Environmental Product Declaration

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

Sarek Mirror Cabinet

from

SVEDBERGS®

Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Type of EPD:	EPD of a single product from a manufacturer/service provider
EPD registration number:	EPD-IES-0016773:001
Version date:	2026-01-19
Validity date:	2031-01-18
	An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see 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
E-mail:	support@environdec.com

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *Construction products 2019:14, version 2.0.1, valid until 2030-04-07.* **c-PCR:** *Furniture and components of furniture c-PCR-02 (to PCR 2019:14), version 2.0.1, valid until 2027-10-08, UN CPC: 381*
PCR review was conducted by: *The Technical Committee of the International EPD® System.* *See www.environdec.com for a list of members.* *Review chair: Rob Rouwette (chair), Noa Meron (cochair).* *The review panel may be contacted via the Secretariat www.environdec.com/contact*

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ **Individual EPD verification without a pre-verified LCA/EPD tool** Third-party verifier: Kristin Fransson, RISE Approved by: 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 published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.
For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: Svedbergs AB
Address: Verkstadsvägen 1, 514 63 Dalstorp
Contact: Oskar Frisk (oskar.frisk@svedbergs.se)

Address and contact information of the LCA practitioner commissioned by the EPD owner:
Miljögiraff AB
Bläsgatan 2, 414 63 Göteborg, Sweden

Oline Haggren (oline@miljogiraff.se)
Hannes Westberg (hanneswestberg@miljogiraff.se)

Description of the organisation: Svedbergs was founded in 1920 and has been manufacturing quality products for bathrooms since 1962. Today, the company is one of the leading brands in the Nordics for bathroom furniture. The product concept includes a range for the entire bathroom such as furniture, showers, bathtubs, heated towel rails, faucets, toilets, and accessories. The products are sold to both the consumer and professional markets.

Over 70 percent of the products are manufactured in our own factory in Dalstorp, which provides advantages in terms of flexibility, lead times, logistics and sustainability factors. Production in Dalstorp primarily involves the processing of wood and sheet metal.

Svedbergs primary markets are Sweden, Finland, Norway & Denmark.
Product-related or management system-related certifications: ISO 9001 and 14001 certified.

PRODUCT INFORMATION

Product name: Sarek mirror cabinet
Product identification: The product is identified and sold as the Svedbergs Sarek mirror cabinet
Visual representation (e.g., an image) of the product:

UN CPC code: 381, Furniture
Product description: The Svedbergs Sarek mirror cabinet is a wall-mounted bathroom furniture unit combining reflective glass doors with an integrated storage compartment behind the mirrors. The product comes in various sizes, whereas the declared product in this EPD have the dimensions 60x72x12cm.
Name and location of production site(s): Dalstorp, Sweden

CONTENT DECLARATION

For materials where the post-consumer recycled and/or biogenic content is reported as unknown, data from the corresponding ecoinvent datasets have been used in the modelling. 1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2.

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
MDF	1,738	Unknown	85%	0,650
Particleboard	3,087	Unknown	90%	1,222
Wood	0,005	0%	100%	0,001
Plastic (ABS, PC, PMMA, PP)	0,203	0%	0%	0,000
Paint	0,142	0%	0%	0,000
Glass (mirror glass, flat glass)	7,442	0%	0%	0,000
Metal (handle)	0,011	0%	0%	0,000
Steel (brackets, plates, screws, rails)	0,953	0%	0%	0,000
Electronics (driver, lightning, controller)	0,358	0%	0%	0,000
Cables (copper)*	0,012	Unknown	0%	0,000
Total	13,95	Unknown	30,5%	1,9

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Cardboard	2,04	14,6%	0,92
Paper instruction	0,02	0,1%	0,00
Plastic	0,01	0,08%	0,00
Total	2,07	14,5%	0,92

Hazardous substances from the candidate list of SVHC	EC No.	CAS No.	Mass-% per product or declared unit
-	-	-	0%

