BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

FOREDRAGSHOLDER
DE DIGITALE DAGE 2024

MILJØDATA

digitaliseringens udfordringer & muligheder

v. Emilie Brisson Stapel

07. marts 2024

Emilie Brisson Stapel
+45 61 14 57 22
eebj@build.aau.dk

UDDANNELSE

2020 M.Sc. Bygningsdesign - DTU

2018 B.Sc. Bygningsdesign - DTU

ERFARINGER

2022 PhD ved AAU (1. december 2022)

2021 Konsulent for RFBB i LCA og DGNB

2020 Videnskabelig assistent, BUILD

2018 Studiemedarbejder, SBi (BUILD)

JEG HAR ARBEJDET MED ...

- Co-developer on the Danish LCA software tool, **LCAbyg 5 and 2023**.
- Project leader on the development of **LCAbyg NOR 2023**.
- Updated the data for **60 cases**, which is the basis for the 2023 Limit Values for new Buildings.
- Developed the **LCAbyg digital EPD files** available at EPD Denmark.
- Investigated the **use and availability of EPD's** from a Danish perspective.
- Co-developed the material for the add-on to the **Building regulation**, BR18.
- The main "architect" behind the **integration of the ILCD+EPD format** in LCAbyg 2023
- And so much more ....

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DEN BÆREDYGTIGE AGENDA

THE ANTHROPOCENE

'we are facing a man-made disaster of global scale.
Our greatest threat in thousands of years.'

- Attenborough, 2018

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DEN BÆREDYGTIGE AGENDA

DEN STORE SKURK ...

- Den **stigende bevidsthed** stiller stigende krav til dagsordenen for miljømæssig bæredygtighed
- Byggeriets indlejret kulstof, forårsaget af produktion, transport, installation, vedligeholdelse og bortskaffelse af byggematerialer, **står for 12% af de globale CO2-emissioner**

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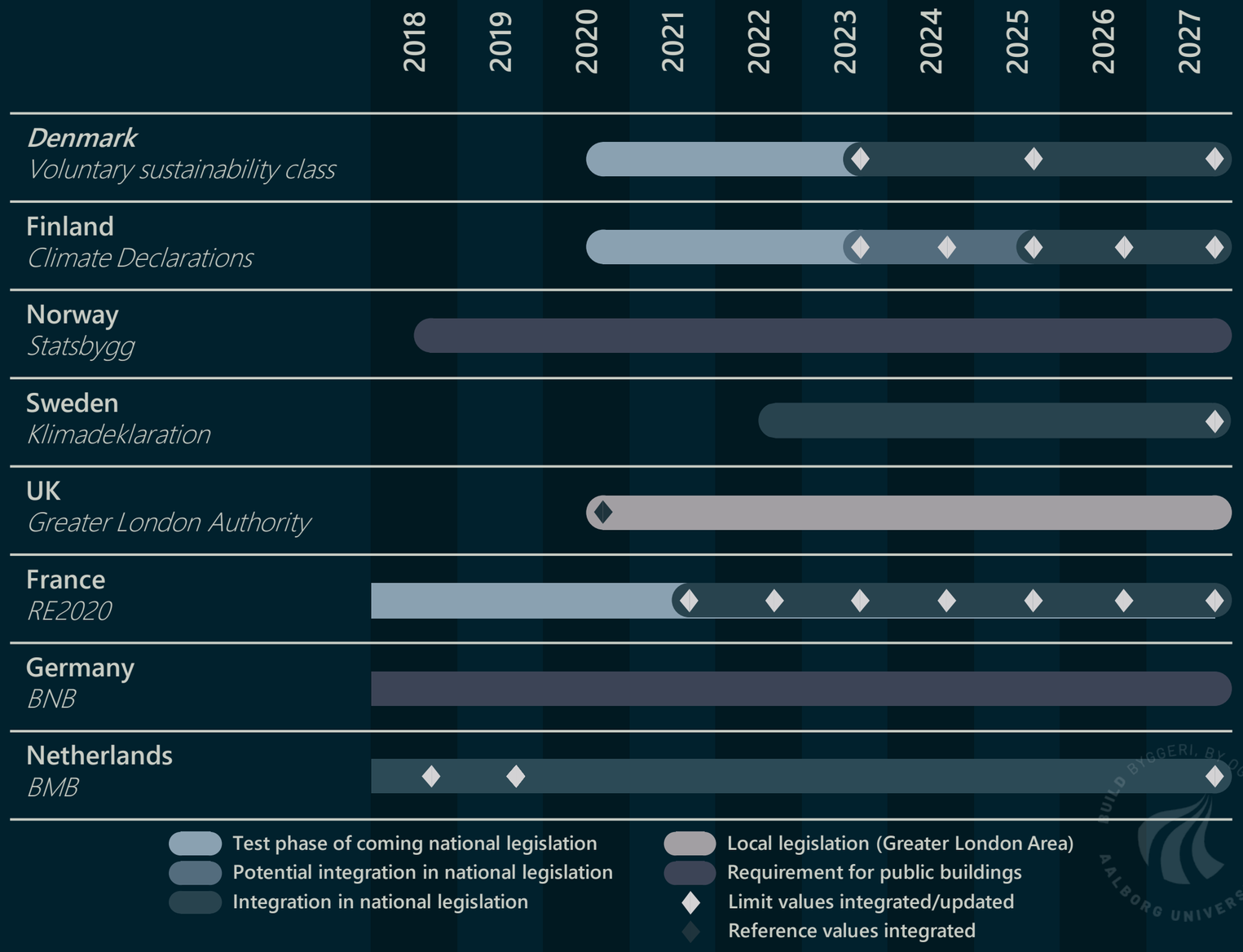
DET POLITISKE LANDSKAB

70% reduktion af de nationale drivhusgasemissioner inden 2030 sammenlignet med niveauet i 1990

Klimaneutralt samfund inden 2050 for at begrænse den globale opvarmning til 1.5 grader



LIFE CYCLE ASSESSMENT
Hvad er det for en størrelse?

LIFE CYCLE ASSESSMENT

Hvad er det for en størrelse?

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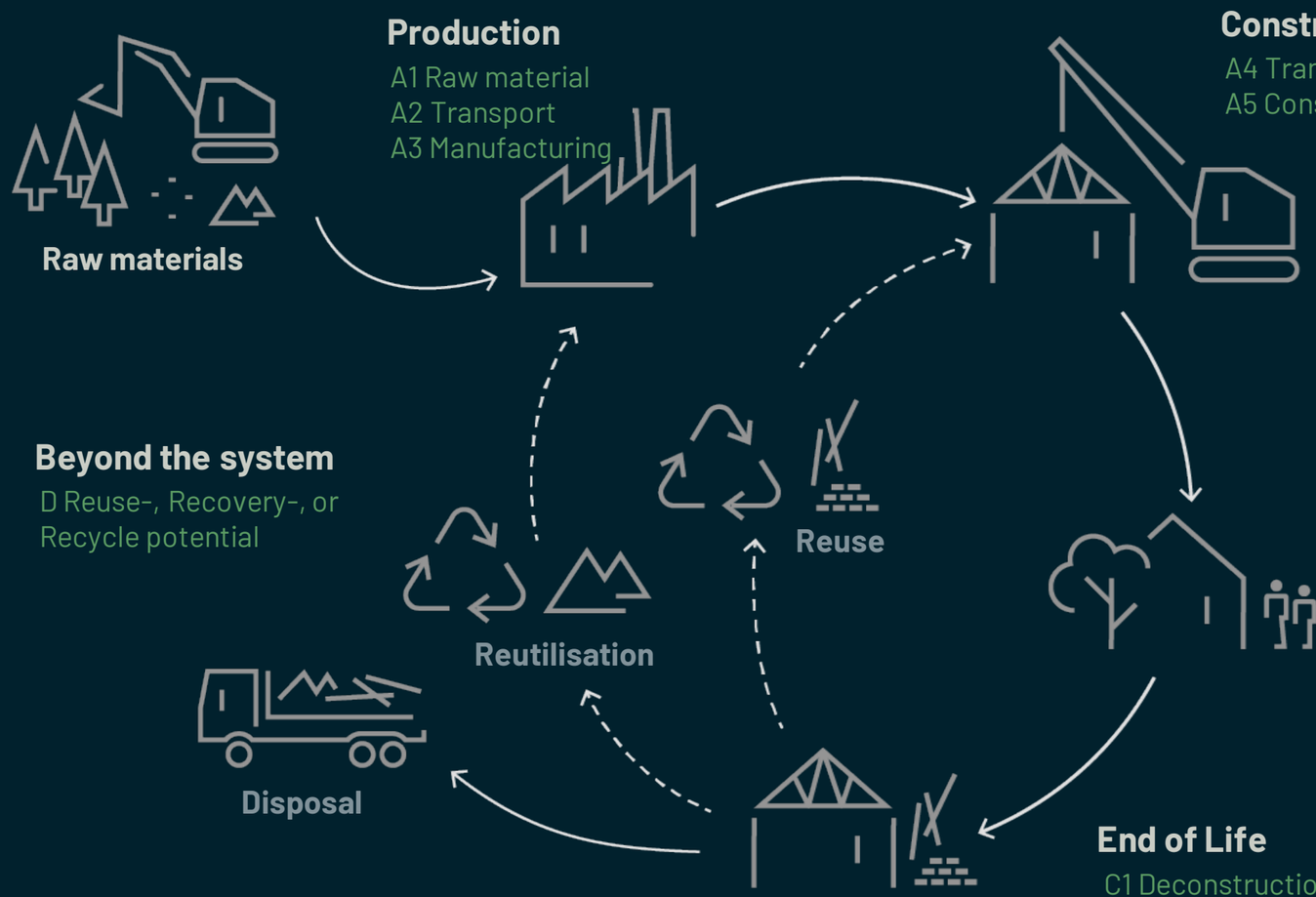
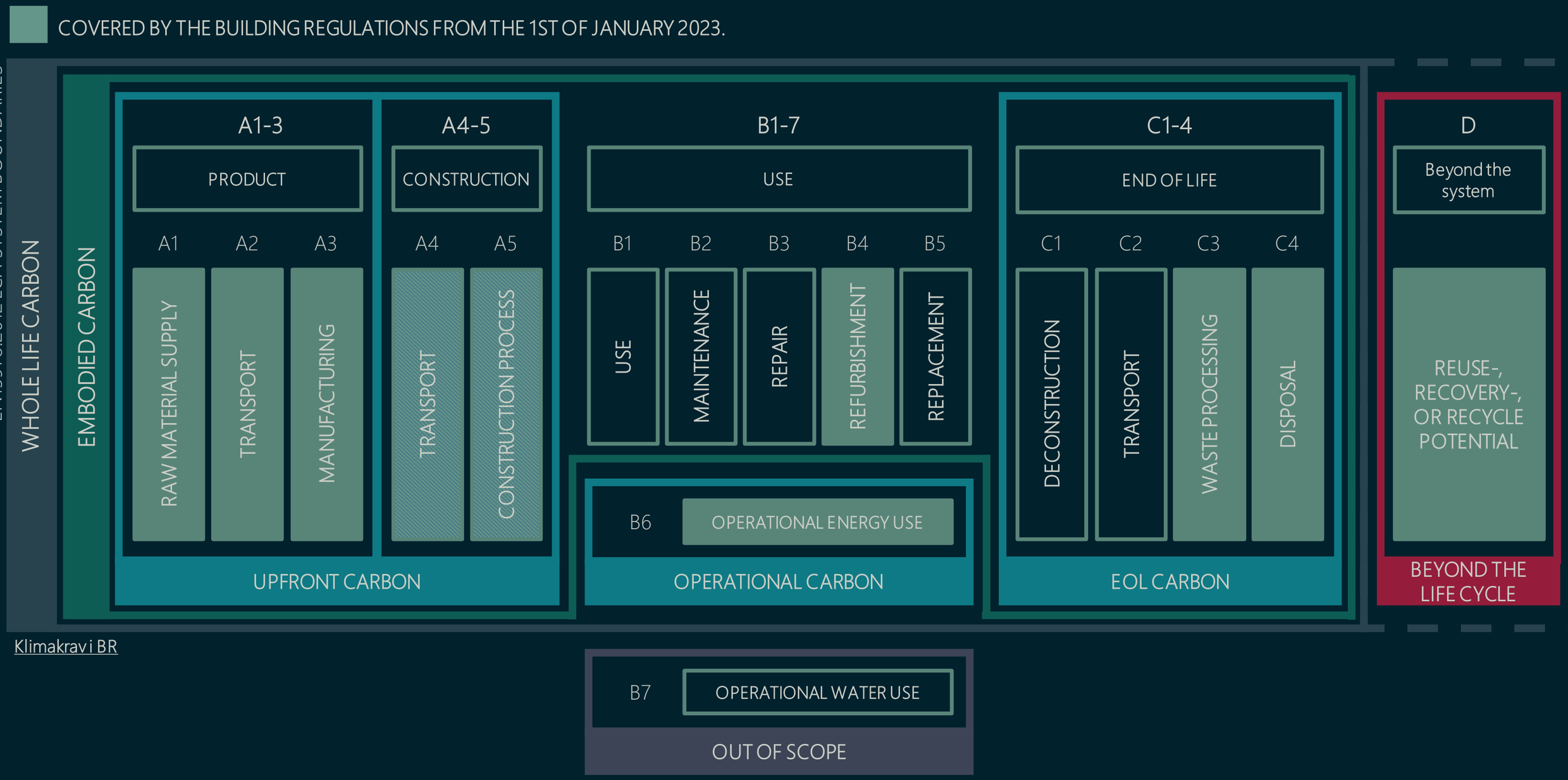


The mindset of the lifecycle

... a long term perspective


COVERED BY THE BUILDING REGULATIONS FROM THE 1ST OF JANUARY 2023.
EN15978:2012 LCA SYSTEM BOUNDARIES
WHOLE LIFE CARBON
EMBODIED CARBON
A1-3
PRODUCT
A1
A2
A3
RAW MATERIAL SUPPLY
TRANSPORT
MANUFACTURING
A4-5
CONSTRUCTION
A4
A5
TRANSPORT
CONSTRUCTION PROCESS
UPFRONT CARBON
B1-7
USE
B1
B2
B3
B4
B5
USE
MAINTENANCE
REPAIR
REFURBISHMENT
REPLACEMENT
B6
OPERATIONAL ENERGY USE
OPERATIONAL CARBON
C1-4
END OF LIFE
C1
C2
C3
C4
DECONSTRUCTION
TRANSPORT
WASTE PROCESSING
DISPOSAL
EOL CARBON
D
Beyond the system
REUSE-, RECOVERY-, OR RECYCLE POTENTIAL
BEYOND THE LIFE CYCLE
Klimakrav i BR
B7
OPERATIONAL WATER USE
OUT OF SCOPE

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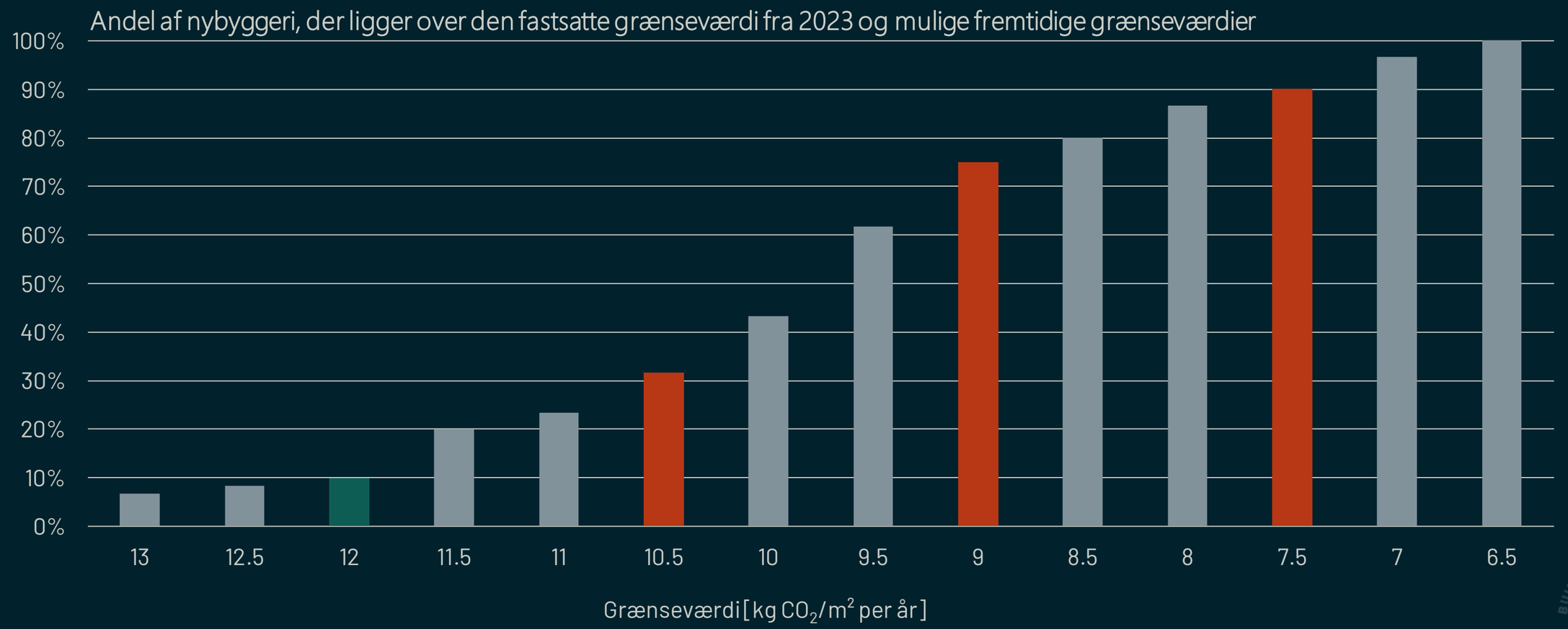
DANMARKS GRÆNSEVÆRDI ANNO 2023



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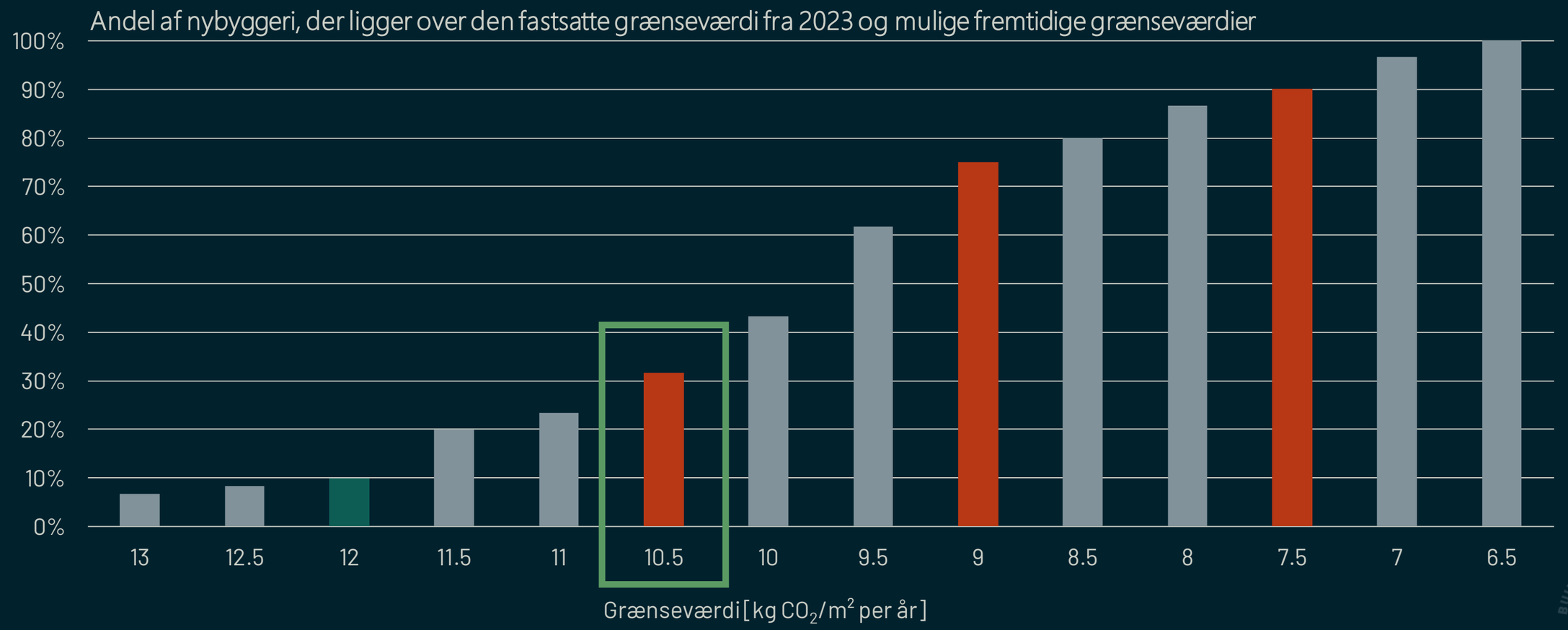

