Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

NoviPro Fixing systems steel – NoviPro upphängningssystem stål

from

Saint-Gobain Distribution Sweden AB

Program:	The International EPD® System, www.environdec.com
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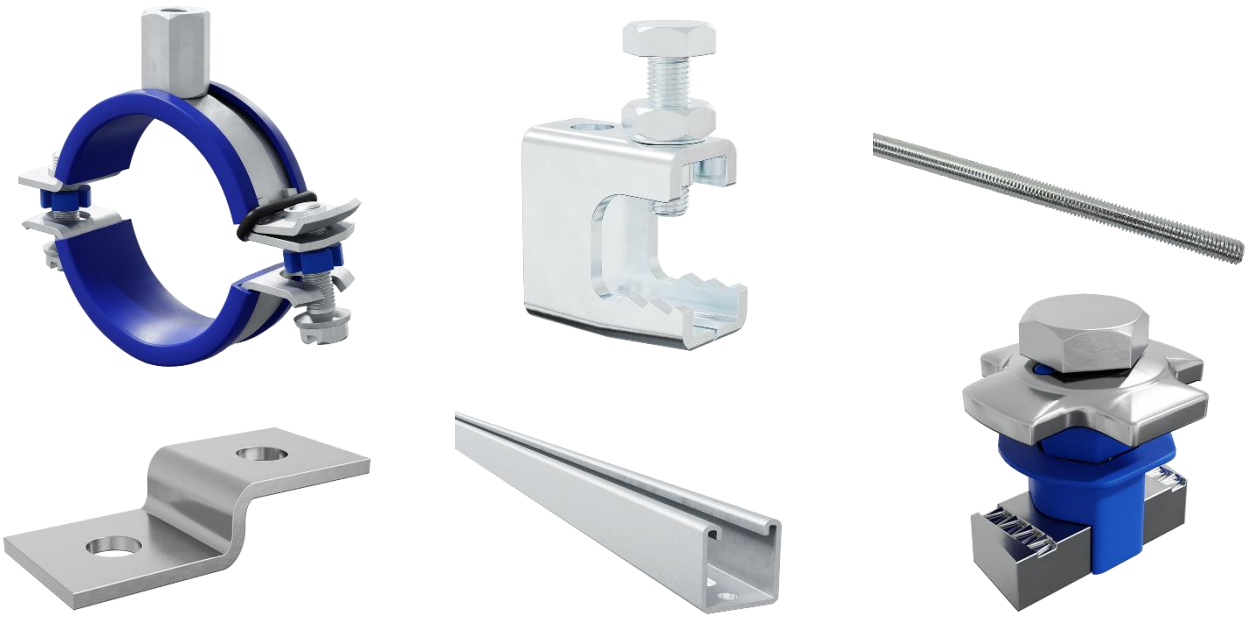
This is a Trader EPD and EPD of multiple products where the results are based on worst-case product.

