

Environmental Product Declaration

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

Acciaio nervato 1.4362- Stainless Steel Rebar 1.4362

from

Acciaierie Valbruna S.p.A.



Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Type of EPD:	EPD of a single product
EPD registration number:	EPD-IES-0031120:001
Version date:	2026-06-04
Validity date:	2031-06-03

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com



GENERAL INFORMATION

Programme Information	
Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	support@environdec.com

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14, Construction products, version 2. 0.1 published on 2025.06.05
PCR review was conducted by: The Technical Committee of the International EPD System. See www.envirodec.com for a list of members. The review panel may be contacted via support@environdec.com . Review chair: Rob Rouwette, Co-chair: Noa Meron

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ Individual EPD verification without a pre-verified LCA/EPD tool Third-party verifier: Bureau Veritas Italia S.p.A., Viale Monza 347 – 20126 Milano (MI) Accredited by: Accredia, accreditation number 00031VV
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

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

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: Acciaierie Valbruna S.p.A.

Address: Viale della Scienza n. 25, 36100 Vicenza, Italy (General Headquarters)

Contact: Mr. Luca Zarpellon - email: luca.zarpellon@valbruna.it

Address and contact information of the LCA practitioner commissioned by the EPD owner: Aequilibria S.r.l. – SB, Piazzale della Stazione, 8, 35131 Padua, Italy

Description of the organisation: Valbruna is a private company with 2.800 employees and an annual output of approx. 300.000 tons, specialized in the production of stainless, nickel and specialty long products. Product range includes blooms and billets, ingots, round, square, flat, hexagonal and angle bars, wire rod, wire, reinforcement bars and threaded rods.

Valbruna's production of stainless Steel and nickel alloys is utilized in many industrial sectors such as food and pharmaceutical, aerospace, defense, military, automotive, chemical and petrochemical industries, construction, energy, mechanical, medical, naval.

Product-related or management system-related certifications: ISO 14001 - ISO 45001 - ISO 50001

PRODUCT INFORMATION

Product name: Stainless Steel Rebar 1.4362

Product identification: V234N

Visual representation of the product:



UN CPC code: 412 Products of iron or steel

Product description: Rebars in 1.4362 are high-strength stainless steel bars designed for reinforced concrete structures requiring extreme durability in corrosive environments.

The following is a list of the processing stages that take place at the Acciaierie Valbruna S.p.A. plant in Vicenza.

- Heat preparation in the Electric Arc Furnace and AOD converter;
- Heat casting in continuous cast billets;
- Billets hot rolling in rebars at requested length;
- Rebars straightening;

- Rebars Sand Blasting and pickling;
- Packaging.

All processing is under the direct control of Acciaierie Valbruna S.p.A.

Name and location of production site(s): Acciaierie Valbruna's production plant located in Vicenza (Italy), Viale della Scienza n. 25

More information: <https://www.valbruna-stainless-steel.com/it/>

CONTENT DECLARATION

The values presented in the following tables reflect the mass (weight) of one unit of the product, as per declared unit: 1 tonne of Stainless Steel Rebar 1.4362. The declared content represents the product content.

Product content	Mass, kg	Pre- and Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
Scrap	662	100%	0	0
Ferroalloys	338	0	0	0
TOTAL	1000	>66%	0	0

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Paper	0,053	0,0037	0,022
Plastic	4,016	0,2770	0
Steel	1,956	0,1349	0
TOTAL	6,025	0,4155	0,022

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO₂.

The products do not contain any of the substances of very high concern (SVHC) regulated by the Regulation (EC) No 1907/2006 (REACH) or the Regulation (EC) No 1272/2008 of European parliament.

