epddanmark

ECO PLATFORM EPD VERIFIED

Owner: Geovent
No.: MD-25013-EN
Issued: 12-03-2025
Valid to: 12-03-2030

3rd PARTY **VERIFIED**

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | **ISO 14025 & EN 15804**

Owner of declaration
Geovent A/S
Hovedgaden 86
8831 Løgstrup
Danmark
E-mail: salg@geovent.dk
www.geovent.com

VAT no. 54 22 26 10

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
1 declared unit of product Fan (MEF) series

Number of declared datasets/product variations: 5

1. 34-653 Ventilator MEF-315-3 **(S1)**
2. 35-206 Ventilator MEF-400-3 **(S2)**
3. 35-206A Ventilator MEF-400-3 **(S3)**
4. 35-704 Ventilator MEF-450-3 **(S4)**
5. 35-708 Ventilator MEF-450-3 **(S5)**

Production site
Hovedgaden 86, 8831 Løgstrup, Denmark

Use of Guarantees of Origin
☒ No certificates used
☐ Electricity covered by GoO
☐ Biogas covered by GoO

Declared/ functional unit
1 piece of unit

Year of production site data (A3)
2024

EPD version
1

Issued: 12-03-2025
Valid to: 12-03-2030

Basis of calculation
This EPD is developed and verified in accordance with the European standard EN 15804+A2.

Comparability
EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☐Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☒Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third-party verifier:

Stefan Emil Danielsson

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (ND = module not declared)																
Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Product information

Product Description

The GEOVENT centrifugal fan MEF series features a closed, backward-curving B-wheel and a directly driven flange motor. These fans are designed for industrial extraction applications as well as comfort ventilation, offering high efficiency of up to 87%. They are compatible with PID control and constant pressure regulation systems, ensuring optimal performance.

Constructed from 100% galvanized steel, the fans provide corrosion resistance, making them suitable for outdoor installations on both roofs and walls. As standard, the fans are supplied with supporting brackets equipped with vibration absorbers, an inlet nozzle with a safety net, and a clamp for mounting the outlet flange.

Technical Specifications:

Air Volume: Up to 24.100 m³/h

Pressure: Up to 4.500 Pa

Operating Temperatures: Extracted air up to 80°C; Surrounding environment up to 40°C

Material: Galvanized steel housing; Domex sheet metal impellers

Motor: IP55-rated B5 flange motor; options for custom motors with higher efficiency or frequency inverters

Fan housing: 100% galvanized steel for optimal corrosion resistance. Carrying feet with vibration pads are standard on all fans as well as inlet nozzle with safety net.

Impeller: Backward curved B-impeller in painted Domex sheet metal.

Console: 4.0kW motors and above or heavy custom motors come with a supporting console to carry the weight. Motors of less than 4.0 Kw do not have a console to support the weight of the motor.

Material	Weight-% of declared material per component				
	S1	S2	S3	S4	S5
Steel	≥95	≥95	≥95	≥95	≥95
Zinc coating	1	1	1	1	1
Rubber	1	1	1	1	1
Other	1	1	1	1	1
Total %	**100**	**100**	**100**	**100**	**100**

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Material	Weight (kg)	Weight-% of packaging per scenario				
		S1	S2	S3	S4	S5
Wooden pallet	20,0	30,5	18,7	16,7	17,5	14,4
Plastic	0,5	1,6	2,5	2,9	2,8	3,3
Paper	0,2	0,3	0,2	0,2	0,2	0,1
Total	**20,7**	**31,6**	**19,4**	**17,3**	**18,1**	**15,0**

Representativity

This declaration, including data collection, the modelled foreground system, and results, represents the production of a ventilation unit at the manufacturing site in Løgstrup, Denmark. Product-specific data are based on average values collected from August to November 2024. Background data are sourced from the Ecoinvent 3.10 database and are less than 10 years old. In general, the background datasets used are of high quality, with most being only a few years old.

Hazardous substances

Geovent fans do not contain substances listed on the ”Candidate List of Substances of Very High Concern for authorization”.

(http://echa.europa.eu/candidate-list-table)

Products use

The MEF series fans are specifically tailored for process extractions in industries dealing with welding smoke, exhaust gases, and grinding dust.

They provide high airflow and pressure performance. When paired with optional filters (not included in the assessment), these fans effectively handle dusty air, preventing operational imbalances caused by dirt accumulation on the fan wheel.

Essential characteristics

☐ Robust galvanized steel construction for corrosion resistance and durability in harsh industrial settings

☐ Directly driven B5 flange motors with IP55 protection

☐ Modular configurations are available, including options for soundproofing, frequency inverters for speed control, and customized motors.

☐ Fully tested and compliant with ISO 5801 standards

Directive 2006/42/EC of the European Parliament and the Council of 17 May 2006 regarding machinery and amendments to Directive 95/16/EC.

EN ISO 14121-1:2007	Risk Assessment - Part 1
EN ISO 12100-1:2005	Basic concepts and general principles of design
EN ISO 12100-1:2009	2009 design and shaping Part 1: Basic terminology and methodology
EN ISO 12100-2:2005	Basic concepts and general principles of design
EN ISO 12100-2:2009	Design and shaping Part 2: Technical principles

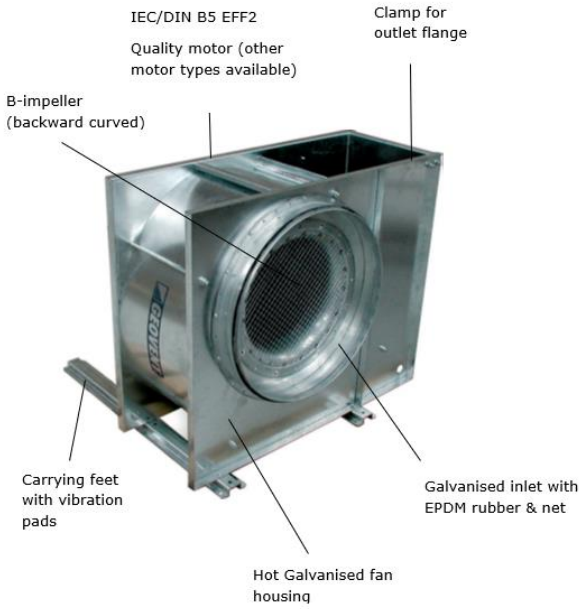
Further technical information can be obtained by contacting the manufacturer or on the manufacturer's website:

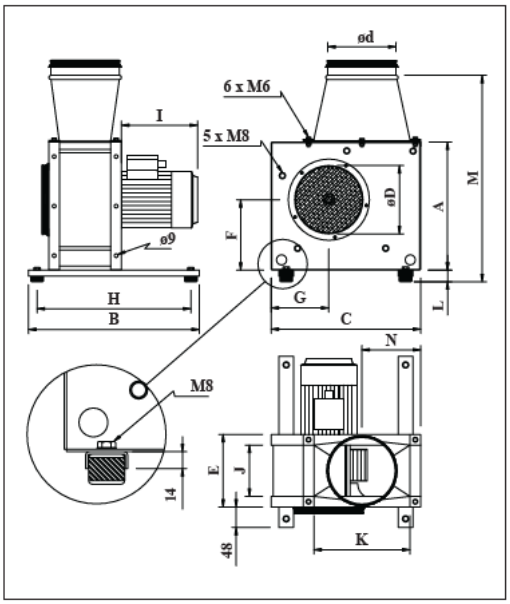
https://www.geovent.dk/

Reference Service Life (RSL)

The Geovent fans are designed for a reference life of 20 years under standard operating conditions. This estimate is based on its robust construction and regular maintenance as recommended by the manufacturer. The reference life expectancy aligns with typical industrial ventilation units, based on BUILD Report 2021:32 by the Department of the Built Environment (Aalborg University).

Picture of product





LCA background

Declared unit

The LCI and LCIA results in EPD relate to 1 pcs of product per scenario, maintained for 20 years, excluding packaging weight.

Name	S1	S2	S3	S4	S5	Unit
Declared unit	1	1	1	1	1	pcs
Weight (kg)	44,85	86,15	99,16	93,80	117,75	kg/pcs
Conversion factor to 1 kg.	0,0223	0,0116	0,0101	0,0107	0,0085	-

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2 and NPCR 030 version 1.1 - Part B for ventilation components. This EPD follows additional requirements for construction products considered as Electronic or Electric Equipment (EEE).

