



SE 2050
Embodied Carbon Action Plan
2025





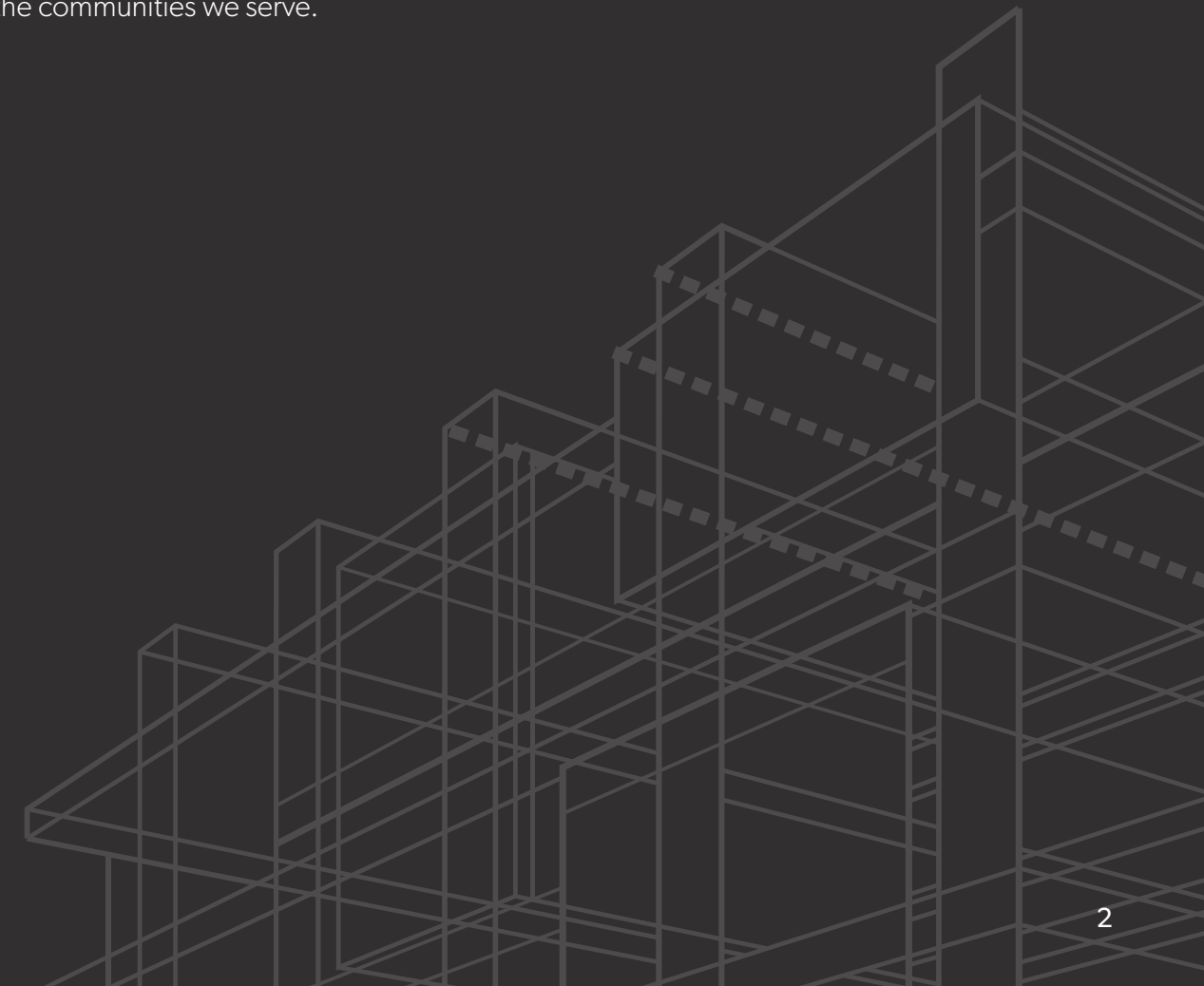
Stewardship in Structural Design: SK&A's Commitment to the SE 2050 Challenge

For more than 65 years, SK&A Structural Engineers has been dedicated to engineering solutions that balance creativity, practicality, and responsibility. As part of this ongoing commitment, we committed to the SE 2050 Challenge in August 2022, recognizing the structural engineering profession's opportunity to make notable contributions to reducing embodied carbon in the built environment. Our firm established an in-house Embodied Carbon Committee earlier that year to study the program, educate our team, and implement strategies that align with the initiative's goals.

