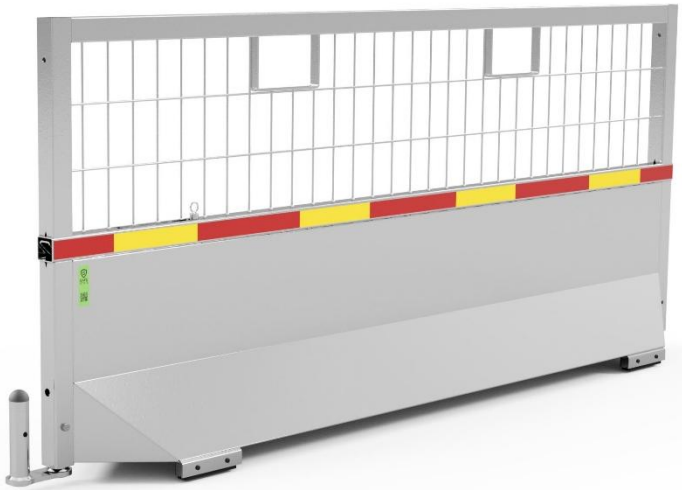
ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

ProGuard City - Road Work Safety Barriers
Safe At Site AB



EPD HUB, HUB-3980
Published on 16.09.2025, last updated on 16.09.2030.

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Safe At Site AB
Address	Lägervägen 7, 832 56 Frösön, Sweden
Contact details	info@safeatsite.com
Website	https://safeatsite.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 1.1, 5 Dec 2023
Sector	Manufactured product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Felix Meyer, Gidås Sustainability Agency
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Sarah Curpen, 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	ProGuard City - Road Work Safety Barriers
Additional labels	Not applicable
Product reference	Not applicable
Place(s) of raw material origin	SE, PL
Place of production	Hörby, Ärla, and Markaryd, Sweden
Place(s) of installation and use	Not applicable
Period for data	2024.01.01 - 2024.12.31
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3 (%)	-7% / +5%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	43

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 ton
Declared unit mass	1000 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	3,54E+02
GWP-total, A1-A3 ($kgCO_2e$)	3,54E+02
Secondary material, inputs (%)	24,4
Secondary material, outputs (%)	66,2
Total energy use, A1-A3 (kWh)	1590
Net freshwater use, A1-A3 (m^3)	5,02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Safe At Site AB is a Swedish product development company with a vision to help its customers fundamentally change the safety level at their construction and roadworks sites to avoid serious accidents. This is achieved by developing and providing smart products, solutions, and services that easily secure construction and roadworks sites and effectively allow everyone on site to work safely. The company has quickly established itself as a serious long-term player that takes responsibility by constantly striving to improve the working environment in the construction and civil engineering industry.

PRODUCT DESCRIPTION

This is an EPD of multiple products, based on the average results of the product group.

The City Barrier is a concrete-filled steel barrier. It can be mounted at angles over 90° and connected to our pedestrian and cyclist barriers (GC-barrier). In straight sections, the structure is fixed with the built-in connecting beam. Available with and without reflectors. With its weight of 416 kg and the possibility of being set at angles over 90°, it is the flexibility and manageability together with safety that stands out. The barrier stands on rubber feet for maximum friction and can be handled with both forks, slings and lifting hook. The City Barrier is tested according to EN1317 T2 and is ideally suited for use in urban environments and as a base for construction site enclosure.

Further information can be found at:
https://safeatsite.com/

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	21,2	PL
Minerals	78,5	SE
Fossil materials	0,3	SE, PL
Bio-based materials	0,0	-

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	1,01

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 ton
Mass per declared unit	1000 kg
Functional unit	Not applicable
Reference service life	Not applicable

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		
×	×	×	MND	MND	MND	MND	MND	MND	MND	MND	MND	×	×	×	×	×		
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.

Location based approach is used for electricity modelling. The residual electricity mix for Sweden was used when modelling electricity use.

