



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Ray - Lume ecoBACK PLUS
modulyss



EPD HUB, HUB-4555

Published on 18.12.2025, last updated on 18.12.2025, valid until 17.12.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.



Created with One Click LCA

modulyss®

GENERAL INFORMATION

MANUFACTURER

Manufacturer	modulyss
Address	Zevensterrestraat 21 9240 Zele, Belgium
Contact details	hello@modulyss.com / sustainability@belysse.com
Website	https://modulyss.com/en-INT

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, B2 and modules C1-C4 and D
EPD author	Tine Pieters, modulyss
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Lucas Pedro Berman, as an authorised verifier acting for EPD Hub Limited

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Ray - Lume ecoBACK PLUS
Additional labels	modulyss
Product reference	-
Place(s) of raw material origin	Europe (Belgium, Germany, The Netherlands, Spain, France, Poland, Sweden), Singapore, USA
Place of production	Zele, Belgium
Place(s) of installation and use	Europe is by far our largest market, but our products are sold worldwide.
Period for data	Calendar year 2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	(coming soon)
A1-A3 Specific data (%)	61,5

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ² of carpet tile of the Haelo collection (Ray - Lume).
Declared unit mass	3,22 kg
Mass of packaging	0,178 kg
GWP-fossil, A1-A3 (kgCO₂e)	4,36
GWP-total, A1-A3 (kgCO₂e)	3,84
Secondary material, inputs (%)	0,23
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	9,93
Net freshwater use, A1-A3 (m³)	0,01

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

We are modulyss, pioneers in the world of soft flooring, where dimensions are just the starting point. From cutting-edge carpet tiles to elegant broadloom and versatile luxury vinyl tiles (LVT), we design and manufacture innovative, high-quality solutions for the international commercial market.

PRODUCT DESCRIPTION

Ray and Lume are carpet tiles from the Haelo collection by modulyss. The modulyss carpet tile is a modular textile floor covering. The face yarn is Thrive® matter, a 100% solution-dyed nylon (PA) containing 90% recycled content. Ray and Lume feature the ecoBACK PLUS backing, the ecoBACK PLUS backing is fully recyclable and contains 85% recycled and renewable materials.

The total carpet tile consists of the following layers: yarns, primary backing, latex-compound, heavy coating and secondary backing.

Functional unit: 1 m² of floor covering with a reference service life (RSL) of 1 year.

Further information can be found at:
<https://modulyss.com/en-INT>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	43,4	Europe (Germany, Belgium)
Fossil materials	52,3	Europe (The Netherlands, Belgium, Germany, Spain, France, Germany, Poland), Singapore
Bio-based materials	4,3	Europe (Sweden)

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,096
Biogenic carbon content in packaging, kg C	0,08

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ² of carpet tile of the Haelo collection (Ray - Lume).
Mass per declared unit	3,22 kg
Functional unit	1 m ² of floor covering. The modulyss carpet tile represents a modular textile flooring system. We guarantee our customers nothing less than top quality carpet tiles and back up that promise with a 15-year warranty on all our products. For the purpose of EPD calculation, impacts are calculated on the basis of 1 year of use. Users may scale the results according to the expected service life under the intended conditions of use.
Reference service life	1

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	ND	x	ND	ND	ND	ND	ND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction / demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory.

The environmental impacts considered in the product stage include the manufacturing of all raw materials used in production, as well as packaging and other ancillary materials. Fuel consumption by machinery and production losses are also accounted for in this stage. The carpet tile production process starts with tufting into a primary backing. Next, a primary coating layer is applied to secure the tufts and then a heavy coating layer is added to ensure dimensional stability. Finally, the material is cut into precise tile dimensions for packaging and distribution. The finished product is shipped on wooden pallets, packaged in cardboard, and secured with plastic wrapping to prevent movement during transport.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs), and its use is ensured throughout the validity period of this EPD.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Transportation impacts (A4) arise from delivering carpet tiles to the construction site, including direct fuel combustion emissions as well as impacts from fuel production and related infrastructure. In previous EPDs, an average distance of 700 km was applied. As annual distances may vary slightly due to sales fluctuations, we assume that if the yearly result differs by less than 10% from this value, the 700 km weighted average road transport is retained. This avoids minor sales-driven variations influencing

results. The transport mode is assumed to be lorry, and the weighted average road distance is calculated based on shipment weight.