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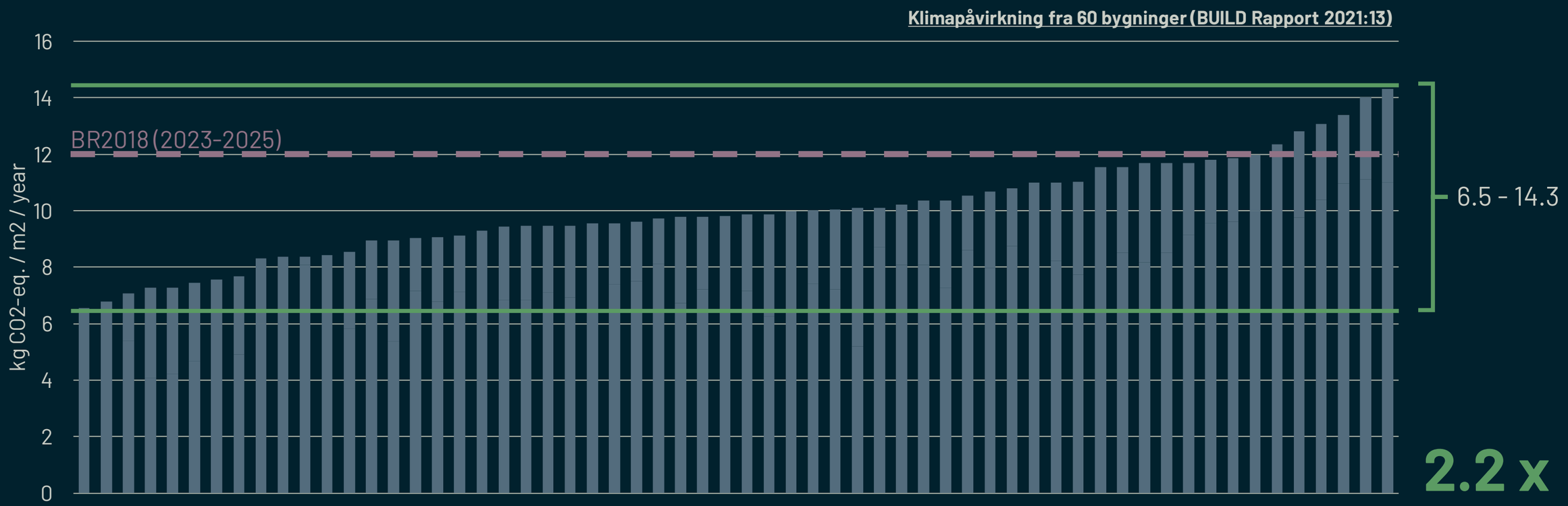
DET STORE POTENTIALE



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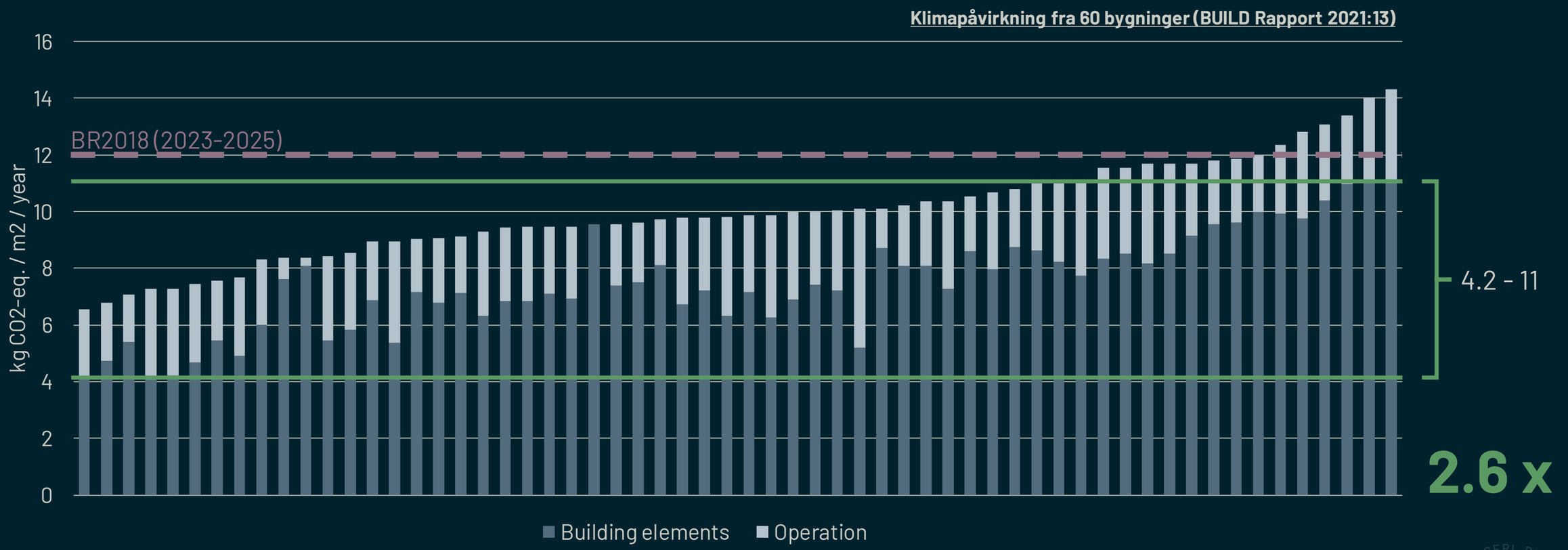

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KORT LCA OPSUMMERING

- LCA er en metode, der bruges til at **vurdere** potentielle miljøpåvirkninger
- LCA giver en indikation af **miljøpåvirkningerne** – fx udledning af drivhusgasser i form af Global Warming Potential (GWP)
- LCA på bygninger har sin egen EU standard (**EN15978**:2012)
- Den data der bruges i en LCA har sin egen standard (**EN15804**) og kendes som Miljødata aka. Environmental Product Declarations (EPDs)
- En LCA skal beregne bygningens miljøpåvirkning fra '**vugge til grav**/vugge'
- Meningen med en total livscyklusvurdering er, at **undgå at flytte miljøpåvirkningerne** fra et område til et andet.

MILJØDATA
STATE-OF-THE-ART

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The embodied carbon coefficient

- Informationer om den ind indlejret kulstof koefficient findes i vores miljødata, aka. **Environmental Product Declarations (EPD'er)**, som er et standardiseret og verificeret dokument, som er meget brugt til at kommunikere miljødata inden for ingeniør-, arkitektur- og byggeindustrien

- **Livscyklusvurderinger er "storforbruger" af den data der er dokumenteret i EPD'er**. Hvilket giver mulighed for at lave envurdering, der indeholder alle relevante data relateret til et givet system.

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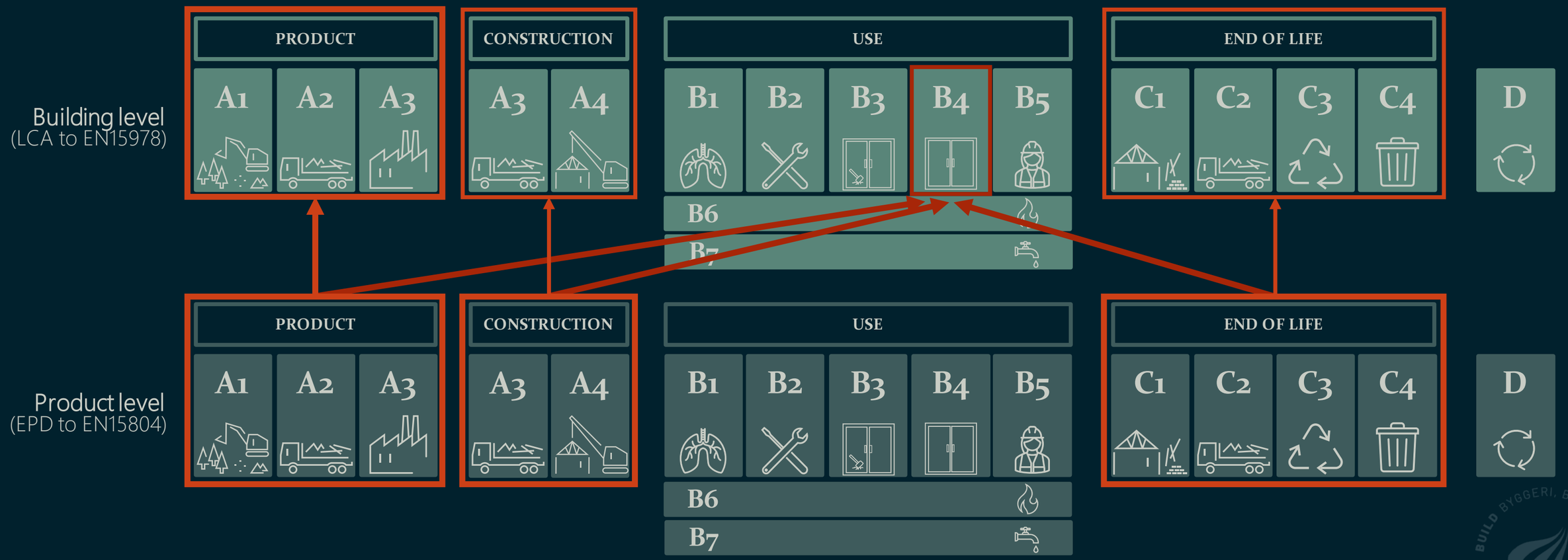
Environmental Product Declarations



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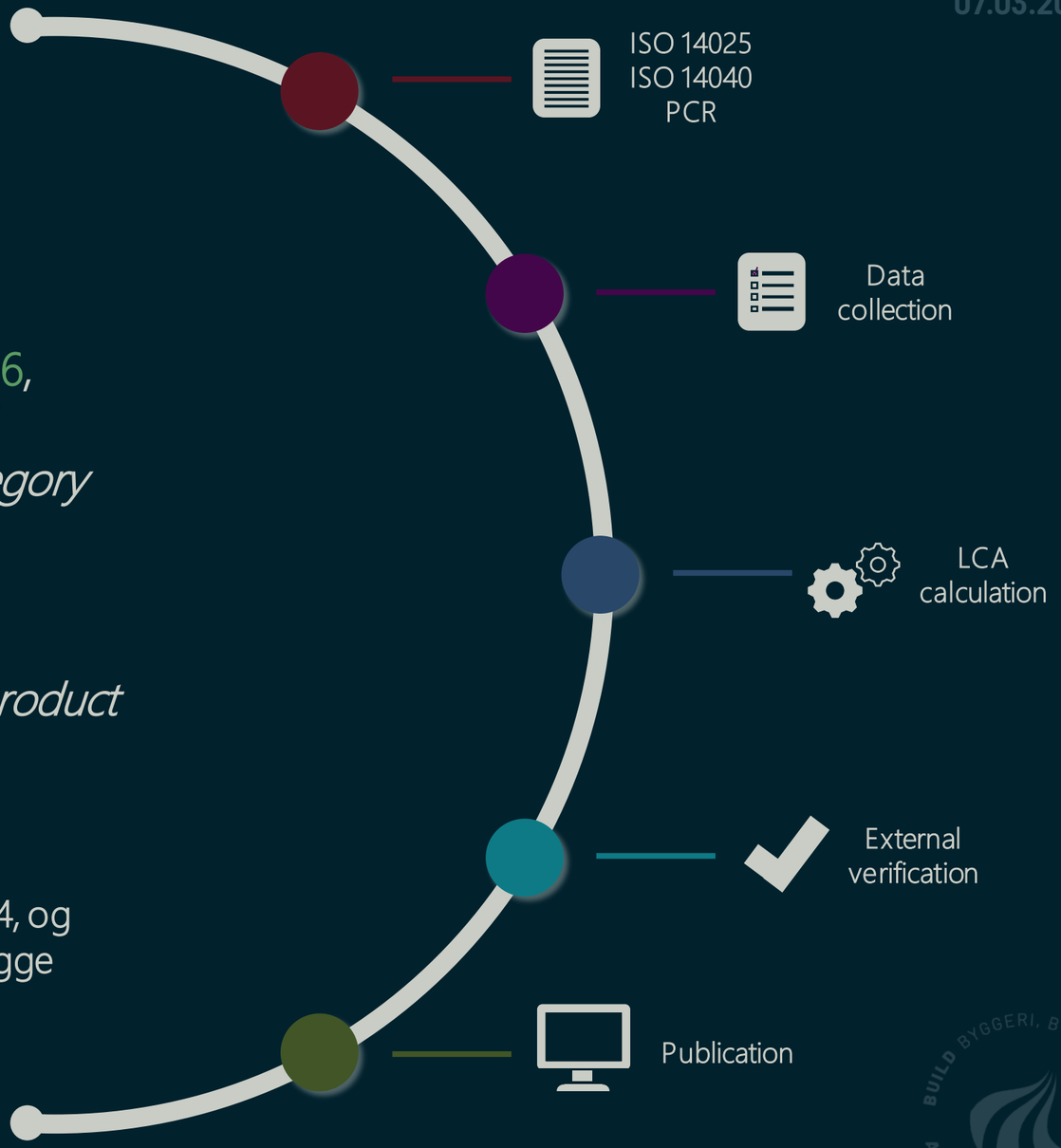
Environmental Product Declarations

- Den **internationale standard** for EPD er ISO 14025:2006, som sætter kravene til EPD-programmer for alle typer af produkter. Den definerer også behovet for *Product Category Rules* for at sikre, at den anvendte LCA-metode er den samme, og derved muliggøre sammenlignelighed

- Den **europæiske standard,** EN 15804, beskriver *Core Product Category Rules (cPCR)* for alle byggematerialer i overensstemmelse med ISO 14025.

- ISO 21930:2017 er den *tilsvarende international standard* til EN 15804, og begge EPD standarder følger hinanden næsten 1:1, og anvender begge samme framework.



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An Environmental Product Declaration (EPD) is a **declaration** – it is *not* a seal of approval

- Sarah C. Andersen (Teknologisk Institut)

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EN15804:2012

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- Environmental product declarations **(EPDs)** deklarerer miljøpåvirkningen fra et materiale per dokumenteret enhed.
  - m^2, m^3, kg, ton, stk. etc.
- Enheden kan være **Funktionel** or **Deklareret**
- En EPD skal være **3rd parts verificeret**
- Data skal være udviklet iht. Standarden **EN15804** (EN15804:2012**+A1**:2013 eller EN15804:2012**+A2**:2019)
- Gyldighedsperioden er **5 år**
- EPD'er kan være **Branche specifik**, **Produkt specifik**, eller **Projekt specifik**
- En EPD kan deklarere **en eller flere** produkter
- Skal være verificeret iht. **ISO 14025**

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EN15804:2012

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- En EPD siger **IKKE noget direkte om byggematerialets bæredygtighed**. En EPD kan bruges som et grundlæggende element i en livscyklusvurdering (LCA) på bygningsniveau.
- En EPD for byggevarer er baseret på en livscyklusvurdering (LCA) af den specifikke byggevare baseret på **flere specifikke beregningsregler** kaldet Product Category Rules (PCR'er).
- En EPD dokumenterer **flere miljøpåvirkningskategorier** (inklusive global opvarmning, forsuring, belastning af næringssalt osv.)
- En EPD dokumenterer **forbruget af ressourcer** (herunder vedvarende og ikke-vedvarende energiressourcer) samt affaldsstrømme (f.eks. mængden af bortskaffet affald og materialer til energiudnyttelse eller genanvendelse).

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Legoklods princippet

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Legoklods princippet

- En bygning består af flere **sammensatte Legoklodser, som hver definerer et specifikt byggemateriale**, med en eller flere tilhørende EPD.
- Ét materiale kan have **flere valgmuligheder** ift. producenter og type.
- Der, **vælges den EPD der passer "bedst"**, alt efter hvad du ønsker bygningen skal kunne.

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- Ét materiale kan have **flere valgmuligheder** ift. producenter og type.
- Der, **vælges den EPD der passer "bedste"**, alt efter hvad du ønsker bygningen skal kunne.
- **En Legoklods kan se "grøn" ud**, men hvis materialet har en kort levetid, eller hvis der skal benyttes en del ressourcer på vedligehold eller energi til at betjene denne, kan Legoklodsen blive "sort" (mindre "grøn") i det samlede billede.

