



ENVIRONMENTAL PRODUCT DECLARATION

Painted Aluminium Coil (3.0-5052)
Painted Aluminium Coil (1.5-3003)
Painted Aluminium Coil (1.2-3004)
Painted Aluminium Coil (0.98-3003)
Painted Aluminium Coil (0.9-3004)
Painted Aluminium Coil (0.7-5005)
Painted Aluminium Coil (0.6-5052)
Painted Aluminium Coil (0.46-3003)
Painted Aluminium Coil (0.38-3003)
Painted Aluminium Coil (1.0-3003)

No.127 Xinlong Road,
Changzhou, China

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

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GENERAL INFORMATION

EPD OWNER	
Name of the company	Jiangsu Lidao New Material Co., LTD.
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PROGRAM OPERATOR	
EPDItaly	Via Gaetano De Castillia n° 10 - 20124 Milano, Italy
INFORMATION ON THE EPD	
Product name (s)	Painted Aluminium Coil (3.0-5052) Painted Aluminium Coil (1.5-3003) Painted Aluminium Coil (1.2-3004) Painted Aluminium Coil (0.98-3003) Painted Aluminium Coil (0.9-3004) Painted Aluminium Coil (0.7-5005) Painted Aluminium Coil (0.6-5052) Painted Aluminium Coil (0.46-3003) Painted Aluminium Coil (0.38-3003) Painted Aluminium Coil (1.0-3003)
Site (s)	No.127 Xinlong Road, Changzhou, China
Short description and technical information of the product (s)	The Painted Aluminium Coil for Construction is a high - performance material designed for building applications, offering durability, weather - resistance, excellent formation capabilities.
Field of application of the product (s)	Construction
Product (s) reference standards (if any)	
CPC Code (number) https://unstats.un.org/unsd/classifications/Econ	41534 - Plates, sheets and strip, of aluminium, of a thickness exceeding 0.2 mm
VERIFICATION INFORMATION	
PCR	PCR for Construction products: ICMQ-001/15 rev 3.1 (12/11/2024) (according to EN 15804:2012+A2:2019/AC:2021)
EPDItaly Regulation	EPDItaly Regulations Rev 6.0 (30/10/2023)
Project Report LCA	SGS/2025/LCAR/E/0601 (25/08/2025)
LCA Consultant	Ruthe.Fan@sgs.com Ivory.Zhu@sgs.com SGS-CSTC Standards Technical Services Co., Ltd
Independent Verification Statement	Independent verification of the declaration and data, carried out according to ISO 14025: 2010. Internal ☒ External Third party verification carried out by: ICMQ S.p.A., via Gaetano De Castillia n ° 10 - 20124 Milan, Italy. Accredited by Accredia.
Comparability Statement	Environmental statements published within the same product category, but from different programs, may not be comparable. In particular, EPDs of construction products may not be comparable if they do not comply with EN 15804:2012+A2:2019/AC:2021.

Liability Statement

The EPD Owner releases EPDItaly from any non-compliance with environmental legislation. The holder of the declaration will be responsible for the information and supporting evidence.

EPDItaly disclaims any responsibility for the information, data and results provided by the EPD Owner for life cycle assessment.

OTHER INFORMATION

Scope of EPD

This EPD is a specific EPD covering only the product(s) manufactured at Jiangsu Lidao New Material Co., LTD. under the declared functional unit. It is not an average or generic EPD.

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1. Company Information

Jiangsu Lidao New Material Co., LTD. (formerly Changzhou Lidao Metal Material Manufacturing Co., LTD.) is located in the beautiful Yangtze River Delta - Changzhou, Jiangsu province, covering a total area of 320,000 square meters. The company was founded in 2004, is changzhou Lihua metal Materials Co., LTD. (founded in 1989) and Sihui Zhengguo Decorative Materials Factory (founded in 2000) development and new upgrade, the total investment of more than 400 million yuan, the annual sales revenue of more than 1.3 billion yuan.