LCA INFORMATION

Declared unit: 1 ton of steel

Reference service life: Not applicable

Time representativeness: 2025

Geographical scope: Global

Database(s) and LCA software used: Ecoinvent 3.12 and SimaPro Developer 10.4.0.0

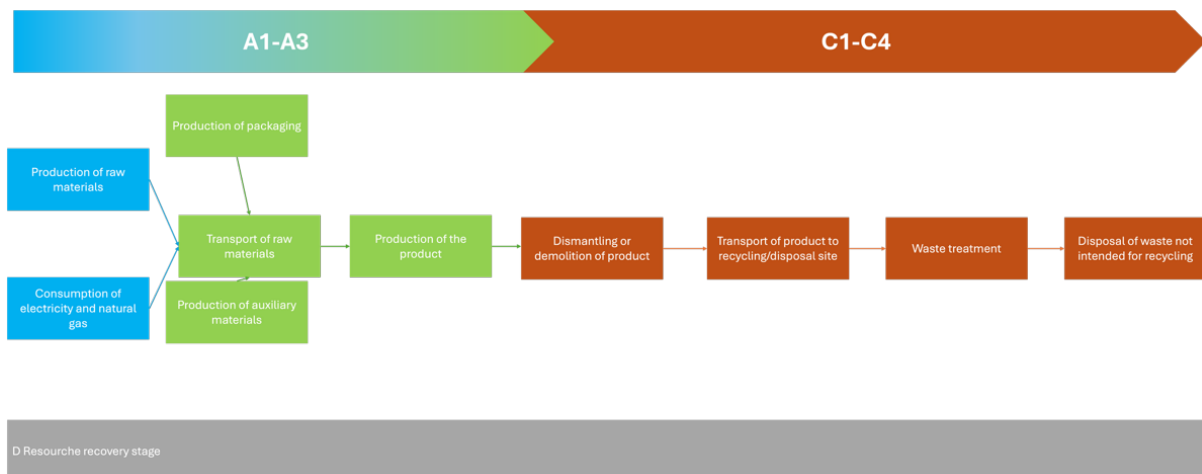
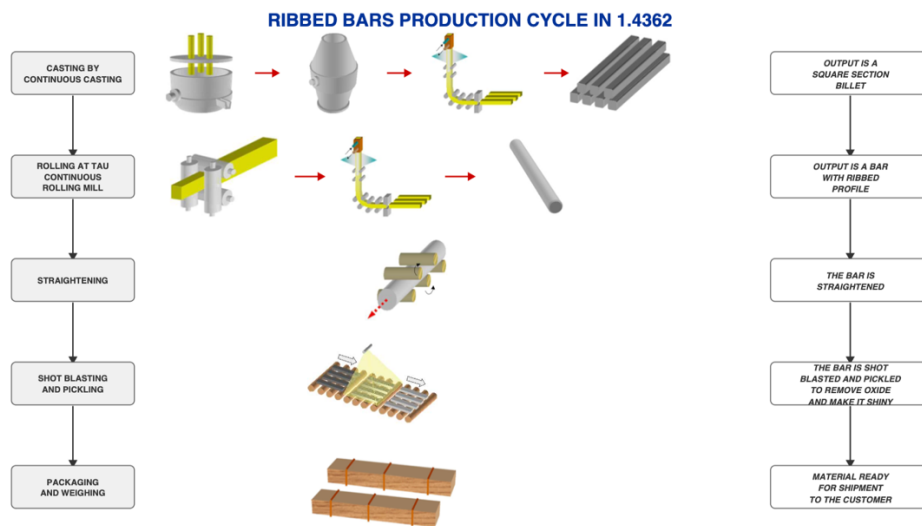
Description of system boundaries: Cradle-to-gate with modules C1-C4 and module D (A1-A3 + C + D).

Process flow diagram:

Process flow diagram of the product system, divided into the life-cycle stages and modules, showing the main processes included and the system boundary of the LCA. The diagram shall make it clear when the end-of-waste state is reached for main input flows of reused/recycled materials and recovered energy, and for output flows of reused/recycled materials and recovered energy exiting the end-of-life stage.

The processing stages of the product are:

- casting by Continuous Casting;
- rolling at the TAU rolling mill;
- shot blasting and pickling (bar plant 3);
- packaging and weighing.



Modules A1 to A3:

These modules include the procurement of raw materials, their transport from the supplier to the production plant, energy and water consumption, and the treatment of plant waste.

In addition to the steel used to produce the Stainless Steel Rebar 1.4362, raw materials also include materials for packaging the finished product and auxiliary materials used for machine maintenance.

Specifically, these modules include the production of Stainless Steel Rebar 1.4362 at the Acciaierie Valbruna S.p.A. plant in Vicenza (VI).

