

SE 2050
EMBODIED
CARBON ACTION
PLAN

2026



WHO WE ARE

"We support the vision that all structural engineers shall understand, reduce, and ultimately eliminate embodied carbon in their projects by 2050."

- Ruben Martinez, P.E., S.E.

MARTINEZ MOORE ENGINEERS, LLC is a Texas-based multi-discipline engineering firm with offices in Austin, Houston, Dallas, and Fort Worth, and is certified by the State of Texas as a Historically Underutilized Business (HUB). We are an affiliate firm of Martinez Engineering, LLC and Walter P Moore and Associates, Inc.

Through our partnership with Walter P Moore, we bring together an unparalleled team of experienced structural and civil engineers as well as parking and building enclosure consultants. We engineer cost- and resource-efficient, forward-thinking solutions, which help support and shape our communities.



President

Ruben Martinez, P.E., S.E.

EMBODIED CARBON CHAMPIONS



Priscilla Nguyen, P.E., S.E.
LEED Green Associate



Xhoja Joseph, E.I.T.



EDUCATION PLAN

Provide a narrative describing how your firm is promoting a firm-wide education program for embodied carbon reduction and the firm's commitment to SE2050: Martinez Moore Engineers encourages embodied carbon reduction education by inviting the embodied carbon champions and others to present on sustainable design topics during firm-wide meetings and by making the firm's ECAPs accessible to all employees. When selecting projects to submit as part of the reporting process, that time is used to remind employees of the firm's commitment to SE2050 and the importance of accountability.

1) Provide a narrative of how the embodied carbon champions will engage embodied carbon reduction at each office: The embodied carbon champions have presented and will continue to present at a firm-wide level on the previous year's ECAP, to educate coworkers on embodied carbon reduction strategies implemented on recent projects. These presentations will occur either during one of our quarterly meetings or our weekly staffing meetings, both of which are firm-wide and include our civil engineering counterparts.

2) Present at least (1) webinar focused on embodied carbon and make a recording available to employees: Martinez Moore Engineers (MME) collaborates with our partner firm, Walter P Moore, in providing webinars with sustainable design-related topics as well as material quantity tracking trainings. Recordings are available to all employees.

3) Engage with Partner Firm's Sustainable Design Community of Practice: Priscilla Nguyen, one of our Embodied Carbon Champions, is involved with the Technical Working Group within Walter P Moore's Sustainable Design Community of Practice (CoP). She has prepared summary reports to educate the Community of Practice about emerging structural materials and technologies aimed at reducing embodied carbon. Priscilla relays information learned at the CoP to MME employees such as upcoming changes in LEED v5, which now has a prerequisite for quantifying embodied carbon.

4) Incorporate embodied carbon education in onboarding process: Again, collaborating with our partner firm, Walter P Moore, our new hires participate in Walter P Moore's Fast Start, which includes a Sustainability presentation that covers embodied carbon.

REPORTING PLAN



Description of how your firm will measure, track, and report

embodied carbon data: The firm leverages the use of tools developed in-house to measure embodied carbon of structural materials, which are compatible with quantities exported from BIM models. The firm encourages project managers to keep track of quantities at DD and CD milestones. These quantities are then translated to embodied carbon values.