The steel frame, screws and rubber feet are manufactured and processed in Poland and then transported by truck and boat to concrete casting sites in Sweden. There, the steel barrier is filled with concrete. The finished product is transported to the customer by truck. The customer transport has however not ben included in this analysis.

If transport modes and distances were unknown for certain materials, a conservative transport distance of 150 km was assumed, in combination with Lorry, 16-32 tonne, EURO 5 being the chosen transport mode. These assumptions were made for transport of packaging in A2 as well as waste transport in modules A3 and C2. In case market datapoints were used, no additional transport distances were applied as these are included in the datapoint itself.

The packaging used to transport the product are pieces of wood in order for the products not to damage each other during transport. Since module A5 is not included in this analysis, the waste treatment and balancing of biogenic carbon and energy was done in A3, in accordance with the PCR.

TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not cover the transport and installation phase. Air, soil, and water impacts during this phase have not been studied.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase. Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The end-of-life stage C1-C4 & D includes:

- Deconstruction/demolition (C1)
- Transport to waste management facility (C2)
- Waste processing for reuse, recovery and/or recycling (C3)
- Waste disposal (C4)

The product consists of highly recyclable materials. The steel components were assumed to be 90 % recycled, while the remaining 10 % were assumed to be landfilled, based on figures from the Geological Survey of Sweden - SGU (2018). The concrete, was assumed to be 60 % recycled, while the remaining 40 % were assumed to be landfilled, based on figures from Cembureau (2016). A conservative approach was used for the rubber feet, and it was assumed that these go to landfill together with the landfilled fraction of the concrete.

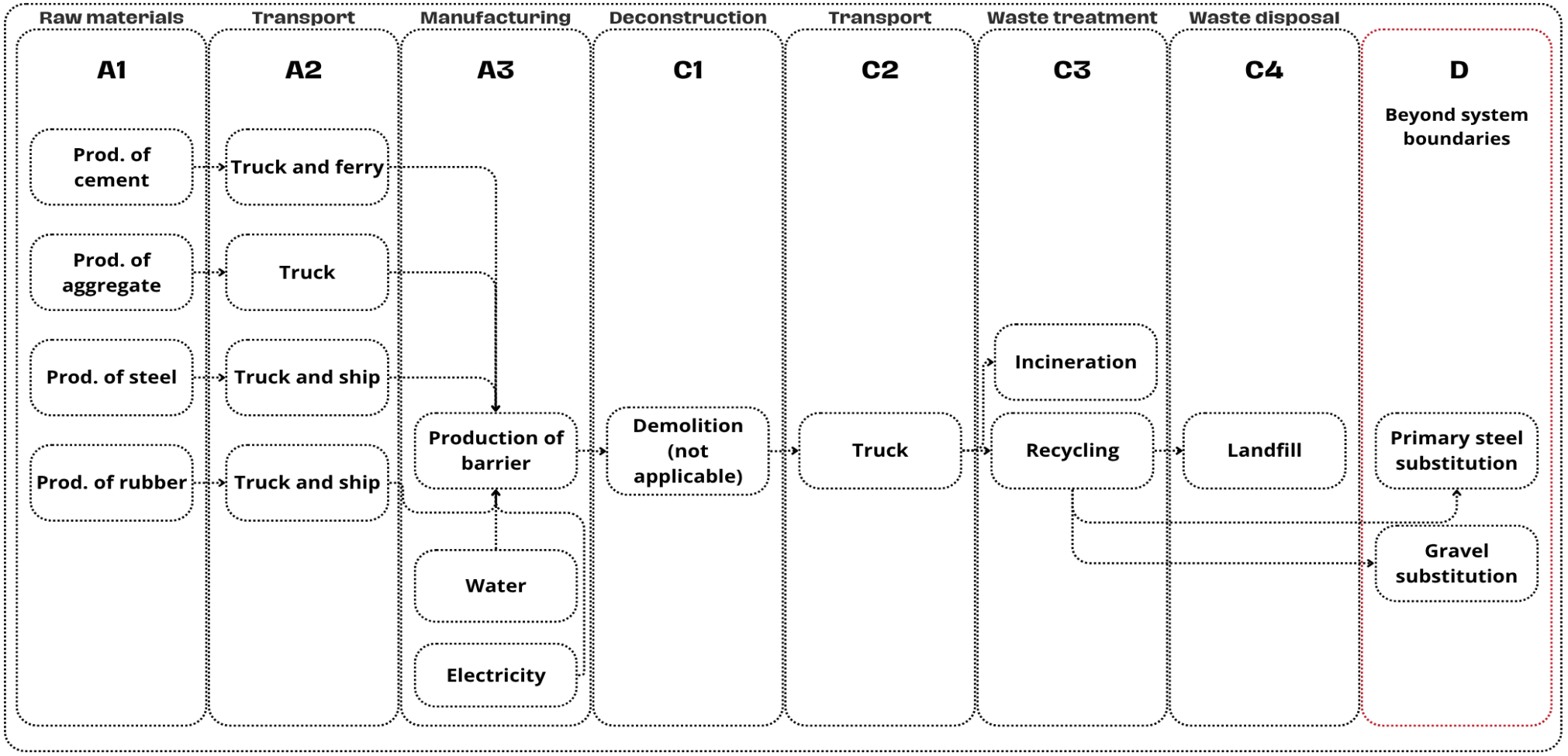
Waste processing and disposal credits are assigned to module D. Module D includes reuse, recovery and/or recycling potentials conveyed as benefits and net impacts. It was assumed that the recycling of waste steel replaces the production of its virgin counterpart, which is seen as an environmental benefit. The loads from the recycling processes have also been reported. The recycling of concrete was assumed to replace production of crushed gravel.