The impacts associated with carpet tile installation (A5) include material losses from cutting tiles to fit the building layout, the use of tackifier for installation, and the end-of-life processing of packaging materials used for delivery.

PRODUCT USE AND MAINTENANCE (B1-B7)

As carpet tiles do not consume electricity or other resources, no impacts occur during use. Impacts arise solely from maintenance activities. For calculation purposes, normal to intensive traffic was assumed. This corresponds to vacuum cleaning twice per week and specialized hot water extraction twice annually. Impacts were calculated on the resources required to clean 1 m² of carpet tile over the course of one year, accounting for both regular and periodic maintenance activities.

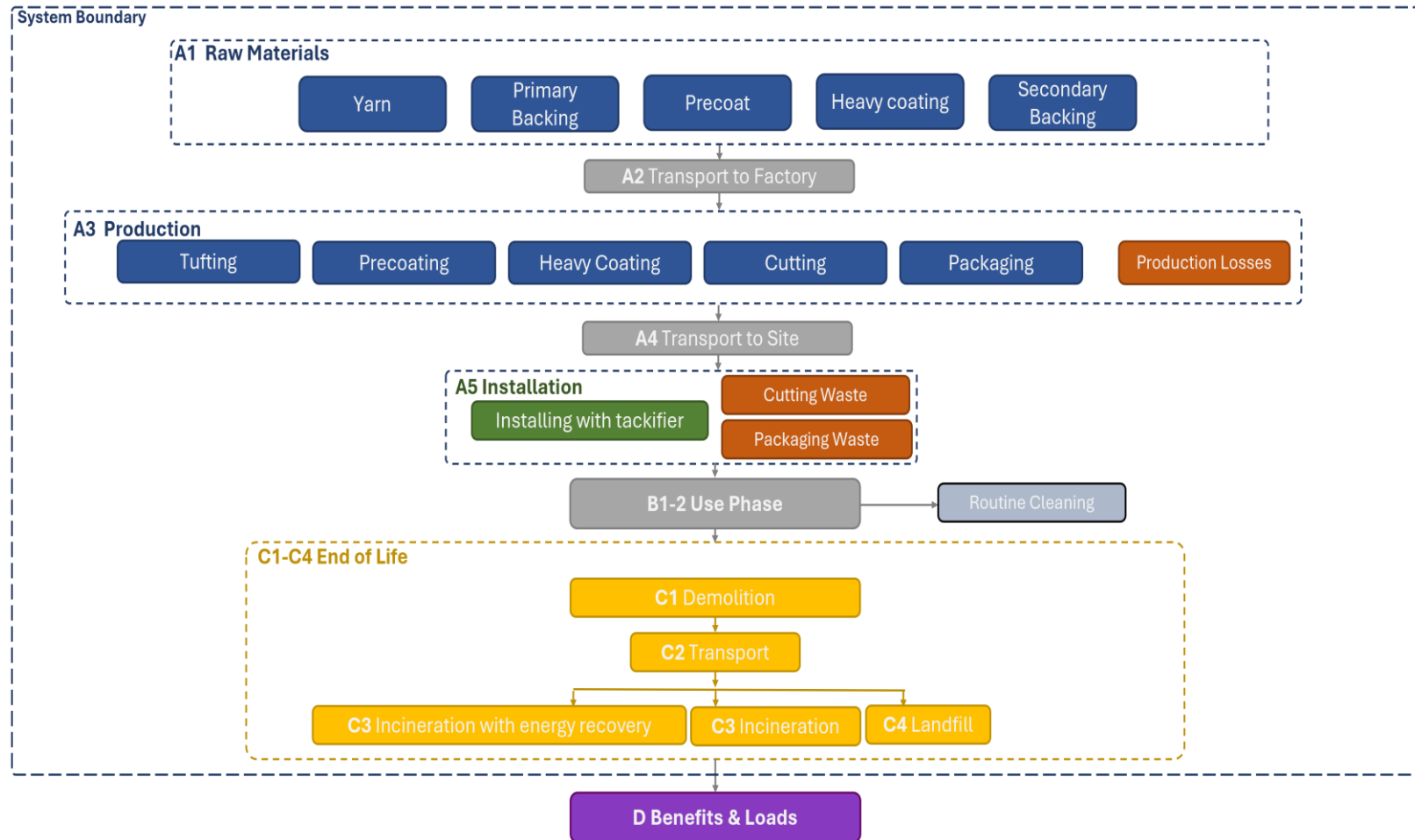
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

