Environmental Product Declaration

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

Falu Rödfärg Original Röd
Falu Rödfärg Original Ljusröd
Falu Rödfärg Original Ljusröd (utan linolja)
Falu Rödfärg Original Svart
Falu Rödfärg Original Grå
Falu Rödfärg Original Sprutfärg Röd
Falu Rödfärg Original Sprutfärg Ljusröd
Falu Rödfärg Original Sprutfärg Svart

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-13887
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

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

General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *PCR 2019:14, v1.3.3. Construction products (EN 15804:A2).*
PCR review was conducted by: *The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.*
Life Cycle Assessment (LCA)
LCA accountability: *Product Sustainability, Stora Enso – Division Wood Products*
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: *Rui Wang, IVL Swedish Environmental Research Institute* Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☒ Yes ☐ No

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

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

Company information

Owner of the EPD: Stora Enso
Contact: Product Sustainability – Division Wood Products
Description of the organisation: Stora Kopparbergs Bergslags AB is an affiliated company to Stora Enso. Stora Kopparbergs Bergslags AB is better known as FALU RÖDFÄRG (Falun Red paint) because of the long history of producing the FALU RÖDFÄRG which is the trademark of the paint.
The paint production began the year 1764 with own pigment production from residuals from the copper mine in Falun.

Part of the global bioeconomy, Stora Enso is a leading provider of renewable products in packaging, biomaterials, wooden construction and paper. The Wood Products division is the largest sawn wood producer in Europe and a leading provider of renewable wood-based solutions for the construction industry. Our growing Building Solutions business offers building concepts to support low-carbon construction and sustainable designs. We develop digital tools to simplify the designing of building projects with wood.

Product-related or management system-related certifications:
ISO 9001:2015 Quality Management System
ISO 14001:2015 Environmental Management System

Name and location of production site:
Falu Rödfärg, Falun, Sweden

This EPD covers 100% of the Falu Rödfärg Original production (volume). Life Cycle Impact Assessment results are weighted averages of the production volumes of the reference year 2023 of data.

Product information

Product names:
- Falu Rödfärg Original Röd
- Falu Rödfärg Original Ljusröd
- Falu Rödfärg Original Ljusröd (utan linolja)
- Falu Rödfärg Original Svart
- Falu Rödfärg Original Grå
- Falu Rödfärg Original Sprutfärg Röd
- Falu Rödfärg Original Sprutfärg Ljusröd
- Falu Rödfärg Original Sprutfärg Svart

Product identification: Product names

Product description: The production of the traditional Swedish Falu Rödfärg Original paint involves the use of pigment extracted from the weathered waste rocks of the historical mining operation, binders of renewable origin and additives. The pigment is mixed in water with the binders and cooked to form a stable paint. Small quantities of additives are used to adjust the paint properties and to provide adequate self-life. Once the paint is produced, it is packaged and distributed to retailers for sale to consumers.

The paint is known for its natural, protective properties, perfect for untreated, unplaned spruce and for repainting surfaces previously treated with Falu Rödfärg Original. The product is applied with brush or spray and it forms a layer which moves with the wood's natural movements. The paint allows the wood to breathe, reducing the risk of rot in variable weather conditions. It is suitable for all types of houses, from public buildings and residential houses to summer cottages and boatsheds. This water-based paint with raw materials from nature has been used since the 18th century and has been proven an acknowledged outdoor paint for wooden surfaces.




LCA information

Declared unit: 1 kg of Falu Rödfärg Original.

Reference service life: The durability of an outdoor paint for wooden surfaces is dependent on the structure of the treated surface, layer thickness and exposure to weather conditions. For Falu Rödfärg Original repainting is recommended every 6-15 years.

Time representativeness: Data for the study was collected from the production site and represents year 2023. This data includes raw material supply, transport operations, fuels, energy consumption, packaging, produced Falu Rödfärg Original and waste.

