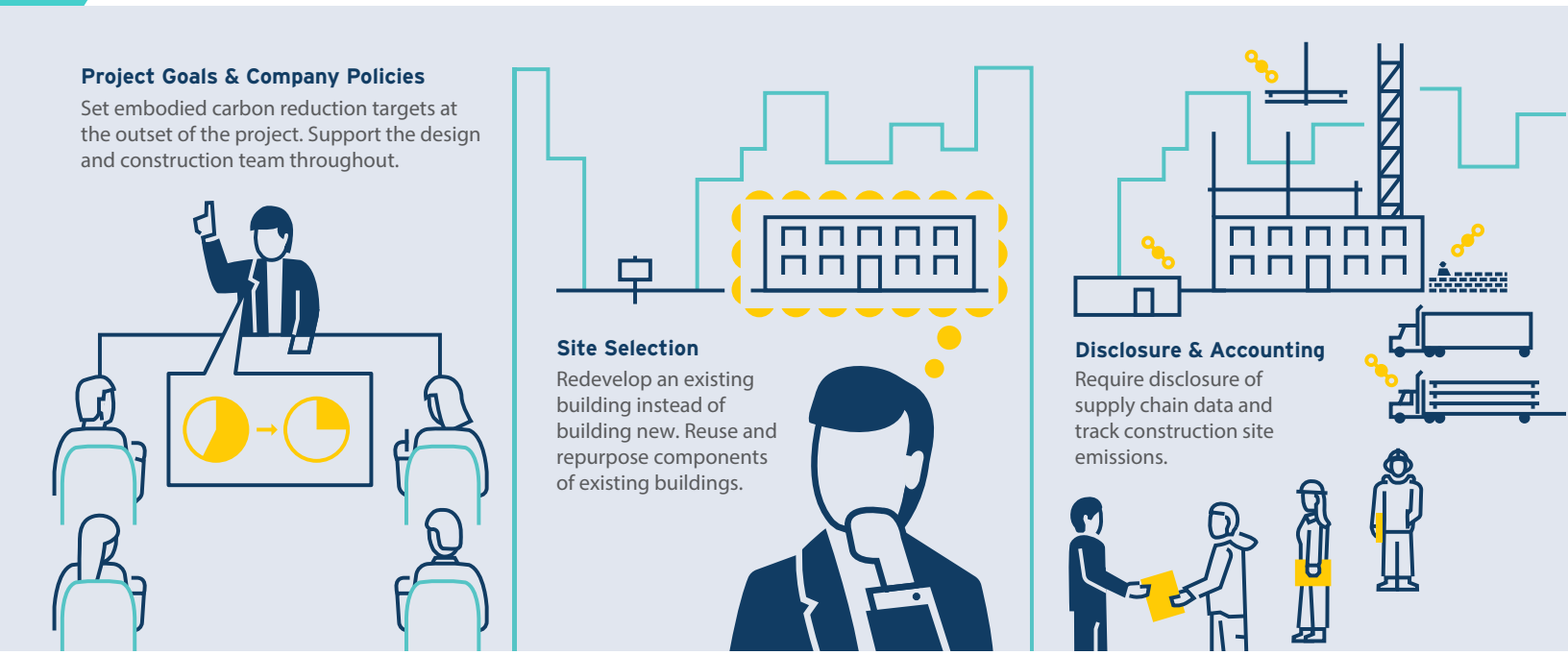
Reducing Embodied Carbon in the Built Environment

For real estate developers



Understanding Embodied Carbon

Buildings account for at least 39% of energy-related global carbon emissions on an annual basis. At least one-quarter of these emissions result from embodied carbon, or the carbon emissions associated with building materials and construction.

Real Estate Developers' Role

A developer can set the tone for a low-embodied-carbon project by establishing clear environmental goals and encouraging the project team designers to find more opportunities to reduce embodied carbon. They can also set cost thresholds, if necessary. Because the developer is often responsible for site selection, they can choose to reuse an existing building rather than build new, which can result in significant embodied carbon savings.

Why the Economics of Embodied Carbon Matter to Developers

The economics of low-embodied-carbon solutions involve two key incentives for real estate developers. First, developers are directly incentivized to reduce project costs and maximize financial returns. Second, they often aim to satisfy leading-edge environmental certification programs, which are increasingly focused on low-embodied-carbon design. Finding low- or no-cost approaches to reducing embodied carbon thereby enables developers to pursue both goals at once.

6 Key Strategies for Reducing Embodied Carbon in Real Estate Portfolios

1 Build Less

- Set criteria for low-embodied-carbon site selection and development
- Reuse or redevelop an existing building before committing to a new building
- Support efficient design and use of materials, such as flexible, efficient spaces and lightweight structures that minimize material requirements

2 Build Collaboratively

- Work with the project team to set overall reduction targets
- Require regular progress checks through LCAs and embodied carbon inventories

3 Build for Longevity

- Build for adaptability of the space over the building's lifetime
- Build for future deconstruction and reuse
- Plan for the building to last as long as possible

4 Follow the Data

- Request EPDs and select products with the lowest embodied carbon

5 Reduce Waste

- Minimize waste by purchasing the right amount of material
- Establish clear guidelines and targets to reduce construction waste

6 Consider Carbon Offsetting

- Document the as-built embodied carbon of the building and purchase carbon offsets

Additional Tools and Resources

1. *Embodied Carbon in Building Materials for Real Estate*, Urban Land Institute, 2019, **https://americas.uli.org/research/centers-initiatives/greenprint-center/greenprint-resources-2/best-practices-in-sustainable-real-estate/embodied-carbon-in-building-materials-for-real-estate/**.

2. *Embodied Carbon Quick Guide: A Quick Reference Guide for Teams to Reduce their Project's Embodied Carbon*, International Living Future Institute, 2020. **living-future.org/zero-carbon-certification**.