SE 2050 Commitment Program

2025 Annual Report

2025 Year in Review

Image of Portland International Airport Renovation by ZGF Architects

5

YEARS

SE 2050 launched five years ago

172

FIRMS

Proud to have 172 firms committed to the program

392

ECAPS

Number of Embodied Carbon Action Plans created

1584

PROJECTS

Submitted projects to the SE 2050 Database

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Image of Portland International Airport Renovation by ZGF Architects

Letter from the Chairs

There has been a significant shift in decarbonization efforts over the past year. The year began with devastating fires in Los Angeles—a sad reminder of the growing stakes and impact to our communities the risk of not mitigating and adapting to climate change. Yet, like a train gaining speed on a downhill track, momentum toward a net-zero future cannot be stopped. For better and for worse, the mission of transitioning towards net-zero structures saw both highs and lows, but tremendous progress has been made and the community tent of building sustainability both wider and stronger.

The SE 2050 Committee has finished our first year as an SEI Focus Initiative and reached the goals set out for ourselves. For program longevity, we have formalized our Operations Manual and Strategic Vision organized around five pillars: operations, community, data, education, and advocacy.

We've written our first technical report, a comprehensive peer-reviewed methodology and analysis of the SE 2050 Database. In addition to advancing a comprehensive structural embodied carbon database to answer the fundamental question of "how good is good?," the report establishes an 80th percentile to upfront structural embodied carbon of 350 kg CO_2e/m^2. These findings have only been reinforced as additional data has been received—tripling the number of projects collected within the past year. We also launched the new SE 2050 Database, funded with generous support from ClimateWorks Foundation, which is expanded to track material quantities.

The SE 2050 word is getting out—with many thanks to our Communications and Resources teams. SE 2050 was publicized in Structure Mag (Database, Top Ten), participated in Carbon Leadership Forum webinars, and represented at a multitude of conferences including AIA, Greenbuild, and four presentations as part of a sustainability track at Structures Congress. In collaboration with the SEI Sustainability Committee, we supported SEI's first online symposium, published the Prestandard for Assessing the Embodied Carbon of Structural Systems for Buildings, and began developing a roadmap for the future.

In its second year of the Recognition Program, SE 2050 welcomes SmithGroup (Reporting), DLR Group (Reduction), KPFF (Advocacy), and, for the second year, Walter P Moore (Education). This year also adds Best Newcomer: Lionakis. These firms are celebrated for making meaningful advancements within the core pillars of the Program.

Sustainability in structures is making it mainstream. Instead of arguing about the importance and our role in the future, we're tackling new challenges and addressing the logical progression of topics like structural reuse and circular economy.

It was also a year for building community. We had our first SE 2050 Summit in Boulder, Colorado, this year—hosting nearly 200 people as part of a bootcamp, leadership roundtable, and symposium. The gathering felt purposeful and showed that challenging work can be joyful and fun. We shared stories and laughs and committed to working on our shared goals together. That is an important ingredient, perhaps even the essence, of the cultural shift we're looking to build. Happy hour at Structures Congress this year will build on that celebration in Boston as the culmination of our second SE 2050 Summit!

In the coming year, we eagerly anticipate reinforcing the strength of our community and driving forward collective progress. The goals outlined in our Strategic Vision and Focus Initiative commitments remain focused on continuing to bring all structural engineers under the SE 2050 tent. The movement is accelerating, and there's space for everyone on board. We invite you to join us.

Sincerely,

Luke Lombardi & Lauren Wingo
Co-Chairs, SE 2050 Commitment Program

Committee Charge

MISSION

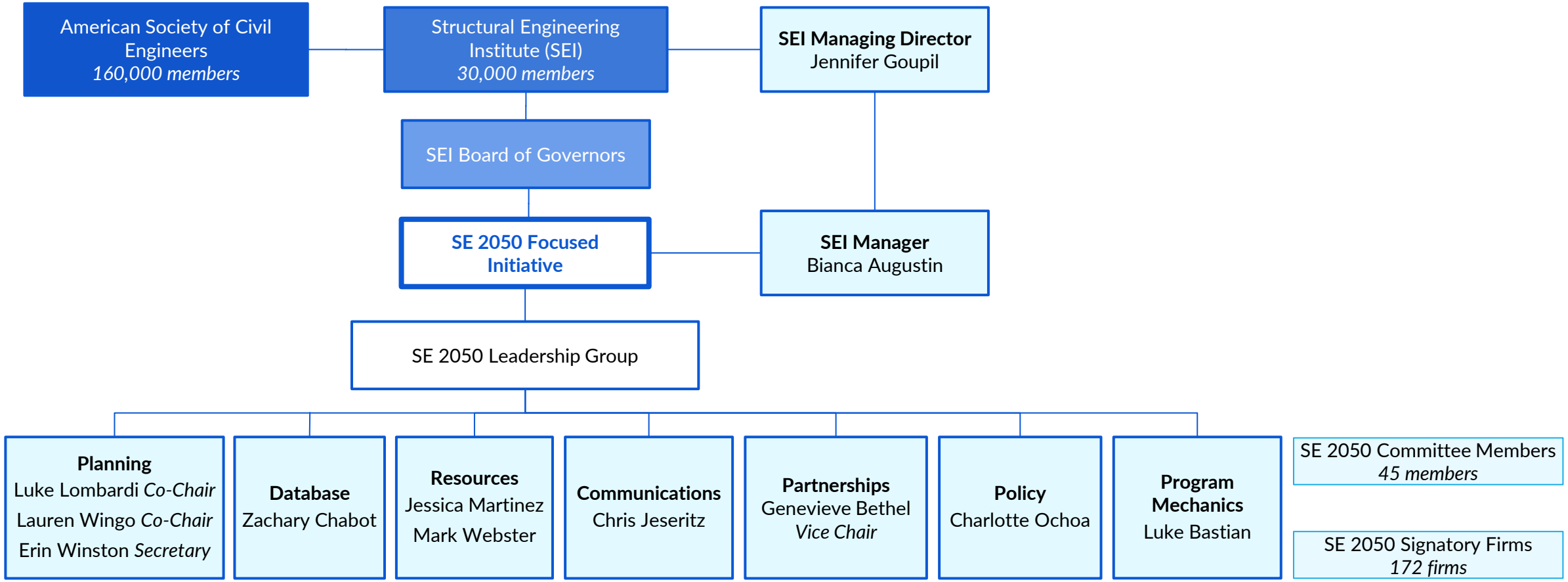
The mission of the SE 2050 Commitment is to support the SE 2050 Challenge by working toward net zero embodied carbon structural systems by 2050 through transforming the practice of structural engineering in a way that is holistic, firm-wide, project based, and data-driven. The program aims to support participating firms to successfully reduce embodied carbon through strategies where structural engineers have the greatest agency -- use of less and/or less impactful structural materials.

Figure 1: SE 2050 Signatory Firm 2025 Badge

VISION

Lead the United States' structural engineering profession in its transition to net zero embodied carbon structural systems by serving as the primary source of embodied carbon benchmarking and reduction targets, resources and education, advocacy, and community.

Organization Chart



SE 2050 Committed Firms

The mission of SE 2050 will only be achieved through a diverse, populous body of signatory firms engaging in unified action.

Since our founding in 2020, we have continuously accepted new signatory firms within North America and internationally (Figure 2, Figure 3). These firms represent tens of thousands of practicing engineers pursuing embodied carbon reduction in their design (Figure 4). Our commitment program was founded to serve as a tool for the structural engineering community. The growth in number of active and new signatories to the program keeps us positive that we are continuing to be a useful resource. We strive to grow the number of committed signatory firms, increase small firm participation, and perform outreach in unrepresented states.

Thank you to our active signatory firms for your work. We are grateful for your participation and support.

