



SE 2050

Embodied Carbon Action Plan

2024

DPS'S COMMITMENT TO SUSTAINABILITY

There is increasing pressure from scientists around the world to address the climate crisis we are in, noting that as a society we must reduce our carbon footprint to net zero much sooner rather than later. The construction industry alone is responsible for about a third of all annual global CO2 emissions each year. If we are to meet the ambitious and necessary goal of becoming carbon neutral in the coming years, the engineering behind our buildings must begin considering sustainability.

At Dekker Perich Sabatini (DPS), it's not just about the building. We pride ourselves in balancing multiple bottom lines at once to best serve the communities we impact, while also staying true to our culture. Sustainability has been a large part of that culture throughout our 60+ years of experience. We committed to the AIA 2030 Commitment in 2016 and have a dedicated sustainability team (Team Green) comprised of people from all over the firm.

Our team of architects, engineers, and designers aims to create places that not only celebrate communities, but that also honor and preserve natural resources – and ensure a healthy world that persists for generations to come. For these reasons, DPS is excited to be a part of the SE 2050 Commitment Program.

TEAM

DPS's in-house sustainability group, Team Green, will house our SE 2050 efforts. Team Green is comprised of representatives from all discipline areas across the firm that support and promote sustainable design.

Our Embodied Carbon Reduction Champion is Patience Raby of our Albuquerque office. Patience is an Intern Structural Engineer who is spearheading the firm's commitment to SE 2050. She will be responsible for compiling embodied carbon data and ensuring that DPS meets the SE 2050 Commitment requirements.

Contact

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From 2018-2023, DPS avoided **50,000 tons** of carbon emissions each year. That's equivalent to:



750,417 tree seedlings grown for 10 years



1.7M incandescent lamps switched to LEDs



5.1M gallons of gasoline per year



105,000 barrels of oil per year



5.5B smartphones charged per year

Source: EPA Greenhouse Gas Equivalencies Calculator



Jefferson Green, DPS's headquarters building – the first LEED Gold commercial building and the largest, most energy efficient LEED building in New Mexico at its opening

EDUCATION

DPS takes pride in our commitment to sustainability and has an established infrastructure that will contribute to staff learning about embodied carbon. We are excited to better equip our engineers to approach design with a sustainability perspective.

The Embodied Carbon Reduction Champion will hold a workshop for the firm on our process for embodied carbon analysis and highlight some ways that embodied carbon can be reduced throughout a project.

Additionally, our company intranet will feature a page dedicated to resources for not only embodied carbon but also links to our ECAP and information about the SE 2050 initiative. This page will also include links to informational webinars, a list of the various tools used to analyze embodied carbon, and who to contact within the firm with questions or project assistance.

Education Electives:

- Provide a narrative of how the Embodied Carbon Reduction Champion will engage embodied carbon reduction at each office.
- Present at least (1) webinar focused on embodied carbon and make a recording available to employees.
- Train all of your firm's structural engineers on the core concepts and skills required to measure, reduce, and report embodied carbon.
- Create an Embodied Carbon digital resource wiki and/or forum on your firm's internal website for staff to create, share, and discuss Embodied Carbon educational resources.



Friday Focus Presentation

REPORTING

We plan to again submit embodied carbon data for 2 projects this year. The Embodied Carbon Reduction Champion is developing a simple tool and analysis process that will be worked into our current processes for ease of use within the project teams.

In New Mexico, we currently have limited access to regional Environmental Product Declarations (EPDs). Although, we are seeing that more local material suppliers are beginning to generate them. We will attempt to gather the most representative EPDs. In cases where we cannot find specific EPDs, we will plan to use more generic, industry average resources for EPDs (provided by organizations such as the National Ready Mix Concrete Association and the American Institute of Steel Construction).

Material quantities will be pulled from the available 3D models of the projects or estimated manually from drawings. We will perform a retrospective analysis on new construction projects that are either completed or in the construction phase. Our scope for the life cycle analysis will be focused on cradle to gate (A1-A5). We hope to expand this scope in the future.

