

O'Donnell & Naccarato, Inc.
Embodied Carbon Action Plan 2021



Let's Get Started!

O'Donnell & Naccarato (O&N) is committed to the SE 2050 program to reduce and ultimately eliminate embodied carbon through structural engineering in the built environment by 2050. Our Embodied Carbon Action Plan (ECAP) 2021, year one, focuses on educating our staff, initiating our internal documentation process, determining potential reduction strategies, and bringing awareness to members of the A/E/C community that we interface with on a regular basis.



Education

At our company outlook event in January 2021, O&N announced to the staff its commitment to the SE 2050 program. We communicated our internal goals and the overall goals of SE 2050 Commitment regarding efforts to reduce and ultimately eliminate embodied carbon in projects by 2050. We highlight this commitment as a continuation of our contributions to sustainable design.

Scott M. Bauer, PE, SE, SECB, LEED AP, principal with the firm, serves as O&N's Embodied Carbon Reduction Champion. Scott has more than 24 years of experience as a structural engineer and is based in O&N's Philadelphia office. Scott leads our internal Embodied Carbon Reduction Group and will develop and coordinate most aspects of our embodied carbon program.

O&N shall issue a firm-wide memorandum, including our ECAP 2021, to the entire O&N staff within the third quarter of 2021 fully describing the SE 2050 Program and our commitment to it.



Our staff will be introduced to the SE 2050 website to assist with their continued understanding of the importance of this commitment to the net zero carbon initiative and give access to the wealth of resources that can be obtained from the website.

O&N proposes to present the “Embodied Carbon 101” webinar within the fourth quarter of 2021 to our entire staff.

We commit to conducting quarterly full firm meetings to continue educating our team on embodied carbon, review potential carbon reduction strategies, provide updates on our ECAP initiatives, and discuss “lessons learned” from case study projects within the A/E/C industry currently utilizing embodied carbon reduction measures.

O&N's Embodied Carbon Reduction Champion and other selected members of our staff will attend a presentation of an LCA-based tool utilized to calculate embodied carbon. O&N's Embodied Carbon Reduction Champion agrees to also engage the Directors of O&N's multiple offices to implement embodied carbon reduction strategies.





Reporting



O&N expects to identify specific projects to measure, track, and report embodied carbon data. Our project lead will initiate a Project Design Criteria Form at the start of each project. In the first year, this form essentially describes our approach for calculating embodied carbon and introduce potential structural concepts to reduce it. In future years, this document will contain the planned carbon reduction goals and the strategies to achieve those goals.

We anticipate utilizing life-cycle assessment software (Tally or similar) at the start of these projects to assess structural materials, structural system optimization, and construction techniques to allow the implementation of the proper approach in reducing embodied carbon to the greatest extent possible on future projects.

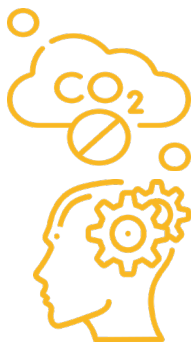
The project team shall review ASTM Environmental Product Declarations for planned project materials and where possible, obtain material specific Environmental Product Declarations.

O&N has decided to utilize design and documentation modeling software for material quantity tracking to assist with the calculation of embodied carbon. During each design phase of the project in conjunction with the LCA software. The LCA methodology will be defined on a project specific basis. We intend to summarize our findings in an Embodied Carbon Reduction report.

We propose to complete the SE 2050 database document and submit a minimum of two projects annually to the SE 2050 program. In future years, we plan to perform project closeouts to track and measure our failure and success rates in achieving set goals.

Our **Embodied Carbon Reduction Group** will provide biannual internal training seminars to review how we best perform embodied carbon assessment on projects and to discuss lessons learned.





Embodied Carbon Reduction Strategies

O&N endeavors to utilize this first year of involvement with the program to **educate our staff, develop our internal processes, and gather information** from select projects to set our embodied carbon reduction goal for year two. We resolve to work with all stakeholders of the project team to identify embodied carbon reduction opportunities in the early design phases, set our reduction goals, and document a plan to achieve them.

Our office continues to frequently participate in project LEED design charrettes considering our involvement and guidance on material reuse credits and their relation to reducing embodied carbon.



We intend to begin the process of exploring appropriate methods to integrate embodied carbon mitigation strategies into our structural material specifications and general notes.

At our quarterly full firm meetings, we will discuss what works well and what needs improvement in our strategies, reporting, and advocacy approaches. This will allow us to update our education and reporting strategies based on our experiences and findings.



Advocacy

Through our social media platforms, O&N will inform our colleagues and clients of the SE 2050 program mission and ask them to assist all of us in our **goal to reduce and ultimately eliminate embodied carbon in construction projects by 2050**. Our commitment to the SE 2050 program and its goals will be celebrated on our company website.

We continue to bring awareness and strive to educate our clients and design/construction partners on the importance of carbon reduction in the built environment. The SE 2050 program provides valuable information and tools to assist in this process. Highlighting this knowledge base helps us and our A/E/C partners to make informed decisions moving forward for sustainability in structural systems and material option selections.

O&N's commitment to the SE 2050 program will be highlighted on our firm qualifications and marketing materials in project pursuits.

