



Beyond Scope 2: Strategies and Tools for Low-carbon Buildings CEBA Connect Spring Summit: May 18, 2022

Call to Action

Globally, the building sector is responsible for 39% of energy-related emissions and **building materials alone account for 11% of total emissions**¹. Tackling upfront embodied carbon² in building materials is imperative, as this carbon is locked in upon operation and cannot be reduced over time like operational emissions. Understanding and addressing the full impact of these supply chain emissions in corporate procurement decisions and greenhouse gas (GHG) inventories is complex. To bridge the gap between growing interest and action, the [Clean Energy Buyers Institute \(CEBI\)](#) is developing an immersive “Beyond Scope 2” training that will provide the foundational knowledge, tools, and community to empower low-carbon building material procurement advocates within their companies and catalyze low-carbon markets to respond.

Topline Takeaways

The May workshop had two components: 1) discussing the challenges around low-carbon building materials procurement and 2) iterating on a proposed “Beyond Scope 2” training to expand the set of companies tackling this issue to reduce their supply chain emissions. During the workshop, stakeholders highlighted the following challenges and opportunities:

- Initial reporting on embodied carbon will increase overall values significantly and, as the calculation methods and available data sources continue to evolve, values may fluctuate as they become more accurate.
- There is a clear “first mover” advantage for those willing to transparently report their embodied carbon emissions, even in industries that are not yet focused on this, due to increasing regulation.
- Ownership of embodied carbon in leased spaces and retrofits is unclear, and overall embodied carbon accounting, which falls into Scope 3 of the Greenhouse Gas Protocol, needs to mature along with corresponding corporate reporting frameworks.

The following pages include the proposed “Beyond Scope 2” training agenda, organized into five modules. Workshop participants reviewed this agenda, suggested additions to the topics listed and highlighted critical issues as indicated by diamond notations (♦) below. Existing resources relevant to each area are also listed for further exploration.

CEBI is grateful for workshop participant input and validation of the training concept. If your company would like to engage in its ongoing development, participate in the training when finalized, or otherwise learn more about CEBI’s related work in the [Decarbonizing Industrial Supply Chain Energy \(DISC-e\) initiative](#), please contact us at DISC-e@cebi.org

¹ Source: Carbon Leadership Forum

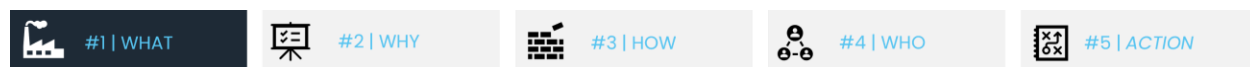
² **Upfront embodied carbon** includes emissions that occur before a building is operational, including the raw material extraction, manufacturing, and construction phases. Over 20 years of a building’s operations, embodied carbon represents **57%** of its carbon footprint, according to Architecture 2030.



Beyond Scope 2: Proposed training structure and workshop feedback

The following reflects a draft training agenda, feedback collected during the May 18 workshop, and related educational resources for each of the five topic areas or “modules.”

Module 1 | Understanding embodied carbon



Discussion What is embodied carbon (EC)?
Proposed topics: <ul style="list-style-type: none">• General definition ◆◆◆• Definition in the context of building materials ◆• Introduction to possible levers to reduce EC in buildings ◆◆
Discussion How is EC related to other aspects of sustainability?
Proposed topics: <ul style="list-style-type: none">• EC in the context of greenhouse gas reporting ◆◆◆◆• Trends in corporate policy & procurement practices ◆◆◆• Trends in public sector policy & procurement practices ◆◆◆

Summary of suggested additions:

- Introduction to related emission policies, accounting rules and disclosures, including proposed SEC climate disclosure rule and Task Force on Climate-related Financial Disclosures (TCFD)

Related resources to get started:

- [Embodied Carbon 101](#), Carbon Leadership Forum
- [What is a Buy Clean Policy](#), Carbon Leadership Forum
- [Part I: Introduction to Embodied Carbon](#), AIA-CLF Embodied Carbon Toolkit, Carbon Leadership Forum
- [Why the Building Sector](#), Architecture 2030



Module 2 | Building the business case



#1 | WHAT



#2 | WHY



#3 | HOW



#4 | WHO



#5 | ACTION

Discussion | What are the main business arguments?

Proposed topics:

- Environmental sustainability ♦♦
- Policy & investor trends ♦♦
- Finance & risk management ♦♦♦
- Marketing & reputation ♦♦

Discussion | What is the scope of your argument?

Proposed topics:

- Targeting project-level or corporate policy-level ♦♦♦
- Magnitude of EC from buildings in your company's Scope 3 and related accounting ♦

Workshop | Create your own internal roadmap

Proposed topics:

- Set your scope ♦♦♦
- Identify key internal stakeholders & decision makers ♦♦♦
- Identify process & execution opportunities (or needs) to affect change ♦♦♦

Summary of suggested additions:

- General bar to entry and costs for considering embodied carbon at your company, as well as the costs and impacts from inaction
- Relationship to existing recognition systems like LEED in addition to alignment with your organization's GHG and climate commitments
- Approaches to leased spaces, split incentives, and sharing benefits with tenants
- Ways to create and maintain alignment with internal stakeholders

Related resources to get started:

- [Bringing Embodied Carbon Upfront](#), World Green Building Council
- [Part III: Strategies for Reducing Embodied Carbon](#), AIA-CLF Embodied Carbon Toolkit, Carbon Leadership Forum
- [Steps to Develop a Buy Clean Policy](#), Carbon Leadership Forum
- [Embodied Carbon in Building Materials for Real Estate](#), Urban Land Institute
- *Building Knowledge, Building Buy-in for Low-Carbon Building Materials*, Clean Energy Buyers Institute (forthcoming)



Module 3 | Accounting for embodied carbon



#1 | WHAT



#2 | WHY



#3 | HOW



#4 | WHO



#5 | ACTION

Discussion | What are the foundational concepts?

