



ENVIRONMENTAL PRODUCT DECLARATION

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

CASA W4 xs
Swegon Group AB



EPD HUB, HUB-3288

Published on 09.05.2025, last updated on 09.05.2025, valid until 08.05.2030

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Swegon Group AB
Address	J A Wettergrens gata 7, 421 30, Västra Frölunda, Sweden
Contact details	info@swegon.se
Website	www.swegon.com

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	Sarita Keppola
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	Imane Uald Lamkaddam as an authorized verifier for EPD Hub

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	CASA W4 xs
Additional labels	-
Product reference	-
Place of production	Kaarina, Finland
Period for data	Calendar year 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	- %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of CASA W4 xs
Declared unit mass	44,86 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2,26E+02
GWP-total, A1-A3 (kgCO ₂ e)	2,13E+02
Secondary material, inputs (%)	4,69
Secondary material, outputs (%)	76,6
Total energy use, A1-A3 (kWh)	910
Net freshwater use, A1-A3 (m ³)	1,73

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

People spend most of their time indoors, which is why we need a sound indoor climate for our health, well-being and happiness. Swegon's ambition is to achieve the world's best indoor environment with the least possible impact on the external environment. Our business models, services, products and systems are all designed to provide the right solution for each individual project.

Swegon Group AB, owned by Investment AB Latour, listed on the Stockholm Stock Exchange, is a market leading supplier in the field of indoor environment, offering solutions for ventilation, heating, cooling and climate optimisation, as well as connected services and expert technical support. Swegon has subsidiaries and distributors all over the world and 21 production plants in Europe, North America and India. The company employs more than 3 300 people and in 2023 had a turnover of 8.8 billion SEK.

PRODUCT DESCRIPTION

The air handling unit is a device, which will provide healthy dust free air to buildings with a good energy efficiency. Energy efficiency is created with a good design and optimization between fans, heat exchanger, filtration, control and modular space requirements.

Swegon CASA products are known in the market for their high quality, energy efficiency, silence and ease of use.

Swegon CASA W4 xs is a residential ventilation unit (597 x 599 x 446 mm, Ø 160 mm) with counter flow heat exchanger suitable for wall or ceiling mounting for small homes and apartments. Air flow range 36 - 349 m³/h.

W4 xs is designed with modular measurements and thanks to its extremely low height it can be placed above a washing tower leaving plenty of space for e.g. a folding rack. Equipped with a fifth duct connection (Ø 125 mm) for the possibility to connect an external cooker hood. W4 xs has an inbuilt

preheater and intelligent compensation functions that ensure the ventilation works continuously and without causing unnecessary negative pressure.

The ventilation unit has intelligent demand-controlled humidity automation (RH) as standard. CO₂ and VOC automation are available as accessory. Intelligent anti-frost protection ensures continuous ventilation in cold climate and automatic summer function with passive cooling helps to keep indoor climate comfortable during summer. External coils for added cooling and heating are available as accessories.

Further information can be found at www.swegon.com.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	85	Europe
Minerals	-	-
Fossil materials	15	Europe
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,00162
Biogenic carbon content in packaging, kg C	3,68

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit of CASA W4 xs
Mass per declared unit	44,86 kg
Functional unit	The functional unit is defined as providing annual heating saved average 4459 kWh/a primary energy (AHS) and annual electricity consumption 330 kWh/a/100m ² (AEC) (EU 1253/2014 regulation). Thus heating saved average over the course of 25 years, is 111475 kWh primary energy and consumed electricity over the course of 25 years, is 8250 kWh/100m ² .
Reference service life	25 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	MND	MND	MND	X	MND	X	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.

The unit is manufactured in Swegon ILTO Oy factory in Kaarina, Finland. Factory is an assembly factory, which doesn't manufacture any components by itself, just assemble units with components manufactured by suppliers. The product stage takes into account the manufacture of raw materials, their transport to the production plant and the stages of the product manufacturing process. The most relevant components were modelled based on primary data from the supplier, while some other components were modelled with proxy data. Transportation of raw material to the manufacturing site is accounted based both on actual distance and mode of transport and on generic datasets. Packaging material (cardboard and wood pallet) is included.

The manufacturing mainly refers the assembling configuring and testing of the air handling units from pre-made parts. The assessment covers the electricity and heating use needed during the production process. The manufacturing energy and heat are both based on 100% renewable as proved by a green contract with the local companies.