LCA INFORMATION

Functional unit: 1 piece over its reference service life (15 years)
Conversion factor to mass if mass is not used as functional/declared unit (not applicable for services): one piece of the Sarek mirror cabinet weighs 13,95kg
Reference service life: 15 years , which also is the estimated service life
Time representativeness: The collected data is representative of the year 2024 and was obtained directly from the manufacturer
Geographical scope: The suppliers of raw material A1 are from Europe and the transport A2 is modelled for Europe. The manufacturing in module A3 is located in Sweden. Module C and D scenarios are modelled for Sweden
Database(s) and LCA software used: Ecoinvent 3.11
EPD/LCA Tool used: SimaPro Craft 10.3.0.1

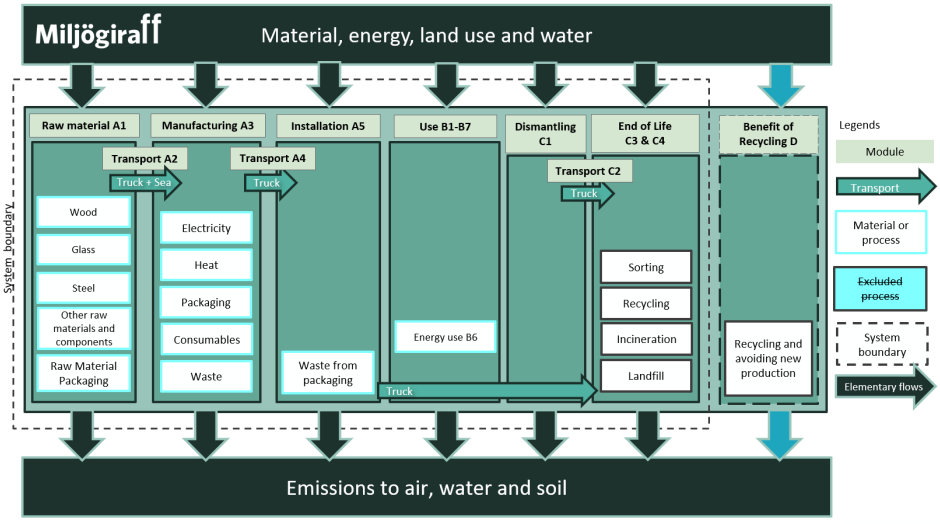
LCIA method:
The LCIA method follows the standard for Construction Products EN 15804:2012+A2:2019/AC:2021. EN 15804:2012+A2:2019/AC:2021 uses the impact categories and characterization factors of the LCIA methods used in Environmental Footprint 3.1 (EF 3.1), with the only difference that biogenic carbon dioxide uptake is calculated as -1 and biogenic carbon dioxide emissions as +1, where EF 3.1 calculates this as 0 and 0, respectively.

Cut-off criteria:
The cut-off criteria established by the PCR is 1% of all material and energy flows to a single unit process and 5% of total inflows (mass and energy) per module. No cut-offs exceeding this limit have been made.

In this study, the infrastructure and capital goods are included for ecoinvent since it is not possible within reasonable effort to subtract the data. Infrastructure and machineries at Svedbergs manufacturing are excluded.

Description of system boundaries:
Type c, Cradle-to-grave and module D.

Process flow diagram:



More information:
(A1-A2) The input materials comes both as finished components (mirrors, steel fittings, electronics) and as raw materials (MDF, fibreboard) that need further processing. Most materials are sourced from Europe, while some components are modelled with global datasets to reflect supply chains outside Europe. In these cases, the material production is represented with GLO datasets and subsequent processing with RER datasets. All materials are transported by truck and, when relevant, by ship to the manufacturing site in Dalstorp, Sweden.

(A3) In the manufacturing of mirror cabinets several process steps are performed: format sawing of MDF and particleboard, edge processing and ripping, painting/coating, and assembly. Svedbergs' production relies on renewable hydropower and district heating, with energy use allocated by mass across product flows. For the mirror cabinet, energy consumption equals 20 kWh electricity and 9 kWh district heating per unit of product. The electricity is modelled with the ecoinvent dataset "*Electricity, high voltage {SE}| electricity production, hydro, run-of-river | Cut-off, U*". The climate footprint (GWP-GHG) of the electricity mix is 0.00435 kg CO2-eq per kWh.