Energy modelling principles

Foreground system:

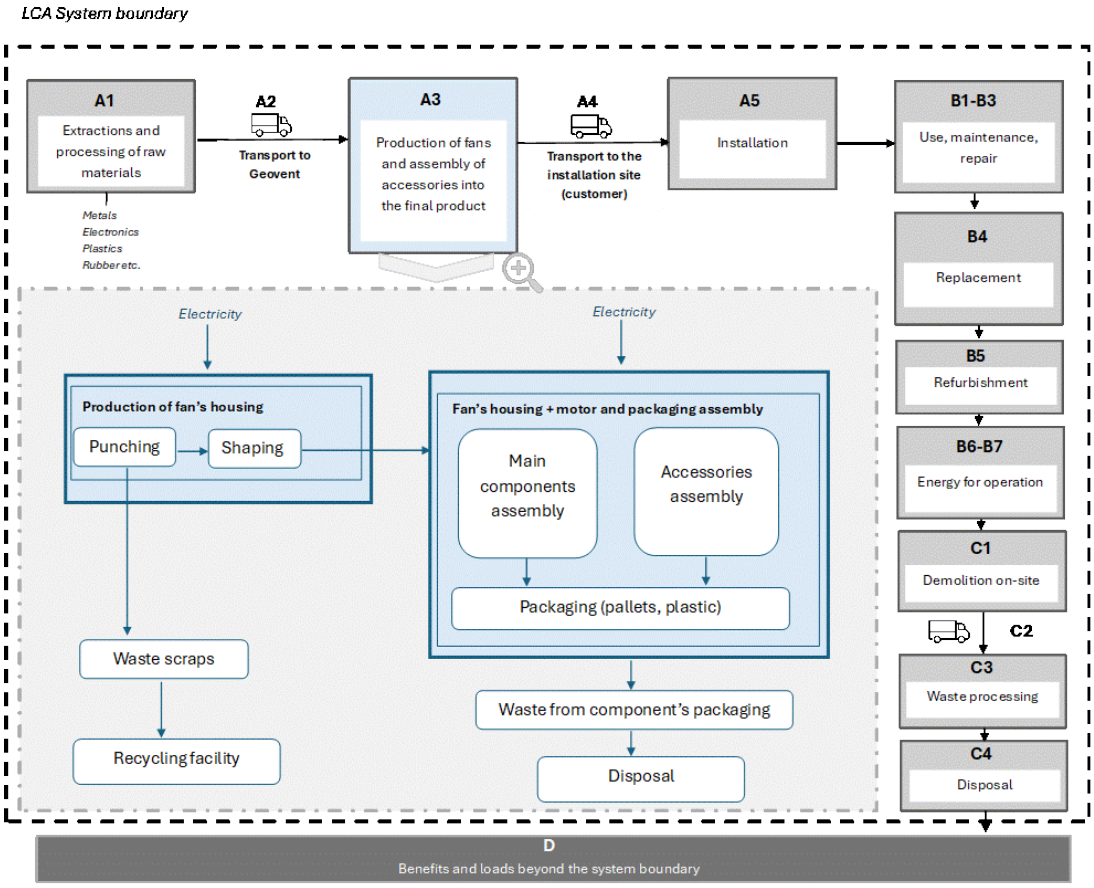
Information about the energy mix in the foreground system:

Dataset	EF	Unit
Electricity, medium voltage, residual mix (DK)	0,55	kg CO_2e/kWh
Ecoinvent, Denmark		Valid for year 2022

Background system:

Upstream processes are modelled using residual electricity mix for Denmark. Downstream processes are modelled using consumption electricity mix for Denmark.

Flow diagram



System boundary

This EPD is based on a cradle-to-grave LCA, in which 100 weight-% have been accounted for.

The general rules for the exclusion of inputs and outputs follow the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes. In addition, the exclusion of inputs and outputs follow the minimum requirements of the c-PCR, where the scope of the materials included in the product and packaging in the declared unit shall be the same as in traded products specified in the EPD.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, components and energy, transport to the production site, packaging and waste processing up to the" end-of-waste" state or final disposal. The LCA results are declared in dis-aggregated form for the product stage, meaning that all modules are declared separately.

A1: Steel plates, screws, sealant/rubber, plastics, and wood pallets are supplied by external manufacturers. Motors/electronics components are provided as complete units, with the individual sub-materials within these components accounted for separately in the model.

A2: The transport is accounted for each component from the supplier to the Geovent production site in Løgstrup, Denmark. Transportation details can be found in the table below and in the supplementary materials.

A3: At the production site, the fan housing is manufactured from steel sheets. The process involves punching and pressing the steel sheets to achieve the required forms. Metal scraps generated during production are collected and sold as a co-product to a company in Denmark that remelts the steel. Therefore, the cut-off approach applies and 100% of the burden is given to the main product.

All components are manually assembled on-site. The final product is packaged in plastic wrap, including stickers and manuals, and is transported on wooden pallets. Packaging materials and pallets are managed by the customer after delivery.

Construction process stage (A4-A5) includes:

A4: The product is transported to customers in Denmark with a yearly average distance of 129 km.

A5: Installation on the construction site is performed manually.

Use stage (B1-B7) includes:

B1: There are no direct emissions of any kind during normal use of the declared products.

B2: During the 20-year lifespan, the dan wheel and motor are assumed to be replaced once. These components are manufactured for use in Europe and assumed to be recycled in Denmark at their end-of-life. For units installed outdoors, the wheel and the fan housing should be cleaned annually or as needed. The wheel and housing can be cleaned with a soft brush and dishwashing water. Annual cleaning is assumed, with water and detergent produced, used, and disposed of in Denmark. Water discharges resulting from cleaning activities are modelled as municipal water treatment.

B3-B5: No data

B6: The electricity consumption of fans during their operational phase depends on the specific application, installation conditions, and customer requirements. Fans equipped with a frequency inverter allow for speed adjustments (Hz), enabling control of airflow rates, which directly impacts energy usage.

For the purpose of this EPD, a rough estimation of energy consumption has been made based on typical working conditions. It is assumed that the fans operate for 6 hours per day, 365 days per year, corresponding to a standard operational schedule. For example, under these assumptions, with an electricity consumption rate for one of the fan models of 4.0 kW, the estimated daily energy usage is:

4.0 kW × 6 hours = 24 kWh/day

Please contact Geovent for more information on electricity consumption in the use stage.

B7: Water is not required for the operation of fans.

End of Life (C1-C4) includes:

C1-C4: The ventilation units are assumed to be disposed of in Denmark. Dismantling is performed using hand tools, and units are transported 100 km to a local recycling facility (C2). The product is further dismantled in an industrial shredder, with an average material recovery rate (C3). Residual fluff from the shredded metal is sorted and sent to landfill (C4).

Re-use, recovery and recycling potential (D) include:

The recycled metals are credited as an avoided production of primary steel, aluminium, copper, and other metal components.

Life cycle module	Scenario assumptions	Road transport
A2	Based on distances between supplier locations and Geovent factory	transport, freight, lorry 3.5-7.5 metric tons, EURO6 , RER
A4	As in c-PCR-018: From the Geovent factory to different locations in Denmark (~130km based on yearly average).	transport, freight, lorry 3.5-7.5 metric tons, EURO6 , RER
C2	100 km to the nearest waste processing centre	transport, freight, lorry 3.5-7.5 metric tons, EURO6 , RER

LCA results

FAN 34-653

ENVIRONMENTAL IMPACTS PER DECLARED UNIT – S1																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	2,13E+02	4,88E+00	3,52E+01	0,00E+00	1,73E+02	0,00E+00	0,00E+00	0,00E+00	5,12E+03	0,00E+00	4,22E-03	2,58E+00	3,94E+00	0,00E+00	-1,27E+02
GWP-fossil	[kg CO_2 eq.]	2,47E+02	4,87E+00	1,51E+00	0,00E+00	1,47E+02	0,00E+00	0,00E+00	0,00E+00	5,09E+03	0,00E+00	4,20E-03	2,58E+00	3,94E+00	0,00E+00	-1,26E+02
GWP-biogenic	[kg CO_2 eq.]	-3,37E+01	0,00E+00	3,37E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP-luluc	[kg CO_2 eq.]	1,83E-01	1,87E-03	5,73E-04	0,00E+00	2,63E+01	0,00E+00	0,00E+00	0,00E+00	2,16E+01	0,00E+00	1,78E-05	9,87E-04	6,16E-04	0,00E+00	-3,10E-01
ODP	[kg CFC 11 eq.]	1,91E-06	9,63E-08	2,70E-08	0,00E+00	1,32E-06	0,00E+00	0,00E+00	0,00E+00	1,09E-04	0,00E+00	8,98E-11	5,09E-08	4,54E-08	0,00E+00	-1,23E-06
AP	[mol H^+ eq.]	1,34E+00	9,85E-03	5,78E-03	0,00E+00	1,49E+00	0,00E+00	0,00E+00	0,00E+00	3,06E+01	0,00E+00	2,52E-05	5,20E-03	2,56E-02	0,00E+00	-9,75E-01
EP-freshwater	[kg P eq.]	8,55E-02	3,88E-04	2,46E-04	0,00E+00	1,10E-01	0,00E+00	0,00E+00	0,00E+00	3,74E+00	0,00E+00	3,08E-06	2,05E-04	1,63E-04	0,00E+00	-8,33E-02
EP-marine	[kg N eq.]	2,14E-01	2,16E-03	2,30E-03	0,00E+00	9,30E-01	0,00E+00	0,00E+00	0,00E+00	5,50E+00	0,00E+00	4,54E-06	1,14E-03	1,15E-02	0,00E+00	-1,46E-01
EP-terrestrial	[mol N eq.]	2,30E+00	2,33E-02	2,26E-02	0,00E+00	3,41E+00	0,00E+00	0,00E+00	0,00E+00	6,62E+01	0,00E+00	5,46E-05	1,23E-02	1,25E-01	0,00E+00	-1,61E+00
POCP	[kg NMVOC eq.]	7,74E-01	1,56E-02	8,03E-03	0,00E+00	6,31E-01	0,00E+00	0,00E+00	0,00E+00	1,65E+01	0,00E+00	1,37E-05	8,25E-03	3,77E-02	0,00E+00	-5,39E-01
ADPm[1]	[kg Sb eq.]	1,42E-02	2,17E-05	6,18E-06	0,00E+00	7,21E-03	0,00E+00	0,00E+00	0,00E+00	1,60E-01	0,00E+00	1,32E-07	1,14E-05	5,47E-06	0,00E+00	-6,68E-03
ADPf[1]	[MJ]	3,00E+03	6,78E+01	1,94E+01	0,00E+00	1,61E+03	0,00E+00	0,00E+00	0,00E+00	8,19E+04	0,00E+00	6,75E-02	3,58E+01	3,89E+01	0,00E+00	-1,46E+03
WDP[1]	[m^3 world eq. deprived]	6,30E+01	3,84E-01	7,72E-01	0,00E+00	9,65E+02	0,00E+00	0,00E+00	0,00E+00	9,18E+03	0,00E+00	7,57E-03	2,03E-01	1,95E-01	0,00E+00	-6,37E+01
Caption	GWP-total = Global Warming Potential - total; 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															

