

HKS, Inc.

EMBODIED CARBON ACTION PLAN (ECAP)

2025



WE AIM TO INSPIRE AND EMPOWER THE PEOPLE AND COMMUNITIES WHO ENCOUNTER OUR WORK. TO PRESERVE AND RESPECT OUR NATURAL RESOURCES, WHILE CREATING PLACES THAT CONSERVE AND REJUVENATE OUR PLANET.

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EXECUTIVE SUMMARY

Entering our fourth year as a signatory firm for SE 2050 presents an exciting opportunity for HKS to leverage our resources and continue advancing sustainability initiatives. This commitment, alongside our other industry partnerships, allows us to deepen our understanding of sustainability and work collaboratively to meet our 2025 goals while making meaningful progress toward reducing carbon emissions.

With this ECAP, HKS Structures will strengthen our involvement in embodied carbon discussions by implementing a strategic plan focused on four key areas: education, reduction, reporting, and advocacy. Each area will include specific strategies and targets. As we move forward, assessing the progress made in the previous year is an essential first step toward achieving a better tomorrow.

REFLECTIONS

As we review another year in the SE 2050 program, it presents an opportunity to evaluate our achievements and identify key lessons learned. Upon review of our 2024 ECAP for 2025, we recognized that we had focused on too many smaller, measurable targets. While this was a useful starting point, we believe that a more systematic approach will offer greater flexibility and growth while still enabling us to measure our progress. This refined approach is reflected throughout our 2025 ECAP.

As honored recipients of the Best in Reduction award for 2024, we have carefully reviewed our reduction plan and experiences from the past year to identify the key actions and strategies that contributed to our success. These insights will be further explored in our Lessons Learned section.



PENN STATE HEALTH
LANCASTER
Philadelphia, Pennsylvania

LESSONS LEARNED

Our lessons learned fall under one main umbrella: the importance of industry partnerships. The adage "it takes a village," often applied to child-rearing, is equally relevant in the AEC industry to achieve our goal of reducing embodied carbon. While structural engineers can optimize designs and provide low-carbon specifications, achieving meaningful reduction targets requires buy-in from general contractors, trade partners, ownership support, and coordination with architecture for clear design intent. It is essential to work as a unified team to meet our shared goals.

We've identified three primary barriers typical in this effort: cost, schedule, and communication. While these challenges are not unique to embodied carbon, they present distinct considerations.



No. 1 — COST

A common misconception is that all sustainability measures are costly. While some options may carry a premium, others can be cost-neutral. It's important to explore cost-neutral and minimally priced alternatives during budget and value engineering discussions. Even if these options don't fully meet the original reduction targets, they still contribute to lowering embodied carbon and should be considered.




No. 2 — SCHEDULE

Schedule constraints often drive decisions during design and construction. While important, schedule should not be the sole determining factor. Open discussions about schedule—especially during construction—can reveal unexpected opportunities to lower embodied carbon. Questioning processes and methodologies, such as allowing for longer concrete cure times, may lead to finding new solutions. The more we encourage collaborative dialogue across the industry, the more opportunities we may uncover, as we are all addressing the same problem with different perspectives and expertise.



No. 3 — COMMUNICATION

Effective communication is vital in overcoming cost and schedule barriers. As structural engineers, we communicate through drawings, specifications, and meetings. Clear, open lines of communication help identify differing perspectives or priorities, prevent misunderstanding, and find more opportunities. It's also essential to understand where individuals are in their journey with embodied carbon, as knowledge levels vary. By meeting people where they are, we can foster more productive conversations and drive further reductions in embodied carbon. It's also crucial to actively seek these conversations, explaining their importance, and ensuring that they remain focused and productive when they occur.



HKS, INC.

EDUCATION PLAN

PROMEDICA CORPORATE HQ
Toledo, Ohio

EDUCATION PLAN



The educational system we are implementing consists of a series of regularly scheduled presentations. Each year, the content will be reviewed, updated, and new material will be developed as necessary. The goal of these presentations is to provide training, continuing education, and updates to our team. Below is a list of the anticipated presentations, with outlines available in the appendix where indicated:

- Semi-Annual Training: HKS Structures; see appendix for outline
- Pecha Kucha Presentation during ESG Week: HKS at Large; see appendix for outline
- Sustainability Champion Presentation
- Quarterly Updates on New Resources, Standards and/or Research: HKS Structures; see appendix for sample outline

Additionally, HKS has revisited the role and responsibilities of our Embodied Carbon Reduction Champions. The updated guidelines can be found in the appendix.

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REDUCTION STRATEGY

UAB HEALTH MEDICAL WEST
Bessemer, Alabama

REDUCTION STRATEGY

We plan to develop and implement a system that incorporates a top-down reduction strategy, with a minimum threshold for limitations. This strategy will become an integral part of the project workflow and overall design philosophy. By adopting this system, the design team will begin with an ideal reduction scenario and justify decisions based on "value carbon budgeting" that prioritize reductions.

Through this approach, we aim to achieve the following objectives:

- Drive greater reductions in projects that may not have initially considered embodied carbon.
- Keep this new design criteria at the forefront of discussions and the design process.
- Encourage the pursuit of additional embodied carbon reduction credits for building certifications.
- Foster the consideration of carbon conscious design options during the early stages of the project.
- Facilitate conversations about embodied carbon with owners, clients, general contractors, and trade partners.



