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sustainability consultants



The Alliance
for Sustainable
Building Products



ASBP Webinar: EPD for Manufacturers and Suppliers

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brands & values GmbH

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Agenda

- Our study: “EPD: Benefits, Expectations and Fulfilments – a Stakeholder View”
- Findings of our study
- EPD Analyzer Tool: Learn, understand, compare and manage your EPD

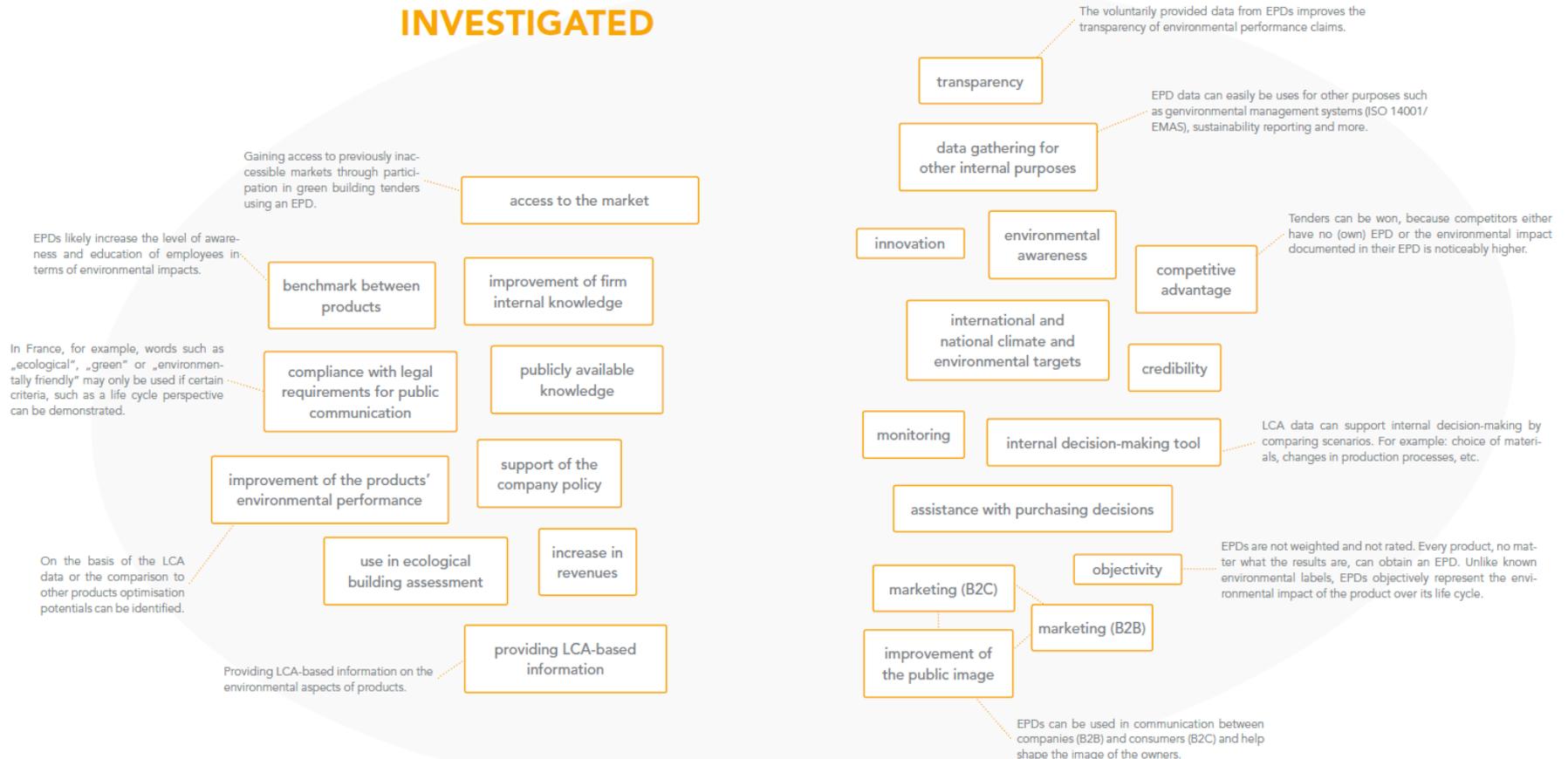
Our Study: EPDs: Benefits, Expectations and Fulfilments – A Stakeholder View

