



**SE2050
2026 EMBODIED CARBON
ACTION PLAN (ECAP)**



GLASS CITY METROPARK

WOOD-FRAMED MARKETHALL
REDUCED EMBODIED CARBON
FOR STRUCTURE BY +35%

ADDRESSING THE CLIMATE EMERGENCY: OUR COMMITMENT

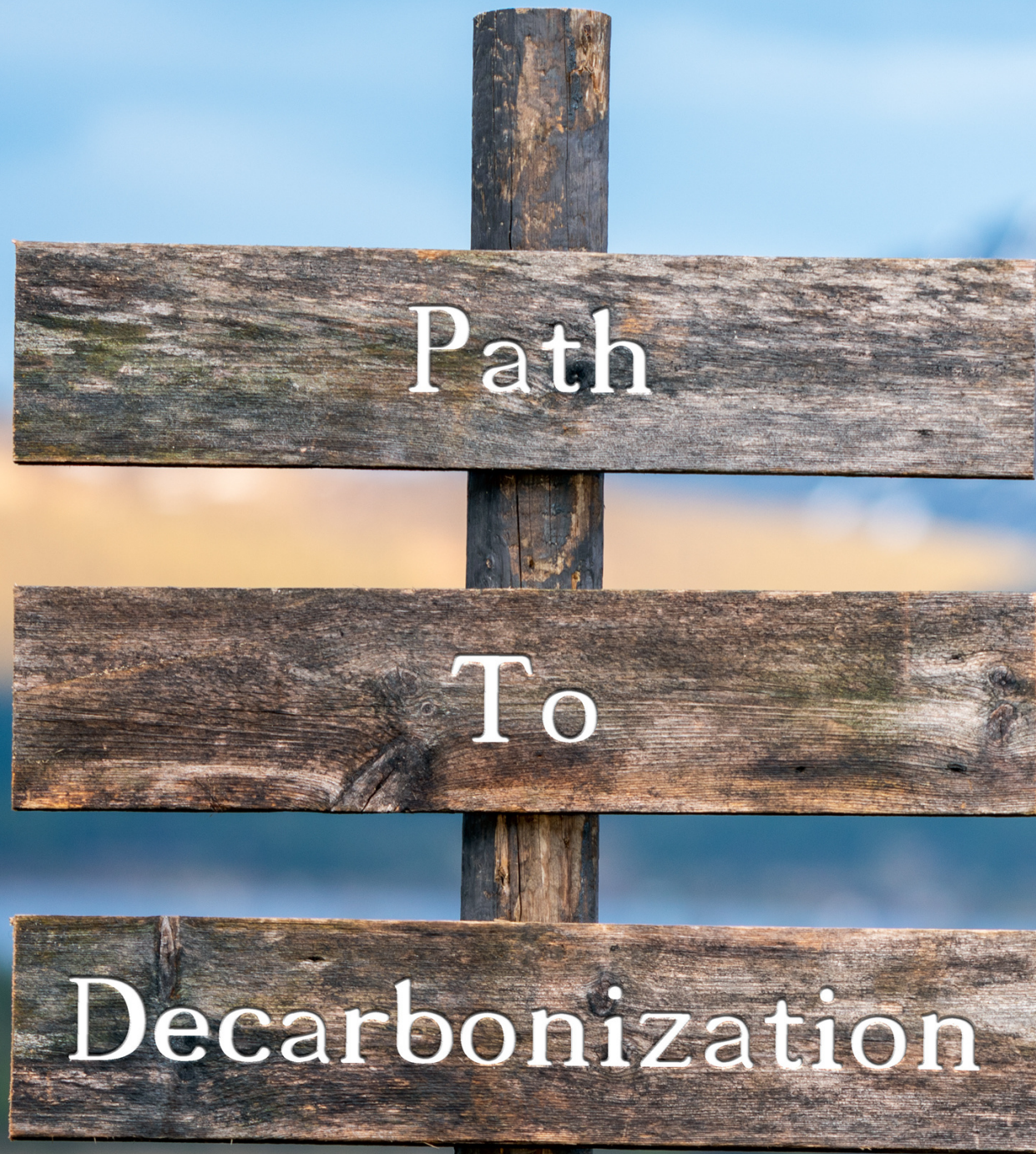
SmithGroup is committed to the creation of a carbon-free future. We hold ourselves accountable to the principle that our design and engineering must embrace conservation, maximize renewable energy, de-carbonize systems, adapt existing buildings and sites, incorporate low-embodied carbon materials and move beyond offsets as much as possible.

SmithGroup has been a leader in sustainable design since the term was first coined. As planners and designers of the built environment, we have a responsibility and an opportunity to mitigate and adapt to the worst impacts of climate change. In 2007, we adopted the 2030 Challenge committing to pursue progressive energy targets across our practice to achieve net-zero energy design by 2030. While we have made strides, we realize that 2030 is imminent and there is a deep need for increased progress and leadership to help us meet this critical timeframe.

We must rethink how we are addressing climate change because we are in the midst of an urgent and growing climate crisis. The adverse effects of an already altered climate continue to intensify—from unprecedented heat waves, droughts and wildfires to increased flooding, coastal erosion and habitat loss.

These shocks are having a growing impact on the communities we work with, economically, environmentally and socially. In addition to reducing carbon emissions, our design work must help our communities become more resilient to climate impacts.

While the climate crisis is enormous, the construction and operation of buildings and the built environment accounts for nearly 40% of global carbon emissions. The impact we can have as a firm and profession is tremendous. Designing a carbon-free and more resilient future will require leadership from every employee within our firm. SmithGroup is committed to rise to this challenge, leveraging our passion for innovation and our multi-disciplinary structure to advance climate mitigation and adaptation in all our work.

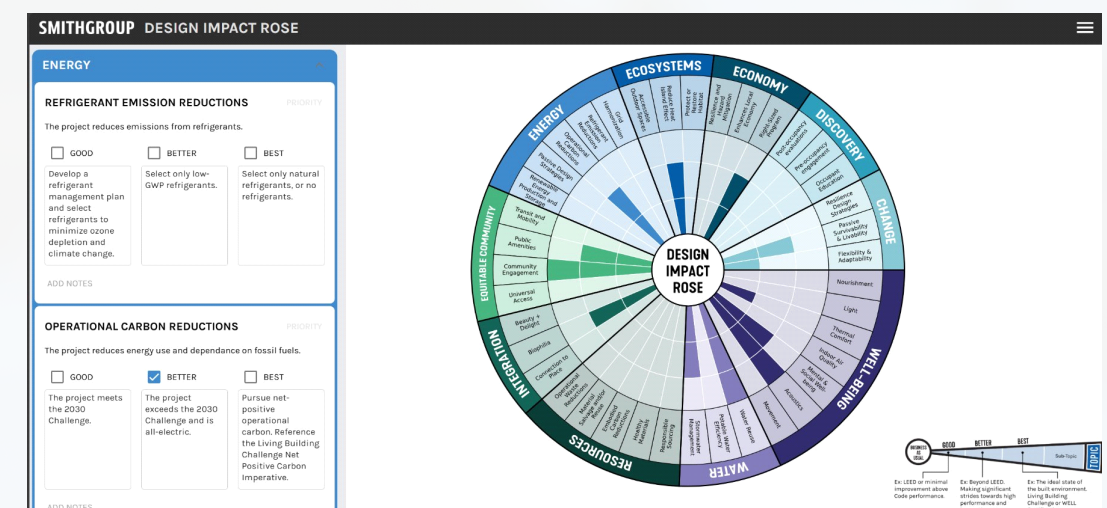


WHO WE ARE

We recognize that time is of the essence in protecting the planet and have formed a team of interdisciplinary experts to accelerate action

As longtime founders and supporters of the AIA 2030 Commitment, SmithGroup recently took the pledge to recognize that planning for 2030 was simply not enough. In 2020 we announced our firm's commitment to move towards a zero-carbon future—embracing the MEP2040 and SE2050 challenges—ensuring all of our projects are adapted to the immediate impacts of climate change now and well into the future. A testament to our commitment, SmithGroup's **Integrated Multidisciplinary Performance Analytics Climate-Impact Team (IMPACT)** is a national group of experts advancing parametric modeling and analysis, quantified performance evaluation and an integrated design workflow. IMPACT is accelerating the speed and rigor with which we can meet our industry climate commitments by defining the leading edge of net-zero strategy and design – continuing our legacy as the firm that designed the world's first LEED-Platinum certified building.