ADDITIONAL ENVIRONMENTAL IMPACTS DECLARED UNIT – S1																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	2,40E-05	2,57E-07	9,95E-08	0,00E+00	1,17E-05	0,00E+00	0,00E+00	0,00E+00	2,01E-04	0,00E+00	1,66E-10	1,36E-07	6,94E-07	0,00E+00	-1,76E-05
IRP[2]	[kBq U235 eq.]	2,14E+01	1,27E-01	4,08E-02	0,00E+00	8,35E+00	0,00E+00	0,00E+00	0,00E+00	1,82E+03	0,00E+00	1,50E-03	6,73E-02	4,70E-02	0,00E+00	-8,72E+00
ETP-fw[1]	[CTUe]	4,59E+03	2,24E+01	9,59E+00	0,00E+00	4,00E+03	0,00E+00	0,00E+00	0,00E+00	3,47E+04	0,00E+00	2,87E-02	1,18E+01	8,40E+00	0,00E+00	-3,71E+03

HTP-c[1]	[CTUh]	1,07E-05	3,73E-08	1,57E-08	0,00E+00	4,51E-06	0,00E+00	0,00E+00	0,00E+00	2,37E-05	0,00E+00	1,96E-11	1,97E-08	1,46E-08	0,00E+00	-9,57E-06
HTP-nc[1]	[CTUh]	1,06E-05	4,19E-08	5,06E-08	0,00E+00	8,97E-06	0,00E+00	0,00E+00	0,00E+00	1,70E-04	0,00E+00	1,40E-10	2,21E-08	2,93E-08	0,00E+00	-7,17E-06
SQP[1]	-	4,12E+03	2,84E+01	7,86E+00	0,00E+00	2,20E+03	0,00E+00	0,00E+00	0,00E+00	1,43E+05	0,00E+00	1,18E-01	1,50E+01	4,28E+00	0,00E+00	-1,73E+03
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															
	[2] 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 PER DECLARED UNIT – S1																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	4,44E+02	1,62E+00	-3,41E+02	0,00E+00	2,72E+02	0,00E+00	0,00E+00	0,00E+00	1,26E+05	0,00E+00	1,04E-01	8,58E-01	-8,07E+00	0,00E+00	-4,90E+02
PERM	[MJ]	2,89E+02	0,00E+00	3,42E+02	0,00E+00	1,49E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,76E+00	0,00E+00	0,00E+00
PERT	[MJ]	7,32E+02	1,62E+00	6,31E-01	0,00E+00	4,21E+02	0,00E+00	0,00E+00	0,00E+00	1,26E+05	0,00E+00	1,04E-01	8,58E-01	6,86E-01	0,00E+00	-4,90E+02
PENRE	[MJ]	2,70E+03	6,78E+01	1,94E+01	0,00E+00	1,58E+03	0,00E+00	0,00E+00	0,00E+00	8,19E+04	0,00E+00	6,75E-02	3,58E+01	3,28E+01	0,00E+00	-1,47E+03
PENRM	[MJ]	2,95E+02	0,00E+00	3,42E-06	0,00E+00	3,43E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,10E+00	0,00E+00	0,00E+00
PENRT	[MJ]	3,00E+03	6,78E+01	1,94E+01	0,00E+00	1,61E+03	0,00E+00	0,00E+00	0,00E+00	8,19E+04	0,00E+00	6,75E-02	3,58E+01	3,89E+01	0,00E+00	-1,47E+03
SM	[kg]	1,25E+01	3,71E-02	1,74E-02	0,00E+00	8,10E+00	0,00E+00	0,00E+00	0,00E+00	4,65E+01	0,00E+00	3,83E-05	1,96E-02	1,57E-02	0,00E+00	-1,60E+01
RSF	[MJ]	9,76E+00	4,01E-04	1,30E-04	0,00E+00	4,21E-02	0,00E+00	0,00E+00	0,00E+00	3,15E-01	0,00E+00	2,60E-07	2,12E-04	3,00E-04	0,00E+00	-1,48E-02
NRSF	[MJ]	1,96E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	1,28E+00	1,06E-02	7,13E-03	0,00E+00	2,24E+01	0,00E+00	0,00E+00	0,00E+00	2,99E+02	0,00E+00	2,47E-04	5,62E-03	4,64E-03	0,00E+00	-1,23E+00
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															

WASTE CATEGORIES AND OUTPUT FLOWS PER DECLARED UNIT – S1																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	3,39E+01	1,06E-01	1,70E-01	0,00E+00	2,84E+01	0,00E+00	0,00E+00	0,00E+00	5,00E+02	0,00E+00	4,12E-04	5,60E-02	9,90E-01	0,00E+00	-4,00E+01
NHWD	[kg]	7,45E+02	2,57E+00	2,17E+01	0,00E+00	6,73E+02	0,00E+00	0,00E+00	0,00E+00	1,83E+04	0,00E+00	1,51E-02	1,36E+00	2,33E+00	0,00E+00	-5,79E+02
RWD	[kg]	2,29E-02	7,54E-06	2,44E-06	0,00E+00	6,39E-04	0,00E+00	0,00E+00	0,00E+00	7,75E-02	0,00E+00	6,40E-08	3,99E-06	2,57E-06	0,00E+00	-5,47E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	3,47E+00	6,28E-04	4,78E-03	0,00E+00	2,64E+00	0,00E+00	0,00E+00	0,00E+00	3,32E+01	0,00E+00	2,74E-05	3,32E-04	4,18E-01	0,00E+00	-7,78E-02
MER	[kg]	3,06E-04	1,80E-06	8,76E-07	0,00E+00	6,72E-03	0,00E+00	0,00E+00	0,00E+00	3,20E-03	0,00E+00	2,64E-09	9,53E-07	6,32E-07	0,00E+00	-3,84E-04
EEE	[MJ]	3,24E+00	1,86E-02	6,47E-03	0,00E+00	9,23E-01	0,00E+00	0,00E+00	0,00E+00	9,89E+02	0,00E+00	8,16E-04	9,82E-03	1,66E-02	0,00E+00	0,00E+00
EET	[MJ]	1,69E+00	1,15E-01	2,92E-02	0,00E+00	1,20E+00	0,00E+00	0,00E+00	0,00E+00	3,81E+01	0,00E+00	3,15E-05	6,07E-02	6,20E-03	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															

BIOGENIC CARBON CONTENT PER DECLARED UNIT – S1		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0
Biogenic carbon centent in accompanying packagaing	[kg C]	9,18E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

FAN 35-206

ENVIRONMENTAL IMPACTS PER DECLARED UNIT – S2																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	4,04E+02	7,91E+00	3,52E+01	0,00E+00	2,61E+02	0,00E+00	0,00E+00	0,00E+00	2,73E+04	0,00E+00	4,22E-03	6,27E+00	8,00E+00	0,00E+00	-2,24E+02
GWP-fossil	[kg CO_2 eq.]	4,34E+02	7,91E+00	1,51E+00	0,00E+00	2,54E+02	0,00E+00	0,00E+00	0,00E+00	2,72E+04	0,00E+00	4,20E-03	6,27E+00	8,00E+00	0,00E+00	-2,24E+02
GWP-biogenic	[kg CO_2 eq.]	-3,37E+01	0,00E+00	3,37E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

