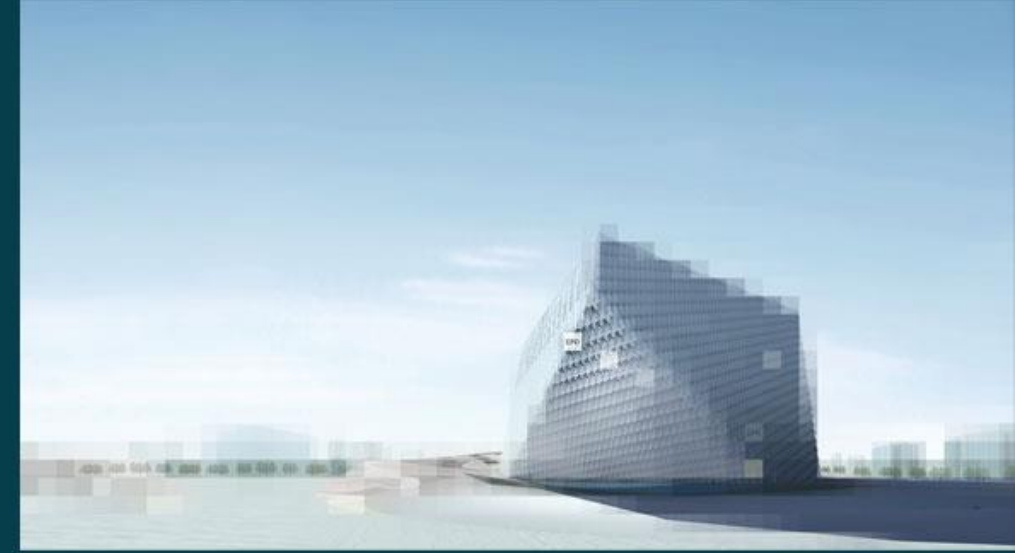




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Environmental Product Declarations (EPD) for BIPV: actual and upcoming requirements and frameworks

Content

- Introduction speaker
- Introduction IBU
- EPDs and Digitalisation
- Environmental Product Declarations (EPD) for BIPV



Introduction speaker

Stefan Zwerenz

Function	Head of verification body IBU Member of the Borad of directors ECO-Platform
Education	Master of Engineering - Sustainable Structures
Qualifications	LCA acc. to ISO 14040, 14044ff, Corporate Social Responsibility (CSR)
Experience	Many years of experience in the fields of sustainable construction, energy efficiency, EPDs, greenhouse gas calculations, funding decisions



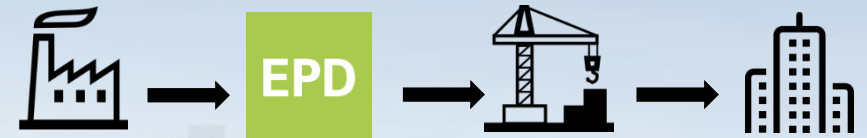


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Introduction Institut Bauen und Umwelt e.V. (IBU)

Who is IBU?