Since becoming a signatory, we have actively incorporated embodied carbon considerations into our design discussions, specifications, and client collaborations. We continue to refine our approach through internal education, research on material impacts, and participation in regional and national industry dialogues. Our projects, including 34Fifty Apartments, the first passive house (PHIUS), net-zero ready affordable housing project in Washington, DC, and those in Washington, DC's Navy Yard as well as the Pike & Rose development in North Bethesda, MD, reflect our ability to integrate sustainability principles into practical, high-performance structural solutions.

SK&A remains committed to knowledge-sharing and industry collaboration, engaging with professional organizations, clients, and design teams to advance best practices. Through ongoing research, advocacy, and project-based implementation, we aim to contribute meaningfully to the profession's collective efforts toward responsible, forward-thinking design.

We look forward to continuing this journey with our industry peers—advancing both our technical expertise and our responsibility to the communities we serve.





About SK&A

Founded in 1960, SK&A has a rich history of providing exceptional client-focused engineering services for a wide range of projects across the Washington Metropolitan area and beyond. With offices in Potomac, Maryland, and Washington, DC, SK&A offers a comprehensive suite of structural consulting services, including analysis, design, repair, restoration, testing, and inspection, in addition to building enclosure and waterproofing.

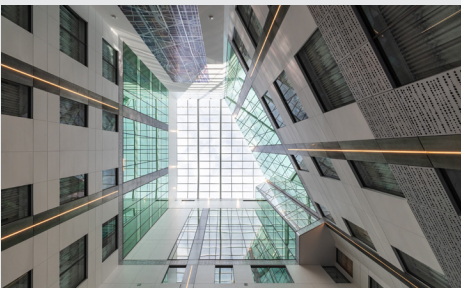
As a leader in the global effort to promote sustainability, our region sets the standard, with Washington, DC having been awarded the world’s first “LEED Platinum City” in 2017. SK&A has helped clients achieve sustainability certifications such as LEED, Passive House (PHIUS), and WELL, by integrating high-performance design strategies to support the vision for environmentally responsible projects.



80 Employees



39 Professional Engineers



805 Million + SF Engineered

Embodied Carbon Committee

SK&A’s Embodied Carbon Committee was formed to study embodied carbon in our work and educate the firm on what we can do to reduce our impact. The members are actively engaged in embodied carbon initiatives, new materials and methods, and broad education to assist our clients in meeting their goals of reducing embodied carbon in the construction industry.



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Josh Woolcock, PE, LEED AP
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Education Plan

As structural engineers, our work has a profound impact on embodied carbon. It is essential that we fully understand our role in reducing, and ultimately eliminating, embodied carbon in our structural designs.

In the third year of our firm’s active efforts towards this initiative, educating ourselves on the fundamentals has been, and continues to be, a primary focus. Below is a list of company-wide seminars we have held over the last three years. These sessions are designed to be repeated and expanded upon in the coming years to further enhance our collective knowledge:

- A Lunch-and-Learn meeting to provide updates on our participation in the SE 2050 Commitment Program and an overview of embodied carbon.
- A seminar to focus on the basics of life cycle assessments.
- A session to discuss Type II cement and CarbonCure, which are becoming increasingly prevalent in our projects.

These core seminars will continue to be offered as needed. Additionally, a library of recorded sessions is available to all staff and will be periodically updated with new content from both internal and external resources. Also, onboarding for new hires includes a briefing on our ECAP progress and goals. Lastly, our firm’s monthly internal newsletter continues to feature an “Embodied Carbon Corner,” which offers concise educational content and resources to keep our staff aligned with our embodied carbon goals.