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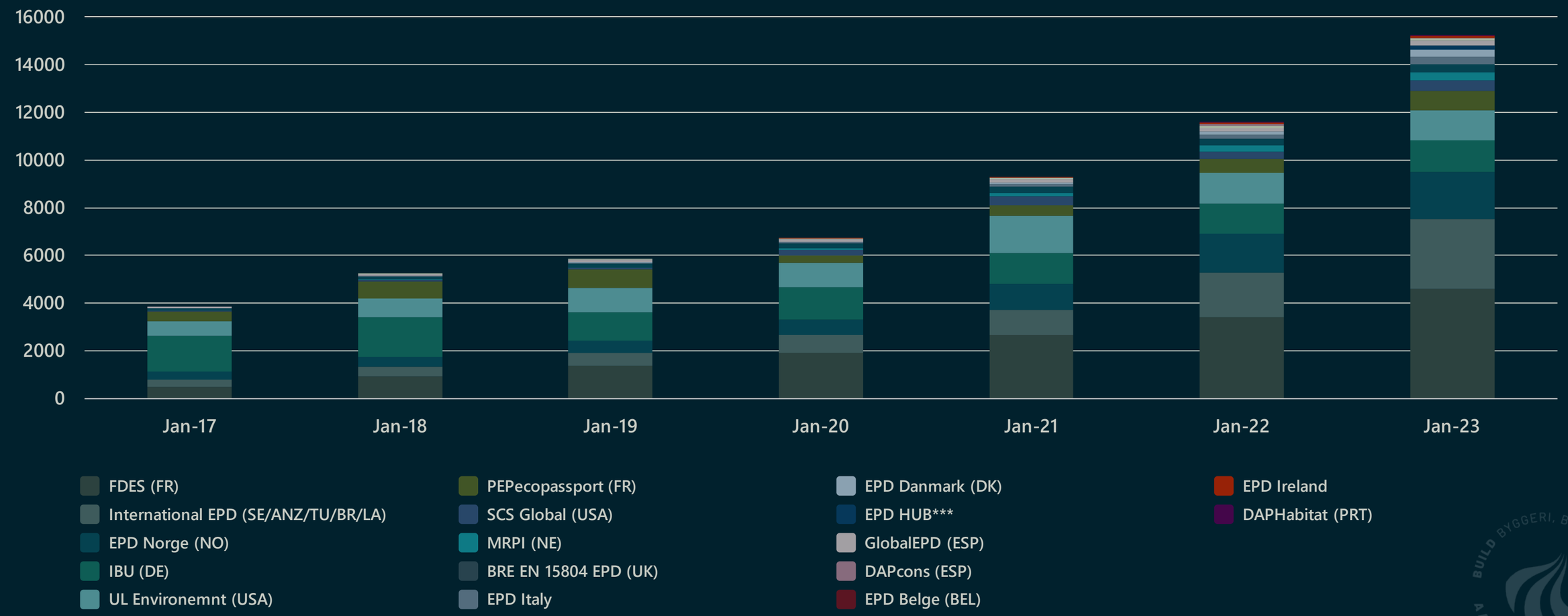
Environmental Product Declarations



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De 2 EPD standarder

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EN15804:2012
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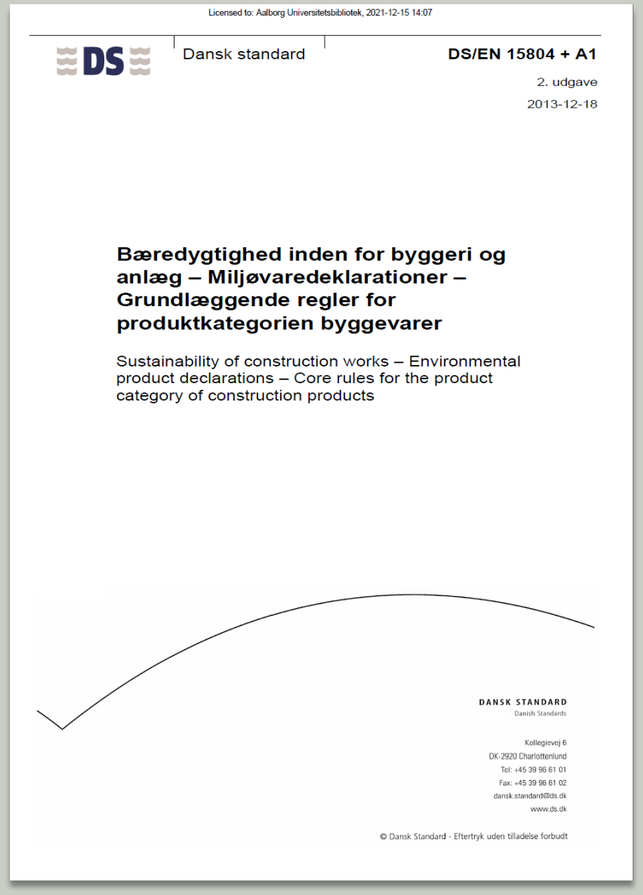

DS | Dansk standard | **DS/EN 15804 + A1**

2. udgave

2013-12-18

Bæredygtighed inden for byggeri og anlæg – Miljøvaredeklarationer – Grundlæggende regler for produktkategorien byggevarer

Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

DANSK STANDARD
Danish Standards

Kollegievej 6
DK-2920 Charlottenlund
Tel: +45 39 96 61 01
Fax: +45 39 96 61 02
dansk.standard@ds.dk
www.ds.dk

DS | Dansk standard | **DS/EN 15804:2012+A2:2019**

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EN15804:2012

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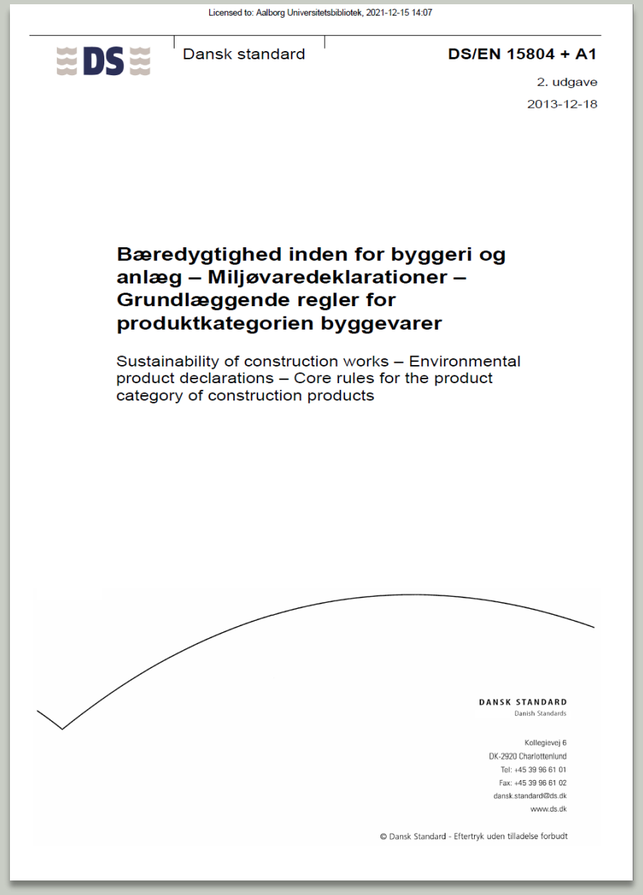
EN15804:2012**+A1**:2013



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EN15804:2012
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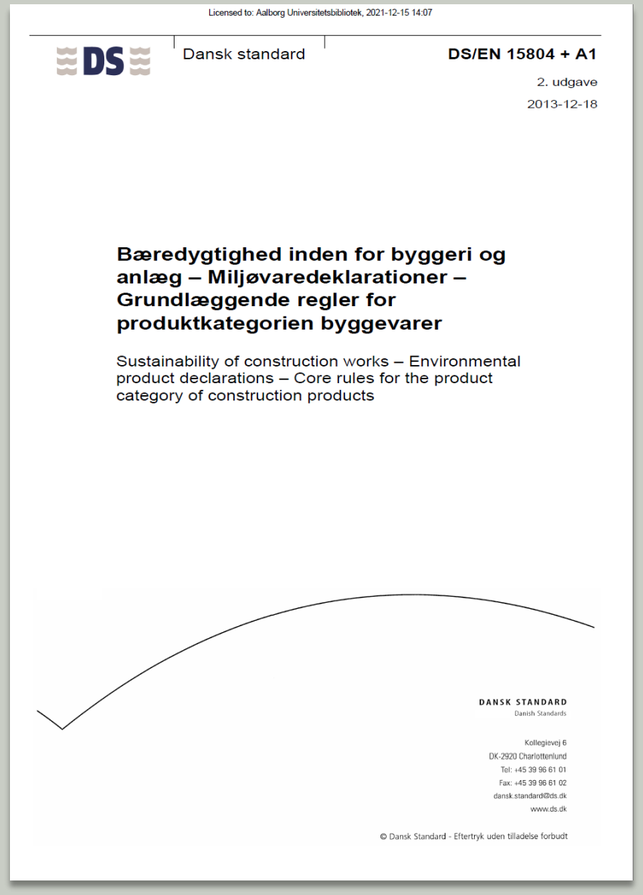

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EN15804:2012 – LCA METODE
MILJØDATA

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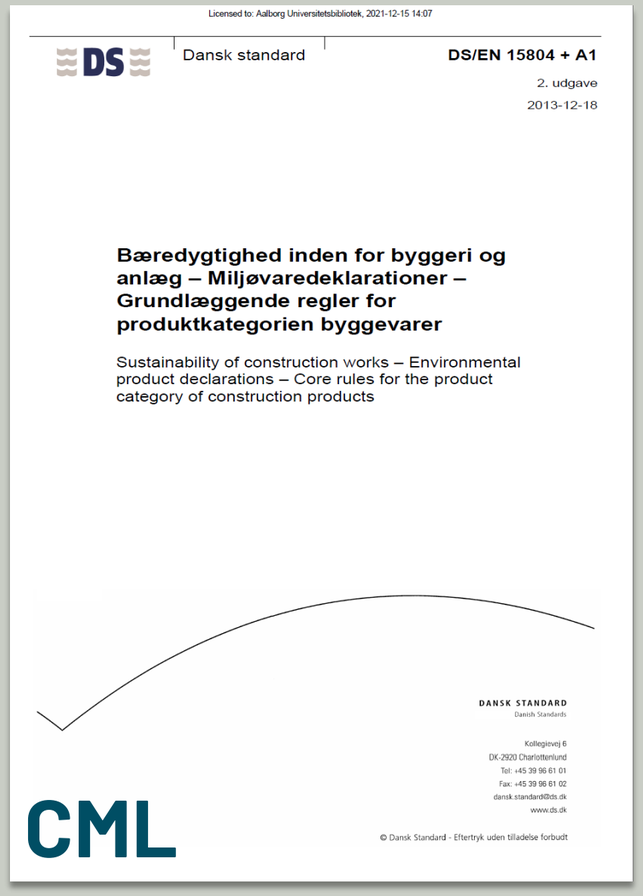

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CML

7 impact categories

EN15804:2012**+A2**:2019

DS Dansk standard **DS/EN 15804:2012+A2:2019**

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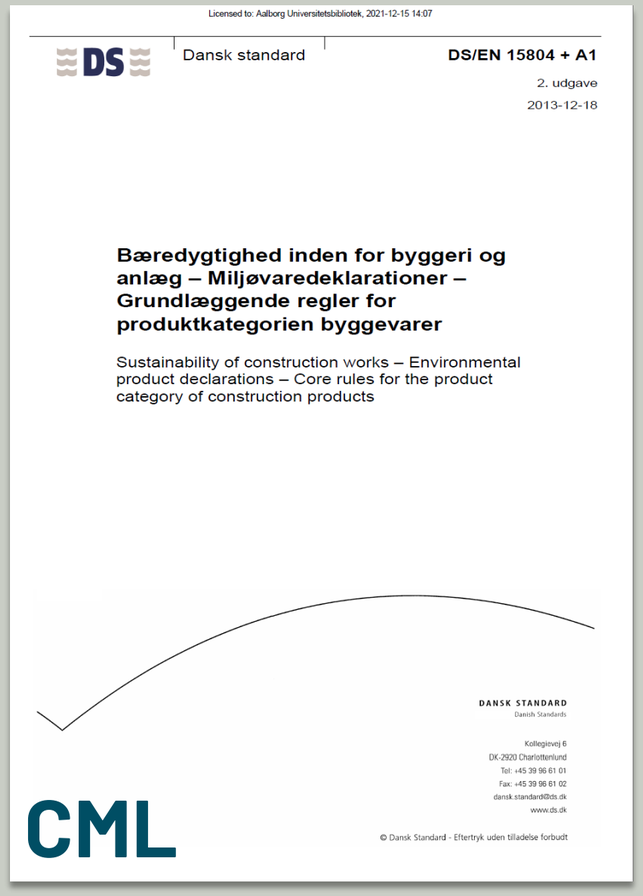

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ILCD

13+6 impact categories

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EN15804:2012 – DOCUMENTATION REQUIREMENTS
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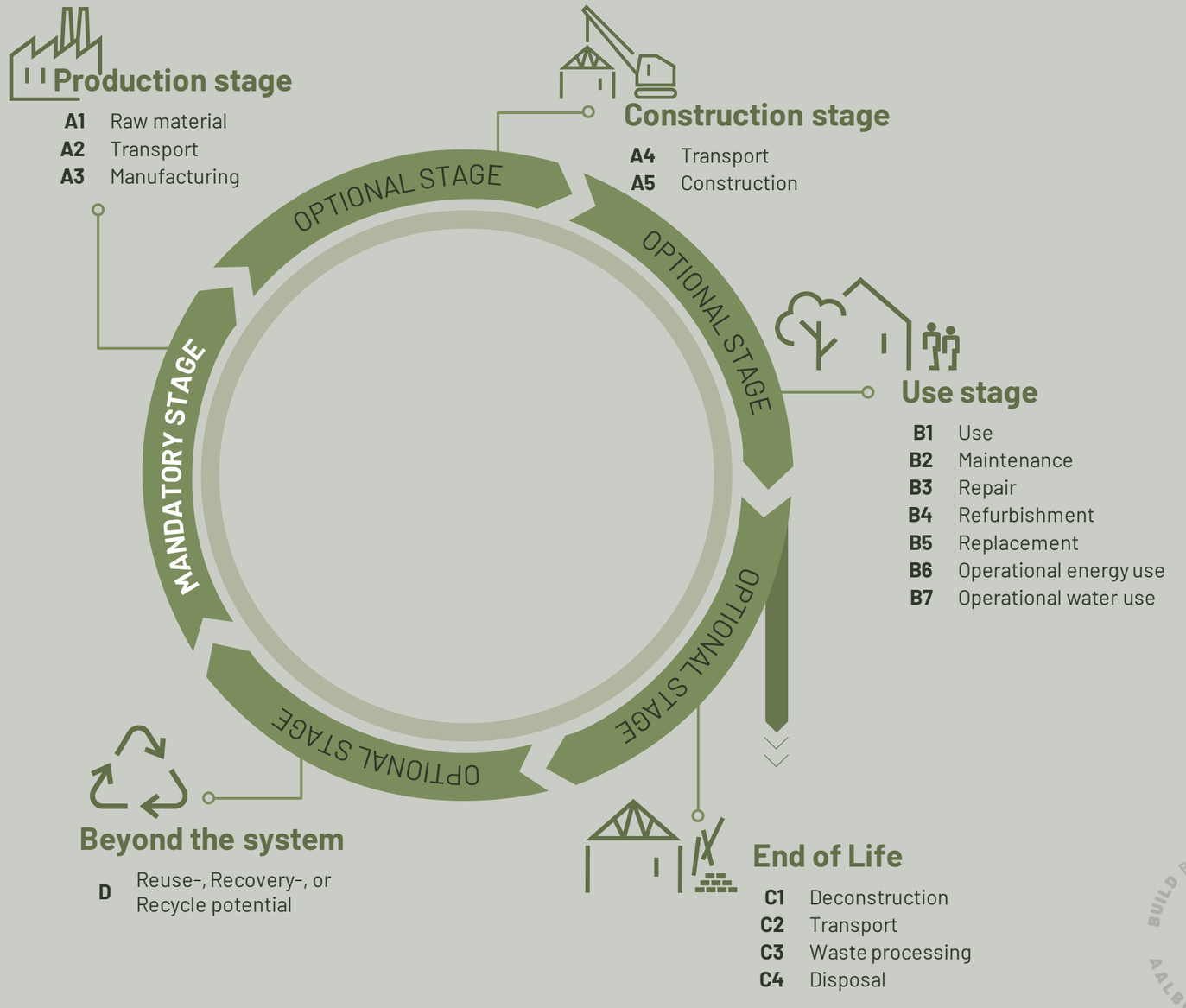

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EN15804:2012 – DOCUMENTATION REQUIREMENTS
MILJØDATA

Production stage

A1 Raw material
A2 Transport
A3 Manufacturing

Construction stage

A4 Transport
A5 Construction

Use stage

B1 Use
B2 Maintenance
B3 Repair
B4 Refurbishment
B5 Replacement
B6 Operational energy use
B7 Operational water use

Beyond the system

D Reuse-, Recovery-, or Recycle potential

End of Life

C1 Deconstruction
C2 Transport
C3 Waste processing
C4 Disposal

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EN15804:2012 – DOCUMENTATION REQUIREMENTS
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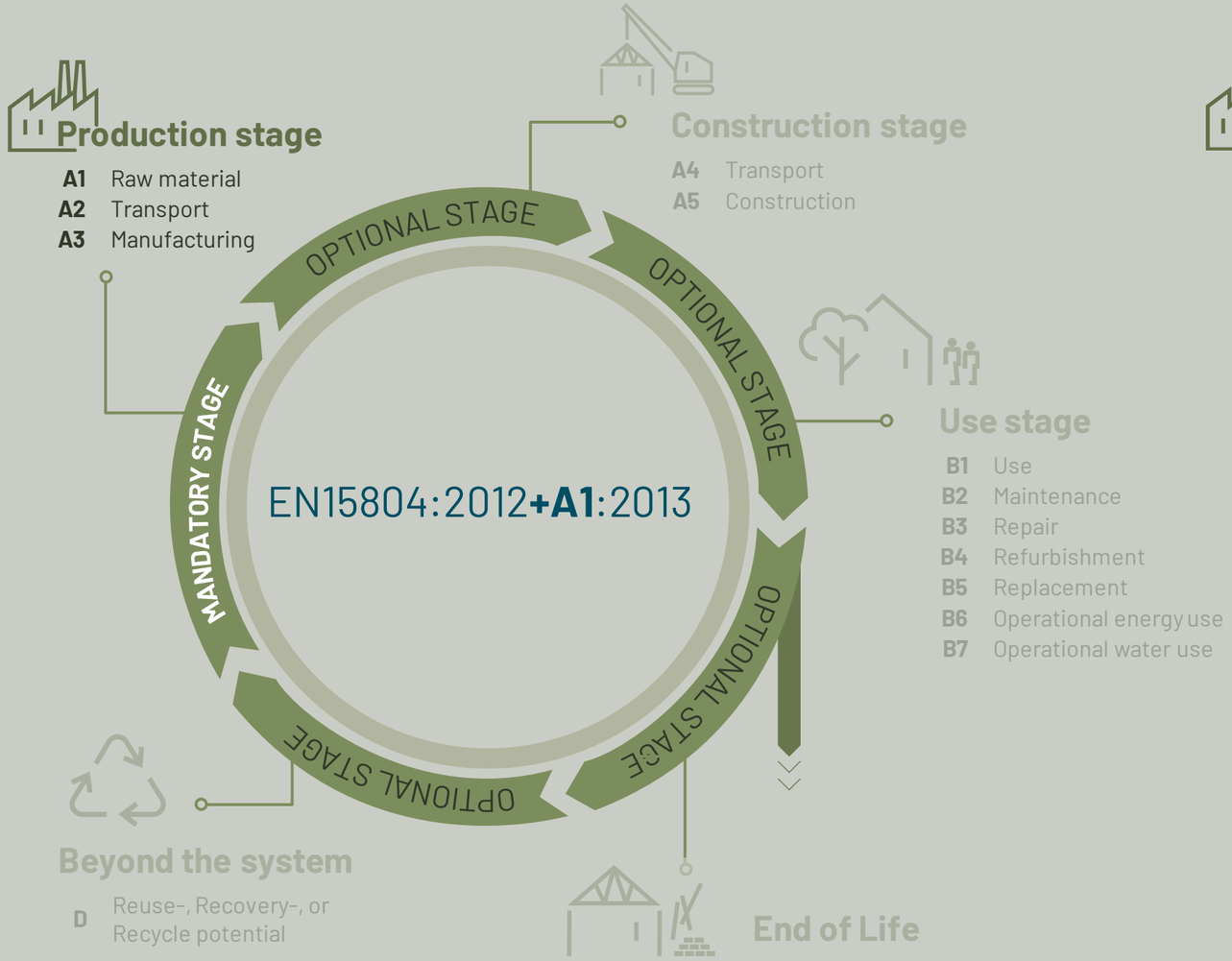