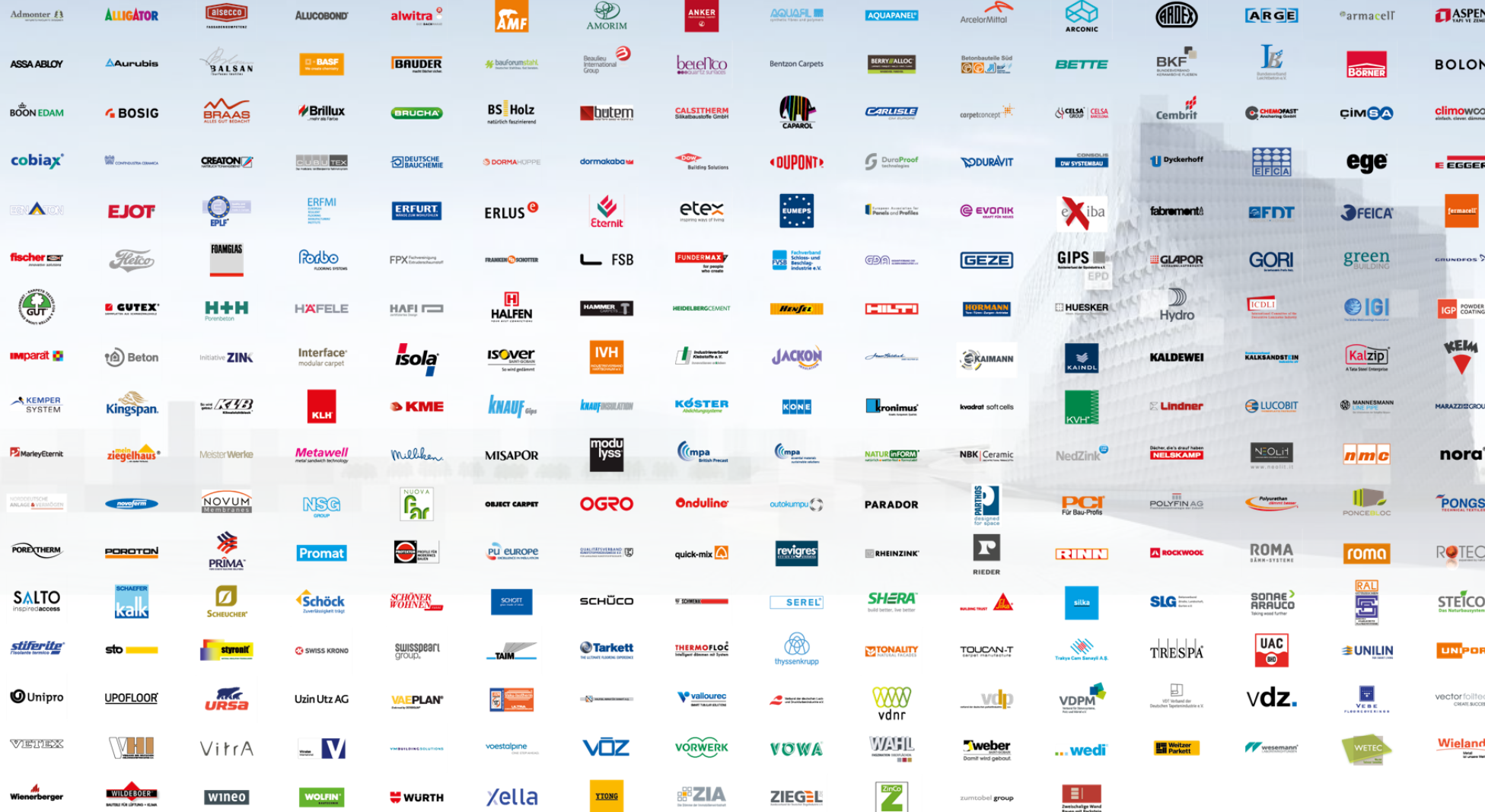
- IBU is an association of manufacturers of construction products (voluntary)
- IBU-members cover all kinds of materials and products of construction industry
- About 320 members incl. 42 associations, 30 % international (22 nations)

IBU`s mission?

- Promoting sustainable construction by developing and providing information on sustainability of construction products
- Providing credible and consistent information on the environmental performance of construction products

Introduction Institut Bauen und Umwelt e.V.

Excerpt Members



What does IBU do?

- IBU operates an Environmental Product Declarations (EPDs) program (in accordance with ISO 14025, EN 15804 & ISO 21930)
 - Information about the life-cycle environmental impact of construction products (environmental data)
 - IBU-EPDs are independently verified by a 3rd party
 - EPD-program is supervised by an independent advisory board

What does IBU do?

