HITSA

WE SUPPLY OUTDOOR SPACES

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

HH20 D6 bike rack, hot-dip galv.
HITSA A/S

EPD HUB, HUB-4582
Published on 18.12.2025, last updated on 18.12.2030

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

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	HITSA A/S
Address	Albuen 37, 6000 Kolding, Denmark
Contact details	hitsa@hitsa.dk
Website	www.hitsa.dk, www.hitsa.se

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	Manufactured product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Eva Gudiksen - HITSA A/S
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Yazan Badour, as 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	HH20 D6 bike rack, hot-dip galv.
Additional labels	-
Product reference	-
Place(s) of raw material origin	Europe, Rest of World
Place of production	Denmark
Place(s) of installation and use	Primarily Denmark and Sweden
Period for data	Calendar year 2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	86,3

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of bike rack
Declared unit mass	26,17 kg
Mass of packaging	22,96 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	50,7
GWP-total, A1-A3 ($kgCO_2e$)	49,4
Secondary material, inputs (%)	55,2
Secondary material, outputs (%)	85
Total energy use, A1-A3 (kWh)	265
Net freshwater use, A1-A3 (m^3)	0,79

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

HITSA designs and manufactures urban furniture and cycling products.

Our benches, bollards, bicycle racks and shelters provide attractive outdoor environments and good functionality for people in urban spaces. Production takes place at our own facilities, with a focus on design, craftsmanship and quality. As a business, we work on making social inclusion and environmental and climate sustainability a part of our culture.

HITSA has 110 employees at our sites in Denmark and Sweden, including metalworkers, carpenters, painters, designers, sales staff and installers.

Our values of honesty, responsibility and customer focus serve as guidelines for everything we do.

PRODUCT DESCRIPTION

HH20 with its slim, oval wheel holders is a quality bicycle rack that fits perfectly into a variety of settings. The wheel holders are set at an angle and are therefore suitable for all tyre thicknesses. HH20 has been designed to accommodate wheel hubs with lights. The tall, oval profile of the wheel holders also saves on depth. HH20 is also a harmonious and appealing bicycle rack. We can supply the rack in plain, galvanised steel or powder-coated in any RAL colour. There are countless installation options, each with its own look. As a result, HH20 bicycle parking products can be adapted to match the style of the business, housing association or municipality. The rack comes as standard CC500 with a centre-to-centre distance of 50 cm between the wheel holders. The CC600 edition has DGNB dimensions with 60 cm between the wheel holders.

Further information can be found on:
www.hitsa.dk, www.hitsa.se

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100	EU, RoW
Minerals	-	-
Fossil materials	-	-
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,07
Biogenic carbon content in packaging, kg C	0,44

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit of bike rack
Mass per declared unit	26,17 kg
Functional unit	-
Reference service life	-

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	ND	ND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

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

A market-based approach is used in modelling the electricity mix utilized in the factory.
A market-based approach is used in modelling the electricity mix utilized in the factory.
A1: This module covers the extraction and processing of raw materials, including the associated energy consumption.
A2: The raw materials are transported by lorry via road to the manufacturing facility.
A/S. The data field includes energy use, consumption of ancillary materials, and waste generation at the production site.
Key process steps:
1. Material Preparation: Steel profiles required for production are retrieved and prepared, ensuring raw materials are ready for processing.
2. Cutting: Steel profiles are cut to the specified lengths and dimensions using specialized cutting equipment, in line with product design requirements.
3. Welding: Cut steel components are welded together to form the final steel structure.
4. External hot-dip galvanization: Steel components are sent to an external facility for hot-dip galvanization, where they are immersed in molten zinc to create a protective coating against corrosion.
5. Receiving galvanized components: Following galvanization, the components are returned to the production facility. The galvanized items are inspected to ensure the coating is uniform and compliant with quality standards.
their final configuration, if not done prior to galvanization. This includes joining parts, ensuring alignment, and making final adjustments before the product is prepared for delivery.
The use of green energy in manufacturing is demonstrated through contractual instruments (REC), and its use is ensured throughout the validity period of this EPD.

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

TRANSPORT AND INSTALLATION (A4-A5)

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

A4: Transport to Installation Site

Transport of the finished product to the site of installation is performed by lorry via road. The average transport distance is calculated at 187.9 km, based on an average of the following two distribution scenarios:

- Company-operated transport: Products sold with installation services are transported directly to the installation site using HITSA's own fleet.
- External logistics: Products sold as self-installation are transported by an external logistics provider.

