



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Extensive **Nordic Green Roof®** Vegetation mat EG-Trading Oy



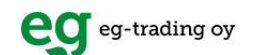
EPD HUB, HUB-3375

Publishing date 1 June 2025, last updated on 1 June 2025, valid until 1 June 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



GENERAL INFORMATION

MANUFACTURER

Manufacturer	EG-Trading Oy
Address	Västanbyntie 31, FI-10600 Tammisaari, Finland
Contact details	info@eg-trading.fi
Website	www.eg-trading.fi

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR Version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-B7, and modules C1-C4, D
EPD author	Jaana Valjus, Kerabit Oy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Magaly González Vázquez, as an authorized 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	Extensive Nordic Green Roof® Vegetation mat
Additional labels	-
Product reference	-
Place(s) of raw material origin	Finland and Europe
Place of production	Raasepori, Finland
Place(s) of installation and use	Finland
Period for data	1.1.2023-31.12.2023
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	768

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ²
Declared unit mass	33,6 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	3,83E+00
GWP-total, A1-A3 (kgCO ₂ e)	3,94E-01
Secondary material, inputs (%)	1,53
Secondary material, outputs (%)	86,5
Total energy use, A1-A3 (kWh)	15,3
Net freshwater use, A1-A3 (m ³)	0,26

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

EG-Trading Oy is a supplier of landscaping products and services in Finland and is a part of Nordic Waterproofing Group. EG-Trading grows, develops and supplies vegetation systems for buildings and cities to promote stormwater management, improve water quality and benefit biodiversity.

PRODUCT DESCRIPTION

Nordic Green Roof® sedum mat consists of vegetation, a mineral growth media (substrate) and a load-bearing structure (carrier) that reinforces the substrate and protects against erosion. The shrink-free carrier consists of a three-dimensional loop network with a non-woven geotextile thermally bound on the underside and is stable over time.

The growing media is optimized for the conditions that prevail on roofs. The vegetation consists of drought-resistant species from the Crassulaceae family adapted to the Nordic climate. The sedum mat is cultivated in open fields by EG-Trading Oy in Raasepori, Finland.

Nordic Green Roof® sedum mat has been assigned fire resistance class BROOF(t2) for roof coverings exposed to external fire in accordance with the procedures given in EN 13501-5. For further information and detailed product documentation, please visit www.eg-trading.fi.

A green roof can be installed for different purposes; it provides many different benefits. For example, green roofs delay and reduce the amount of stormwater, counteract urban heat islands, benefit biodiversity and add value to residents since greenery has a positive effect on their well-being. Nordic Green Roof® sedum mat is installed together with different water retention and drainage components that together will form an extensive sedum roof. The choice of remaining components is made so that the build-up is suitable to the specific roof and project requirements. For descriptions of EG-Trading

standard build-ups, please visit www.eg-trading.fi.

Nordic Green Roof® extensive green roof systems have high water retention capacity and are easy to install. If properly installed and maintained, the sedum roof can last as long as the life of the building.

Weights are calculated based on dry weights. The B-module is calculated and presented PER 1 YEAR.

Further information can be found at: www.eg-trading.fi

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	90	Finland and Europe
Fossil materials	2	Europe
Bio-based materials	8	Europe

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,7745
Biogenic carbon content in packaging, kg C	0,1631

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ²
Mass per declared unit	33,6 kg
Functional unit	-
Reference service life	1 year

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	MND	MND	MND	MND	MND	MND	MND	MND	MND	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 = MND. 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 sedum mat consists of vegetation, a mineral growth media (substrate) and a load-bearing structure (carrier) that reinforces the substrate and protects against erosion. These are combined and the vegetation is grown at the manufacturing site in Raasepori, Finland.

Sedum mats are cut into 0,8 x 1 m pieces and stacked on pallets. Products are delivered to customers as soon as possible.

