

## SE 2050 Action Plan

### 1. Introduction:

The purpose of this Embodied Carbon Action Plan is to outline strategies and initiatives for BASE, a structural engineering consulting firm, to minimize the embodied carbon in its projects. By reducing the carbon emissions associated with the materials and construction processes used in building projects, BASE can contribute to mitigating climate change and promoting sustainable development.

### 2. Establishing Commitment:

BASE recognizes the urgency and importance of addressing embodied carbon in the built environment. The firm commits to integrating sustainable practices and prioritizing low-carbon design solutions throughout its operations. This commitment will be communicated internally to all employees, as well as externally to clients, partners, and stakeholders.

### 3. Education and Awareness:

BASE will invest in employee training and awareness programs to enhance understanding and knowledge of embodied carbon and its impact on the environment. This will include seminars, workshops, and regular updates on best practices, emerging technologies, and industry standards related to embodied carbon reduction.

### 4. Project Assessment:

BASE will develop a standardized methodology to assess and quantify the embodied carbon emissions in each project. This will involve evaluating the carbon footprint of materials, construction processes, and transportation logistics. The firm will leverage available tools, such as Life Cycle Assessment (LCA) software, to facilitate accurate measurements and comparisons.

### 5. Material Selection:

BASE will actively promote the use of low-carbon materials in its projects. The firm will establish guidelines for material selection, favoring options with lower embodied carbon content. This includes prioritizing materials with recycled content, sourcing locally to reduce transportation emissions, and considering renewable alternatives where applicable. BASE will collaborate with suppliers and manufacturers to encourage the development and availability of low-carbon material options.



## 6. Design Optimization:

BASE will adopt a design optimization approach to reduce embodied carbon. The firm will explore innovative structural solutions, such as the use of lightweight materials, modular construction, and efficient building systems. The design process will consider the entire life cycle of the building, including deconstruction and end-of-life scenarios, to minimize waste and emissions.

## 7. Collaboration and Communication:

BASE will actively engage with clients, architects, contractors, and other stakeholders to promote the importance of embodied carbon reduction. The firm will advocate for sustainable design principles and collaborate with project teams to identify and implement low-carbon strategies. BASE will also participate in industry conferences, seminars, and initiatives to share knowledge and best practices.

## 8. Monitoring and Reporting:

BASE will establish a system for monitoring and reporting embodied carbon performance. Regular assessments will be conducted to track progress and identify areas for improvement. The firm will develop key performance indicators (KPIs) and benchmarks to evaluate the effectiveness of its initiatives. These findings will be communicated transparently both internally and externally.

## 9. Continuous Improvement:

BASE recognizes that reducing embodied carbon is an ongoing effort. The firm will regularly review and update its Embodied Carbon Action Plan to reflect advancements in technology, research, and industry standards. Lessons learned from completed projects will be incorporated into future designs and practices, fostering a culture of continuous improvement.

## 10. Industry Leadership:

BASE will strive to be a leader in sustainable structural engineering. The firm will actively contribute to industry organizations, research initiatives, and policy discussions related to embodied carbon reduction. By sharing expertise and collaborating with peers, BASE aims to drive positive change across the built environment sector.

By implementing this Embodied Carbon Action Plan, BASE will make significant strides towards reducing the environmental impact of its projects, while providing innovative and sustainable structural engineering solutions.