For transport, wooden pallets are used. To ensure conservative modelling, a worst-case scenario is applied, assuming one product per pallet regardless of potential consolidation. As the product consists entirely of hot-dip galvanized steel, it is robust and non-fragile and therefore requires no additional packaging or protective materials during transport other than occasional strapping.

Products are delivered in ready-to-install condition. Installation is assumed to be performed on-site using only basic handheld tools (e.g., screwdrivers). No additional materials, energy inputs, or auxiliary processes are required. Estimations on energy use are calculated based on tool specifications and average installation time.

PRODUCT USE AND MAINTENANCE (B1-B7)

Not declared

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

PRODUCT END OF LIFE (C1-C4, D)

C1. Deconstruction/Demolition

The end-of-life stage accounts for the deconstruction and demolition of the galvanized steel structure. Estimates have been calculated assuming that a screwdriver is necessary for deconstruction of the bolt, if the bike rack is bolted. It has been considered that bolts can be stuck and will need to be cut using an angle grinder. Estimation of energy consumption is calculated using an average between screwdriver- and angle grinder use.

C2. Transport of the discarded product to the processing site.

As no mass loss occurs during use stage, the mass of the end-of-life product is assumed to be equal to that of the declared product. All end-of-life products are collected and transported to appropriate waste management facilities. An average transport distance of 50 km has been applied (based on Google Maps estimations).

C3. Recycling

Steel products and components are considered highly recyclable. The recyclability rate is slightly lower for painted or galvanized steel compared to untreated steel, as surface coatings (zinc and paint) must be removed before remelting. Nevertheless, both steel and zinc are efficiently recycled. According to Broniewicz & Dec 2022, 90% of the steel content is assumed to be recycled, while 10% is directed at landfill.

