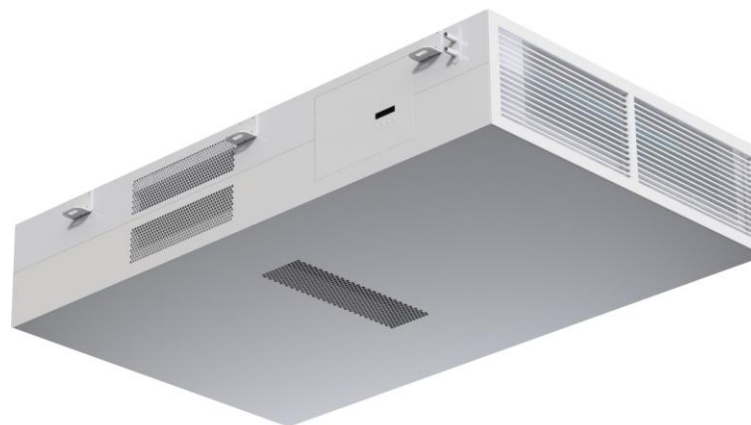




ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

NVHRe 1100
Breathing Buildings



EPD HUB, HUB-6887

Published on 02.07.2026, last updated on 02.07.2026, valid until 01.07.2031

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	Breathing Buildings
Address	Fleming Way, CRAWLEY, West Sussex, RH10 9YX
Contact details	EPD@breathingbuildings.com
Website	www.breathingbuildings.com

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
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-B7, and modules C1-C4, D
EPD author	Andrew Jackson
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Yazan Badour as an authorized verifier for EPD Hub

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	NVHRe 1100
Additional labels	-
Product reference	NVHRe 1100
Place(s) of raw material origin	United Kingdom
Place of production	Dudley, United Kingdom
Place(s) of installation and use	United Kingdom
Period for data	01-09-2024 to 31-08-2025
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 (%)	0.23

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit
Declared unit mass	82.5 kg
Mass of packaging	6 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	453
GWP-total, A1-A3 (kgCO ₂ e)	445
Secondary material, inputs (%)	19.8
Total energy use, A1-A3 (kWh)	1570
Net freshwater use, A1-A3 (m ³)	3.97

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

PRODUCT DESCRIPTION

The NVHRe 1100 range from Breathing Buildings is an advanced hybrid ventilation system with heat recycling and heat recovery, designed to deliver exceptional indoor air quality and energy efficiency. Developed and manufactured in the UK, it combines the benefits of natural ventilation with mechanical assistance to provide a flexible, low-energy solution for a wide range of applications, particularly in education and commercial environments.

Engineered to respond intelligently to internal and external conditions, the NVHRe system uses integrated sensors to automatically regulate airflow, temperature, and CO₂ levels, ensuring a comfortable and healthy indoor environment throughout the year. The system operates in natural, hybrid, or full mechanical modes depending on demand, maximising energy savings while maintaining consistent performance.

The unit's carefully designed airflow pathways optimise air distribution while minimising noise, making it ideal for classrooms and occupied spaces where acoustic comfort is critical. Integrated heat recovery technology captures and reuses heat from extracted air, reducing heating demand and lowering operational costs.

The system is designed for ease of maintenance, with accessible components that support long-term reliability and performance. By combining intelligent controls, low-energy operation, and robust performance, the NVHRe system provides a sustainable ventilation solution that supports occupant wellbeing while helping buildings meet modern building and environmental standards.

Further information can be found at:
www.breathingbuildings.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	86	EU, Asia & UK
Minerals	12	EU & UK
Fossil materials	2	EU & UK
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	1.637

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit
Mass per declared unit	82.5 kg
Functional unit	-
Reference service life	20 years

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	ND	ND	ND	ND	x	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

Not declared = ND.

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 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 utilised in the factory.

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 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. A sales volume-based weighted average is considered for defining the distribution to the customer. Average distance of transportation from production plant to building site was calculated using our most common country of sale and using the capital city of this country as the destination. Vehicle capacity utilisation volume factor is assumed to be 100% which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. To be conservative, empty returns are considered as modelled in the ecoinvent database. Transportation does not cause losses as product are packaged properly. Also, volume capacity utilisation factor is assumed to be 100% for the nested packaged products. Transportation impacts that occur from

delivery of the product cover direct exhaust emissions of fuel, environmental impacts of fuel production, as well as related infrastructure emissions. Environmental impacts from installation into the building include waste packaging materials (A5) and release of biogenic carbon dioxide from waste processing of cardboard and wood pallets. Steel bolts and copper pipes are considered as part of the installation process. Quantities are assumed as it varies for different products.