Lidao focuses on the manufacturing of coated aluminum coil, equipped with large roller coating line specially designed for aluminum coil coating, and introduced extra-wide aluminum coil coating line and extra-thick aluminum coil coating line, integrating tension setting, cleaning, drawing, embossing, crosscutting, slitting and many other processes, with an annual deep processing capacity of more than 150,000 tons.

Li island has 5 into processing and TAB food-grade aluminum cans cover large high speed roll coating line, and equipped with corresponding wave cut, slitting, wax injection equipment, can produce various specifications and precision of the aluminum cover, is one of the few production lines in China, is now at a high cost performance and the quality of the new service concept and the domestic and foreign customers to cooperate.

Lidao has more than 15,000 tons of base material of various specifications, and more than 2,000 tons of finished coated aluminum coils, timely and powerful to ensure the needs of our customers.

Complete supporting equipment, sufficient inventory, as well as fast and professional service, make Lidao a partner of related industries.

2. Product Information

Product Name: Painted Aluminium Coil

Product Identification

Product No.	Identification Name
1	3.0-5052
2	1.5-3003
3	1.2-3004
4	0.98-3003
5	0.9-3004
6	0.7-5005
7	0.6-5052
8	0.46-3003
9	0.38-3003
10	1.0-3003

Products can be used in industries such as construction, household appliances, and transportation. The technical standards and performance index requirements can be referred to YS/T 431—2009

Aluminium and aluminium alloys—Coil coated sheet and strip. The identification name is determined by the thickness of aluminium coils (cm) and the alloy grade utilized in the product manufacturing process.

Manufacturing process of product 1-10		
Step	Process	Key Product Character
1	Material requisition (Move the raw materials to the coating unit)	Squeezed, collided or deformed are not allowed
2	Pre-processing	Alkali bleaching, water bleaching, acid bleaching, water bleaching
3	Passivation	The surface is clean and free of oil stains
4	Roller painting	Color difference, film thickness, gloss
5	Stoving	Oven temperature
6	Winding (laminating if necessary)	Aluminum materials must not have misaligned edges during winding, offset film coating, or incorrect film coating direction
7	Packaging	The parts are marked correctly (size specification, weight, color, grade, batch)

Figure 1 Main manufacturing process of product 1-10

As shown in Figure 1, the process is Material requisition→Pre-processing→Passivation→Roller painting→Stoving→Winding→Packaging.

Table 2.1 Material composition of the products considered in the analysis.

	3.0-	1.5-	1.2-	0.98-	0.9-	0.7-	0.6-	0.46-	0.38-	1.0-
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	5052	3003	3004	3003	3004	5005	5052	3003	3003	3003
Primary Aluminium Alloy	90.04%	91.61%	87.40%	90.21%	90.67%	87.22%	81.72%	84.63%	86.72%	91.79%
Paint	1.95%	3.78%	2.85%	4.03%	4.09%	8.55%	10.13%	11.24%	7.16%	3.71%
Packaging	7.94%	4.40%	4.04%	5.53%	5.02%	3.58%	7.38%	3.26%	5.54%	4.18%
Other Chemicals	0.07%	0.20%	5.71%	0.23%	0.21%	0.65%	0.78%	0.87%	0.58%	0.31%

None of the substance present in the candidate list of Substances of Very High Concern (SVHCs) are present in concentrations greater than 0.1% by weight in products.

Table 2.2 Packaging composition of the products considered in the analysis.

	3.0-5052	1.5-3003	1.2-3004	0.98-3003	0.9-3004	0.7-5005	0.6-5052	0.46-3003	0.38-3003	1.0-3003
Packaging Type	Pallet, Packing film and steel strip.	Packing film, paper and steel strip.	Packing film, paper, and pallet.							