Over the past year, our firm has strengthened its knowledge base of embodied carbon, learned about its impacts on industry standards, and developed firmwide initiatives and modifications to specifications. We have also joined our Regional DC Hub of the Carbon Leadership Forum and SEA-MW’s Sustainable Design Committee, to better engage with industry peers to further support our commitment to sustainability.



Knowledge Sharing

A crucial means of sharing knowledge is through communication and education of others. As such, we aim to serve as a resource for the local building community. Our firm co-presented in a webinar hosted by the District Architecture Center (DAC) on the topic of Passive House Design in September. We focused on our involvement in the recently completed multifamily project, 34Fifty Apartments, where we coordinated structural details to facilitate PHIUS design requirements. This past October, we engaged in conversations facilitated by our local CLF chapter as well as SEA-MW’s Sustainable Design Committee, to share experiences with our peers regarding sustainable project strategies, challenges, and knowledge on local policies. Additionally, in November, we attended a seminar hosted by the local AIA chapters regarding “The 2030 Challenge” where we served as a resource for local architect clients regarding successes in working towards our sustainability goals. We also expand our reach by sharing valuable information, including lessons learned and project highlights, on our company website and LinkedIn page.

Reporting

A clear baseline for project comparisons is one of the most important tools the industry is seeking. While some generalized baselines exist, more specificity is needed. To facilitate this effort, SE 2050 developed a central database to collect relevant information on completed projects.

This year, SK&A has submitted six projects to this database. Two of these life cycle analyses were conducted by employees who have limited experience with embodied carbon to expand our staff engagement and capabilities, as well as augment our firm’s data. We also plan to develop a firm-wide database for local project comparisons.

Reduction

SK&A is committed to a multi-faceted approach to reducing embodied carbon in our work. Where feasible, wood structural systems will be presented as a viable option. We will also explore the effects of various framing systems and column spacings to identify potential “carbon savings” for our projects. We understand that these discussions must take place early in the design phase to be most effective.

To strengthen our internal resources, we have begun requiring submissions of environmental product declarations (EPDs) in our specifications. These will be used to develop in-house baselines and standardized embodied carbon quantities for the types of buildings we commonly design.

Advocacy

Significant advancement of the movement towards net-zero embodied carbon will not be possible without proactive promotion. The design and ownership team must collectively align their efforts toward a shared goal to make a meaningful impact.

As part of our advocacy, we aim to encourage our clients to pursue options that inherently reduce embodied carbon usage. This includes designing with smaller and more consistent column bays, recommending wood framing, and advocating for adaptive reuse, renovations, and strengthening existing structures, instead of opting for complete building demolition when feasible. Going forward, our goal is for our project proposals and communications with architects and owners to promote selections that align with our embodied carbon reduction goals.

Since committing to the SE 2050 challenge, we have presented at the AIA-DC DesignDC symposium and industry webinars and events within our local building community. We plan to coordinate additional presentations for architects and structural engineers to further support the movement.

Lessons Learned

This past year, we have been inspired by our community of professionals dedicated to this important cause. We have been reminded that each of us has the ability to seek guidance and take meaningful steps toward achieving our goals. While we recognize that there is still much to learn, we remain optimistic about the impact we can make as we engage in thoughtful conversations about the future. We look forward to expanding our knowledge and driving the movement to eliminate embodied carbon from our work.



Contact Us

In the face of global climate change, structural engineers have a unique opportunity to be part of the solution. At SK&A, we are proud to contribute to the protection of our natural environment through our ongoing commitment to SE 2050, diligent efforts within our Embodied Carbon Committee, and our plans to continue deepening our understanding of this issue. We are also dedicated to providing valuable resources to our clients and working collaboratively to help ensure a sustainable future for generations to come.

The SK&A team members assisting with the SE 2050 initiative include Sara Zaman, James Chavin-Grant, Hakan Onel, and Josh Woolcock. Please do not hesitate to reach out.

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