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 main market areas of the products are Finland and Sweden, Average distances between the production facility and destinations are used. Variation of market shares between different products is taken into account.

PRODUCT USE AND MAINTENANCE (B1-B7)

Energy use during the product use phase and the replacement of filters are taken into account. Energy use refers to the daily estimated electricity consumption of the air handling unit. Filters are replaced by assumption once each year during the 25-year life cycle.

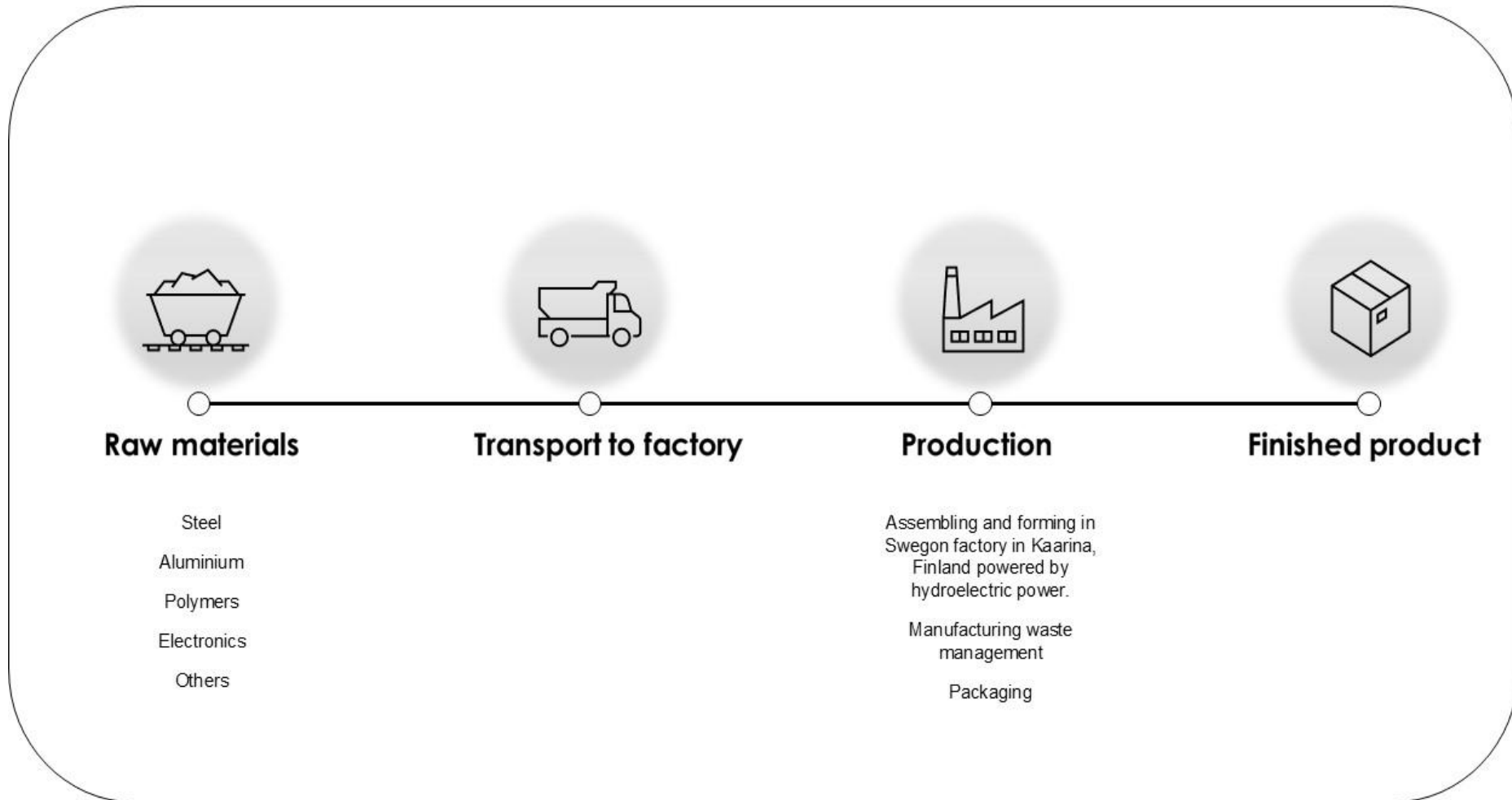
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The dismantling of the product is assumed to take place after the assumed 25-year lifecycle. Transportation of the dismantled product for processing was assessed based on average waste transportation distances. It was assumed that steel, aluminium, iron, copper and the metal content in WEEE in the product will be recycled as material and other materials (e.g. plastics) sent for energy recovery.