Our IMPACT team works as a unit to best address design challenges faced by the communities our clients' projects exist within. Our design impact rose helps us to find alignment with our clients and establish which areas each project should strive to achieve the highest level of performance before we begin the design process - this acts as guidance to our integrated project teams to ensure the most appropriate design concepts are applied. SmithGroup's IMPACT members have been at the forefront of identifying how climate, equity, and next generation technologies need to come together, collaborating with all of our architectural, engineering, planning, and interior design disciplines.



EMBODIED CARBON

Our interdisciplinary experts come together as through an Embodied Carbon Task Force, coming together to tackle initiatives from discipline Focus Groups

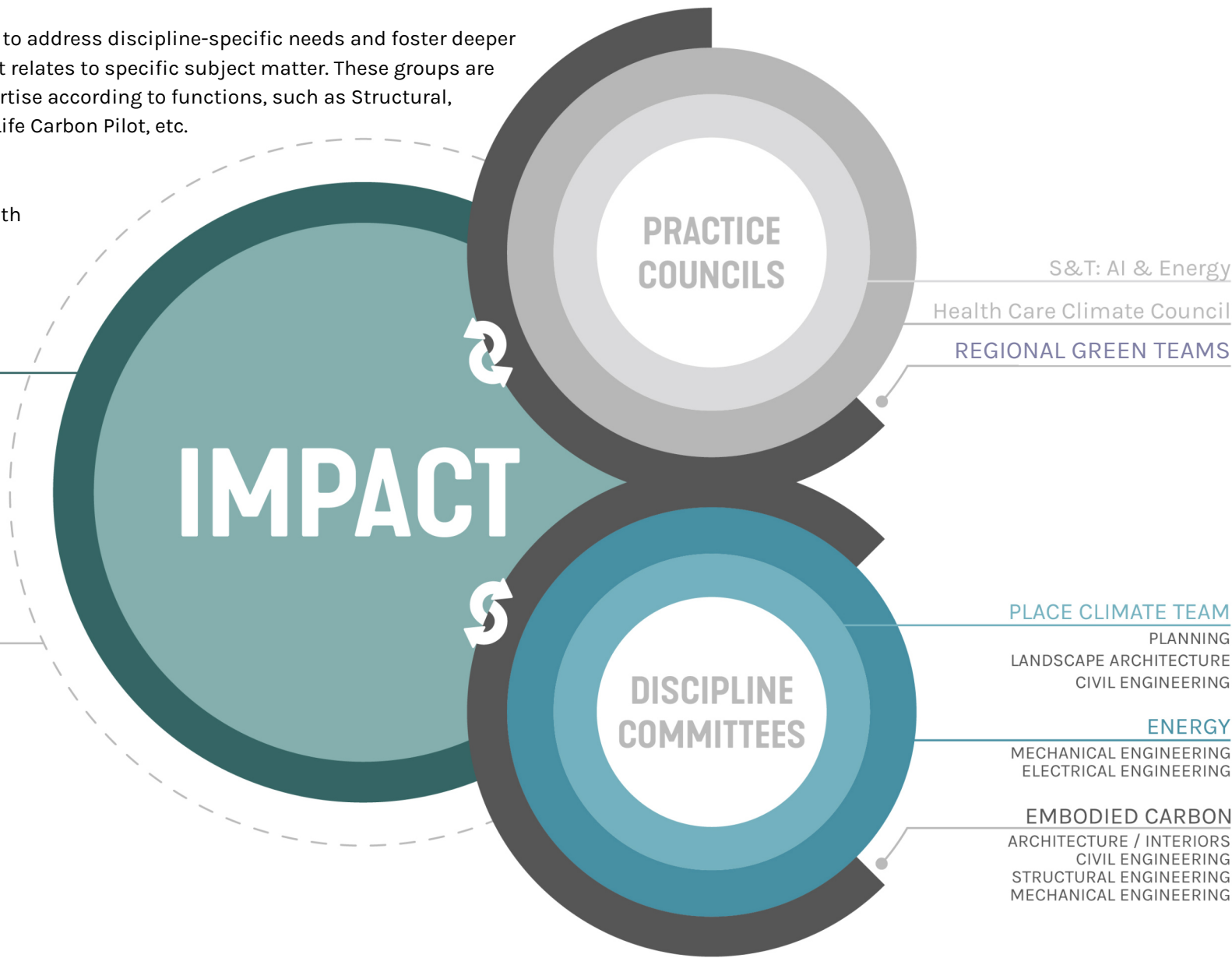
Our **Embodied Carbon Task Force** brings together our Commitment Champions, Impact Team members, discipline representatives, and focus group stakeholders on a frequent bases to update on current efforts, challenges, and opportunities focused around embodied Carbon (EC). The Task Forces sets company-wide goals, identifies internal training needs, and seeks external opportunities to accelerate action.

Discipline Focus Groups form to address discipline-specific needs and foster deeper knowledge and experience as it relates to specific subject matter. These groups are organized into clusters of expertise according to functions, such as Structural, Interior Materials, MEP Whole Life Carbon Pilot, etc.

Regional Green Teams form to connect our integrated staff with local activities, discussions, education, and opportunities.

RESEARCH
EMBODIED CARBON INITIATIVE
JEDI - CLIMATE EQUITY
TIP - TOOL BUILDING

OUTPUT
TRACKING + MONITORING
REPORTING
PROGRESSING ON GOALS



REFLECTIONS

We need to accelerate action

Our dedication to designing a carbon-free future that encompasses conservation, maximizing renewable energy, decarbonizing systems, adapting existing buildings are sites, incorporating low-carbon construction materials, and minimizing reliance on offsets. However, to address the urgent climate crisis we recognize we need to accelerate our efforts.

With 2030 rapidly approaching, incremental progress is not enough. To meet our commitment to AIA 2030, we are establishing a set of **Minimum Performance Requirements** for all our projects that incorporate targets for all our climate commitments.

To achieve this increasing literacy among all of our staff, enhancing the visibility of our progress towards climate goals, and facilitating action is crucial. We have created a **Sustainable Design Roadmap** to guide all of our projects and fully integrate sustainability and decarbonization into our design process. We have also enhanced our Project Finder tool for tracking project data that engages our entire project teams.

We have gathered numerous lessons learned and feedback regarding our process from conceptual design to performing Life Cycle Assessments (LCA's) - now is the time to develop **better tools and workflows** to share these processes to drive implementation.

Seeing promising results from “greening” our **concrete and steel specifications**, we are working to target all the materials we specify. We will prioritize specifications for the next biggest embodied carbon offenders - aluminum, glass, insulation, plastics, composites, asphalt, etc.

It's no secret that the best way to reduce embodied carbon is to build less new construction and re-use existing building assets. We will be focusing on **circularity**, strategizing with clients on our approach master planning and facility assessments to favor building less, while considering the future adaptability of new buildings and designing for deconstruction.

EDUCATION

At SmithGroup, we are a learning organization driven by curiosity and rigor.

The SmithGroup core values are passion for design excellence, commitment to sustainability, fostering equity, relentless curiosity, active community leadership, and maintaining integrity in all our endeavors. These core values are deeply integrated into our staff education initiatives.

Our approach enables us to ground our fresh design solutions in evidence-based best practices, which is a key component of our promise to "Design a Better Future". We continuously make improvements to our work through standards, training, and knowledge sharing, ensuring that all teams have access to our latest thinking and expertise.

Educating our staff starts with onboarding by introducing them to our collaborative environment, climate commitments, and Minimum Project Requirements. This process includes resource and process orientation, core skills training, and mindset/ culture study material. We emphasize the importance of open and transparent communication, respect for people, and continuous improvement.

