

ENVIRONMENTAL PRODUCT DECLARATIONS (EPD) - HOW TO USE

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This paper is the second in a series of ASBP industry briefing papers focussing on Environmental Product Declarations (EPD). The aim is to generate a greater understanding of sustainable construction products and the methods of assessing sustainability. In doing this, we hope to enable industry to deliver better buildings that utilise information provided by Environmental Product Declarations.

Introduction

What are Environmental Product Declarations (EPD)?

EPD provide a standard way of declaring the impacts of manufacturing and using products through Life Cycle Assessment (LCA). Construction products are assessed using a single set of Product Category Rules (PCR) ensuring consistent reporting for similar products. EPD should be independently verified by an expert familiar with the product category.

How can you use EPD?

Building Assessment

EPD indicators for products are critical in conducting whole building assessments.

Carbon Footprinting

Both PAS 2050:2011 and ISO 14067:2018 provide rules for assessing the carbon footprint of products. BSI have confirmed that the GWP Indicator provided in “Cradle to Gate” and “Cradle to Grave” BS EN 15804:2012 EPD can be considered to be the same as the GHG emissions provided by PAS 2050:2011.

Embodied Carbon and Whole Life Carbon assessment

Embodied Carbon is the greenhouse gas (GHG) emissions associated with making, moving, installing and disposing of construction products in buildings and infrastructure and is same as the GWP indicator in construction product EPD.

Marketing

EPD enable companies to make credible and verifiable environmental claims about their products. This enhances credibility and allows comparisons against similar products.

Procurement

EPD can be used as source information in the procurement and purchase of products. They provide buyers with the confidence of knowing that the environmental performance of a specific product has been reviewed and validated by an independent expert with expertise in LCA.

Product Comparison

Where the same Product Category Rules have been used, and all the relevant life cycle stages have been included, EPD can be readily compared providing their functionality and use is considered. It is also important to take into account additional materials or work required to make the same products achieve a similar level of performance, e.g. fire retardants or foundation supports and to take account of any differences in service life, maintenance and disposal.

Specification

Specifiers can include information provided in EPD in their performance specifications, to ensure that products used in the building meeting their requirements for environmental performance.

Supply chain

EPD verification will cover the specific information provided by the supply chain as well as the product manufacturer to ensure the robustness of data and identify opportunities for improvement throughout the supply chain.

Who can use EPD?

Client groups

Many client bodies now calculate the embodied carbon of their developments as part of their “Scope 3” greenhouse gas reporting and EPD provide a verified carbon footprint for the products that have been used. See below for an example:

British Land - Embodied Carbon Brief [extract]

“The Main Contractor shall revise the embodied carbon account for the development based on the ‘as built’ materials procured, using where available, manufacturers product datasheets or Environmental Products Declarations (EPDs) (where EPDs are not available use the averages from the datasheets).”

End users

EPD enables consistent and robust comparisons to be made between products at the building level, allowing them to make informed choices using a standardised, comprehensive and verified set of information.

Government and regulators

Both France and Belgium require any construction product manufacturer making an environmental claim covered by the information given in EPD, to register an EPD within their national databases.

The Buy Green California Act means EPD can be used to demonstrate that key building products (steel, glass and insulation) purchased by public bodies meet maximum greenhouse gas emissions intensity limits.

Green Public Procurement criteria for buildings in Italy mean, for example, buildings must have 15% recycled content by mass or 5% in the case of concrete. EN 15804 EPD are used to demonstrate this.

Local authorities

Brighton & Hove City Council was the first UK council to require an embodied carbon assessment of developments as part of their planning permission process. An EPD provides credible embodied carbon data to meet this need.

Product designers

The process of developing an EPD highlights the environmental strengths and weaknesses of a product that provides a focus for eco-design to improve the product design and manufacture and optimise its environmental performance in the building.

EPD and building certification

Many sustainable building certification schemes have been developed around the world, and they all consider the environmental impact of construction materials, but in widely different ways. There are two main mechanisms to consider EPD within these schemes.

Building Life Cycle Assessment (LCA)

Many of the schemes now include credits for undertaking an LCA of the building. DGNB in Germany was the first to include Building LCA as a mandatory part of the assessment but for most other schemes the credit is optional.

In addition to optimising the overall design and focussing on using materials efficiently, selecting products with EPD that show lower environmental impact helps reduce the overall building impact.

EPD credits

Some schemes give credits for using products which have EPD. Often more credit will be given if the EPD are product or manufacturer specific, rather than generic (average data for several products or manufacturers). Some schemes also require the product manufacturer to be listed as having provided data for generic EPD to obtain credits.

Conclusion

The UK Government has committed to reducing UK Carbon emissions to net zero by 2050 through a legally binding amendment to the Climate Change Act.

Meeting this goal requires us to rapidly address the embodied carbon which accounted for 33.6 million tonnes of CO₂ in 2010, emphasising the need for credible and verifiable EPD for all products.

The Green Construction Board’s 2013 Low Carbon Routemap for the Built Environment proposed that EPD would be mandatory by 2022.

Aside from embodied carbon, EPD have the ability to inform many aspects of sustainability at a product and building level as well as influencing many aspects of the entire supply and value chain. The need for credible and verified EPD has never been greater.

Find out more about *The Alliance for Sustainable Building Products* and the *ASBP Natural Fibre Insulation Group* at www.asbp.org.uk.