Consumables include abrasive and organic solvent. Production waste, mainly wood, cardboard, metal, and paint residues—is allocated on a mass basis and treated predominantly through recycling and incineration in accordance with Swedish waste statistics.

The recycled share is unknown for some materials, and they are therefore modelled using generic market-average datasets from ecoinvent. As the contribution of recycled materials to the total GWP-GHG in A1–A3 is below 10% for both products, the GWP-GHG intensity of recycled materials (kg CO_2 eq./tonne) is not declared.

(A4) The products are mainly sold on the Nordic market, therefore, in this study, Stockholm is used as a representative location for the average Nordic customer. The transport is represented with the ecoinvent dataset "*Transport, freight, lorry, 7.5-16 metric ton, diesel, EURO 6 {RER}| transport, freight, lorry, 7.5-16 metric ton, diesel, EURO 6 | Cut-off, U*".

(A5) No energy is used during installation. Packaging waste arises during installation which is assumed to follow the end-of-life treatment in module C.

(B1-B7) The use of the mirror cabinets requires no repair, replacements, refurbishment or water use when properly installed, the only module where it has an environmental impact is B6 as they have integrated lightning with operational energy use. Maintenance (cleaning with water and detergent) is assumed to have insignificant environmental impact on the overall life cycle and therefore set to zero.

Regarding the module B6, the mirror cabinets have integrated lighting with a power rating of 18.9W. It is assumed that the lighting is turned on for two hours each day during the 15 years. The electricity is modelled with the ecoinvent dataset "*Electricity, low voltage {SE}| market for electricity, low voltage | Cut-off, U".* The climate footprint of the electricity mix is 0.0427 kg CO2-eq per kWh.

The products have been tested for indoor air emissions in accordance with the M1 Emission Classification of Building Materials and EN 16516:2017 + A1:2020 using a chamber method after 28 ± 2 days of ageing. The results show formaldehyde emissions below 60 µg/m³, total volatile organic compounds (TVOC) below 300 µg/m³, and emissions of carcinogenic compounds (EC Regulation No. 1272/2008, Carc. 1A and 1B, excluding formaldehyde and acetaldehyde) below 1 µg/m³, fulfilling the requirements for Emission Class M1.

(C1-C4) After use the product is transported to waste processing. In the C module, default values provided by the PCR 2019:14 v.2.0.1 were used for demolition/deconstruction (C1) as no specific data was obtained. The default values for transport distances to waste treatment (C2) were also used, 80 km for materials not to be incinerated and 130 km for materials to be incinerated. The transport is modelled using the ecoinvent 3.11 dataset “Transport, freight, lorry 16-32 metric ton, EURO5 {RER}| transport, freight, lorry 16-32 metric ton, EURO5 | Cut-off, U”.

Since the majority of customers exists in Sweden, the relevant end-of-life scenario has been represented with a Swedish case. As this scenario is a mix of recycling and incineration, a 100% scenario for each waste scenario will also be declared as per PCR rules. The results for the 100% scenarios can be found in “Additional LCA results: 100% Recycling/Incineration/Landfilling Scenario for modules A5, C1-C4 & D”.

For the waste treatment (C3), the steel is recycled with an 85% collection and recovery rate according to recycling rates (R2) used in the Circular footprint formula of PEF, as found in Annex C2. The environmental impact from recycling is not considered following the cut-off approach applied. The remaining waste is assumed to be incinerated, approximately 100%, according to the Swedish average scenario stated in PEF Annex C.

(D) Module D accounts for the potential environmental benefits or burdens resulting from material recycling and energy recovery during incineration. Steel and copper, which is recycled are assumed to have a recycling yield of 96% and 58% respectively. The amounts of metals after recycling are assumed to replace iron scrap and cathode copper. The shares of Wood, plastic, and cardboard that are incinerated results in electricity and heat credits based on their heating values.

Inert materials do not give any credits from incineration as their lower heating values are zero.