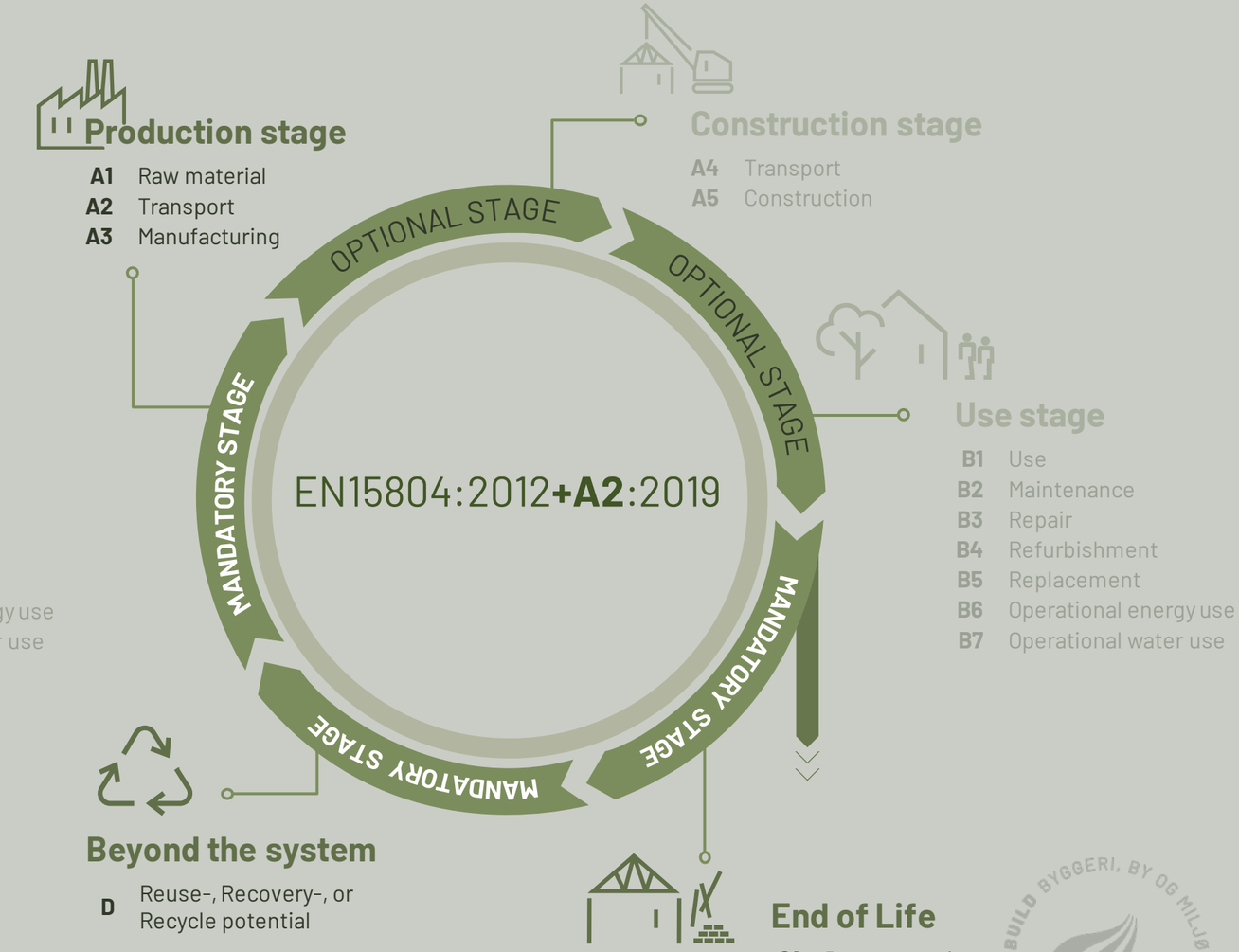

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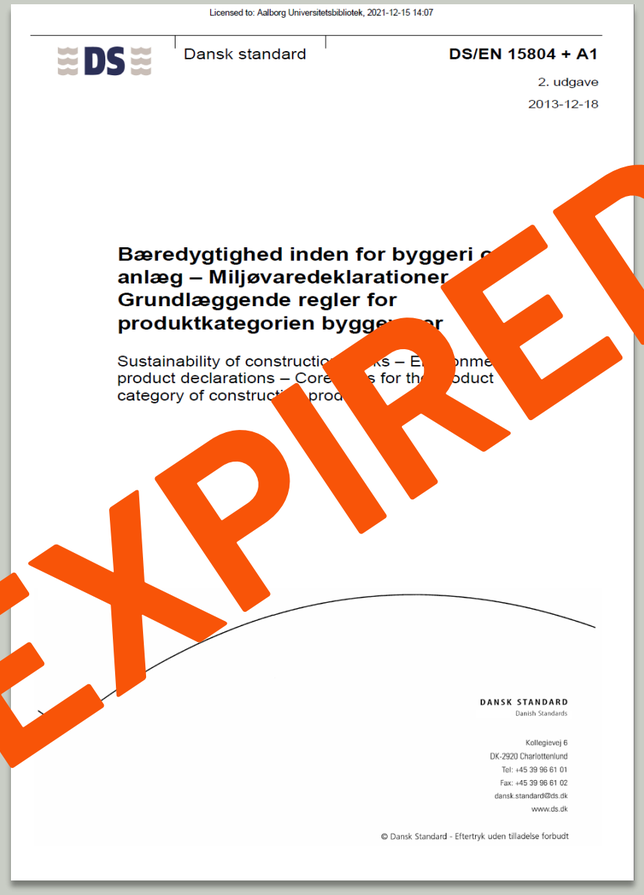
MILJØDATA

EN15804:2012**+A1**:2013



DS Dansk standard **DS/EN 15804 + A1**

2. udgave
2013-12-18

Bæredygtighed inden for byggeri o
anlæg – Miljøvaredeklarationer
Grundlæggende regler for
produktkategorien bygge[illegible]

Sustainability of constructio[illegible]ks – E[illegible]onme
product declarations – Core[illegible]s for th[illegible]oduct
category of construct[illegible] prod[illegible]

DANSK STANDARD
Danish Standards

Kollegievej 6
DK-2920 Charlottenlund
Tel: +45 39 96 61 01
Fax: +45 39 96 61 02
dansk.standard@ds.dk
www.ds.dk

EXPIRED

EN15804:2012**+A2**:2019

DS Dansk standard **DS/EN 15804:2012+A2:2019**

2019-11-04

Bæredygtighed inden for byggeri og anlæg – Miljøvaredeklarationer – Grundlæggende regler for produktkategorien byggevarer

Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

DANSK STANDARD
Danish Standards Association

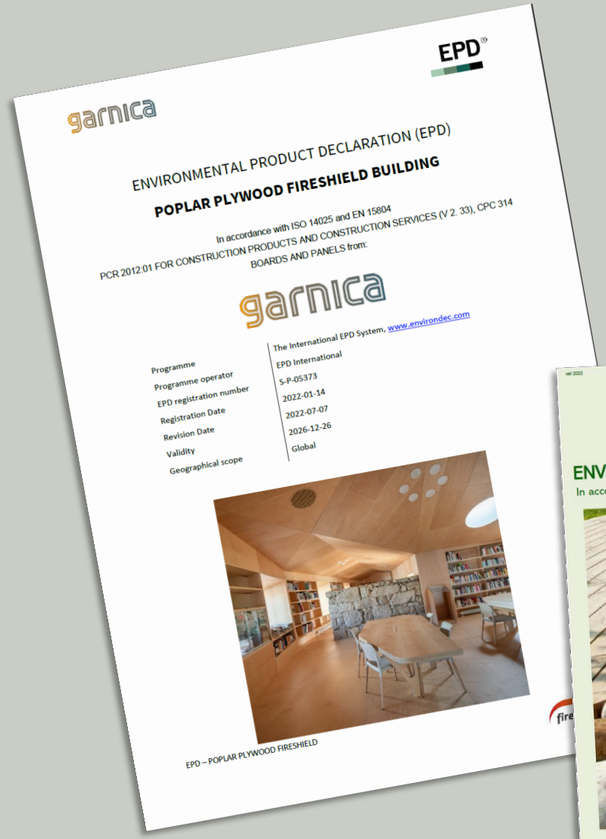
Göteborg Plads 1
DK-2150 Nordhavn
Tel: +45 39 96 61 01
Tel: +45 39 96 61 01
dansk.standard@ds.dk
www.ds.dk

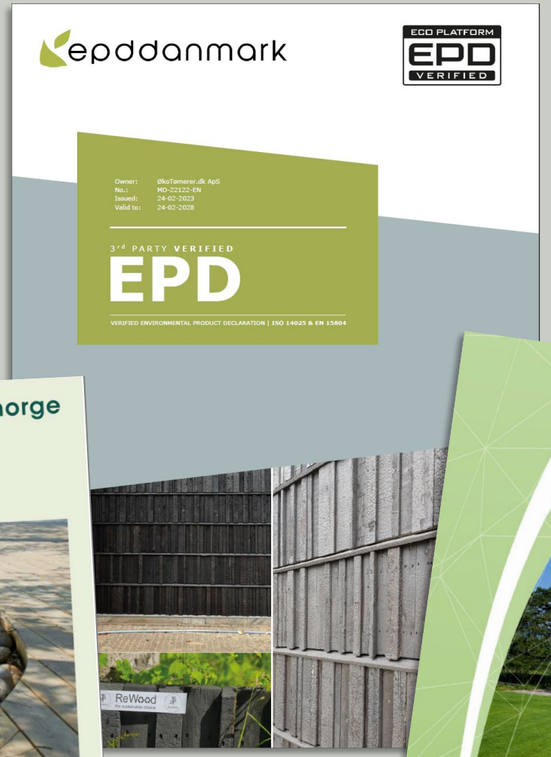
BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

Emilie Brisson Stapel
07.03.2024

EN15804:2012

MILJØDATA





Emilie Brisson Stapel
07.03.2024

EN15804:2012
MILJØDATA

Collapse all sections | Close

IBU.data

Process Data set: Aluminum metal suspended ceiling (en) *en*

▾ Process information

Key Data Set Information		
Location	TR	
Reference year	2019	
Name	Aluminum metal suspended ceiling	
Use advice for data set	Scope: Within this study a life cycle analysis according to /ISO14040/44/ is performed for aluminium suspended ceiling systems manufactured by Butem Metal at the production plant in Istanbul, Turkey. The EPD for Butem Metal for aluminium suspended ceiling systems is an average EPD which represents the life cycle analysis of the product group. The area weights for each product in aluminium product group varies depend on sheet thicknesses; accordingly the average thickness is accepted as 0.5 mm. System boundary:	This is a cradle-to-gate Life Cycle Analysis study. The product stage information modules A1, A2, and A3 are considered. In addition to the product stage, Module A5 is also considered within LCA scope. In detail, this LCA study includes production of raw material extraction and processing (A1), transport of the raw materials (A2) and transport the packaging materials to the manufacturer (A2), manufacturing of the product with the stages supply of raw material from stock, cutting, bending, dying, packaging and stockpiling (A3), recycling of recyclable waste generated during manufacturing (A3), and disposal of packaging materials (A5).
Technical purpose of product or process	The metal ceiling systems made of aluminium outlined in this LCA study are used in interior and exterior designs as rectangular panels, strip panel ceilings, square tiles, chilled ceilings, expanded metal ceilings, ceiling grids, special geometrical design panels or canopy ceilings, all functioning as cladding of the interior ceiling. It is also a low VOC emitted	interior product in compliance with /CDPH - CA Section 01350 v1.2/. Metal ceiling systems made of aluminium are produced in accordance with customer's requirements. In addition, metal ceiling panels can provide sound absorption.
Classification	Class name : Hierarchy level • OEKOBAU.DAT: 10.1.05 Komposite / Systembauteile / Decken • IBUCategories: 02 Building products / Internal and external wall and ceiling finishes / Metal ceilings	
General comment on data set	Aluminium ceiling systems are manufactured from folded or roll-formed aluminium as complete construction kits or as individual components. The construction kit comprises the membrane component, e.g. linear panels or strip panel ceilings, as well as the substructure for suspending the metal ceiling systems. It can have various suspension heights and its design is governed by the form, functional requirements and weight of the membrane components.	For the use and application of the product the respective national provisions at the place of use apply, in Germany for example the building codes of the federal states and the corresponding national specifications. The ceiling systems are manufactured by considering /TS EN 13964/ and /TS EN ISO 9224/.
Copyright	Yes	
Owner of data set	Butem Metal Form San. Ve Tic. A.S.	
Quantitative reference		
Reference flow(s)	aluminium suspended ceiling systems - 1.0 * 1.0 qm (Area)	
Material properties of the reference flow	• grammage: 2.55 kg/m^2 • layer thickness: 5.0E-4 m • conversion factor to 1kg: 2.55 -	
Time representativeness		
Data set valid until	2024	
Publication date	07-25-2019	
Technological representativeness		
Technology description including background system	The system components for metal ceilings are manufactured in a continuous manufacturing process. The sheet of aluminium comes mainly in coils, perforated (optional), punched (aligned as option), welded (optional) and cut to size. Where the membrane components do not comprise pre-coated material, they are usually powder or spray-painted after the cleaning process. A layer of acoustic tissue can then be applied to the back using a heating process. Adding heat activates a hot-melt adhesive embedded in the tissue which causes it to adhere to the back of the panel. Punching and perforation waste is gathered, collected by local disposal companies and redirected to the recycling facilities. All production steps are carried out in accordance with the requirements and test guidelines outlined in /TS EN 13964/. Aluminium ceiling panel production in the factory is included the stages supply of raw material from stock, cutting, bending, dying, packaging and stockpiling in sequence. Technical data: Butem Metal ceiling systems made of aluminium are manufactured under the warranty of the /ISO 9001/ Quality Management System to comply with the product requirement specifications. The company also has /OHSAS 18001/ Occupational Health & Safety and /ISO 14001/ Environmental Management Systems in the manufacturing plant.	Depending on the project requirements; Butem Metal can supply additional acoustic enhancement materials, which provides sound absorption value as follows: The Weighted sound absorption coefficient (αw) value: aw = 0.35 according to /TS EN ISO 11654/. Declared unit: The declared unit is 1 m2 of 1 aluminium ceiling panel with the average thickness of 0.5 mm. The area weights for each product in aluminium product group varies depend on sheet thicknesses; accordingly the average thickness is accepted as 0.5 mm. All declared products are produced in the same production procedure with some minor differences like using several membrane elements for certain products or geometrical shape of the final product.

▸ Modelling and validation

▾ Administrative information

Commissioner and goal

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AALBORG UNIVERSITET

Emilie Brisson Stapel
07.03.2024

EN15804:2012 – OPSUMMERING
MILJØDATA

EN15804:2012**+A1**:2013

- Prepared based on the LCA method, **CML**
- **(7 impact categories)**
- Revised in 2019
- **NOT VALID** as of October 1st 2022
- Documentation requirements: **A1-A3**

EN15804:2012**+A2**:2019

- Prepared based on the LCA method, **ILCD**
- **(13+6 impact categories)**
- Developed to follow the PEF method
- **VALID** from 2019
- Documentation requirements: **A1-A3 + C1-4 + D**

BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

MILJØDATA

Hvilke informationer skal vi bruge fra en EPD i en LCA?

BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

Emilie Brisson Stapel
07.03.2024

MILJØDATA

Hvilke informationer skal vi bruge fra en EPD i en LCA?

- Funktionel (FU) / Deklareret enhed
- Massefaktoren / Densitet (kg / FU)
- Dokumenterede Moduler / Faser
- Udledningen fordelt ud på de forskellige miljøpåvirkningskategorier (eks. GWP).
- Evt. tykkelse
- U-værdi / Isolans
- Brandværdi

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MILJØDATA

Hvor svært kan det være?

BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

Emilie Brisson Stapel
07.03.2024

epddanmark

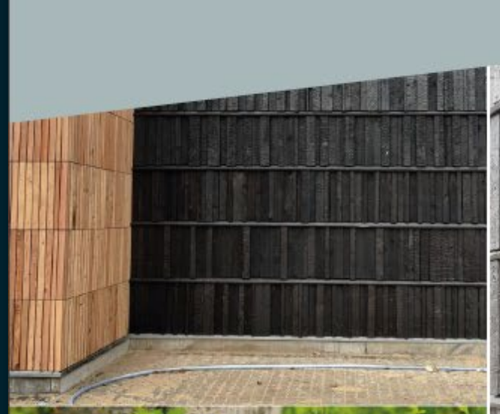
ECO PLATFORM EPD VERIFIED

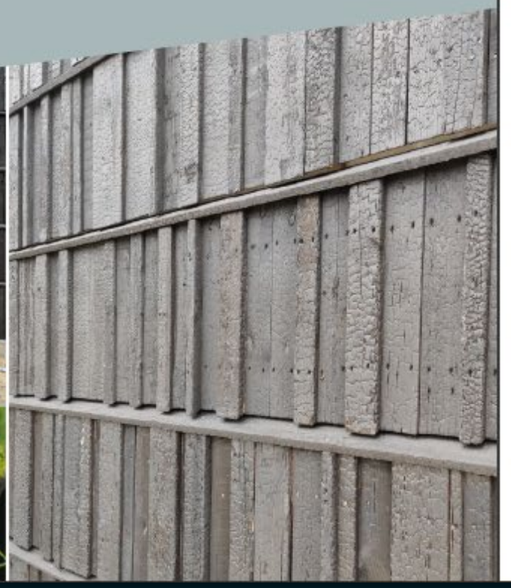
Owner: ØkoTømerer.dk ApS
No.: MD-22122-EN
Issued: 24-02-2023
Valid to: 24-02-2028

3rd PARTY VERIFIED

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804





Owner of declaration
ØkoTømerer.dk ApS
Mondrupsvej 8, Stavtrup
VAT no.: 41275634

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
1st version.

Issued: 24-02-2023
Valid to: 24-02-2028

Basis of calculation
This EPD is developed in accordance with the European standard EN 15804+A2.

Comparability
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Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☒Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:
Ninkie Bendtsen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Emilie Brisson Stapel
07.03.2024

epddanmark

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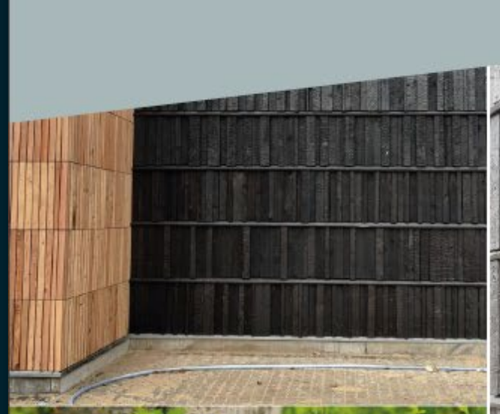

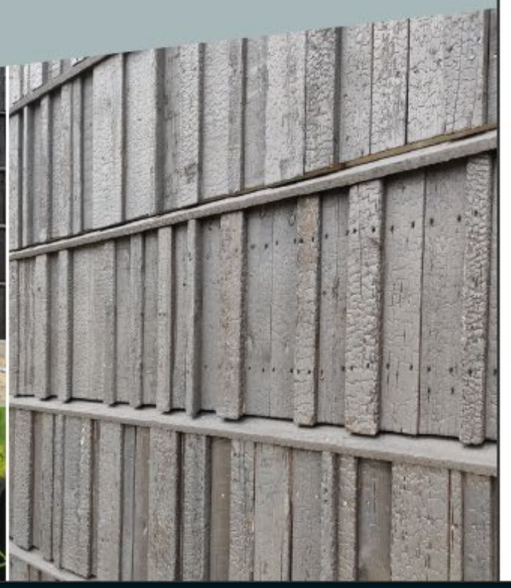

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VAT no.: 41275634

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
1st version.