Part 1



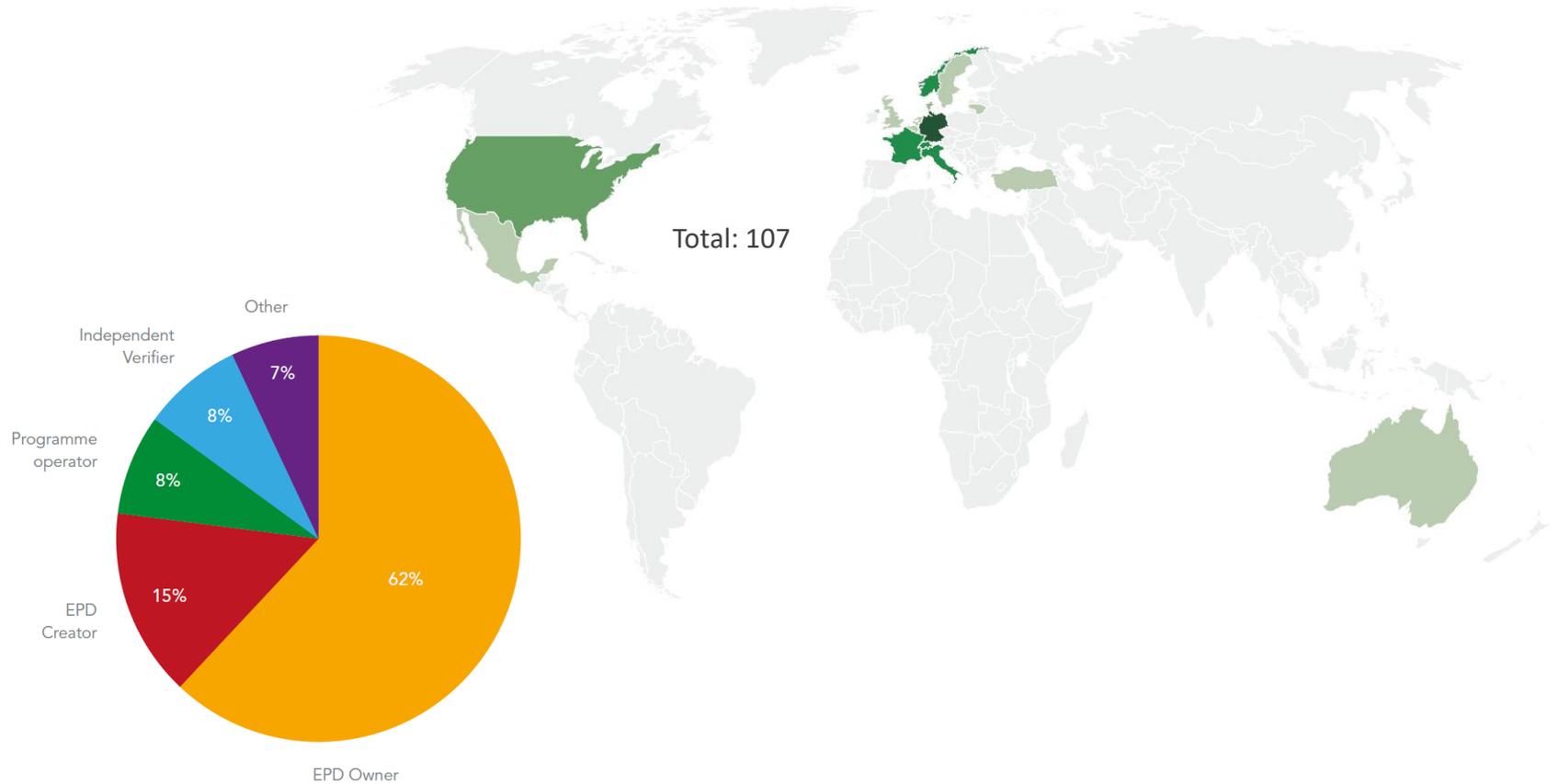
Our Study “EPDs: Benefits, Expectations and Fulfilments – A Stakeholder View”

POSSIBLE BENEFITS INVESTIGATED



Our Study “EPDs: Benefits, Expectations and Fulfilments – A Stakeholder View”

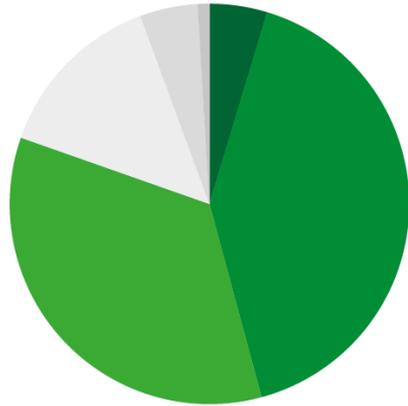
Stakeholder / Participants



Our Study “EPDs: Benefits, Expectations and Fulfilments – A Stakeholder View”