The nuts, bolts and screws are part of the manufacturing process to hold the unit together. No screws are supplied to install the unit in a fixed location.

PRODUCT USE AND MAINTENANCE (B1-B7)

The reference service life of the product is 20 years. Potential impacts to air, soil, and water during the use phase have not been assessed, as no significant emissions to these environmental compartments are expected under normal operating conditions.

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

PRODUCT END OF LIFE (C1-C4, D)

The end-of-life scenario has been modelled in accordance with the requirements of EN 50693:2019 for electrical and electronic products. The scenario reflects current waste treatment practices in England and incorporates material-specific treatment routes based on available waste management statistics and default values provided in Table G.4 of EN 50693:2019 where primary data was not available.

Energy and resource consumption associated with the demolition and removal of the fan coil unit (C1) are assumed to be negligible. Following deinstallation, the product is assumed to be separately collected and transported to waste treatment facilities (C2). Transportation distances are assumed to be 50 km to landfill, 100 km to incineration facilities, and 250

km to recycling facilities, using lorry transport.

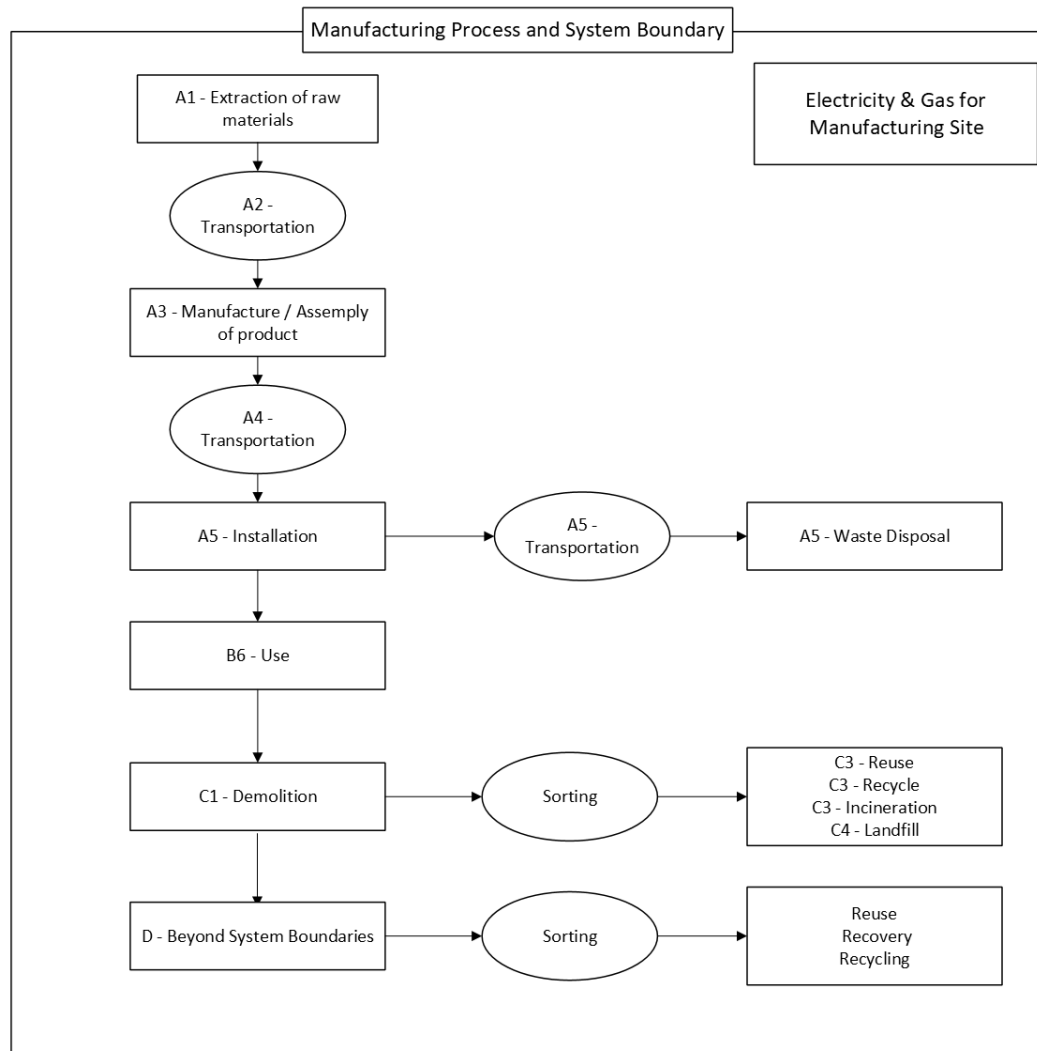
Waste processing (C3) includes depollution, dismantling, shredding, sorting, material separation, recycling preparation, energy recovery, and final disposal, as applicable to each material stream. The modelling of waste treatment processes is based on the default treatment scenarios provided in EN 50693:2019.