Database used: ecoinvent 3.8 (November 2021)
LCA software used: SimaPro 9.4.0.2

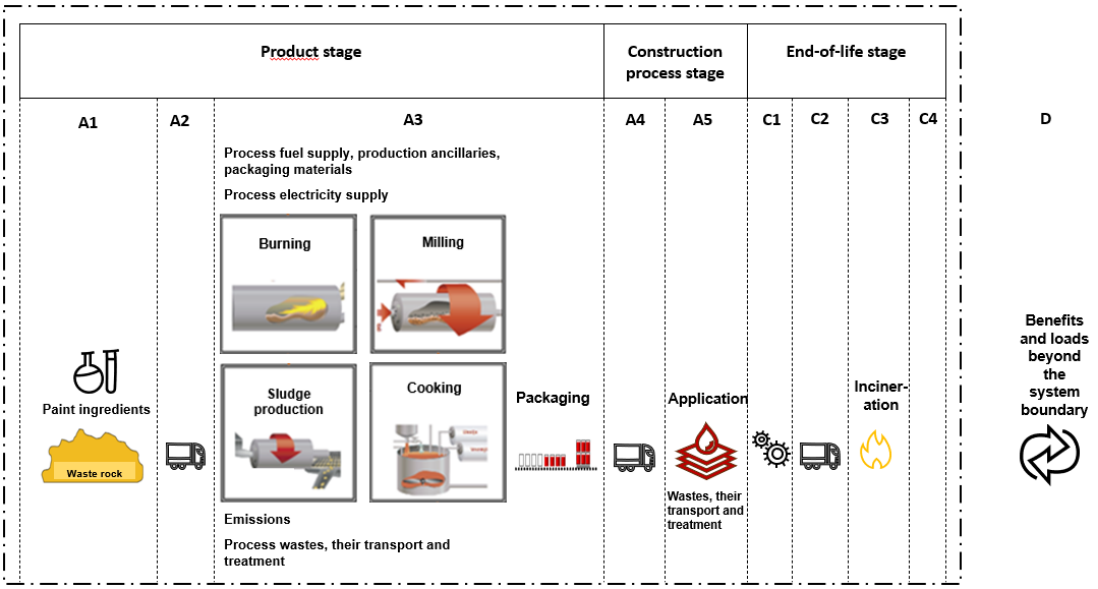
Description of system boundaries:
Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules).

Target group: Business to business and business to consumers.

Allocation: No allocation is applied.

Cut-Off Rule: No inputs or outputs have been cut-off. In insufficient data cases for such material flows known to have the potential to cause significant emissions into air, water or soil related to the environmental indicators, conservative “worst case” assumptions have been used when filling the data gaps. Infrastructure has been excluded from upstream, core and downstream processes.

System diagram:



Product stage:
A1: This stage covers the extraction and processing of raw materials, such as acquisition of the water and production of the components to the paint recipe. The pigment raw material for the paint is waste rock pebbles from the historical mining activity and collected to the paint process from the immediate vicinity of the Falu Rödfärg production site. Primary energy and biogenic carbon bound to input raw materials enter the system.

A2: This stage covers the transportation of the raw materials to the mill, including the collection of the waste rock pebbles, and the fuels needed for on-site transportation.

A3: This stage covers the production of Falu Rödfärg Original. Generation of electricity and heat from primary energy resources are counted. The Stora Enso contracted electricity used in the manufacturing process is of nuclear origin, with climate impact GWP-GHG: 0,00548 kgCO_2 eq./kWh. Also packaging materials and the treatment of waste not leaving the factory with the product are counted in this module. The primary energy and the biogenic carbon in the packaging materials enter the system in this stage.