In Stage C, a generic end-of-life scenario for plastic materials is applied. This stage quantifies the environmental impacts associated with carpet tile disposal through landfill or incineration (with and without energy recovery).

Stage D reports the environmental benefits from energy generation, i.e., the exported energy obtained through the incineration of packaging, installation waste, and carpet tiles.

SYSTEM DIAGRAM



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

There is no average result considered in this study since this EPD refers to one specific product produced in one production plant.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	No allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

For the latex compound used in the carpet tile, some minor raw material components (each representing less than 1 % of the total carpet tile mass) lacked reliable or representative emission factors in available LCA databases, therefore these components were excluded.

To maintain mass balance for the latex compound in the model, the weight of the excluded components was proportionally redistributed among the remaining latex raw materials according to their share in the total product mass.

In the production process, cutting blades are periodically replaced. However, there is no direct measurement or record of the precise mass of blades consumed over the reference period. Instead, the total recorded iron waste from the facility includes the scrap metal from all activities, including blade replacements.

Therefore the entire iron waste stream of the factory was considered as ancillary material input for blade replacement in the LCA model.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	

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LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD System Verification v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

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ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	3,75E+00	1,34E-01	-3,72E-02	3,84E+00	2,36E-01	8,27E-01	ND	1,37E-01	ND	ND	ND	ND	ND	0,00E+00	7,99E-02	4,08E+00	2,26E+00	-1,38E+00
GWP – fossil	kg CO ₂ e	3,97E+00	1,34E-01	2,50E-01	4,36E+00	2,36E-01	5,34E-01	ND	1,37E-01	ND	ND	ND	ND	ND	0,00E+00	7,98E-02	3,83E+00	2,26E+00	-1,38E+00
GWP – biogenic	kg CO ₂ e	-3,54E-01	2,25E-05	-2,89E-01	-6,43E-01	5,16E-05	2,88E-01	ND	-1,90E-03	ND	ND	ND	ND	ND	0,00E+00	1,74E-05	2,53E-01	-1,75E-04	-1,34E-03
