

Savings Now or Savings Later? Resolving the Conflict Between Operational and Embodied Carbon

Presenter: Zachary Vergata

Presenter Biographies and Experience:

Zachary Vergata is a Sustainability Consultant at Steven Winter Associates, Inc. (SWA). He supports project teams in complying with green building and high-performance programs like ENERGY STAR, LEED for Homes, and Passive House. Zachary has worked on various projects, including market-rate and affordable housing, and has conducted embodied carbon analysis on single and multi-family projects. He holds a B.S. in Sustainability from Stockton University.

Abstract:

As the U.S. grapples with the effects of climate change, new research has shown the significant contributions of embodied carbon in total GHG emissions. This presentation demonstrates how 4 real-world residential projects (2 single family, 2 multifamily) have applied new data and tools to evaluate their embodied carbon impacts, from the perspective of a sustainability consultant and energy rater tasked with helping projects achieve their performance goals. Difficulties that the projects experienced in pursuing low operational and embodied energy will be highlighted and their causes discussed. The presentation will provide attendees with insights into how building design and construction decisions helped or hindered operational and embodied carbon - and sometimes both, in these case studies. Attendees will be introduced to a useful tool to calculate the embodied carbon of residential projects and learn the tool's benefits and limitations.