More information on the manufacturing process of Falu Rödfärg Original can be accessed in The Unique Pigment - Falu Rödfärg (falurodfarg.com)

Construction process stage:

A4: This stage shows additional information as average figures from the product transport to the retailer. According to the statistics of the transport service operator the average long distance delivery was 375 km by road in year 2023. Transport specific greenhouse gas emission data, provided by the transport service operator according to EN 16258 and HBEFA 3.2, has been used for greenhouse gas emissions for the packed product transport, otherwise the data used is generic for EURO 6 truck of capacity 16-32 metric tons. A small volume of short distance deliveries to the closest retailers is not included. Assumed 20 km road transport from the retailers to the application site is included.

A5: The application step of paint process includes packaging waste which relates to the delivered product. The packaging waste consists of pails and drums and their steel parts, cardboard sheets and shrinking wrap. The transport pallets are circulated to re-use and no pallet waste is considered. 1% of paint is assumed to be wasted in the application step. The primary energy and the biogenic carbon in the waste paint and the packaging materials exit the system. Paint application tools or other accessories are not included.

Use stage:

B1–B7: There are no environmental impacts expected or declared in the use phase.

End-of-life scenarios:

Falu Rödfärg Original is intended for the treatment of exterior wooden surfaces, and its end-of-life destiny is the same as of the wooden substrate's. Wood has an average content in European Construction and Demolition waste of around 2,3 %. Cascading usage of wood should be applied and therefore re-use and recycling should be preferred over incineration. If this principle can't be followed incineration in general is a treatment with the highest net savings. Incineration is considered as the main scenario in this EPD[1].

C1: Worn-off layer of paint that has lost most of its volume in its end of life is considered a negligible burden in the dismantling and demolition of wooden exterior and no energy is counted for its treatment in C1.

C2: Default transport distance 50 km to waste facility is applied. Of the dry paint layer 75% is assumed to have worn off during the lifetime of the paint.

C3: The painted wooden exterior material is assumed to be incinerated in the end-of-life. The biogenic carbon and the primary energy in the paint are balanced out in C3. No energy recovery is counted from the paint.

C4: Landfilling of paint is not assumed in this EPD.

D: No benefits or loads beyond the system boundary are assumed or declared for the paint.

Disclaimer: *Use of the results of modules A1-A3 without considering the results of module C is discouraged.*

Please note: *The end-of-life options are scenario based and the choice of the most appropriate one can vary from situation, country and their legislation, energy and raw material availability. The options should indicate the potential environmental impact.*

Please note: *Module D declares potential benefits and loads of secondary material, secondary fuel or recovered energy leaving the product system. The information given in Module D lies beyond the system boundary.*

[1] Damgaard, Anders, et al. "Background data collection and life cycle assessment for construction and demolition waste (CDW) management." (2022).

Modules declared and geographical scope:

	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 and water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-Landfill-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1 -B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	ND	X	X	X	X	X
Geography	EU	EU	SE	SE	SE	-	SE	SE	SE	SE	SE

GWP-GHG (A1-A3): specific data used: 29,0%, variation - products: +15%/-30%, variation - sites: NA.

Please note: *For characterisation factors, EN 15804 reference package based on EF 3.1 has been used.*

Technical information

Falu Rödfärg Original	
Type	Water based, matt opaque, breathing paint for exterior use
Dry content	30% by weight
Density	1,16-1,19 kg/litre
Coverage	3 m^2/litre
Repaint	Every 6-15 years, depending on exposure to weather conditions

