

Architectural tactics for visualizing embodied carbon

New presentation methods offer a way to address resource scarcity and embodied carbon in building design. They emphasize that understanding embodied carbon requires not just quantitative metrics but also representational tools that link the conceptual design, building materials, construction methods and carbon footprint of architectural projects. The authors investigate various representational options — general, discipline-specific, and project-specific — highlighting how they facilitate understanding and engagement with embodied carbon.

This paper examines how representational tools help architects understand how conceptual design choices impact the carbon footprint of their designs.

We propose incorporating 3D methods to visualize the impact of embodied carbon of individual building components. The paper explores this approach in a graduate-level architecture class, where students develop design variations for a 1938 building by showing the carbon footprint. This educational approach underscores the importance of this new aspect in building design and the new skills required in practice, in order to make climate and resource conscious decisions in architectural projects.

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