Sustainability and climate action is emphasized throughout our operations, as part of our commitment to a carbon-free future we educate our staff on the importance of considering embodied carbon when selecting materials and systems, favoring products that embrace the circular economy.

SMITHGROUP

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InKNOWvations | Learning, Coaching & Career Opportunities



Intern Resources



Onboarding Process



Sustainable Design | Continuing Education Resources

Need Help With Something Else?

 InKNOWvations Overview

 Software Training

 <20 Recordings

 LinkedIn Learning

 Career Roadmaps

 Learning Curriculum

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 Register For An Upcoming Class

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 Eureka Articles



ONBOARDING & PROFESSIONAL DEVELOPMENT

SmithGroup has a thorough professional development on-boarding process that provides a consistent process for all employees that is tailored for all disciplines. Embodied Carbon 101 training is a required course for all structural new hires and orientation includes exposure to Embodied Carbon (EC) resources



INTERNAL EDUCATION

Our internal training resources include InKNOWvations, which provides peer-to-peer training on sustainable design practices, <20's, which are short, focused learning sessions, and . Additionally, we offer access to SE University and LinkedIn Learning and for a wide range of professional development courses.



RESEARCH

We encourage research is through initiatives like our Exploration Grant, which supports employees in self-directed study on various topics such as health equity and urbanism. Additionally, we foster a culture of innovation and thought leadership through informal discussions, internal design competitions, and partnerships with academic institutions.



ENGAGEMENT

We facilitate informal knowledge sharing through various means such as informal discussions, design charrettes, and collaborative spaces that encourage spontaneous interaction and learning. These take many forms through our Climate Action Central, Sustainability Teams Site, Minimum Project Requirements, Sustainability Standups, Design@9, Design Slams, Campfire Chats, etc. throughout and across all of our offices.

2025 EDUCATION ACTIVITIES

- IMPACT team, multi-disciplinary Embodied Carbon Task Force + multi-office Structural Embodied Carbon Focus Group
- Our Embodied Carbon 101 (EC 101) is accessible to all staff and is required for onboarding all new employees, onboarding includes introduction to efforts for designing to reduce Embodied Carbon
- Created additional EC resources available through Teams channels, Climate Central Hub, and SharePoint, including:
 - Embodied carbon bootcamp for all structural engineers at May face to face meeting
 - Multiple levels of training for performing LCAs including C.Scale intro for all architects & engineers
 - Training on the new prestandard
- Presented research from 2024 Exploration Grant, All five 2025 internal Exploration Grants included research into topics related to sustainability and resilience
- Our <20 series includes dozens of short bursts of sustainability-focused presentations that are recorded; on January 14, 2025 Kyle Ritchie who authored “Circular Economy for Dummies” presented on Circular Economy
- Celebration of Earth Week in April includes a week of local and national sustainability-focused events and training in all of our offices; 2025 featured:
 - Climate Commitment Campfire Chat that described all of our climate commitments
 - Design@9 that included examples of sustainable features on current projects highlighting examples of low-carbon concrete and using biogenic materials
- Presented on Mass Timber to several offices and regions in 2025 to educate multi-disciplinary staff and encourage the use of biogenic structural materials
- Presented design and carbon reduction efforts on the current projects at November 2025 All Staff meeting
- SG continues to engage in broader sustainability forums and initiatives including structural-focused efforts with the SEI Sustainability Committee, NCSEA Sustainability Committee, SE2050 Signatory events including:
 - Assisting with planning and participated in the 2025 SE2050 Signatory Symposium and the 2nd SEI Virtual Sustainability Summit
 - Several engineers attended the Bootcamp at the 2025 Towards Zero Carbon event in Boulder

MORE TO COME IN 2026

- Refresh internal education courses for lowering embodied carbon of our designs, performing LCAs, and further development of additional EC resources
- 2026 Earth Week events to include “Embodied Carbon for Designers; What Structural Engineers Want You to Know”
- Structural engineers are leading efforts to re-energize our SG Green Teams throughout all of our regions, pushing for collaboration between our disciplines
- Update to our Climate Action Plan to include a multi-disciplinary Embodied Carbon Action Plan to engage all AEIP disciplines
- Participating on the 2026 SE2050 Signatory Summit Planning Committee and organizing SEAMi events
- Presenting at the 2026 SE2050 Signatory Summit
- Publication of quarterly embodied carbon “Perspectives” on companies website and promoted through Social Media, first piece on reducing EC of concrete to be posted in April

Presented by Andrea Reynolds, Lily Rodriguez, John Rushing




EARTH WEEK 2025 EVENT CALENDAR

THURSDAY 17	APRIL	MONDAY 21	TUESDAY 22	WEDNESDAY 23	THURSDAY 24	FRIDAY 25
PLANT SWAP Join us for a fun-filled day of planting seeds and helping our community and Detroit's green copy cover. 10 am 18551 Quindry St.	PLANT SWAP Bring your extra seeds/seedlings/bulbs and take home a new plant in return. All-Week 17FL NW High-Top Counter	PGH DESIGN@9 PGH's IMPACT team examines how energy & load modeling enhances sustainability. RSVP via Calendar 9:00 am Virtual	DESIGN@9 Quick hits of sustainable features on current projects! Please contact Bryan Seef if you'd like to participate! 9:00 am UNION	 EMBEDDED CARBON FOR DESIGNERS What's the impact of your design choices on the planet?		
PLANT SWAP Bring your extra seeds/seedlings/bulbs and take home a new plant in return. 10 am 18551 Quindry St.	PLANT SWAP Bring your extra seeds/seedlings/bulbs and take home a new plant in return. All-Week 17FL NW High-Top Counter	CLIMATE COMMITMENT CAMPFIRE CHAT Connect with colleagues and discuss SmithGroup's climate initiatives. RSVP via Calendar 12:00 pm UNION	OPEN OFFICE HOURS Stop by the Union with your sustainability questions or any topics you'd like to explore. 12:00 pm UNION	HOW TO RECYCLE Green Living Science will present on recycling and how to save the planet. RSVP via Calendar 12:00 pm UNION		
PLANT SWAP Bring your extra seeds/seedlings/bulbs and take home a new plant in return. 10 am 18551 Quindry St.	PLANT SWAP Bring your extra seeds/seedlings/bulbs and take home a new plant in return. All-Week 17FL NW High-Top Counter	WHAT IF WE GET IT RIGHT? Join this firmwide presentation exploring the innovative ways SmithGroup is advancing resilience in our work. 3:00 pm UNION Virtual	YOGA SESSION Come and unwind in a 30-minute Beginner Yoga session. RSVP via Calendar 4:00 pm In-Office	CLOTHING SWAP Exchange your clothing with others to give your wardrobe an update in a sustainable way. RSVP to Excel 12:30 pm 19FL South	BINGO CARD DUE Submit your completed EART card by 3pm for a chance to win \$G merch store credit. Winners will be announced at 5pm. 3:00 pm Virtual	
PLANT SWAP Bring your extra seeds/seedlings/bulbs and take home a new plant in return. 10 am 18551 Quindry St.	PLANT SWAP Bring your extra seeds/seedlings/bulbs and take home a new plant in return. All-Week 17FL NW High-Top Counter	BIKE CLINIC Join us at Back Alley Bikes in Midtown to learn about getting your bike ready to ride this spring! RSVP to Excel Bryan Seef 5:30 pm Back Alley Bikes		CITY WALK Join your colleagues for a refreshing walk through downtown Detroit, highlighting the history and innovation of the city. RSVP via Calendar		

2025 EG Findings - Visualizing Carbon Impact

**VISUALIZING CARBON IMPACT IN ARCHITECTURE:
A UX DRIVEN APPROACH**

Peter He & Martin Smith
Intelligent Exploration Award 2025

7:12



Visualizing Carbon Impact in Architecture: A UX Driven Approach

This research explores how user experience (UX) design methodologies can improve the visualization of carbon data in architectural projects. It adopts an audience-focused approach to carbon communication through a series of interactive workshops with different user groups, exploring diverse perspectives on carbon emissions and generates strategies for carbon-impact visuals that are both transformative and tailored to diverse audience needs. It also demonstrates a model for incorporating behavioral research and UX design into other architectural visualizations and internal software tool development.