This EPD considers a mix of electricity derived from the share of supply for the plant from the grid, electricity with a guarantee of origin and electricity from an interconnected grid capacity from France, resulting in a GWP-GHG value of 0,184 kgCO₂eq/kWh.

Module C1-C4:

These modules consider the dismantling of the finished product, transport for end-of-life treatment, waste treatment for recovery or recycling, and disposal.

The PCR guidelines were followed for the modelling of the modules. Based on the World Steel Association's 'Life cycle inventory (LCI) study' document, the end-of-life scenario considered for steel material is 85% recycling and 15% landfill.

Mechanical sorting was modelled using the dataset *Electricity, medium voltage {GLO} | market group for electricity, medium voltage | Cut-off, U*.

Module	Process	Quantity	u.m.
C1	Demolition/deconstruction of steel, wood, and other materials	1,1	kWh/tonne
C2	Transport (for products/materials not to be incinerated) - 16-32 tonne lorry (EURO 5)	80	km
C3	Loading and unloading at sorting facility	1,8	kWh/tonne
	Mechanical sorting	2,2	kWh/tonne
	Fragging of steel	7,4	kWh/tonne
	Recycling waste	85	%
C4	Compacting of inert construction waste for landfills (including backfilling)	1,6	kWh/tonne
	Landfill waste	15	%

Module D:

This module covers treatment, net benefits, and recycling potential for net scrap and calculate the impact related to the net flows of recovered material (recycled or reused) or energy leaving modules A–C.

Cut-off:

In accordance with the cut-off rule defined by PCR 2019:04 version 2.0.1, the following were excluded from the assessment:

- The construction of factories (cap. 4.3.6);
- The maintenance of machinery used for production (cap. 4.3.6);
- Travel to and from work by personnel (cap. 4.3.5);

- Business travel of personnel (cap. 4.3.5).

Regarding atmospheric emissions, the assessment specifically accounts for the releases of particulates and carbon dioxide. Conversely, all other atmospheric emissions have been excluded from the study's scope, as they were treated according to a cut-off approach and therefore deemed outside the evaluation boundaries.

No other exclusions and cut-off were applied.

Allocation:

Primary data was allocated using the mass allocation approach.

In accordance with PCR 2019:14, the allocation rule for calculating the inputs and outputs of some specific data was calculated on an annual basis and with respect to the quantity, specifically:

- Plant consumptions were allocated to the quantity of product processed.
- The use of packaging materials was broken down according to the quantity of specific product (Stainless Steel Rebar 1.4362) produced in the reference year in kg.
- The waste was allocated based on the total production of the Vicenza plant.

Data quality and sources:

The inventory analysis was based on a combination of specific and generic data. The primary site-specific data was collected by Acciaierie Valbruna S.p.A. for the year 2025 and refers to the production site located in Vicenza.

This data concerns the consumption of raw materials, auxiliary and packaging materials, the suppliers, the energy and water demand for the production and the related production waste. This information reflects actual operations and is considered to be of high quality and representative of current production conditions.

The database (Ecoinvent 3.12) was used for the upstream production of raw materials and auxiliary materials, energy generation and distribution, transport processes, the production phase and waste treatment activities related to the production phase. Land transport distances were estimated using the Ecotransit online tool (including Suez Canal blockage, when relevant).

A data quality assessment was carried out following the method described in the ILCD Handbook, which is useful for assessing the quality, completeness, and consistency of the data used in the inventory analysis of an LCA study.

The result of the analysis was high data quality, considering that data covering more than 90% of the total impact was taken into account.

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3 (%)
Production of steel	EPD, Databases	Ecoinvent v3.12	2025	Primary and Secondary data	52,64%
Transport of raw material to manufacturing site	Collected, Databases	Ecoinvent v3.12	2025	Primary data	1,94%
Manufacturing of Stainless Steel Rebar 1.4362	Collected, Databases	Ecoinvent v3.12	2025	Primary data	32,88%
Generation of electricity used in manufacturing of product	Collected, Databases	Ecoinvent v3.12	2025	Primary data	4,03%
Total share of primary data, of GWP-GHG results for A1-A3					91,49%