Waste from manufacturing and raw material packaging are included in the study. Waste is sent to the closest facility for waste treatment to energy recovery. Transport methods and distances of manufacturing waste are checked from waste handling companies.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), 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.

The transportation scenario (A4) is based on an estimate of 150 km for customers in Finland.

Module A5 covers the installation of the product at a construction site. The product is lifted to the installation altitude using either a crane truck or an electric tower crane, or occasionally manually, depending on the installation site. A scenario is applied where both lifting methods are used half.

Sedum mats are usually installed on top of green roof structure materials, which aren't included in this study. Seams are filled with growth media.

Directly after installation vegetation is fertilized and irrigated properly.

The A5 module also includes waste from packaging; wooden pallet and bags of growth media for the seams. 2/3 is assumed to be returned to manufacturing site and reused. Remaining part is assumed to be recycled or incinerated according to Finnish waste statistics.

PRODUCT USE AND MAINTENANCE (B1-B7)

The maintenance module B2 comprises all maintenance activities required to sustain the usability of the product during its lifetime after installation. The B-module is calculated and presented PER 1 YEAR. All other parts of the B module are assumed to be 0.

The results presented for module B2 refer to one year of usage, including fertilizing and irrigation. This corresponds to the defined reference service life of one year, even though the actual service life is considerably longer. To estimate the full life cycle impact over a longer period, the B2 results should be multiplied by the relevant number of years in the assessment period. Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Deconstruction of the green roof system is done manually, where crane can be used to bring the waste to ground level if the altitude is high. Materials are separated and the compostable material is sent to composting, the rest is treated according to Finnish Statistics end-of-life data, with an assumed transport distance of 50 km.

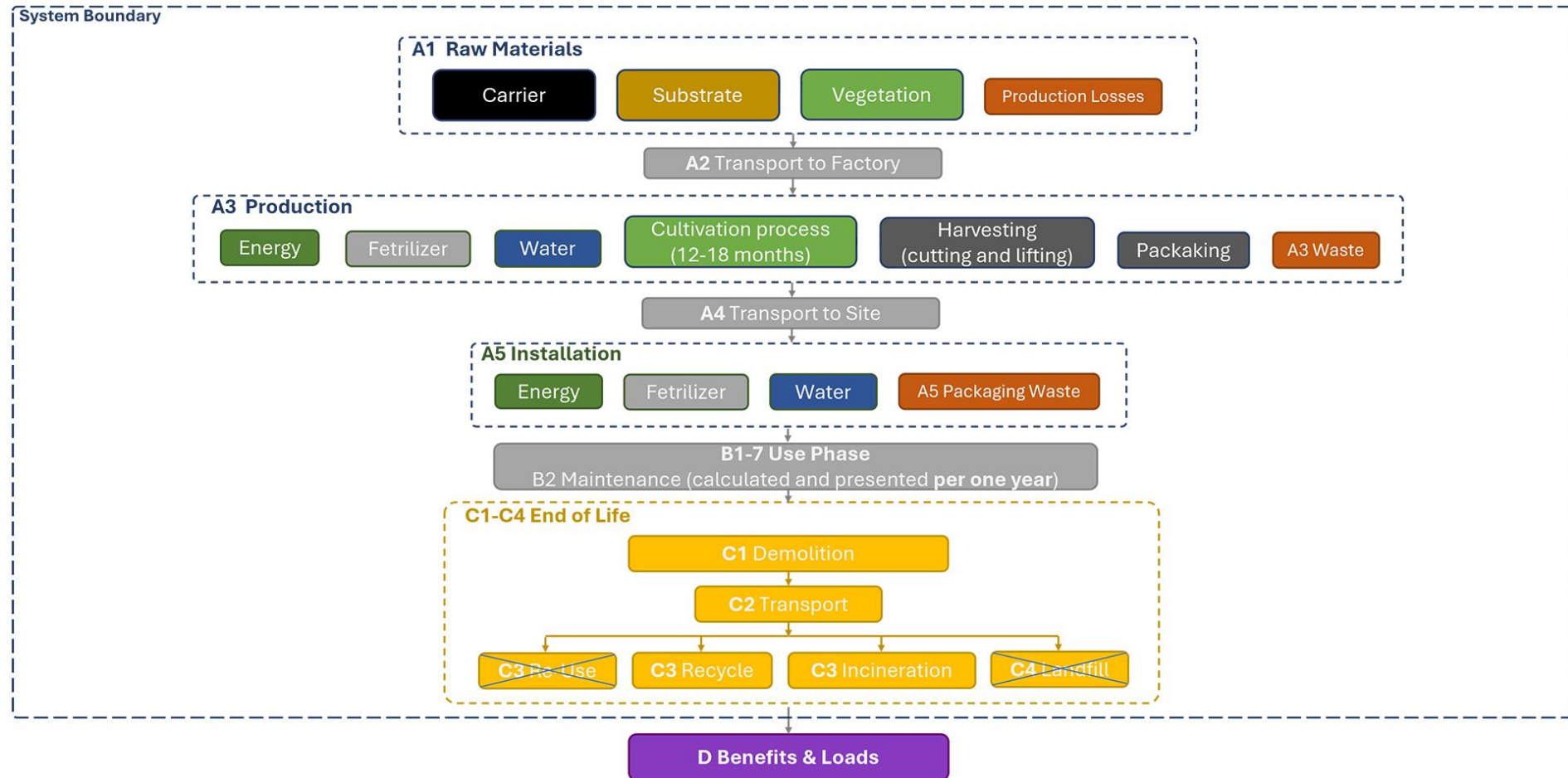
Biomaterials and inert waste are assumed to be composted. Carrier is assumed to be recycled or incinerated according to Finnish waste statistics.