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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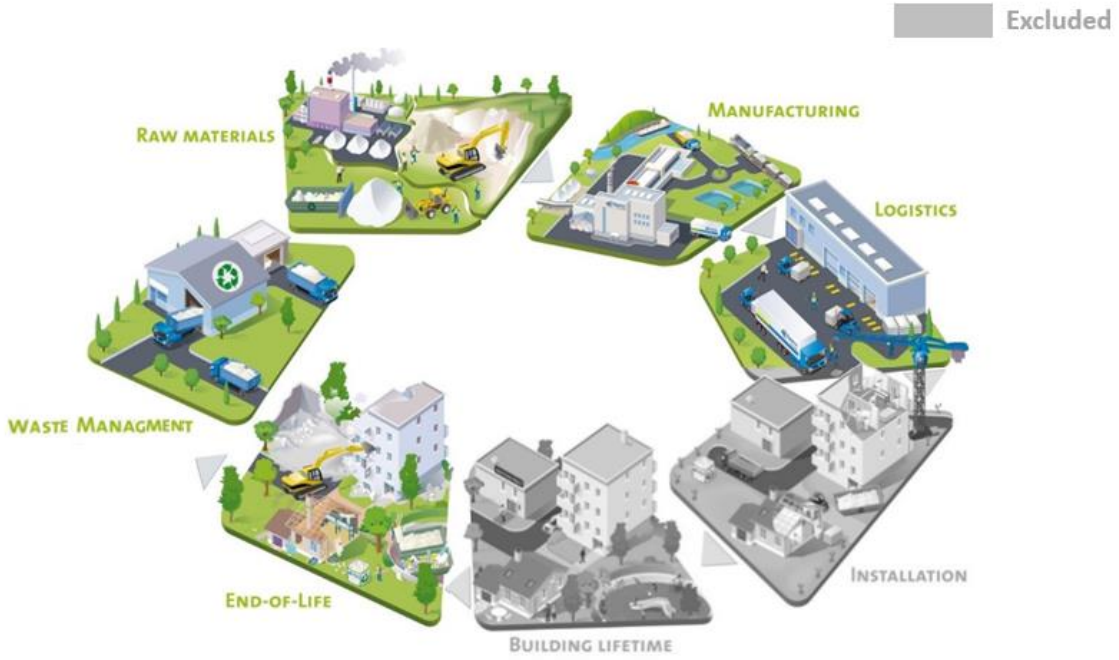
Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR): Construction Products PCR 2019:14 version 1.3.4
CEN standard EN 15804:2012+A2:2019/AC:2021 serves as the Core Product Category Rules (PCR)
PCR review was conducted by: The Technical Committee of the International EPD@ System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.
Life Cycle Assessment (LCA)
LCA accountability: Fanni Végvári, CarbonZero AB
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by the individual verifier Third-party verifier: Vijay Thakur, Intertek Group PLC Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD	Saint-Gobain Distribution Sweden AB Bryggerivägen 9 168 67 Bromma Stockholm
Contact	SGDS - Beriar Maroof (beriar.maroof@saint-gobain.se)
Description of the organisation	Saint-Gobain Distribution Sweden AB - specialists in collaboration for more efficient business in construction and installation. Saint-Gobain Distribution Sweden AB is the head company of some of Sweden's leading trading companies in construction, sheet metal, tiles and installation. All the companies have long and solid industry experience and provide most of Sweden's craftsmen with materials for various projects. Customers in different companies can also buy support items from the sister companies in the group, and in selected cases, we take joint projects to facilitate the logistics of the supply of goods, which is then often critical for a smooth construction project. • Optimera - construction trade for professional carpenters • Dahl – heat, plumbing and sanitary specialist • Bevego - building sheet metal, ventilation and technical insulation • Kakelspecialisten and Konradsson's Tiles - tiles, tiling and bathroom fittings The company's focus is on sales and services with direct contact to about 150,000 customers regularly. Saint-Gobain Distribution Sweden AB is owned by Saint-Gobain with a presence in 64 countries and over 190 000 employees worldwide.
Location of production site	Jiangmen, China