Data quality summary according to EN 15941

The EPD is based on data collected by Svedbergs AB from their site in Dalstorp, Sweden over one year from 2024. The EPD is representative of the production of Sarek mirror cabinets produced in Dalstorp, Sweden and data are collected directly from supplier and production site. The end-of-life stage of the EPD covers Sweden. The EPD uses background data from the Ecoinvent database v3.11, 2011-2023. The quality of the relevant data used for the EPD in terms of its time, geography and technology representativeness using EN 15804:2012+A2:2019, Annex E, E.1 is mainly very good or good. Two datasets are from 2011 and 2012, resulting in a poor time representativeness. These datasets are: *“Printed wiring board, through-hole mounted, unspecified, Pb free {GLO}| printed wiring board production, through-hole mounted, unspecified, Pb free | Cut-off, U”,* and *“Light emitting diode {GLO}| light emitting diode production | Cut-off, U”.* Combined, these have around 13% contribution towards Climate change, 7% towards Resource use: fossil, and 43% towards Resource use: metals and minerals. As no specific data could be obtained for those parts, these have been assessed as best available data.

Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Geography	GLO/ EUR	GLO/ EUR	SE	NC [1]	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Share of primary data	5,8%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Declaration of data sources, reference years, data categories, and share of primary data:

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Electricity and Heat during Manufacturing	Collected data	EPD owner	2024	Primary data	0,5%
Transport of raw materials to manufacturing site	Collected data	EPD owner	2024	Primary data	5,3%
Flat glass, coated {RER}| flat glass production, coated | Cut-off, U	Database	Ecoinvent 3.11	2024	Secondary data	0%
Other processes	Database	Ecoinvent v3.11	2011-2024	Secondary data	0%
Total share of primary data, of GWP-GHG results for A1-A3					6%

[1] NC = Nordic countries

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

ENVIRONMENTAL PERFORMANCE

LCA results of the product - main environmental performance results

Mandatory impact category indicators according to EN 15804

Results per 1 piece over its reference service life (15 years)															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	2,5E+01	1,4E+00	3,4E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	5,8E+00	0,0E+00	5,6E-03	3,3E-01	8,1E+00	2,0E-01	-1,9E+00
GWP-fossil	kg CO_2 eq.	3,5E+01	1,4E+00	7,9E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	5,2E+00	0,0E+00	5,6E-03	3,3E-01	1,3E+00	1,3E-01	-1,9E+00
GWP-biogenic	kg CO_2 eq.	-1,0E+01	2,9E-04	3,4E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	9,1E-02	0,0E+00	6,2E-07	7,0E-05	6,8E+00	7,2E-02	8,7E-02
GWP-luluc	kg CO_2 eq.	5,3E-02	4,4E-04	7,6E-05	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	5,0E-01	0,0E+00	5,7E-07	1,1E-04	1,3E-04	4,2E-05	-3,9E-02
ODP	kg CFC 11 eq.	8,8E-07	3,1E-08	8,6E-10	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,8E-07	0,0E+00	8,3E-11	7,3E-09	1,5E-09	3,1E-09	-4,4E-08
AP	mol H^+ eq.	2,3E-01	2,9E-03	2,7E-04	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,0E-02	0,0E+00	5,0E-05	1,1E-03	1,2E-03	6,4E-04	-5,6E-02
EP-freshwater	kg P eq.	1,7E-03	1,0E-05	8,8E-07	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	3,2E-04	0,0E+00	1,9E-08	2,4E-06	1,4E-06	1,7E-06	-2,6E-04
EP-marine	kg N eq.	4,4E-02	6,6E-04	1,2E-04	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	7,7E-03	0,0E+00	2,3E-05	3,6E-04	6,0E-04	2,4E-04	-2,9E-03
EP-terrestrial	mol N eq.	5,0E-01	7,4E-03	1,1E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,0E-01	0,0E+00	2,5E-04	3,9E-03	6,3E-03	2,6E-03	-6,2E-02
POCP	kg NMVOC eq.	1,7E-01	4,6E-03	3,7E-04	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,6E-02	0,0E+00	7,6E-05	1,6E-03	1,6E-03	1,0E-03	-1,6E-02

ADP-minerals&metals*	kg Sb eq.	1,0E-03	4,8E-06	1,7E-07	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	5,4E-04	0,0E+00	2,0E-09	1,1E-06	1,8E-07	3,2E-07	-6,1E-04
ADP-fossil*	MJ	5,0E+02	2,0E+01	6,1E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,4E+02	0,0E+00	7,2E-02	4,7E+00	1,2E+00	2,4E+00	-8,4E+01
WDP*	m^3	1,2E+01	7,1E-02	-1,1E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	8,9E+00	0,0E+00	1,5E-04	1,8E-02	1,8E-02	1,7E-02	-1,3E+00
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 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.
The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).
Note: Biogenic carbon in packaging is balanced in A5.