An efficiency rate of 73 % when recovering energy and electricity during incineration of the waste packaging material has been assumed.

Any post-consumer material within the used raw materials was taken into account and excluded when calculating benefits from recycling in module D in order to avoid double counting of environmental benefits.

The end-of-life of the product is assumed to take place in Europe, which is why all assumptions and scenarios are made to be representative of European waste treatment processes.

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.

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	Multiple products and multiple factories
Grouping method	Based on average results of product group - by total mass
Variation in GWP-fossil for A1-A3, %	-7% / +5%

This is an EPD of multiple locations of manufacturing, based on the average results of the product group. The product is manufactured in 3 different locations on which the average results are based. There is not a significant difference in manufacturing techniques, but the difference in GWP-Fossil results lies in varying transport distances, as well as the use of slightly different variants of the raw materials (cement) and the ratios thereof.

The variation in GWP Fossil between these cases was calculated according to the guidelines provided in the EPD Hub GPI V. 1.3.

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‘.

- Energy content of diesel: Swedish Energy Agency (2024) - https://app.powerbi.com/view?r=eyJrIjoiODhlN2IyNmUtMmQ4OC00MzFmLTlkZTEtMWNhZGNhZmFjNzkwIiwidCI6IjVjMTk0OGIzLWE5ODYtNDg1MC04M2YyLTQ2NTk2NWMzNmNhMSIsImMiOjh9

- Recycling rates of concrete: Cembureau (2016) - https://circulareconomy.europa.eu/platform/sites/default/files/cement_concrete_the_circular_economy.pdf

- Recycling rates of steel: SGU (2018) - https://www.sgu.se/globalassets/produkter/publikationer/tidigare/mineralmarknaden-2018---tema-jarn-och-stal.pdf