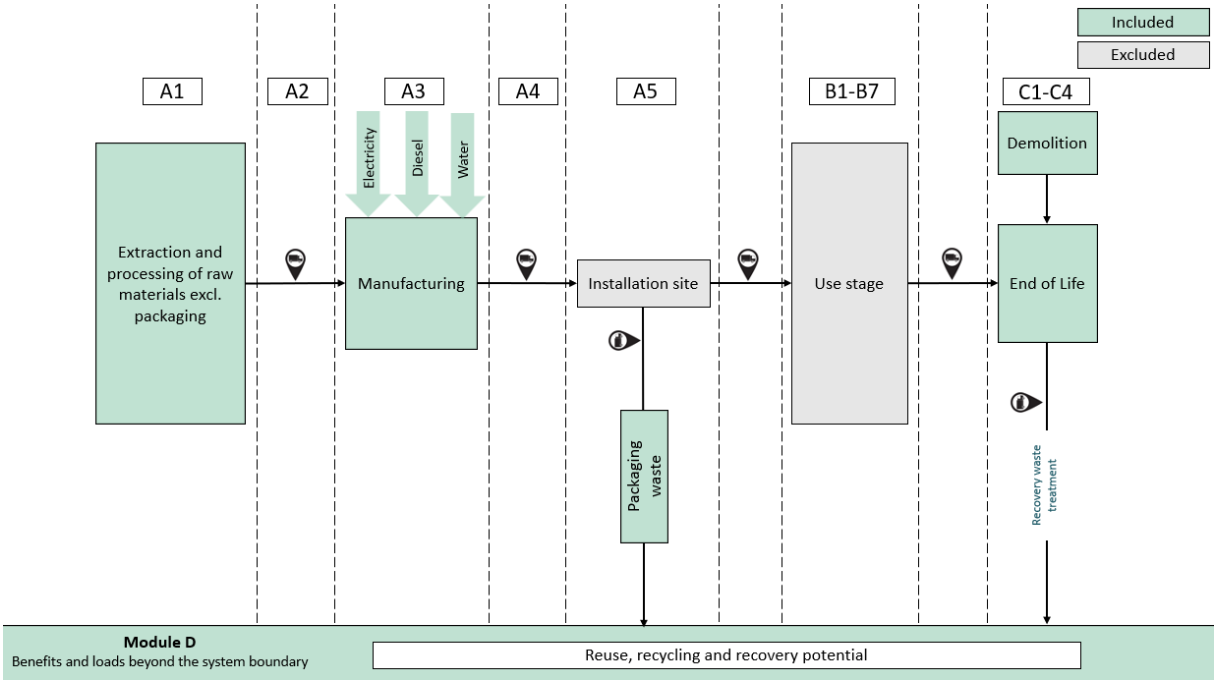


Product information

Product name	NoviPro Fixing systems steel – NoviPro upphängningssystem stål
Product identification	Fixing systems
Product description	NoviPro Fixing systems offers a wide range of suspension for construction and plumbing installers. The products last a long time quality and the range is continuously developed in order to adapted to market requirements. The products are made from steel and EPDM in different ratios.
Technical data	Please refer to the product pages for each specific product as the technical data differs for each product group.
UN CPC code	732690 Iron or steel; articles n.e.c. in heading 7326
Use	NoviPro Fixing systems are intended for use in suspension of construction and plumbing installers. There's an array of different variants to accommodate the different types of instalments.

LCA information

Declared unit	1 kg of NoviPro Fixing system steel – NoviPro upphängningssystem stål
Reference service life	Not applicable
Database(s) and LCA software used	Calculation completed in LCA for Experts v10.7 with an integrated ecoinvent database 3.8
System boundaries	Cradle to gate, with options. (A1-A3, A4-A5, C1-C4 & D)



More information

The EPD covers a range of over 100 products from Dahl, thus no specifications of article numbers and product descriptions are mentioned here. The products have the same material composition and therefore have the same impact per kg of product, even though the different variants have different weights. The products are distributed from distribution centers in Sweden, Norway and Finland where the products are marketed with the following product name: NoviPro Upphängningssystem (SE), NoviPro Installasjon (NO) and NoviPro Kannakointijärjestelmä (FI).

A1, Raw material supply

This module considers the extraction and processing of all raw materials, energy, and transportation which occur upstream of the studied manufacturing process. The products are made from galvanized and stainless steel, zinc and EPDM.

A2, transport to the manufacturer

This module includes the transportation of raw materials to the manufacturing site. Specific information from the manufacturer was obtained regarding the transportation distance between the suppliers to the manufacturing factory.

A3, manufacturing

This module includes all resources used during the production of NoviPro Fixing systems. This also includes packaging material which the products are transported out to the distribution centers. Data has been collected by the manufacturer from the production year of 2023, the full 12 months from January 2023 to December 2023. As there's only one manufacturing site, no variation in production sites occurs.

A4, Transport

Transportation from the manufacturing site in China to Saint-Gobain distribution centers in Sweden, Norway and Finland is included. In this study, the transportation to Finland was taken into account as this is considered a worst-case scenario. The transportation is made by ship at a distance of 19 600 km and 1350 km by truck.

Scenario information	Unit (expressed per declared unit)
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat etc.	Container ship, Heavy fuel oil at refinery (1.0wt.% S), 0,003 l/tkm Average truck trailer with a 27 t payload 0,019 l/tkm diesel
Distance	19 600 + 1350 km
Capacity utilization (including empty returns)	70% for ship, 61% for truck
Volume capacity utilization factor (factor: =1 or <1 or 1 for compressed or nested packaged products	Not applicable

A5, Construction installation

This stage is partially included to balance the biogenic content in packaging. It does not include the installation of the products.

B1-B7 Use stage
This stage is not declared.

C1 Deconstruction/Demolition
This stage includes the de-construction and/or demolition of the NoviPro Fixing system. It is assumed that the deconstruction is done manually and therefore has a negligible impact.

C2 Transport
This module represents the transport distance to the waste processing facility. It is assumed that the transportation distance to the waste processing facility is 50 km.

C3 Waste processing
This module includes any waste treatment needed.

C4 Final disposal
This module includes any material that is landfilled.

Processes	Unit (expressed per declared unit)
Collection process specified by type	1 kg collected
	0 kg collected with mixed construction waste
Recovery system specified by type	0 kg for re-use
	0,95 kg for recycling
	0 kg for energy recovery
Disposal specified by type	0,05 kg product or material for final deposition
Assumptions for scenario development, e.g. transportation	The transportation is modelled with the same specifications as the truck transportation in module A2, except the transportation distance is assumed to be 50 km to the waste processing.