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

	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling- potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	ND	ND	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	GLO	GLO	IT	ND	ND	ND	ND	ND	ND	ND	ND	ND	GLO	GLO	GLO	GLO	GLO
Share of primary data	91.49%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

IT: Italy, GLO: Global

ENVIRONMENTAL PERFORMANCE

LCA results of the product - main environmental performance results

The environmental performance of the declared unit of 1 tonne of Stainless Steel Rebar 1.4362 is reported below using the parameters and units as specified in PCR 2019:14. The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Mandatory impact category indicators according to EN 15804

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2,14E+03	4,14E-01	1,62E+01	4,22E+00	9,04E-02	-7,18E+02
GWP-biogenic	kg CO ₂ eq.	1,33E+01	1,39E-03	9,21E-02	4,22E-02	3,04E-04	-3,80E+00
GWP-luluc	kg CO ₂ eq.	3,18E+00	8,81E-05	7,19E-03	3,31E-03	1,92E-05	-3,77E-01
GWP-total	kg CO ₂ eq.	2,15E+03	4,16E-01	1,63E+01	4,27E+00	9,07E-02	-7,23E+02
ODP	kg CFC 11 eq.	2,65E-06	2,80E-10	9,92E-09	2,89E-09	6,11E-11	-5,75E-07
AP	mol H ⁺ eq.	2,06E+01	4,95E-03	5,51E-02	4,16E-02	1,08E-03	-2,36E+00
EP-freshwater	kg P eq.	1,32E+00	2,45E-05	1,77E-03	7,77E-04	5,34E-06	-2,35E-01
EP-marine	kg N eq.	2,84E+00	2,23E-03	1,79E-02	1,72E-02	4,87E-04	-5,70E-01
EP-terrestrial	mol N eq.	2,93E+01	2,44E-02	1,94E-01	1,86E-01	5,32E-03	-6,08E+00
POCP	kg NMVOC eq.	9,44E+00	6,85E-03	7,62E-02	5,25E-02	1,50E-03	-2,02E+00
ADP-minerals&metals*	kg Sb eq.	8,41E-02	1,60E-06	5,34E-05	1,26E-05	3,49E-07	-3,58E-04
ADP-fossil*	MJ	3,04E+04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,97E+03
WDP*	m ³	1,09E+03	6,94E-03	3,84E-01	1,87E-01	1,51E-03	-1,67E+02

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

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Additional mandatory and voluntary impact category indicators

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG	kg CO ₂ -eq	2,61E+03	4,15E-01	1,62E+01	4,23E+00	9,05E-02	-7,19E+02

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

Resource use indicators

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	5,95E+03	6,25E-02	3,11E+00	2,69E+00	1,36E-02	-5,29E+02
PERM	MJ	6,82E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,31E-01
PERT	MJ	5,95E+03	6,25E-02	3,11E+00	2,69E+00	1,36E-02	-5,29E+02
PENRE	MJ	3,02E+04	9,21E-05	1,07E-02	3,71E-03	2,01E-05	-2,97E+03
PENRM	MJ	2,12E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,68E-02
PENRT	MJ	3,04E+04	9,21E-05	1,07E-02	3,71E-03	2,01E-05	-2,97E+03
SM	kg	6,69E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-3,88E+02
RSF	MJ	7,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,31E-02
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	2,65E+01	2,58E-04	1,29E-02	6,55E-03	5,63E-05	-4,11E+00

Waste indicators

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1,16E+03	4,49E-02	1,55E+00	4,78E-01	9,79E-03	-2,29E+02
Non-hazardous waste disposed	kg	1,69E+04	1,72E-01	2,03E+01	4,19E+00	3,75E-02	-1,29E+03
Radioactive waste disposed	kg	1,47E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,11E-02

Output flow indicators

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	2,36E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,75E+00
Materials for energy recovery	kg	2,31E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,32E-04
Exported energy, electricity	MJ	1,73E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,18E+00
Exported energy, thermal	MJ	5,17E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,59E-01