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REPORTING STRATEGY

SOUTHERN GATEWAY
Dallas, Texas

REPORTING STRATEGY

- ▶ Reporting to the database, while essential, can be time-consuming, particularly when data is only reported once a year. To address this, we are implementing a system that increases both the frequency of reporting deadlines and the number of responsible parties. Our objective is to streamline the reporting process, reducing the time required to submit data and increasing the number of projects reported.
- ▶ Currently, most of our sustainability team members are based in a single office, so all reporting data is channeled through that office. As our sustainability efforts expand, our reporting methodologies will evolve accordingly. Each office's embodied carbon champion(s) will be responsible for reporting data from their respective office.
- ▶ One of the presentations outlined in our education section will focus on comparing the embodied carbon of three similar projects on the same site. This presentation will illustrate how different conditions, project requirements, and design decisions can directly impact the embodied carbon of a project and the environmental impacts being reported. In addition to the presentation, data from these three projects were submitted to the SE 2050 database.



PROMEDICA CORPORATE HQ
Toledo, Ohio

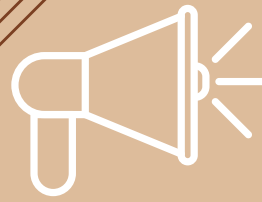
An architectural rendering of a modern courtyard. The scene is dominated by a large, multi-level pergola structure with thick, dark wooden beams and a perforated metal top. The courtyard is paved and features several people walking and sitting on a white bench. A large, leafy tree stands in the center, and there are some low-lying plants and shrubs. The background shows a modern building with large glass windows and a balcony. The overall color palette is warm, with shades of brown, tan, and green.

HKS, INC.

ADVOCACY PLAN

DALLAS LUTHERAN
Dallas, Texas

ADVOCACY PLAN



Our advocacy philosophy remains unchanged and serves as the cornerstone of our approach. We will continue to leverage our educational plan, reduction strategy, and reporting framework as key tools to drive our advocacy efforts. The core message is clear: we must reduce, despite the challenges that may lie ahead. The most effective way to advocate is through education, supported by a clear, actionable strategy. We aim to provide advocacy not just through words, but through tangible actions. Additionally, we are implementing a system focused on relationship-building across four key areas: organizations, owners, clients, and general contractors/trade partners.

ORGANIZATIONS:

We aim to engage with a variety of organizations at local, state, and national levels. Our goal is to actively advocate for reduced embodied carbon across a broader demographic and gain insight into the challenges faced at each stage. In organizations where sustainability initiatives are not yet established, we aim to identify opportunities to implement and cultivate. Through these relationships we aim to influence policy and code standards.

OWNERS:

We will continue to educate project owners on the significance of embodied carbon and the importance of reductions. We will assist them in setting and achieving sustainability goals while serving as a reliable sustainability resource.

CLIENTS:

Our focus remains on educating, supporting, and collaborating with clients to create designs that not only meet, but exceed, sustainability targets for their projects.

GENERAL CONTRACTORS AND TRADE PARTNERS:

We will engage with general contractors and trade partners, fostering collaboration to overcome obstacles and develop effective solutions that contribute to achieving overall project sustainability goals.



APPENDIX

Embodied Carbon On-Boarding Training (90 minutes)

- I. INTRODUCTION
 - A. DEFINITIONS AND ABBREVIATIONS
 - B. STAGES OF AN LCA
 - C. ANALYSIS PROGRAMS (ONECLICK & TALLY)
- II. EPD
 - A. SAMPLE
- III. REDUCTIONS
 - A. HIGH LEVEL REDUCTION STRATEGIES
 - B. AVAILABLE RESOURCES
 - C. HKS APPROACH
- IV. HKS AND EMBODIED CARBON
 - A. INDUSTRY INVOLVEMENT
 - B. ECAP
 - C. HKS RESOURCES
 - D. POLICIES & CERTIFICATION
 - E. CORE TEAM & EMBODIED CARBON CHAMPIONS
- V. ANALYSIS PROGRAMS
 - A. INTRODUCTION
 - B. GENERAL RULES OF THUMB
 - C. ASSIGNING MATERIALS
 - D. RESULTS
 - E. RED FLAGS

Pech Kucha Presentation (Approx. 7 minutes)

- I. INTRODUCTION
 - A. PROJECT DESCRIPTION
 - B. SITE OVERVIEW
- II. EMBODIED CARBON
 - A. TARGETS
 - B. RESULT OVERVIEW
- III. CONCLUSION
 - A. CAUSES FOR VARYING RESULTS
 - B. SUCCESSES
 - C. LESSONS LEARNED
 - D. FUTURE POSSIBILITIES

APPENDIX

Sample Quarterly Presentation (30 minutes)

STANDARDS AND RESOURCES

I. INTRODUCTION

- A. AGENDA
- B. REMINDER OF TARGETS AND CURRENT STATUS

II. PRESENT NEW STANDARD

- A. EXPLAIN CHANGES
- B. EXPLAIN HOW THESE CHANGES SUPPORT OUR GOALS
- C. EXPLAIN HOW TO IMPLEMENT THESE CHANGES

III. CONCLUSION

- A. CAUSES FOR VARYING RESULTS
- B. SUCCESSES
- C. LESSONS LEARNED
- D. FUTURE POSSIBILITIES

Embodied Carbon Champion Guidelines

The Embodied Carbon Champions are the voice representing each office within our international corporation; connecting thought leaders, disseminating values and knowledge, and acting as the liaison between our leadership initiatives and the regional practice, in order to create change as we progress toward our goal of serving and educating our clients through a regenerative design practice.

As Embodied Carbon Champions (ECC), they are the local experts and primary resource for each office. They will attend larger HKS SE 2050 alignment meetings where status updates are given and new information is provided. The ECC aids their regional office in understanding and implanting of the new ECAP, standard updates, new available resources, overall education and any required onboarding. They will be in charge of reporting their office data to the SE 2050 database on a quarterly basis. Finally, it is recommended that each ECC is involved in at least one local sustainability chapters efforts (i.e. CLF, SEA, etc.)