** Disclaimer: 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 experienced with the indicator.*

Additional mandatory and voluntary impact category indicators

Results per 1 piece over its reference service life (15 years)																
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG [2]	kg CO2 eq	3,5E+01	1,4E+00	8,0E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	5,8E+00	0,0E+00	5,6E-03	3,3E-01	1,3E+00	1,3E-01	-1,9E+00
PM	disease inc.	2,7E-06	8,9E-08	4,4E-09	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	3,7E-07	0,0E+00	1,4E-09	2,7E-08	1,6E-08	2,6E-08	-2,1E-07

[2] 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 CO_2 is set to zero.

IR [3]	kBq U-235 eq	9,3E-01	1,0E-02	-1,1E-03	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	2,2E+01	0,0E+00	1,2E-05	2,0E-03	5,5E-03	1,4E-03	-2,5E+00
ETP – FW*	CTUe	2,5E+02	2,9E+00	1,2E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,1E+01	0,0E+00	3,9E-03	6,3E-01	3,2E+00	7,1E-01	-5,7E+01
HTTP-C*	CTUh	6,1E-08	2,2E-10	3,5E-11	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	7,9E-09	0,0E+00	5,7E-13	5,7E-11	1,8E-10	7,6E-11	-7,0E-09
HTTP-NC*	CTUh	4,9E-07	1,2E-08	1,6E-09	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	4,7E-07	0,0E+00	8,9E-12	3,0E-09	1,1E-08	8,7E-10	-5,0E-07
Land use, SQP*	Pt	7,1E+02	1,0E+01	-6,6E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,7E+02	0,0E+00	4,8E-03	2,8E+00	2,3E-01	3,5E+00	1,3E+02
Acronyms	GWP-GHG: Global Warming Potential, Greenhouse Gases, PM: Particulate Matter, IRP: Ionizing Radiation - Human Health, ETP-FW: Ecotoxicity Potential – Freshwater, HTP-C: Human Toxicity Potential – Cancer, HTP-NC: Human Toxicity Potential – Non-Cancer, SQP: Soil Quality Potential Index															
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017																

Disclaimer: The results of the impact categories land use, human toxicity (cancer), human toxicity, non-cancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

** 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.*

[3] 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.

Resource use indicators

Results per 1 piece over its reference service life (15 years)															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	2,2E+02	3,7E-01	-2,6E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	4,0E+02	0,0E+00	4,6E-04	7,7E-02	1,2E-01	7,3E-02	-2,4E+01
PERM	MJ	1,2E+02	0,0E+00	-3,2E+01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	-9,2E+01	0,0E+00	0,0E+00
PERT	MJ	3,5E+02	3,7E-01	-3,3E+01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	4,0E+02	0,0E+00	4,6E-04	7,7E-02	-9,2E+01	7,3E-02	-2,4E+01
PENRE	MJ	5,3E+02	2,1E+01	6,5E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,4E+02	0,0E+00	7,7E-02	5,0E+00	1,2E+00	2,5E+00	-8,5E+01
PENRM	MJ	1,1E+01	0,0E+00	-3,4E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	-1,1E+01	0,0E+00	0,0E+00
PENRT	MJ	5,4E+02	2,1E+01	3,1E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	6,4E+02	0,0E+00	7,7E-02	5,0E+00	-9,5E+00	2,5E+00	-8,5E+01
SM	kg	2,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
RSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
NRSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
FW	m^3	3,0E-01	2,9E-03	7,4E-04	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,8E-01	0,0E+00	5,3E-06	7,0E-04	3,2E-03	2,2E-03	-5,5E-02
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														