Additional mandatory and voluntary impact category indicators

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	diseade inc.	4,25E-04	9,19E-09	1,02E-06	1,23E-07	2,00E-09	-6,61E-05
Human toxicity, cancer ²	CTUh	2,13E-06	4,75E-11	2,59E-09	4,68E-10	1,04E-11	-7,31E-07
Human toxicity, non-cancer ²	CTUh	2,26E-05	1,57E-09	1,35E-07	1,83E-08	3,42E-10	-3,72E-06
Ionising radiation ¹	kBq U-235 eq	4,75E+02	2,55E-03	1,75E-01	1,88E-01	5,57E-04	-4,67E+01
Land use ²	Pt	8,64E+03	4,35E-01	1,32E+02	5,54E+00	9,48E-02	-1,85E+03
Ecotoxicity, freshwater ²	CTUe	4,37E+03	2,02E-01	1,82E+01	3,39E+00	4,41E-02	-1,45E+03

1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

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

Alternative end of life scenarios

Additional LCA results – 100% recycling scenario

Results per declared unit							
Environmental impact							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2,14E+03	4,14E-01	1,62E+01	4,97E+00	0,00E+00	-7,18E+02
GWP-biogenic	kg CO ₂ eq.	1,33E+01	1,39E-03	9,21E-02	4,97E-02	0,00E+00	-3,80E+00
GWP-luluc	kg CO ₂ eq.	3,18E+00	8,81E-05	7,19E-03	3,89E-03	0,00E+00	-3,77E-01
GWP-total	kg CO ₂ eq.	2,15E+03	4,16E-01	1,63E+01	5,02E+00	0,00E+00	-7,23E+02
ODP	kg CFC 11 eq.	2,65E-06	2,80E-10	9,92E-09	3,41E-09	0,00E+00	-5,75E-07
AP	mol H ⁺ eq.	2,06E+01	4,95E-03	5,51E-02	4,90E-02	0,00E+00	-2,36E+00
EP-freshwater	kg P eq.	1,32E+00	2,45E-05	1,77E-03	9,14E-04	0,00E+00	-2,35E-01
EP-marine	kg N eq.	2,84E+00	2,23E-03	1,79E-02	2,02E-02	0,00E+00	-5,70E-01
EP-terrestrial	mol N eq.	2,93E+01	2,44E-02	1,94E-01	2,19E-01	0,00E+00	-6,08E+00
POCP	kg NMVOC eq.	9,44E+00	6,85E-03	7,62E-02	6,18E-02	0,00E+00	-2,02E+00
ADP-minerals&metals*	kg Sb eq.	8,41E-02	1,60E-06	5,34E-05	1,48E-05	0,00E+00	-3,58E-04
ADP-fossil*	MJ	3,04E+04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,97E+03
WDP*	m ³	1,09E+03	6,94E-03	3,84E-01	2,20E-01	0,00E+00	-1,67E+02
Additional environmental							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG	kg CO ₂ eq.	2,61E+03	4,15E-01	1,62E+01	4,98E+00	0,00E+00	-7,19E+02
Resource use							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	5,95E+03	6,25E-02	3,11E+00	3,16E+00	0,00E+00	-5,29E+02
PERM	MJ	6,82E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,31E-01
PERT	MJ	5,95E+03	6,25E-02	3,11E+00	3,16E+00	0,00E+00	-5,29E+02
PENRE	MJ	3,02E+04	9,21E-05	1,07E-02	4,37E-03	0,00E+00	-2,97E+03
PENRM	MJ	2,12E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,68E-02
PENRT	MJ	3,04E+04	9,21E-05	1,07E-02	4,37E-03	0,00E+00	-2,97E+03
SM	kg	6,69E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-3,88E+02
RSF	MJ	7,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,31E-02
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	2,65E+01	2,58E-04	1,29E-02	7,70E-03	0,00E+00	-4,11E+00
Waste indicator							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D

Hazardous waste disposed	kg	1,16E+03	4,49E-02	1,55E+00	5,63E-01	0,00E+00	-2,29E+02
Non-hazardous waste disposed	kg	1,69E+04	1,72E-01	2,03E+01	4,92E+00	0,00E+00	-1,29E+03
Radioactive waste disposed	kg	1,47E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,11E-02
Output flows indicator							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	2,36E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,75E+00
Materials for energy recovery	kg	2,31E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,32E-04
Exported energy, electricity	MJ	1,73E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,18E+00
Exported energy, thermal	MJ	5,17E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,59E-01