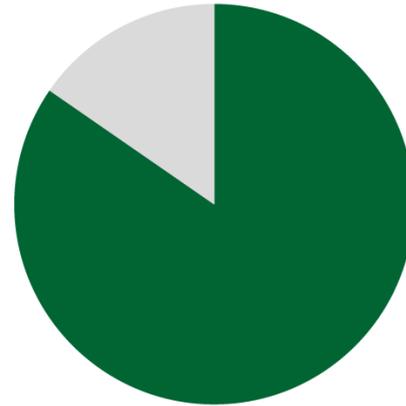
Results

STAKEHOLDER SATISFACTION



- very satisfied
- satisfied
- rather satisfied
- rather dissatisfied
- dissatisfied
- very dissatisfied

ARE YOU WILLING TO RENEW YOUR EPDS?



- yes
- no

Our Study “EPDs: Benefits, Expectations and Fulfilments – A Stakeholder View”

Results



The benefit categories are ordered clockwise according to the decreasing correspondence between expectation and fulfilment.

Expectations
Fulfilments

Our Study “EPDs: Benefits, Expectations and Fulfillments – A Stakeholder View”

Summary of the Results (in a nutshell)

Benefit dimensions with high expectations in particular:

- credibility
- objectivity
- transparency
- ecological building assessment
- providing LCA-based information
- improvement of public image



The benefit categories are ordered clockwise according to the decreasing correspondence between expectation and fulfillment.

Our Study “EPDs: Benefits, Expectations and Fulfilments – A Stakeholder View”

Summary of the Results (in a nutshell)

Benefit categories in which the stakeholders are quite satisfied with the degree of fulfilment:

- data gathering for internal purposes
- improvement of firm internal knowledge about environmental impacts of products
- compliance with legal requirements for public communication



The benefit categories are ordered clockwise according to the decreasing correspondence between expectation and fulfilment.

Our Study “EPDs: Benefits, Expectations and Fulfillments – A Stakeholder View”

Summary of the Results (in a nutshell)

Performance categories in which interest groups expected considerably more:

- benchmarking
- assistance with purchasing decisions
- increase in revenues
- b2c marketing
- competitive advantage



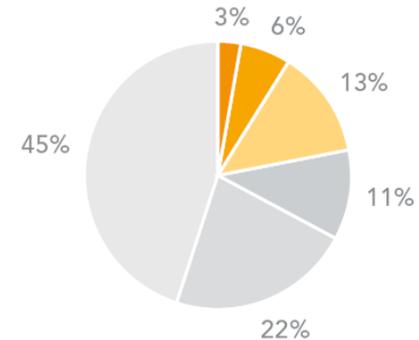
The benefit categories are ordered clockwise according to the decreasing correspondence between expectation and fulfillment.

Our Study “EPDs: Benefits, Expectations and Fulfilments – A Stakeholder View”

Comprehension Problems: What is an EPD?

- The survey was set out to test the **participants’ understanding of EPDs.**
- They were asked **to rate a false statement** regarding EPDs.

AN EPD IS A SEAL THAT PROVES THAT PRODUCTS ARE ENVIRONMENTALLY FRIENDLY.



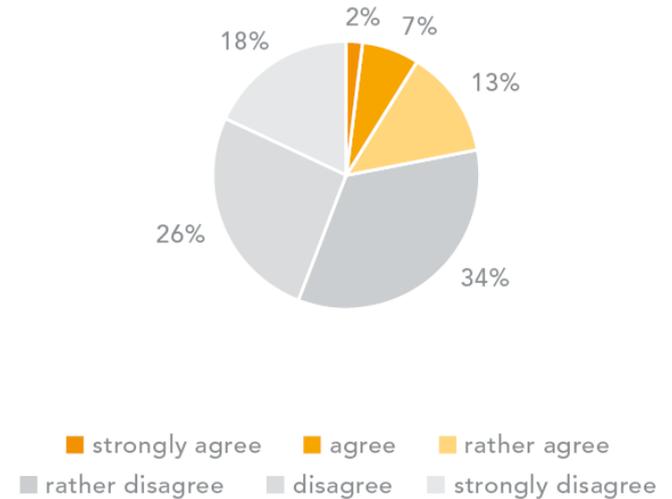
■ strongly agree ■ agree ■ rather agree
■ rather disagree ■ disagree ■ strongly disagree

Our Study “EPDs: Benefits, Expectations and Fulfilments – A Stakeholder View”

Comprehension Problems: What is an EPD?