Reporting Electives:

- Submit a minimum of (2) projects per U.S. office with structural engineering services to the SE 2050 Database.



REDUCTION

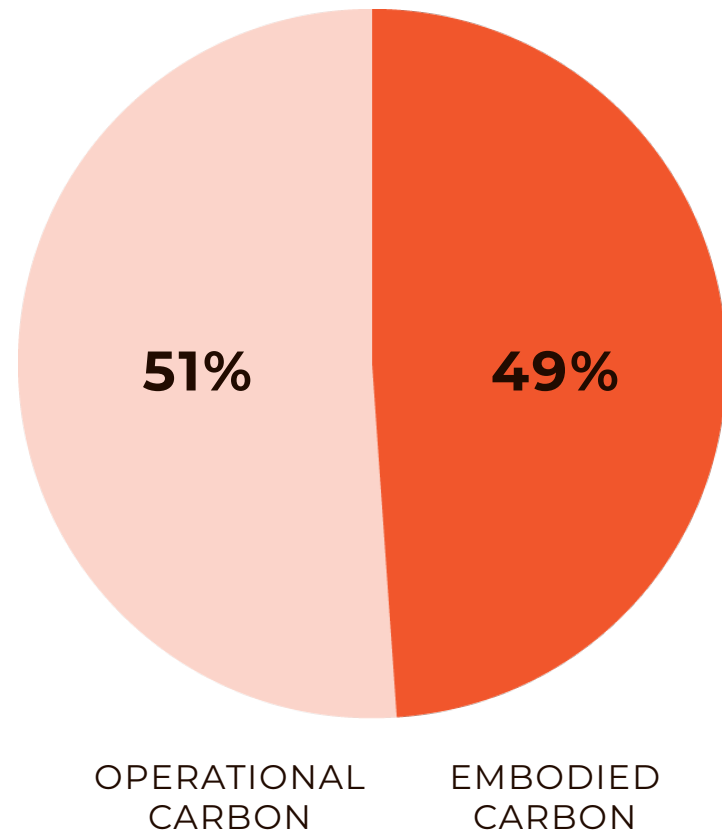
DPS will continue to work toward having an embodied carbon baseline to be able to set specific reduction targets in the future. For us, the first step is to determine what processes work best for us in terms of approaching embodied carbon quantification and analysis – this will be done by analyzing past projects. This exercise will not only aide in us determining our preferred processes but will also move us closer to setting baselines for our various project types and structural systems.

Reduction Electives:

- Collaborate with your concrete supplier to reduce embodied carbon in a mix design.
- Update your specifications to incorporate embodied carbon performance. Include embodied carbon in your submittal review requirements.

Total Carbon Emissions of Global New Construction from 2020 – 2050

Source: AIA 2030 / Carbon Leadership Forum



Embodied Carbon will be responsible for almost half of total carbon emissions from new construction between 2020 and 2050

ADVOCACY

DPS will feature at least one article per year on our media platforms highlighting the firm's commitment to SE 2050 and embodied carbon work going on within the firm. This first year, we will start a series of sustainability features on our media platforms that we envision will become a staple of our marketing efforts moving forward. We hope this sparks and encourages further conversations with clients, peers, and the public regarding sustainability.

The DPS website will feature a sustainability page with informational links regarding embodied carbon as well as this document for the public to view.

Advocacy Electives:

- Describe the value of SE 2050 to clients.
- Declare your firm as a member of the SE 2050 Commitment with boilerplate proposal language.

LESSONS LEARNED

Over this first year of being committed to the SE 2050 initiative, our firm has learned more about what it takes to perform an embodied carbon analysis of a structure and begun to envision how we will integrate sustainability in our designs. We have begun work on our own internal embodied carbon database and aim to further develop our approach to the analysis. This year, our team would like to focus on streamlining our analysis process and hold a workshop on it for the structural studio. We also aim to work toward building sustainability-focused specifications to have on hand.



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