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_2e	2,77E+02	6,93E+01	7,09E+00	3,54E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,72E-01	1,89E+01	6,76E+00	2,12E+00	-5,97E+00
GWP – fossil	kg CO_2e	2,78E+02	6,93E+01	7,08E+00	3,54E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,72E-01	1,89E+01	6,23E+00	2,11E+00	-5,97E+00
GWP – biogenic	kg CO_2e	-5,43E-01	0,00E+00	0,00E+00	-5,43E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,29E-01	1,37E-02	0,00E+00
GWP – LULUC	kg CO_2e	2,13E-01	2,49E-02	9,70E-03	2,48E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,84E-05	7,87E-03	3,65E-03	1,20E-03	-7,35E-03
Ozone depletion pot.	kg CFC_{-11}e	1,42E-05	1,36E-06	1,25E-07	1,57E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	7,23E-09	3,11E-07	5,96E-08	6,10E-08	-4,42E-08
Acidification potential	mol H^+e	1,22E+00	2,95E-01	6,17E-02	1,57E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,26E-03	6,27E-02	3,71E-02	1,49E-02	-3,53E-02
EP-freshwater[2)]	kg Pe	1,35E-02	4,48E-03	4,91E-04	1,85E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,36E-05	1,40E-03	1,69E-03	1,73E-04	-2,01E-03
EP-marine	kg Ne	2,70E-01	9,21E-02	2,79E-02	3,90E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,98E-03	2,08E-02	1,73E-02	5,69E-03	-7,97E-03
EP-terrestrial	mol Ne	2,97E+00	1,01E+00	3,04E-01	4,28E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,16E-02	2,26E-01	1,43E-01	6,22E-02	-9,49E-02
POCP ("smog")[3)]	kg NMVOCe	1,07E+00	3,92E-01	9,07E-02	1,55E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,46E-03	9,42E-02	4,27E-02	2,23E-02	-2,69E-02
ADP-minerals & metals[4)]	kg Sbe	8,80E+00	2,20E-04	1,01E-05	8,81E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,69E-07	5,57E-05	7,59E-05	3,35E-06	-3,32E-05
ADP-fossil resources	MJ	3,30E+03	9,68E+02	2,17E+02	4,49E+03	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,18E+00	2,71E+02	5,81E+01	5,17E+01	-7,27E+01
Water use[5)]	m^3e depr.	9,32E+03	4,67E+00	4,06E+00	9,33E+03	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,54E-02	1,34E+00	1,04E+00	1,49E-01	-7,45E+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	1,30E-05	5,30E-06	1,74E-06	2,01E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,21E-07	1,76E-06	4,37E-06	3,40E-07	-5,22E-07
Ionizing radiation[6]	kBq U235e	9,79E+00	1,20E+00	9,68E+00	2,07E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,74E-03	2,72E-01	4,58E-01	3,25E-02	-6,68E-01
Ecotoxicity (freshwater)	CTUe	5,14E+03	1,25E+02	9,19E+00	5,27E+03	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,40E-01	3,75E+01	5,35E+01	4,34E+00	-1,63E+01
Human toxicity, cancer	CTUh	6,79E-07	1,19E-08	1,36E-09	6,93E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,86E-11	3,15E-09	4,98E-09	3,88E-10	-1,51E-09
Human tox. non-cancer	CTUh	4,17E-06	5,93E-07	3,26E-08	4,80E-06	MND	MND	MND	MND	MND	MND	MND	MND	MND	7,69E-10	1,74E-07	1,22E-07	8,92E-09	-4,82E-08
SQP[7]	-	5,41E+02	5,57E+02	5,32E+02	1,63E+03	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,33E-01	2,37E+02	1,64E+02	1,02E+02	-5,90E+01