[Link to Grant Deliverables](#)

Annual celebrations for Earth Week in April as well as Design week provide several opportunities for staff to engage on topics related to the the future of design and climate impact.

Earth Week has become the highlight of our internal climate action conversations that continue to inspire throughout the year.

Learning >

[My Team](#)
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My Learning / C.scale Training

C.scale Training

Course Information

Type: Online
Duration: 0.50 hours
Target Audience: All design staff working on projects

Free

Average Rating

★★★★★

[Course Details](#)
[Online Content](#)

Description

OBJECTIVES:

- Learn how to use C.Scale to generate operational and embodied carbon analysis of projects in alignment with SmithGroup project performance to SmithGroup targets.
- Compare project performance to SmithGroup targets.
- Explore carbon reduction strategies and learn how they impact the total carbon emissions of projects.

▼ **Course Information**

LURPDH:	Course ID:
0.50	PX013IMP.001_AR
Source:	
Internal	

Growing Our Sustainable Future

The construction and operation of buildings has been one of the largest contributors to greenhouse gas emissions. Decarbonizing our work world will require innovative solutions and more sustainable future.

SmithGroup is committed to tackling this challenge by providing integrated, multidisciplinary, performance-based solutions that drive innovation and our diverse expertise to help clients achieve their goals.

Check out our new [Minimum Project Requirements](#).

SmithGroup's Exploration Grant Program was established in 2017 to open the door to critical inquiry, reflection, and discovery through research. The goal of these microgrants is to cultivate the use of scientific inquiry to advance design knowledge and answer critical questions of design practice to better the built environment. Each grant provides funding and guidance to complete an independent study developed by our staff. The program includes research training, one-on-one coaching and regular opportunities to share progress throughout the grant process.

All five of the 2025 grants were focused on climate action and included the following topics:

- Educational resources, links, workflows, and how-to's related to Embodied Carbon and sustainability are collected in resource libraries available and on our Climate Action Central, through our SG-Sustainability Team, and on a collection of SharePoint pages.



IMPACT

INTEGRATED MULTIDISCIPLINARY PERFORMANCE ANALYTICS CLIMATE IMPACT TEAM

Growing Our Sustainable IMPACT

The construction and operation of buildings and the built environment account for nearly 40% of global carbon emissions. Decarbonizing our work while advancing resilience and environmental justice are essential to designing a better and more sustainable future.

SmithGroup is committed to tackling these challenges as a core part of what we do. IMPACT – SmithGroup’s Integrated, Multidisciplinary, Performance Analytics Climate-Impact Team – is leveraging our unique capacity for innovation and our diverse expertise to advance climate mitigation and adaptation in all our work.

Check out our new [Minimum Project Requirements](#) and be part of our 2026 Climate Campaign.



OPEN PAGE

Our Commitments

Read More About Our Climate Commitments



OPEN PAGE

Who Can Help?

About the IMPACT Leadership & Representatives in your Region/Office



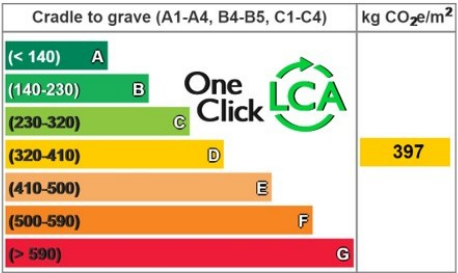
New Launching: SmithGroup's Minimum Project Requirements

To help us meet our industry climate commitments for net-zero energy and carbon neutrality, SmithGroup is...

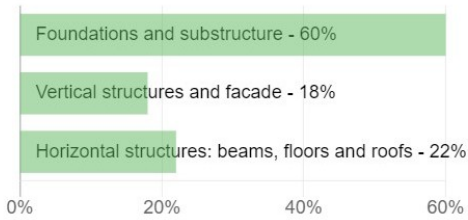
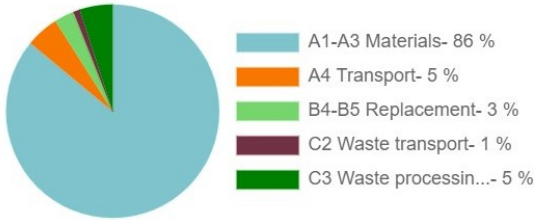


New Director of Performance Analytics Completes IMPACT...

Michael Matthews has joined SmithGroup as the Senior Director of Performance Analytics – completing...

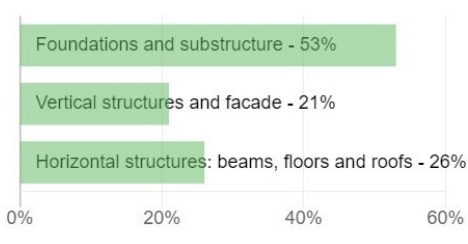
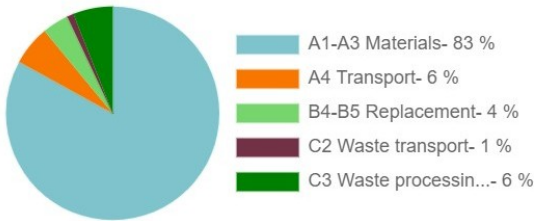
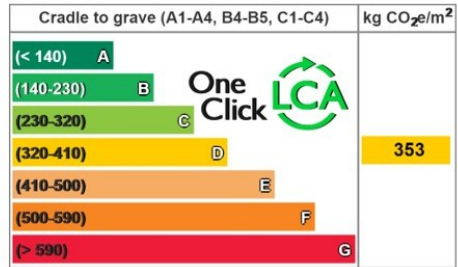


BASE BUILDING

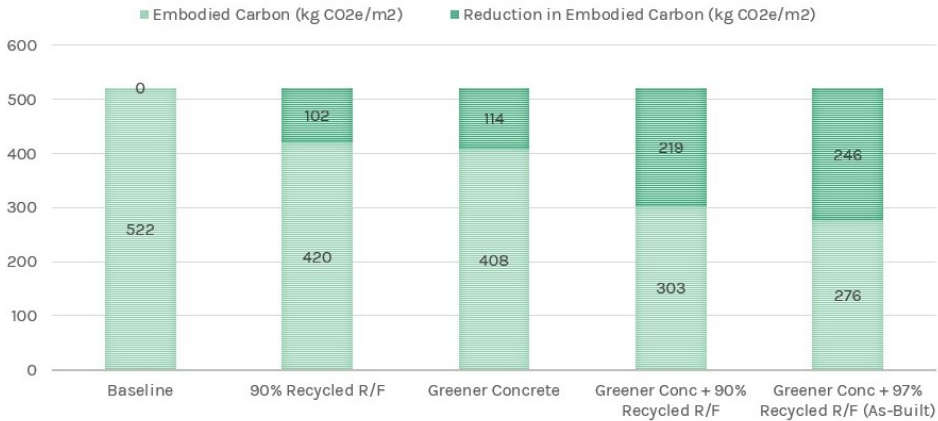


VS.

PROPOSED BUILDING



LCA COMPARISON

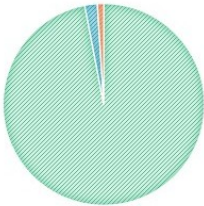


From Baseline to As-built, we have achieved **47% of reduction** in embodied carbon!