No waste was assumed to be sent to the landfill. Here, the virtual emission of biogenic carbon from the product is included.

Benefits beyond the system boundary (D)

Here, credits for producing energy during incineration and recycled materials in C3 are included.

MANUFACTURING PROCESS



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.

For easier modelling and because of lack of accuracy in data and available modelling resources few constituents under 0,1% of product mass are excluded. These include some ancillary materials which are all present in the product only in very small amounts and have no serious impact on the emissions of the product.

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.

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

Main product composition: Nothing is calculated to metals. Pumice, clay, sand, lime and stone ash are calculated to minerals. Carrier (plastic) is calculated to fossil materials. Bark, seeds and vegetation are calculated to bio-based materials. This calculation is done with dry weights.

PRODUCT & MANUFACTURING SITES GROUPING

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

This EPD is product and factory specific and does not contain average calculations.

LCA SOFTWARE AND BIBLIOGRAPHY

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

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, PEF

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	-1,74E+00	1,47E+00	6,63E-01	3,94E-01	1,00E+00	1,32E+00	0,00E+00	8,62E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,12E-02	3,28E-01	4,59E+00	0,00E+00	-1,36E+00
GWP – fossil	kg CO ₂ e	1,10E+00	1,47E+00	1,26E+00	3,83E+00	1,00E+00	2,37E-01	0,00E+00	8,60E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,12E-02	3,28E-01	1,75E+00	0,00E+00	-1,46E+00
GWP – biogenic	kg CO ₂ e	-2,84E+00	2,56E-04	-5,98E-01	-3,44E+00	1,99E-04	1,08E+00	0,00E+00	4,45E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,29E-06	1,52E-05	2,83E+00	0,00E+00	1,03E-01
GWP – LULUC	kg CO ₂ e	3,08E-03	6,21E-04	1,82E-03	5,51E-03	3,55E-04	2,34E-04	0,00E+00	1,88E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,32E-06	1,16E-04	8,78E-04	0,00E+00	-2,81E-03
Ozone depletion pot.	kg CFC-11e	3,68E-08	2,63E-08	2,28E-08	8,59E-08	2,00E-08	4,40E-09	0,00E+00	1,99E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,24E-09	6,53E-09	9,96E-09	0,00E+00	-2,40E-08
Acidification potential	mol H ⁺ e	5,59E-03	1,84E-02	7,82E-03	3,18E-02	3,14E-03	1,45E-03	0,00E+00	5,02E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,33E-04	1,03E-03	5,84E-02	0,00E+00	-8,64E-03