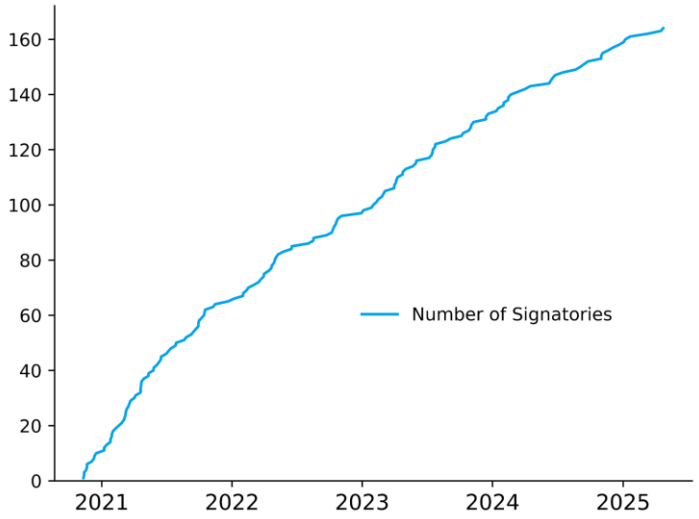


Figure 2: SE 2050 Signatory Firm Count

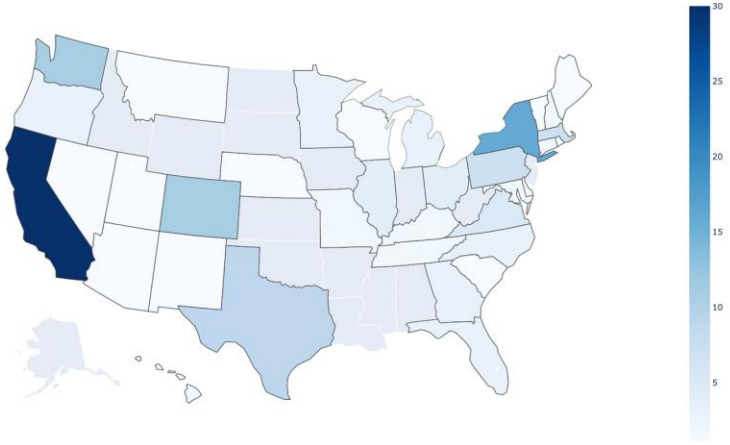


Figure 3: Location of Embodied Carbon Champions by State

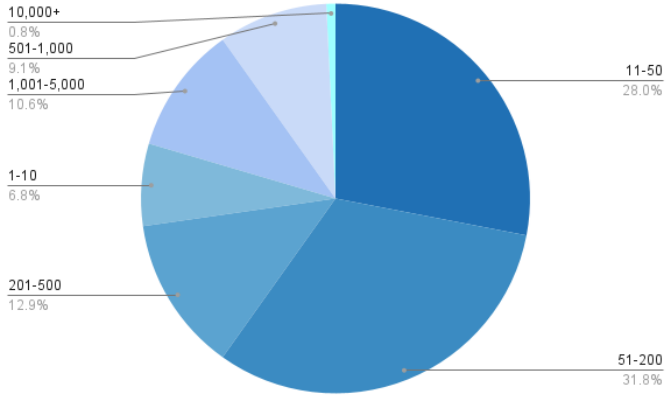
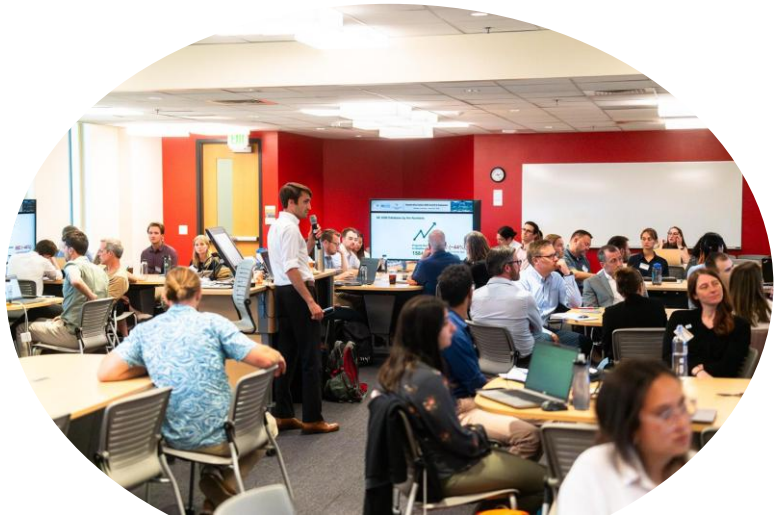


Figure 4: SE 2050 Signatory Firm Size Distribution

Signatory Summit

Since launching the Program during COVID in 2020, thousands of collective volunteer hours have gone into developing resources, planning webinars, and building relationships--almost entirely online. In June 2025, the group met for our first dedicated gathering at the Towards Zero Carbon 2025 Summit and Symposium hosted by CU Boulder. The event was a fantastic success, seeing nearly 200 participants with the Summit bringing together 65 firms.



Workshops

Participants were broken into eleven collaborative working groups that brought hands-on engagement to advancing the SE 2050 database, emerging material innovation, policy advocacy, leveraging AI, and more. These sessions fostered knowledge sharing and exemplified a key tenet of SE 2050: learning by doing!

Roundtable Connections

There were networking sessions designed to build a fabric of connection. Participants shared successful carbon reduction strategies and innovative solutions.

Recognition of Signatories and Committee Volunteers

Perhaps most importantly, there was a tremendous amount of positive energy at the event. Along with the collective effervescence, it was an opportunity to celebrate the progress of the Program, a Program that exists solely due to the passion and commitment of its volunteers and signatory members who believe in the vision. We celebrated a few, SE 2050 Program founders Dirk Kestner and Mike Gryniuk pictured below, and toasted the many more who were not in person.

Leadership Roundtable

The Leadership Roundtable gathered over 35 firm leaders from across the country for an open discussion on what it will take to advance sustainable structural practice across the profession. Conversations ranged from the realities of current workflows to the long-term vision these leaders hold for the future of structural engineering.

Four themes surfaced repeatedly throughout the discussion, each revealing a different dimension of how leaders are approaching this moment of change. The quotes in the diagram capture the perspectives that resonated most strongly across the room.

SE 2050 will use these insights to guide the development of practical resources and program development that support firms in strengthening sustainable practice.

Empowering the Profession

"Structural engineers hold the biggest lever on embodied carbon—we can move the needle faster than anyone else."

Strengthening Current Practice

"We can move the needle if we help define the right needle."

Shaping the Future of Sustainable Design

"In twenty years, I hope we're no longer in the business of persuading people."

Leadership's Charge in Driving Change

"Sustainability has to be part of our culture—not an add-on."

A Major Step Forward in Standarding Embodied Carbon Assessments

The Structural Engineering Institute (SEI) Sustainability Committee, who work closely with the SE 2050 Committee, haved released a Prestandard for Assessing the Embodied Carbon of Structural Systems for Buildings.

The Prestandard provides a scope and calculation methodology for embodied carbon assessments of structural systems in new buildings. The publication directly supports the efforts of SE 2050 and can be implemented by signatory firms as they continue to develop and refine their reporting programs.

A foundational aspect of the new Prestandard is a Tier structure, which establishes a framework to categorize and communicate the level of detail of an embodied carbon assessment. Additional sections provide requirements for assessing material quantities, calculating environmental impacts, reporting impacts, and reporting the results of an analysis. It also includes appendix discussions of biogenic carbon and concrete carbonation.

The Prestandard lays the essential framework and foundation for development of an embodied carbon assessment standard, which could be adopted into codes or by jurisdictions. The new SE 2050 database is aligned with the prestandard as well as being an essential resource for structural engineers committed to the Program.

Table 3-1. Component Category Classification Scope by Assessment Tier.

Assessment Type	Primary	Accessory	Ancillary
Tier 1	Included	Optional	Optional
Tier 2	Included	Included	Optional
Tier 3	Included	Included	Included

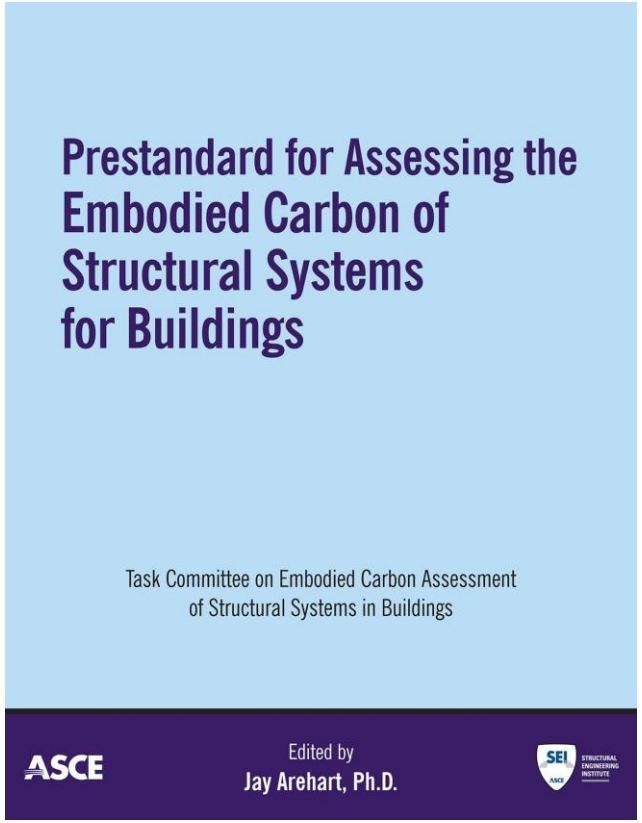


Figure 5a, above: Cover Page of Prestandard
Figure 5b, left: Table of Component Category Classification Scope by Assessment Tier

