materials and unique building case studies. Studio NYL is utilizing this LnL program to educate all team members of the company’s Embodied Carbon initiative. After the firm’s founding principal, Julian Lineham, sent out a company wide announcement on Studio NYL’s commitment to the SE2050 mission, the first Embodied Carbon LnL, “Embodied Carbon - Beacon 101”, was held on June 3, 2021. Since this presentation, the firm’s current Embodied Carbon Reduction Champion, Julian Lineham took the team through the SE2050 program goals and the process of using now using Tally as a Revit add-in to measure a project’s embodied carbon totals. Julian is continuing the series through the LnL format on a quarterly basis to further educate the team on post-processing embodied carbon data from and further developing our reporting strategy. Margarita Bedmar is starting a sustainable design goals action plan that expands on SE2050 and AIA 2030 to embed these goals in all of our work. This will be developed this year.



02 | Reporting

Studio NYL continued to add to its internal database using some of the firm’s past projects to create a baseline for the various project stages: schematic design, design development and construction documents, and adding new projects in design. The database is now populated with results from Tally since migrating across to that platform (using US industry-standard EPD carbon-coefficient values where regional values are not available). Structural Engineering team members are continuing with their training on Tally so each major on-going project will be tracked in the database throughout the project development. Data from Studio NYL’s local database will be transferred to the SE2050 database on an annual basis.

03 | Reduction

Studio NYL was founded on a commitment to sustainability. As such, it has been a decades-long focus of the firm to work with clients, building owners, and construction crews to reduce the operational and embodied carbon of a project. The Facades team has employed many techniques in developing systems and detailing them to limit thermal losses or reduce solar heat gain, thereby directly reducing the loads on the building's mechanical system. The Facades team has also developed a database of a variety of wall assemblies and their embodied carbon budgets. From this database, it was found that subtle modifications in finish material or development of the structural support strategies of the facades can drastically reduce the embodied carbon of a building system, e.g. utilizing 18ga. light gage studs vs. the more common 16ga. can save over 20% of the embodied carbon of the light gage studs alone. The same techniques will be applied to the Structures team's Embodied Carbon database being created with Tally. By reviewing the changes of a project's embodied carbon totals throughout the design process, Studio NYL hopes to glean more insight on how different materials can be used in the structural system to best reduce overall embodied carbon and develop Net Zero Carbon buildings.





04 | Advocacy

From Studio NYL's start, Founding Principals Julian Lineham and Chris O'Hara have been committed to working with clients, building officials, and construction managers in order to educate and make use of less commonly used building materials. This commitment began as a focus to stay true to the original vision of the project by using the most appropriate structural material and has grown to elevate each project by reducing its carbon footprint. The firm has and continues to discuss the goal of Net Zero Carbon buildings at the outset of each project with clients and building owners. In parallel with the databasing effort, Studio NYL has begun to include in all proposals its commitment to SE2050 and reporting of embodied carbon measures at key milestones to help inform architects and owners of the impact of the team's structural system and material decisions. Studio NYL is also committed to sharing its focus on reducing embodied carbon in buildings by starting a #TimberTuesday initiative on its Facebook page. #TimberTuesday is highlighting the unique projects the firm has worked on that utilized mass timber in lieu of more carbon laden steel, concrete, and masonry materials. In addition to social media campaigns and direct discussion with clients, Studio NYL is focused on promoting, attending, and developing presentations on how architects and structural engineers can work towards drastically reducing our carbon emissions and focus on building efficiently and sustainably.



05 | Lessons Learned

Studio NYL has taken a close look at our concrete specifications this past year and made many modifications in order to lessen the mix design limitations and reduce its carbon footprint on our projects. Within our concrete specifications, we have encouraged the use of Type IL and other blended hydraulic cements; allowed for the use of more supplementary cementitious materials beyond fly ash, slag and silica fume; allowed for the use of any chemical admixture that meets ASTM standards; and removed ingredient limits where the concrete will not be exposed to freezing and thawing. There are many changes coming in the industry's concrete mix design and Studio NYL is committed to working with concrete producers to allow for more innovative mix designs that meet the design strength criteria while lowering its carbon footprint. To stay abreast of all the ways to reduce carbon in the concrete on our projects, our team members are regularly attending industry webinars by NRMCA, RMACI, CRMCA, and others.

Studio NYL team members Julian Lineham and Sally Williams have joined the SEAC Sustainability Committee to engage with the local structural engineering community with a focus on SE2050 reduction goals. They have met with a handful of Denver-area engineering firms to discuss each firm's progress and participation in SE2050 over this past year. This has led to Studio NYL exploring new LCA measurement tools, another firm joining SE2050 with their own ECAP, and fostering camaraderie between firms as we all look to become greener designers.



06 | Our Embodied Carbon Team

Julian Lineham, PE, FSEI, FASCE, CEng, FICE
Founding Principal

Christopher O'Hara, PE
Founding Principal | Facade Director

Margarita Bedmar Gonzalez, RA, NCARB, LEED Green Associate
Facade Architect | Sustainable Envelope Specialist

07 | Our Partners & Resources



CarbonPositive



SKANSKA



Other Tools we use:

Embodied Carbon tools:

- EC3 (Embodied Carbon in Construction Calculator): A tool that provides data on the carbon footprint of building materials.
- One Click LCA: A lifecycle assessment tool that helps calculate embodied carbon and energy use.
- Tally: A plugin for Revit that allows you to calculate embodied carbon directly within your design software.
- Environmental Product Declarations (EPD): Many manufacturers publish EPDs for their products. These provide the lifecycle carbon data that can help with material selection.

Sustainability Frameworks:

- LEED (Leadership in Energy and Environmental Design): It provides specific credits for energy efficiency and material transparency.
- BREEAM (Building Research Establishment Environmental Assessment Method): Another major sustainability rating system.
- WELL Building Standard: Focuses on the health and well-being of occupants.

For the Architecture 2030:

- 2030 Challenge: Offers resources for meeting carbon neutrality goals by 2030.
- Carbon Neutral Design (CND): Their website has helpful resources for integrating carbon reduction strategies into building designs.

Carbon Tracking Tools:

- Path to Zero: Architecture 2030's tool for tracking building performance towards carbon neutrality.
- Carbon Leadership Forum: Offers guidelines, research, and tools related to embodied carbon reduction in buildings. Forum

Embodied Carbon Action Plan for 2050:

- Global ESG Benchmark for Real Assets (GRESB): A comprehensive framework that includes guidance on sustainability and embodied carbon for real estate.
- World Green Building Council (WGBC): Their targets for net-zero carbon buildings can help shape your 2050 action plan.
- Net Zero Carbon Buildings Commitment: This includes guidelines and case studies for achieving carbon-neutral buildings.

Circular Economy and Material Innovation:

- Cradle to Cradle Certification: Encourages sustainable and recyclable material use.
- Material Passport: A database for materials that promotes circular construction.