Additional LCA results – 100% landfill scenario

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2,14E+03	4,14E-01	1,62E+01	0,00E+00	6,02E-01	-7,18E+02
GWP-biogenic	kg CO ₂ eq.	1,33E+01	1,39E-03	9,21E-02	0,00E+00	2,02E-03	-3,80E+00
GWP-luluc	kg CO ₂ eq.	3,18E+00	8,81E-05	7,19E-03	0,00E+00	1,28E-04	-3,77E-01
GWP-total	kg CO ₂ eq.	2,15E+03	4,16E-01	1,63E+01	0,00E+00	6,05E-01	-7,23E+02
ODP	kg CFC 11 eq.	2,65E-06	2,80E-10	9,92E-09	0,00E+00	4,07E-10	-5,75E-07
AP	mol H ⁺ eq.	2,06E+01	4,95E-03	5,51E-02	0,00E+00	7,20E-03	-2,36E+00
EP-freshwater	kg P eq.	1,32E+00	2,45E-05	1,77E-03	0,00E+00	3,56E-05	-2,35E-01
EP-marine	kg N eq.	2,84E+00	2,23E-03	1,79E-02	0,00E+00	3,25E-03	-5,70E-01
EP-terrestrial	mol N eq.	2,93E+01	2,44E-02	1,94E-01	0,00E+00	3,55E-02	-6,08E+00
POCP	kg NMVOC eq.	9,44E+00	6,85E-03	7,62E-02	0,00E+00	9,97E-03	-2,02E+00
ADP-minerals&metals*	kg Sb eq.	8,41E-02	1,60E-06	5,34E-05	0,00E+00	2,32E-06	-3,58E-04
ADP-fossil*	MJ	3,04E+04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,97E+03
WDP*	m ³	1,09E+03	6,94E-03	3,84E-01	0,00E+00	1,01E-02	-1,67E+02
Additional environmental							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG	kg CO ₂ eq.	2,61E+03	4,15E-01	1,62E+01	0,00E+00	6,03E-01	-7,19E+02
Resource use							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	5,95E+03	6,25E-02	3,11E+00	0,00E+00	9,09E-02	-5,29E+02

PERM	MJ	6,82E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,31E-01
PERT	MJ	5,95E+03	6,25E-02	3,11E+00	0,00E+00	9,09E-02	-5,29E+02
PENRE	MJ	3,02E+04	9,21E-05	1,07E-02	0,00E+00	1,34E-04	-2,97E+03
PENRM	MJ	2,12E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,68E-02
PENRT	MJ	3,04E+04	9,21E-05	1,07E-02	0,00E+00	1,34E-04	-2,97E+03
SM	kg	6,69E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-3,88E+02
RSF	MJ	7,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,31E-02
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	2,65E+01	2,58E-04	1,29E-02	0,00E+00	3,76E-04	-4,11E+00
Waste indicator							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1,16E+03	4,49E-02	1,55E+00	0,00E+00	6,53E-02	-2,29E+02
Non-hazardous waste disposed	kg	1,69E+04	1,72E-01	2,03E+01	0,00E+00	2,50E-01	-1,29E+03
Radioactive waste disposed	kg	1,47E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,11E-02
Output flows indicator							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	2,36E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,75E+00
Materials for energy recovery	kg	2,31E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,32E-04
Exported energy, electricity	MJ	1,73E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,18E+00
Exported energy, thermal	MJ	5,17E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-8,59E-01

ABBREVIATIONS

Abbreviation	Definition
General Abbreviations	
EN	European Norm (Standard)
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
CEN	European Committee for Standardization
CLC	Co-location centre
CPC	Central product classification
GHS	Globally harmonized system of classification and labelling of chemicals
GRI	Global Reporting Initiative
SVHC	Substances of Very High Concern
ND	Not Declared
Environmental Impact Indicators	
GHG	Greenhouse gas
GWP	Global Warming Potential
GWP-fossil	Global Warming Potential fossil fuels
GWP-biogenic	Global Warming Potential biogenic
GWP-luluc	Global Warming Potential land use and land use change
GWP-total	Total Global Warming Potential
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 deprivation potential
Resource Use Indicators	
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

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VERSION HISTORY

Original Version of the EPD, 2026-06-04