- Participants were also asked to agree or disagree with the statement *„The results of EPDs are well understood.“*
- the majority disagrees with this statement.

THE RESULTS OF EPDS ARE WELL UNDERSTOOD.



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Findings of our study



Findings



Customers are generally satisfied with their EPDs



However, expectations are not fulfilled in any of the benefit categories



Especially benchmarking and marketing can be improved

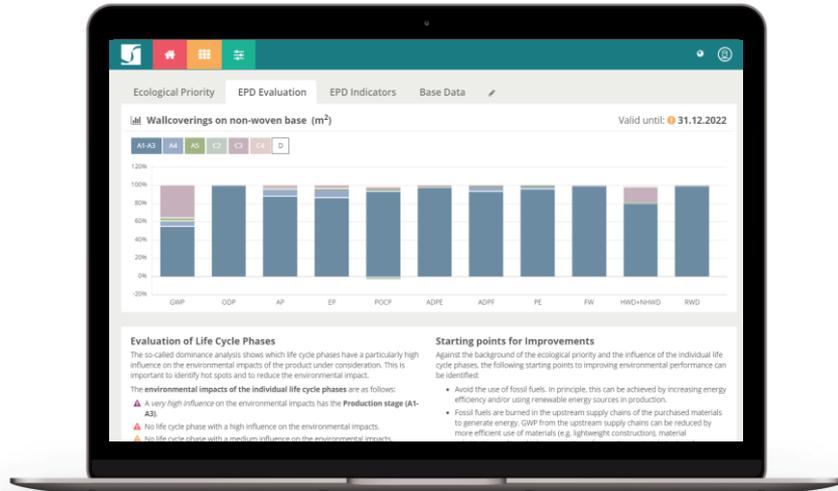


Cost/Benefit ratio could be better

“We believe, that if the EPD owner understands better EPDs and related topics, the degree of fulfillment for the analyzed benefit dimensions will increase significantly.”



Interactive EPD Tool epd-analyzer.com*



Therefore, we created a **digital and interactive EPD Tool**, which...



enables **EPD owners to better understand and learn about life cycle assessments**



helps to **optimize products ecologically.**

* a joint development with the Good Work GmbH (<https://www.goodwork-gmbh.de>)

5. LCA: Ergebnisse

In Tabelle 1 „Angabe der Systemgrenzen“ sind die deklarierten Module mit einem „X“ gekennzeichnet; alle Module, die nicht in der EPD deklariert werden, für die aber zusätzliche Daten verfügbar sind, wurden mit „MND“ gekennzeichnet. Diese Angaben können auch für Szenarien zur Gebäudewertung verwendet werden. Die Werte werden mit drei gültigen Ziffern in exponentieller Form deklariert.

ANGABE DER SYSTEMGRENZEN (X = IN ÖKOBLANZ ENTHALTEN; MND = MODUL NICHT DEKLARIERT)

Produktionsstadium	STADIUM DER ERRICHTUNG DES BAUWERKS					NUTZUNGSSTADIUM							ENTSORGUNGSTADIUM				GUTSCHRIFTEN UND LASTEN AUßERHALB DER SYSTEMGRENZE
	Transport	Herstellung	Transport vom Vorwerk zum Baustandort	Montage	Nutzung/Vermietung	Instandhaltung	Reparatur	Ersatz	Erneuerung	Erneuerungszf für die Beseitigung des Wasserschadls für die Gebäude	Beseitigungszf für die Gebäude	Rückbau / Abriss	Transport	Abfallbehandlung	Deponierung	Wiederverwendungs- /Recyclingpotenzial	
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
X	X	X	X	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	MND	

ERGEBNISSE DER ÖKOBLANZ – UMWELTAUSWIRKUNGEN/Schiebeschlüssig

Parameter	Einheit	A1-A3	A4	A5	C1	C2	C21	C22	C23	C3	C31	C32	C33	C4	C41	C42	C43	
GWP	[kg CO ₂ -Äq]	9,07E+0	5,99E+0	1,36E+0	0,00E+0	8,66E+0	1,27E+0	5,23E+0	4,97E+0	0,00E+0								
ODP	[kg CFC11-Äq]	7,27E-10	1,08E-10	3,60E-10	0,00E+0													
AP	[kg SO ₂ -Äq]	7,00E-2	2,39E-2	1,41E-2	0,00E+0													
EP	[kg PO ₄ -Äq]	5,01E-4	2,05E-4	4,29E-4	0,00E+0													
POCP	[kg Ethen-Äq]	5,30E-9	2,69E-9	3,22E-9	0,00E+0													
ADPE	[kg St-Äq]	2,24E-5	1,95E-5	4,10E-5	0,00E+0													
ADPF	[MJ]	1,02E+0	8,97E-1	3,31E-2	0,00E+0													