GWP – LULUC	kg CO ₂ e	1,27E-01	5,20E-05	2,57E-03	1,30E-01	9,20E-05	5,23E-03	ND	1,16E-03	ND	ND	ND	ND	ND	0,00E+00	3,53E-05	2,97E-05	3,29E-05	-1,71E-03
Ozone depletion pot.	kg CFC ₁₁ e	1,64E-06	2,79E-09	8,91E-09	1,65E-06	4,93E-09	6,65E-08	ND	2,59E-09	ND	ND	ND	ND	ND	0,00E+00	1,12E-09	1,41E-09	2,31E-09	-6,13E-09
Acidification potential	mol H ⁺ e	1,22E-02	3,15E-04	7,26E-04	1,33E-02	5,58E-04	1,03E-03	ND	8,17E-04	ND	ND	ND	ND	ND	0,00E+00	2,66E-04	8,73E-04	7,01E-04	-8,78E-03
EP-freshwater ²⁾	kg Pe	4,36E-04	9,33E-06	4,61E-04	9,07E-04	1,65E-05	4,19E-05	ND	1,22E-04	ND	ND	ND	ND	ND	0,00E+00	6,21E-06	1,20E-05	9,75E-06	-5,06E-04
EP-marine	kg Ne	3,40E-03	8,28E-05	3,62E-04	3,84E-03	1,46E-04	3,78E-04	ND	1,43E-04	ND	ND	ND	ND	ND	0,00E+00	8,63E-05	4,97E-04	1,97E-03	-1,39E-03
EP-terrestrial	mol Ne	3,38E-02	8,96E-04	2,36E-03	3,70E-02	1,58E-03	2,93E-03	ND	1,20E-03	ND	ND	ND	ND	ND	0,00E+00	9,38E-04	4,23E-03	2,76E-03	-1,43E-02
POCP (“smog”) ³⁾	kg NMVOCe	1,41E-02	5,48E-04	7,74E-04	1,55E-02	9,70E-04	1,08E-03	ND	3,92E-04	ND	ND	ND	ND	ND	0,00E+00	3,71E-04	1,06E-03	8,59E-04	-4,24E-03
ADP-minerals & metals ⁴⁾	kg Sbe	5,18E-05	3,82E-07	1,68E-06	5,38E-05	6,76E-07	2,30E-06	ND	1,85E-06	ND	ND	ND	ND	ND	0,00E+00	2,62E-07	2,75E-07	2,58E-07	-8,76E-07
ADP-fossil resources	MJ	8,94E+01	2,01E+00	5,78E+00	9,72E+01	3,55E+00	6,76E+00	ND	3,12E+00	ND	ND	ND	ND	ND	0,00E+00	1,12E+00	7,46E-01	1,79E+00	-1,50E+01
Water use ⁵⁾	m ³ e depr.	6,82E-01	1,03E-02	1,20E-01	8,12E-01	1,82E-02	8,56E-02	ND	9,35E-02	ND	ND	ND	ND	ND	0,00E+00	5,20E-03	2,52E-01	1,32E-01	-2,20E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,12E-07	1,30E-08	8,88E-09	1,34E-07	2,30E-08	7,93E-09	ND	3,44E-09	ND	ND	ND	ND	ND	0,00E+00	6,36E-09	4,50E-09	5,92E-09	-1,27E-07
Ionizing radiation ⁶⁾	kBq 11235e	2,01E-01	2,42E-03	1,61E-01	3,64E-01	4,28E-03	1,52E-02	ND	8,24E-02	ND	ND	ND	ND	ND	0,00E+00	9,08E-04	1,35E-03	1,36E-03	-1,09E-01
Ecotoxicity (freshwater)	CTUe	1,84E+01	2,36E-01	8,77E-01	1,95E+01	4,18E-01	1,45E+00	ND	6,11E-01	ND	ND	ND	ND	ND	0,00E+00	1,77E-01	7,53E+00	6,90E+00	-3,00E+00
Human toxicity, cancer	CTUh	1,11E-09	2,23E-11	2,56E-10	1,38E-09	3,94E-11	8,17E-11	ND	5,54E-11	ND	ND	ND	ND	ND	0,00E+00	1,36E-11	3,27E-10	6,81E-10	-2,23E-10
Human tox. non-cancer	CTUh	2,83E-08	1,30E-09	1,84E-09	3,14E-08	2,29E-09	2,37E-09	ND	2,37E-09	ND	ND	ND	ND	ND	0,00E+00	7,02E-10	1,15E-08	8,35E-09	-8,85E-09
SQP ⁷⁾	-	7,43E+01	2,02E+00	2,04E+01	9,67E+01	3,57E+00	4,22E+00	ND	8,21E-01	ND	ND	ND	ND	ND	0,00E+00	6,76E-01	2,10E-01	6,61E-01	-5,66E+00