GWP-luluc	[kg CO_2 eq.]	3,16E+00	3,03E-03	5,73E-04	0,00E+00	7,24E+00	0,00E+00	0,00E+00	0,00E+00	1,15E+02	0,00E+00	1,78E-05	2,40E-03	1,77E-03	0,00E+00	-5,76E-01
ODP	[kg CFC 11 eq.]	2,75E-06	1,56E-07	2,70E-08	0,00E+00	2,16E-06	0,00E+00	0,00E+00	0,00E+00	5,81E-04	0,00E+00	8,98E-11	1,24E-07	8,89E-08	0,00E+00	-1,94E-06
AP	[mol H^+ eq.]	3,33E+00	1,60E-02	5,78E-03	0,00E+00	3,25E+00	0,00E+00	0,00E+00	0,00E+00	1,63E+02	0,00E+00	2,52E-05	1,27E-02	4,84E-02	0,00E+00	-2,53E+00
EP-freshwater	[kg P eq.]	2,25E-01	6,30E-04	2,46E-04	0,00E+00	2,40E-01	0,00E+00	0,00E+00	0,00E+00	1,99E+01	0,00E+00	3,08E-06	4,99E-04	3,40E-04	0,00E+00	-2,09E-01
EP-marine	[kg N eq.]	4,22E-01	3,51E-03	2,30E-03	0,00E+00	1,08E+00	0,00E+00	0,00E+00	0,00E+00	2,94E+01	0,00E+00	4,54E-06	2,78E-03	2,10E-02	0,00E+00	-2,83E-01
EP-terrestrial	[mol N eq.]	4,68E+00	3,79E-02	2,26E-02	0,00E+00	5,33E+00	0,00E+00	0,00E+00	0,00E+00	3,53E+02	0,00E+00	5,46E-05	3,00E-02	2,29E-01	0,00E+00	-3,25E+00
POCP	[kg NMVOC eq.]	1,54E+00	2,53E-02	8,03E-03	0,00E+00	1,20E+00	0,00E+00	0,00E+00	0,00E+00	8,83E+01	0,00E+00	1,37E-05	2,01E-02	6,97E-02	0,00E+00	-1,06E+00
ADPm[1]	[kg Sb eq.]	3,48E-02	3,52E-05	6,18E-06	0,00E+00	2,43E-02	0,00E+00	0,00E+00	0,00E+00	8,54E-01	0,00E+00	1,32E-07	2,79E-05	1,76E-05	0,00E+00	-2,24E-02
ADPf[1]	[MJ]	5,11E+03	1,10E+02	1,94E+01	0,00E+00	2,76E+03	0,00E+00	0,00E+00	0,00E+00	4,37E+05	0,00E+00	6,75E-02	8,72E+01	7,66E+01	0,00E+00	-2,54E+03
WDP[1]	[m^3 world eq. deprived]	1,23E+02	6,22E-01	7,72E-01	0,00E+00	1,01E+03	0,00E+00	0,00E+00	0,00E+00	4,90E+04	0,00E+00	7,57E-03	4,93E-01	3,75E-01	0,00E+00	-1,16E+02
Caption	GWP-total = Global Warming Potential - total; 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															

ADDITIONAL ENVIRONMENTAL IMPACTS DECLARED UNIT – S2																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	4,28E-05	4,17E-07	9,95E-08	0,00E+00	2,18E-05	0,00E+00	0,00E+00	0,00E+00	1,07E-03	0,00E+00	1,66E-10	3,31E-07	1,27E-06	0,00E+00	-2,88E-05
IRP[2]	[kBq U235 eq.]	3,30E+01	2,07E-01	4,08E-02	0,00E+00	1,37E+01	0,00E+00	0,00E+00	0,00E+00	9,69E+03	0,00E+00	1,50E-03	1,64E-01	1,38E-01	0,00E+00	-1,47E+01
ETP-fw[1]	[CTUe]	8,80E+03	3,63E+01	9,59E+00	0,00E+00	6,65E+03	0,00E+00	0,00E+00	0,00E+00	1,85E+05	0,00E+00	2,87E-02	2,88E+01	1,66E+01	0,00E+00	-7,34E+03
HTP-c[1]	[CTUh]	1,82E-05	6,05E-08	1,57E-08	0,00E+00	7,69E-06	0,00E+00	0,00E+00	0,00E+00	1,26E-04	0,00E+00	1,96E-11	4,80E-08	3,25E-08	0,00E+00	-1,66E-05
HTP-nc[1]	[CTUh]	2,74E-05	6,80E-08	5,06E-08	0,00E+00	2,21E-05	0,00E+00	0,00E+00	0,00E+00	9,08E-04	0,00E+00	1,40E-10	5,39E-08	8,24E-08	0,00E+00	-2,12E-05
SQP[1]	-	5,27E+03	4,61E+01	7,86E+00	0,00E+00	2,85E+03	0,00E+00	0,00E+00	0,00E+00	7,61E+05	0,00E+00	1,18E-01	3,65E+01	1,05E+01	0,00E+00	-2,58E+03
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															

	[2] 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 PER DECLARED UNIT – S2																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	6,52E+02	2,64E+00	-3,41E+02	0,00E+00	3,96E+02	0,00E+00	0,00E+00	0,00E+00	6,73E+05	0,00E+00	1,04E-01	2,09E+00	-7,36E+00	0,00E+00	-7,35E+02
PERM	[MJ]	2,89E+02	0,00E+00	3,42E+02	0,00E+00	1,71E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,40E+00	0,00E+00	0,00E+00
PERT	[MJ]	9,41E+02	2,64E+00	6,31E-01	0,00E+00	5,67E+02	0,00E+00	0,00E+00	0,00E+00	6,73E+05	0,00E+00	1,04E-01	2,09E+00	2,04E+00	0,00E+00	-7,35E+02
PENRE	[MJ]	4,63E+03	1,10E+02	1,94E+01	0,00E+00	2,72E+03	0,00E+00	0,00E+00	0,00E+00	4,37E+05	0,00E+00	6,75E-02	8,72E+01	7,02E+01	0,00E+00	-2,54E+03
PENRM	[MJ]	4,80E+02	0,00E+00	3,42E-06	0,00E+00	4,90E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,36E+00	0,00E+00	0,00E+00
PENRT	[MJ]	5,11E+03	1,10E+02	1,94E+01	0,00E+00	2,77E+03	0,00E+00	0,00E+00	0,00E+00	4,37E+05	0,00E+00	6,75E-02	8,72E+01	7,66E+01	0,00E+00	-2,54E+03
SM	[kg]	2,25E+01	6,02E-02	1,74E-02	0,00E+00	1,52E+01	0,00E+00	0,00E+00	0,00E+00	2,48E+02	0,00E+00	3,83E-05	4,77E-02	2,96E-02	0,00E+00	-2,81E+01
RSF	[MJ]	9,85E+00	6,51E-04	1,30E-04	0,00E+00	5,42E-02	0,00E+00	0,00E+00	0,00E+00	1,68E+00	0,00E+00	2,60E-07	5,16E-04	9,85E-04	0,00E+00	-2,71E-02
NRSF	[MJ]	2,92E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	2,60E+00	1,72E-02	7,13E-03	0,00E+00	2,35E+01	0,00E+00	0,00E+00	0,00E+00	1,60E+03	0,00E+00	2,47E-04	1,37E-02	9,85E-03	0,00E+00	-2,32E+00
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															

WASTE CATEGORIES AND OUTPUT FLOWS PER DECLARED UNIT – S2																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	7,02E+01	1,72E-01	1,70E-01	0,00E+00	5,73E+01	0,00E+00	0,00E+00	0,00E+00	2,66E+03	0,00E+00	4,12E-04	1,36E-01	3,32E+00	0,00E+00	-7,44E+01
NHWD	[kg]	1,46E+03	4,17E+00	2,17E+01	0,00E+00	1,28E+03	0,00E+00	0,00E+00	0,00E+00	9,73E+04	0,00E+00	1,51E-02	3,31E+00	3,74E+00	0,00E+00	-1,24E+03
RWD	[kg]	3,42E-02	1,22E-05	2,44E-06	0,00E+00	1,06E-03	0,00E+00	0,00E+00	0,00E+00	4,14E-01	0,00E+00	6,40E-08	9,70E-06	7,13E-06	0,00E+00	-9,92E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	3,92E+00	1,02E-03	4,78E-03	0,00E+00	3,37E+00	0,00E+00	0,00E+00	0,00E+00	1,77E+02	0,00E+00	2,74E-05	8,07E-04	1,46E+00	0,00E+00	-1,39E-01
MER	[kg]	6,14E-04	2,93E-06	8,76E-07	0,00E+00	6,93E-03	0,00E+00	0,00E+00	0,00E+00	1,71E-02	0,00E+00	2,64E-09	2,32E-06	1,37E-06	0,00E+00	-7,22E-04
EEE	[MJ]	3,72E+00	3,02E-02	6,47E-03	0,00E+00	1,44E+00	0,00E+00	0,00E+00	0,00E+00	5,28E+03	0,00E+00	8,16E-04	2,39E-02	5,61E-02	0,00E+00	0,00E+00

EET	[MJ]	2,80E+00	1,86E-01	2,92E-02	0,00E+00	2,18E+00	0,00E+00	0,00E+00	0,00E+00	2,03E+02	0,00E+00	3,15E-05	1,48E-01	2,00E-02	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy														
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.														

