



SE 2050

Embodied Carbon Action Plan

2023

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 join 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

Patience Raby
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patiencer@dpsdesign.org

Over the last 5 years, 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.

At least two annual presentations will be held by DPS with a focus on embodied carbon. These will be led by the firm champion and aim to educate employees on what embodied carbon is and ways that design decisions can impact the carbon footprint of projects. The first of these occurred in November 2022 within the firm's Friday Focus series.

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:

- Distribute ECAP within firm upon publishing.
- Make (1) webinar focused on embodied carbon available to employees.
- Share the SE 2050 library of resources with technical staff.
- Provide narrative outlining plans for minimum (2) firm-wide presentations per year on the topic of embodied carbon.



Friday Focus Presentation

REPORTING

We plan to submit embodied carbon data for 2 projects this year. One of the objectives for the embodied carbon champion is to determine which LCA tools/software is the best fit for our firm considering the systems we already have in place. Examples that we will consider are: EC3, SE 2050's ECOM, cove.tool, Tally, and One Click.

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. For this first year, 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.

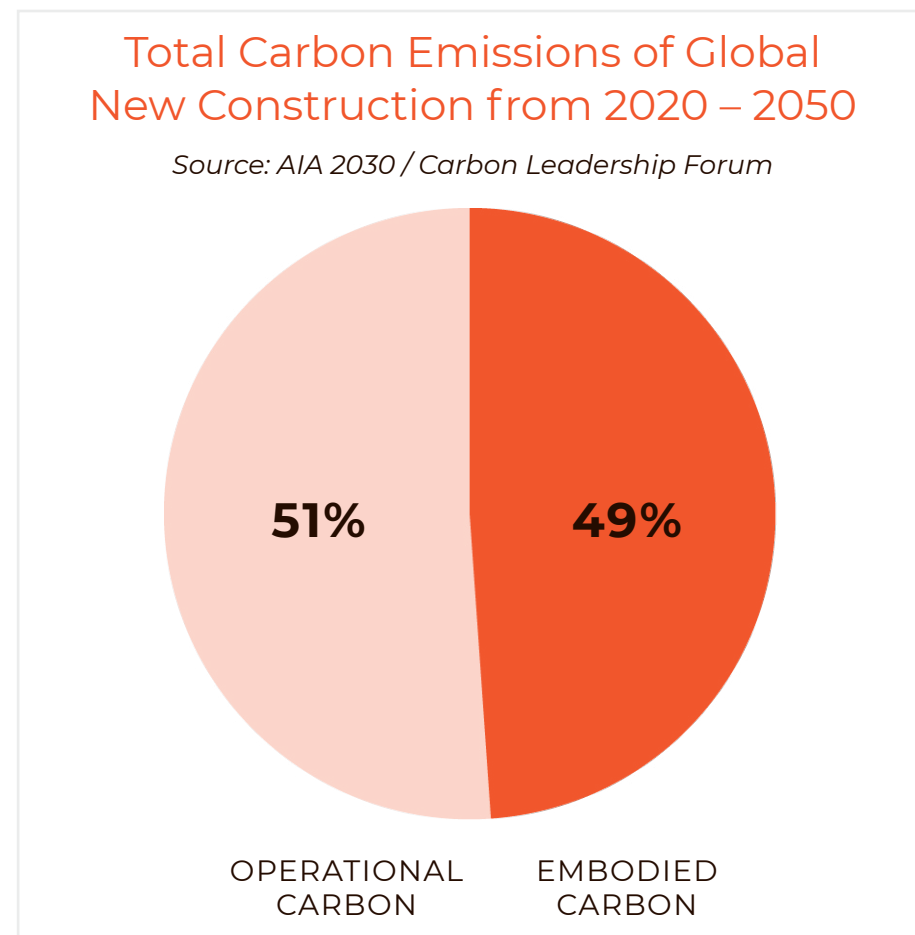


REDUCTION

DPS will 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 aid 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:

- Project case study sharing embodied carbon reduction successes and lessons learned.
- 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.



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.
- Share your commitment to SE 2050 on your company website.



Patience Raby

Aug 5

SE 2050 Commitment!

Exciting sustainability news today - DPS has committed to the SE 2050

Commitment Program! This is an initiative that serves as the structural engineering complement to the AIA 2030 Commitment. As a part of this initiative, we'll become better equipped to design structures sustainably as well as contributing to a carbon database to help inform design in the future. Stay tuned for our Embodied Carbon Action Plan (and more!) in the coming months!

Here's the link to our new page here on Up2 to learn more: [SE 2050 on Up2!](#)

Also feel free to reach out to me if you'd like to discuss!



Internal Announcement

SE 2050 Commitment

26 July 2022

Dekker Perich Sabatini
7601 Jefferson NE, Suite 100
Albuquerque, NM 87109

Laura Champion
Director
Structural Engineering Institute
1801 Alexander Bell Drive
Reston, VA 20191

Dear Laura:

Dekker Perich Sabatini, a 200-person firm located in Albuquerque, New Mexico; Las Cruces, New Mexico; Amarillo, Texas and Phoenix, Arizona, is hereby signing on to the SE 2050 Commitment Program. We support the vision that all structural engineers shall understand, reduce, and ultimately eliminate embodied carbon in their projects by 2050.

The places where we live, work, and play represent the largest sources of greenhouse gas emissions in the United States, as well as around the world. The design and construction industry has made significant strides toward creating high performance buildings of all types and uses. As a result, the industry is positioned to have a profound impact by continuing to foster high building performance and reducing building-related greenhouse gas emissions.

As engineers, we understand the need to exercise leadership in creating the built environment. We believe we must alter our profession's practices and encourage our clients and the entire design and construction industry to join with us to change the course of the planet's future. A multi-year effort will be required to alter current design and construction practices and realize significant reductions in the use of natural resources, non-renewable energy sources, and waste production and promote regeneration of natural resources.

We therefore commit Dekker Perich Sabatini to take the following steps which are part of the SE 2050 Commitment Program:

- Within six months and annually henceforth, we commit to reporting an Embodied Carbon Action Plan (ECAP) and permit the ECAP document or form be made public on the SE 2050 website.
- Within one year and annually henceforth, we commit to submit data to the SE 2050 project database in a collaborative effort to understand embodied carbon in structural engineering projects and to set attainable targets for future projects.

We look forward to joining this coalition and industry effort to achieve the goals of the SE 2050 Program.

Very truly yours,
Dekker Perich Sabatini



Brian Barnes, PE
Principal

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PERICH
SABATINI**
Architecture
in Progress

dpsdesign.org