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	2,97E+02	1,63E+01	3,52E+01	3,49E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,91E-02	4,03E+00	6,05E+00	4,99E-01	-8,91E+00
Renew. PER as material	MJ	1,55E-01	0,00E+00	0,00E+00	1,55E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-9,31E-02	-6,20E-02	0,00E+00
Total use of renew. PER	MJ	2,97E+02	1,63E+01	3,52E+01	3,49E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,91E-02	4,03E+00	5,96E+00	4,37E-01	-8,91E+00
Non-re. PER as energy	MJ	3,78E+03	9,68E+02	2,17E+02	4,96E+03	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,18E+00	2,71E+02	5,81E+01	5,17E+01	-7,27E+01
Non-re. PER as material	MJ	5,87E+01	0,00E+00	0,00E+00	5,87E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-4,45E+00	-5,42E+01	0,00E+00
Total use of non-re. PER	MJ	3,83E+03	9,68E+02	2,17E+02	5,02E+03	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,18E+00	2,71E+02	5,36E+01	-2,51E+00	-7,27E+01
Secondary materials	kg	2,44E+02	4,42E-01	4,39E-02	2,44E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,57E-03	1,18E-01	7,07E-02	1,30E-02	3,44E-01
Renew. secondary fuels	MJ	3,51E+01	5,42E-03	5,22E-04	3,51E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,71E-06	1,50E-03	4,66E-03	2,69E-04	-5,02E-04
Non-ren. secondary fuels	MJ	2,57E+02	0,00E+00	0,00E+00	2,57E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	4,62E+00	1,28E-01	1,03E-01	4,85E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,08E-04	3,90E-02	1,76E-02	5,38E-02	-1,78E-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	1,67E+00	1,38E+00	1,71E-01	3,22E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,88E-03	4,37E-01	4,71E-01	5,71E-02	-7,31E-01
Non-hazardous waste	kg	5,05E+01	2,88E+01	5,33E+00	8,47E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	9,37E-02	8,41E+00	2,54E+01	1,31E+00	-1,11E+01
Radioactive waste	kg	1,29E-02	2,99E-04	2,07E-03	1,53E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,71E-07	6,69E-05	1,17E-04	7,93E-06	-1,56E-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	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	1,04E-02	0,00E+00	0,00E+00	1,04E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,62E+02	0,00E+00	0,00E+00
Materials for energy rec	kg	3,36E-04	0,00E+00	1,50E+00	1,50E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	4,54E-03	0,00E+00	1,07E+01	1,07E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	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	3,57E+00	3,57E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	7,17E+00	7,17E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

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_2e	2,77E+02	6,88E+01	7,05E+00	3,53E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,70E-01	1,88E+01	8,74E+00	2,09E+00	-5,94E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	1,65E-05	1,08E-06	1,03E-07	1,77E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	5,73E-09	2,48E-07	4,82E-08	4,85E-08	-3,80E-08
Acidification	kg SO_2e	9,88E-01	2,28E-01	4,36E-02	1,26E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,00E-03	4,78E-02	2,76E-02	1,11E-02	-2,77E-02
Eutrophication	kg PO_4^3e	2,57E-01	4,79E-02	1,06E-02	3,15E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	7,00E-04	1,18E-02	9,16E-03	3,51E-03	-5,06E-03
POCP (“smog”)	kg C_2H_4e	9,04E-02	1,85E-02	3,51E-03	1,12E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,25E-04	4,35E-03	2,74E-03	1,05E-03	-2,51E-03
ADP-elements	kg Sbe	9,61E-04	2,15E-04	1,03E-05	1,19E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,65E-07	5,44E-05	7,54E-05	3,28E-06	-3,28E-05
ADP-fossil	MJ	3,30E+03	9,48E+02	8,89E+01	4,33E+03	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,13E+00	2,67E+02	5,01E+01	5,12E+01	-6,26E+01

ENVIRONMENTAL IMPACTS – 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_2e	2,78E+02	6,93E+01	7,09E+00	3,54E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,72E-01	1,89E+01	6,23E+00	2,11E+00	-5,97E+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.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Ecoinvent 3.10.1
Electricity CO2e / kWh	0,0507
District heating data source and quality	Not applicable
District heating CO2e / kWh	Not applicable

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	0
Collection process – kg collected with mixed waste	1000
Recovery process – kg for re-use	0
Recovery process – kg for recycling	663
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	337
Scenario assumptions e.g. transportation	For end-of-life scenario assumptions, please refer to page 5 in this EPD.

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 15802+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

Sarah Curpen, as an authorized verifier acting for EPD Hub Limited
16.09.2025