GWP = globales Erwärmungspotenzial; ODP = Abbaupotenzial der stratosphärischen Ozonschicht; AP = Versauerungspotenzial von Boden und Legende; Wasser; EP = Eutrophierungspotenzial; POCP = Bildungspotenzial für troposphärisches Ozon; ADPE = Potenzial für den abiotischen Abbau nicht fossiler Ressourcen; ADPF = Potenzial für den abiotischen Abbau fossiler Ressourcen

ERGEBNISSE DER ÖKOBLANZ – RESSOURCENEINSAATZ/Schiebeschlüssig

Parameter	Einheit	A1-A3	A4	A5	C1	C2	C21	C22	C23	C3	C31	C32	C33	C4	C41	C42	C43
PERE	[MJ]	4,98E+0	1,12E+0	2,09E+0	0,00E+0												
PERM	[MJ]	2,21E+0	0,00E+0														
PERT	[MJ]	4,00E+0	1,12E+0	2,09E+0	0,00E+0												
PENRE	[MJ]	1,20E+0	0,13E+0	1,96E+0	0,00E+0												
PENRM	[MJ]	5,94E+0	0,00E+0	4,97E+0	0,00E+0												
PENRT	[MJ]	1,67E+0	0,00E+0	1,70E+0	0,00E+0												
RES	[MJ]	4,55E+0	0,00E+0														
RESF	[MJ]	3,00E+0	0,00E+0														
NRSEF	[MJ]	3,00E+0	0,00E+0														
PW	[m ³]	1,81E+0	1,17E+0	1,77E+0	0,00E+0												

PERE = Erneuerbare Primärenergie als Energieträger; PERM = Erneuerbare Primärenergie zur stofflichen Nutzung; PERT = Total erneuerbare Primärenergie; PENRE = Nicht erneuerbare Primärenergie als Energieträger; PENRM = Nicht erneuerbare Primärenergie zur stofflichen Nutzung; PENRT = Total nicht erneuerbare Primärenergie; RES = Einsatz von Sekundärstoffen; RESF = Erneuerbare Sekundärstoffe; NRSEF = Nicht erneuerbare Sekundärstoffe; PW = Einsatz von Süßwasserressourcen

ERGEBNISSE DER ÖKOBLANZ – OUTPUT-FLÜSSE und ABFALLKATEGORIEN/Schiebeschlüssig

Parameter	Einheit	A1-A3	A4	A5	C1	C2	C21	C22	C23	C3	C31	C32	C33	C4	C41	C42	C43
HWD	[kg]	2,93E+0	5,64E+0	3,13E+0	0,00E+0												
NHWI	[kg]	3,14E+0	4,68E+0	2,54E+0	0,00E+0												
RWD	[kg]	4,48E+0	1,05E+0	2,09E+0	0,00E+0												
CRU	[kg]	0,00E+0															
MPR	[kg]	3,21E+0	0,00E+0	3,94E+0	0,00E+0												
MER	[kg]	0,00E+0															
EE	[MJ]	5,67E+0	0,00E+0	3,28E+0	0,00E+0												
EET	[MJ]	1,33E+0	0,00E+0	6,03E+0	0,00E+0												

HWD = Gefährlicher Abfall zur Deponie; NHWI = Entsorger nicht gefährlicher Abfall; RWD = Entsorger radioaktiver Abfall; CRU = Entsorger Komponenten für die Wiederverwendung; MPR = Abfall zum Recycling; MER = Abfall für die Energieerzeugung; EE = Exportierte elektrische Energie; EET = Exportierte thermische Energie

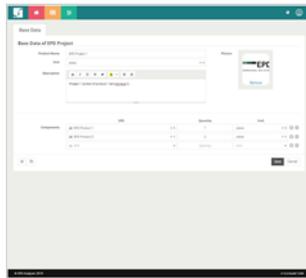
Mehrere Szenarien zum Ende des Lebenswegs wurden berechnet, um spezifische Szenarien zum Ende des Lebenswegs auf Gebäudeebene erstellen zu können.