BIOGENIC CARBON CONTENT PER DECLARED UNIT – S2		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0
Biogenic carbon centent in accompanying packagaing	[kg C]	9,18E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

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ENVIRONMENTAL IMPACTS PER DECLARED UNIT – S3																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	4,57E+02	8,87E+00	3,52E+01	0,00E+00	3,16E+02	0,00E+00	0,00E+00	0,00E+00	3,75E+04	0,00E+00	4,22E-03	5,68E+00	1,06E+01	0,00E+00	-2,56E+02
GWP-fossil	[kg CO_2 eq.]	4,88E+02	8,87E+00	1,51E+00	0,00E+00	3,09E+02	0,00E+00	0,00E+00	0,00E+00	3,74E+04	0,00E+00	4,20E-03	5,67E+00	1,06E+01	0,00E+00	-2,55E+02
GWP-biogenic	[kg CO_2 eq.]	-3,37E+01	0,00E+00	3,37E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP-luluc	[kg CO_2 eq.]	3,25E+00	3,40E-03	5,73E-04	0,00E+00	7,32E+00	0,00E+00	0,00E+00	0,00E+00	1,58E+02	0,00E+00	1,78E-05	2,17E-03	2,28E-03	0,00E+00	-6,86E-01
ODP	[kg CFC 11 eq.]	3,11E-06	1,75E-07	2,70E-08	0,00E+00	2,55E-06	0,00E+00	0,00E+00	0,00E+00	7,99E-04	0,00E+00	8,98E-11	1,12E-07	1,05E-07	0,00E+00	-2,18E-06
AP	[mol H^+ eq.]	4,15E+00	1,79E-02	5,79E-03	0,00E+00	4,08E+00	0,00E+00	0,00E+00	0,00E+00	2,24E+02	0,00E+00	2,52E-05	1,15E-02	5,63E-02	0,00E+00	-3,18E+00
EP-freshwater	[kg P eq.]	2,86E-01	7,07E-04	2,46E-04	0,00E+00	3,02E-01	0,00E+00	0,00E+00	0,00E+00	2,74E+01	0,00E+00	3,08E-06	4,52E-04	5,04E-04	0,00E+00	-2,61E-01
EP-marine	[kg N eq.]	4,95E-01	3,94E-03	2,30E-03	0,00E+00	1,16E+00	0,00E+00	0,00E+00	0,00E+00	4,04E+01	0,00E+00	4,54E-06	2,52E-03	2,42E-02	0,00E+00	-3,34E-01
EP-terrestrial	[mol N eq.]	5,54E+00	4,25E-02	2,26E-02	0,00E+00	6,22E+00	0,00E+00	0,00E+00	0,00E+00	4,86E+02	0,00E+00	5,46E-05	2,72E-02	2,63E-01	0,00E+00	-3,87E+00
POCP	[kg NMVOC eq.]	1,81E+00	2,84E-02	8,03E-03	0,00E+00	1,48E+00	0,00E+00	0,00E+00	0,00E+00	1,21E+02	0,00E+00	1,37E-05	1,82E-02	8,03E-02	0,00E+00	-1,25E+00
ADPm[1]	[kg Sb eq.]	4,25E-02	3,94E-05	6,18E-06	0,00E+00	3,21E-02	0,00E+00	0,00E+00	0,00E+00	1,17E+00	0,00E+00	1,32E-07	2,52E-05	2,32E-05	0,00E+00	-2,96E-02
ADPf[1]	[MJ]	5,68E+03	1,23E+02	1,94E+01	0,00E+00	3,35E+03	0,00E+00	0,00E+00	0,00E+00	6,00E+05	0,00E+00	6,75E-02	7,90E+01	8,99E+01	0,00E+00	-2,89E+03
WDP[1]	[m^3 world eq.	1,45E+02	6,98E-01	7,72E-01	0,00E+00	1,03E+03	0,00E+00	0,00E+00	0,00E+00	6,73E+04	0,00E+00	7,57E-03	4,46E-01	5,91E-01	0,00E+00	-1,33E+02

	deprived]															
Caption	GWP-total = Global Warming Potential - total; 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															

ADDITIONAL ENVIRONMENTAL IMPACTS DECLARED UNIT – S3																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	4,79E-05	4,68E-07	9,95E-08	0,00E+00	2,71E-05	0,00E+00	0,00E+00	0,00E+00	1,47E-03	0,00E+00	1,66E-10	2,99E-07	1,45E-06	0,00E+00	-3,27E-05
IRP[2]	[kBq U235 eq.]	3,51E+01	2,32E-01	4,08E-02	0,00E+00	1,62E+01	0,00E+00	0,00E+00	0,00E+00	1,33E+04	0,00E+00	1,50E-03	1,48E-01	1,80E-01	0,00E+00	-1,68E+01
ETP-fw[1]	[CTUe]	1,02E+04	4,07E+01	9,59E+00	0,00E+00	8,11E+03	0,00E+00	0,00E+00	0,00E+00	2,55E+05	0,00E+00	2,87E-02	2,60E+01	2,37E+01	0,00E+00	-8,59E+03
HTP-c[1]	[CTUh]	2,03E-05	6,79E-08	1,57E-08	0,00E+00	9,91E-06	0,00E+00	0,00E+00	0,00E+00	1,74E-04	0,00E+00	1,96E-11	4,34E-08	4,03E-08	0,00E+00	-1,86E-05
HTP-nc[1]	[CTUh]	3,41E-05	7,63E-08	5,06E-08	0,00E+00	2,88E-05	0,00E+00	0,00E+00	0,00E+00	1,25E-03	0,00E+00	1,40E-10	4,88E-08	1,18E-07	0,00E+00	-2,73E-05
SQP[1]	-	5,58E+03	5,17E+01	7,86E+00	0,00E+00	3,16E+03	0,00E+00	0,00E+00	0,00E+00	1,05E+06	0,00E+00	1,18E-01	3,31E+01	1,35E+01	0,00E+00	-2,90E+03
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															
	[2] 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 PER DECLARED UNIT – S3																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	7,21E+02	2,96E+00	-3,41E+02	0,00E+00	4,57E+02	0,00E+00	0,00E+00	0,00E+00	9,26E+05	0,00E+00	1,04E-01	1,89E+00	-2,64E+01	0,00E+00	-8,26E+02
PERM	[MJ]	2,89E+02	0,00E+00	3,42E+02	0,00E+00	1,81E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,90E+01	0,00E+00	0,00E+00
PERT	[MJ]	1,01E+03	2,96E+00	6,31E-01	0,00E+00	6,38E+02	0,00E+00	0,00E+00	0,00E+00	9,26E+05	0,00E+00	1,04E-01	1,89E+00	2,66E+00	0,00E+00	-8,26E+02
PENRE	[MJ]	5,16E+03	1,23E+02	1,94E+01	0,00E+00	3,30E+03	0,00E+00	0,00E+00	0,00E+00	6,00E+05	0,00E+00	6,75E-02	7,90E+01	7,06E+01	0,00E+00	-2,89E+03

PENRM	[MJ]	5,14E+02	0,00E+00	3,42E-06	0,00E+00	5,57E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,93E+01	0,00E+00	0,00E+00
PENRT	[MJ]	5,68E+03	1,23E+02	1,94E+01	0,00E+00	3,36E+03	0,00E+00	0,00E+00	0,00E+00	6,00E+05	0,00E+00	6,75E-02	7,90E+01	9,00E+01	0,00E+00	-2,89E+03
SM	[kg]	2,63E+01	6,75E-02	1,74E-02	0,00E+00	1,98E+01	0,00E+00	0,00E+00	0,00E+00	3,41E+02	0,00E+00	3,83E-05	4,32E-02	3,49E-02	0,00E+00	-3,15E+01
RSF	[MJ]	9,87E+00	7,30E-04	1,30E-04	0,00E+00	5,95E-02	0,00E+00	0,00E+00	0,00E+00	2,31E+00	0,00E+00	2,60E-07	4,67E-04	1,31E-03	0,00E+00	-3,14E-02
NRSF	[MJ]	5,96E-20	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	3,14E+00	1,93E-02	7,13E-03	0,00E+00	2,41E+01	0,00E+00	0,00E+00	0,00E+00	2,20E+03	0,00E+00	2,47E-04	1,24E-02	1,42E-02	0,00E+00	-2,73E+00
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															

WASTE CATEGORIES AND OUTPUT FLOWS PER DECLARED UNIT – S3																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	8,49E+01	1,93E-01	1,70E-01	0,00E+00	7,34E+01	0,00E+00	0,00E+00	0,00E+00	3,66E+03	0,00E+00	4,12E-04	1,23E-01	4,50E+00	0,00E+00	-8,54E+01
NHWD	[kg]	1,76E+03	4,68E+00	2,17E+01	0,00E+00	1,57E+03	0,00E+00	0,00E+00	0,00E+00	1,34E+05	0,00E+00	1,51E-02	2,99E+00	7,48E+00	0,00E+00	-1,49E+03
RWD	[kg]	3,44E-02	1,37E-05	2,44E-06	0,00E+00	1,26E-03	0,00E+00	0,00E+00	0,00E+00	5,69E-01	0,00E+00	6,40E-08	8,78E-06	9,16E-06	0,00E+00	-1,15E-03

CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	3,94E+00	1,14E-03	4,78E-03	0,00E+00	3,47E+00	0,00E+00	0,00E+00	0,00E+00	2,44E+02	0,00E+00	2,74E-05	7,30E-04	1,96E+00	0,00E+00	-1,64E-01
MER	[kg]	7,37E-04	3,28E-06	8,76E-07	0,00E+00	7,06E-03	0,00E+00	0,00E+00	0,00E+00	2,35E-02	0,00E+00	2,64E-09	2,10E-06	1,68E-06	0,00E+00	-8,32E-04
EEE	[MJ]	3,69E+00	3,38E-02	6,47E-03	0,00E+00	1,65E+00	0,00E+00	0,00E+00	0,00E+00	7,25E+03	0,00E+00	8,16E-04	2,16E-02	7,42E-02	0,00E+00	0,00E+00
EET	[MJ]	3,21E+00	2,09E-01	2,92E-02	0,00E+00	2,61E+00	0,00E+00	0,00E+00	0,00E+00	2,80E+02	0,00E+00	3,15E-05	1,34E-01	2,68E-02	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															