D Benefits and loads beyond the system boundary
This module includes loads and benefits obtained from energy recovery and/or recycling materials.

Omissions of life cycle stages
The following flows were excluded from the system boundary:

- **A1-A3**: The plants, production of machines and transportation systems are excluded since the related flows are supposed to be negligible compared to the potential environmental impacts through the life cycle of the product
- **A5**: The installation of the products
- **B1-B7**: The use phase of the products is not included

In addition, the following flows are excluded from the system boundaries:

- Flows related to human activities, such as employee transport

Cut-off criteria

The following procedures were followed for the exclusion of inputs and output.

- All input and output flows in a unit process were considered i.e., taking into account the value of all flows in the unit process and the corresponding LCI where data was available
- Processes of infrastructure or capital goods are excluded from this study
- Generic national data was used for modules C1-C4 and D as no specific data was able to be collected
- The use of cut-off criterion on mass inputs and primary energy at the unit process level (1%) and at the information module level (5%) was not applied as all inputs were included

No hazardous and toxic materials or Substances of Very High Concern (SVHC) according to REACH are included in the inventory and the cut-off rules do not apply.

Allocation

Allocation criteria are based on mass. It was assumed that the manufacturing data is evenly distributed through the products, therefore all the inputs and outputs in module A3 are divided by the amount of products produced for the production year that the study analyses.

Content declaration

Product components	Weight, kg	Post-consumer recycled material, weight-% of product	Biogenic material, weight-% of product	Biogenic material, kg C/declared unit
Steel	0,8-1	11	0	0
EPDM	0-0,2	0	0	0
Sum	***1***	***8,8-11***	***0***	***0***

Packaging materials	Weight, kg	Weight-% (versus the product)	Biogenic material, kg C/declared unit
Pallet	0,04-0,178	4,00-17,8	0,0166-0,0739
Sum	***0,04-0,178***	***4,00-17,8***	***0,0166-0,0739***

Modules declared and geographical scope

	Product stage			**Assembly stage**		**Use stage**							**End of life stage**				**Benefits & loads beoyond system boundary**
	Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Modules	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	CN	CN	CN	GLO	SE/ NO/FI	-	-	-	-	-	-	-	SE/ NO/FI	SE/ NO/FI	SE/ NO/FI	SE/ NO/FI	SE/ NO/FI
Specific data used	1-2%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation products	0,26-2,73%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

The specific data is based on the amount of impact that derives from the impact indicator GWP-GHG.

Environmental Information

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. As module C is included in the EPD, it is discouraging the use of the results of modules A1-A3 without considering the results of module C.

Potential environmental impact – indicators according to EN 15804+A2, EF 3.1

		Results per declared unit: 1 kg							
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO2 eq	4,47E+00	6,90E-01	2,71E-01*	0	3,60E-03	1,02E-01	1,13E-03	-1,62E+00
GWP-fossil	kg CO2 eq	4,53E+00	6,89E-01	0	0	3,60E-03	9,83E-02	1,12E-03	-1,62E+00
GWP-biogenic	kg CO2 eq	-5,27E-02	5,17E-04	2,71E-01*	0	3,48E-07	3,83E-03	3,78E-06	3,44E-04
GWP-luluc	kg CO2 eq	1,80E-03	2,50E-05	0	0	2,08E-07	5,89E-05	4,71E-06	-2,15E-04
ODP	kg CFC-11 eq	9,56E-09	2,26E-08	0	0	8,37E-10	5,65E-10	3,56E-15	2,17E-12
AP	mole H+ eq	3,45E-02	2,01E-02	0	0	1,06E-05	2,84E-04	6,95E-06	-3,69E-03
EP-freshwater	kg P eq	1,98E-05	1,19E-06	0	0	3,85E-08	1,01E-05	1,70E-07	-3,77E-07
EP-marine	kg N eq	5,04E-03	4,74E-03	0	0	3,13E-06	1,12E-04	1,64E-06	-6,35E-04
EP-terrestrial	mole N eq	5,45E-02	5,20E-02	0	0	3,44E-05	8,98E-04	1,80E-05	-5,70E-03
POCP	kg NMVOC eq	1,55E-02	1,35E-02	0	0	7,81E-06	3,07E-04	5,17E-06	-2,58E-03
ADP-minerals & metals[2]	kg Sb eq	1,62E-04	3,05E-08	0	0	6,57E-10	2,61E-07	7,54E-11	-7,35E-06
ADP-fossil[2]	MJ	6,30E+01	8,35E+00	0	0	5,21E-02	1,02E+00	1,88E-02	-1,61E+01
WDP[2]	m3	7,67E-01	2,54E-03	0	0	6,38E-05	1,56E-02	1,40E-04	-1,09E-01
Acronyms	**GWP-fossil** = Global Warming Potential fossil fuels; **GWP-biogenic** = Global Warming Potential biogenic; **GWP-luluc** = Global Warming Potential land use and land use change; **ODP** = Depletion potential of the stratospheric ozone layer; **AP** = Acidification potential, Accumulated Exceedance; **EP-freshwater** = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; **EP-marine** = Eutrophication potential, fraction of nutrients reaching marine end compartment; **EP-terrestrial** = Eutrophication potential, Accumulated Exceedance; **POCP** = Formation potential of tropospheric ozone; **ADP-minerals&metals** = Abiotic depletion potential for non-fossil resources; **ADP-fossil** = Abiotic depletion for fossil resources potential; **WDP** = Water (user) deprivation potential, deprivation-weighted water consumption								

Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

*NOTE: the biogenic content in packaging contributing to the GWP-biogenic is balanced out in A5 as positive as the packaging leaves the system boundary.

[2] The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

Use of resources

		Results per declared unit: 1 kg							
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	8,50E+00	3,97E-02	0	0	1,45E-03	1,22E-04	2,80E-03	6,35E-01
PERM*	MJ	3,56E+00	0	-8,00E-01	0	0	0	0	0
PERT	MJ	8,50E+00	3,97E-02	0	0	1,45E-03	1,22E-04	2,80E-03	6,35E-01
PENRE	MJ	6,30E+01	8,35E+00	0	0	5,21E-02	1,02E+00	1,88E-02	-1,61E+01
PENRM*	MJ	0	0	0	0	0	0	0	0
PENRT	MJ	6,30E+01	8,35E+00	0	0	5,21E-02	1,02E+00	1,88E-02	-1,61E+01
SM	kg	1,38E-01	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	2,09E-02	7,86E-05	0	0	3,00E-06	1,68E-06	4,22E-06	-1,32E-01
Acronyms	**PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; **PERM** = Use of renewable primary energy resources used as raw materials; **PERT** = Total use of renewable primary energy resources; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; **PENRM** = Use of non-renewable primary energy resources used as raw materials; **PENRT** = Total use of non-renewable primary energy re-sources; **SM** = Use of secondary material; **RSF** = Use of renewable secondary fuels; **NRSF** = Use of non-renewable secondary fuels; **FW** = Use of net fresh water							

*For PERM and PENRM, option B was chosen as the methodology for calculating these impact indicators

Additional voluntary indicators

		Results per declared unit: 1 kg							
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[3]	kg CO2 eq	4,53E+00	6,90E-01	0	0	3,60E-03	1,02E-01	1,13E-03	-1,62E+00
Acronyms	**GWP-GHG** = global warming potential - greenhouse gases								

Waste and output flows

Waste

		Results per declared unit: 1 kg							
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	kg	6,44E-04	2,19E-10	0	0	2,08E-12	2,21E-08	4,52E-12	-9,77E-08
NHWD	kg	6,30E-02	6,71E-04	0	0	1,39E-06	1,95E-02	5,01E-02	1,95E-01
RWD	kg	1,75E-03	8,35E-06	0	0	3,26E-07	-4,21E-05	2,58E-07	1,76E-06
Acronyms	**HW** = Hazardous waste disposed; **NHW** = Non-hazardous waste disposed; **RW** = Radioactive waste disposed								

[3] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.

Output flows

		Results per declared unit: 1 kg							
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
CRU	kg	0	0	1,78E-01	0	0	0	0	0
MFR	kg	0	0	0	0	0	9,50E-01	0	0
MER	kg	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0
Acronyms	**CRU** = Components for reuse; **MR** = Materials for recycling; **MER** = Materials for energy recovery; **EEE** = Exported electric energy; **ETE** = Exported thermal energy								

Information on biogenic carbon content

Biogenic carbon content	**Unit per DU**	**Amount**
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	1,66E-02

1 kg biogenic carbon is equivalent to 44/12 kg CO2.