- IBU more than just an PO
 - Internationality
 - Innovative
 - Customized solutions for your company / association
 - Digitalization, all EPDs are digitalized acc. to ILCD+EPD format (digital standard acc. To EN15804)
 - Offers for members (visibility, communication manual, workshops, lectures, etc.)
 - Circularity (e.g. IBU published LCA rules for Re-Use products as first PO)
 - Support in the provision of information for certification systems (e.g. SuPIM)
 - Representation of members' interests
 - Member of committees and expert groups
 - Drafting of standards and laws

Internationality

■ IBU is an international operation system

- EPDs from IBU are accepted worldwide
- Funding Member of ECO-Platform
 - Goal is the harmonization of EPD calculation and ensuring a high quality
- Additionally IBU has a various of Mutual Recognition with different Pos
 - AENOR (Spain)
 - Danish Technological Institute (Denmark)
 - EPD Norge (Norway)
 - EPD Italy (Italy)
 - EPD International (Sweden, global)
 - BRE (UK)
 - UL Environment (USA)
 - SmartEPD (USA, tba)
 - INIES and PEP (France, work in progress)
 - DAP Habitat (Portugal, coming soon)
 - EPD China (China, work in progress)



Digitalization

- IBU offers the verification of Softwaretool
 - Type I: LCA Tool
 - Type II: EPD Tool (Zumtobel Group)
 - Type III (in development): Agnostic Tool

- Member of InData Network

- Development of ILCD+EPD Format
 - Digital Twin of EN15804 EPD
 - Compatible with ISO 22057

Data templates for the use of environmental product declarations (EPDs) for construction products in building information modelling (BIM)

- Widely used internationally

- Digitalization of all EPDs

- Automatic creation of an Digital Twin of EPDs
- Transfer to ÖKOBAUDAT
- Additional publication in IBU.data and ECO-Portal (more and more request for APIs)
- Future Base for Digital Product Passport

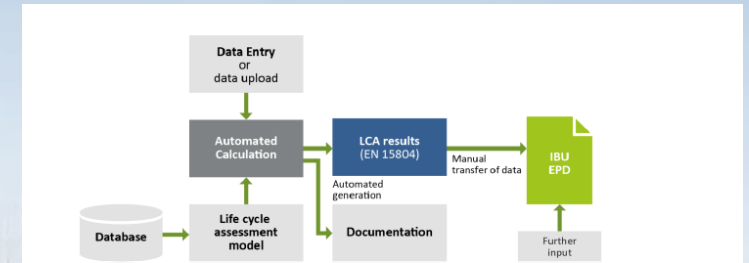


Fig. 3: Elements of an LCA tool (EPD verification type B)

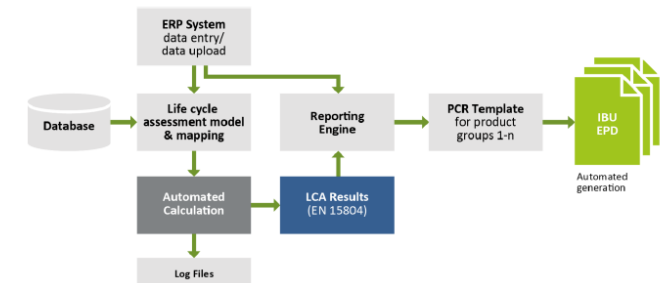


Fig. 4: Elements of an EPD tool (EPD verification type C)

Where do you find our EPDs?

Publication of EPDs:

IBU: <https://epd-online.com/>

PDF Documents

<https://ibu-epd.com/ibu-data-start/>

Digital twins as XML-File



Europa: <https://www.eco-platform.org/>

Digital Database of the european umbrella organization



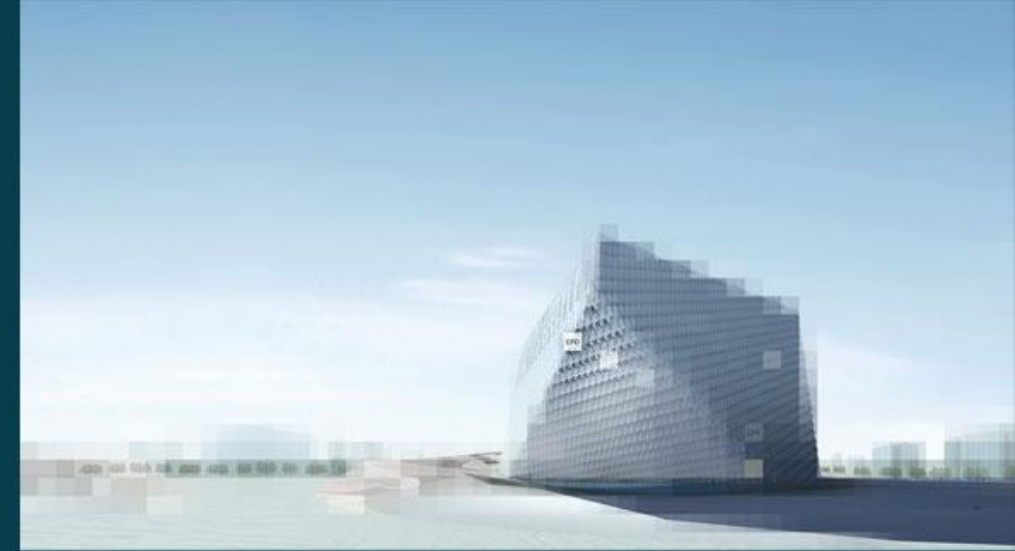
D: <https://www.oekobaudat.de/>

Database of the german government





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EPDs and Digitalization

EPDs and Digitalization

Data Format and use

Sustainability considerations (in the construction sector) are of growing interest and even recommended by the European construction product regulation (CPR). LCA at building level is a central instrument for the evaluation of environmentally relevant sustainability aspects. The required material data is given in environmental product declarations (EPD) based on calculation methods according to European or International Standards (e.g. EN 15804).

InData Network:

The InData initiative is based on already existing instruments, and standards. It thus uses the so called ILCD+EPD data format.



International Open Data Network for Sustainable Construction



The format ensures:

- Conformity with EN 15804, including independent 3rd party verification
- Core information in English language (additional languages are possible)
- Declaration of used background database (e. g. GaBi, ecoinvent)
- Information about data subtype (e.g. specific, average, representative, template, generic dataset)
- Using ILCD+EPD data format
- Conformity with InData definitions and requirements
- Usability in downstream Software and BIM

Current Update:

- **Alignment and Matching with ISO 22057** (Sustainability in buildings and civil engineering works — Data templates for the use of environmental product declarations (EPDs) for construction products in building information modelling (BIM))
- **Include EN15804+A2**
- **Enable digital EPD development**



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Environmental Product Declarations (EPD) for BIPV: actual and upcoming requirements and frameworks

Environmental Product Declarations (EPD) for BIPV

IBU and Fraunhofer ISE cooperate in research project on Product Category Rules (PCR) for the creation of EPDs for photovoltaics

„Weiterentwicklung von Produktkategorie-Regeln für Umweltproduktdeklarationen von PV-Anwendungen“

Facts about the project:

Scope: The overarching objective of the research project is the harmonization of PCRs for EPDs and the development of methodological approaches for the complete ecological assessment of PV modules, PV rooftop systems and BIPV over their lifetime.

Goal: The specific aim of the project is to develop extended product category rules for environmental product declarations for EPDs of PV modules and their applications in rooftop PV systems and building-integrated PV systems.

Timeline: Planned project start: 01.06.24; project end: 31.05.2026 (24 month)



Environmental Product Declarations (EPD) for BIPV

IBU and Fraunhofer ISE cooperate in research project on PCR for the creation of EPDs for photovoltaics

Specific Aspects for BIPV:

Scope of the EPD/PCR: What aspects to cover? (complete Facade, just PV)

Use Phase: The main objective is the production of electricity.
The quantity to be produced depends on many factors.
generalist neutral presentation or definition of these variables to avoid "nice math"

Building product

acc. to CPR or not: That decision is important for future regulations and legal requirements.



Environmental Product Declarations (EPD) for BIPV

IBU and Fraunhofer ISE cooperate in research project on PCR for the creation of EPDs for photovoltaics

Workpackages:

- **WP 1** Project coordination
- **WP 2** PCR development - PV module
- **WP 3** PCR development - PV rooftop & BIPV systems
- **WP 4** Consultations / approvals PCR
- **WP 5** Preparation and verification of EPDs
- **WP 6** Publication of EPDs
- **WP 7** Model development and transfer to GaBi



Outlook

What is coming?

