

Studio NYL Embodied Carbon Action Plan | SE 2050

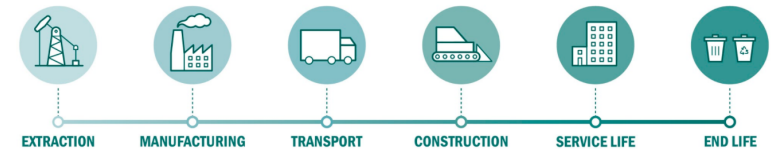
September 19, 2022



01 | Education

Studio NYL has 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. It is through this LnL program that Studio NYL is educating all team members on the company’s Embodied Carbon initiative.

After the firm’s Founding Principal, Julian Lineham, sent out a company wide announcement of Studio NYL’s commitment to the SE2050 mission, the first Embodied Carbon LnL, “Embodied Carbon - Beacon 101”, was held on June 3, 2021. In this presentation, Greg Stragnell took the team through the SE2050 program goals and the process of using Beacon as a Revit add-in to measure a project’s embodied carbon totals. The firm’s current Embodied Carbon Reduction Champion, Sally Williams, is continuing the series through the LnL format on a quarterly basis to further educate the team on post-processing embodied carbon data from Beacon and our developing reporting strategy.



02 | Reporting

Studio NYL has begun to create an internal database using some of the firm’s past projects to create a baseline for the various key project milestones: schematic design, design development and construction documents. The database will be populated with results from Beacon and EC3 in order to compare US industry-standard EPD carbon-coefficient values to more regionally accurate values. By the end of 2021, Studio NYL transferred the embodied carbon data of two large school buildings to the SE2050 database and plans to continue to populate the SE2050 database with a handful of projects 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's 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 and detailing systems 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 Beacon and EC3. By reviewing the changes of a project's embodied carbon totals at key milestones, 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 II 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

Jesse Bright, AIA
Architect | Facade Specialist

Sally Williams, PE, SE
Project Engineer | SE2050 Embodied Carbon Reduction Champion

07 | Our Partners & Resources



CarbonPositive



SKANSKA