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☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

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☐ internal ☒ external

Third party verifier:
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Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Emilie Brisson Stapel
07.03.2024

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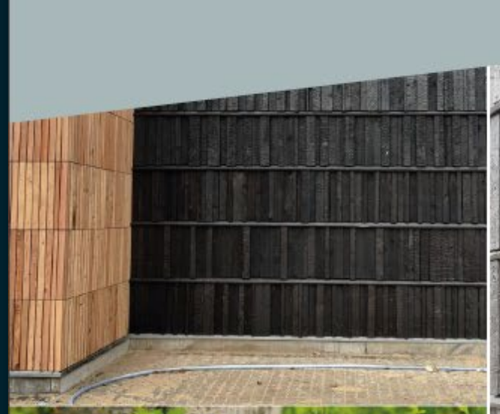

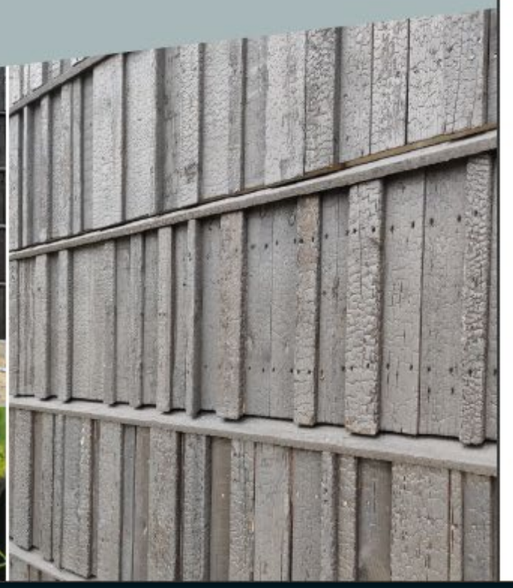

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VAT no.: 41275634

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
1st version.

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EPD type
☒Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:
Ninkie Bendtsen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Emilie Brisson Stapel
07.03.2024

epddanmark

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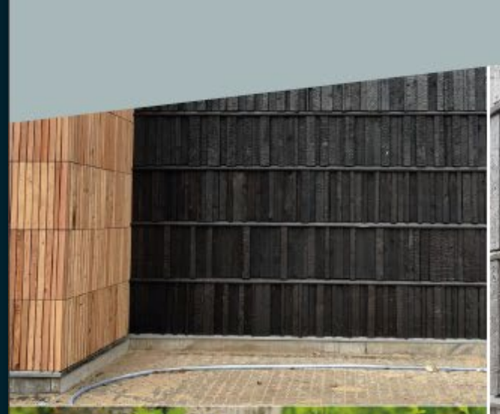

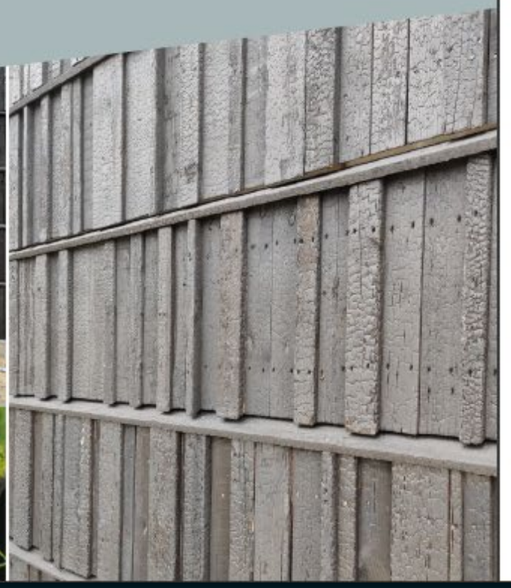

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VAT no.: 41275634

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
1st version.

Issued: 24-02-2023
Valid to: 24-02-2028

Basis of calculation
This EPD is developed in accordance with the European standard EN 15804+A2.

Comparability
EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☒Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:
Ninkie Bendtsen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Emilie Brisson Stapel
07.03.2024

epddanmark

ECO PLATFORM EPD VERIFIED

Owner: ØkoTømerer.dk ApS
No.: MD-22122-EN
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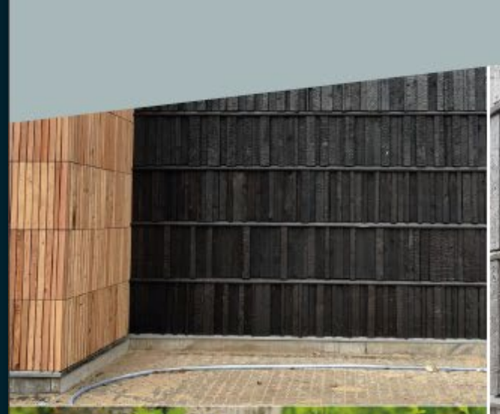
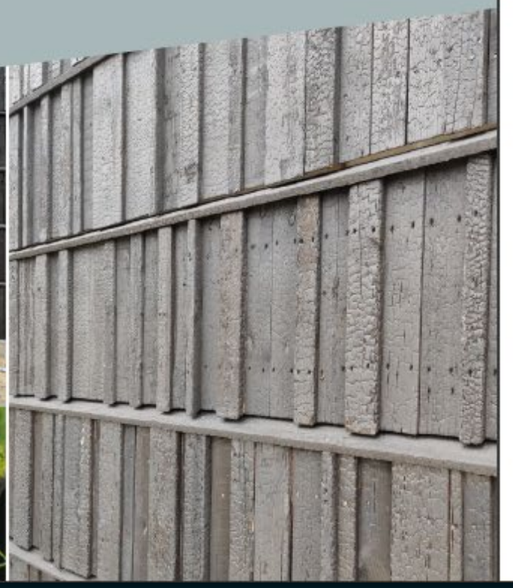
EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804





Owner of declaration
ØkoTømerer.dk ApS
Mondrupsvej 8, Stavtrup
VAT no.: 41275634

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
1st version.

Issued: 24-02-2023
Valid to: 24-02-2028

Basis of calculation
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Comparability
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EPD type
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☐Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:
Ninkie Bendtsen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Emilie Brisson Stapel
07.03.2024

epddanmark

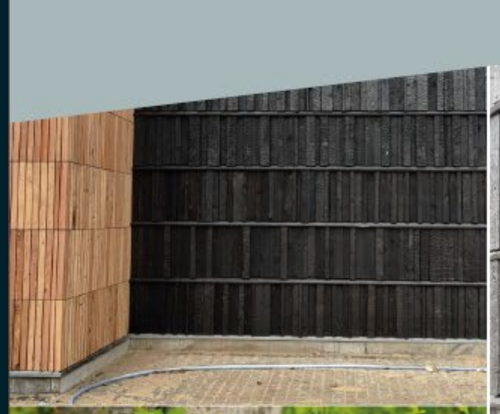
ECO PLATFORM EPD VERIFIED

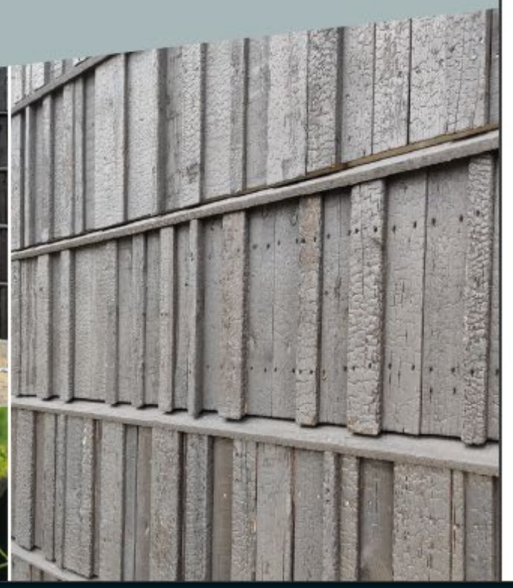
Owner: ØkoTømerer.dk ApS
No.: MD-22122-EN
Issued: 24-02-2023
Valid to: 24-02-2028

3rd PARTY VERIFIED

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804





Owner of declaration
ØkoTømerer.dk ApS
Mondrupsvej 8, Stavtrup
VAT no.: 41275634

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
1st version.

Issued: 24-02-2023
Valid to: 24-02-2028

Basis of calculation
This EPD is developed in accordance with the European standard EN 15804+A2.

Comparability
EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☒Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:
Ninkie Bendtsen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Emilie Brisson Stapel
07.03.2024

epddanmark

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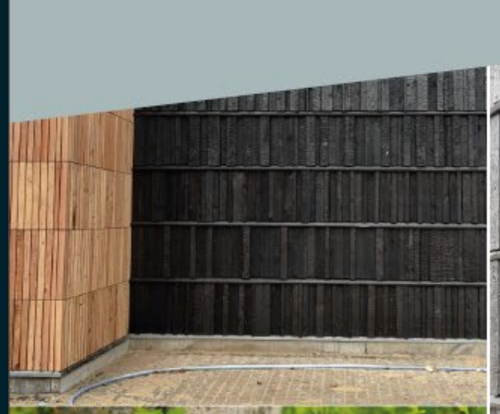
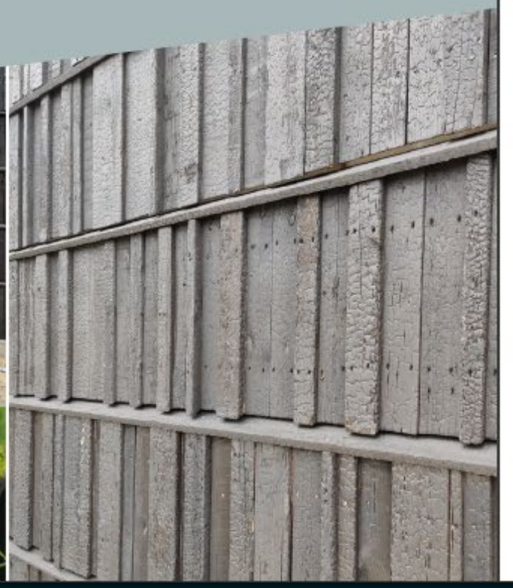
VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804





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epddanmark

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
1st version.

Issued: 24-02-2023
Valid to: 24-02-2028

Basis of calculation
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Validity
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Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☒Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
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☐Cradle-to-gate with options

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Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:
Ninkie Bendtsen

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EPD Danmark

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X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Emilie Brisson Stapel
07.03.2024

epddanmark

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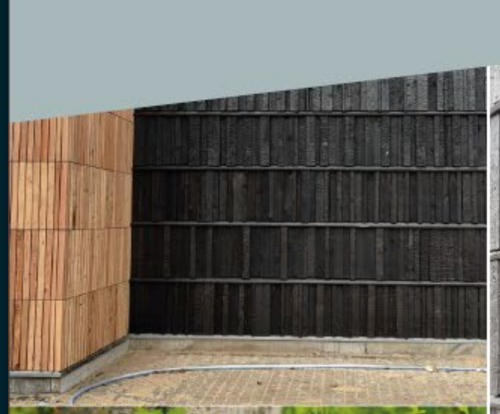

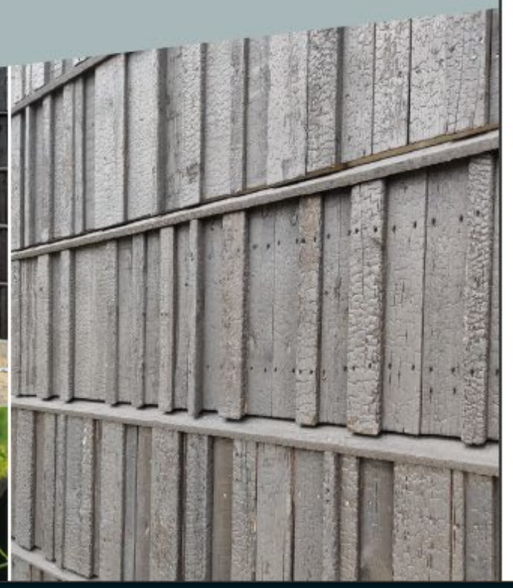

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☒ Product EPD

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Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

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Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:
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Martha Katrine Sørensen
EPD Danmark

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Product			Construction process		Use							End of life				Beyond the system boundary
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A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Emilie Brisson Stapel
07.03.2024

epddanmark

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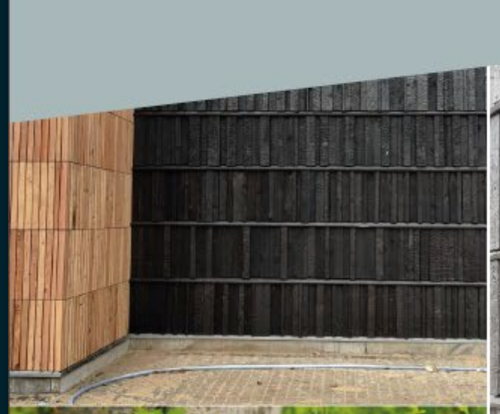

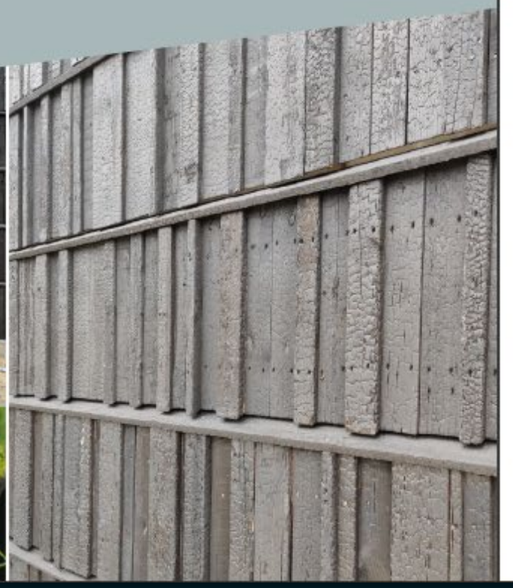

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☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
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☐Cradle-to-gate with options, modules C1-C4 and D
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☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:
Ninkie Bendtsen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Product information

Product description

The main product components are shown in the table below.

Table 1 BurntWood ReUse with surface treatment

Material	Weight-% of declared product
Linseed Oil Varnish	7,3%
Conventional Wood	15,2%
Reused Wood	75,5%
Nails	2,0%

Table 2 BurntWood ReUse without surface treatment

Material	Weight-% of declared product
Conventional Wood	16,4%
Reused Wood	81,4%
Nails	2,2%

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Hazardous substances

Both the BurntWood ReUse with or without surface treatment does not contain substances listed on the "Candidate List of Substances of Very High Concern for 3armonized3on"

(http://echa.europa.eu/candidate-list-table)

Essential characteristics

BurntWood are covered by 3armonized technical specification EN 350:2016

Further technical information can be obtained by contacting the manufacturer or on the manufacturers website:

https://www.burntwood.dk/data/

Table 3 BurntWood ReUse with surface treatment

Material	Weight-% of packaging
Kraft paper	3,0%
Euro pallet	96,6%
PET strap	0,4%

Table 4 BurntWood ReUse without surface treatment

Material	Weight-% of packaging
Euro pallet	99,6%
PET strap	0,4%

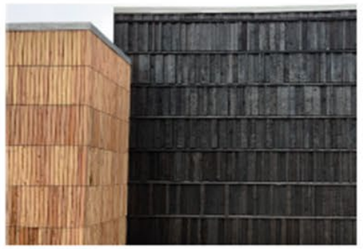
Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production from a single producer and a single production site. The production site is located in Aarhus, Denmark. The end-of-life represents disposal in Danmark. Background data are based on Ecoinvent 3.8 database and are less than 10 years old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Reference Service Life (RSL)

No RSL is declared. This EPD is based on a cradle to gate with modules C1-4 and D and does not include the use stage.

Picture of product



Emilie Brisson Stapel
07.03.2024

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 m^2 BurntWood ReUse with or without surface treatment.

Tabel 5 BurntWood ReUse with surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	20,01	kg/m^2
Density (pinewood)	430	Kg/M3
Conversion factor to 1 kg.	0,05	-

Not defined

Table 6 BurntWood ReUse without surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	18,5	kg/m^2
Density (pinewood)	430	Kg/m3
Conversion factor to 1 kg.	0,054	-

Guarantee of Origin – certificates

Foreground system:

No use of certified green energy. Average energy mix from is used in production.

Background system:

No use of certified green energy.

Upstream processes are modelled using national energy mix. Downstream processes are modelled using national energy mix.

Functional unit

No defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2 and the cPCR 16485.

Product information

Product description

The main product components are shown in the table below.

Table 1 BurntWood ReUse with surface treatment

Material	Weight-% of declared product
Linseed Oil Varnish	7,3%
Conventional Wood	15,2%
Reused Wood	75,5%
Nails	2,0%

Table 2 BurntWood ReUse without surface treatment

Material	Weight-% of declared product
Conventional Wood	16,4%
Reused Wood	81,4%
Nails	2,2%

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Hazardous substances

Both the BurntWood ReUse with or without surface treatment does not contain substances listed on the "Candidate List of Substances of Very High Concern for 3armonized3on"

(http://echa.europa.eu/candidate-list-table)

Essential characteristics

BurntWood are covered by 3armonized technical specification EN 350:2016

Further technical information can be obtained by contacting the manufacturer or on the manufacturers website:

https://www.burntwood.dk/data/

Table 3 BurntWood ReUse with surface treatment

Material	Weight-% of packaging
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Euro pallet	96,6%
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Euro pallet	99,6%
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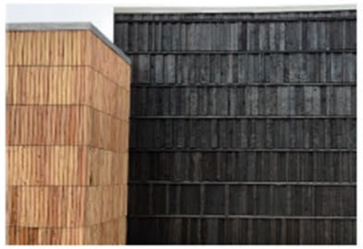
Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production from a single producer and a single production site. The production site is located in Aarhus, Denmark. The end-of-life represents disposal in Danmark. Background data are based on Ecoinvent 3.8 database and are less than 10 years old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Reference Service Life (RSL)

No RSL is declared. This EPD is based on a cradle to gate with modules C1-4 and D and does not include the use stage.

Picture of product



LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 m^2 BurntWood ReUse with or without surface treatment.

Tabel 5 BurntWood ReUse with surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	20,01	kg/m^2
Density (pinewood)	430	Kg/M3
Conversion factor to 1 kg.	0,05	-

Not defined

Table 6 BurntWood ReUse without surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	18,5	kg/m^2
Density (pinewood)	430	Kg/m3
Conversion factor to 1 kg.	0,054	-

Guarantee of Origin – certificates

Foreground system:

No use of certified green energy. Average energy mix from is used in production.

Background system:

No use of certified green energy.

Upstream processes are modelled using national energy mix. Downstream processes are modelled using national energy mix.

Functional unit

No defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2 and the cPCR 16485.

Product information

Product description

The main product components are shown in the table below.

Table 1 BurntWood ReUse with surface treatment

Material	Weight-% of declared product
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Table 2 BurntWood ReUse without surface treatment

Material	Weight-% of declared product
Conventional Wood	16,4%
Reused Wood	81,4%
Nails	2,2%

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Hazardous substances

Both the BurntWood ReUse with or without surface treatment does not contain substances listed on the "Candidate List of Substances of Very High Concern for 3armonized3on"

(http://echa.europa.eu/candidate-list-table)

Essential characteristics

BurntWood are covered by 3armonized technical specification EN 350:2016

Further technical information can be obtained by contacting the manufacturer or on the manufacturers website:

https://www.burntwood.dk/data/

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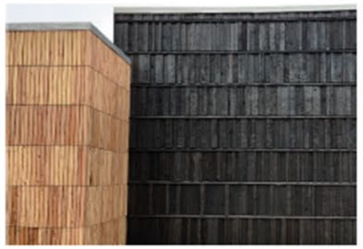
Reference Service Life (RSL)

No RSL is declared. This EPD is based on a cradle to gate with modules C1-4 and D and does not include the use stage.

Picture of product



Emilie Brisson Stapel
07.03.2024

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 m^2 BurntWood ReUse with or without surface treatment.

Tabel 5 BurntWood ReUse with surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	20,01	kg/m^2
Density (pinewood)	430	Kg/M3
Conversion factor to 1 kg.	0,05	-

Not defined

Table 6 BurntWood ReUse without surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	18,5	kg/m^2
Density (pinewood)	430	Kg/m3
Conversion factor to 1 kg.	0,054	-

Guarantee of Origin – certificates

Foreground system:

No use of certified green energy. Average energy mix from is used in production.