Waste indicators

Results per 1 piece over its reference service life (15 years)															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Non-hazardous waste disposed	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Radioactive waste disposed	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Output flow indicators

Results per 1 piece over its reference service life (15 years)															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Material for recycling	kg	0,44	0,00	1,54	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,99	0,00	0,00
Materials for energy recovery	kg	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Exported energy, electricity	MJ	13,97	0,00	2,04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	25,66	0,00	0,00
Exported energy, thermal	MJ	32,59	0,00	4,76	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	59,88	0,00	0,00

Additional LCA results: 100% Recycling/Incineration/Landfilling Scenario for modules A5, C1-C4 & D

Mandatory impact category indicators according to EN 15804, per declared unit

		100% Recycling Scenario						100% Incineration Scenario						100% Landfilling Scenario					
Indicator	**Unit**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO2 eq	3,4E+00	5,6E-03	2,1E-01	6,9E+00	0,0E+00	-2,6E+00	3,5E+00	5,6E-03	3,5E-01	8,2E+00	1,4E-01	-4,9E-01	3,4E+00	5,6E-03	2,1E-01	2,6E-02	7,0E+00	2,8E-01
GWP-fossil	kg CO2 eq	3,5E-02	5,6E-03	2,1E-01	2,6E-02	0,0E+00	-2,6E+00	1,4E-01	5,6E-03	3,4E-01	1,3E+00	1,4E-01	-4,3E-01	4,7E-02	5,6E-03	2,1E-01	2,6E-02	1,1E-01	2,9E-01
GWP-biogenic	kg CO2 eq	3,4E+00	0,0E+00	0,0E+00	6,9E+00	0,0E+00	0,0E+00	3,4E+00	0,0E+00	0,0E+00	6,9E+00	0,0E+00	0,0E+00	3,4E+00	0,0E+00	0,0E+00	0,0E+00	6,9E+00	0,0E+00
GWP-luluc	kg CO2 eq	1,9E-04	5,7E-07	7,0E-05	1,1E-04	0,0E+00	-7,2E-03	-1,1E-04	5,7E-07	1,1E-04	1,3E-04	5,1E-05	-6,0E-02	2,9E-05	5,7E-07	7,0E-05	1,1E-04	2,4E-05	-1,5E-02
ODP	kg CFC11 eq	5,7E-10	8,3E-11	4,6E-09	4,0E-10	0,0E+00	-8,9E-09	1,7E-09	8,3E-11	7,5E-09	1,6E-09	3,5E-09	-6,0E-08	1,2E-09	8,3E-11	4,6E-09	4,0E-10	3,3E-09	-1,3E-08
AP	mol H+ eq	1,3E-04	5,0E-05	6,8E-04	2,3E-04	0,0E+00	-6,9E-02	7,0E-04	5,0E-05	1,1E-03	1,2E-03	7,3E-04	1,1E-03	2,1E-04	5,0E-05	6,8E-04	2,3E-04	7,3E-04	7,8E-03
EP-freshwater	kg P eq	1,0E-06	1,9E-08	1,6E-06	1,2E-07	0,0E+00	-3,4E-04	9,3E-07	1,9E-08	2,5E-06	1,4E-06	2,0E-06	6,0E-06	3,1E-07	1,9E-08	1,6E-06	1,2E-07	8,0E-07	4,2E-05
EP-marine	kg N eq	5,5E-05	2,3E-05	2,3E-04	1,1E-04	0,0E+00	-4,1E-03	3,0E-04	2,3E-05	3,7E-04	6,0E-04	2,8E-04	-1,3E-03	8,3E-05	2,3E-05	2,3E-04	1,1E-04	4,0E-04	5,3E-04