In line with construction and demolition waste management practices in England, metals, plastics, wood, glass, paint, and inert materials are assumed to be sorted and directed to the appropriate treatment routes. Module C3 accounts for the energy and resource inputs associated with sorting and processing materials destined for recycling or energy recovery.

Materials not recovered through recycling or energy recovery are modelled as disposed of in landfill or incineration (C4). For the representation, the end-of-life scenario assumes that 20% of steel, 40% of copper, 30% of aluminium, 20% of ABS plastic, and 100% of PCB support materials are landfilled.

Module D accounts for the potential benefits associated with the recovery of materials and energy beyond the system boundary. Recycled materials are credited for displacing the production of equivalent virgin materials, while energy recovered through incineration is assumed to substitute conventional electricity and heat generation. The resulting loads and benefits associated with recycling and energy recovery are reported in Module D in accordance with EN 15804+A2.

LIFE CYCLE FLOW 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.

-

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	No allocation
Manufacturing energy and waste	No allocation

-

PRODUCT & MANUFACTURING SITES GROUPING

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

-

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.5. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 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, 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	4.52E+02	5.03E-01	-7.61E+00	4.45E+02	2.07E+00	1.07E+01	ND	ND	ND	ND	ND	7.38E+01	ND	0.00E+00	2.85E+00	3.75E+01	9.92E+00	-6.30E+01
GWP – fossil	kg CO ₂ e	4.50E+02	5.03E-01	2.82E+00	4.53E+02	2.06E+00	2.07E-01	ND	ND	ND	ND	ND	7.37E+01	ND	0.00E+00	2.85E+00	3.75E+01	9.92E+00	-5.93E+01
GWP – biogenic	kg CO ₂ e	5.02E-01	7.70E-05	-1.05E+01	-9.97E+00	4.74E-04	1.05E+01	ND	ND	ND	ND	ND	4.30E-02	ND	0.00E+00	6.18E-04	-1.15E-02	-9.38E-04	-3.61E+00
GWP – LULUC	kg CO ₂ e	1.58E+00	2.36E-04	4.88E-02	1.63E+00	9.19E-04	2.79E-04	ND	ND	ND	ND	ND	9.17E-02	ND	0.00E+00	1.24E-03	1.87E-03	2.05E-04	-3.96E-02
Ozone depletion pot.	kg CFC-11e	7.90E-06	7.29E-09	7.81E-08	7.99E-06	3.00E-08	3.18E-09	ND	ND	ND	ND	ND	3.73E-06	ND	0.00E+00	4.14E-08	4.53E-08	1.22E-08	-2.29E-07
Acidification potential	mol H ⁺ e	3.19E+00	5.04E-03	1.31E-02	3.21E+00	7.18E-03	1.09E-03	ND	ND	ND	ND	ND	2.74E-01	ND	0.00E+00	9.46E-03	4.63E-02	8.76E-03	-3.01E-01
EP-freshwater ²⁾	kg Pe	4.49E-01	4.47E-05	1.12E-03	4.50E-01	2.24E-04	5.34E-05	ND	ND	ND	ND	ND	1.32E-02	ND	0.00E+00	2.19E-04	8.52E-04	7.67E-05	-2.90E-02
EP-marine	kg Ne	5.12E-01	1.36E-03	4.92E-03	5.18E-01	2.37E-03	1.25E-03	ND	ND	ND	ND	ND	5.92E-02	ND	0.00E+00	3.08E-03	3.68E-02	5.99E-02	-5.49E-02
EP-terrestrial	mol Ne	5.16E+00	1.50E-02	4.40E-02	5.22E+00	2.57E-02	4.31E-03	ND	ND	ND	ND	ND	6.85E-01	ND	0.00E+00	3.35E-02	2.15E-01	4.55E-02	-7.23E-01
POCP (“smog”) ³⁾	kg NMVOCe	1.68E+00	4.71E-03	1.60E-02	1.70E+00	1.05E-02	1.44E-03	ND	ND	ND	ND	ND	1.91E-01	ND	0.00E+00	1.33E-02	5.35E-02	1.16E-02	-2.08E-01
ADP-minerals & metals ⁴⁾	kg Sbe	4.47E-02	1.20E-06	1.24E-05	4.47E-02	5.90E-06	6.93E-07	ND	ND	ND	ND	ND	1.25E-03	ND	0.00E+00	9.29E-06	7.69E-05	1.33E-06	-6.28E-03
ADP-fossil resources	MJ	5.35E+03	6.92E+00	4.77E+01	5.41E+03	2.94E+01	2.76E+00	ND	ND	ND	ND	ND	2.00E+03	ND	0.00E+00	4.00E+01	3.46E+01	8.58E+00	-5.92E+02
Water use ⁵⁾	m ³ e depr.	1.62E+02	3.56E-02	1.53E+00	1.64E+02	1.72E-01	7.42E-02	ND	ND	ND	ND	ND	1.98E+01	ND	0.00E+00	1.87E-01	2.83E+00	6.97E-01	-8.73E+00

