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What is an EPD?

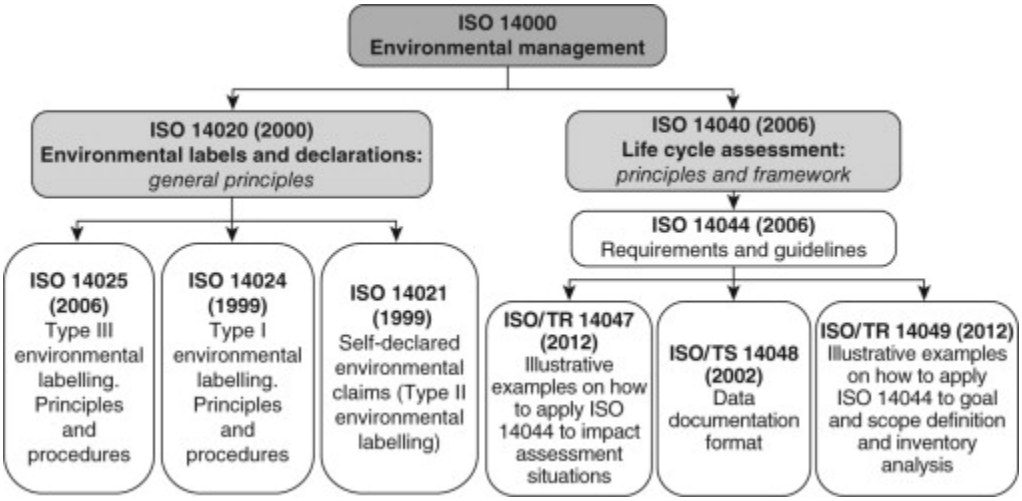
Environmental Product Declarations (EPDs) are **independently-verified documents** based on **international standards** that **report the environmental impacts** of a product. These declarations can be used to track supply chain-specific product data and compare products if the products are functionally equivalent and have aligned scopes (CLF: WEBSITE LINK).

Website Resource: Carbon Leadership Forum (CLF) Guidance on Embodied Carbon Disclosure

EPDs are classified officially as a ***"Type III Environmental Statement,"*** as defined by ISO14020 (updated in 2022). The below graphic summarizes Environmental Statements and the Life Cycle Assessment framework.

Types of Environmental Statements

ISO Framework



Source: Bovea, M.D. et. Al (2014) "Environmental product declaration (EPD) labeling of construction and building materials." Eco-efficient Construction and Building Materials. *Pg 125-150*

ISO 14020 (2022) establishes a framework for creating different types of "environmental statements." Of the three types, only one of them (Type III) is an EPD. The three types of "environmental statements" summarized in ISO 14020 (2022) are:

Type I (ISO 14024):

- "Environmental statement which indicates a product fulfills the criteria of an eco labeling program"
- In the future will be referred to as an **"ecolabel"**
- **NOT AN OFFICIAL EPD**

Type II (ISO 14021)

- "Environmental statement which is self-declared by a responsible party"
- In the future will be referred to as a **"self-declared environmental claim"**
- **NOT AN OFFICIAL EPD**

Type III (ISO 14025)

- "Environmental statement providing environmental data of a product using predetermined parameters resulting from…
    - a life cycle assessment (LCA), and
    - additional environmental information"
- Notes:

    - The predetermined parameters address relevant environmental impacts and the results of the predetermined parameters are derived from LCA using product category rules (PCR), the requirements of which are specified in ISO/TS 14027.
    - Requirements for life cycle assessment are given in ISO 14040 and ISO 14044. **FOR MORE INFORMATION SEE THE LCA PAGE**
    - EPD can include quantitative and qualitative data.
    - Must be third-party verified
- **THIS IS THE ONLY OFFICIAL EPD**
- The scope **(see LCA page)** of most EPDs used for building materials is primarily focused on Life Cycle Stages A1: Raw material supply, A2: Transport, and A3: Manufacturing.

Industry vs. Product EPDs

Different embodied carbon policies require different types of EPDs.
The following information is from the Carbon Leadership Forum's website:

- **Industry-wide EPDs** represent typical manufacturing impacts for a range of products for a group of manufacturers. Industry-wide EPDs provide the least specific data on a product's embodied carbon footprint and cannot be used to compare products, but they are helpful in understanding the typical impact of a product.
- **Product-specific EPDs** represent the impacts for a specific product and manufacturer across multiple facilities.
- **Supply chain–specific EPDs** are defined in HB 1103 (Buy Clean Buy Fair Washington) in January 2021.
    - A supply chain–specific EPD is a product-specific EPD that uses supply chain–specific data in the LCA to model the impacts of key processes upstream in a product's supply chain.
    - Supply chain–specific data refers to the use of primary, rather than secondary, data for upstream manufacturing or production processes.
    - An example of using supply chain–specific data is the use of a cement EPD from the cement plant sourced by a ready mix supplier rather than the use of generic data that represents industry average cement manufacturing in the United States.
- **Facility-specific EPDs** were introduced by the Buy Clean California Act in 2017. The California Department of General Services (DGS) defines a facility-specific EPD as a product-specific EPD in which the environmental impacts can be attributed to a single manufacturer and manufacturing facility.

Note that Material Benchmarks are not official EPDs, though they may be based on information from EPDs. Examples of benchmarks are:

- The CLF Benchmarking Study
- The NRMCA Regional Benchmark Report (note this is different from NRMCA National Industry EPD program, which is an Industry EPD)
- Targets set in Policies like the Marin Low Carbon Concrete Code

Another way of distinguishing EPDs and the source of information used in EPDs is primary data vs. secondary data.

Primary LCA data

- "quantified value of a unit process or an activity obtained from a direct measurement or a calculation based on direct measurements at its original source" (ISO / TS 14067).
- An example of primary LCA data is energy use and fuel source data collected for a manufacturing facility.

Secondary (generic) LCA data

- "data obtained from sources other than a direct measurement or a calculation based on direct measurements at the original source. Such sources can include databases and published literature validated by competent authorities." (ISO/ TS 14067)
- The use of LCA databases and other verified sources of industry-average LCA data is a typical and necessary component of LCA, particularly for representing processes that comprise only a small portion of a product's impacts.

See the Carbon Leadership Forum's website for additional information comparing different types of EPDs

Working with Contractors to Obtain EPDs

The earlier you can coordinate with the contractor on what EPDs are required for the project, the better. EPDs are typically required by the SEOR in either the project specifications or the project general notes, so ensuring the contractor has read and fully understood these documents is a good start.

Currently, the most common EPDs required are related to structural steel, concrete mix designs, and reinforcing steel; suppliers in these industries often have product-specific or facility-specific EPDs already so sourcing them should be fairly straightforward. However, it would be beneficial to have conversations with the contractor on what they think is attainable in terms of any performance-based EPD requirements to ensure you are not specifying a carbon limit that is infeasible or overly costly to the project.

How Suppliers Can Obtain EPDs

Product-specific EPDs are beneficial for a manufacturer because they provide very specific data for that singular product's environmental impact rather than taking an industry-wide averaging approach. EC3 maintains a list of qualified service providers who can help manufacturers through the process of creating and certifying a product-specific EPD. More information on the EPD process, including third party LCA verification and digital publishing can be found here.

Add Topics:

I. How to work with contractors (coordinating in the pre-design phase)
II. How to works with suppliers (how they can get EPDs)