...to digital and interactive EPD



compare product systems for internal benchmarks

calculate with EPD data



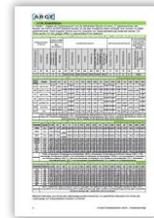
easy EPD import



visualizes all EPD indicators



rules of thumb for product optimization

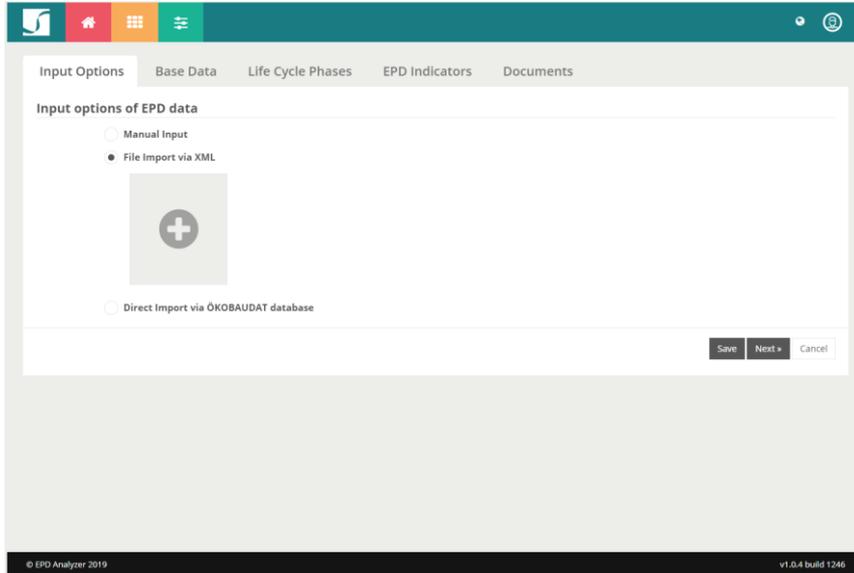


explains environmental topics

ecological EPD assessment



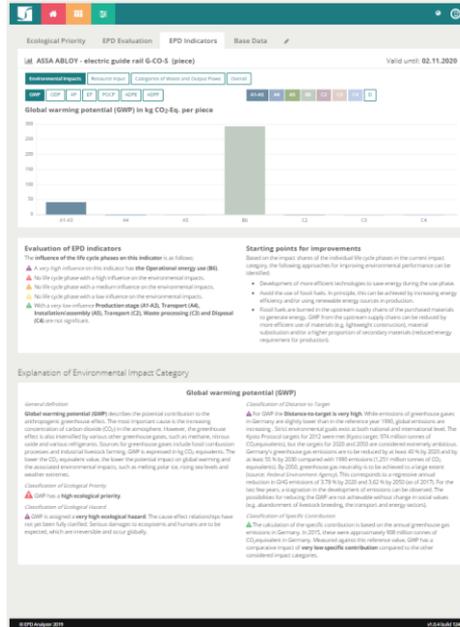
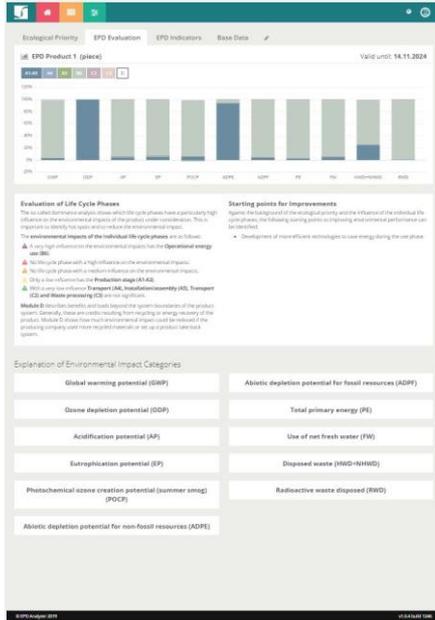
From analogue to interactive EPDs: epd-analyzer.com



How to get started:

- Manual Input
- File Import via XML
- Direct interface to ÖKOBAUDAT

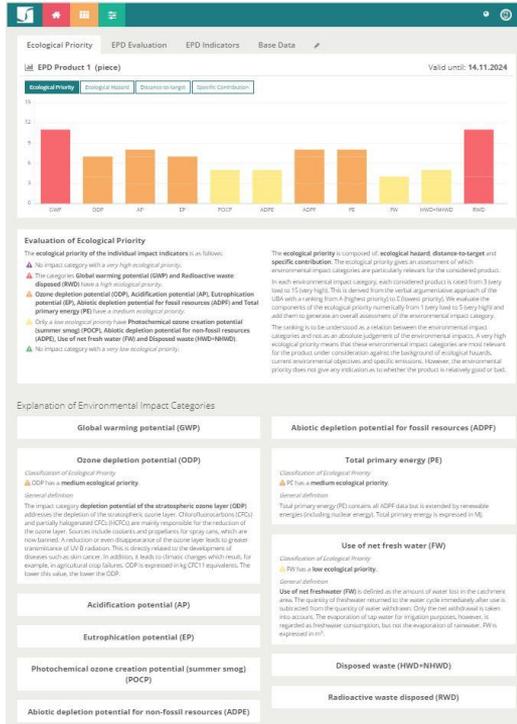
From analogue to interactive EPDs: epd-analyzer.com



epd-analyzer.com

- explains environmental topics on every page
- visualizes all EPD indicators
- helps to communicate better

From analogue to interactive EPDs: epd-analyzer.com



Ecological EPD Assessment:

- **Prioritization of EPD indicators***
 - based on the German situation
- Weighting system is **editable**
- **Rules of thumb** for product optimization

* Based on German Federal Environmental Agency method for impact indicator standardization, impact category grouping (ranking), and interpretation

The screenshot displays the 'Base Data' section of the EPD Analyzer web application. The interface is organized into several sections:

- Base Data of EPD Project:**
 - Product Name:** EPD Project 1
 - Unit:** piece
 - Description:** This project consist of 2 products
 - Picture:** A placeholder image for the EPD logo with a 'Remove' button.
- Components Table:**

Components	EPD	Quantity	Unit
	EPD Product 1	1	piece
	EPD Product 2	2	piece
	EPD	Quantity	Unit

At the bottom of the form, there are 'Save' and 'Cancel' buttons. The footer of the application shows '© EPD Analyzer 2019' and 'v1.0.4 build 1246'.

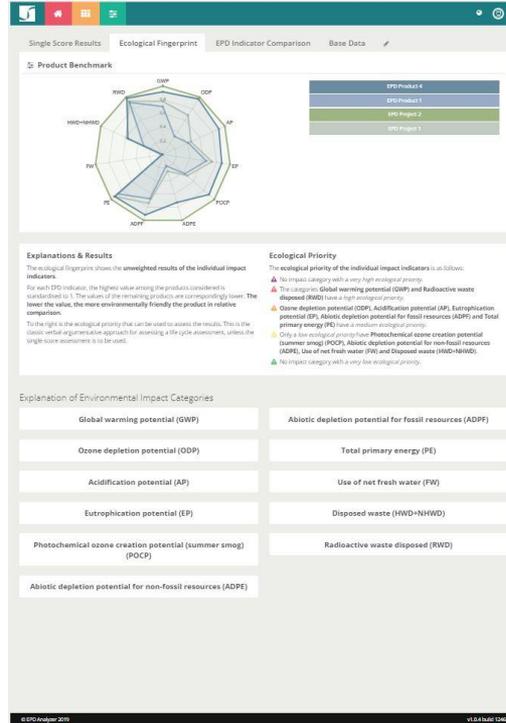
Creation of EPD Projects

- for product optimization
- for building components
- for internal benchmark processes

Functions

- adding life cycle module (e.g. A4, etc.)
- considering regional aspects (e.g. delete and add electricity mixes for B6)
- scaling life cycle modules

From analogue to interactive EPDs: epd-analyzer.com



Internal Benchmarking

- Comparison of product systems
- Ranking of results using single score assessment
- Unweighted results in ecological fingerprint

Thank You!

Get in contact with us!