Table 2.3 Location of production, application and end-of-life of each product

Product	Location of production	Location of application and end-of-life
Painted Aluminium Coil (3.0-5052)	China	Australia
Painted Aluminium Coil (1.5-3003)	China	China
Painted Aluminium Coil (1.2-3004)	China	Singapore
Painted Aluminium Coil (0.98-3003)	China	Singapore
Painted Aluminium Coil (0.9-3004)	China	Singapore
Painted Aluminium Coil (0.7-5005)	China	Australia
Painted Aluminium Coil (0.6-5052)	China	Japan
Painted Aluminium Coil (0.46-3003)	China	Canada
Painted Aluminium Coil (0.38-3003)	China	Canada
Painted Aluminium Coil (1.0-3003)	China	China

3. Life Cycle Assessment Information

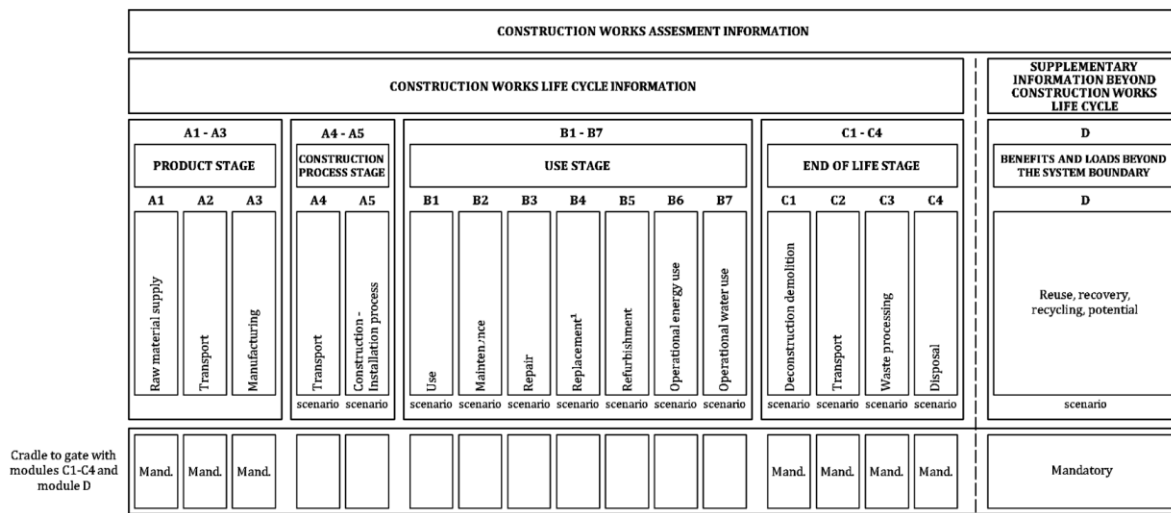
A Life Cycle Assessment (LCA) is a methodology for assessing the environmental impacts associated with the life cycle of a particular product or process. LCA consists of 4 stages (Goal and Scope, Inventory Analysis, Impact Assessment, and review/presentation), which must follow similar procedures to a PCR (Product Category Rules) and helps to evaluate the carbon footprint and natural resources of a product or process. In this EPD, LCA for each product is conducted respectively to obtain environmental impact information.

3.1 Declared Unit

The declared unit of "1 kg product " was adopted in this study.

3.2 System boundary

The system boundary of the study shows as below, that is, all the substantial environmental impact generated by product stage (raw material supply, transport and manufacturing) and end-of-life stage.



Life cycle stage	A1-A3	A4-A5	B1-B7	C1-C4	D
Indication	x	ND	ND	x	x

The system boundary of the research begins with the acquisition of raw materials, which will be processed and transported to the production site of Jiangsu Lidao New Material Co., LTD. for production, and finally undergo end-of-life stage.

Note: Module D (resource recovery/recycling) is included in the study but remains outside the product system boundaries, as being a module that only assess the environmental impacts of the net flows of recovered materials (in this case, recycled).

Life cycle stage	Description
Material acquisition (Module A1)	This includes the processing of all upstream raw materials of the product (including the extraction and processing of natural resources), loss, packaging, and some transportation activities.
Material transportation (Module A2)	This includes the process of transporting all upstream raw materials of the product to the production site.
Production (Module A3)	Including the production and processing of all products (main products and by-products), including the transportation of products to the production site.

Waste treatment (Module A3)	The treatment for wastewater, solid waste and waste gas that generated in the production process of products in the factory, including the transportation of waste.
End-of-life stage (Module C)	The end-of-life stage includes: C1, de-construction, demolition; C2, transport to waste processing; C3, waste processing for reuse, recovery and/or recycling; C4, disposal; including provision and all transport, provision of all materials, products and related energy and water use.
Resource recovery stage (Module D)	Reuse, recovery and/or recycling potentials, expressed as net impacts and benefits.