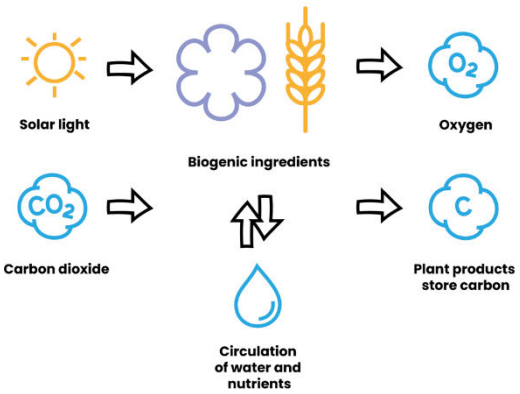
Content information

Product components	Average weight and range, kg	Post-consumer recycled material, weight-% of product	Biogenic material, weight-% of product	Biogenic carbon, kg C / 1 kg paint
Water	0,70 (0,69-0,78)	0	0	0
Pigments	0,16 (0,15-0,17)	0	0	0
Binders, renewable	0,12 (0,10-0,13)	0	12	0,083
Wood protection	0,0011 (0,0011-0,0012)	0	0	0
Additives	0,013 (0,0089-0,022)	0	0	0
Sum	**1,0**	**0**	**12**	**0,083**

Packaging materials	Average weight, kg	Weight-% (versus the product)	Post-consumer recycled material, weight-% of product
Polypropylene	0,028	2,8	0
Polyethylene	0,0015	0,15	0
Recycled plastic	0,0075	0,75	0,75
Steel	0,0031	0,31	0
Cardboard	0,00064	0,064	0
Sum	**0,041**	**4,1**	**0,75**

Please note: *1 kg biogenic carbon is equivalent to 44/12 kg of CO_2.*
The product does not contain any substances included in the Candidate List of Substances of Very High Concern (SVHC) in amounts greater than 0,1%.

<u>Carbon sequestration and storage:</u>
The sequestration of carbon dioxide (CO_2) is unique to renewable materials. Biogenic carbon content of a renewable material is an outcome of the CO_2 that has effectively been removed from the atmosphere by photosynthesis of growing trees and other plants and turned into sugars (carbon) and oxygen. The quantity of atmospheric CO_2 has thus been reduced. The longer the CO_2 is not in the atmosphere but stays stored in a material, the greater the environmental benefit.



Biogenic carbon content in the binders of plant origin is calculated based on their molecular composition and guidance of the EN 16449 standard. Each kg of stored biogenic carbon C is equal to ~3,67 kg of CO_2, which is removed from the atmosphere. Biogenic carbon enters the product system in the renewable raw material supply (module A1) and for calculation purpose it is assumed to leave from the product system latest in the end-of-life stage (module C).

Environmental Information

The tables below present the environmental indicator results of 1 kg Falu Rödfärg Original paint along its life cycle. Incineration as the most representative end-of-life scenario in Europe is applied. No benefits are accounted to be generated in the end-of-life. The results represent weighted average composition of the paint, and also the variation among the different compositions is given in the table. 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.

