



Place: NHO, Middelthuns gate 27, 0368 Oslo, Norway
Meeting room: Triangelet

Oslo 27th of October 2022

Background

The project: C+D: Close the loop by Disclosing the benefits of buildings

CERIS : Civil Engineering Research
and Innovation for
Sustainability

 **TÉCNICO**
LISBOA | **DECIVIL**
DEPARTAMENTO DE ENGENHARIA
CIVIL, ARQUITECTURA E GEORRECURSOS

NORSUS
Norwegian Institute for
Sustainability Research

Iceland 
Liechtenstein
Norway grants

C+D: Close the loop by Disclosing the benefits of buildings

- The project has the aim of developing a web-based platform for calculating the economic and environmental benefits associated with the process of deconstruction and re-use of Construction and Demolition wastes.

C+D: Close the loop by Disclosing the benefits of buildings

Background



The construction sector:

- makes an intensive use of primary resources;
- has a low level of circularity;
- has a great circularity potential.



Traditional demolition is still the most common practice in Portugal.

However, selective demolition maximizes the re-use, or at least the recycling, of demolition waste.



Module C and D are mandatory in EPDs

Systemgrenser (X = inkludert, MID = modul ikke deklartert, MIR = modul ikke relevant)

Produktfase		Konstruksjon Installasjon fase			Bruksfase							Sluttfase				Etter endt levetid
Råmaterialer	Transport	Tilvirkning	Transport	Konstruksjon installasjon fase	Bruk	Vedlikehold	Reparasjon	Utskiftinger	Renovering	Operasjonell energibruk	Operasjonell vannbruk	Demontering	Transport	Avfallshandling	Avfall til sluttbehandling	Gjenbruk/gjenvinning- resirkulering-potensiale
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	MIR	MIR	X	X	X	X	X

Miljøpåvirkning

Parameter	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5
GWP	kg CO ₂ -ekv	-9.17E+00	4.17E-01	4.95E-01	0.00E+00	0.00E+00	9.54E-01	0.00E+00	0.00E+00
ODP	kg CFC11-ekv	9.18E-07	8.44E-08	5.18E-08	0.00E+00	0.00E+00	1.09E-07	0.00E+00	0.00E+00
POCP	kg C ₂ H ₄ -ekv	2.54E-03	6.54E-05	1.34E-04	0.00E+00	0.00E+00	2.80E-04	0.00E+00	0.00E+00
AP	kg SO ₂ -ekv	4.40E-02	1.11E-03	2.34E-03	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00
EP	kg PO ₄ ³⁻ -ekv	7.80E-03	2.26E-04	4.27E-04	0.00E+00	0.00E+00	8.96E-04	0.00E+00	0.00E+00
ADPM	kg Sb-ekv	4.71E-05	1.01E-06	2.44E-06	0.00E+00	0.00E+00	5.11E-06	0.00E+00	0.00E+00
ADPE	MJ	1.01E+02	6.83E+00	6.06E+00	0.00E+00	0.00E+00	1.27E+01	0.00E+00	0.00E+00

Miljøpåvirkning

Parameter	Unit	B6	B7	C1	C2	C3	C4	D
GWP	kg CO ₂ -ekv	0.00E+00	0.00E+00	1.67E-04	1.14E-01	1.77E+01	1.37E-03	-7.92E-01
ODP	kg CFC11-ekv	0.00E+00	0.00E+00	1.57E-11	2.13E-08	1.11E-08	4.85E-10	-8.77E-08
POCP	kg C ₂ H ₄ -ekv	0.00E+00	0.00E+00	3.46E-08	1.87E-05	4.46E-05	3.75E-07	-4.30E-04
AP	kg SO ₂ -ekv	0.00E+00	0.00E+00	7.55E-07	3.71E-04	1.30E-03	8.73E-06	-4.37E-03
EP	kg PO ₄ ³⁻ -ekv	0.00E+00	0.00E+00	1.89E-07	6.13E-05	4.39E-04	1.59E-06	-1.16E-03
ADPM	kg Sb-ekv	0.00E+00	0.00E+00	2.62E-09	3.15E-07	2.08E-07	2.27E-09	-3.13E-06
ADPE	MJ	0.00E+00	0.00E+00	1.77E-03	1.86E+00	1.14E+01	4.60E-02	-1.06E+01