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1,72E+00	3,27E-02	3,71E+00	5,46E+00	5,78E-02	-2,06E+00	ND	8,50E-01	ND	ND	ND	ND	ND	0,00E+00	1,54E-02	3,07E-02	2,64E-02	-2,01E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,54E+00	2,54E+00	0,00E+00	-2,49E+00	ND	1,81E-02	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,72E+00	3,27E-02	6,24E+00	8,00E+00	5,78E-02	-4,56E+00	ND	8,68E-01	ND	ND	ND	ND	ND	0,00E+00	1,54E-02	3,07E-02	2,64E-02	-2,01E+00
Non-re. PER as energy	MJ	2,53E+01	2,01E+00	2,89E+00	3,02E+01	3,55E+00	-1,78E+00	ND	3,11E+00	ND	ND	ND	ND	ND	0,00E+00	1,12E+00	-5,78E+01	-5,82E+01	-1,50E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	2,13E+00	2,13E+00	0,00E+00	1,02E+00	ND	1,85E-02	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	2,53E+01	2,01E+00	5,03E+00	3,24E+01	3,55E+00	-7,65E-01	ND	3,12E+00	ND	ND	ND	ND	ND	0,00E+00	1,12E+00	-5,78E+01	-5,82E+01	-1,50E+01
Secondary materials	kg	7,58E-03	8,68E-04	5,38E-02	6,22E-02	1,53E-03	2,72E-03	ND	5,45E-04	ND	ND	ND	ND	ND	0,00E+00	5,03E-04	6,79E-04	8,94E-04	-1,45E-03
Renew. secondary fuels	MJ	6,19E-05	1,09E-05	6,99E-02	7,00E-02	1,94E-05	2,80E-03	ND	5,29E-06	ND	ND	ND	ND	ND	0,00E+00	6,40E-06	2,23E-05	1,32E-05	-4,48E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m³	8,26E-03	2,96E-04	2,74E-03	1,13E-02	5,24E-04	1,35E-03	ND	2,86E-03	ND	ND	ND	ND	ND	0,00E+00	1,49E-04	4,32E-03	-6,89E-04	-6,09E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,69E-01	2,90E-03	1,08E-02	1,83E-01	5,14E-03	1,24E-02	ND	8,42E-03	ND	ND	ND	ND	ND	0,00E+00	1,95E-03	6,60E-02	3,64E-02	-1,13E-01
Non-hazardous waste	kg	4,51E+00	5,81E-02	3,51E-01	4,92E+00	1,03E-01	7,90E-01	ND	8,82E-01	ND	ND	ND	ND	ND	0,00E+00	3,66E-02	1,78E+00	4,91E+00	-2,45E+00
Radioactive waste	kg	2,05E-05	5,98E-07	4,84E-05	6,95E-05	1,06E-06	5,21E-05	ND	2,11E-05	ND	ND	ND	ND	ND	0,00E+00	2,22E-07	3,42E-07	3,39E-07	-2,67E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,32E-02	1,32E-02	0,00E+00	8,12E-02	ND	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	4,50E-08	4,50E-08	0,00E+00	1,80E-09	ND	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	1,58E-01	1,58E-01	0,00E+00	1,00E+00	ND	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,88E+01	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	6,63E-02	6,63E-02	0,00E+00	4,22E-01	ND	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	7,92E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	9,13E-02	9,13E-02	0,00E+00	5,81E-01	ND	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,09E+01	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	1,12E-05	3,73E-07	1,32E-06	1,29E-05	6,60E-07	6,02E-07	ND	1,83E-06	ND	ND	ND	ND	ND	0,00E+00	2,55E-07	1,91E-07	2,06E-07	-8,64E-07
Hazardous waste disposed	kg	1,69E-01	2,90E-03	1,07E-02	1,83E-01	5,14E-03	1,23E-02	ND	8,42E-03	ND	ND	ND	ND	ND	0,00E+00	1,95E-03	6,60E-02	3,64E-02	-1,13E-01
Non-haz. waste disposed	kg	4,51E+00	5,81E-02	3,41E-01	4,91E+00	1,03E-01	7,89E-01	ND	8,82E-01	ND	ND	ND	ND	ND	0,00E+00	3,66E-02	1,78E+00	4,91E+00	-2,45E+00
Air pollution	m³	2,67E+02	3,07E+01	5,66E+01	3,55E+02	5,43E+01	2,15E+01	ND	4,58E+01	ND	ND	ND	ND	ND	0,00E+00	1,61E+01	2,55E+01	2,04E+01	-7,99E+02
Water pollution	m³	2,48E+01	1,10E+00	2,69E+00	2,86E+01	1,94E+00	1,36E+00	ND	2,50E+00	ND	ND	ND	ND	ND	0,00E+00	5,07E-01	4,50E-01	1,02E+00	-3,37E+00

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	4,10E+00	1,34E-01	2,52E-01	4,49E+00	2,36E-01	5,39E-01	ND	1,39E-01	ND	ND	ND	ND	ND	0,00E+00	7,98E-02	3,83E+00	2,26E+00	-1,38E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO₂ is set to zero.