Embodied Carbon Action Plans

Embodied Carbon Action Plans (ECAPs) are central to firm engagement with SE 2050 and the path to net zero embodied carbon structures. The ECAP articulates how a firm will *educate*, *advocate*, *report*, and *reduce* the embodied carbon of structures. More specifically all firms must:

- Provide an outline of the firm's strategy to **educate** employees about embodied carbon and **advocate** for net zero embodied carbon structures
- Provide an outline of the firm's commitment to **report** project embodied carbon data to the SE 2050 Database
- Specify measurable goals to assess your firm's progress in **reducing** embodied carbon in project work

These are plans submitted in the first year of joining and updated annually as firms continue to develop in their character and brand. This year, the SE 2050 Committee reviewed 123 ECAPs! Through this review, there is clear industry progress being made with broader understanding of embodied carbon and best practices. Subsequent pages provide a summary of notable takeaways from a comprehensive review of the ECAPs submitted in 2025.

	KNOWLEDGE SHARING	DATA
INTERNAL	**Education** Building understanding.	**Reporting** Measuring to manage.
EXTERNAL	**Advocacy** Building a culture of change.	**Reduction** Strategies making an impact.

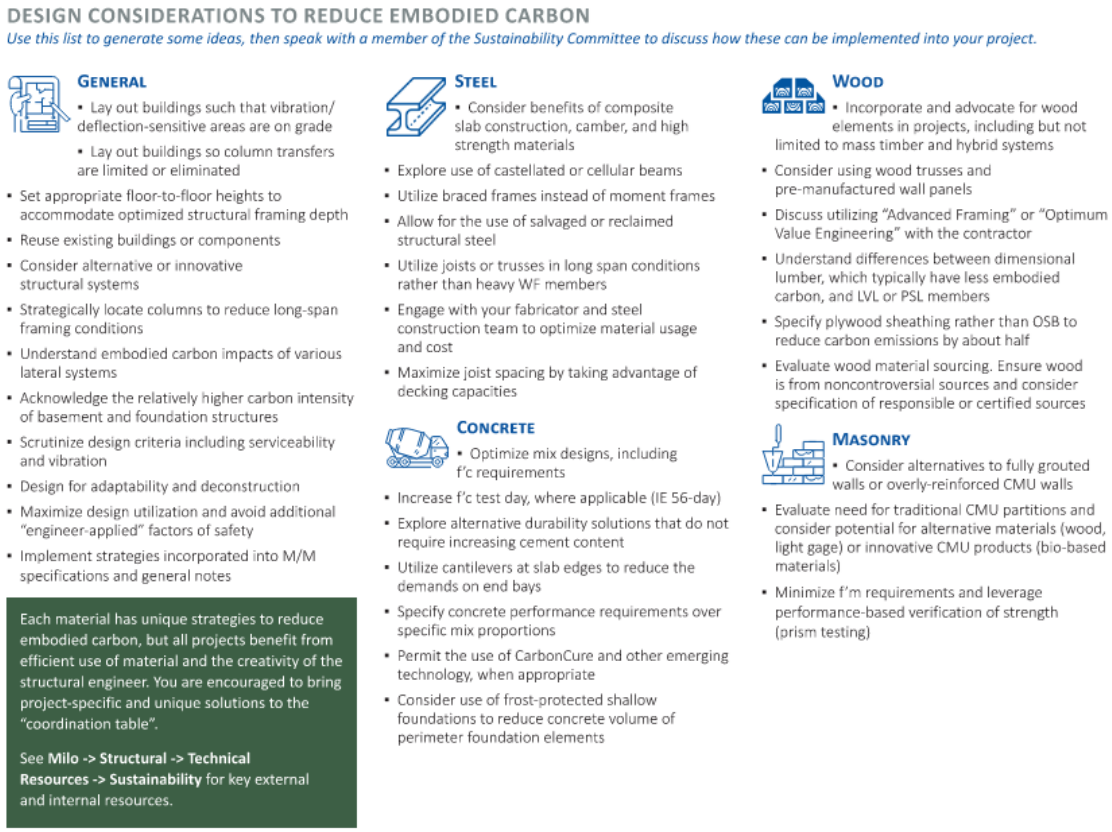
ECAPs - Educate

SE 2050 signatory firms maintain education as a core priority, preparing their teams to understand and pursue sustainable solutions and carbon reductions across projects. With education taking many forms, signatories explore a range of strategies throughout their practices. In-house carbon accounting and LCA tools are becoming increasingly common, and firms are also emphasizing training on widely used tools such as Tally and Athena. Firms are including EC101 presentations as part of their onboarding and continue to both develop EC 201 presentations and partner with low carbon material suppliers or other experts for internal Lunch and Learns.

Concerning SE 2050's other crucial goals, resource development and knowledge sharing, signatories are actively creating resources that range from baseline databases to expansive digital forums on embodied carbon. ECAPs talked about sharing practical tools, guidelines, and educational content to ensure a uniform, company-wide understanding and approach. Several firms have created blogs, sustainability wikis, internal resource hubs, or guide sheets outlining key sustainable design considerations and lessons learned on their projects.

In their *Design Considerations Guide Sheet*, Martin/Martin highlights the importance of considering embodied carbon reduction strategies on a material specific basis but also tying it back to overall project goals and criteria.

Other notable initiatives include encouraging participation in SE 2050 quarterly calls, attending sustainability summits, and joining or starting local CLF and/or SEA hubs. A key factor in driving to success appears to be providing engineers with a forum where they can exchange ideas around education in a fun, engaging atmosphere while building new connections.



DESIGN CONSIDERATIONS TO REDUCE EMBODIED CARBON

Use this list to generate some ideas, then speak with a member of the Sustainability Committee to discuss how these can be implemented into your project.

GENERAL

- Lay out buildings such that vibration/ deflection-sensitive areas are on grade
- Lay out buildings so column transfers are limited or eliminated
- Set appropriate floor-to-floor heights to accommodate optimized structural framing depth
- Reuse existing buildings or components
- Consider alternative or innovative structural systems
- Strategically locate columns to reduce long-span framing conditions
- Understand embodied carbon impacts of various lateral systems
- Acknowledge the relatively higher carbon intensity of basement and foundation structures
- Scrutinize design criteria including serviceability and vibration
- Design for adaptability and deconstruction
- Maximize design utilization and avoid additional "engineer-applied" factors of safety
- Implement strategies incorporated into M/M specifications and general notes

Each material has unique strategies to reduce embodied carbon, but all projects benefit from efficient use of material and the creativity of the structural engineer. You are encouraged to bring project-specific and unique solutions to the "coordination table".

See **Milo -> Structural -> Technical Resources -> Sustainability** for key external and internal resources.

STEEL

- Consider benefits of composite slab construction, camber, and high strength materials
- Explore use of castellated or cellular beams
- Utilize braced frames instead of moment frames
- Allow for the use of salvaged or reclaimed structural steel
- Utilize joists or trusses in long span conditions rather than heavy WF members
- Engage with your fabricator and steel construction team to optimize material usage and cost
- Maximize joist spacing by taking advantage of decking capacities

CONCRETE

- Optimize mix designs, including f'c requirements
- Increase f'c test day, where applicable (IE 56-day)
- Explore alternative durability solutions that do not require increasing cement content
- Utilize cantilevers at slab edges to reduce the demands on end bays
- Specify concrete performance requirements over specific mix proportions
- Permit the use of CarbonCure and other emerging technology, when appropriate
- Consider use of frost-protected shallow foundations to reduce concrete volume of perimeter foundation elements

WOOD

- Incorporate and advocate for wood elements in projects, including but not limited to mass timber and hybrid systems
- Consider using wood trusses and pre-manufactured wall panels
- Discuss utilizing "Advanced Framing" or "Optimum Value Engineering" with the contractor
- Understand differences between dimensional lumber, which typically have less embodied carbon, and LVL or PSL members
- Specify plywood sheathing rather than OSB to reduce carbon emissions by about half
- Evaluate wood material sourcing. Ensure wood is from noncontroversial sources and consider specification of responsible or certified sources

MASONRY

- Consider alternatives to fully grouted walls or overly-reinforced CMU walls
- Evaluate need for traditional CMU partitions and consider potential for alternative materials (wood, light gage) or innovative CMU products (bio-based materials)
- Minimize f'm requirements and leverage performance-based verification of strength (prism testing)

Figure 6: Educate Spotlight on Martin/Martin Consulting 2025 ECAP

ECAPs - Advocate

SE 2050 continues to strengthen industry-wide momentum through it's advocacy initiatives that empower firms to engage clients, suppliers, policymakers, and the broader design community. The advocacy electives provide a clear framework that encourages participants to communicate embodied carbon priorities early and often helping normalize conversations that once existed only in niche technical circles.