New area of application: Digitally prepared product information over the life cycle

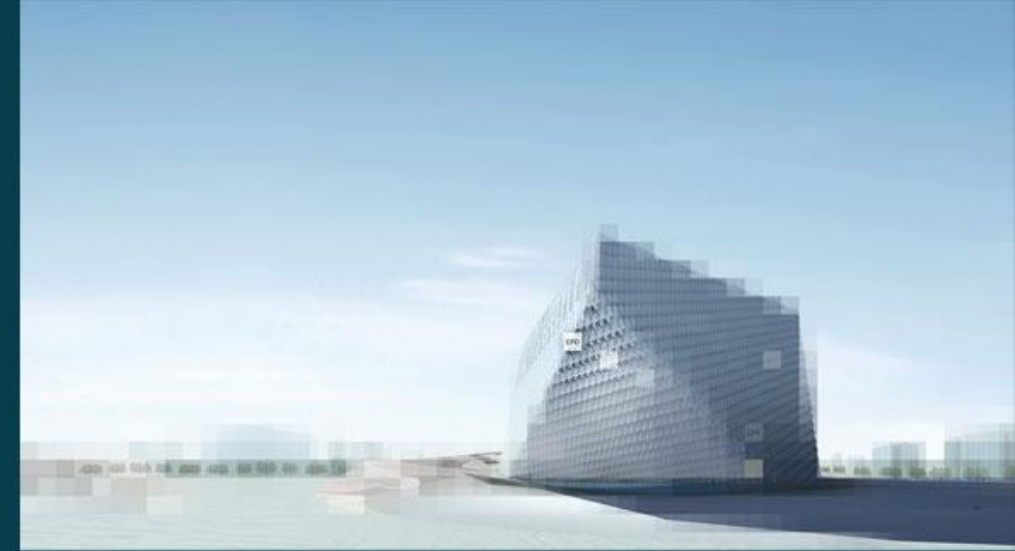


New area of application: Legal requirements for product information over the life cycle





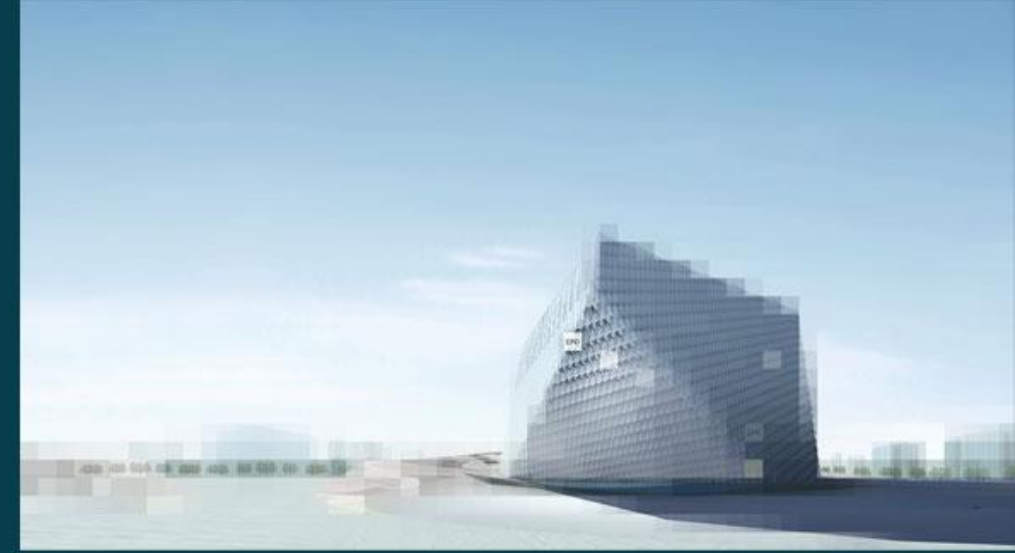
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Questions?



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Thank you for your attention