BIOGENIC CARBON CONTENT PER DECLARED UNIT – S3		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0
Biogenic carbon centent in accompanying packagaing	[kg C]	9,18E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

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ENVIRONMENTAL IMPACTS PER DECLARED UNIT – S4																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	4,23E+02	8,48E+00	3,52E+01	0,00E+00	2,15E+02	0,00E+00	0,00E+00	0,00E+00	2,05E+04	0,00E+00	4,22E-03	5,36E+00	8,33E+00	0,00E+00	-2,52E+02
GWP-fossil	[kg CO_2 eq.]	4,56E+02	8,47E+00	1,51E+00	0,00E+00	2,08E+02	0,00E+00	0,00E+00	0,00E+00	2,04E+04	0,00E+00	4,20E-03	5,36E+00	8,33E+00	0,00E+00	-2,52E+02
GWP-biogenic	[kg CO_2 eq.]	-3,37E+01	0,00E+00	3,37E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP-luluc	[kg CO_2 eq.]	3,47E-01	3,25E-03	5,73E-04	0,00E+00	7,17E+00	0,00E+00	0,00E+00	0,00E+00	8,64E+01	0,00E+00	1,78E-05	2,05E-03	1,48E-03	0,00E+00	-5,26E-01
ODP	[kg CFC 11 eq.]	2,63E-06	1,67E-07	2,70E-08	0,00E+00	1,80E-06	0,00E+00	0,00E+00	0,00E+00	4,36E-04	0,00E+00	8,98E-11	1,06E-07	9,52E-08	0,00E+00	-2,08E-06
AP	[mol H^+ eq.]	2,86E+00	1,71E-02	5,78E-03	0,00E+00	2,59E+00	0,00E+00	0,00E+00	0,00E+00	1,22E+02	0,00E+00	2,52E-05	1,08E-02	5,31E-02	0,00E+00	-2,22E+00
EP-freshwater	[kg P eq.]	1,80E-01	6,76E-04	2,46E-04	0,00E+00	1,91E-01	0,00E+00	0,00E+00	0,00E+00	1,50E+01	0,00E+00	3,08E-06	4,27E-04	3,50E-04	0,00E+00	-1,89E-01
EP-marine	[kg N eq.]	4,08E-01	3,76E-03	2,30E-03	0,00E+00	1,02E+00	0,00E+00	0,00E+00	0,00E+00	2,20E+01	0,00E+00	4,54E-06	2,38E-03	2,36E-02	0,00E+00	-2,93E-01
EP-terrestrial	[mol N eq.]	4,48E+00	4,06E-02	2,26E-02	0,00E+00	4,62E+00	0,00E+00	0,00E+00	0,00E+00	2,65E+02	0,00E+00	5,46E-05	2,56E-02	2,57E-01	0,00E+00	-3,27E+00
POCP	[kg NMVOC eq.]	1,47E+00	2,72E-02	8,03E-03	0,00E+00	9,69E-01	0,00E+00	0,00E+00	0,00E+00	6,62E+01	0,00E+00	1,37E-05	1,72E-02	7,77E-02	0,00E+00	-1,09E+00
ADPm[1]	[kg Sb eq.]	3,22E-02	3,77E-05	6,18E-06	0,00E+00	1,80E-02	0,00E+00	0,00E+00	0,00E+00	6,41E-01	0,00E+00	1,32E-07	2,38E-05	1,38E-05	0,00E+00	-1,71E-02
ADPf[1]	[MJ]	5,42E+03	1,18E+02	1,94E+01	0,00E+00	2,27E+03	0,00E+00	0,00E+00	0,00E+00	3,27E+05	0,00E+00	6,75E-02	7,45E+01	8,17E+01	0,00E+00	-2,83E+03
WDP[1]	[m^3 world eq. deprived]	1,12E+02	6,67E-01	7,72E-01	0,00E+00	9,91E+02	0,00E+00	0,00E+00	0,00E+00	3,67E+04	0,00E+00	7,57E-03	4,21E-01	4,06E-01	0,00E+00	-1,25E+02
Caption	GWP-total = Global Warming Potential - total; 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															

ADDITIONAL ENVIRONMENTAL IMPACTS DECLARED UNIT – S4																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	4,65E-05	4,47E-07	9,95E-08	0,00E+00	1,75E-05	0,00E+00	0,00E+00	0,00E+00	8,03E-04	0,00E+00	1,66E-10	2,83E-07	1,43E-06	0,00E+00	-3,09E-05
IRP[2]	[kBq U235 eq.]	3,75E+01	2,21E-01	4,08E-02	0,00E+00	1,21E+01	0,00E+00	0,00E+00	0,00E+00	7,27E+03	0,00E+00	1,50E-03	1,40E-01	1,14E-01	0,00E+00	-1,54E+01
ETP-fw[1]	[CTUe]	8,74E+03	3,89E+01	9,59E+00	0,00E+00	5,50E+03	0,00E+00	0,00E+00	0,00E+00	1,39E+05	0,00E+00	2,87E-02	2,46E+01	1,77E+01	0,00E+00	-8,02E+03
HTP-c[1]	[CTUh]	1,92E-05	6,49E-08	1,57E-08	0,00E+00	5,96E-06	0,00E+00	0,00E+00	0,00E+00	9,49E-05	0,00E+00	1,96E-11	4,10E-08	3,19E-08	0,00E+00	-2,01E-05
HTP-nc[1]	[CTUh]	2,38E-05	7,29E-08	5,06E-08	0,00E+00	1,66E-05	0,00E+00	0,00E+00	0,00E+00	6,81E-04	0,00E+00	1,40E-10	4,60E-08	6,99E-08	0,00E+00	-1,74E-05
SQP[1]	-	5,51E+03	4,94E+01	7,86E+00	0,00E+00	2,59E+03	0,00E+00	0,00E+00	0,00E+00	5,71E+05	0,00E+00	1,18E-01	3,12E+01	9,69E+00	0,00E+00	-2,57E+03
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															
	[2] 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 PER DECLARED UNIT – S4																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	6,49E+02	2,82E+00	-3,41E+02	0,00E+00	3,51E+02	0,00E+00	0,00E+00	0,00E+00	5,05E+05	0,00E+00	1,04E-01	1,78E+00	-1,44E+01	0,00E+00	-7,34E+02
PERM	[MJ]	2,89E+02	0,00E+00	3,42E+02	0,00E+00	1,63E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,61E+01	0,00E+00	0,00E+00
PERT	[MJ]	9,37E+02	2,82E+00	6,31E-01	0,00E+00	5,14E+02	0,00E+00	0,00E+00	0,00E+00	5,05E+05	0,00E+00	1,04E-01	1,78E+00	1,67E+00	0,00E+00	-7,34E+02
PENRE	[MJ]	4,89E+03	1,18E+02	1,94E+01	0,00E+00	2,23E+03	0,00E+00	0,00E+00	0,00E+00	3,28E+05	0,00E+00	6,75E-02	7,45E+01	7,08E+01	0,00E+00	-2,83E+03
PENRM	[MJ]	5,24E+02	0,00E+00	3,42E-06	0,00E+00	4,36E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,08E+01	0,00E+00	0,00E+00
PENRT	[MJ]	5,42E+03	1,18E+02	1,94E+01	0,00E+00	2,28E+03	0,00E+00	0,00E+00	0,00E+00	3,28E+05	0,00E+00	6,75E-02	7,45E+01	8,17E+01	0,00E+00	-2,83E+03
SM	[kg]	2,08E+01	6,45E-02	1,74E-02	0,00E+00	1,17E+01	0,00E+00	0,00E+00	0,00E+00	1,86E+02	0,00E+00	3,83E-05	4,08E-02	3,26E-02	0,00E+00	-3,38E+01
RSF	[MJ]	9,87E+00	6,97E-04	1,30E-04	0,00E+00	5,09E-02	0,00E+00	0,00E+00	0,00E+00	1,26E+00	0,00E+00	2,60E-07	4,41E-04	7,60E-04	0,00E+00	-2,93E-02
NRSF	[MJ]	3,90E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	2,24E+00	1,85E-02	7,13E-03	0,00E+00	2,31E+01	0,00E+00	0,00E+00	0,00E+00	1,20E+03	0,00E+00	2,47E-04	1,17E-02	9,98E-03	0,00E+00	-2,34E+00
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water															

	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.