TARGET MAXIMUM GWP AND CEMENT CONTENT		
NOTES: 1. TARGETS ARE A WEIGHTED AVERAGE BY VOLUME.		
COMPRESSIVE STRENGTH OF CONCRETE, f _c (PSI)	TARGET MAX GWP (kg CO2e / CUBIC YARD)	TARGET MAX PORTLAND CEMENT CONTENT (lbs / CU YD)
3000	160	315
4000	168	380
4500	206	420
5000	223	461

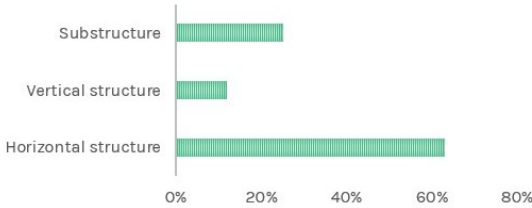
EMBODIED CARBON BY LIFE CYCLE STAGE

A1-A3 Materials A4 Transport C2 Waste Transport

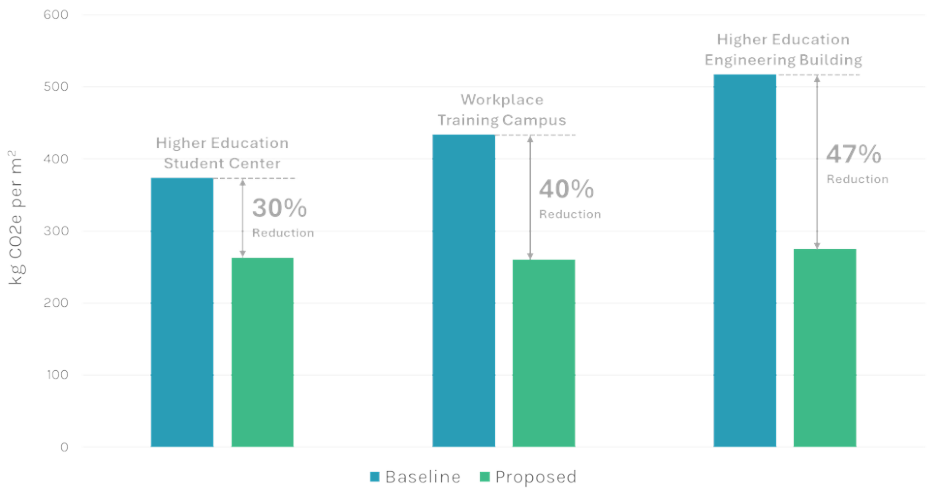


EMBODIED CARBON BY STRUCTURE - A1-A3

Embodied carbon by structure - A1-A3



STRUCTURAL LCA SUMMARY



2025 REPORTING ACTIVITIES

- Recognized as **Best in Reporting** and updated submitted projects and submitted 7 more projects to the SE2050 database
- LCA's performed for projects across all regions, utilizing the same process, software, and reporting tools
- Teaming with IMPACT team to assist with whole-building LCAs and coordinating reporting for all our climate commitments
- Work sessions on performing LCA's to share ideas, lessons learned, create workflows, and identify modifications to BIM modeling to streamline data collection
- Expansion of internal Project database to incorporate project information for all disciplines and climate commitment reporting requirements
- Performed additional comparisons of projects with baselines, comparisons of early project designs to completed construction, and comparisons during design to evaluate options
- Created internal LCA tool, associated education for staff, and updated Revit families to more easily perform LCAs in early design phases, update throughout projects, and improve data exports from Revit models
- Launched our new Minimum Project Requirements (MPRs) to help track and advance efforts to realize net-zero energy and carbon neutrality in all our work

MORE TO COME IN 2026

- Intend to perform LCA and submit data for all new projects
- Perform updated LCAs and submit data for projects that have progressed in design in effort to track the embodied carbon performance through our design phases
- Apply and improve our new Minimum Project Requirements (MPR) process for all new build and structural renovation projects, gather data and lessons learned
- Collaborate with our internal Technology in Practice group and AI Innovation Lab to develop tools Continue to streamline LCAs, project modeling & documentation, and reporting to minimize duplication of efforts and maximize understanding of carbon impacts on our projects
- Educate non-structural disciplines on LCA processes and tools for early design and documentation of completed work to increase literacy firmwide and expand process documentation efforts to integrate across all disciplines
- Continue to develop tools and best practices for shoebox modeling and conceptual design to further impact projects early where potential for EC reduction is the greatest

REPORTING

Data is essential to making informed decisions, setting important benchmarks for reduction targets, and achieving our collective embodied carbon reduction goals by 2050

To effectively measure and report embodied carbon, we utilize several specialized tools and methodologies. We conduct high-level analysis during material selection to understand the order of magnitude impact various materials have as it relates to embodied carbon. We then minimize embodied carbon in our systems and materials selections by considering multiple environmental attributes from a life-cycle perspective. This includes evaluating the extraction of raw materials, manufacturing, construction, operations, and end-of-life stages to ensure materials are non-toxic, regionally sourced, have low embodied energy, high durability, and are suitable for the project's unique setting.

We use tools like Tally, EC3, and One Click LCA, as well as C.Scale and new custom tools we have developed to integrate into our BIM workflow and encourage more widespread use, to compare the life-cycle embodied carbon of different materials and systems. For example, strategies to reduce the embodied carbon of concrete, such as specifying high-strength concrete mixes, incorporating supplementary cementitious materials like fly ash and slag, and using CarbonCure technology, are explored to significantly impact the building's carbon footprint. We have been regularly engaging with software providers such as C.Scale to help inform their development to better fit our needs and those of our fellow designers in the profession at-large.

Additionally, we have Minimum Project Requirements for all our renovation, fit-up, and new construction projects requiring that every project at SmithGroup includes GWP reduction targets, at least 20 products with Environmental Product Declarations (EPDs), and Health Product Declarations (HPDs), Declare labels, or Cradle-to-Cradle certifications. We also specify low-emitting VOCs for field-applied paints, coatings, adhesives, and sealants, and select hard surface flooring and carpeting that meet specific environmental certifications 2. This comprehensive approach ensures that we measure and reduce the embodied carbon of our projects effectively.

MEASURING OUR PROGRESS



We are excited and honored to be voted as Best in Reporting by our peer SE 2050 Signatory Firms. We look forward to being recognized and to be presenting at the the 2026 Signatory Summit!

Minimum Project Requirements

Framework and Process

We’ve created a user-friendly, step-by-step process for integrating the MPRs into our projects.