Across this year's ECAPs, advocacy has clearly evolved from general awareness building to measurable, industry-shaping action. Firms are engaging clients earlier to set meaningful low-carbon targets, collaborating with material suppliers to increase transparency and promote low-GWP products, and actively participating in policy discussions from CalGreen updates to Buy Clean and AIA2030 initiatives. Many are also sharing best practices through conferences (see right), webinars, and academic partnerships, while mentoring new signatories to expand SE 2050's collective impact. Together, these efforts are strengthening the industry's knowledge base and accelerating progress toward a low-carbon future

These efforts collectively demonstrate that advocacy is no longer an optional add on, it is a core driver of cultural change. By promoting material transparency, policy evolution, and equitable access to embodied carbon knowledge, SE 2050 participants are accelerating the shift toward a carbon-conscious design ecosystem.

Figure 7: SE 2050 at Greenbuild

Figure 8: SE 2050 at Towards Net Zero Summit

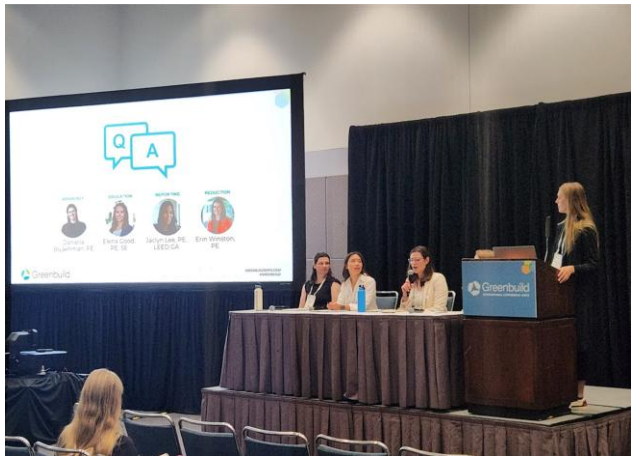
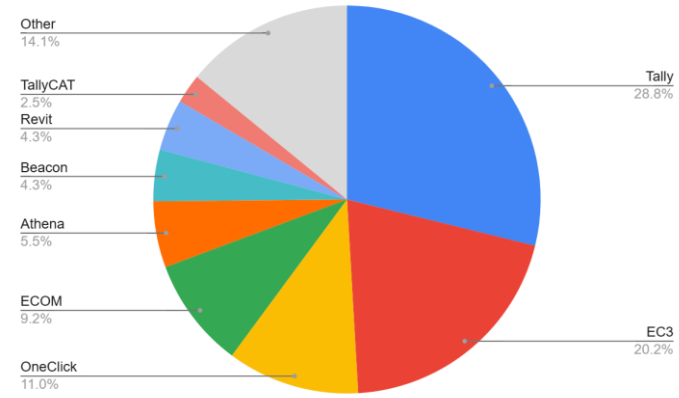


Figure 9: SE 2050 Recognition Program Winners (2024)

Figure 10: SE 2050 with Partner Initiatives at AIA25

ECAPs - Report

Figure 11: Summary of LCA Tools Used by Signatory Firms



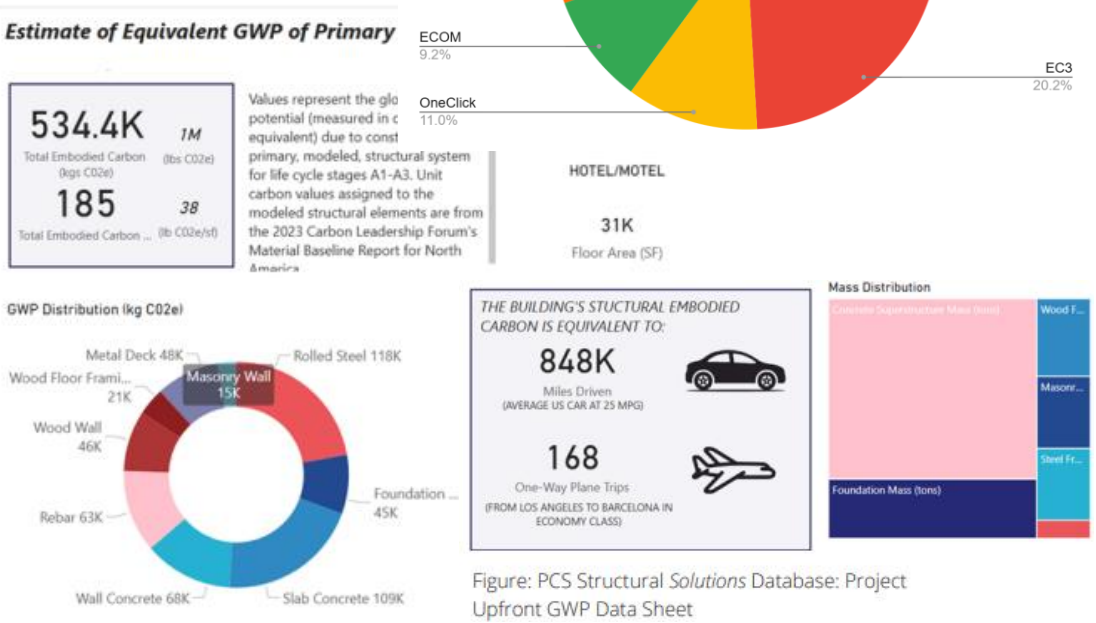


Figure: PCS Structural *Solutions* Database: Project Upfront GWP Data Sheet

Figure 12: Report Spotlight on PCS Structural Solutions 2025 ECAP

Reporting data is integral to the success of SE 2050. The whole building LCA tools used most frequently by signatory firms are Tally and EC3, followed by One Click LCA, SE 2050's ECOM tool, the Athena Impact Estimator, and Beacon (see Figure 11). Nearly 50% of firms indicated that they already are or plan to submit more than the minimum number of projects to the SE 2050 Database. Over 20 firms submitted at least 10 projects to the database this past year--something that hugely benefits all in our industry as we look to more precisely define embodied carbon benchmarks (see Database Section).

While many of these tools are typically most useful at the end of projects, 55% of firms also mentioned conducting Embodied Carbon assessments at earlier project phases - a 15% increase from the previous year. Companies note that these early assessments are essential to decreasing project related emissions and about 30% mention having an internal company database of common material EPDs to make these calculations quicker.

There was also a large increase - from 10% to 50% - in the number of firms that specified what LCA Stages were being tracked. Among those who included this information in their ECAPs, there was a fairly even split between companies only tracking A1-A3 (Cradle to Gate/Manufacturing Emission) and those looking the full lifespan of material.

Once the data has been collected, more and more firms are developing internal dashboards such as the one in Figure 12 from PCS to summarize pertinent information. This can be important for identifying portions of buildings that are contributing high amounts of emissions during design phases or for sharing clean, informative graphics with architects and clients.

ECAPs - Reduce

It is exciting to see signatory firms advancing embodied carbon reduction from strategy identification to widespread implementation. In the 2025 ECAP submissions, many firms are now establishing organizational support systems, with 74% of firms reporting internal embodied carbon working groups that guide implementation, track progress, and develop firmwide standards.

Specification changes remain one of the most effective levers for reduction. At least 82% of firms are intending to adjust their specifications to address embodied carbon, and 66% have already done so. Multiple firms reported requiring project-specific Environmental Product Declarations (EPDs) in their contract documents. Project-specific EPDs improve LCA accuracy by using real material and supplier data rather than generic regional averages, enabling design teams to compare alternatives and verify that low-carbon intent translates into low-carbon procurement. Additionally, 47% of firms mentioned introducing performance - based specifications to allow flexibility in how to achieve lower embodied carbon concrete mix designs. Similar to previous years, firms referenced carbon savings through higher cement replacement, the use of 56-day and 90-day concrete mix designs, and reducing volumes through more efficient design.