EP-terrestrial	mol N eq	4,6E-04	2,5E-04	2,5E-03	1,2E-03	0,0E+00	-8,8E-02	3,1E-03	2,5E-04	4,1E-03	6,4E-03	3,1E-03	-2,2E-02	9,1E-04	2,5E-04	2,5E-03	1,2E-03	3,4E-03	4,4E-03
POCP	kg NMVOC eq	1,9E-04	7,6E-05	1,0E-03	3,4E-04	0,0E+00	-2,3E-02	8,9E-04	7,6E-05	1,7E-03	1,6E-03	1,2E-03	-2,6E-03	3,4E-04	7,6E-05	1,0E-03	3,4E-04	1,3E-03	3,1E-03
ADP-minerals&metals*	kg Sb eq	1,4E-07	2,0E-09	7,2E-07	2,7E-08	0,0E+00	-7,0E-04	2,6E-07	2,0E-09	1,2E-06	1,8E-07	3,7E-07	9,5E-05	1,2E-07	2,0E-09	7,2E-07	2,7E-08	1,6E-07	1,0E-04
ADP-fossil*	MJ	5,2E-01	7,2E-02	3,0E+00	4,6E-01	0,0E+00	-4,7E+01	9,6E-01	7,2E-02	4,9E+00	1,2E+00	2,7E+00	-7,8E+01	8,2E-01	7,2E-02	3,0E+00	4,6E-01	2,6E+00	-1,8E+01
WDP*	m3 depriv.	-6,1E-03	1,5E-04	1,2E-02	2,5E-03	0,0E+00	-1,8E+00	1,1E-02	1,5E-04	1,9E-02	1,8E-02	2,5E-02	-9,3E-01	3,1E-03	1,5E-04	1,2E-02	2,5E-03	-1,4E-02	-1,5E-01

		100% Recycling Scenario						100% Incineration Scenario						100% Landfilling Scenario					
Indicator	**Unit**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG**	kg CO2 eq	3,7E-02	5,6E-03	2,1E-01	2,6E-02	0,0E+00	-2,5E+00	1,4E-01	5,6E-03	3,5E-01	1,3E+00	1,4E-01	-5,0E-01	4,7E-02	5,6E-03	2,1E-01	2,6E-02	4,0E-01	2,8E-01
PM	disease inc.	3,0E-09	1,4E-09	1,7E-08	6,4E-09	0,0E+00	-4,9E-07	8,6E-09	1,4E-09	2,7E-08	1,6E-08	2,9E-08	-2,5E-08	5,4E-09	1,4E-09	1,7E-08	6,4E-09	1,8E-08	1,0E-07
IR***	kBq U-235 eq	1,4E-03	1,2E-05	1,3E-03	4,9E-03	0,0E+00	-9,0E-01	-5,1E-03	1,2E-05	2,1E-03	5,5E-03	1,5E-03	-2,8E+00	1,0E-03	1,2E-05	1,3E-03	4,9E-03	1,2E-03	-8,2E-01
ETP-FW*	CTUe	1,8E-01	3,9E-03	4,0E-01	2,1E-02	0,0E+00	-1,0E+02	4,0E+00	3,9E-03	6,5E-01	3,2E+00	9,7E-01	6,1E+00	7,8E-02	3,9E-03	4,0E-01	2,1E-02	2,0E-01	9,0E+00
HTTP-C*	CTUh	5,4E-12	5,7E-13	3,6E-11	3,0E-12	0,0E+00	-8,2E-09	1,2E-10	5,7E-13	5,9E-11	1,8E-10	9,8E-11	4,8E-10	7,3E-12	5,7E-13	3,6E-11	3,0E-12	1,8E-11	1,1E-09
HTTP-NC*	CTUh	4,7E-10	8,9E-12	1,9E-09	6,3E-11	0,0E+00	-5,7E-07	5,2E-09	8,9E-12	3,0E-09	1,1E-08	1,0E-09	5,6E-08	3,3E-10	8,9E-12	1,9E-09	6,3E-11	1,0E-09	7,6E-08
Land use, SQP*	Pt	-1,2E+00	4,8E-03	1,8E+00	5,5E-02	0,0E+00	-6,5E+02	2,7E-01	4,8E-03	2,9E+00	2,4E-01	3,8E+00	2,2E+02	8,8E-01	4,8E-03	1,8E+00	5,5E-02	5,5E+00	3,0E+02

Disclaimer: 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.
The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).
Note: Biogenic carbon in packaging is balanced in A5.)