WASTE CATEGORIES AND OUTPUT FLOWS PER DECLARED UNIT – S4																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	6,19E+01	1,84E-01	1,70E-01	0,00E+00	4,47E+01	0,00E+00	0,00E+00	0,00E+00	2,00E+03	0,00E+00	4,12E-04	1,16E-01	2,53E+00	0,00E+00	-8,51E+01
NHWD	[kg]	1,30E+03	4,47E+00	2,17E+01	0,00E+00	1,06E+03	0,00E+00	0,00E+00	0,00E+00	7,30E+04	0,00E+00	1,51E-02	2,83E+00	4,64E+00	0,00E+00	-1,26E+03
RWD	[kg]	4,53E-02	1,31E-05	2,44E-06	0,00E+00	9,25E-04	0,00E+00	0,00E+00	0,00E+00	3,10E-01	0,00E+00	6,40E-08	8,29E-06	6,09E-06	0,00E+00	-1,03E-03
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	4,36E+00	1,09E-03	4,78E-03	0,00E+00	3,63E+00	0,00E+00	0,00E+00	0,00E+00	1,33E+02	0,00E+00	2,74E-05	6,90E-04	1,09E+00	0,00E+00	-1,33E-01
MER	[kg]	5,43E-04	3,14E-06	8,76E-07	0,00E+00	6,84E-03	0,00E+00	0,00E+00	0,00E+00	1,28E-02	0,00E+00	2,64E-09	1,98E-06	1,37E-06	0,00E+00	-8,19E-04
EEE	[MJ]	3,91E+00	3,23E-02	6,47E-03	0,00E+00	1,32E+00	0,00E+00	0,00E+00	0,00E+00	3,96E+03	0,00E+00	8,16E-04	2,04E-02	4,26E-02	0,00E+00	0,00E+00
EET	[MJ]	2,68E+00	2,00E-01	2,92E-02	0,00E+00	1,81E+00	0,00E+00	0,00E+00	0,00E+00	1,53E+02	0,00E+00	3,15E-05	1,26E-01	1,56E-02	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy															
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BIOGENIC CARBON CONTENT PER DECLARED UNIT – S4		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0
Biogenic carbon centent in accompanying packagaing	[kg C]	9,18E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

FAN 35-708

ENVIRONMENTAL IMPACTS PER DECLARED UNIT – S5																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	5,47E+02	1,03E+01	3,52E+01	0,00E+00	3,35E+02	0,00E+00	0,00E+00	0,00E+00	5,12E+04	0,00E+00	4,22E-03	6,72E+00	1,22E+01	0,00E+00	-3,11E+02
GWP-fossil	[kg CO_2 eq.]	5,80E+02	1,02E+01	1,52E+00	0,00E+00	3,27E+02	0,00E+00	0,00E+00	0,00E+00	5,09E+04	0,00E+00	4,20E-03	6,72E+00	1,22E+01	0,00E+00	-3,10E+02
GWP-biogenic	[kg CO_2 eq.]	-3,37E+01	0,00E+00	3,37E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP-luluc	[kg CO_2 eq.]	5,35E-01	3,93E-03	5,86E-04	0,00E+00	7,36E+00	0,00E+00	0,00E+00	0,00E+00	2,16E+02	0,00E+00	1,78E-05	2,58E-03	2,55E-03	0,00E+00	-7,63E-01
ODP	[kg CFC 11 eq.]	3,54E-06	2,02E-07	2,71E-08	0,00E+00	2,62E-06	0,00E+00	0,00E+00	0,00E+00	1,09E-03	0,00E+00	8,98E-11	1,33E-07	1,23E-07	0,00E+00	-2,54E-06
AP	[mol H^+ eq.]	4,68E+00	2,07E-02	5,87E-03	0,00E+00	4,41E+00	0,00E+00	0,00E+00	0,00E+00	3,06E+02	0,00E+00	2,52E-05	1,36E-02	6,67E-02	0,00E+00	-3,62E+00
EP-freshwater	[kg P eq.]	3,17E-01	8,17E-04	2,49E-04	0,00E+00	3,28E-01	0,00E+00	0,00E+00	0,00E+00	3,74E+01	0,00E+00	3,08E-06	5,36E-04	5,69E-04	0,00E+00	-2,99E-01
EP-marine	[kg N eq.]	5,72E-01	4,55E-03	2,32E-03	0,00E+00	1,19E+00	0,00E+00	0,00E+00	0,00E+00	5,50E+01	0,00E+00	4,54E-06	2,98E-03	2,88E-02	0,00E+00	-3,94E-01
EP-terrestrial	[mol N eq.]	6,42E+00	4,91E-02	2,28E-02	0,00E+00	6,58E+00	0,00E+00	0,00E+00	0,00E+00	6,62E+02	0,00E+00	5,46E-05	3,22E-02	3,14E-01	0,00E+00	-4,53E+00
POCP	[kg NMVOC eq.]	2,08E+00	3,28E-02	8,08E-03	0,00E+00	1,58E+00	0,00E+00	0,00E+00	0,00E+00	1,65E+02	0,00E+00	1,37E-05	2,15E-02	9,55E-02	0,00E+00	-1,47E+00
ADPm[1]	[kg Sb eq.]	4,93E-02	4,56E-05	6,68E-06	0,00E+00	3,52E-02	0,00E+00	0,00E+00	0,00E+00	1,60E+00	0,00E+00	1,32E-07	2,99E-05	2,57E-05	0,00E+00	-3,27E-02
ADPf[1]	[MJ]	6,76E+03	1,43E+02	1,96E+01	0,00E+00	3,53E+03	0,00E+00	0,00E+00	0,00E+00	8,19E+05	0,00E+00	6,75E-02	9,36E+01	1,06E+02	0,00E+00	-3,48E+03
WDP[1]	[m^3 world eq. deprived]	1,64E+02	8,06E-01	7,75E-01	0,00E+00	1,04E+03	0,00E+00	0,00E+00	0,00E+00	9,18E+04	0,00E+00	7,57E-03	5,29E-01	6,66E-01	0,00E+00	-1,59E+02
Caption	GWP-total = Global Warming Potential - total; 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential															
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Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															

ADDITIONAL ENVIRONMENTAL IMPACTS DECLARED UNIT – S5																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	5,78E-05	5,41E-07	1,01E-07	0,00E+00	2,90E-05	0,00E+00	0,00E+00	0,00E+00	2,01E-03	0,00E+00	1,66E-10	3,55E-07	1,73E-06	0,00E+00	-3,83E-05
IRP[2]	[kBq U235 eq.]	4,30E+01	2,68E-01	4,19E-02	0,00E+00	1,74E+01	0,00E+00	0,00E+00	0,00E+00	1,82E+04	0,00E+00	1,50E-03	1,76E-01	2,01E-01	0,00E+00	-1,96E+01
ETP-fw[1]	[CTUe]	1,19E+04	4,70E+01	9,50E+00	0,00E+00	8,70E+03	0,00E+00	0,00E+00	0,00E+00	3,47E+05	0,00E+00	2,87E-02	3,08E+01	2,70E+01	0,00E+00	-1,04E+04
HTP-c[1]	[CTUh]	2,41E-05	7,84E-08	1,53E-08	0,00E+00	1,08E-05	0,00E+00	0,00E+00	0,00E+00	2,37E-04	0,00E+00	1,96E-11	5,15E-08	4,65E-08	0,00E+00	-2,34E-05

HTP-nc[1]	[CTUh]	3,86E-05	8,81E-08	5,09E-08	0,00E+00	3,15E-05	0,00E+00	0,00E+00	0,00E+00	1,70E-03	0,00E+00	1,40E-10	5,78E-08	1,31E-07	0,00E+00	-3,06E-05
SQP[1]	-	6,20E+03	5,97E+01	7,95E+00	0,00E+00	3,26E+03	0,00E+00	0,00E+00	0,00E+00	1,43E+06	0,00E+00	1,18E-01	3,92E+01	1,53E+01	0,00E+00	-3,23E+03
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)															
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Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.															
	[2] 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 PER DECLARED UNIT – S5																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	8,08E+02	3,41E+00	-3,41E+02	0,00E+00	4,84E+02	0,00E+00	0,00E+00	0,00E+00	1,26E+06	0,00E+00	1,04E-01	2,24E+00	-2,89E+01	0,00E+00	-9,22E+02
PERM	[MJ]	2,89E+02	0,00E+00	3,42E+02	0,00E+00	1,85E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,19E+01	0,00E+00	0,00E+00
PERT	[MJ]	1,10E+03	3,41E+00	6,81E-01	0,00E+00	6,70E+02	0,00E+00	0,00E+00	0,00E+00	1,26E+06	0,00E+00	1,04E-01	2,24E+00	2,96E+00	0,00E+00	-9,22E+02
PENRE	[MJ]	6,14E+03	1,43E+02	1,96E+01	0,00E+00	3,48E+03	0,00E+00	0,00E+00	0,00E+00	8,19E+05	0,00E+00	6,75E-02	9,36E+01	8,47E+01	0,00E+00	-3,48E+03
PENRM	[MJ]	6,22E+02	0,00E+00	3,42E-06	0,00E+00	5,84E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,12E+01	0,00E+00	0,00E+00
PENRT	[MJ]	6,76E+03	1,43E+02	1,96E+01	0,00E+00	3,54E+03	0,00E+00	0,00E+00	0,00E+00	8,19E+05	0,00E+00	6,75E-02	9,36E+01	1,06E+02	0,00E+00	-3,48E+03
SM	[kg]	2,95E+01	7,80E-02	1,83E-02	0,00E+00	2,17E+01	0,00E+00	0,00E+00	0,00E+00	4,65E+02	0,00E+00	3,83E-05	5,12E-02	4,13E-02	0,00E+00	-3,96E+01
RSF	[MJ]	9,92E+00	8,43E-04	1,36E-04	0,00E+00	6,25E-02	0,00E+00	0,00E+00	0,00E+00	3,15E+00	0,00E+00	2,60E-07	5,53E-04	1,44E-03	0,00E+00	-3,75E-02
NRSF	[MJ]	3,90E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	3,46E+00	2,23E-02	7,29E-03	0,00E+00	2,43E+01	0,00E+00	0,00E+00	0,00E+00	2,99E+03	0,00E+00	2,47E-04	1,47E-02	1,61E-02	0,00E+00	-3,17E+00
Caption	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water															
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WASTE CATEGORIES AND OUTPUT FLOWS PER DECLARED UNIT – S5																
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	9,52E+01	2,23E-01	1,89E-01	0,00E+00	8,02E+01	0,00E+00	0,00E+00	0,00E+00	5,00E+03	0,00E+00	4,12E-04	1,46E-01	4,95E+00	0,00E+00	-1,05E+02