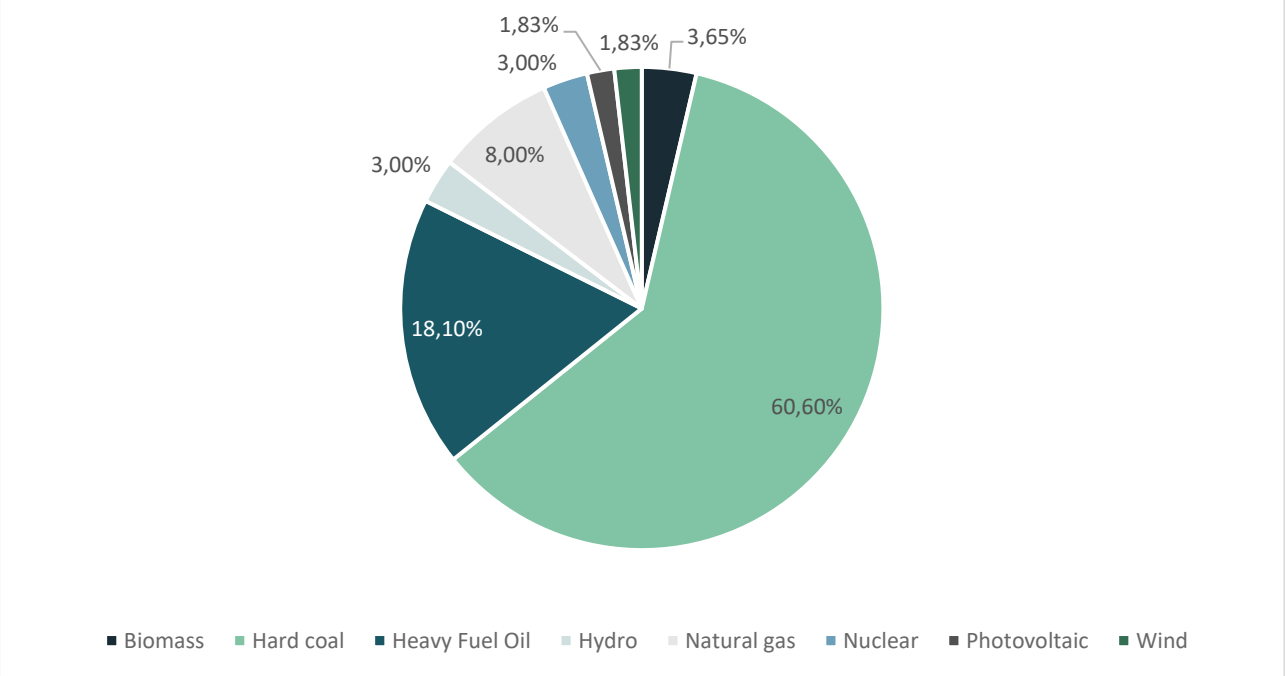
Disclaimers

ILCD classification	Indicator	Disclaimer
ILCD Type 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD Type 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD Type 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted	2
	Water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	2
Disclaimer 1 – 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.		
Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.		

Additional information

Greenhouse gas emission from the use of electricity in the manufacturing phase.

Residual mix	Unit	Value
Location		China
Electricity mix		Biomass: 3,65% Hard coal: 60,60% Heavy Fuel Oil: 18,10% Hydro: 3,00% Natural gas: 8,00% Nuclear: 3,00% Photovoltaic: 1,83% Wind: 1,83%
Reference year		2022
Source		International Energy Agency (2023)
GWP excl. Biogenic	kg CO_2-eq. /kWh	0, 857



The table below shows the differences in GWP-GHG for the different product groups over the whole lifetime (A-C) compared to the worst-case product groups covered, which has been identified to be Product Group C.

	Product Group A	Product Group B	Product Group C
GWP-GHG [kg CO_2 eq.]	4,51E+00	4,41E+00	4,53E+00
Variance [%]	0,26	2,73	

References

Construction Products PCR 2019:14 version 1.3.4	EPD International (2024) PCR 2019:14 Construction products and construction services, version 1.3.4
EN 15804:2012+A2:2019	Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products
GPI 5.0	General Programme Instructions of the International EPD® System. Version 5.
International Energy Agency	IEA (2023). Energy System of China. https://www.iea.org/countries/china
ISO 14020:2000	Environmental labels and declarations — General principles
ISO 14025:2010	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
ISO 14044:2006	Environmental management - Life cycle assessment - Requirements and guidelines
SCB – Swedish Statistics	(2020) Treated waste by treatment category and waste category. Every second year 2010 - 2020 https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__MI__MI0305/MI0305T003/ Assessed 2024-08-22.

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