** Disclaimer: 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 experienced with the indicator.*

ABBREVIATIONS

Abbreviation	Definition
General Abbreviations	
EN	European Norm (Standard)
EPD	Environmental Product Declaration
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
PCR	Product Category Rules
c-PCR	Complementary Product Category Rules
CEN	European Committee for Standardization
CPC	Central product classification
GHG	Greenhouse Gas
PEF	Product Environmental Footprint
Environmental Impact Indicators (EN 15804)	
GHG	Greenhouse Gas
GWP	Global Warming Potential (kg CO_2 eq.)
GWP-fossil	Global Warming Potential from fossil sources (kg CO_2 eq.)
GWP-biogenic	Global Warming Potential from biogenic sources (kg CO_2 eq.)
GWP-luluc	Global Warming Potential from land use and land use change (kg CO_2 eq.)
GWP-total	Total Global Warming Potential (kg CO_2 eq.)
GWP-GHG	Global Warming Potential for greenhouse gases (kg CO_2 eq.)
ODP	Ozone Depletion Potential (kg CFC-11 eq.)
AP	Acidification Potential (mol H^+ eq.)
EP	Eutrophication Potential
EP-freshwater	Freshwater eutrophication potential (kg P eq.)
EP-marine	Marine eutrophication potential (kg N eq.)
EP-terrestrial	Terrestrial eutrophication potential (mol N eq.)
POCP	Photochemical Ozone Creation Potential (kg NMVOC eq.)
ADP	Abiotic Depletion Potential
ADP-minerals&metals	Abiotic depletion potential for non-fossil resources (kg Sb eq.)
ADP-fossil	Abiotic depletion potential for fossil resources (MJ)
WDP	Water Deprivation Potential (m^3)
Resource Use Indicators	
PERE	Renewable primary energy (excluding as raw materials) (MJ)
PERM	Renewable primary energy used as raw materials (MJ)
PERT	Total renewable primary energy (MJ)
PENRE	Non-renewable primary energy (excluding as raw materials) (MJ)
PENRM	Non-renewable primary energy used as raw materials (MJ)
PENRT	Total non-renewable primary energy (MJ)
SM	Use of secondary material (kg)
RSF	Use of renewable secondary fuels (MJ)
NRSF	Use of non-renewable secondary fuels (MJ)
FW	Use of net fresh water (m^3)
HW	Hazardous Waste (disposed) (kg)
NHW	Non-Hazardous Waste (disposed) (kg)
RW	Radioactive Waste (disposed) (kg)
Output Flow Indicators	
CFR	Components for Reuse (kg)
MR	Material for Recycling (kg)
MER	Materials for Energy Recovery (kg)
EEE	Exported Energy, Electricity (MJ)

EET	Exported Energy, Thermal (MJ)
Lifecycle Stages / Modules	
A1	Raw material supply
A2	Transport
A3	Manufacturing
A4	Transport to site
A5	Construction/Installation
B1	Use
B2	Maintenance
B3	Repair
B4	Replacement
B5	Refurbishment
B6	Operational energy use
B7	Operational water use
C1	Deconstruction/Demolition
C2	Transport to waste processing
C3	Waste processing
C4	Disposal
D	Reuse-Recovery-Recycling potential
Other Relevant Terms	
SVHC	Substances of Very High Concern
EC No.	European Community Number
CAS No.	Chemical Abstracts Service Number
MJ	Megajoule
kg	Kilogram
m^3	Cubic Meter
NMVOC	Non-Methane Volatile Organic Compounds
Sb eq.	Antimony Equivalents
P eq.	Phosphorus Equivalents
N eq.	Nitrogen Equivalents
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents
CO_2 eq.	Carbon Dioxide Equivalents
kg C	Kilograms of Carbon
kg CO_2 eq.	Kilograms of Carbon Dioxide Equivalent
ND	Not Declared
MDF	Medium density fibreboard
ABS	Acrylonitrile-Butadiene-Styrene
PC	Polycarbonate
PMMA	Polymethyl Methacrylate
PP	Polypropylene

REFERENCES

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VERSION HISTORY

Original Version of the EPD

INTERNATIONAL EPD SYSTEM

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