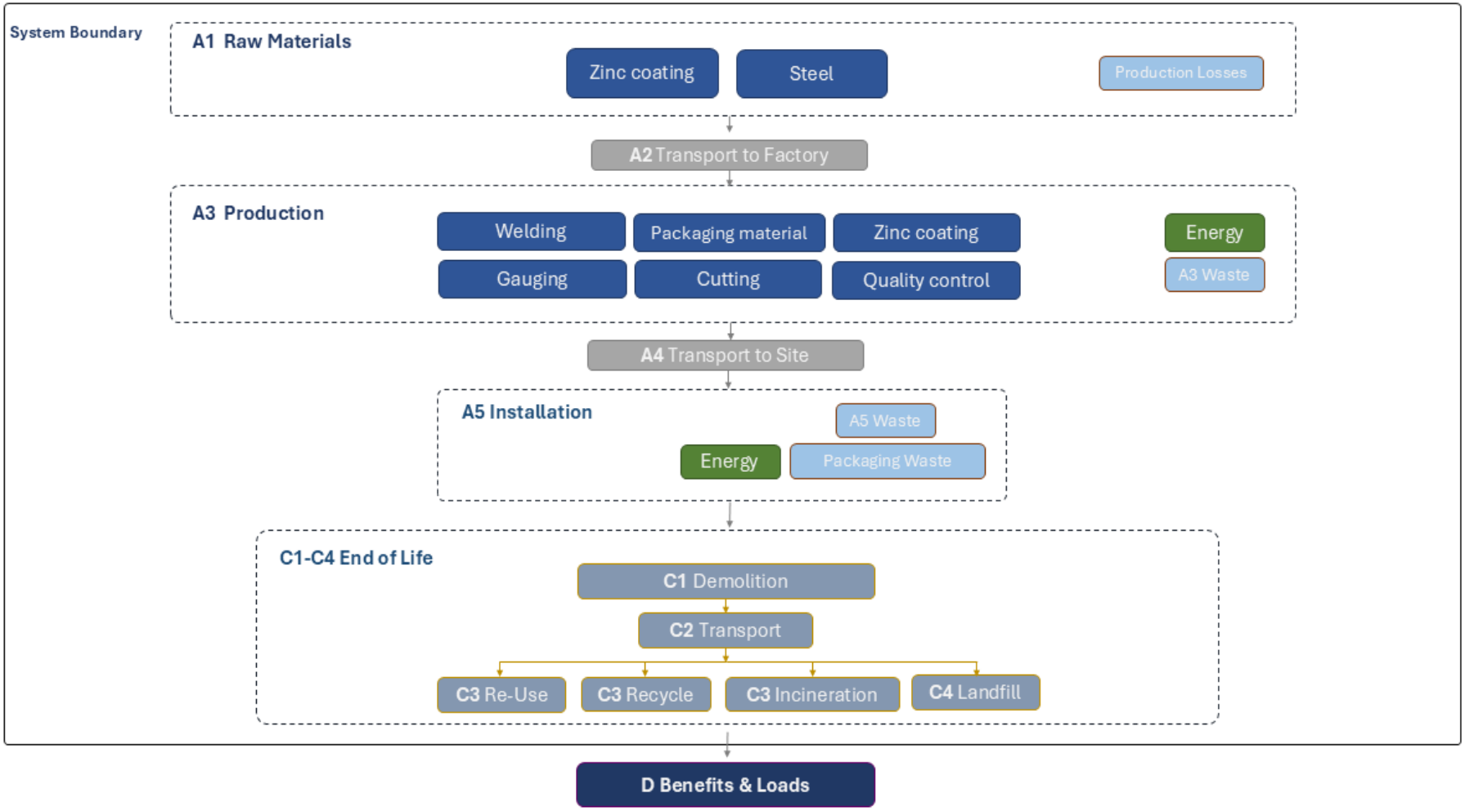
C4. Disposal

Residual material not suitable for recycling (estimated at 10%) is assumed to be sent to landfill (Broniewicz & Dec 2022).

D. Reuse, Recovery, and Recycling Potential

Module D accounts for the environmental impacts and benefits associated with the recycling of steel from the HH20D bike racks, as well as the reuse of wooden pallets employed during transport. This includes both the emissions generated during recycling processes and the avoided impacts from the substitution of primary materials with recycled materials.

SYSTEM DIAGRAM



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process that is 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 made according to 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

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.

LCA SOFTWARE AND BIBLIOGRAPHY

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

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	3,97E+01	1,01E+00	8,71E+00	4,94E+01	1,72E+00	2,41E+00	ND	ND	ND	ND	ND	ND	ND	3,75E-01	4,73E-01	5,02E-01	2,45E-02	-3,76E+01
GWP – fossil	kg CO_2e	3,94E+01	1,01E+00	1,03E+01	5,07E+01	1,72E+00	7,84E-01	ND	ND	ND	ND	ND	ND	ND	3,73E-01	4,73E-01	5,03E-01	2,45E-02	-3,92E+01
GWP – biogenic	kg CO_2e	2,70E-01	4,94E-04	-1,61E+00	-1,34E+00	1,12E-03	1,62E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,03E-04	-1,07E-03	-7,80E-06	1,60E+00
GWP – LULUC	kg CO_2e	3,56E-02	3,50E-04	1,70E-02	5,29E-02	5,81E-04	1,19E-03	ND	ND	ND	ND	ND	ND	ND	1,67E-03	2,09E-04	6,20E-04	1,40E-05	-6,67E-02
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	1,62E-06	2,14E-08	3,98E-07	2,04E-06	3,76E-08	1,29E-08	ND	ND	ND	ND	ND	ND	ND	7,39E-09	6,61E-09	6,76E-09	7,11E-10	-1,97E-07
Acidification potential	mol H^+e	8,27E-01	2,17E-03	2,16E-02	8,50E-01	3,70E-03	4,35E-03	ND	ND	ND	ND	ND	ND	ND	1,67E-03	1,58E-03	5,98E-03	1,74E-04	-1,92E-01
EP-freshwater[2)]	kg Pe	9,10E-03	6,94E-05	2,26E-03	1,14E-02	1,20E-04	2,08E-04	ND	ND	ND	ND	ND	ND	ND	2,37E-04	3,68E-05	3,24E-04	2,02E-06	-1,90E-02
EP-marine	kg Ne	5,76E-02	5,27E-04	5,40E-03	6,35E-02	8,91E-04	4,65E-03	ND	ND	ND	ND	ND	ND	ND	3,81E-04	5,11E-04	1,32E-03	6,63E-05	-3,64E-02
EP-terrestrial	mol Ne	3,41E+00	5,69E-03	6,34E-02	3,48E+00	9,62E-03	1,77E-02	ND	ND	ND	ND	ND	ND	ND	4,56E-03	5,56E-03	1,50E-02	7,24E-04	-4,01E-01
POCP ("smog")[3)]	kg NMVOCe	1,38E-01	3,51E-03	2,34E-02	1,65E-01	5,87E-03	5,81E-03	ND	ND	ND	ND	ND	ND	ND	1,10E-03	2,19E-03	4,43E-03	2,59E-04	-1,36E-01
ADP-minerals & metals[4)]	kg Sbe	2,19E-03	3,43E-06	3,81E-05	2,23E-03	6,05E-06	2,13E-06	ND	ND	ND	ND	ND	ND	ND	3,37E-06	1,55E-06	3,56E-05	3,90E-08	-2,71E-03
ADP-fossil resources	MJ	4,81E+02	1,44E+01	1,65E+02	6,60E+02	2,45E+01	1,12E+01	ND	ND	ND	ND	ND	ND	ND	6,11E+00	6,63E+00	6,74E+00	6,02E-01	-3,61E+02
Water use[5)]	m^3e depr.	6,93E+01	7,48E-02	6,36E+00	7,58E+01	1,30E-01	3,00E-01	ND	ND	ND	ND	ND	ND	ND	6,98E-01	3,08E-02	1,21E-01	1,74E-03	-1,17E+01