The applied scenarios, which are based on literature data, include different ratios of material recycling, incineration and landfill for the input materials.

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.

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	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging 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 v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

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	2,14E+02	6,79E+00	-7,98E+00	2,13E+02	9,22E-01	1,37E+01	MND	MND	MND	1,66E+01	MND	8,95E+03	MND	0,00E+00	2,03E-01	3,19E+00	3,07E-01	-5,41E+01
GWP – fossil	kg CO ₂ e	2,13E+02	6,79E+00	5,51E+00	2,26E+02	9,21E-01	1,96E-01	MND	MND	MND	1,66E+01	MND	8,93E+03	MND	0,00E+00	2,03E-01	3,19E+00	3,07E-01	-5,41E+01
GWP – biogenic	kg CO ₂ e	-5,94E-03	0,00E+00	-1,35E+01	-1,35E+01	0,00E+00	1,35E+01	MND	MND	MND	-4,34E-19	MND	0,00E+00	MND	0,00E+00	0,00E+00	5,94E-03	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	1,02E+00	3,28E-03	2,42E-02	1,05E+00	3,80E-04	1,41E-04	MND	MND	MND	1,28E-02	MND	2,08E+01	MND	0,00E+00	7,83E-05	2,99E-04	1,39E-04	-9,57E-03
Ozone depletion pot.	kg CFC-11e	3,02E-05	1,46E-06	5,84E-07	3,23E-05	2,08E-07	2,38E-08	MND	MND	MND	1,90E-06	MND	4,47E-04	MND	0,00E+00	4,76E-08	4,21E-07	2,85E-08	-2,13E-06
Acidification potential	mol H ⁺ e	1,28E+00	6,95E-02	3,81E-02	1,39E+00	7,89E-03	1,13E-03	MND	MND	MND	9,93E-02	MND	4,84E+01	MND	0,00E+00	6,87E-04	2,05E-02	1,11E-03	-2,23E-01
EP-freshwater ²⁾	kg Pe	1,22E-02	5,07E-05	6,20E-04	1,29E-02	6,86E-06	5,22E-06	MND	MND	MND	9,12E-04	MND	9,48E-01	MND	0,00E+00	1,71E-06	8,02E-06	2,50E-05	-2,26E-03
EP-marine	kg Ne	2,19E-01	1,82E-02	1,13E-02	2,48E-01	2,13E-03	9,54E-04	MND	MND	MND	3,22E-02	MND	6,61E+00	MND	0,00E+00	1,60E-04	9,03E-03	6,06E-03	-4,59E-02
EP-terrestrial	mol Ne	1,89E+00	2,02E-01	1,09E-01	2,20E+00	2,36E-02	3,97E-03	MND	MND	MND	1,96E-01	MND	7,50E+01	MND	0,00E+00	1,77E-03	9,89E-02	3,34E-03	-5,34E-01
POCP (“smog”) ³⁾	kg NMVOCe	6,40E-01	5,54E-02	2,30E-02	7,18E-01	6,75E-03	1,23E-03	MND	MND	MND	6,53E-02	MND	2,04E+01	MND	0,00E+00	6,61E-04	2,72E-02	1,94E-03	-2,70E-01
ADP-minerals & metals ⁴⁾	kg Sbe	2,23E-02	2,25E-05	3,11E-05	2,23E-02	2,01E-06	1,28E-06	MND	MND	MND	8,27E-04	MND	2,14E-02	MND	0,00E+00	4,92E-07	1,18E-06	4,01E-07	-1,02E-03
ADP-fossil resources	MJ	2,57E+03	9,55E+01	7,61E+01	2,74E+03	1,35E+01	2,41E+00	MND	MND	MND	2,91E+02	MND	1,91E+05	MND	0,00E+00	3,16E+00	2,68E+01	2,39E+00	-4,76E+02
Water use ⁵⁾	m ³ e depr.	7,03E+01	4,08E-01	4,42E+00	7,51E+01	5,74E-02	1,75E-01	MND	MND	MND	1,25E+01	MND	5,07E+03	MND	0,00E+00	1,41E-02	1,18E-01	1,78E-02	-9,94E+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, 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	1,23E-05	4,81E-07	4,46E-07	1,32E-05	9,43E-08	1,73E-08	MND	MND	MND	1,40E-06	MND	1,49E-04	MND	0,00E+00	2,31E-08	5,37E-07	1,59E-08	-3,64E-06