Background system:

No use of certified green energy.

Upstream processes are modelled using national energy mix. Downstream processes are modelled using national energy mix.

Functional unit

No defined

PCR

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Product information

Product description

The main product components are shown in the table below.

Table 1 BurntWood ReUse with surface treatment

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Table 2 BurntWood ReUse without surface treatment

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Reused Wood	81,4%
Nails	2,2%

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Hazardous substances

Both the BurntWood ReUse with or without surface treatment does not contain substances listed on the "Candidate List of Substances of Very High Concern for 3armonized3on"

(http://echa.europa.eu/candidate-list-table)

Essential characteristics

BurntWood are covered by 3armonized technical specification EN 350:2016

Further technical information can be obtained by contacting the manufacturer or on the manufacturers website:

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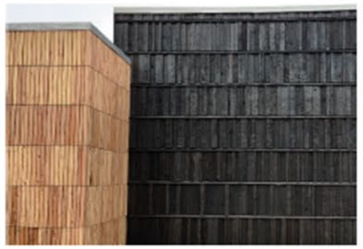
Reference Service Life (RSL)

No RSL is declared. This EPD is based on a cradle to gate with modules C1-4 and D and does not include the use stage.

Picture of product



Emilie Brisson Stapel
07.03.2024

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 m^2 BurntWood ReUse with or without surface treatment.

Tabel 5 BurntWood ReUse with surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	20,01	kg/m^2
Density (pinewood)	430	Kg/M3
Conversion factor to 1 kg.	0,05	-

Not defined

Table 6 BurntWood ReUse without surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	18,5	kg/m^2
Density (pinewood)	430	Kg/m3
Conversion factor to 1 kg.	0,054	-

Guarantee of Origin – certificates

Foreground system:

No use of certified green energy. Average energy mix from is used in production.

Background system:

No use of certified green energy.

Upstream processes are modelled using national energy mix. Downstream processes are modelled using national energy mix.

Functional unit

No defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2 and the cPCR 16485.

Product information

Product description

The main product components are shown in the table below.

Table 1 BurntWood ReUse with surface treatment

Material	Weight-% of declared product
Linseed Oil Varnish	7,3%
Conventional Wood	15,2%
Reused Wood	75,5%
Nails	2,0%

Table 2 BurntWood ReUse without surface treatment

Material	Weight-% of declared product
Conventional Wood	16,4%
Reused Wood	81,4%
Nails	2,2%

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Hazardous substances

Both the BurntWood ReUse with or without surface treatment does not contain substances listed on the "Candidate List of Substances of Very High Concern for 3armonized3on"

(http://echa.europa.eu/candidate-list-table)

Essential characteristics

BurntWood are covered by 3armonized technical specification EN 350:2016

Further technical information can be obtained by contacting the manufacturer or on the manufacturers website:

https://www.burntwood.dk/data/

Table 3 BurntWood ReUse with surface treatment

Material	Weight-% of packaging
Kraft paper	3,0%
Euro pallet	96,6%
PET strap	0,4%

Table 4 BurntWood ReUse without surface treatment

Material	Weight-% of packaging
Euro pallet	99,6%
PET strap	0,4%

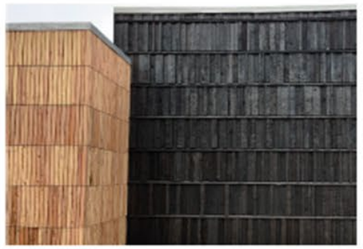
Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production from a single producer and a single production site. The production site is located in Aarhus, Denmark. The end-of-life represents disposal in Danmark. Background data are based on Ecoinvent 3.8 database and are less than 10 years old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Reference Service Life (RSL)

No RSL is declared. This EPD is based on a cradle to gate with modules C1-4 and D and does not include the use stage.

Picture of product



Emilie Brisson Stapel
07.03.2024

LCA background

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The LCI and LCIA results in this EPD relates to 1 m^2 BurntWood ReUse with or without surface treatment.

Tabel 5 BurntWood ReUse with surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	20,01	kg/m^2
Density (pinewood)	430	Kg/M3
Conversion factor to 1 kg.	0,05	-

Not defined

Table 6 BurntWood ReUse without surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	18,5	kg/m^2
Density (pinewood)	430	Kg/m3
Conversion factor to 1 kg.	0,054	-

Guarantee of Origin – certificates

Foreground system:

No use of certified green energy. Average energy mix from is used in production.

Background system:

No use of certified green energy.

Upstream processes are modelled using national energy mix. Downstream processes are modelled using national energy mix.

Functional unit

No defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2 and the cPCR 16485.

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Hazardous substances

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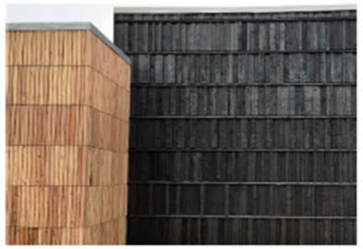

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Foreground system:

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Background system:

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Upstream processes are modelled using national energy mix. Downstream processes are modelled using national energy mix.

Functional unit

No defined

PCR

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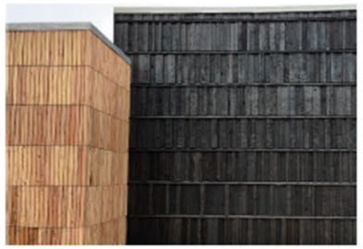

Emilie Brisson Stapel
07.03.2024

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Name	Value	Unit
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Density (pinewood)	430	Kg/m3
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Functional unit

No defined

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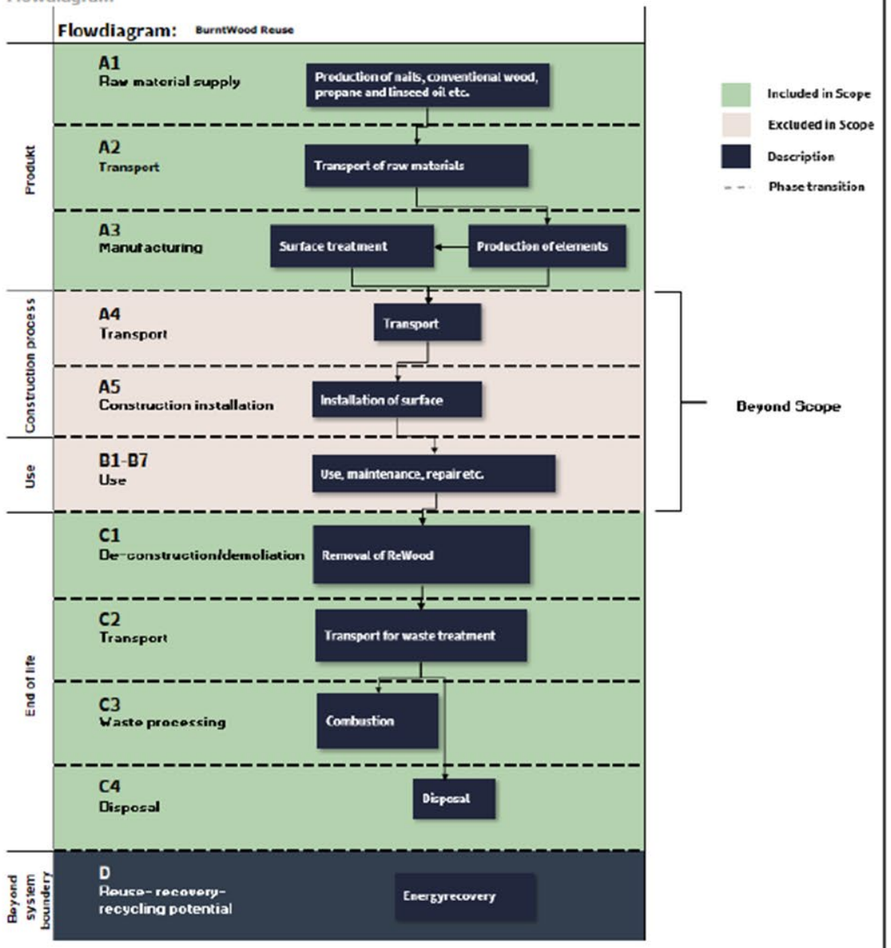
Flowdiagram



System boundary

This EPD is based on a cradle-to-gate LCA with modules C1-C4 and D, in which 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site, packaging and waste processing up to the "end-of-waste" state or final disposal. The LCA results are declared in aggregated form for the product stage, which means, that the sub-modules A1, A2 and A3 are declared as one module A1-A3.

End of Life (C1-C4) includes:

End-of-life includes a Danish scenario for waste processing of oiled and waste wood and scrap steel for nails. According to the Danish Environment Agency, oiled and waste wood is treated as combustible waste, which means that the material is incinerated as waste. Since the nails are embedded in the elements they are sent to incineration as well.

C1 – Deconstruction demolition

C2 – Transport to waste processing

C3 – Waste processing

C4 – Disposal

For the BurntWood ReUse with surface treatment, it has no influence on the deconstruction or demolition of the wood, and none of the materials is disposed as part of C4 module of in either products. All material components are treated in the C3 module.

Re-use, recovery and recycling potential (D) includes:

As the materials gets incinerated, electricity and heat will be produced, which replaces electricity and heat. The produced electricity replaces the Danish electricity mix and the heat produced is replacing natural gas. The energy and heat potential from the reused wood in both products is included according to cPCR 16485.

Emilie Brisson Stapel
07.03.2024

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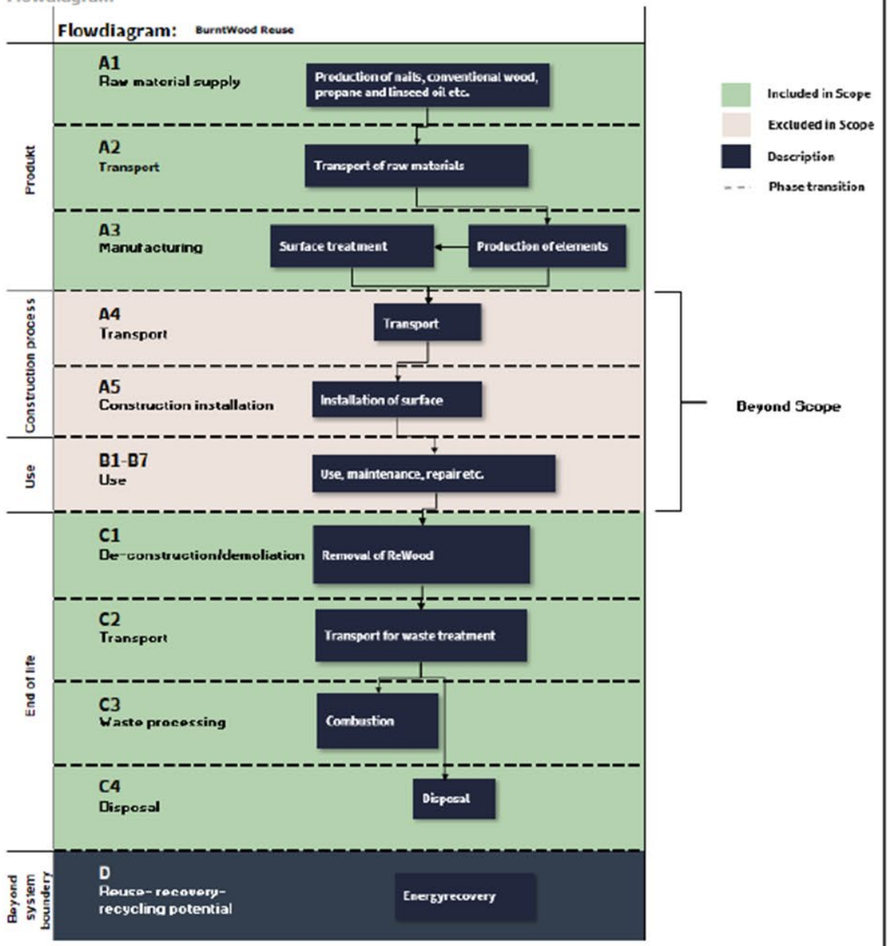

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LCA results

ENVIRONMENTAL IMPACTS PER m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Indicator	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	-3,09E+01	0,00E+00	2,55E-01	3,36E+01	0,00E+00	-4,23E+00	-3,15E+01	0,00E+00	2,75E-01	3,77E+01	0,00E+00	-4,63E+00
GWP-fossil	kg CO_2 eq.	2,39E+00	0,00E+00	2,54E-01	2,83E-01	0,00E+00	-4,15E+00	5,83E+00	0,00E+00	2,74E-01	3,05E-01	0,00E+00	-4,49E+00
GWP-biogenic	kg CO_2 eq.	-3,33+E01	0,00E+00	2,20E-04	3,33E+01	0,00E+00	-1,25E-01	-3,74E+01	0,00E+00	2,37E-04	3,74E+01	0,00E+00	-1,35E-01
GWP-luluc	kg CO_2 eq.	1,04E-02	0,00E+00	1,02E-04	9,43E-05	0,00E+00	-5,22E-03	1,90E-02	0,00E+00	1,10E-04	1,02E-04	0,00E+00	-5,64E-03
ODP	kg CFC 11 eq.	5,41E-07	0,00E+00	5,89E-08	2,02E-08	0,00E+00	-1,65E-07	8,23E-07	0,00E+00	6,35E-08	2,18E-08	0,00E+00	-1,78E-07
AP	mol H^+ eq.	1,18E-02	0,00E+00	7,23E-04	3,00E-03	0,00E+00	-1,04E-02	7,82E-02	0,00E+00	7,79E-04	3,24E-03	0,00E+00	-1,13E-02
EP-freshwater	kg P eq.	7,35E-04	0,00E+00	1,67E-05	1,28E-04	0,00E+00	-1,89E-03	1,57E-03	0,00E+00	1,80E-05	1,38E-04	0,00E+00	-2,05E-03
EP-marine	kg N eq.	3,28E-03	0,00E+00	1,47E-04	1,57E-03	0,00E+00	-2,75E-03	4,35E-02	0,00E+00	1,58E-04	1,70E-03	0,00E+00	-2,97E-03
EP-terrestrial	mol N eq.	3,57E-02	0,00E+00	1,60E-03	1,51E-02	0,00E+00	-3,02E-02	3,14E-01	0,00E+00	1,73E-03	1,63E-02	0,00E+00	-3,26E-02
POCP	kg NMVOC eq.	1,26E-02	0,00E+00	6,15E-04	3,72E-03	0,00E+00	-7,11E-03	2,69E-02	0,00E+00	6,63E-04	4,02E-03	0,00E+00	-7,68E-03
ADPm[1]	kg Sb eq.	1,20E-05	0,00E+00	9,02E-07	7,04E-07	0,00E+00	-1,23E-05	3,54E-05	0,00E+00	9,72E-07	7,60E-07	0,00E+00	-1,32E-05
ADPf[1]	MJ	3,80E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,65E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
WDP[1]	m^3 world eq. Deprived	5,98E-01	0,00E+00	1,17E-02	-2,07E-01	0,00E+00	-6,39E-01	8,10E+00	0,00E+00	1,27E-02	-2,23E-01	0,00E+00	-6,90E-01
Caption	GWP-total = Globale Warming Potential – total; GWP-fossil = Global Warming Potential – fossil fuels; GWP-biogenic = Global Warming Potential – biogenic; GWP-luluc = Global Warming Potential – land use and land use change; ODP = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use												
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.												

ADDITIONAL ENVIRONMENTAL IMPACTS PER m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	3,17E-07	0,00E+00	2,05E-08	3,29E-08	0,00E+00	-5,79E-08	7,77E-07	0,00E+00	2,21E-08	3,54E-08	0,00E+00	-6,25E-08
IRP[2]	[kBq U235 eq.]	3,25E-01	0,00E+00	1,99E-02	5,50E-03	0,00E+00	-6,40E-01	4,42E-01	0,00E+00	2,14E-02	5,92E-03	0,00E+00	-6,91E-01
ETP-fw[1]	[CTUe]	4,46E+01	0,00E+00	3,03E+00	4,50E+00	0,00E+00	-6,56E+01	2,14E+02	0,00E+00	3,26E+00	4,85E+00	0,00E+00	-6,01E+01
HTP-c[1]	[CTUh]	6,01E-09	0,00E+00	9,74E-11	8,08E-10	0,00E+00	-1,07E-09	7,08E-09	0,00E+00	1,05E-10	8,73E-10	0,00E+00	-1,16E-09
HTP-nc[1]	[CTUh]	4,25E-08	0,00E+00	3,07E-09	3,82E-08	0,00E+00	-3,09E-08	1,41E-07	0,00E+00	3,31E-09	4,12E-08	0,00E+00	-3,34E-08
SQP[1]	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality												
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator. [2] This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.												

RESOURCE USE PER m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	1,91E+02	0,00E+00	1,39E-02	1,91E-02	0,00E+00	-9,75E+00	2,21E+02	0,00E+00	1,50E-02	2,06E-02	0,00E+00	-1,05E+01
PERM	[MJ]	2,85E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,44E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	4,76E+02	0,00E+00	1,39E-02	1,91E-02	0,00E+00	-9,75E+00	5,65E+02	0,00E+00	1,50E-02	2,06E-02	0,00E+00	-1,05E+01
PENRE	[MJ]	3,80E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,64E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
PENRM	[MJ]	4,81E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,37E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	3,85E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,71E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
SM	[kg]	1,51E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,51E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	2,79E-02	0,00E+00	4,37E-04	-3,88E-03	0,00E+00	-9,84E-02	3,11E-01	0,00E+00	4,71E-04	-4,19E-03	0,00E+00	-1,06E-01
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water												

Emilie Brisson Stapel
07.03.2024

LCA results

ENVIRONMENTAL IMPACTS PER m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Indicator	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	-3,09E+01	0,00E+00	2,55E-01	3,36E+01	0,00E+00	-4,23E+00	-3,15E+01	0,00E+00	2,75E-01	3,77E+01	0,00E+00	-4,63E+00
GWP-fossil	kg CO_2 eq.	2,39E+00	0,00E+00	2,54E-01	2,83E-01	0,00E+00	-4,15E+00	5,83E+00	0,00E+00	2,74E-01	3,05E-01	0,00E+00	-4,49E+00
GWP-biogenic	kg CO_2 eq.	-3,33+E01	0,00E+00	2,20E-04	3,33E+01	0,00E+00	-1,25E-01	-3,74E+01	0,00E+00	2,37E-04	3,74E+01	0,00E+00	-1,35E-01
GWP-luluc	kg CO_2 eq.	1,04E-02	0,00E+00	1,02E-04	9,43E-05	0,00E+00	-5,22E-03	1,90E-02	0,00E+00	1,10E-04	1,02E-04	0,00E+00	-5,64E-03
ODP	kg CFC 11 eq.	5,41E-07	0,00E+00	5,89E-08	2,02E-08	0,00E+00	-1,65E-07	8,23E-07	0,00E+00	6,35E-08	2,18E-08	0,00E+00	-1,78E-07
AP	mol H^+ eq.	1,18E-02	0,00E+00	7,23E-04	3,00E-03	0,00E+00	-1,04E-02	7,82E-02	0,00E+00	7,79E-04	3,24E-03	0,00E+00	-1,13E-02
EP-freshwater	kg P eq.	7,35E-04	0,00E+00	1,67E-05	1,28E-04	0,00E+00	-1,83E-03	1,57E-03	0,00E+00	1,80E-05	1,38E-04	0,00E+00	-2,05E-03
EP-marine	kg N eq.	3,28E-03	0,00E+00	1,47E-04	1,57E-03	0,00E+00	-2,75E-03	4,35E-02	0,00E+00	1,58E-04	1,70E-03	0,00E+00	-2,97E-03
EP-terrestrial	mol N eq.	3,57E-02	0,00E+00	1,60E-03	1,51E-02	0,00E+00	-3,02E-02	3,14E-01	0,00E+00	1,73E-03	1,63E-02	0,00E+00	-3,26E-02
POCP	kg NMVOC eq.	1,26E-02	0,00E+00	6,15E-04	3,72E-03	0,00E+00	-7,11E-03	2,69E-02	0,00E+00	6,63E-04	4,02E-03	0,00E+00	-7,68E-03
ADPm[1]	kg Sb eq.	1,20E-05	0,00E+00	9,02E-07	7,04E-07	0,00E+00	-1,23E-05	3,54E-05	0,00E+00	9,72E-07	7,60E-07	0,00E+00	-1,32E-05
ADPf[1]	MJ	3,80E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,65E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
WDP[1]	m^3 world eq. Deprived	5,98E-01	0,00E+00	1,17E-02	-2,07E-01	0,00E+00	-6,39E-01	8,10E+00	0,00E+00	1,27E-02	-2,23E-01	0,00E+00	-6,90E-01
Caption	GWP-total = Globale Warming Potential – total; GWP-fossil = Global Warming Potential – fossil fuels; GWP-biogenic = Global Warming Potential – biogenic; GWP-luluc = Global Warming Potential – land use and land use change; ODP = Ozone Depletion; AP = Acidification; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use												
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.												