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

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	7,88E-06	7,74E-08	2,00E-07	8,16E-06	1,29E-07	7,73E-08	ND	ND	ND	ND	ND	ND	ND	1,30E-08	3,75E-08	8,12E-08	3,96E-09	-2,60E-06
Ionizing radiation[6)]	kBq U235e	2,07E+00	1,76E-02	1,24E+00	3,33E+00	2,96E-02	2,90E-02	ND	ND	ND	ND	ND	ND	ND	1,41E-01	5,37E-03	5,72E-02	3,78E-04	1,36E+00
Ecotoxicity (freshwater)	CTUe	1,05E+03	8,69E+00	1,37E+01	1,07E+03	2,08E+01	3,71E+00	ND	ND	ND	ND	ND	ND	ND	1,34E+00	1,05E+00	3,93E+00	5,05E-02	-7,24E+02
Human toxicity, cancer	CTUh	2,13E-07	1,69E-10	3,59E-09	2,17E-07	2,90E-10	3,82E-10	ND	ND	ND	ND	ND	ND	ND	1,40E-10	8,04E-11	4,49E-10	4,52E-12	-2,41E-08
Human tox. non-cancer	CTUh	1,41E-06	9,08E-09	7,06E-08	1,49E-06	1,54E-08	2,09E-08	ND	ND	ND	ND	ND	ND	ND	6,10E-09	4,15E-09	3,05E-08	1,04E-10	-7,25E-07
SQP[7)]	-	5,45E+02	9,23E+00	9,52E+01	6,49E+02	1,47E+01	1,04E+01	ND	ND	ND	ND	ND	ND	ND	1,09E+01	3,96E+00	1,31E+01	1,19E+00	-1,19E+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	1,28E+02	2,40E-01	1,60E+02	2,88E+02	4,04E-01	-3,37E+02	ND	ND	ND	ND	ND	ND	ND	9,32E+00	9,10E-02	1,26E+00	5,81E-03	-5,51E+01
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,48E+01	1,48E+01	0,00E+00	-1,48E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,48E+01
Total use of renew. PER	MJ	1,28E+02	2,40E-01	1,75E+02	3,03E+02	4,04E-01	-3,52E+02	ND	ND	ND	ND	ND	ND	ND	9,32E+00	9,10E-02	1,26E+00	5,81E-03	-6,99E+01
Non-re. PER as energy	MJ	4,90E+02	1,44E+01	1,62E+02	6,67E+02	2,45E+01	1,12E+01	ND	ND	ND	ND	ND	ND	ND	6,11E+00	6,63E+00	6,74E+00	6,02E-01	-3,58E+02
Non-re. PER as material	MJ	0,00E+00	0,00E+00	2,98E+00	2,98E+00	0,00E+00	-2,98E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,98E+00
Total use of non-re. PER	MJ	4,90E+02	1,44E+01	1,65E+02	6,70E+02	2,45E+01	8,20E+00	ND	ND	ND	ND	ND	ND	ND	6,11E+00	6,63E+00	6,74E+00	6,02E-01	-3,61E+02
Secondary materials	kg	1,44E+01	6,51E-03	5,61E-02	1,45E+01	1,11E-02	7,47E-03	ND	ND	ND	ND	ND	ND	ND	2,60E-03	2,98E-03	8,23E-03	1,51E-04	2,21E+01
Renew. secondary fuels	MJ	2,63E-04	8,45E-05	2,14E-04	5,62E-04	1,46E-04	7,52E-05	ND	ND	ND	ND	ND	ND	ND	1,12E-05	3,79E-05	3,83E-04	3,13E-06	-3,11E-03
Non-ren. secondary fuels	MJ	4,38E-21	0,00E+00	0,00E+00	4,38E-21	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	5,82E-01	1,84E-03	2,02E-01	7,85E-01	3,00E-03	-2,91E-02	ND	ND	ND	ND	ND	ND	ND	2,29E-02	8,79E-04	3,58E-03	6,26E-04	-2,07E-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	6,09E-01	2,08E-02	3,92E-01	1,02E+00	3,55E-02	7,06E-02	ND	ND	ND	ND	ND	ND	ND	3,43E-02	1,16E-02	4,41E-02	6,65E-04	-1,21E+01
Non-hazardous waste	kg	2,22E+01	4,43E-01	1,10E+01	3,36E+01	7,63E-01	5,10E+01	ND	ND	ND	ND	ND	ND	ND	1,18E+00	2,17E-01	1,59E+00	1,52E-02	-1,01E+02
Radioactive waste	kg	1,67E-03	4,36E-06	3,01E-04	1,98E-03	7,29E-06	7,24E-06	ND	ND	ND	ND	ND	ND	ND	3,20E-05	1,32E-06	1,47E-05	9,23E-08	3,36E-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	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	2,15E+00	0,00E+00	1,31E+00	3,46E+00	0,00E+00	7,35E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,22E+01	0,00E+00	0,00E+00
Materials for energy rec	kg	4,11E-03	0,00E+00	0,00E+00	4,11E-03	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,65E+01	ND	ND	ND	ND	ND	ND	ND	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	0,00E+00	0,00E+00	0,00E+00	1,54E+01	ND	ND	ND	ND	ND	ND	ND	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	0,00E+00	0,00E+00	0,00E+00	2,11E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	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_2e	3,94E+01	1,01E+00	1,03E+01	5,07E+01	1,72E+00	7,85E-01	ND	ND	ND	ND	ND	ND	ND	3,75E-01	4,73E-01	5,03E-01	2,45E-02	-3,92E+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. Electricity production, wind, <1MW turbine, onshore, Denmark, Ecoinvent, 0.0127 kgCO2e/kWh
2. Electricity voltage transformation from high to medium voltage, Denmark, Ecoinvent, 0.15 kgCO2e/kWh
3. Heat production, natural gas, at boiler condensing modulating >100kW, Albania, Ecoinvent, 0.0721 kgCO2e/MJ

