
The below answer sheet is for your own self-assessment.
Please keep your completed questionnaires and answers on file for your record.
These do not need to be sent to CPD Live. CPD-Live will send you certificate.

BUILDING A LOW CARBON FUTURE - TACKLING EMBODIED CARBON IN THE SELECTION OF BUILDING MATERIALS



1) What percentage of global energy-related emissions is the built environment responsible for?

Buildings generate nearly 40% of global energy-related emissions, with 10% of these emissions coming from building materials and construction.

2) Over a building's life cycle, what is currently more important and why: operational or embodied carbon?

The relative contribution of embodied carbon to a building's emissions is going to increase in future. This is for two key reasons:

- The energy efficiency of buildings will continue to improve
- And supply of clean, renewable energy is likely to increase over time

Between now and 2050, the expected contribution of embodied carbon to a typical build will increase by nearly 20%, making up half of overall emissions.

3) What are the major sources of embodied carbon?

In terms of materials - Concrete, steel, and aluminium make up a large majority. Glass, plasterboard and paint also provide substantial contributions. In terms of a building's structural elements, foundations and frames often represent the biggest contribution.

4) Could you outline World Green Building Council's plan to reduce embodied carbon?

By 2030, all new buildings, infrastructure and renovations will have at least 40% less embodied carbon compared to business as usual; and by 2050 - new buildings, infrastructure and renovations will have net-zero embodied carbon.

5) After considering the embodied carbon of materials, what is the next biggest challenge facing the construction sector when selecting a building material?

Waste – the sector needs to shift from a linear model of disposal to a circular model to reuse and recycling. Choosing materials that support a circular model is key.

6) What are Environmental Product Declarations?

A robust, science-based communication method for demonstrating the environmental impacts of products and services, including embodied carbon.

Competency Codes: PC 35 - Project Initiation And Conceptual Design

PC 39, PC 45 Detailed Design And Construction Documentation