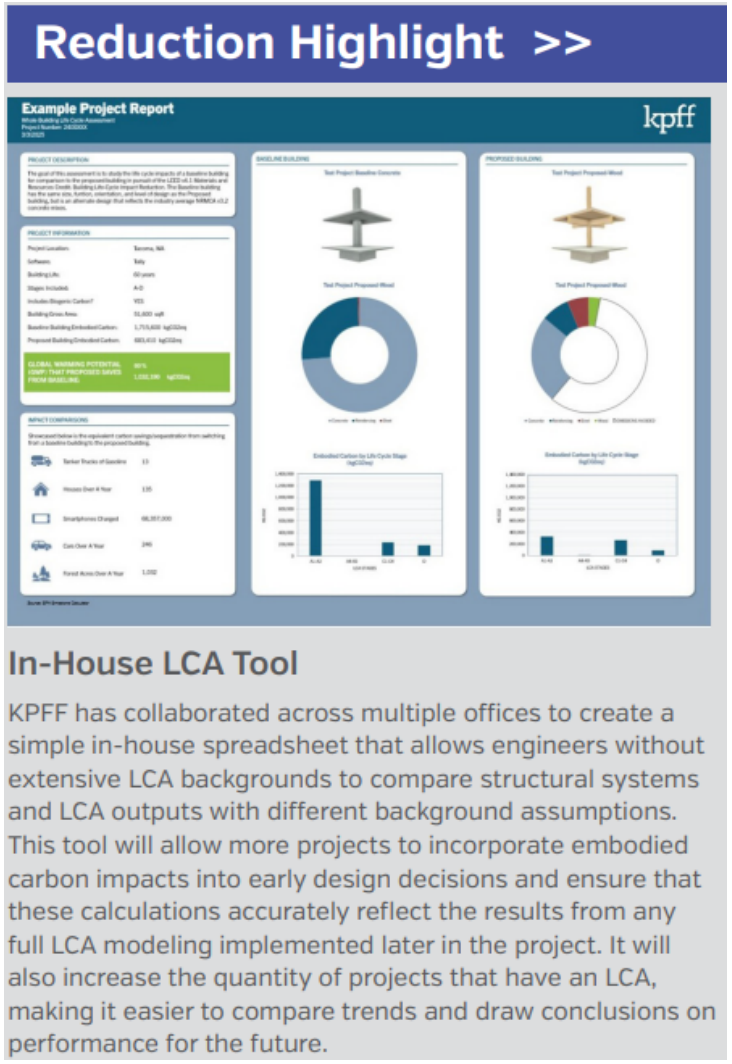


Figure 13: Reduce Spotlight on KPFF's 2025 ECAP

ECAPs - Reduce

Beyond concrete reductions, signatory firms expanded reduction strategies into reuse, specification shifts, and system efficiency. A significant number of firms emphasized that the lowest-carbon building is the one that already exists, showcasing retrofit and reuse strategies ranging from evaluating existing buildings for adaptation to salvaging structural members for new construction. KPFF demonstrated this approach through the reuse of 200,000 board feet of reclaimed timber—equivalent to approximately four acres of forest—on the Federal Center South project.

Design efficiency and system selection were additional reduction levers. Firms are optimizing structural systems, minimizing overdesign, and comparing alternate framing systems to reduce material volume and carbon intensity. Others are advancing the use of mass timber and biogenic materials, and incorporating design-for-disassembly practices to support future reuse and circularity. Firms such as Ai-Alt Structural Engineering and Coughlin Porter Lundeen also emphasized supplier proximity and local material sourcing as effective strategies to further reduce embodied carbon associated with transportation and procurement.

Across all ECAPs, the strongest theme this year is that embodied carbon reduction is no longer a single design decision—it is an integrated process influenced by design choices, material specifications, and supplier coordination. These efforts illustrate the continued momentum toward our shared goal of achieving net-zero structural embodied carbon by 2050.

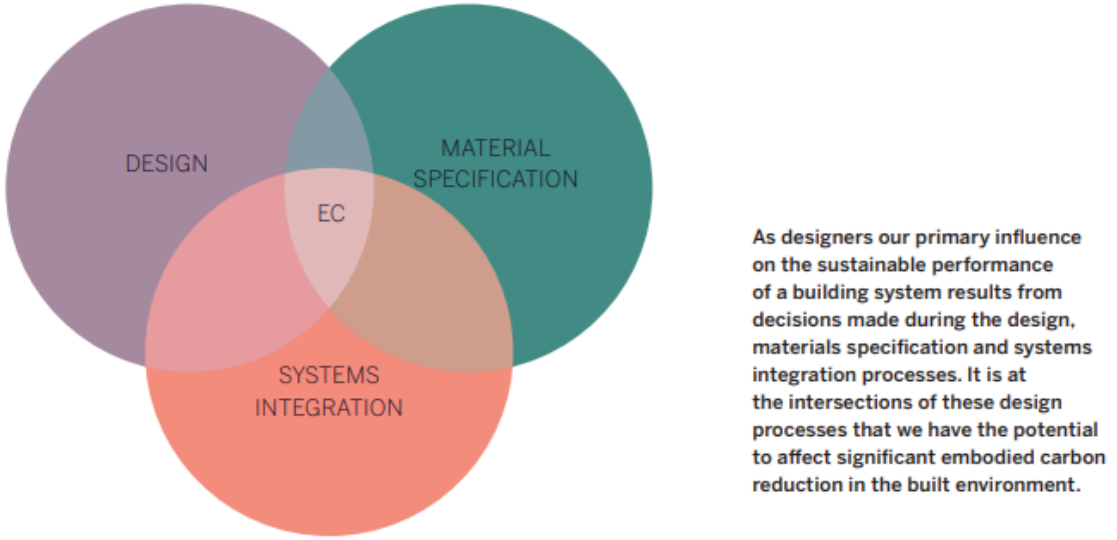


Figure 14: Reduce Spotlight on Skidmore, Owings, and Merrill LLP's 2025 ECAP

Database

The SE 2050 Database is the repository of signatory firms' structural embodied carbon data, measured in global warming potential (GWP) ($kgCO_2e$). The data submitted to the SE 2050 Database are used to provide insights to inform actionable improvements by signatory firms, with a longer term goal of creating embodied carbon benchmarks and targets.

In 2025, there were over 1,500 projects in the SE 2050 Database. Figure 15 (shown right) compares the upfront carbon of projects provided in 2023 and in 2025. It should be noted that many other projects provided the carbon emissions for other life cycle stages, but this data is not included in Figure 15 to ensure a functionally equivalent GWP comparison across projects.