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry, 16-32 metric ton, diesel, EURO 6, 187,9 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	0,00E+00
Volume capacity utilization factor	

Installation scenario documentation - A5 (Installation resources)

1. Electricity production, wind, 1-3MW turbine, onshore, Ecoinvent, 0.06 kWh

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 7.3472 kg
2. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 6.89 kg
3. Exported Energy: Electricity, Ecoinvent, 15.383 MJ
4. Exported Energy: Thermal, Ecoinvent, 21.12 MJ
5. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 8.72 kg

Use stages scenario documentation - B2 Maintenance

Scenario information	Value
Maintenance process / Description or source where description can be found	-
Maintenance cycle / Number per RSL or year *(Not applicable if only B2 is declared)*	-

Use stages scenario documentation - B3 Repair

Scenario information	Value
Repair process / Description or source where description can be found	-
Inspection Process / Description or source where description can be found	-
Repair cycle / Number per RSL or year	-

Use stages scenario documentation - B4 Replacement

Scenario information	Value
Replacement cycle / Number per RSL or year	-

Use stages scenario documentation - B5 Refurbishment

Scenario information	Value
Refurbishment process / Description or source where description can be found	-
Refurbishment cycle / Number per RSL or year	-
Further assumptions for scenario development, e.g., frequency and time period of use, number of occupants / Units as appropriate	-

Use stages scenario documentation - B6 (Energy data source)

Use stages scenario documentation - B7 (Water data source)

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

Scenario information	Value
Ancillary materials specified by material / kg or units as appropriate	-
Characteristic performance, e.g., energy efficiency, emissions, variation of performance with capacity utilization, etc.	-
Further assumptions for scenario development, e.g., frequency and period of use, number of occupants	-

End of life scenario documentation - C1-C4 (Data source)

1. Market for electricity, medium voltage, Ecoinvent, 2.5 kWh
2. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 22.245 kg
3. Treatment of scrap steel, inert material landfill, Ecoinvent, 3.93 kg

Scenario information	Value
Scenario assumptions e.g. transportation	85% recycling, 150 km by lorry. 15% Landfilled, 50 km transport by lorry.

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 is filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub cannot 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 authorized verifier acting for EPD HUB Limited
18.12.2025

VERIFIED ISO 14025