EP-freshwater ²⁾	kg Pe	1,26E-04	7,86E-05	1,53E-04	3,58E-04	6,66E-05	2,60E-05	0,00E+00	1,76E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,34E-06	2,18E-05	1,81E-04	0,00E+00	-4,77E-04
EP-marine	kg Ne	2,03E-03	4,79E-03	2,89E-03	9,71E-03	1,06E-03	4,95E-04	0,00E+00	7,42E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,40E-04	3,46E-04	2,73E-03	0,00E+00	-1,38E-03
EP-terrestrial	mol Ne	1,79E-02	5,30E-02	3,42E-02	1,05E-01	1,15E-02	6,27E-03	0,00E+00	1,71E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,72E-03	3,76E-03	2,56E-01	0,00E+00	-1,50E-02
POCP (“smog”) ³⁾	kg NMVOCe	5,14E-03	1,61E-02	1,02E-02	3,14E-02	4,92E-03	1,70E-03	0,00E+00	2,71E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,11E-03	1,61E-03	3,92E-03	0,00E+00	-6,16E-03
ADP-minerals & metals ⁴⁾	kg Sbe	1,90E-05	3,53E-06	4,80E-06	2,73E-05	3,28E-06	1,25E-06	0,00E+00	9,71E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,91E-08	1,07E-06	2,91E-06	0,00E+00	-4,59E-06
ADP-fossil resources	MJ	2,03E+01	1,97E+01	1,82E+01	5,82E+01	1,41E+01	3,13E+00	0,00E+00	1,23E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,06E+00	4,61E+00	1,06E+01	0,00E+00	-2,59E+01
Water use ⁵⁾	m ³ e depr.	1,84E+00	8,29E-02	4,03E-01	2,33E+00	6,93E-02	6,25E-02	0,00E+00	4,42E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,65E-03	2,26E-02	6,31E-01	0,00E+00	-3,70E-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, PEF

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	8,34E-05	9,06E-08	1,77E-07	8,36E-05	7,89E-08	3,02E-08	0,00E+00	5,46E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,08E-08	2,58E-08	3,12E-07	0,00E+00	-9,71E-08
Ionizing radiation ⁶⁾	kBq 11235e	4,18E-02	1,95E-02	1,20E-01	1,81E-01	1,80E-02	9,94E-03	0,00E+00	6,33E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,71E-04	5,88E-03	4,02E-02	0,00E+00	-2,48E-01
Ecotoxicity (freshwater)	CTUe	1,31E+01	2,19E+00	5,08E+00	2,04E+01	1,85E+00	1,30E+00	0,00E+00	1,07E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,85E-02	6,05E-01	2,17E+02	0,00E+00	-5,08E+00
Human toxicity, cancer	CTUh	2,38E-10	2,72E-10	7,58E-10	1,27E-09	1,71E-10	4,91E-11	0,00E+00	2,22E-11	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,35E-12	5,59E-11	4,60E-10	0,00E+00	-1,36E-09
Human tox. non-cancer	CTUh	5,85E-09	9,86E-09	6,60E-09	2,23E-08	8,85E-09	2,17E-09	0,00E+00	9,80E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,32E-10	2,89E-09	1,16E-08	0,00E+00	-1,20E-08
SQP ⁷⁾	-	3,95E+01	8,81E+00	5,43E+01	1,03E+02	8,39E+00	9,64E-01	0,00E+00	5,28E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,44E-02	2,74E+00	1,42E+01	0,00E+00	-1,04E+02