1

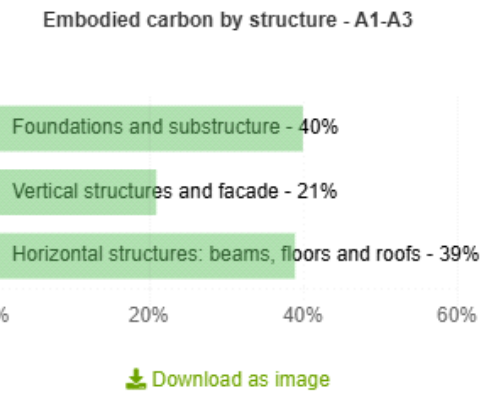
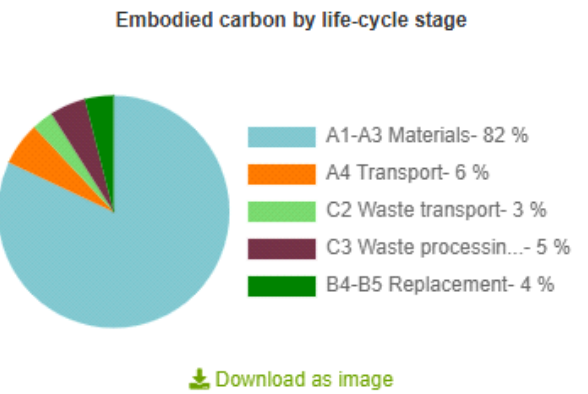
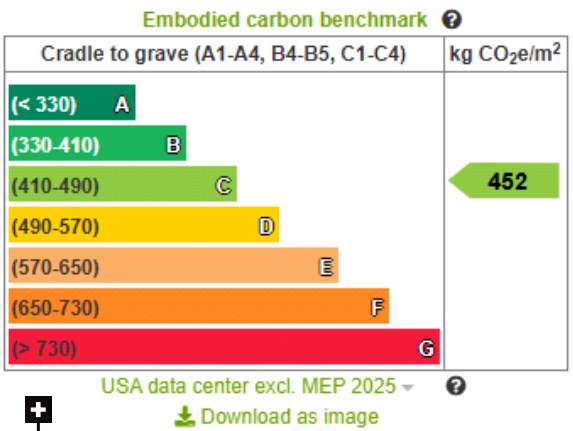
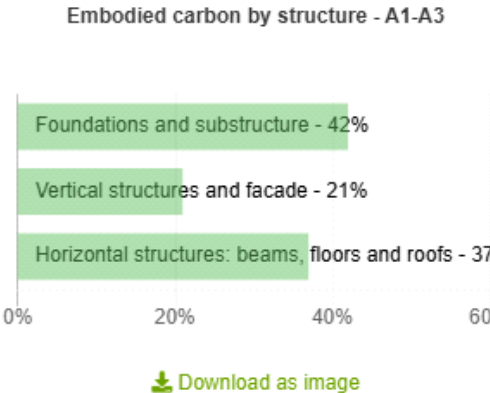
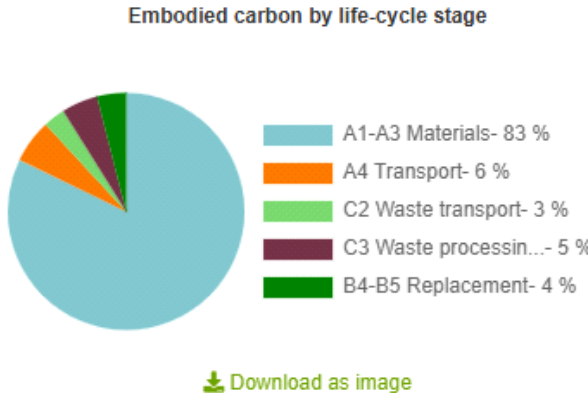
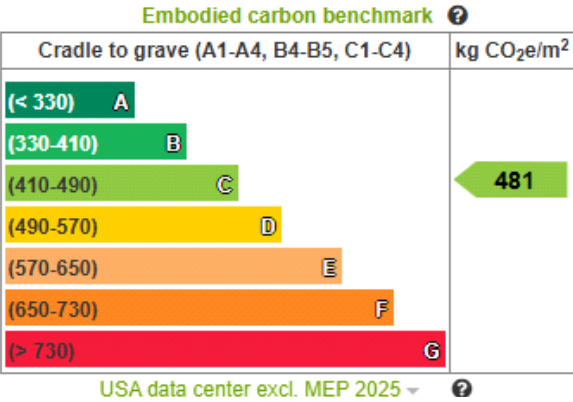
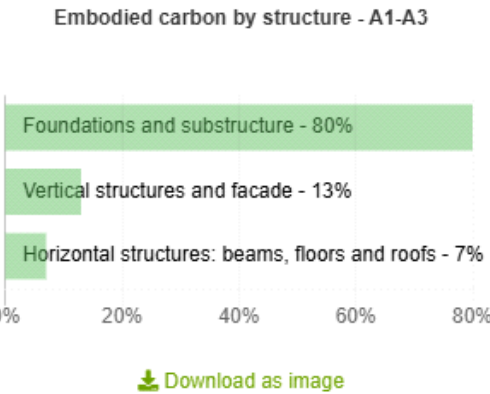
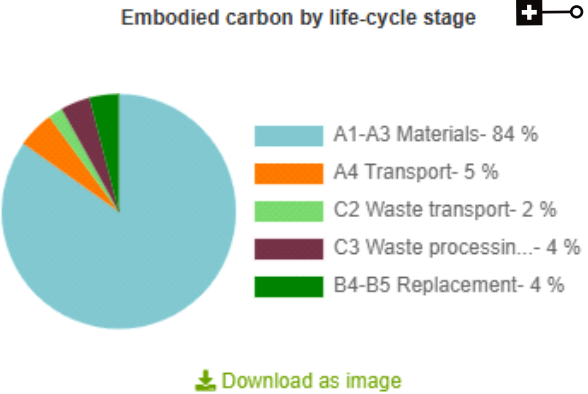
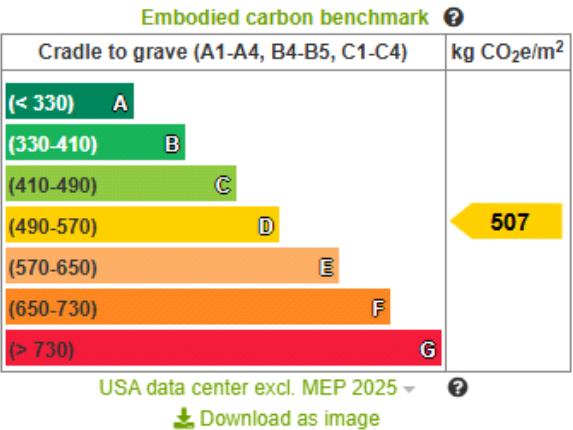
Set up the MPR Roadmap

The MPR Roadmap lets you establish the unique design review milestones for every phase of your project – starting as early as the proposal.

MINIMUM PROJECT REQUIREMENTS

To meet our industry climate commitments, we’re launching our new Minimum Project Requirements (MPRs) as part of a yearlong climate campaign that will help us track and advance our efforts to realize net-zero energy and carbon neutrality in all our work. Everyone on every design team has a vital role to play in pursuing and tracking our MPRs. We encourage everyone to explore the process, to use and share the new tools and resources, and to collaborate across disciplines, markets and geographies as we work together to design a better climate future. Our user-friendly, step-by-step process for integrating the MPRs into our projects includes:

1. Set up the MPR Roadmap
2. Assign Roles and actions to the project team
3. Apply our analytical tools and resources
4. Collaborate for more impact
5. Track our results



EVALUATING DESIGN OPTIONS

Our design process is an integrated and iterative process. We collaborate with our multidisciplinary teams using c.Scale, OneClickLCA, and other internal tools to evaluate options as we select the most cost-effective and best performing options that achieve the project goals for our clients which mitigating the impact on the environment.

These are three of the many options that were developed to study the impact of building structure and exterior envelope materials on a recent Mission Critical Data Center in effort to determine the best overall option for a project typology that tends to be one of the most carbon-intensive.

REDUCTION

Our approach to reducing embodied is through careful selection of structural systems and materials, considering multiple environmental attributes and using a life-cycle perspective

Our design process focuses on reducing embodied carbon starting from the programming phase. Our integrated teams right-size buildings and envisioning multi-functional spaces to maximize space utilization and efficiency while providing future flexibility. Material and system selection considers multiple environmental attributes such as low-embodied energy, high durability, and regional procurement. Our sustainability workflows and integrated design sprints prioritize carbon reductions throughout the design process.

We aim to achieve a 15% reduction below CLF benchmarks for the structural systems we design. In projects we have measured, we have exceeded this target, measuring an average of more than 20% below benchmarks. Our new Minimum Project Requirements are our basis of design at SmithGroup. As a firm we've committed to these goals as the standard of care for all our work. By giving our clients high-performing, more efficient design, we're delivering exceptional quality and design excellence truly designing a better future. This includes LCA's on all projects, providing data to set new even more ambitious reduction targets.