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	2.76E-05	4.06E-08	1.83E-07	2.78E-05	2.02E-07	1.88E-08	ND	ND	ND	ND	ND	1.69E-06	ND	0.00E+00	2.28E-07	5.58E-07	5.11E-08	-4.09E-06
Ionizing radiation ⁶⁾	kBq 11235e	2.41E+01	5.20E-03	4.70E-01	2.46E+01	2.47E-02	8.48E-03	ND	ND	ND	ND	ND	7.03E+01	ND	0.00E+00	3.41E-02	7.67E-02	8.43E-03	-2.24E+00
Ecotoxicity (freshwater)	CTUe	6.76E+03	1.23E+00	2.37E+01	6.78E+03	6.11E+00	1.98E+00	ND	ND	ND	ND	ND	2.02E+02	ND	0.00E+00	6.21E+00	9.74E+01	3.58E+01	-1.37E+03
Human toxicity, cancer	CTUh	5.39E-07	8.60E-11	8.88E-09	5.48E-07	3.24E-10	1.09E-10	ND	ND	ND	ND	ND	2.61E-08	ND	0.00E+00	4.84E-10	6.06E-09	8.91E-10	-2.14E-08
Human tox. non-cancer	CTUh	1.40E-05	3.71E-09	2.46E-08	1.40E-05	1.83E-08	5.95E-09	ND	ND	ND	ND	ND	1.24E-06	ND	0.00E+00	2.51E-08	1.78E-07	3.58E-08	1.73E-06
SQP ⁷⁾	-	1.43E+03	5.47E+00	7.57E+02	2.20E+03	2.94E+01	2.51E+00	ND	ND	ND	ND	ND	1.21E+03	ND	0.00E+00	2.46E+01	3.11E+01	7.35E+00	-3.71E+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	5.65E+02	8.64E-02	4.93E+01	6.15E+02	4.09E-01	-8.79E+01	ND	ND	ND	ND	ND	6.70E+02	ND	0.00E+00	5.61E-01	2.73E+00	1.65E-01	-8.73E+01
Renew. PER as material	MJ	0.00E+00	0.00E+00	9.14E+01	9.14E+01	0.00E+00	-9.14E+01	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E+01
Total use of renew. PER	MJ	5.65E+02	8.64E-02	1.41E+02	7.06E+02	4.09E-01	-1.79E+02	ND	ND	ND	ND	ND	6.70E+02	ND	0.00E+00	5.61E-01	2.73E+00	1.65E-01	-5.56E+01
Non-re. PER as energy	MJ	5.00E+03	6.92E+00	4.28E+01	5.05E+03	2.94E+01	2.76E+00	ND	ND	ND	ND	ND	2.00E+03	ND	0.00E+00	4.00E+01	-4.16E+02	-2.93E+02	-5.95E+02
Non-re. PER as material	MJ	3.55E+02	0.00E+00	5.23E+00	3.60E+02	0.00E+00	-5.23E+00	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	-2.13E+02	-1.42E+02	1.42E+01
Total use of non-re. PER	MJ	5.35E+03	6.92E+00	4.80E+01	5.41E+03	2.94E+01	-2.47E+00	ND	ND	ND	ND	ND	2.00E+03	ND	0.00E+00	4.00E+01	-6.29E+02	-4.35E+02	-5.81E+02
Secondary materials	kg	1.63E+01	2.99E-03	2.30E+00	1.86E+01	1.23E-02	2.16E-03	ND	ND	ND	ND	ND	3.56E-01	ND	0.00E+00	1.80E-02	2.60E-02	3.45E-03	3.10E+01
Renew. secondary fuels	MJ	2.92E-02	3.09E-05	2.74E+00	2.77E+00	1.61E-04	1.94E-05	ND	ND	ND	ND	ND	2.56E-03	ND	0.00E+00	2.29E-04	1.05E-03	9.61E-05	-9.23E-03
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m ³	3.94E+00	8.75E-04	3.59E-02	3.97E+00	4.22E-03	-6.52E-03	ND	ND	ND	ND	ND	4.70E-01	ND	0.00E+00	5.34E-03	5.82E-02	5.33E-03	-1.60E+00