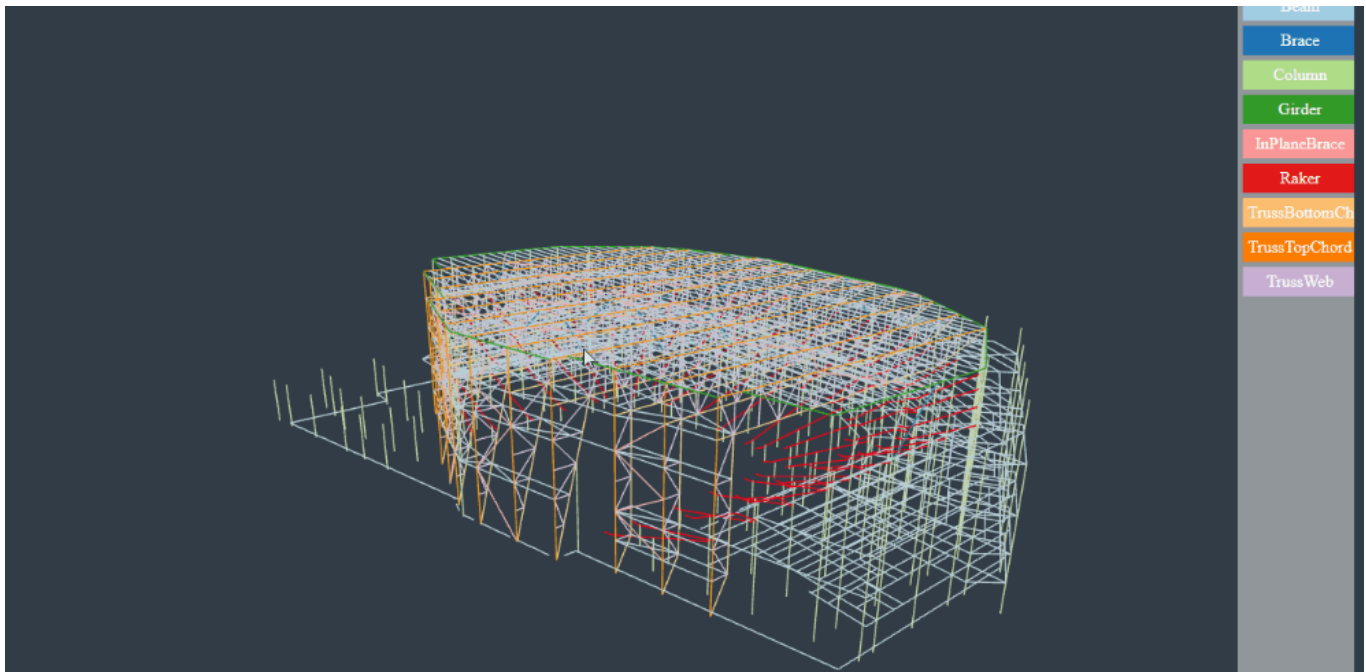
Reporting is done using PowerBI to visualize data and summarized in internal reports that are maintained for each project. Embodied carbon quantities are done for all new projects that have a BIM model associated with it. By quantifying structural materials, teams can have a better idea of appropriate quantities on future projects of similar size and scope.

Describe the internal training for embodied carbon measurement you provided or will provide: As mentioned in the Education section of this report, all structural engineering coworkers are encouraged to attend training sessions on material quantity tracking and training to use in-house tools. Recordings are also available for future reference.

HOW WE MEASURE

1) Submit a minimum of 2 projects per US office (maximum of 5 total across the firm):

Last year, we submitted five projects to the SE2050 database. In line with our ongoing commitment, we are maintaining this momentum by submitting another five projects this March.



REDUCTION STRATEGIES

HOW WE ARE TRACKING

1) Set clearly stated, firm-wide reduction targets in the short-term (<1 year) and long-term (>5 years).

Our firm's short-term reduction target is to, on average, reduce the embodied carbon intensity of new design projects by 5% on a square footage basis, compared to last year's average for similar project types or baseline building.

Our firm's long-term reduction target is to, on average, reduce the embodied carbon intensity of new design projects by 10% on a square footage basis, compared to the preceding five years' average for similar project types or baseline building.

LESSONS LEARNED

Provide a narrative about what you have learned about embodied carbon reduction in the past year. Describe successes and misses to help the program improve:

A key lesson learned this past year was the importance of engaging with general contractors as early as possible to discuss embodied carbon reduction goals on projects. This was especially crucial when competitive bidding comes into play and can influence the use of concrete mix designs with cement replacement requirements and global warming potential (GWP) limits on concrete mix designs. One success we've had on a few projects is encouraging GCs and owners to consider ground improvement strategies to reduce foundation sizes and concrete volume. We'll keep an eye out for future emerging technologies that we can implement in our structural design to reduce structural materials overall and thus embodied carbon quantities. One miss we've had to contend with is some competitive concrete subcontractors not having the experience to offer concrete mix designs with supplementary cementitious materials. As mentioned earlier, the key will be to have conversations early on in the project timeline.