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Electricity voltage transformation from high to medium voltage, Belgium, Ecoinvent, 0.21 kgCO₂e/kWh
2. Electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted, Belgium, Ecoinvent, 0.13 kgCO₂e/kWh
3. Electricity production, photovoltaic, 3kWp slanted-roof installation, multi-Si, panel, mounted, Belgium, Ecoinvent, 0.11 kgCO₂e/kWh
4. Electricity production, wind, 1-3MW turbine, onshore, Belgium, Ecoinvent, 0.0167 kgCO₂e/kWh
5. Electricity production, wind, 1-3MW turbine, offshore, Belgium, Ecoinvent, 0.0168 kgCO₂e/kWh
6. Electricity production, hydro, run-of-river, Belgium, Ecoinvent, 0.0044 kgCO₂e/kWh
7. LPG for transport, including combustion, Europe, Ecoinvent, 3.36 kgCO₂e/kg
8. Heat production, natural gas, at boiler modulating >100kW, Albania, Ecoinvent, 0.0748 kgCO₂e/MJ
9. Heat production, natural gas, at boiler modulating >100kW, Albania, Ecoinvent, 0.0748 kgCO₂e/MJ
10. Heat production, natural gas, at industrial furnace >100kW, Albania, Ecoinvent, 0.0773 kgCO₂e/MJ

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry >32 metric ton, EURO6, 700 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	55
Bulk density of transported products	1,00E+00
Volume capacity utilization factor	

Installation scenario documentation - A5 (Installation resources)

1. UZIN 2500, Ecoinvent, 0.075 kg

Installation scenario documentation - A5 (Installation waste)

1. Exported Energy: Thermal, Ecoinvent, 4.8E-4 MJ
2. Exported Energy: Thermal, Ecoinvent, 0.12 MJ
3. Exported Energy: Thermal, Ecoinvent, 0.0057 MJ
4. Exported Energy: Thermal, Ecoinvent, 0.011 MJ
5. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 3.2E-5 kg
6. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 3.8E-4 kg
7. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 5.6E-5 kg
8. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 6.6E-4 kg
9. Exported Energy: Electricity, Ecoinvent, 3.5E-4 MJ
10. Exported Energy: Electricity, Ecoinvent, 0.087 MJ
11. Exported Energy: Electricity, Ecoinvent, 0.0042 MJ
12. Exported Energy: Electricity, Ecoinvent, 0.0074 MJ
13. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 5.2E-5 kg
14. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 6.1E-4 kg
15. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent,

Materials for recycling, 0.042 kg

16. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.039 kg

17. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.049 kg

18. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.038 kg

19. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 0.0037 kg

20. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 0.0042 kg

21. Exported Energy: Thermal, Ecoinvent, 0.44 MJ

22. Exported Energy: Electricity, Ecoinvent, 0.32 MJ

23. Treatment of waste plastic, mixture, municipal incineration, Ecoinvent, 0.064 kg

24. Treatment of waste plastic, mixture, municipal incineration, Ecoinvent, 0.032 kg

25. Treatment of waste plastic, mixture, sanitary landfill, Ecoinvent, 0.032 kg

Use stages scenario documentation - B2 Maintenance

Scenario information	Value
Maintenance process / Description or source where description can be found	vacuum cleaning twice per week and specialized hot water extraction twice annually.
Maintenance cycle / Number per RSL or year <i>(Not applicable if only B2 is declared)</i>	

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

Lucas Pedro Berman, as an authorised verifier acting for EPD Hub Limited
18.12.2025