Environmental impact indicators											**sum A1-C4, variation**		
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**	**average**	**min**	**max**
GWP-fossil	kg CO_2 eq.	**6,73E-1**	1,05E-1	1,32E-1	ND	0,00E+0	1,19E-3	2,58E-1	0,00E+0	0,00E+0	1,17E+0	9,66E-1	1,27E+0
GWP-biogenic	kg CO_2 eq.	**-3,05E-1**	5,70E-5	3,57E-3	ND	0,00E+0	3,39E-7	3,02E-1	0,00E+0	0,00E+0	5,99E-4	5,54E-4	1,45E-3
GWP luluc	kg CO_2 eq.	**3,99E-3**	5,20E-5	2,35E-5	ND	0,00E+0	4,78E-7	9,52E-6	0,00E+0	0,00E+0	4,07E-3	3,16E-3	4,59E-3
GWP total	kg CO_2 eq.	**3,72E-1**	1,05E-1	1,36E-1	ND	0,00E+0	1,19E-3	5,60E-1	0,00E+0	0,00E+0	1,17E+0	9,71E-1	1,28E+0
ODP	kg CFC 11 eq.	**1,22E-7**	2,84E-8	1,43E-8	ND	0,00E+0	2,77E-10	1,90E-8	0,00E+0	0,00E+0	1,84E-7	1,61E-7	1,95E-7
AP	mol H^+ eq.	**6,18E-3**	5,43E-4	1,97E-4	ND	0,00E+0	3,39E-6	2,42E-4	0,00E+0	0,00E+0	7,17E-3	3,67E-3	7,74E-3
EP-freshwater	kg P eq.	**6,26E-5**	1,15E-6	2,02E-6	ND	0,00E+0	8,52E-9	2,68E-7	0,00E+0	0,00E+0	6,60E-5	4,36E-5	7,30E-5
EP-marine	kg N eq.	**2,96E-3**	1,49E-4	4,18E-5	ND	0,00E+0	6,74E-7	3,52E-5	0,00E+0	0,00E+0	3,19E-3	1,13E-3	3,38E-3
EP-terrestrial	mol N eq.	**2,11E-2**	1,66E-3	4,61E-4	ND	0,00E+0	7,52E-6	3,98E-4	0,00E+0	0,00E+0	2,36E-2	9,18E-3	2,52E-2
POCP	kg NMVOC eq.	**2,17E-3**	5,44E-4	1,35E-4	ND	0,00E+0	2,89E-6	1,30E-4	0,00E+0	0,00E+0	2,98E-3	2,10E-3	3,29E-3
ADP minerals&metals[2]	kg Sb eq.	**3,57E-6**	1,20E-6	2,09E-7	ND	0,00E+0	4,24E-9	1,38E-7	0,00E+0	0,00E+0	5,12E-6	3,70E-6	5,64E-6
ADP-fossil[2]	MJ	**1,76E+1**	1,88E+0	6,46E-1	ND	0,00E+0	1,81E-2	1,16E+0	0,00E+0	0,00E+0	2,12E+1	1,89E+1	2,28E+1
WDP[2]	m^3	**7,38E-1**	5,62E-3	1,28E-2	ND	0,00E+0	5,34E-5	3,62E-3	0,00E+0	0,00E+0	7,60E-1	4,20E-1	8,49E-1
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												

*2) **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.*

Additional climate indicator, EPD International											sum A1-C4, variation		
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**	**average**	**min**	**max**
GWP-GHG[3]	kg CO_2 eq.	**6,75E-1**	1,05E-1	1,33E-1	ND	0,00E+0	1,19E-3	2,58E-1	0,00E+0	0,00E+0	1,17E+0	9,68E-1	1,27E+0

3) This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Resource use indicators											sum A1-C4, variation		
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**	**average**	**min**	**max**
PERE	MJ	**4,73E+0**	3,40E-2	1,99E-2	ND	0,00E+0	2,59E-4	8,00E-3	0,00E+0	0,00E+0	4,80E+0	1,39E+0	5,27E+0
PERM	MJ	**3,69E+0**	0,00E+0	-4,77E-2	ND	0,00E+0	0,00E+0	-3,64E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0
PERT	MJ	**8,43E+0**	3,40E-2	-2,78E-2	ND	0,00E+0	2,59E-4	-3,64E+0	0,00E+0	0,00E+0	4,80E+0	1,39E+0	5,27E+0
PENRE	MJ	**1,82E+1**	2,00E+0	6,86E-1	ND	0,00E+0	1,92E-2	1,23E+0	0,00E+0	0,00E+0	2,22E+1	1,97E+1	2,38E+1
PENRM	MJ	**2,21E+0**	0,00E+0	-1,78E+0	ND	0,00E+0	0,00E+0	-4,24E-1	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0
PENRT	MJ	**2,04E+1**	2,00E+0	-1,09E+0	ND	0,00E+0	1,92E-2	8,03E-1	0,00E+0	0,00E+0	2,22E+1	1,97E+1	2,38E+1
SM	kg	**5,67E-2**	0,00E+0	0,00E+0	ND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	5,67E-2	5,67E-2	5,67E-2
RSF	MJ	**0,00E+0**	0,00E+0	0,00E+0	ND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0
NRSF	MJ	**0,00E+0**	0,00E+0	0,00E+0	ND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0
FW	m^3	**3,35E-2**	2,10E-4	3,28E-4	ND	0,00E+0	1,92E-6	1,02E-4	0,00E+0	0,00E+0	3,42E-2	2,08E-2	3,70E-2
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											sum A1-C4, variation		
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**	**average**	**min**	**max**
Hazardous waste disposed	kg	**1,15E-3**	2,42E-5	4,79E-2	ND	0,00E+0	4,73E-8	9,94E-6	0,00E+0	0,00E+0	4,91E-2	4,91E-2	4,91E-2
Non-hazardous waste disposed	kg	**1,34E-1**	3,69E-2	2,81E-2	ND	0,00E+0	9,48E-4	6,26E-3	0,00E+0	0,00E+0	2,06E-1	1,42E-1	2,38E-1
Radioactive waste disposed	kg	**1,55E-4**	1,28E-5	4,03E-6	ND	0,00E+0	1,22E-7	8,06E-6	0,00E+0	0,00E+0	1,81E-4	1,71E-4	1,93E-4