Ionizing radiation ⁶⁾	kBq 11235e	1,16E+01	4,53E-01	5,79E-01	1,26E+01	6,40E-02	2,25E-02	MND	MND	MND	1,32E+00	MND	5,18E+03	MND	0,00E+00	1,51E-02	1,26E-01	1,36E-02	1,63E+00
Ecotoxicity (freshwater)	CTUe	7,74E+03	8,26E+01	1,29E+02	7,95E+03	1,16E+01	6,41E+00	MND	MND	MND	1,06E+03	MND	1,05E+05	MND	0,00E+00	2,81E+00	2,41E+01	2,42E+01	-1,93E+03
Human toxicity, cancer	CTUh	7,44E+00	2,94E-09	1,27E-08	7,44E+00	3,37E-10	2,98E-10	MND	MND	MND	1,32E-07	MND	3,07E-06	MND	0,00E+00	6,89E-11	3,23E-09	1,67E-10	4,54E-07
Human tox. non-cancer	CTUh	1,96E+01	7,37E-08	8,94E-08	1,96E+01	1,11E-08	8,64E-09	MND	MND	MND	1,60E-06	MND	1,05E-04	MND	0,00E+00	2,72E-09	1,83E-07	7,47E-09	-1,29E-06
SQP ⁷⁾	-	3,62E+02	5,37E+01	8,44E+02	1,26E+03	1,38E+01	2,78E+00	MND	MND	MND	4,21E+01	MND	2,79E+04	MND	0,00E+00	3,64E+00	3,91E+00	4,63E+00	-1,77E+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	4,53E+02	1,12E+00	1,54E+02	6,09E+02	1,43E-01	1,44E-01	MND	MND	MND	1,72E+01	MND	3,36E+04	MND	0,00E+00	3,56E-02	2,21E-01	7,79E-02	-4,56E+01
Renew. PER as material	MJ	7,40E-02	0,00E+00	1,18E+02	1,18E+02	0,00E+00	-1,18E+02	MND	MND	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	0,00E+00	-7,31E-02	-9,00E-04	0,00E+00
Total use of renew. PER	MJ	4,54E+02	1,12E+00	2,72E+02	7,27E+02	1,43E-01	-1,18E+02	MND	MND	MND	1,72E+01	MND	3,36E+04	MND	0,00E+00	3,56E-02	1,48E-01	7,70E-02	-4,56E+01
Non-re. PER as energy	MJ	2,50E+03	9,55E+01	7,07E+01	2,66E+03	1,35E+01	2,41E+00	MND	MND	MND	2,21E+02	MND	1,90E+05	MND	0,00E+00	3,16E+00	2,68E+01	2,39E+00	-4,77E+02
Non-re. PER as material	MJ	1,77E+02	0,00E+00	5,46E+00	1,82E+02	0,00E+00	-5,46E+00	MND	MND	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	0,00E+00	-1,71E+02	-5,99E+00	0,00E+00
Total use of non-re. PER	MJ	2,67E+03	9,55E+01	7,61E+01	2,85E+03	1,35E+01	-3,05E+00	MND	MND	MND	2,21E+02	MND	1,90E+05	MND	0,00E+00	3,16E+00	-1,44E+02	-3,60E+00	-4,77E+02
Secondary materials	kg	2,10E+00	3,51E-02	2,86E+00	5,00E+00	3,99E-03	2,59E-03	MND	MND	MND	1,19E-01	MND	1,47E+01	MND	0,00E+00	8,76E-04	1,04E-02	7,61E-04	3,09E+01
Renew. secondary fuels	MJ	1,87E-02	3,75E-04	2,83E+00	2,85E+00	3,49E-05	1,84E-05	MND	MND	MND	4,71E-04	MND	7,55E-02	MND	0,00E+00	8,84E-06	4,45E-05	2,13E-05	-8,41E-03
Non-ren. secondary fuels	MJ	3,18E-02	0,00E+00	0,00E+00	3,18E-02	0,00E+00	0,00E+00	MND	MND	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,64E+00	1,07E-02	7,37E-02	1,73E+00	1,63E-03	1,10E-03	MND	MND	MND	3,01E-01	MND	1,61E+02	MND	0,00E+00	4,08E-04	4,34E-03	2,38E-03	-1,20E-01