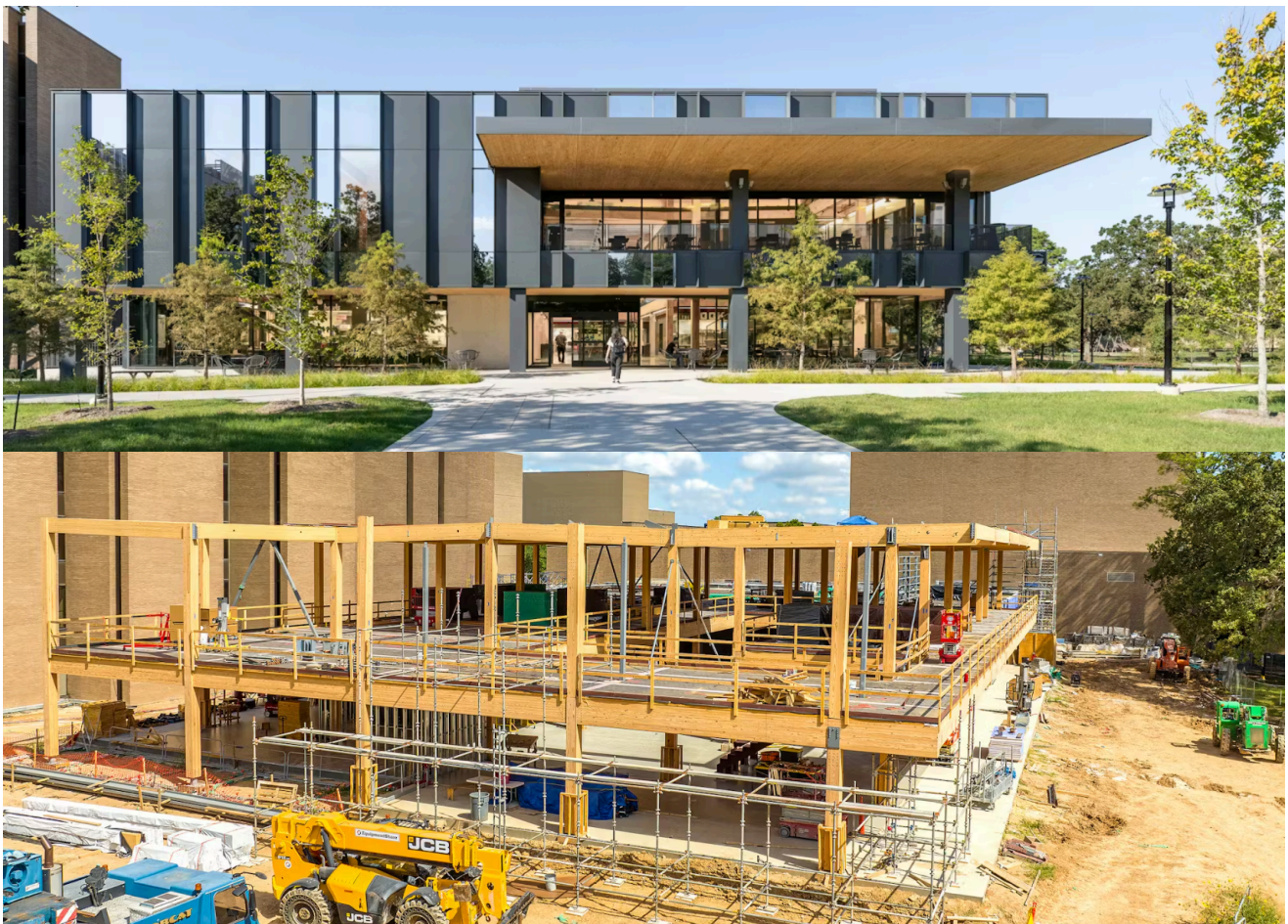
ELECTIVE

Participate in a LEED project design charrette and speak to potential design considerations impacting embodied carbon:

For one of MME's confidential, higher education laboratory building projects, MME staff actively participated in LEED meetings and provided some ideas on how to reduce the embodied carbon of structural materials. One idea suggested, mentioned in the paragraph above, was to use ground improvement strategies to reduce foundation sizes. Another suggestion provided by our team was to encourage other types of concrete finishes that were not polished concrete as polished concrete would preclude the use of concrete mix designs with cement replacement.

PROJECT HIGHLIGHT

The RAD Center at the University of Houston's main campus, is a project that MME collaborated with Walter P Moore to deliver structural engineering services. This two-story, 41,000 square foot building consists of dining, meeting, conference room, and office spaces, and it is the first mass timber building at the University of Houston. Some of the strategies the design team implemented were reusing structural elements, such as the foundation systems that previously supported an existing building, and selecting mass timber as the primary structural system, which were instrumental in reducing the embodied carbon on this project. Most of the foundations could be reused because mass timber was a lighter system. The RAD Center was recently awarded a Gold Medal at the ACEC Texas Engineering Excellence Awards.



UH RAD Center, Houston, TX



MME & SE2050

At MME, our commitment remains steadfast in fostering ongoing communication with both project owners and contractors. Our long-term goals include working closer with contractors and material suppliers on how we can further reduce embodied carbon in the construction stage. This may be by requiring Environmental Product Declarations or taking a closer look at concrete mix designs. Whenever possible, we collaborate with our architect clients to understand each individual project's sustainability goals and underline the importance that embodied carbon reduction plays in those goals. We leverage material tracking tools to assist with visualizing material usage across various design phases and to make informed decisions. We have consistently showcased our dedication to sustainable design on our website, and we are actively seeking additional avenues to effectively promote our pledge such as participating in NCSEA's national Sustainable Design Committee.

Looking forward, our strategy entails hosting an expanded series of seminars, developing a wider range of tools, and striving for an overall enhanced proficiency in managing embodied carbon within our projects.