NHWD	[kg]	1,97E+03	5,41E+00	2,17E+01	0,00E+00	1,71E+03	0,00E+00	0,00E+00	0,00E+00	1,83E+05	0,00E+00	1,51E-02	3,55E+00	8,33E+00	0,00E+00	-1,77E+03
RWD	[kg]	4,57E-02	1,59E-05	2,53E-06	0,00E+00	1,36E-03	0,00E+00	0,00E+00	0,00E+00	7,75E-01	0,00E+00	6,40E-08	1,04E-05	1,03E-05	0,00E+00	-1,35E-03

CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	4,54E+00	1,32E-03	4,79E-03	0,00E+00	3,84E+00	0,00E+00	0,00E+00	0,00E+00	3,32E+02	0,00E+00	2,74E-05	8,65E-04	2,16E+00	0,00E+00	-1,84E-01
MER	[kg]	8,24E-04	3,79E-06	1,17E-06	0,00E+00	7,11E-03	0,00E+00	0,00E+00	0,00E+00	3,20E-02	0,00E+00	2,64E-09	2,49E-06	1,94E-06	0,00E+00	-1,02E-03
EEE	[MJ]	4,13E+00	3,91E-02	6,53E-03	0,00E+00	1,78E+00	0,00E+00	0,00E+00	0,00E+00	9,89E+03	0,00E+00	8,16E-04	2,56E-02	8,19E-02	0,00E+00	0,00E+00
EET	[MJ]	3,62E+00	2,42E-01	2,96E-02	0,00E+00	2,70E+00	0,00E+00	0,00E+00	0,00E+00	3,81E+02	0,00E+00	3,15E-05	1,58E-01	2,96E-02	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy															
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^{2}$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.															

BIOGENIC CARBON CONTENT PER DECLARED UNIT – S5		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0
Biogenic carbon centent in accompanying packagaing	[kg C]	9,18E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Additional information

LCA interpretation

The results of the EPD refers to the functional unit of 1 piece of unit. The calculated environmental impacts show that module B6 is the largest contributor to all environmental impact categories. In particular, the electricity consumption during operational use is the process with the highest contribution, as this EPD focuses on the entire service life of the product, which is 20 years, meaning the electricity consumption in module B6 encompasses 20 years of daily use.

Technical information on scenarios

Transport to the building site (A4)

Scenario information	Value	Unit	tkm per scenario				
			S1	S2	S3	S4	S5
Fuel type	Diesel EURO6	-	8,55	13,87	15,55	14,86	17,97
Vehicle type	Truck	-					
Transport distance	129,77	km					

Installation of the product in the building (A5)

Scenario information	Value	Unit
Ancillary materials	Screws: 0,02	kg
Water use	0	m^3
Other resource use	0	kg
Energy type and consumption	Screwdriver: 0,03	kWh
Waste materials	20,7 kg per scenario	kg
Output materials	Wood: 20 Plastic: 0,5 Paper: 0,2	kg
Direct emissions to air, soil or water	unknown	kg
Transport of ancillary materials	50	km
Transport of packaging to waste processing	100	km

Reference service life

RSL information		Unit
Reference service Life	20	Years

Use (B1-B4)

B2 - Maintenance						
Maintenance process	S1	S2	S3	S4	S5	Unit
Maintenance cycle	1					/year
Ancillary materials for maintenance	Fan wheel: 10,5 kg Motor: 9,5 kg	Fan wheel: 12,8 kg Motor: 33,9 kg	Fan wheel: 12,8 kg Motor: 45 kg	Fan wheel: 14,28 kg Motor: 25 kg	Fan wheel: 14,28 kg Motor: 49,5 kg	per cycle
	Water: 2L Detergent 0,02L Cotton cloth: 200g					
Waste materials resulting from maintenance	Waste fan wheel: 10,5 kg Waste motor Motor: 9,5 kg	Waste fan wheel: 12,8 kg Waste motor: 33,9 kg	Waste fan wheel: 12,8 kg Waste motor: 45 kg	Waste fan wheel: 14,28 kg Waste motor: 25 kg	Waste fan wheel: 14,28 kg Waste motor: 49,5 kg	per cycle
	Wastewater: 2,002 L Cotton cloth: 200g					

Net freshwater consumption during maintenance	0,002	m^3 / cycle
Energy input during maintenance	0	kWh

Replacement of worn parts (B2)

B2 – Replacement of worn parts							**Ecoinvent process**
Fan wheel	**Amount**						
Replacement cycle	2			/20 year			Assumption based on technical manual provided by Geovent
Energy input during replacement	0			kWh			Manual work
Exchange of worn parts during products life cycle	S1	S2	S3	S4	S5	kg	treatment of waste reinforcement steel, recycling (CH) Transforming activity
	10,5	12,8	12,8	14,3	14,3		
Transportation of replacement part to consumer	271	271	271	271	271	km	The average distance from the supplier to the consumer (provided by Geovent), transport, freight, lorry 3.5-7.5 metric ton, EURO6. RER
Transport of waste part to recycling facility	100	100	100	100	100	100	transport, freight, lorry 3.5-7.5 metric ton, EURO6. RER
Motor	**Amount**						**Ecoinvent process**
Replacement cycle	2			/20 year			Assumption based on technical manual provided by Geovent
Energy input during replacement	0			kWh			Manual work
Exchange of worn parts during products life cycle	S1	S2	S3	S4	S5	kg	treatment of waste reinforcement steel, recycling (CH) Transforming activity
	9,5	33,9	12,8	14,3	14,3		
Transportation of replacement part to consumer	251	251	251	251	251	km	The real distance from the supplier to Geovent transport, freight, lorry 3.5-7.5 metric ton, EURO6. RER
Transport of used part to recycling facility	100	100	100	100	100	100	transport, freight, lorry 3.5-7.5 metric ton, EURO6. RER

Use of energy and water (B6-B7)

Use of energy and water	**S1**	**S2**	**S3**	**S4**	**S5**	**Unit**	**Ecoinvent**
Ancillary materials specified by material	0	0	0	0	0	kg	-
Net freshwater consumption	0	0	0	0	0	m^3	-
Type of energy carrier; electricity	24	33	45	18	4,5	kWh	market for electricity, low voltage (DK) Market
Power output of equipment	4	5,5	7,5	3	0,75	kW	-

End of life (C1-C4)

Scenario information	**Value**					**Unit**
	S1	**S2**	**S3**	**S4**	**S5**	
Collected separately	45,15	86,25	99,47	93,90	117,85	kg
Collected with mixed waste	0	0	0	0	0	kg
For reuse	0	0	0	0	0	kg
For recycling	44,18	82,85	94,95	91,38	112,88	kg
For energy recovery	0,97	3,40	4,52	2,51	4,96	kg
For final disposal (landfill)	0	0	0	0	0	kg

Re-use, recovery and recycling potential (D)

Scenario information /Material	Treatment	Recycling/ burning efficiency	S1	S2	S3	S4	S5	Unit
Credit for metals recycling								
Aluminium	Recycling	Aluminium recycling rate: 76%	-0,36	-1,29	-1,71	-0,95	-1,88	kg
Steel	Recycling	Steel recyclability rate: 100% Recycling input discount; 20%	-41,48	-71,27	-79,50	-87,22	-100,50	kg
Copper	Recycling	Recycling rate: 71%	-1,02	-3,61	-4,79	-2,66	-5,28	kg
Credit for heat and electricity production								
Cardboard	Incineration	LHV: 30 MJ/kg	0	0	0	0	0	kg
Textile	Incineration	LHV: 33 MJ/kg	-4	-4	-4	-4	-4	kg
Wood	Incineration	LHV: 16 MJ/kg	-20,2	-20,2	-20,2	-20,2	-20,2	kg
Plastic	Incineration	LHV: 30 MJ/kg	-3,64	-6,00	-6,56	-6,69	-7,88	kg
Rubber	Incineration	LHV: 20 MJ/kg	-0,01	-0,01	-0,01	0	-0,01	kg
Other	Incineration	LHV: 20 MJ/kg	-0,66	-2,37	-3,15	-1,75	-3,46	kg

Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.1.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.2.

References

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