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	1.01E+02	3.64E-02	1.83E-01	1.01E+02	1.88E-01	2.09E-02	ND	ND	ND	ND	ND	3.07E+00	ND	0.00E+00	6.87E-02	7.66E-01	1.77E-01	-2.37E+01
Non-hazardous waste	kg	1.89E+03	7.06E-01	4.67E+00	1.90E+03	3.72E+00	1.17E+01	ND	ND	ND	ND	ND	6.88E+01	ND	0.00E+00	1.30E+00	1.95E+01	2.17E+01	5.21E+02
Radioactive waste	kg	5.98E-03	1.25E-06	1.12E-04	6.10E-03	5.91E-06	2.12E-06	ND	ND	ND	ND	ND	1.53E-02	ND	0.00E+00	8.36E-06	1.91E-05	2.09E-06	-5.78E-04

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	ND	ND	ND	ND	0.00E+00	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	0.00E+00	0.00E+00	0.00E+00	2.43E+00	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	4.65E+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	ND	ND	ND	ND	ND	0.00E+00	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	0.00E+00	0.00E+00	0.00E+00	8.38E+00	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	1.57E+02	0.00E+00	0.00E+00
Exported energy – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E+00	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	6.60E+01	0.00E+00	0.00E+00
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E+00	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	9.07E+01	0.00E+00	0.00E+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	4.51E+02	5.03E-01	2.87E+00	4.55E+02	2.06E+00	2.07E-01	ND	ND	ND	ND	ND	7.38E+01	ND	0.00E+00	2.85E+00	3.75E+01	9.92E+00	-5.94E+01

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. Heat production, natural gas, at industrial furnace >100kW, Albania, Ecoinvent, 0.0773 kgCO₂e/MJ
2. Electricity, medium voltage, residual mix, United Kingdom, Ecoinvent, 0.47 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry, >32 metric ton, diesel, EURO 5, 210 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	100
Bulk density of transported products	0
Volume capacity utilization factor	1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	-
Water use (m ³)	-
Ancillary materials: type and mass (kg)	-
Waste materials: type and mass (kg)	5 kg of Wooden Pallet from packaging.
Waste materials: output routes	Wooden Pallet : 1.6 kg (32 %) Recycling, 1.5 kg (30%) Incineration with energy recovery, 1.9kg (38%) landfill.
Direct emissions (kg)	-

Use stages scenario documentation - B6-B7 Use of energy and use of water

Scenario information	Value
Type of energy, consumption (kWh)	283.3
Freshwater consumption (m3)	-
Performance characteristics, E.g. Power rating, efficiency, capacity	-

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	-
Collection process: Mixed waste (kg)	-
Recovery: re-use (kg)	0
Recovery: recycling (kg)	46.5
Recovery: energy recovery (kg)	0
Disposal (kg)	0
Scenario assumptions e.g. transportation (mode, km) & other	Landfill, 50km. Incineration, 100km. Recycling, 250km.

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

Yazan Badour as an authorized verifier for EPD Hub Limited 02.07.2026