Proposed topics:

- Intro to Life Cycle Analysis (LCA), Product Category Rules, and Environmental Product Declarations (EPD) ◆◆◆
- Materials with greater carbon impact to prioritize ◆◆◆◆

Discussion | What approaches (and tools) are available for EC accounting?

Proposed topics:

- Spend-based: EIO-LCA ◆
- EPD-based for materials (of concern): EC3 tool ◆◆
- Whole-building LCA ◆◆
- “Hybrid” approach ◆
- Relation to Scope 3 accounting ◆◆

Select tools demonstration

Summary of suggested additions:

- How the GHG Protocol Scope 3 accounting guidance fits (and does not fit) with embodied carbon accounting
- Embodied carbon baselines for “standard” materials
- Treatment of mechanical, engineering, and plumbing (MEP) and leased spaces
- Process behind sourcing emission values from raw materials
- Concrete examples of using tools and accounting for embodied carbon

Related resources to get started:

- [Guide to Scope 3 Reporting in Commercial Real Estate](#), UK Green Building Council
- [Part II: Measuring Embodied Carbon](#), AIA-CLF Embodied Carbon Toolkit, Carbon Leadership Forum
- [Guidance on Embodied Carbon Disclosure](#), Carbon Leadership Forum
- [Targeting Net-Zero Embodied Carbon](#), Carbon Leadership Forum
- [Carbon Smart Materials Palette](#), Architecture 2030
- [2017 Embodied Carbon Benchmark Study](#), Carbon Leadership Forum
- [2021 Material Baseline Report](#), Carbon Leadership Forum



Module 4 | Aligning processes and stakeholders



#1 | WHAT



#2 | WHY



#3 | HOW



#4 | WHO



#5 | ACTION

Discussion | What does a procurement strategy look like?

Proposed topics:

- Setting goals/targets vs requirements ♦♦
- Aligning with corporate goals and practices ♦♦
- Aligning with building codes and local policy/climate action plans ♦♦♦♦
- Role of design, construction, and other stakeholders in procurement decisions ♦♦♦♦

Discussion | How do I get the message out?

Proposed topics:

- Communicating targets/goals/priorities down the supply chain ♦♦
- Executing policies along the supply chain ♦♦
- Monitoring and evaluation of implementation ♦♦

Workshop | Adding to your internal roadmap

Proposed topics:

- Identify key external stakeholders & decision makers ♦
- Identify additional process & execution opportunities (or needs) to affect change

Summary of suggested additions:

- Aligning buyers and service providers in your supply chain on your approach to embodied carbon accounting
- How to best address upstream impacts beyond Tier 1 suppliers
- Resources for identifying public policies related to your company or project

Related resources to get started:

- [Principles for Low-Carbon Building Materials Procurement](#), Clean Energy Buyers Institute
- [Embodied Carbon Procurement Policies](#), Carbon Leadership Forum
- [Part III: Strategies for Reducing Embodied Carbon](#), AIA-CLF Embodied Carbon Toolkit, Carbon Leadership Forum
- [Reducing Embodied Carbon in Construction](#), Microsoft
- [Net-Zero Challenge: The Supply Chain Opportunity](#), World Economic Forum



Module 5 | Moving to execution



#1 | WHAT



#2 | WHY



#3 | HOW



#4 | WHO



#5 | ACTION

Discussion | How do I translate this to action?

Proposed topics:

- Review of key decision points
- Review of (maybe new) known unknowns that need to be addressed
- Review of available resources ♦♦
- Introduction to Embodied Carbon Action Plan ♦♦♦
- Lessons learned from peer faculty ♦

Workshop | Peer feedback on your roadmap

Discussion | Why can't we be friends?

Proposed topics:

- Value of peer community
- Importance of shared lessons to accelerate markets ♦♦
- Close-out

Summary of suggested additions:

- How to handle information and guidance that does not yet exist related to this space and push to create it
- Guides to pricing, sourcing, and seeking alternative options for low embodied carbon materials
- Ongoing opportunities to engage with peer participants from the training to reinforce learning and related efforts over the long-term
- Additional modules or tailored trainings for specific audiences or topics (ex. retrofits, leases spaces, tenant build outs)

Related resources to get started:

- [Embodied Carbon Action Plan](#), OwnersCAN (Carbon Action Network)
- [Guidance on Implementing Buy Clean](#), Carbon Leadership Forum
- [EPD Requirements in Procurement Policies](#), Carbon Leadership Forum
- [Reducing Embodied Carbon in Buildings](#), RMI
- [The ULI Blueprint for Green Real Estate](#), Urban Land Institute
- [LCA Practice Guide](#), Carbon Leadership Forum