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	2,56E+01	1,36E-01	3,27E-01	2,61E+01	1,78E-02	1,72E-02	MND	MND	MND	9,28E-01	MND	6,67E+02	MND	0,00E+00	4,17E-03	1,59E-01	0,00E+00	-1,79E+01
Non-hazardous waste	kg	2,17E+02	2,02E+00	8,66E+00	2,28E+02	2,74E-01	4,58E+00	MND	MND	MND	2,31E+01	MND	4,31E+04	MND	0,00E+00	6,84E-02	7,31E-01	1,05E+01	-9,01E+01
Radioactive waste	kg	6,59E-03	6,41E-04	2,57E-04	7,49E-03	9,10E-05	9,46E-06	MND	MND	MND	5,10E-04	MND	1,39E+00	MND	0,00E+00	2,13E-05	1,86E-04	0,00E+00	6,71E-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	MND	MND	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	2,08E-02	0,00E+00	4,43E-01	4,64E-01	0,00E+00	4,07E+00	MND	MND	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	0,00E+00	3,44E+01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	3,98E-01	3,98E-01	0,00E+00	2,30E-01	MND	MND	MND	0,00E+00	MND	0,00E+00	MND	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	1,15E+01	MND	MND	MND	0,00E+00	MND	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	2,09E+02	6,72E+00	5,68E+00	2,21E+02	9,12E-01	6,06E-01	MND	MND	MND	1,82E+01	MND	8,85E+03	MND	0,00E+00	2,01E-01	3,16E+00	2,93E+00	-5,13E+01
Ozone depletion Pot.	kg CFC ₁₁ e	2,35E-05	1,16E-06	4,92E-07	2,52E-05	1,64E-07	1,93E-08	MND	MND	MND	1,78E-06	MND	3,86E-04	MND	0,00E+00	3,77E-08	3,34E-07	2,27E-08	-2,37E-06
Acidification	kg SO ₂ e	1,08E+00	5,51E-02	2,78E-02	1,16E+00	6,23E-03	8,57E-04	MND	MND	MND	8,14E-02	MND	4,09E+01	MND	0,00E+00	5,54E-04	1,47E-02	8,69E-04	-1,80E-01
Eutrophication	kg PO ₄ ³ e	3,70E-01	8,23E-03	1,47E-02	3,93E-01	9,98E-04	9,52E-03	MND	MND	MND	6,19E-02	MND	3,31E+01	MND	0,00E+00	1,22E-04	3,53E-03	1,39E-02	-9,31E-02
POCP (“smog”)	kg C ₂ H ₄ e	9,06E-02	1,67E-03	1,97E-03	9,43E-02	1,93E-04	1,34E-04	MND	MND	MND	8,95E-03	MND	1,67E+00	MND	0,00E+00	2,49E-05	3,32E-04	6,33E-04	-3,07E-02
ADP-elements	kg Sbe	2,22E-02	2,20E-05	2,83E-05	2,22E-02	1,95E-06	1,25E-06	MND	MND	MND	2,75E-04	MND	2,13E-02	MND	0,00E+00	4,77E-07	1,13E-06	3,91E-07	-1,02E-03
ADP-fossil	MJ	2,64E+03	9,55E+01	7,57E+01	2,81E+03	1,35E+01	2,41E+00	MND	MND	MND	2,91E+02	MND	1,90E+05	MND	0,00E+00	3,16E+00	2,68E+01	2,39E+00	-4,76E+02

ENVIRONMENTAL IMPACTS – ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Radioactive waste, high	kg	6,62E-04	5,00E-06	2,96E-05	6,96E-04	6,99E-07	1,00E-06	MND	MND	MND	7,43E-05	MND	2,93E-01	MND	0,00E+00	1,77E-07	9,58E-07	4,06E-07	8,87E-05
Radioactive waste, int/low	kg	4,55E-03	6,36E-04	2,28E-04	5,42E-03	9,03E-05	1,25E-05	MND	MND	MND	4,43E-04	MND	1,10E+00	MND	0,00E+00	2,11E-05	1,85E-04	1,33E-05	-2,16E-05

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	2,14E+02	6,79E+00	5,54E+00	2,27E+02	9,22E-01	1,96E-01	MND	MND	MND	1,66E+01	MND	8,95E+03	MND	0,00E+00	2,03E-01	3,19E+00	3,07E-01	-5,41E+01

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.

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.

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
09.05.2025