3.3 Impact categories

Based on the reference of Environment footprint 3.1 method, the methodology chosen to evaluate the potential environmental impacts of the product subject of this study includes all the impact categories required by the EN 15804:2012+A2:2019/AC:2021, as implemented in the SimaPro software. The categories analyzed are therefore:

Environment Impact Category	Unit
Climate change - Total	kg CO ₂ eq
Climate change - Fossil	kg CO ₂ eq
Climate change - Biogenic	kg CO ₂ eq
Climate change - Land use and LU change	kg CO ₂ eq
Ozone depletion	kg CFC11 eq
Acidification	mol H ⁺ eq
Eutrophication, freshwater	kg P eq
Eutrophication, marine	kg N eq
Eutrophication, terrestrial	mol N eq
Photochemical ozone formation	kg NMVOC eq
Resource use, minerals and metals	kg Sb eq
Resource use, fossils	MJ
Water use	m ³ depriv.
Particulate matter	disease inc.
Ionising radiation	kBq U-235 eq
Ecotoxicity, freshwater	CTU _e
Human toxicity, cancer	CTU _h
Human toxicity, non-cancer	CTU _h

Land use	Pt
PERE	MJ (LHV)
PERM	MJ (LHV)
PERT	MJ (LHV)
PENRE	MJ (LHV)
PENRM	MJ (LHV)
PENRT	MJ (LHV)
Use of secondary material	kg
Use of renewable secondary fuels	MJ (LHV)
Use of non-renewable secondary fuels	MJ (LHV)
Net use of fresh water	m ³
Hazardous waste disposed	kg
Non-hazardous waste disposed	kg
Radioactive waste disposed	kg
Components for re-use	kg
Materials for recycling	kg
Materials for energy recovery	kg
Exported energy- electricity	MJ
Exported energy - heat	MJ
Biogenic carbon content - product	kg C
Biogenic carbon content - packaging	kg C

3.4 Cut-off

According to the analysis of LCA studies of various products and the requirements of the cut-off criteria in the EN 15804:2012+A2:2019/AC:2021 issued by the BSI, the basic cut-off principles are:

All inputs and outputs to a (unit) process shall be included in the calculation, for which data are available. Data gaps may be filled by conservative assumptions with average or generic data. Any assumptions for such choices shall be documented;

— In case of insufficient input data or data gaps for a unit process, the cut-off criteria shall be 1 % of renewable and non-renewable primary energy usage and 1 % of the total mass input of that unit process. The total of neglected input flows per module, e.g. per module A1-A3, A4-A5, B1-B5, B6-B7, C1-C4 and module D shall be a maximum of 5 % of energy usage and mass.

Conservative assumptions in combination with plausibility considerations and expert judgement can be used to demonstrate compliance with these criteria;

— Particular care should be taken to include material and energy flows known to have the potential to cause significant emissions into air and water or soil related to the environmental indicators of this standard. Conservative assumptions in combination with plausibility considerations and expert judgement can be used to demonstrate compliance with these criteria. According to the above cut-off principle, this study ignored the environment impact of infrastructure such as roads and factories, production equipment, personnel and living facilities in the plant.

3.5 Allocation Principles

Allocation means splitting multi-output processes into single output unit processes using physical, economic, or other criteria by partitioning the input and output flows of a process or a product system between the product system under study and one or more other product systems. When outputs include both co-products and waste, the inputs and outputs shall be allocated to the co-products only. The applied approach to solve multi-output situations shall always be stated and justified, and the sum of the allocated inputs and outputs of a unit process shall be equal to the inputs and outputs of the unit process before allocation. However, due to the error caused by allocation, this study will give priority to avoiding allocation to solve the problem of system sharing of products. If allocation cannot be avoided, allocation will be carried out according to the feature relationship between products.

