



What Will It Take?

Constructing Carbon-Free Buildings

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SPEAKERS



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Director of
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Co-host



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Associate Director,
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**CHRISTIE
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Senior Director
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**JULIA
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Vice President and
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**JIM
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Vice President,
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The Hub and Clark Construction Group recently hosted a conversation on the role building construction plays in energy use and carbon emissions, the fourth and final event in the series, **“What Will It Take? The Path to 2050 And Carbon-Free Buildings.”** Theresa Backhus of the Building Innovation Hub set the stage explaining the need to think beyond compliance to leverage buildings as a tool for climate action. Still, there is a challenge of segmentation within the building industry. Fernando Arias, Clark Construction’s director of sustainability, moderated the discussion. The robust and insightful discussion is worth watching in its entirety, but here are five of the key takeaways:

1. The construction industry can reduce carbon emissions by focusing on materials, suppliers, and transportation.

Christie Gamble explained that much of the carbon emissions from buildings are embodied. Therefore the construction industry can play a huge role in helping reduce the amount of carbon emitted in producing and distributing building materials. Lucas Hamilton argued that by valuing carbon (and not just cost), construction firms can

To me, the challenge is human behavior. How do you create change? How do you get people talking together?

— CHRISTIE GAMBLE

When it comes to decarbonizing, we have to tell others what works and what doesn't because we don't have time for every company to recreate and relearn.

— JULIA GISEWITE

indicate demand for more efficient manufacturing. Julia Gisewite emphasized prioritizing this demand with subcontractors and suppliers by making procurement choices that reflect sustainability commitments. Jim Martinoskwi called for a focus on transportation, both supplies to the job site and on the site itself. Similarly, Fernando Arias discussed the importance of choosing local suppliers and reducing vehicle emissions related to deliveries of construction materials.

2. We need to adopt a circular approach to building materials.

Martoski and Hamilton both highlighted the promise of recycled materials, as well as the challenges of changing business behavior. Martoski argued that opposition to change is often related to perceived risk and to anticipated costs of designing and implementing new processes and trainings. Hamilton talked about the need to make materials recycling the most lucrative and convenient option. Gisewite pointed out the need for more lifecycle carbon accounting and more awareness of where the carbon is in a building to change how we specify materials.

3. We need to have conversations about sustainability at all levels and use language that makes sense to others.

To identify and scale best practices in sustainability, Gisewite argued that we need to collaborate with competitors. Gamble agreed, proposing the industry considers “**coopetition**” as a framework. Hamilton says that suppliers worldwide may not understand terms like “embodied carbon,” but they are already experiencing climate change and may respond to a discussion about reducing impact. Gamble suggested that even having a statement about sustainability in an email tagline can clarify to vendors that the issue matters.

4. Change is hard, but greater application of technology in construction and manufacturing will bring new perspectives.

Hamilton discussed the many job openings and opportunities for master mechanics and manufacturing engineers. He further said that introducing technology into manufacturing processes with carbon management in mind can help remove some of the inefficiencies that exist that are causing us to have a more significant carbon debt than we should have.

5. Innovation will help the industry attract new and diverse workers.

Gisewite argues that construction is consistently ranked low in terms of investment in research and development. It is a barrier to both technology development and new ways of thinking about sustainability. The next generation of workers wants to be part of the solution, not part of the problem, so change will help bring them in. Martoski agreed that innovation would bring in new faces, especially if they see the work as exciting and rewarding. Gamble asserted that greater diversity will foster new perspectives and industry innovation, likely in areas related to sustainability.



SPEAKER PROFILES

CHRISTIE GAMBLE

Senior Director of Sustainability,
CarbonCure Technologies

Christie Gamble drives CarbonCure's mission to reduce 500 megatons of annual carbon emissions from the cement and concrete industry. CarbonCure manufactures a technology that enables concrete providers to utilize post-industrial carbon dioxide in their manufacturing processes in order to achieve significant embodied carbon reductions without compromising concrete quality. In her role, Gamble collaborates closely with designers and builders who seek to reduce the carbon impact of their building and infrastructure projects. Gamble lives in Regina, Saskatchewan, Canada with her husband and two young children, and is a top-ranked competitor on the World Curling Tour.

JULIA GISEWITE

Vice President, Chief Sustainability
Officer, Turner Construction Company

Julia Gisewite is responsible for setting and implementing sustainability policies, standards and strategies across Turner's national and international operations. Turner's sustainability program addresses topics relevant to the building industry including embodied carbon, energy, construction emissions, resiliency, waste, green building rating systems, and more. Gisewite has 16 years of construction industry experience and holds a BS in Civil Engineering from Cornell University.

LUCAS HAMILTON

Manager, Applied Building Science,
Saint-Gobain North America

Lucas is a physicist with 30 years of experience in construction and construction materials manufacturing. His expertise includes forensic building envelope diagnostics and testing as well as the development of non-intrusive construction analysis equipment and techniques. Lucas is a practitioner of a variety of building performance simulation software and has spent the past 15 years working with builders and design professionals on behalf of Saint-Gobain to achieve more sustainable, durable, and higher performing buildings.

JIM MARTINOSKI

Vice President of Logistics,
Miller & Long

Jim Marinoski manages operations and asset allocations including, but not limited to, tower cranes, mobile cranes, truck pumps, placing booms, batch plants, mixer trucks, and formwork/shoring. He and his team coordinate with field operations to ensure all necessary equipment is on-hand. Jim also collaborates with the Estimating and Project Management departments to align project approaches and improve efficiency for customers. In addition, he leads the innovation and sustainability programs, including advanced mix designs production and shotcrete operations. Jim has over 20 years of experience in the construction industry.

We have the chance today to bring technology into our manufacturing processes with carbon in mind.

— LUCAS HAMILTON

We can't just look at one single aspect. We have to look at the compilation of them to create the embodied carbon reduction to ultimately achieve net zero.

— JIM MARTINOSKI

One of the ways that we can reduce the embodied carbon of all kinds of materials is to shorten transportation distances and make materials more locally available.

— FERNANDO ARIAS