Output flow indicators											sum A1-C4, variation		
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**	**average**	**min**	**max**
Components for re-use	kg	**0,00E+0**	0,00E+0	4,83E-2	ND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	4,83E-2	4,83E-2	4,83E-2
Material for recycling	kg	**3,07E-4**	0,00E+0	3,88E-3	ND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	4,19E-3	4,19E-3	4,19E-3
Materials for energy recovery	kg	**0,00E+0**	0,00E+0	0,00E+0	ND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0
Exported energy, electricity	MJ	**3,33E-2**	0,00E+0	3,46E-1	ND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	3,79E-1	3,79E-1	3,79E-1
Exported energy, thermal	MJ	**4,39E-2**	0,00E+0	3,51E-1	ND	0,00E+0	0,00E+0	0,00E+0	0,00E+0	0,00E+0	3,95E-1	3,95E-1	3,95E-1

Additional impact category indicators											sum A1-C4, variation		
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**	**average**	**min**	**max**
Particulate matter emissions	Disease incidence	**4,10E-8**	1,07E-8	1,98E-9	ND	0,00E+0	7,54E-11	2,04E-9	0,00E+0	0,00E+0	5,58E-8	3,06E-8	6,05E-8
Ionising radiation, human health[4]	kBq U235 eq.	**2,69E-1**	8,37E-3	2,77E-3	ND	0,00E+0	7,86E-5	5,01E-3	0,00E+0	0,00E+0	2,85E-1	2,77E-1	3,06E-1
Ecotoxicity (freshwater)[2]	CTUe	**2,05E+1**	1,61E+0	1,97E+0	ND	0,00E+0	1,42E-2	1,10E+0	0,00E+0	0,00E+0	2,52E+1	1,60E+1	2,78E+1
Human toxicity, cancer effects[2]	CTUh	**5,11E-10**	1,34E-10	1,28E-10	ND	0,00E+0	4,57E-13	5,07E-10	0,00E+0	0,00E+0	1,28E-9	1,06E-9	1,39E-9
Human toxicity, non-cancer effects[2]	CTUh	**1,13E-8**	1,97E-9	8,25E-10	ND	0,00E+0	1,44E-11	9,01E-10	0,00E+0	0,00E+0	1,51E-8	9,56E-9	1,92E-8
Land use related impacts/ soil quality[2]	dimensionless	**4,00E+1**	6,38E-1	1,36E-1	ND	0,00E+0	1,26E-2	1,54E-1	0,00E+0	0,00E+0	4,09E+1	1,13E+1	4,38E+1

*2) **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.*

4) This impact category deals mainly with the eventual impact of low dose ionising 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.

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Standards

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EN 16449:2014 Wood and wood-based products. Calculation of the biogenic carbon content of wood and conversion to carbon dioxide

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ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations. Principles and procedures.

ISO 14044:2006 Environmental management. Life Cycle Assessment. Requirements and guidelines.

Detailed product information

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