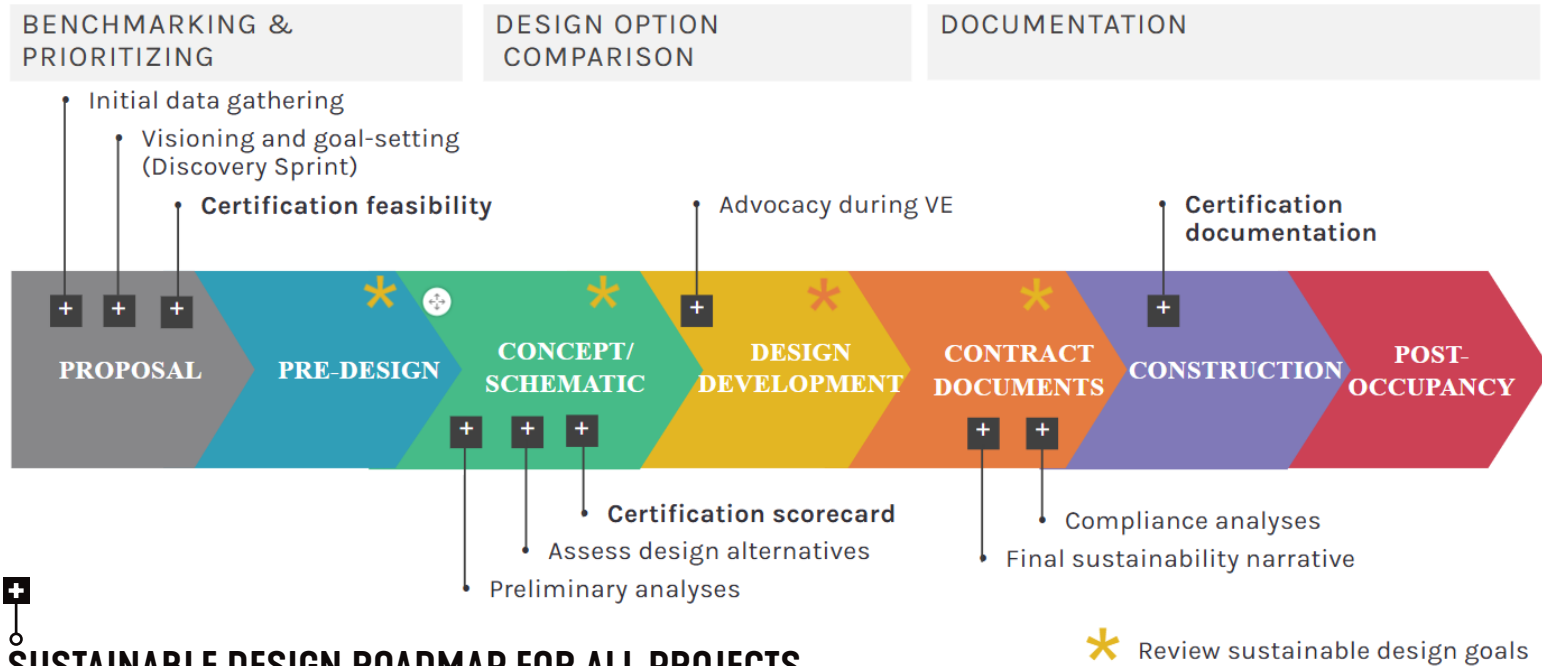
2025 REDUCTION ACTIVITIES

- Updated our comparative analysis to determine GWP for projects are +25% below the 2017 CLF Benchmark Median Values and to set targets for future projects
- Developed an Overall Sustainability Roadmap that incorporates Embodied Carbon into our design process
- Implemented strategies to consider EC when selecting structural materials and determining framing configurations
- Collaborated with concrete contractors on multiple projects to educate and clarify intent, while confirming specification updates are clear and achievable
- Enhanced Concrete Master Specifications, concrete mix design and target GWP schedules for use on all structural concrete
- Integrated embodied carbon language and GWP targets into all structural steel specifications for use on all projects
- Incorporated requirements for EPD's on projects and set targets for recycled content for steel

MORE TO COME IN 2026

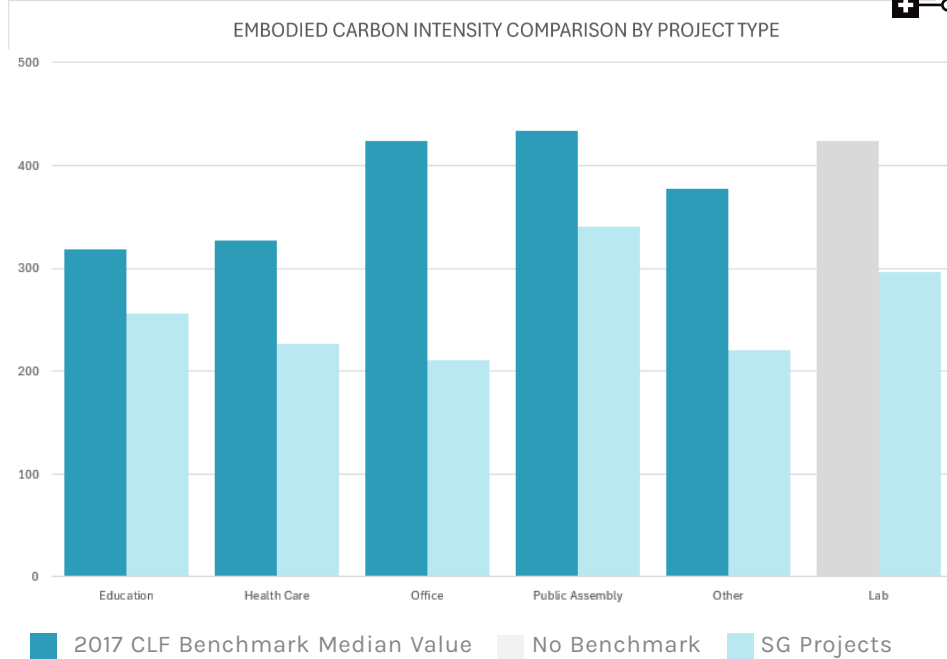
- Continue to refine EC reduction targets for projects based on LCA data and a company-wide, multi-disciplinary ECAP and EC reduction targets and create custom tools to inform design teams
- Continue to share tools and guidance for considering EC during conceptual design to all structural engineers at May face-to-face meeting
- EC Task force to continue to work with other disciplines to target GWP targets for non-structural materials prioritizing materials with the greatest impact
- Continue to perform shoebox analysis and/or preliminary LCA's in early design phases and compare to LCA's for final designs to confirm achievement of EC targets
- Continue to explore opportunities to utilize circular economy principals - considering re-use and designing for future deconstruction, particularly in performing facility condition assessments and masterplanning
- Develop and submit 3 case studies documenting lessons learned

GETTING TO ZERO



SUSTAINABLE DESIGN ROADMAP FOR ALL PROJECTS

Our **MPR Roadmap** was developed through a series of pilot projects in 2025, our MPRs establish SmithGroup’s sustainable design playbook. Our MPRs featuring the roadmap and supported by new tools and training, will help us raise the bar on every project we do. They will also recenter our integrated design approach and sharpen our focus on collaboration as we strive to achieve our carbon-reduction goals across all our markets and disciplines. We will continue to develop and share new tools in 2026.