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	-8,02E-01	2,75E-01	5,34E+00	4,81E+00	2,44E-01	-5,48E+00	0,00E+00	7,72E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,73E-03	7,97E-02	-1,10E+02	0,00E+00	-9,93E+00
Renew. PER as material	MJ	6,19E+00	0,00E+00	5,24E+00	1,14E+01	0,00E+00	-5,24E+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	-6,19E+00	0,00E+00	1,12E-01
Total use of renew. PER	MJ	5,39E+00	2,75E-01	1,06E+01	1,62E+01	2,44E-01	-1,07E+01	0,00E+00	7,72E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,73E-03	7,97E-02	-1,16E+02	0,00E+00	-9,81E+00
Non-re. PER as energy	MJ	1,61E+01	1,97E+01	1,42E+01	4,99E+01	1,41E+01	3,01E+00	0,00E+00	1,23E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,06E+00	4,61E+00	-6,29E+00	0,00E+00	-2,52E+01
Non-re. PER as material	MJ	5,37E+00	0,00E+00	4,88E-01	5,86E+00	0,00E+00	-4,88E-01	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	-5,37E+00	0,00E+00	6,20E+00
Total use of non-re. PER	MJ	2,14E+01	1,97E+01	1,47E+01	5,58E+01	1,41E+01	2,52E+00	0,00E+00	1,23E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,06E+00	4,61E+00	-1,17E+01	0,00E+00	-1,90E+01
Secondary materials	kg	5,13E-01	9,10E-03	6,92E-01	1,21E+00	6,46E-03	1,55E-03	0,00E+00	6,78E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,41E-04	2,11E-03	1,16E-02	0,00E+00	1,18E-01
Renew. secondary fuels	MJ	1,05E-03	8,22E-05	1,78E-01	1,79E-01	8,15E-05	1,01E-05	0,00E+00	4,10E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,15E-06	2,67E-05	7,02E-04	0,00E+00	-3,53E-01
Non-ren. secondary fuels	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m³	3,08E-02	2,23E-03	2,27E-01	2,60E-01	1,90E-03	6,34E-03	0,00E+00	1,11E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,02E-05	6,20E-04	-9,32E-04	0,00E+00	-1,36E-02

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	3,29E-02	2,75E-02	3,06E-01	3,66E-01	2,02E-02	1,00E-01	0,00E+00	9,58E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,18E-03	6,61E-03	5,22E-02	0,00E+00	-1,14E-01
Non-hazardous waste	kg	2,98E-01	5,12E-01	1,71E+00	2,52E+00	4,27E-01	5,08E-01	0,00E+00	1,69E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,61E-02	1,40E-01	4,17E+00	0,00E+00	-3,59E+00
Radioactive waste	kg	3,61E-05	4,84E-06	2,76E-05	6,86E-05	4,47E-06	2,32E-06	0,00E+00	1,51E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,15E-07	1,46E-06	9,85E-06	0,00E+00	-5,47E-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	6,70E-01	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
Materials for recycling	kg	2,72E-03	0,00E+00	3,15E-03	5,87E-03	0,00E+00	3,50E-04	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	3,37E+01	0,00E+00	0,00E+00
Materials for energy rec	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	1,59E-02	0,00E+00	1,44E+00	1,45E+00	0,00E+00	3,96E+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	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	2,19E-01	2,19E-01	0,00E+00	6,14E-01	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	1,41E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	1,22E+00	1,22E+00	0,00E+00	3,34E+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	7,95E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

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	1,11E+00	1,47E+00	1,26E+00	3,84E+00	1,00E+00	2,37E-01	0,00E+00	8,62E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,12E-02	3,28E-01	1,75E+00	0,00E+00	-1,46E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO₂ is set to zero.

THIRD-PARTY VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited
01.06.2025