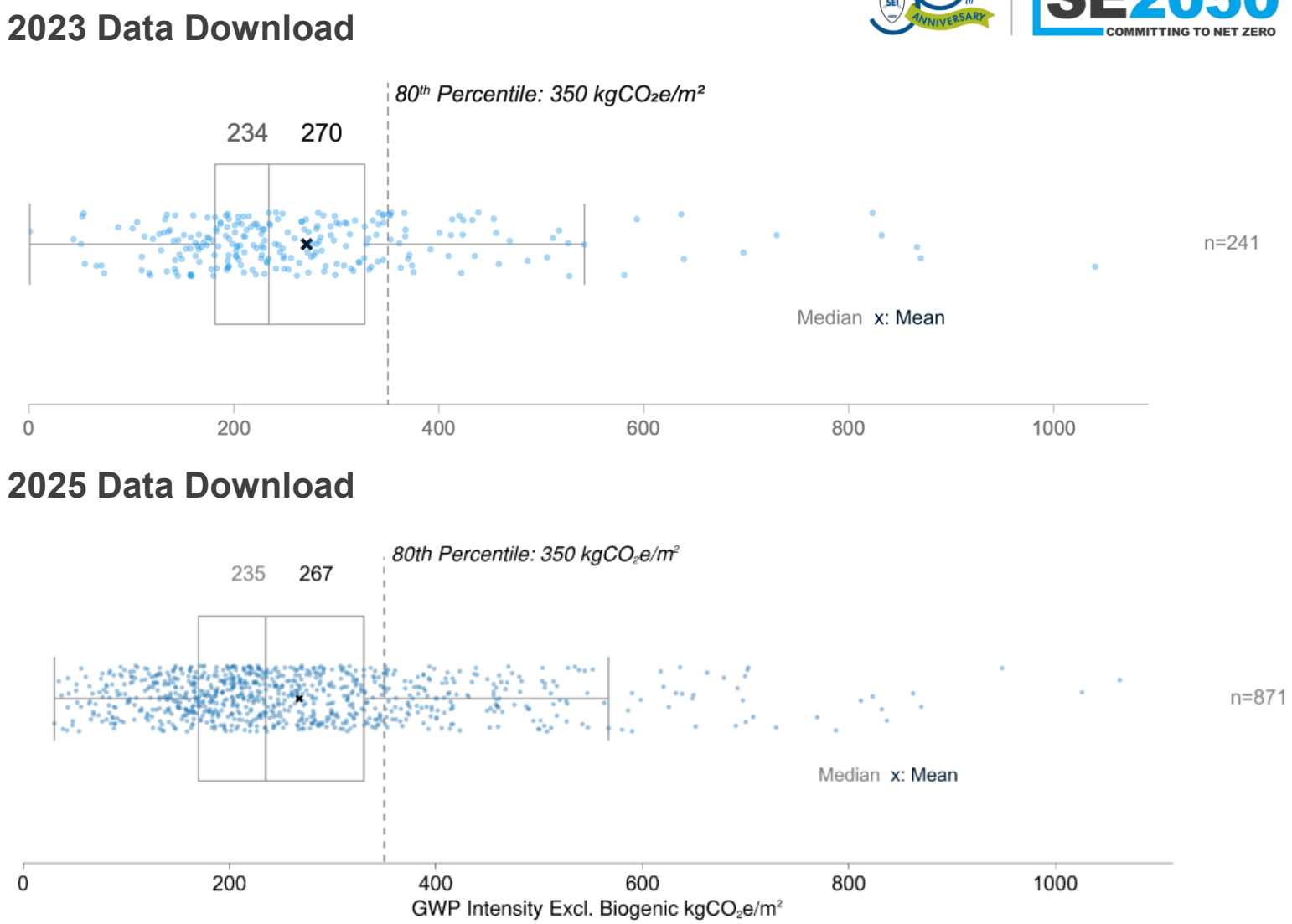


Figure 15: Comparison of the distributions of upfront carbon GWP Intensities between the 2023 and 2025 data (Data: 11/12/2025)

Database

The Data Science Team (DST) had another active year analyzing data, presenting previous analysis findings at conferences, like Structures Congress 2024, and publishing the inaugural ***SE 2050 Commitment Program 2023 Data Analysis and Findings Report***, through ASCE Publications in March. The report's front matter (free) has over 600 downloads and the report has garnered multiple citations. The executive summary of this report is also available through the SE 2050 website and highlights key findings from the report.

Recently, the DST has been analyzing the most recent data from 2025. Figure 15 (previous page) compares the upfront (A1-A5) carbon GWP from the initial dataset to the updated dataset. Interestingly, the 80th percentile value noted as the recommended limit for upfront carbon remains at 350 $kgCO_2e/m^2$ despite the addition of over 600 new projects. Figure 16 (on the right) is an example of the types of data insights that can be gleaned from these analyses, showing how upfront carbon GWP varies between primary horizontal gravity systems. The DST is actively working on analyzing the newest data to update the findings from the 2023 report.

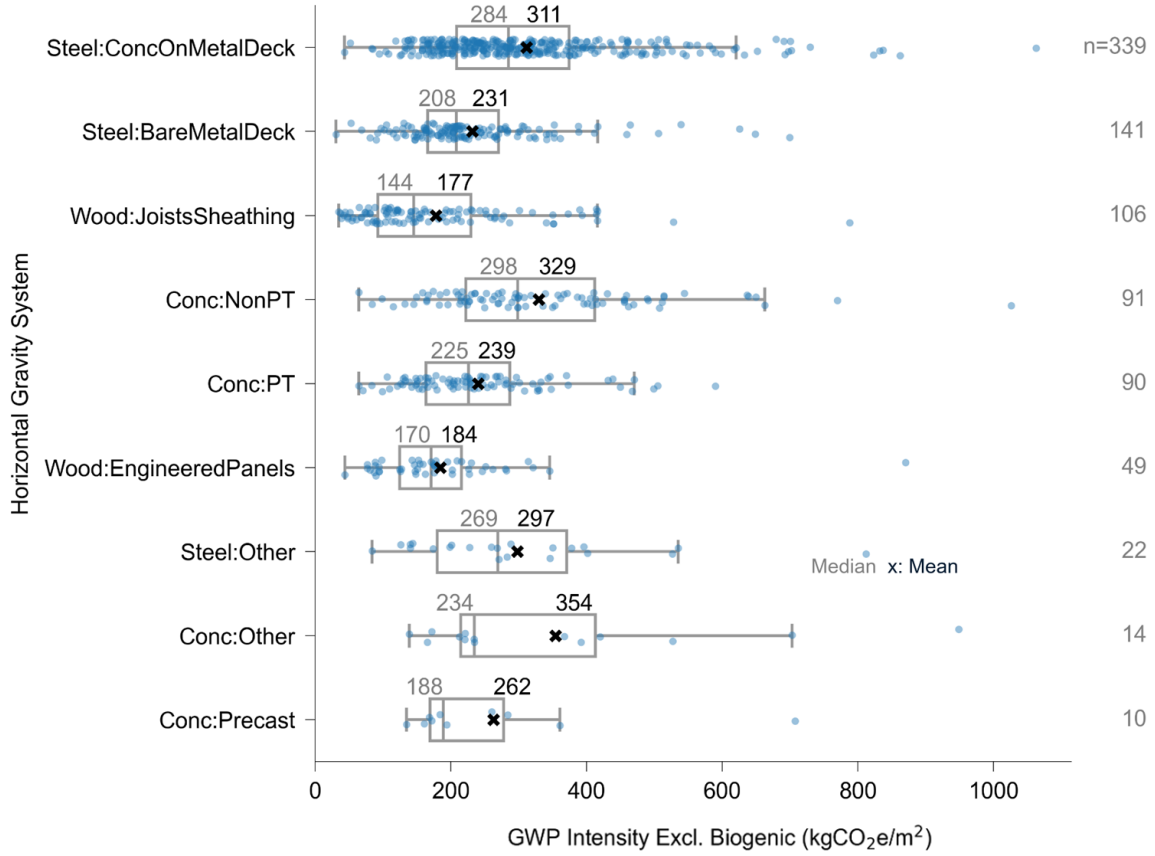


Figure 16: Distribution of GWP Intensities by primary horizontal gravity system from SE 2050 data analysis (Data: 11/12/2025)

Database

The Database Team also launched an updated SE 2050 Database to improve the experience for users and quality of data collected. The updated database includes new functionalities like expanded structural material quantity (SMQ) data collection, integration of SE 2050's ECOM tool, and improved data visualization.

Though it is optional, over 400 projects have already submitted SMQs. Figure 17 (shown right) shows a summary of SMQ submissions for five common structural materials, normalized by the building area of the project. Concrete and masonry, the two heavier structural materials are shown on a larger x-axis than steel reinforcement, steel, and timber.

Analyzing SMQs offers an additional level of detail to contextualize GWP intensity. However, SMQs may still vary based on project phase, model quality, and scope of the LCA.

Looking ahead to 2026, the DST and Database Team look forward to publishing an updated analysis and findings, and creating an interactive dashboard that presents the results to inform structural engineers and the wider decarbonization community.

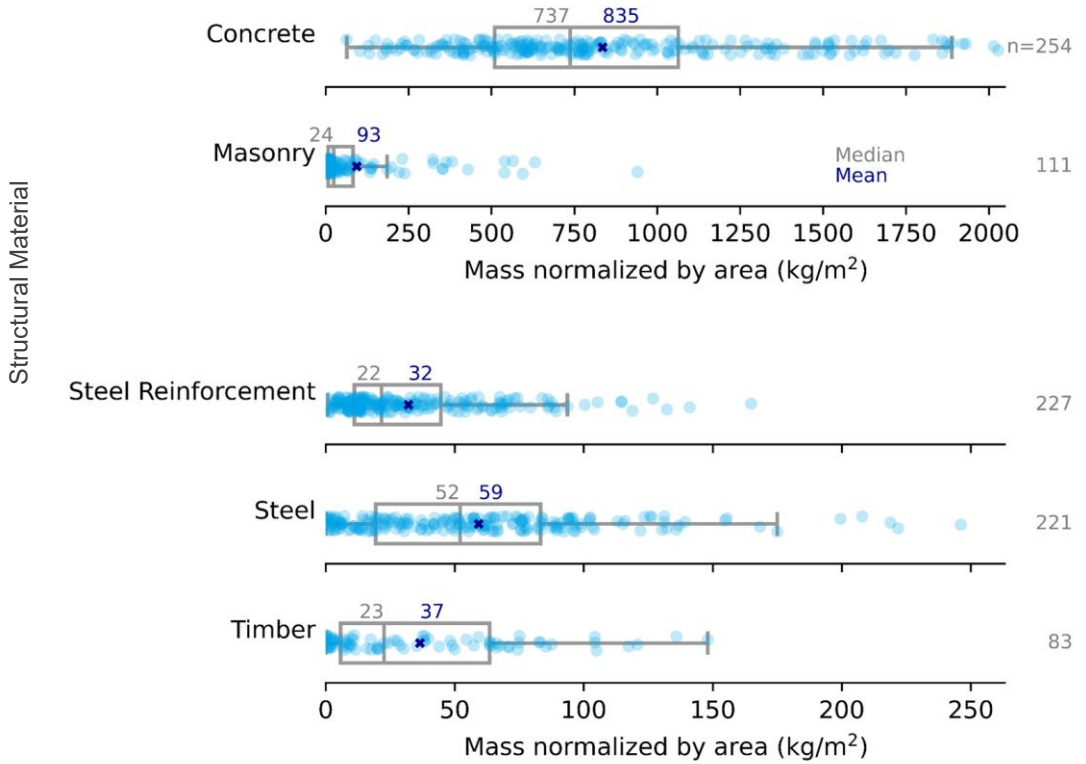


Figure 17: Distribution of building weights by primary horizontal gravity system from SE 2050 data analysis (Data: 11/12/2025)