ADDITIONAL ENVIRONMENTAL IMPACTS PER m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	3,17E-07	0,00E+00	2,05E-08	3,29E-08	0,00E+00	-5,79E-08	7,77E-07	0,00E+00	2,21E-08	3,54E-08	0,00E+00	-6,25E-08
IRP[2]	[kBq U235 eq.]	3,25E-01	0,00E+00	1,99E-02	5,50E-03	0,00E+00	-6,40E-01	4,42E-01	0,00E+00	2,14E-02	5,92E-03	0,00E+00	-6,91E-01
ETP-fw[1]	[CTUe]	4,46E+01	0,00E+00	3,03E+00	4,50E+00	0,00E+00	-6,56E+01	2,14E+02	0,00E+00	3,26E+00	4,85E+00	0,00E+00	-6,01E+01
HTP-c[1]	[CTUh]	6,01E-09	0,00E+00	9,74E-11	8,08E-10	0,00E+00	-1,07E-09	7,08E-09	0,00E+00	1,05E-10	8,73E-10	0,00E+00	-1,16E-09
HTP-nc[1]	[CTUh]	4,25E-08	0,00E+00	3,07E-09	3,82E-08	0,00E+00	-3,09E-08	1,41E-07	0,00E+00	3,31E-09	4,12E-08	0,00E+00	-3,34E-08
SQP[1]	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality												
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator. [2] This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.												

RESOURCE USE PER m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	1,91E+02	0,00E+00	1,39E-02	1,91E-02	0,00E+00	-9,75E+00	2,21E+02	0,00E+00	1,50E-02	2,06E-02	0,00E+00	-1,05E+01
PERM	[MJ]	2,85E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,44E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	4,76E+02	0,00E+00	1,39E-02	1,91E-02	0,00E+00	-9,75E+00	5,65E+02	0,00E+00	1,50E-02	2,06E-02	0,00E+00	-1,05E+01
PENRE	[MJ]	3,80E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,64E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
PENRM	[MJ]	4,81E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,37E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	3,85E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,71E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
SM	[kg]	1,51E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,51E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	2,79E-02	0,00E+00	4,37E-04	-3,88E-03	0,00E+00	-9,84E-02	3,11E-01	0,00E+00	4,71E-04	-4,19E-03	0,00E+00	-1,06E-01
Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water												

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07.03.2024

WASTE CATEGORIES AND OUTPUT FLOWS PER m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	8,47E-05	0,00E+00	1,01E-05	5,66E-06	0,00E+00	-5,14E-05	2,22E-04	0,00E+00	1,09E-05	6,10E-06	0,00E+00	-5,56E-05
NHWD	[kg]	1,09E+00	0,00E+00	2,02E-01	2,16E-01	0,00E+00	-2,42E-01	1,85E+00	0,00E+00	2,18E-01	2,33E-01	0,00E+00	-2,61E-01
RWD	[kg]	2,07E-04	0,00E+00	2,61E-05	4,79E-06	0,00E+00	-1,61E-04	3,11E-04	0,00E+00	2,81E-05	5,15E-06	0,00E+00	-1,74E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	3,18E+01	0,00E+00	0,00E+00	9,54E-02	0,00E+00	0,00E+00	3,43E+01	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	6,34E+01	0,00E+00	0,00E+00	1,86E-01	0,00E+00	0,00E+00	6,85E+01	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy												

BIOGENIC CARBON CONTENT PER m²			
Parameter	Unit	At the factory gate	
		BurntWood ReUse without surface treatment	BurntWood ReUse with surface treatment
Biogenic carbon content in product	[kg C]	9,08	10,2
Biogenic carbon content in accompanying packagaing	[kg C]	1,09	1,12
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2		

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07.03.2024

Additional information

LCA interpretation

For the BurntWood ReUse without surface treatment the process and raw materials which are of most important are the conventional wood due to harvesting in forrest and proesses from the sawnmill also the EUR pallet due to its composition of wood, nails and glue. For the BurntWood ReUse with surface treatment the process and raw material of most important is mainly the linseed oil due to harvesting of seed, use of fertilizer, water and obtains land.

Technical information on scenarios

BurntWood ReUse with BurntWood surface treatment End of life (C1-C4)

Scenario information	Value	Unit
Collected separately	0	kg
Collected with mixed waste	0	kg
For reuse	0	kg
For recycling	0	kg
For energy recovery	20,01	kg
For final disposal	0	kg
Assumptions for scenario development	0	As appropriate

BurntWood ReUse without BurntWood surface treatment End of life (C1-C4)

Scenario information	Value	Unit
Collected separately	0	kg
Collected with mixed waste	0	kg
For reuse	0	kg
For recycling	0	kg
For energy recovery	18,5	kg
For final disposal	0	kg
Assumptions for scenario development	0	As appropriate

BurntWood ReUse without Burntwood surface treatment Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value	Unit
Electricity from incineration	31,78	MJ
Heat from incineration	63,37	MJ

BurntWood ReUse with Burntwood surface treatment Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value	Unit
Electricity from incineration	34,33	MJ
Heat from incineration	68,47	MJ

Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.1.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.2.

Emilie Brisson Stapel
07.03.2024

References

Publisher	epddanmark www.epddanmark.dk
Programme operator	Danish Technological Institute Buildings & Environment Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA-practitioner	Lasse Langstrup Hägerstrand Transition ApS Vester Farimagsgade 6, 4. sal 1606 København V e-mail: lasse@transition.nu
LCA software /background data	SimaPro 9.4.0.2. / Ecoinvent v.3.8 Database
3rd party verifier	Ninkie Bendtsen NIRAS A/S Sortemosevej 19 3450 Allerød

General programme instructions
General Programme Instructions, version 2.0, spring 2020 www.epddanmark.dk

EN 15804
DS/EN 15804 + A2:2019 - "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products"

EN 15942
DS/EN 15942:2011 – " Sustainability of construction works – Environmental product declarations – Communication format business-to-business"

ISO 14025
DS/EN ISO 14025:2010 – " Environmental labels and declarations – Type III environmental declarations – Principles and procedures"

ISO 14040
DS/EN ISO 14040:2008 – " Environmental management – Life cycle assessment – Principles and framework"

ISO 14044
DS/EN ISO 14044:2008 – " Environmental management – Life cycle assessment – Requirements and guidelines"

ISO 16485
DS/EN 16485 Round and sawn timber – Environmental Product Declarations – Product category rules for wood and wood-based products for use in contructions

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Soil and water

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References

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ISO 16485
DS/EN 16485 Round and sawn timber – Environmental Product Declarations – Product category rules for wood and wood-based products for use in contructions

MILJØDATA
OG LCA – HVORDAN?

BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

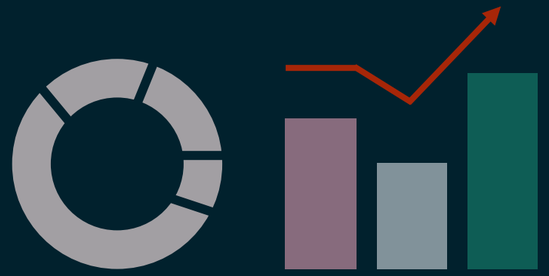
Emilie Brisson Stapel
07.03.2024

DEN BÆREDYGTIGE AGENDA

LCA BEREGNING – PROCES

MÆNGDE × MILJØDATA* = KLIMAPÅVIRKNINGEN

100 m stålrør



2 kg CO_2 / m rør

200 kg CO_2

*Generisk eller produktspecifik data (EPD)

Værdibyg vejledningen udkom i november 2023

Emilie Brisson Stapel
07.03.2024

DEN BÆREDYGTIGE AGENDA

LCA BEREGNING – PROCES

100 m stålrør

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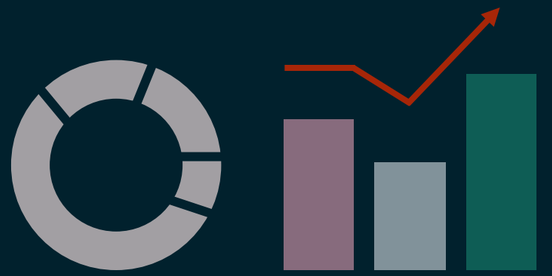


2 kg CO_2 / m rør

=

200 kg CO_2

Emilie Brisson Stapel
07.03.2024

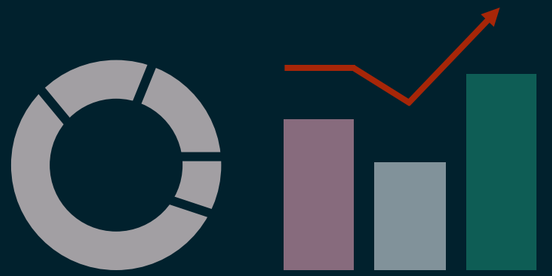
DEN BÆREDYGTIGE AGENDA

LCA BEREGNING – PROCES

1. Kortlæg, hvilke materialetyper, der findes i byggeriet, og i hvilke mængder

100 m stålrør

×



2 kg CO_2 / m rør

=

200 kg CO_2

Emilie Brisson Stapel
07.03.2024

DEN BÆREDYGTIGE AGENDA

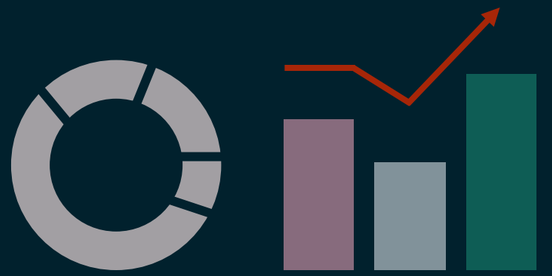
LCA BEREGNING – PROCES

1. Kortlæg, hvilke materialetyper, der findes i byggeriet, og i hvilke mængder

2. Identificér, hvor meget CO_2 samtlige materialetyper udleder ift. mængderne – f.eks. via EPD'er (Environmental Product Declarations) eller anden miljødata

100 m stålrør

×



2 kg CO_2 / m rør

=

200 kg CO_2

BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

Emilie Brisson Stapel
07.03.2024

DEN BÆREDYGTIGE AGENDA

LCA BEREGNING – PROCES

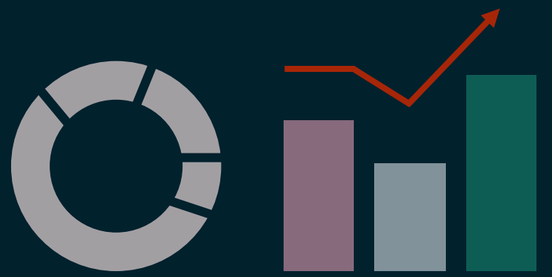
1. Kortlæg, hvilke materialetyper, der findes i byggeriet, og i hvilke mængder

2. Identificér, hvor meget CO_2 samtlige materialetyper udleder ift. mængderne – f.eks. via EPD'er (Environmental Product Declarations) eller anden miljødata

3. Gang materialetypernes mængde og CO_2-data sammen og summér op for samtlige materialer

100 m stålrør

×



2 kg CO_2 / m rør

=

200 kg CO_2

BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

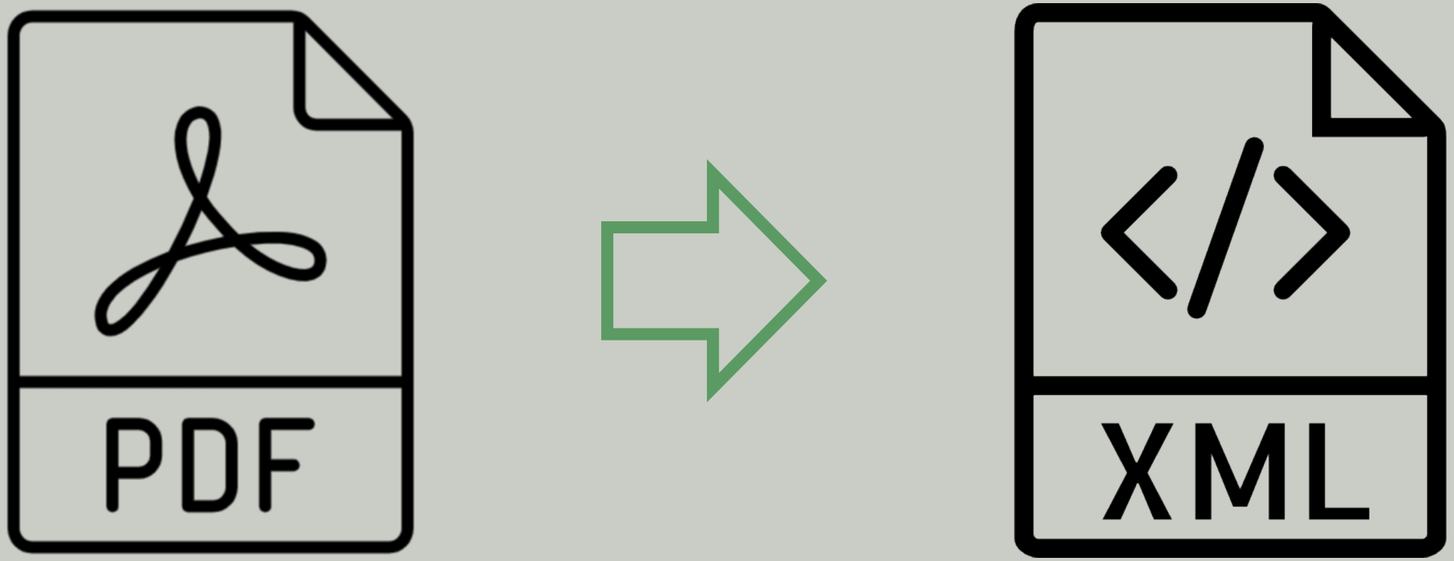
MILJØDATA DIGITALISERING

BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

Emilie Brisson Stapel
07.03.2024

DIGITALISERING

Miljødata – Environmental Product Declarations



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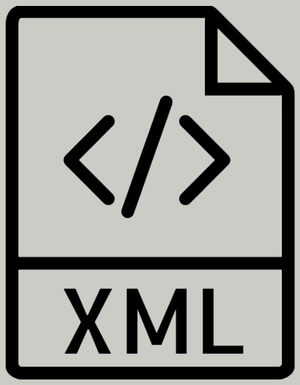
07.03.2024

DIGITALISERING

Miljødata – Environmental Product Declarations

ILCD+EPD



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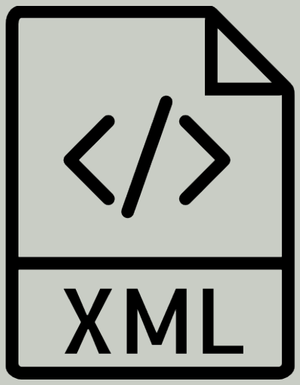
AALBORG UNIVERSITET

Emilie Brisson Stapel
07.03.2024

DIGITALISERING

Miljødata – Environmental Product Declarations

ILCD+EPD



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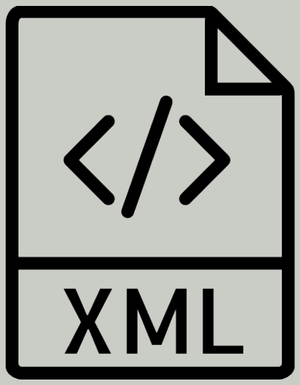

InData

InData's mission is to proactively support the harmonized digitalization of EPD and generic data for construction products according to EN 15804 in order to assess and improve the environmental performance of buildings and infrastructure.

Data quality principles shall ensure that machine-readable EPD and generic data follow the same data format rules and are communicated in a transparent, credible, and user-friendly way throughout the value chain.

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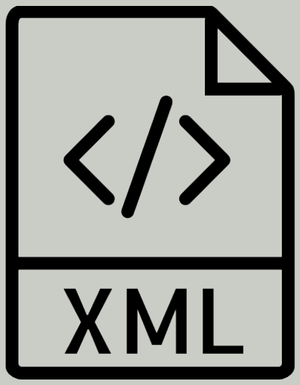

InData

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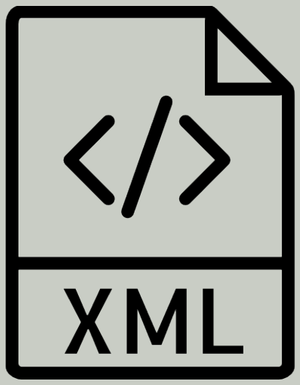


InData

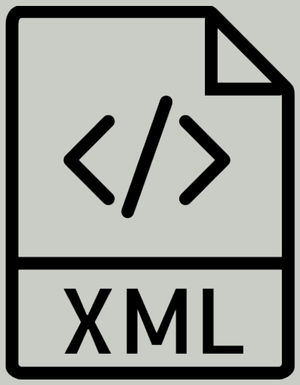
ECO PLATFORM

Emilie Brisson Stapel
07.03.2024

DIGITALISERING

Miljødata – Environmental Product Declarations

ILCD+EPD



InData

The ECO platform's primary purpose is to harmonize the way EPDs are made among program operators and thereby the validity of the EPDs issued by the individual countries, so that mutual acceptance is achieved at European level.

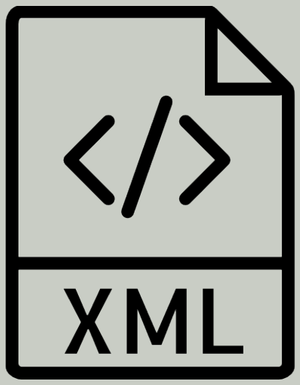
ECO Platform operates, among other things, an EPD database with EPDs that have achieved the ECO Platform logo. This requires, among other things, that the EPD is registered and published by a member who has followed adopted verification rules and has obtained approval through auditing.

Emilie Brisson Stapel
07.03.2024

DIGITALISERING

Miljødata – Environmental Product Declarations

ILCD+EPD



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ECO PLATFORM

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07.03.2024

Resources — InData

indata.network/resources

InData

About Our Members Resources Members Area

Data Related Documents

FAQ: ILCD+EPD format, CPEN2018 InData Compliance

FAQ regarding the "Table of Definitions of ILCD+EPD Data format" document.

Download

InData Compliance Rules

This document contains the rules data needs to meet in order to be InData compliant.

Download

Self Declaration

Self declaration for data providers on the the InData network

Download

Table of Definitions ILCD+EPD format, CPEN2018 InData

Definitions and explanations of the ILCD+EPD data format fields.