EMBODIED CARBON INTENSITY COMPARISON

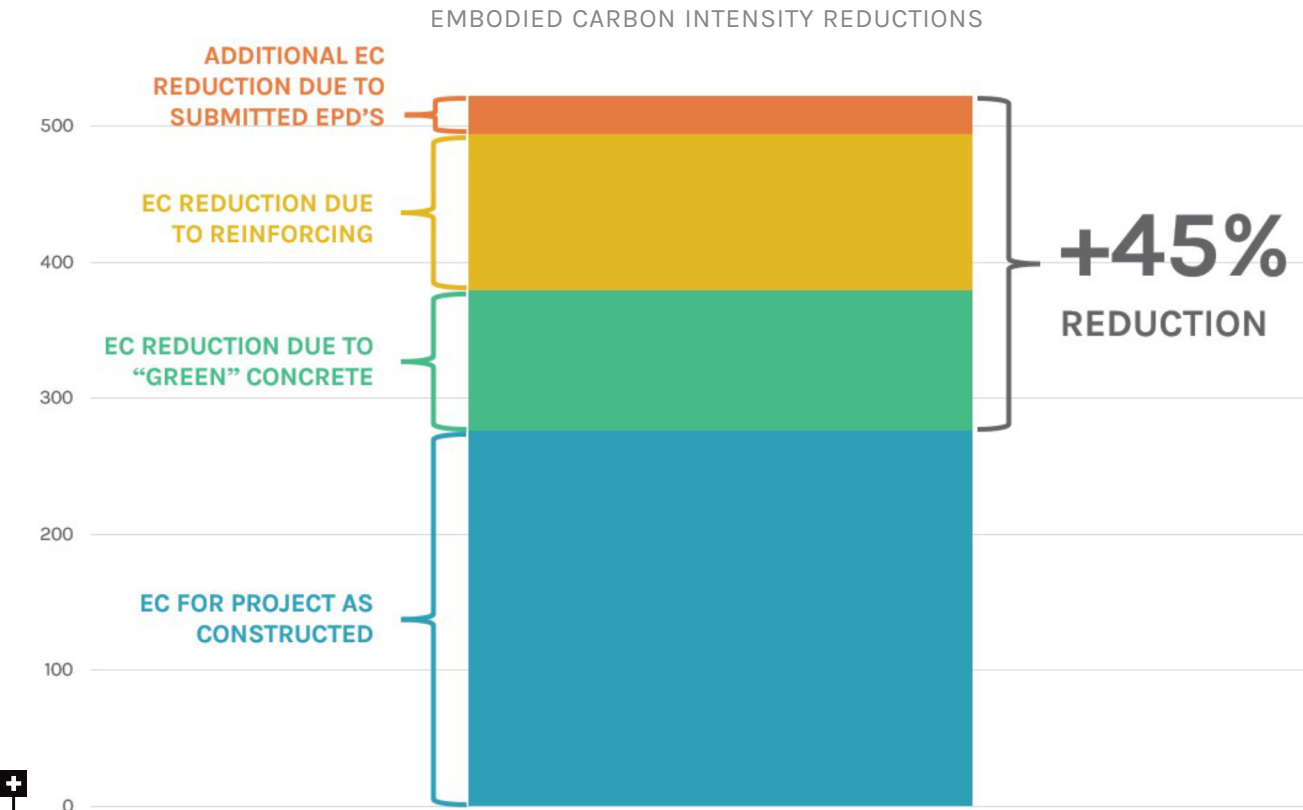
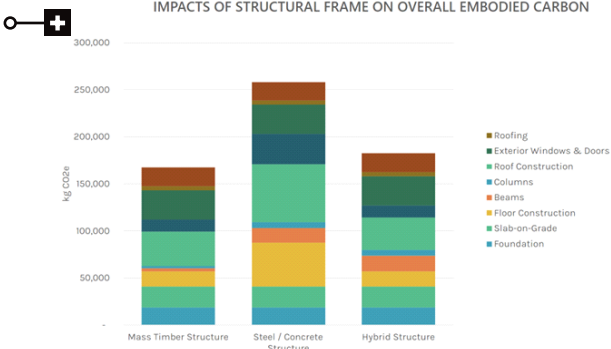
SmithGroup continues to achieve our in initial goal to design systems that a achieve a 15% reduction below the 2017 CLF Benchmark Median Value. The analysis of our progress has been updated with the additional projects that have been added to the SE 2050 database and our target has been revised to 25% for 2026..

Based on our own LCAs and data in the new and improved SE 2050 database, we will be setting new benchmarks in effort to continually raise the expectations for carbon reductions on our projects.

We have also performed LCAs on Mission Critical Data Center projects to evaluate options to reduce carbon, but also to set benchmarks for some of our most carbon intensive projects.

SHOEBOX MODELING

Our design process includes Discovery Sprints which are multi-step, integrated design charrettes with the aim of creating sustainable and resilient solutions based on the ten principals of the AIA Framework for Design Excellence. Shoebox models are integrated into our collaborative design process to set targets during programming and early design and then leveraged to inform subsequent design decisions and material selections to understand impacts. We regularly collaborate with C.Scale to improve their tool and develop workflows that are easy for all staff to use to make design decisions that consider climate impact from day one!



SPECIFICATION UPDATES

In 2025 we built from our previous efforts to incorporate embodied carbon language in our concrete specifications, utilizing the new specifications on all projects. Additional refinements were made to simply implementation and understanding in conjunction with new concrete mix design schedules and GWP targets in our standard drawing templates.

Additionally we incorporated embodied carbon language and GWP targets in all of our steel specifications based on AISC recommendations and reaching beyond only setting recycled content limits, as well as, sustainably harvested biogenic materials . As we transition to new specification software and a new SG Master we are prioritizing language related to reducing carbon and incorporating these as mandatory in our Minimum Project Requirements.



GM DURANT-DORT FACTORY ONE
RESTORATION, REHABILITATION, & ADAPTIVE RE-USE
EXTENDS THE LIFE OF THIS +130 YEAR OLD BUILDING

2025 ADVOCACY ACTIVITIES

- Our commitment to addressing the climate emergency has been updated and is posted on our external website, as well as various Perspectives related to Climate Action
- SG engages in broader sustainability forums and initiatives including structural-focused efforts with the SEI Sustainability Committee, NCSEA Sustainability Committee, SE2050 Signatory events, and broader sustainability efforts beyond structural engineering
- Contributed to planning the SE 2050 Signatory Summit and Virtual Sustainability Symposium
- Participated in the Signatory calls, SEI Embodied Carbon Bootcamp, SE 2050 Signatory Summit, and Firm Leader Round Table, and Virtual Sustainability Symposium
- Continue to lead the newly formed Structural Engineers Association of Michigan (SEAMi) Sustainability Committee:
 - Advocated for the presentation of the new ACI 323-24 publication on Low-Carbon Concrete at the 2025 SEAMi Annual Statewide Conference
 - Partnered with AIA COTE, USGBC, Detroit 3030, and Wayne State to host a screening of Women of Carbon and participated in a follow-up panel discussion
- Developed a series of A3 for the utilization of biogenic, mass timber systems as an informed sustainable decision for health care and institutional projects, including an A3 to assist in client conversations
- Developed concrete, steel and biogneic magerial specification guidance that our architectural teams can utilize with civil and structural consultants to advocate for greener concrete on all SG projects

MORE TO COME IN 2025

- Refresh of our Climate Action Statement to be posted on our external website
- Participating with the planning for the 2026 Virtual Sustainability Summit and the SE2050 Signatory Summit; presenting on reporting
- Publication of quarterly embodied carbon “Perspectives” on companies website and promoted through Social Media, first piece on reducing EC of concrete to be posted in April, addition topics to be covered this year related to Mass Timber, Building Re-use and Vertical Expansion
- Continue to lead the SEAMi Sustainability committee and advocating for events at the Tall Timber exhibit in Detroit and project lessons learned at the SEAMi Annual Conference
- Awaiting response for grants to explore alternative concrete materials that we have partnered with learning institutions and clients
- Pursuing additional external grants to continue our research into utilizing biogenic materials in our more complicated health care and science & technology projects
- Advocate the commitments and Minimum Performance Requirements on all of our projects

ADVOCACY

At SmithGroup, we understand that true change requires industry-wide and cross-industry wide adoption.

We advocate for carbon reductions with our clients by leveraging advanced computational design solutions and developing decision-making tools that integrate carbon into broader planning processes Additionally, we engage in collaborative efforts with stakeholders to integrate sustainability into operations, curriculum, and culture, and partner with local resources to support community resiliency and optimize performance through innovative solutions and iterative design.

We advocate for sustainability and embodied carbon reductions externally through active participation in major industry programs and professional associations. We are committed to and involved in initiatives such as the AIA 2030 Challenge, SE 2050, MEP 2040, ASLA CAP, and the Interior Design Pledge for Positive Impact, among others, to advance climate mitigation and adaptation. We are also members and sponsors of organizations like the US Green Building Council, the International Living Future Institute, the Healthy Building Network, and the Health Product Declaration Collaborative. By embedding sustainable design leadership in each of our disciplines and practices, we ensure that sustainability is a core focus across all our projects and interactions.

Our structural engineers are engaged with SEI and NCSEA Sustainability Committees and the Great Lakes Mass Timber Collaborative and Michigan Mass Timber Community of Practice. In 2024 we founded a Sustainability Committee with the Structural Engineering Association of Michigan (SEAMi) to raise awareness.

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COMMUNITY & RESILIENCE

Recognizing our critical position at the intersection of design, policy, economics, ecology, and society, we understand the importance of merging overarching strategies with the tactics needed to bring them to life.

Climate action and resiliency planning is no longer a side conversation, but a major driver for our quality of life. Across the world, cities and institutions are reevaluating their design and policy decisions to ensure that what is done today sufficiently protects their constituency and has a positive impact for years to come. By evaluating our impact and planning for our future, we can better position ourselves for success. Through place-based interventions, our team thinks across scales and works with the community to identify solutions rooted not just in infrastructure but in institutional and cultural practices.

Design a Better Future

SMITHGROUP

www.smithgroup.com