Recognition Program

2025 is the second year of the SE 2050 Recognition Program, which aims to share and celebrate the many accomplishments of signatory firms. Signatory firms could nominate themselves or other companies in four categories corresponding to the four main sections of ECAPs and/or one additional category for newly joined signatory firms. There were 33 nominations in total from 17 different firms. Thank you to all who participated through nominating or voting and congrats to the five winners!

Best in Education:

Education is central to effective stewardship at Walter P Moore. We prioritize embodied carbon education of our firm, our peers and our communities. We offer internal training for all levels; our biannual sustainability module at FastStart for new-hires, recurring seminars on carbon reduction strategies and in-house carbon tracking digital tools, and quarterly sustainability initiative updates to our Board of Directors. We recently mentored and encouraged two smaller structural engineering firms as they explored joining SE 2050. We also helped a local municipality develop guidelines to request EPDs for ready-mix concrete, hosted a material circularity panel, and included embodied carbon in our discussions within the ACE mentoring program.

Best in Reporting:

SMITHGROUP

SG exceeds the reporting requirements having submitted more than 5 projects & included material-specific information. SG has a one-firm approach, implementing a consistent framework for LCA's firmwide. LCA data is tracked in SG's "project finder" on all projects and compared for project types, and with CLF benchmarks. Multiple LCA's are completed on projects to understand impact of measures to lower EC, including the implementation of low-carbon concrete & steel specifications. In 2025 SG rolled out "Minimum Performance Requirements" for every project to ensure high standards in design and sustainability and to meet climate commitments. SG seeks continual improvement, analyzing tools and improving Revit modeling to streamline the process.

Recognition Program

Best in Reduction:

DLR GROUP

DLR Group equips all employees to embed sustainability in daily work and advance embodied carbon reduction, thereby addressing all SE2050 reduction electives. Regional Embodied Carbon Champions support offices through training, charrettes, and LCA reviews. Engineers receive hands-on training in Tally, EC3, and C.Scale, and onboarding offers a library of webinars and tool demos on our Campus platform. The Embodied Carbon Task Force issued a Reduction Strategies Guide, and the firm held its first Embodied Carbon Summit to align goals and update the internal Getting to Zero Dashboard. Staff also present internally and engage in events like Greenbuild, USGBC chapters, and decarbonization forums.

Best in Advocacy:

kpff

KPFF drives embodied carbon advocacy through a focused two-pronged strategy. Nationally, we help shape industry standards—contributing to ACI's Low-Carbon Concrete low-carbon code initiatives, ASCE's resiliency committees, and advancing mass timber adoption through research and testing. Locally, we expand impact by educating architects, owners, and jurisdictions. As a national firm, we spread awareness by sharing expertise from leading regions to areas where awareness is emerging—like our recent role in helping launch a new CLF chapter in Ohio. At KPFF, advocacy becomes action, transforming codes, communities, and conversations to accelerate a low-carbon future.

Recognition Program

Best Newcomer:

LIONÄKIS

Lionakis stands out as a best newcomer for its ambitious embodied carbon reduction strategies and commitment to sustainability. The firm set clear targets—10% short-term and 20% long-term reductions from CalGreen baseline—and actively pursues them through multiple electives: limiting GWP, material substitutions, efficient design, and maximizing recycled content. The firm has clearly embraced the vision of the SE 2050 Program

2024 Winners:

Additionally, congrats again to the winners from last year's recognition program Degenkolb, HKS, HOK, and Walter P Moore. Representatives from these firms participated in a panel at Greenbuild discussing their ongoing efforts to limit embodied carbon associated with their projects!

Focus Initiative and the Future

The SE 2050 Commitment Program is currently a focus initiative within SEI. As a focus initiative, we receive additional staff support from SEI to help foster and grow the program to meet our goals.

In our first year as a focus initiative, which ran April 2024 through April 2025, we achieved the following goals:

- **Developed a Strategic Plan and Operations Manual** for the long-term stability of the SE 2050 Commitment Program
- Supported SEI and their software development team in the **transition to the new SE 2050 Database**
- Launched a **Signatory Recognition Program** to recognize signatory firms for their accomplishments
- Published the *SE 2050 Commitment Program: 2023 Data Analysis and Findings Report*
- Published a Signatory Case Study Library to share case studies of successful projects
- Updated our publicly-available, free Embodied Carbon Order of Magnitude (ECOM) tool with the latest industry-average values
- **Gave more than 10 presentations** on the SE 2050 Commitment Program, including presentations at Structures Congress, Greenbuild, and AIA Conference on Architecture.

We continue to grow SE 2050 to better serve our signatory firms and the broader industry. In this past year, we have been working on a Strategic Vision for SE 2050 that will guide our future efforts. The Strategic Vision is organized around five pillars: operations, community, benchmarks, education, and advocacy, with the goal of a sustained, impactful SE 2050 Commitment Program.

Our near term goals are oriented around our role as a focus initiative--continuing to develop new resources, maintain current resources, identify data trends, and publicize SE 2050 through presentations. New this year, we have set a goal to draft an ASCE Policy Statement on embodied carbon as part of our advocacy efforts.

Our longer term goals that orient the future of SE 2050 are to:

- Become an operational unit within SEI
- Develop a long-term financial plan
- Develop an improvement framework for integrating feedback and technological and industry advancements
- Achieve industry-wide adoption of SE 2050 principles
- Realize net zero embodied carbon structures
- Expand SE 2050's influence globally
- Create a network of collaborative partnerships across industry and academia

Huge thank you for all the contributions from our incredible signatory firms – these lofty ambitions would not be possible without the active engagement from all of you!

Acknowledgement–Signatory Firms (Page 1 of 8)

Firm Name	Embodied Carbon Champion	Start Year
Ai-Alt Structural Engineering	Alvin Tabar	2021
Anthem Structural Engineers	Sheela Vedula	2024
Arup	Zoe Brown	2020
Bala Consulting Engineers	Elizabeth Larsen	2022
Ballinger	Brent Ellmann	2022
BASE	Christian Jones	2023
Bennett & Pless	Corey Rice	2024
Blackwell Structural Engineers	Simon Rayment	2023
Blue Nest Structural	Piyush Pradhananga	2025
Britt, Peters and Associates Inc.	Kyle Farmer, Devki Desai	2024
Brown + Kubican	Lisa Vagts, Stephen Thompson	2024
Buehler	Ryan Miller	2021
Buro Ehring	Holger S. Schulze-Ehring	2024
Buro Happold	Fraser Reid	2021
BWE	Mara Cordon	2023
CannonDesign	Julie Shaw	2021
Clark Nexsen, A JMT Company	Bethany Whitehurst	2021
Clayco Design & Engineering	Anthony Augustine	2024

Acknowledgement–Signatory Firms (Page 2 of 8)

Firm Name	Embodied Carbon Champion	Start Year
Coffman Engineers, Inc.	James Conley	2021
Cora Structural	Michael Gryniuk	2023
Coughlin Porter Lundeen	Laura Lindeman	2021
Davies-Crooks Associates	Don Davies	2023
DCI Engineers	Jessica Martinez	2021
Degenkolb Engineers	Elena Good	2021
Dekker	Patience Raby	2022
DES	Kenny W. Hung	2024
DeSimone Consulting Engineers	Jarret Johnson	2021
DIALOG	David Pesta	2021
DLR Group	Murad Hamdallah	2021
Eckersley O'Callaghan	Ashley Reed	2023
Ehlert Bryan	Chris Heckmann	2023
Element Structural Engineers, Inc.	James Enright	2023
Elwyn and Palmer Consulting Engineers, PLLC	Joseph E. Caza III	2024
Engineering Ventures, PC	Clark P. Agnew	2021
Entuitive	Oscar Valdes	2022
EQUILIBRIUM Consulting	Tom Place	2020