Download

Table of Definitions ILCD+EPD format, CPEN 2020 InData

Definitions and explanations of the ILCD+EPD data format fields.

Download

Technical Documents

Developer Documentation ILCD+EPD v1.2 MR6

Specification, examples and XML Schemas for the ILCD+EPD format and technical documentation for developers. This development has been funded by BBSR and contributed for use by the InData WG.

Download

ILCD+EPD

InData

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ECO PORTAL - Eco Platform en

eco-platform.org/epd-data.html

ECO PLATFORM

OUR ORGANIZATION OUR ECO EPD CONTACT US JOIN US LOGIN

ECO PORTAL

Your access point to digital product data for Building and Construction LCA

Below you have access to the ECO Portal as a central access point to digital EPD data – free of charge and without registration.

If you want to use our API you can register here. After you have registered and logged in, you can and generate an API token here. A FAQ about the API and documentation can be found under "API FAQ".

List datasets (Total number of entries: 10751 of 10751) (Page 1 of 1076)

show more/less columns | OPTIONS | RESET FILTER AND SORTING

EPD Product Name	Language	Country / Region	Valid Until	EPD Owner	Program Operator	Node	View Download
Search...	Choose	Choose	Choose	Search...		Choose	
ABT Skanska Grön AsfaltBio Zero. Gällivare, Luleå, Umeå, Sundsvall, Borlänge och Södertälje asfaltverk.	en	SE	2026	Skanska Industrial Solutions AB	EPD Norway	EPD-NORWAY_DIGI	
ABb PMB, Skanska Industrial Solutions, Dalby asfaltverk	en	SE	2029	Skanska Industrial Solutions AB	EPD Norway	EPD-NORWAY_DIGI	
ABb, Skanska Industrial Solutions, Dalby asfaltverk	en	SE	2029	Skanska Industrial Solutions AB	EPD Norway	EPD-NORWAY_DIGI	
AG, Skanska Industrial Solutions, Dalby asfaltverk	en	SE	2029	Skanska Industrial Solutions AB	EPD Norway	EPD-NORWAY_DIGI	
AG, Skanska Industrial Solutions, Luleå Asfaltverk	en	SE	2028	Skanska Industrial Solutions AB	EPD Norway	EPD-NORWAY_DIGI	
EPS 200	en	GB	2024	Mannok	EPD Ireland	EPD_IRELAND	

ILCD+EPD

XML

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)".

List datasets **Total number of entries: 10751 of 10751** **(Page 1 of 1076)**

OPTIONS | ✕ RESET FILTER AND SORTING

Name	Language	Country / Region	Valid Until	EPD Owner	Program Operator	Node	View Download
	Choose	Choose	Choose	Search...		Choose	
o Zero. Gällivare, örlänge och Södertälje	en	SE	2026	Skanska Industrial Solutions AB	EPD Norway	EPD-NORWAY_DIGI	
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ILCD+EPD

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Name	Language	Country / Region	Valid Until	EPD Owner	Program Operator	Node	View Download
	Choose	Choose	Choose	Search...		Choose	
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utions, Luleå	en	SE	2028	Skanska Industrial Solutions AB	EPD Norway	EPD-NORWAY_DIGI	

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MILJØDATA

ILCD+EPD FILER

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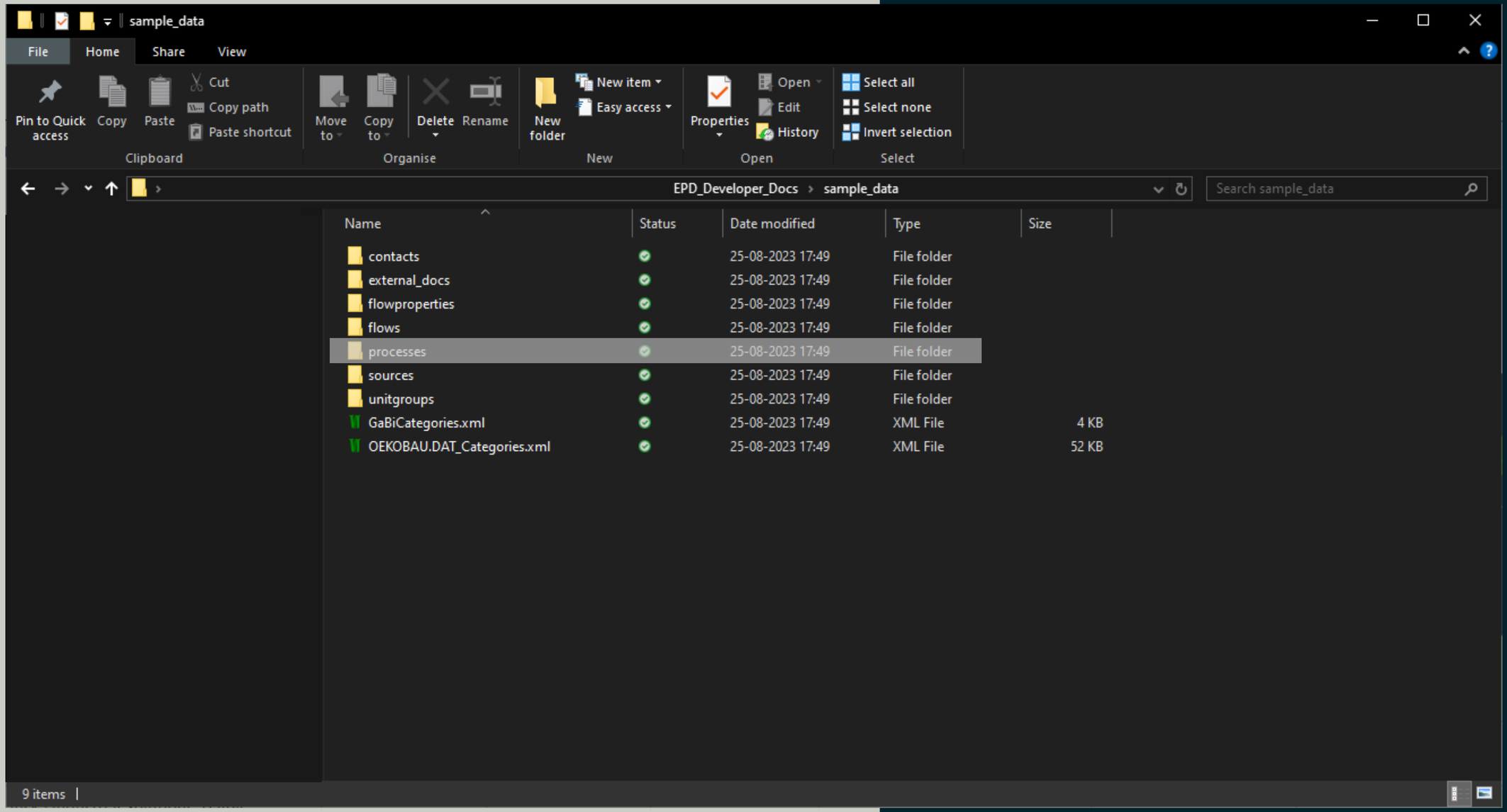

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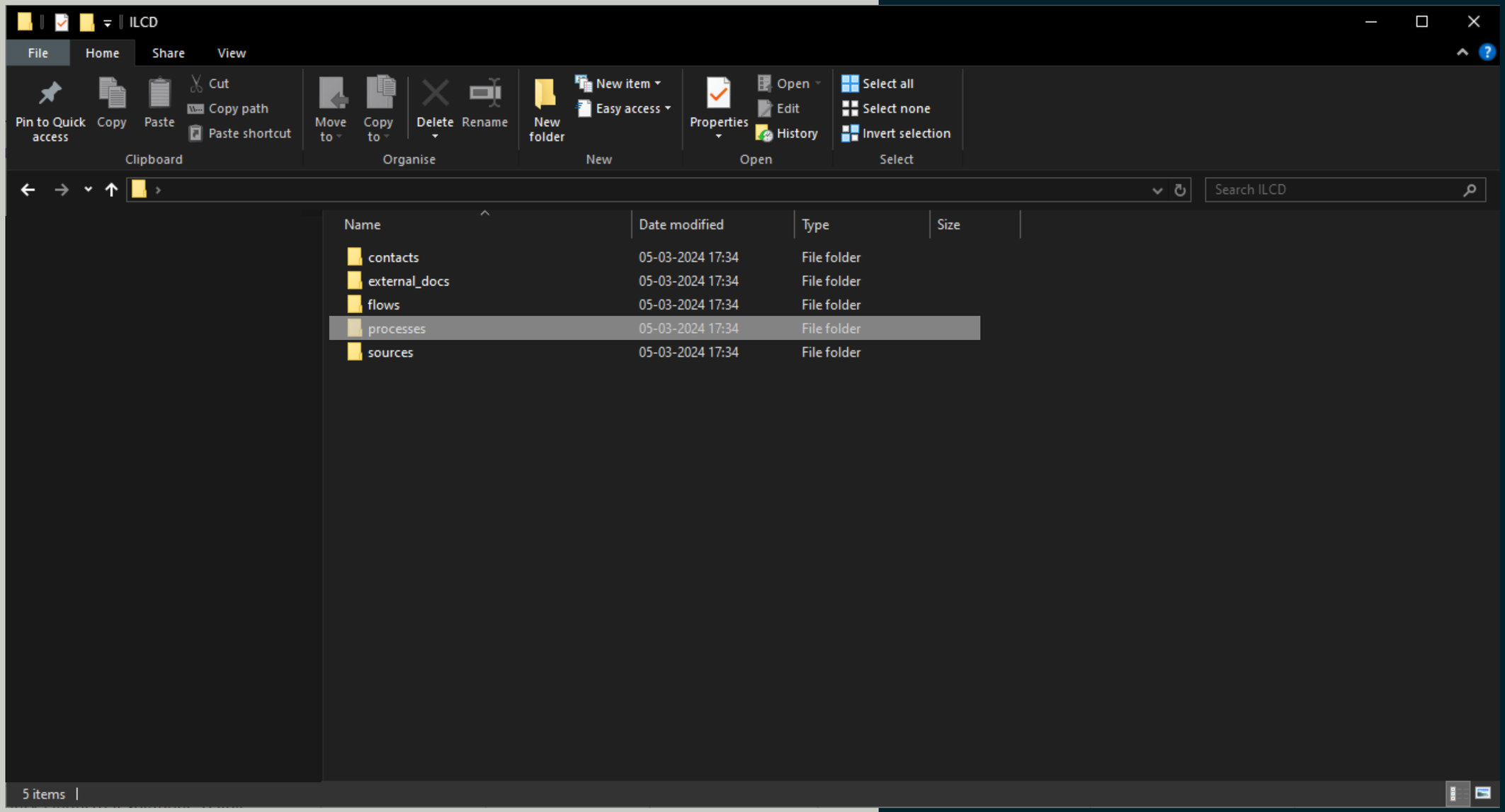

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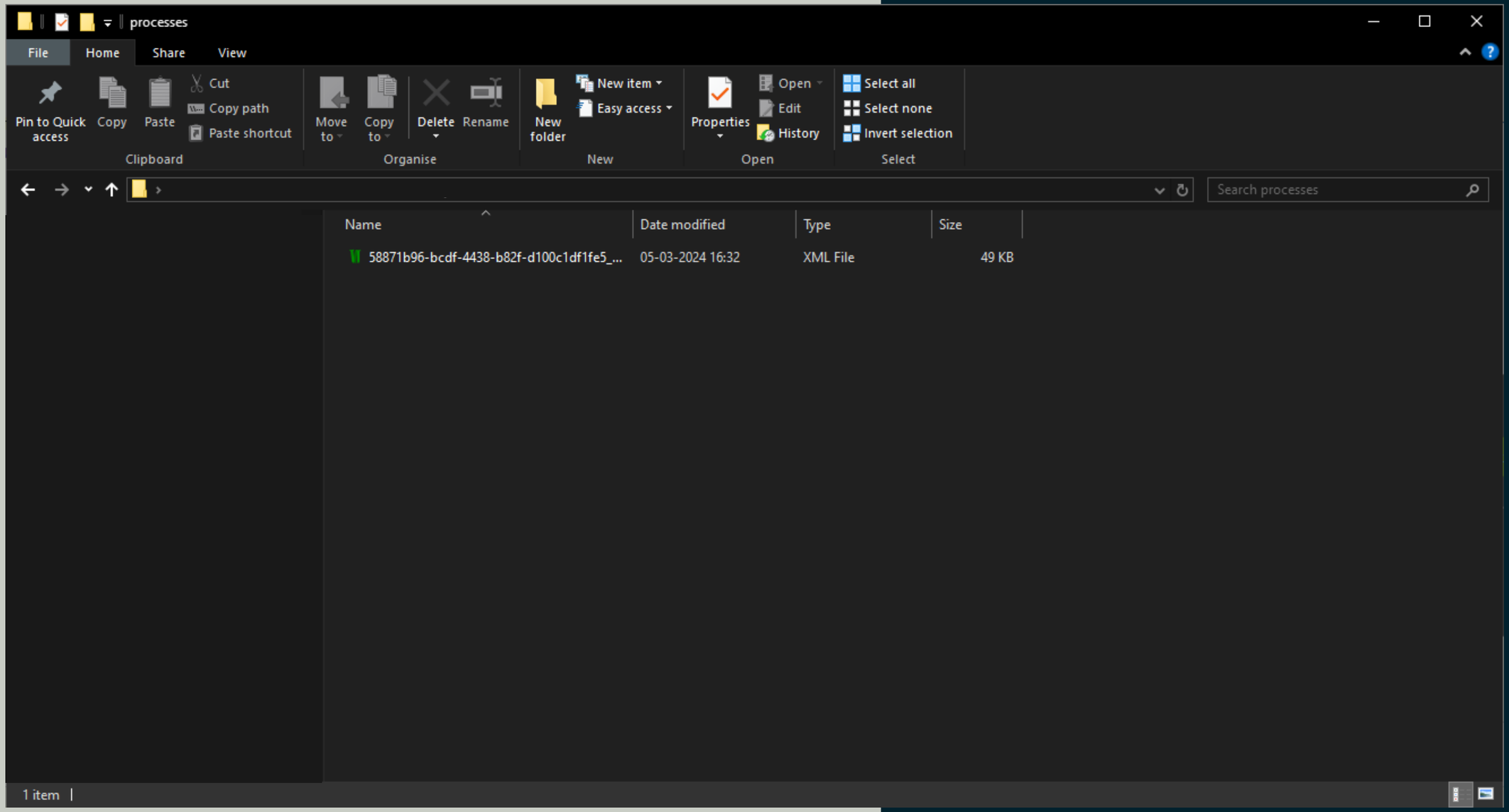
Emilie Brisson Stapel
07.03.2024



EPD fra EPD Norge med følgende UUID 58871b96-bcdf-4438-b82f-d100c1df1fe5

Emilie Brisson Stapel
07.03.2024

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File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

58871b96-bcdf-4438-b82f-d100c1df1fe5_00.03.002.xml

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Specific environmental data from EPDs (Skanska EPD), in accordance with EN 15804, have been used for aggregates. Similarly, specific data have been used for transport distances from supplier to asphalt plant and for ene
For bitumen, generic data from Eurobitume is used because specific data cannot be determined from the mix of bitumen suppliers according to EU standards etc. used by Skanska.
Environmental impact for reclaimed asphalt falls to previous product systems until arrival at the asphalt plant.  The asphalt plant uses electricity marked "Good Environmental Choice".

Allocation:
The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary productic

Cut-off criteria:
All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not
apply for hazardous materials and substances.
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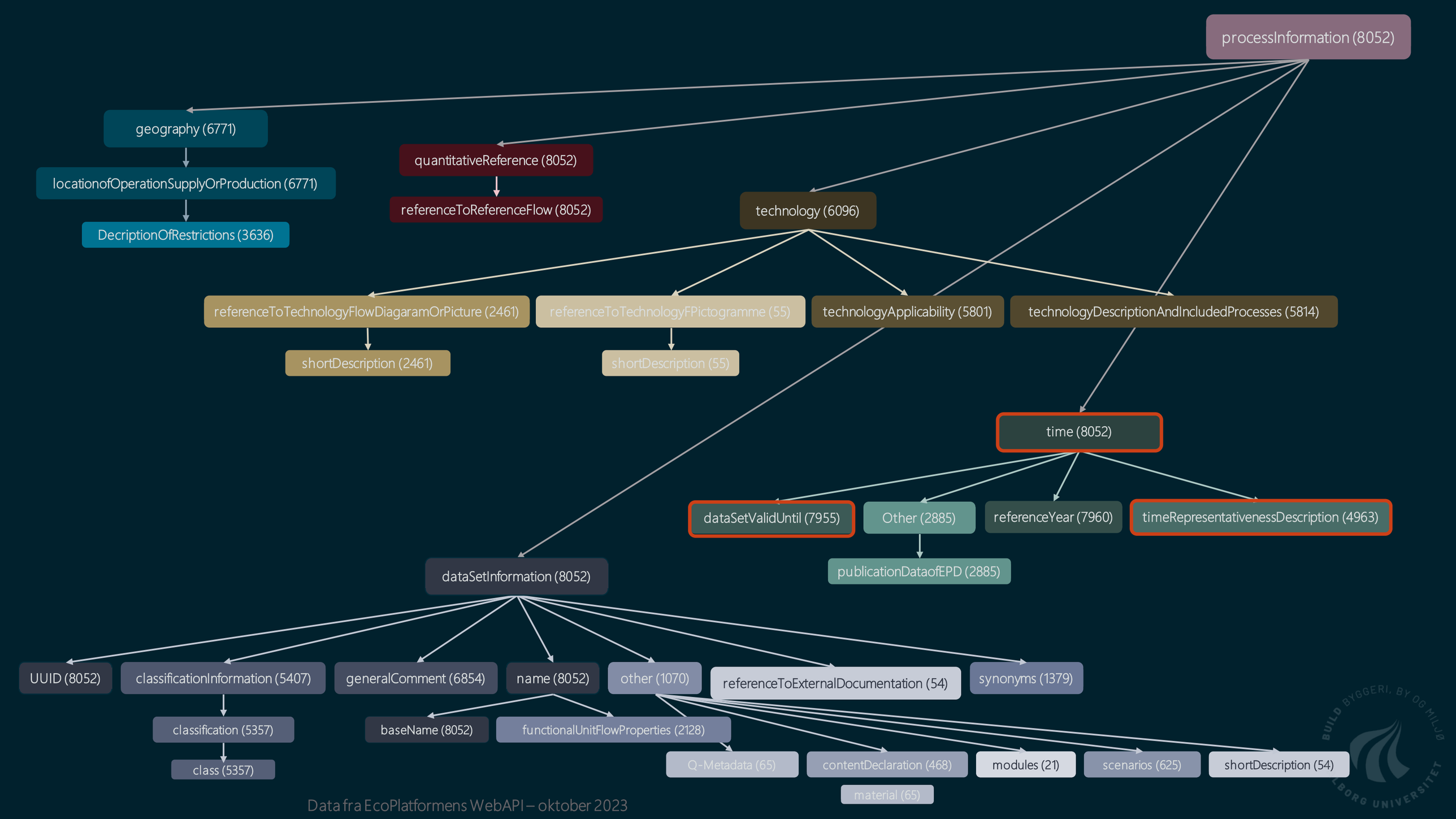
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modules (21)
scenarios (625)
shortDescription (54)
Data fra EcoPlatformens WebAPI – oktober 2023
BUILD BYGGERI, BY OG MILJØ
AALBORG UNIVERSITET

Emilie Brisson Stapel
07.03.2024

SPØRGSMÅL?

BUILD BYGGERI, BY OG MILJØ
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+45 61 14 57 22
eebj@build.aau.dk

TAK FORDI I LYTTEDE