GWP Globalt oppvarmingspotensial; ODP Potensial for nedbryting av stratosfærisk ozon; POCP Potensial for fotokjemisk oksidantdannning; AP Forurensningspotensial for kilder på land og vann; EP Overgjødslingspotensial; ADPM Abiotisk uttømmingspotensial for ikke-fossile ressurser, ADPE Abiotisk uttømmingspotensial for fossile ressurser

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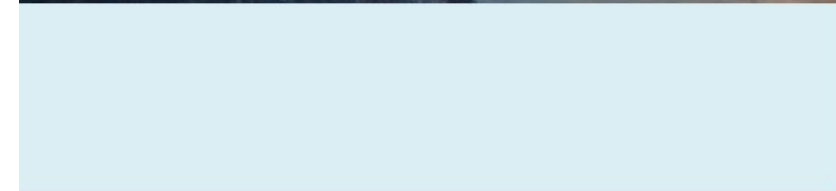
ENVIRONMENTAL PRODUCT DECLARATION
in accordance with ISO 14025, ISO 21930 and EN 15804

Eier av deklarasjonen: Programoperatør: Utgiver: Deklarasjonsnummer: Publiseringsnummer: ECO Platform registreringsnummer: Godkjent dato: Gyldig til:	Moelven Industrier ASA Næringslivets Stiftelse for Miljødeklarasjoner Næringslivets Stiftelse for Miljødeklarasjoner NEPD-2553-1285-NO NEPD-2553-1285-NO 23.11.2020 23.11.2025
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How representative are the data and the scenarios given in EPDs?

Systemgrenser (X = inkludert, MID = modul ikke deklartert, MIR = modul ikke relevant)

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X	X	X	X	X	X	X	X	X	X	MIR	MIR	X	X	X	X	X

Miljøpåvirkning

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National Goals

	Denmark	Estonia	Finland	Iceland	Norway	Sweden	EU
							
Carbon goal	Carbon neutral 2050 70 % reduction in 2030	Carbon neutral 2050	Carbon neutral 2035 Carbon negative soon after	Carbon neutral 2040	Carbon neutral in 2030	Carbon neutral in 2045	Climate neutral 2050 55 % reduction in 2030
Regulation on low-carbon construction	January 2023		2025		July 2022	January 2022	2027 (proposed in EPBD)
Limit values	2023: buildings above 1.000 m ² 2025: all buildings		2025		-	2027 or earlier*	-



Comparison of methods and scopes

Included life cycle stages		Denmark	Estonia	Finland	Iceland	Norway	Sweden	Level(s)
A	A1-A3	✓	✓	✓		✓	✓	✓
	A4 Transport to site		✓	✓		✓	✓	✓
	A5 Construction		✓	✓			✓	✓
B	B1 Use in building							✓
	B2 Maintenance					✓		✓
	B4 Replacements	✓	✓	✓		✓	✓	✓
	B5 Refurbishment				?			✓
	B6 Energy	✓	✓	✓			✓	✓
	B7 Water							✓
	C	C1 Demolition works		✓	✓			✓
C2 Transport			✓	✓			✓	✓
C3 Waste management		✓	✓	✓			✓	✓
C4 Final disposal		✓	✓	✓			✓	✓
D	Additional	✓	✓	✓			✓	✓
Reference study period		50	50	50	Tbd	50	50	50



Agenda 27.10.2022 Improve data for module C and D

- 08:30 Welcome: Håkon Hauan, EPD Norge and Anne Rønning, NORSUS
- 08:40 The project “C+D: Close the loop by Disclosing the benefits of buildings” in short and its Platform for CDW; José Dinis Silvestre, CERIS at Instituto Superior Técnico of Lisbon
- <https://cplusd-platform.pt/en/>
- 09:10 Resource Efficient Structures - EPD for Construction Products: Demolition and Recycling Information (Modules C and D) and Pollutant Information; Wolfram Trinius, Ingenieurbüro Trinius
<https://www.umweltbundesamt.de/publikationen/basic-principles-recommendations-for-describing-the>
- 09:45 Network for National action plan for Construction Demolition Waste (Gunnar Grini)
- 10:00 Coffee break
- 10:15 Circularity passports for construction products; Pedro Pedroso, CERIS at Instituto Superior Técnico of Lisbon
- 10:30 How to model circularity; Thomas Jølstad Henriksen Nes miljøpark and Hanne Lerche Raadal, NORSUS
- 11.00 RENAS' model under development; Oktay Doridpour, RENAS AS
- 11:15 Discussion: How to get representative data, modelling and documentation of modules C and D in EPD and LCA of construction works.
- 11:30 Closing