Acknowledgement–Signatory Firms (Page 3 of 8)

Firm Name	Embodied Carbon Champion	Start Year
ERA Structural Engineering	Mariah Fournier	2025
EwingCole	Colleen Blackwell	2021
EXP	Amy Pastor	2022
Fast + Epp	Olivia Healy	2022
Flad Structural Engineers	Tim Liebhold	2021
Foley Buhl Roberts & Associates	Jennifer Grymek	2023
Forell | Elsesser Structural Engineers	Brenna Marcoux	2021
Fortis Structural, LLC	Michael Gritzmacher	2022
Glotman Simpson Consulting Engineers	Rory Roberts	2021
GRAEF	George Carr	2023
Gresham Smith	Houston Sheffield	2021
HGA	Ethan Fogle	2020
HKS, Inc.	Erin Winston	2022
HOK	Jaclyn Lee	2021
Hollingsworth Pack Austin	Chris Hewitt	2022
Holmes Structures	Megan Stringer	2021
Hope Furrer Associates	Nicole Baer	2022
IMEG Corp.	Laura Hagan	2021

Acknowledgement–Signatory Firms (Page 4 of 8)

Firm Name	Embodied Carbon Champion	Start Year
Integrus Architecture	Morgan Wiese	2022
ISL Engineering and Land Services	Kaitlin Olmsted	2024
Jacobs	Clint Townsend	2023
Jing Wu Coach	Marko Medjeral	2024
Jirsa Hedrick Structural Engineers	Austin Reese	2022
John A. Martin & Associates	Alex Nothnagel	2023
JVA Inc	Jarod Coates	2023
KAI Hawaii	Ryan Hobson	2022
Keast & Hood	Sena Savaskan	2021
KL&A, Inc.	Rachael Dobosiewicz	2020
Klepper, Hahn & Hyatt	James A. D'Aloisio	2022
KPFF Consulting Engineers	Shana Kelley, Molly Seto	2021
KR Design Build	Kathleen Rai	2024
Kurt Fischer Structural Engineering	Carl Kloos	2022
LaBella Associates, DPC	Kevin DeRoller	2024
LeMessurier	Suzanne Robinson	2021
LEO A DALY	Jacob Zach	2022
Linchpin Structural Engineering, Inc.	Eric Rademacher	2021

Acknowledgement–Signatory Firms (Page 5 of 8)

Firm Name	Embodied Carbon Champion	Start Year
Lionakis	Matthew Melcher	2024
Little Diversified Architectural Consulting	Sina Flynn	2021
LPA Design Studios	Aron Tezveren-Johnson	2023
Lund Opsahl	Jeremiah Bowles	2023
Mackenzie	Jo Ann Offill	2023
Maffei Structural Engineering	Sarah Chen	2022
Mar Structural Design	Daniel Mount	2022
Martin/Martin, Inc.	Michael Lyons	2021
Martinez Moore Engineers	Kate Tomlinson	2021
McNamara Salvia Structural Engineers	AJ Unander	2021
Mead & Hunt	Victoria Garcia	2023
Meyer Borgman Johnson	Catherine Lumitap	2020
MHP Structural Engineers	Dan Fox	2024
Morrison-Maierle	Eric Heidebrecht	2025
NORR Architects & Engineers Limited	Hassan Saffarini	2021
Nous Engineering	Mit Gala	2023
Oak Point Associates	Caleb Chinburg	2021
O'Donnell & Naccarato, Iinc	Scott Bauer	2020

Acknowledgement–Signatory Firms (Page 6 of 8)

Firm Name	Embodied Carbon Champion	Start Year
Page	Patricia Young	2024
Parkhill	Zach Lindauer	2025
PCS Structural Solutions	Chris Jeseritz	2020
PES Structural Engineers	Ryan Krusko	2022
Pierce Engineers	Ashley Sanner	2023
Professional Engineering Consultants, PA	Zach Bowden	2021
Progressive Companies	Galen Reed	2024
Read Jones Christoffersen Ltd.	Dominic Mattman, Wendy MacDonald	2022
Reaveley Engineers + Associates	Jacob Linford	2022
Resurget Engineering PC	Jason Krolicki	2025
Rutherford + Chekene	Erin Maulhardt	2023
Saiful Bouquet Structural Engineers	Rishabh Singhvi	2021
sbp North America	Dan Bergsagel	2024
Schaefer	Lara Stroup	2023
Schemmer	Elena Hoff	2023
Senler Campbell & Associates	Jonathan Clausen	2025
Shirk & O'Donovan Consulting Engineers	Chad Simms	2024
Shive-Hattery	Eduardo Morales	2024

Acknowledgement–Signatory Firms (Page 7 of 8)

Firm Name	Embodied Carbon Champion	Start Year
Simpson Gumpertz & Heger Inc.	Julia Hogroian, Michael Tecci	2021
SK&A Structural Engineers	Sara Zaman	2022
Skidmore, Owings & Merrill LLP	Matthew Streeter	2021
SLAM Collaborative	Marco Lapointe, Samantha Edmiston	2022
SMBH Inc.	Ebiji Akah	2023
SmithGroup	Andrea Reynolds	2021
SMRT Architects and Engineers	Andrew Bradley	2021
Stanley D. Lindsey and Associates, Ltd.	Kyle Fleming	2024
Stantec Architecture Inc	Beth Tomlinson, Meagan Erdman	2022
Structural Focus	Gabriela Pascualy	2021
StructureCraft	Leif Johnson	2021
Studio NYL Structural Engineers and Facade Designers	Julian Lineham	2021
STV	Lauren Alger	2023
Thornton Tomasetti	Michael Cropper	2020
Tipping Structural Engineers	Bruce Danziger	2021
TLC Engineering Solutions	Rebecca Cegelis	2023
TYLin Building Sector	Jessica Haberstock	2020
Uzun+Case	Thomas Trotter	2022

Acknowledgement–Signatory Firms (Page 8 of 8)

Firm Name	Embodied Carbon Champion	Start Year
Verdant Structural Engineers	Nora Murray	2021
Walter P Moore	Dirk Kestner	2020
Wicke Herfst Maver Consulting, Inc. (WHM)	Kurt Quines	2023
Wight & Company	Matthew Aquino	2021
WSP USA	Eli Rose, Michael Scancarello	2021
ZFA Structural Engineers	Lindsey Broderick	2022

Acknowledgement–Committee Members

SE 2050 Leadership

Co-Chairs
Luke Lombardi, P.E., *Buro Happold*
Lauren Wingo, P.E., *Arup*

Vice Chair
Genevieve Bethel, *SOM*

Secretary
Erin Winston, P.E., *HKS, Inc.*

Task Group Leaders
Zachary Chabot, *SGH*
Chris Jeseritz, P.E., *PCS Structural Solutions*
Jessica Martinez, P.E., *Amazon*
Mark Webster, P.E., *SGH*
Charlotte Ochoa, P.E., *U.S. EPA*
Luke Bastian, *Buro Happold*
Lauren Alger, *STV*

Advisory
Dirk Kestner, P.E., *Walter P Moore*
Mike Gryniuk, *CORA Structures*
Frances Yang, *ARUP*

Call for Members
Help drive change.
Join the committee.
Apply at ASCE.org/SEI

SE 2050 Committee

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Jonathan Broyles, *CU Boulder*
Manuel Chafart, *CLF*
Sankalpa Dharmadhikari, *Clark Nexsen*
Demi Fang, *Northeastern University*
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Heidi Jandris, *4 Kore*
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Lauren Wingo
Luke Lombardi
Matthew Adams
Mark Webster

Organizations that support the mission and objectives of SE 2050 can become an SEI Organization Member. This financial support enables the operation of SE 2050, including dedicated SEI staff time and operations and maintenance of the SE 2050 Database. For more information on becoming an SEI Organization Member, please reach out to Jeannette Torrents (jtorrents@asce.org).

SE 2050 would like to acknowledge the following organizations for their support of SE 2050 events:

Towards Zero Carbon Symposium *Champion*
Magnusson Klemencic Associates
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SE2050
COMMITTING TO NET ZERO

2025 RECOGNITION PROGRAM WINNERS

BEST IN EDUCATION

walter p moore

BEST IN REPORTING

SMITHGROUP

BEST IN REDUCTION

DLRGROUP

BEST IN ADVOCACY

kpff

BEST NEWCOMER

LIONAKIS