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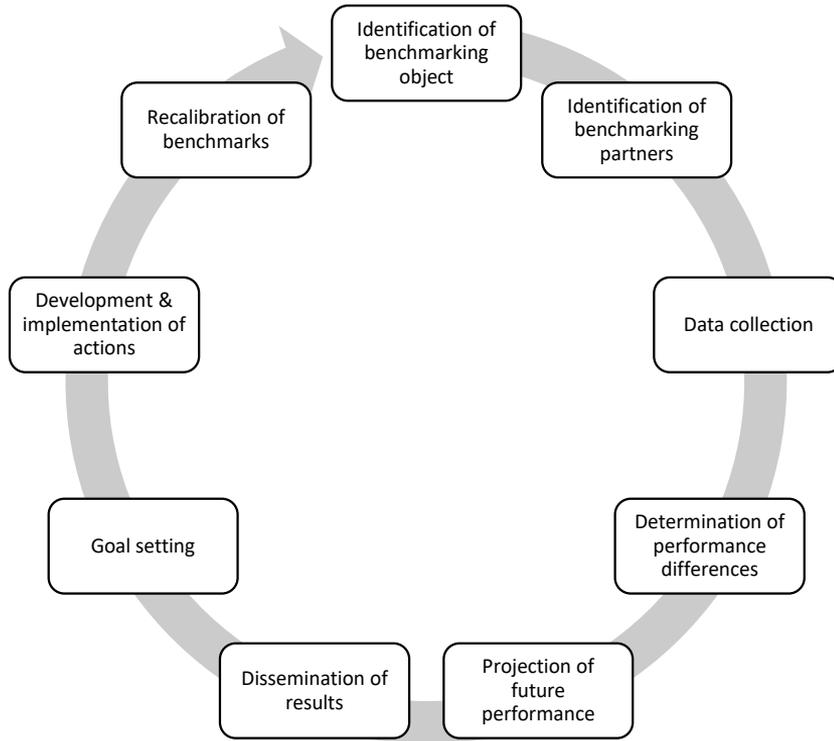
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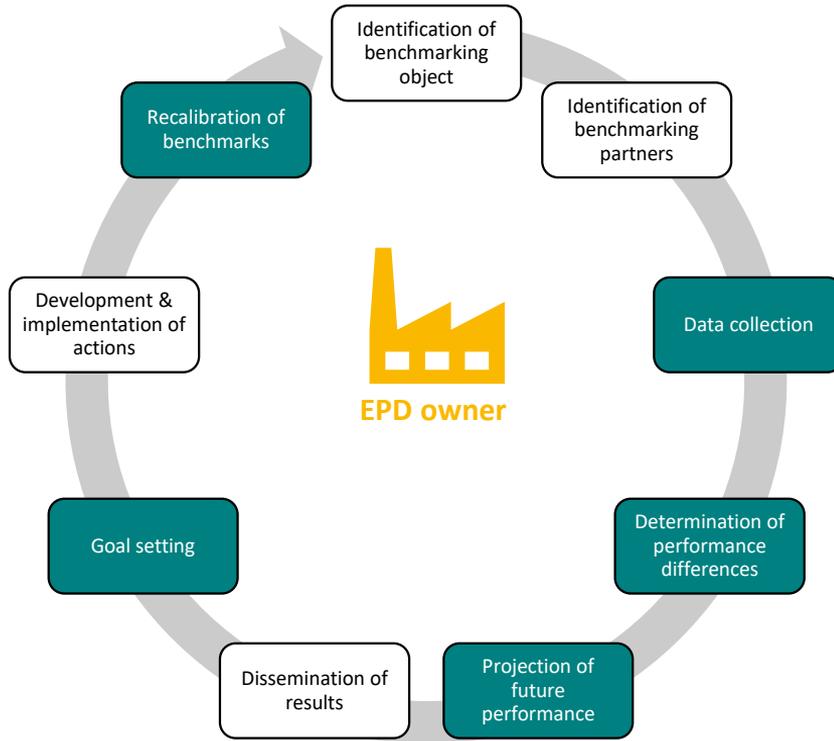


How we understand the Benchmarking Process



based on Galindro et al. (2019, p. 147)

How the epd-analyzer.com supports



Benchmarking aims

- ✓ Identify in which areas the product is relatively good
→ Communicate the product's good characteristics
- ✓ Identify areas for improvement and thereby allow for continuous optimisation
→ Communicate improvements

✗ Communicate
„Our product is better than our competitor's product.“

Appendix

Method „Valuation as an element of life cycle assessments”

German Federal Environmental Agency method for impact indicator standardization, impact category grouping (ranking), and interpretation in accordance with ISO 14042 and 14043*



* Completely updated to new standards

The Federal Environmental Agency's Approach to valuation as an element of Life Cycle Assessment

Principle behind the „Ecological Priority“-Method

An impact category or a specific impact indicator result should be given a higher priority

1. **the more serious the potential hazard** to the ecological protected goods (independent of the current environmental status),
2. **the further the current state of the environment deviates** from a state of environmental sustainability or another desired state of the environment,
3. **the higher this impact indicator result is in relation to uniform reference values**, e.g. the share of the respective total annual emission in Germany.