Product 1-10 produced by Jiangsu Lidao New Material Co., LTD. are all co-produced with other products. Since the processes of the 10 products are basically the same, the physical relationship (yield) is adopted to allocate electricity, photovoltaic power, water, natural gas and diesel.

3.6 Limitation and Assumption

The following assumptions were adopted in this study:

Life cycle stage	Assumptions
Material acquisition (Module A1)	The selection of raw material characterization factor is determined according to the material, type, performance and other information of raw material. The amount of raw materials used to produce each kg of product and the rate of loss are the same;
Material transportation (Module A2)	Environment impact from the transportation of raw materials are determined according to the actual volume of each raw material transported in a year, as well as the mode of transport, logistics load and distance; The amount of consumables used to produce each kg of product is the same; The amount of packaging materials used to produce each kg of product is the same; The road transport emission factor is selected according to Euro 6 standard which is similar to National 6 standard.
Production (Module A3)	The amount of energy and resources used to produce each kg of product is the same; The amount of waste produced each kg of product is the same, and is calculated according to the actual amount of production in a year;
Waste treatment (Module A3)	The amount of waste produced per kg of product is the same; Environment impact from waste outsourcing recycling processes are excluded from the system assessment boundaries.
C1 Demolition	According to a research published in buildings, a main demolition scenarios are considered: The electricity consumption of using an dismantling machinery for the deconstruction of a square meter of aluminium products was considered.
C2 Waste transport	An average distance of 50 km was used to estimate the transport of aluminium scrap that is going to be recycled at the end of life.
C3 waste processing	Aluminium is a highly recyclable material, therefore the waste process for aluminium products was assumed to be recycling. Specific recycling scrap rate for

for reuse, recovery and/or recycling	Singapore (61.40%), Australia (73.80%), Canada (66.80%), Japan (81.10%) and China (80.90%) were used (International Aluminium Institute, 2023), and the remaining of the material goes to landfill and has an environmental burden.
C4, disposal	It is assumed that the remaining of aluminium is being landfilled (International Aluminium Institute, 2023).
Resource recovery stage (Module D)	The benefits and net impacts of substituting primary aluminium were calculated using a typical aluminium sheet production ($M_{MR\ in}$), minus secondary aluminium scrap ($M_{MR\ out}$), and a yield default value of 1, according to the equation stated in Annex D of EN 15804:2012+A2:2019/AC:2021.

4. Inventory

In the development of this EPD, primary data was preferentially utilized wherever accessible. In instances where access to such data was not feasible, datasets from the Ecoinvent v3.11 database, US LCI, and authoritative official institutions, etc. served as references.

Data collection was implemented through the creation of a specialized sheet that compiled input and output data. This included mass - related data and energy consumption data, all of which were sourced within the production site from 2024/01/01 to 2024/12/31. Following data collection, the sheet underwent rigorous verification. This involved employing mass balance checks to identify any inconsistencies. Once detected, these inconsistencies were promptly clarified and resolved. All the original data and secondary data used have good transparency, completeness, accuracy and consistency, so the data quality is pretty good.

Regarding the study methodology, SimaPro 10.2 software was employed. It was utilized to construct the model for the product life cycle and to calculate the Life Cycle Assessment (LCA) results.

It should be noted that, in accordance with the principles of confidentiality, the complete LCA report (SGS/2025/LCAR/E/0601) and detailed inventory data have not been fully disclosed in this EPD.

The withheld data primarily relates to specific proprietary processes and certain sensitive material compositions within the production phase. This decision was made to protect the company's intellectual property and trade secrets. However, we are committed to transparency and are willing to provide additional details of the inventory data upon request. Interested parties may contact our company directly to obtain further information.

Table 4.1 Energy modelling and emission factor

Energy used	Result of climate change	Unit	Emission Factor
Electricity of China	0.6205	kg CO ₂ e/kWh	National Average Carbon Footprint Factor of Electricity in 2023, Ministry of Ecology and Environment of the People's Republic of China (Announcement No. 3 of 2025)
Photovoltaic electricity	0.0909	kg CO ₂ e/kWh	Electricity, low voltage {CN-JS} electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted Cut-off, U
Electricity of Australia	0.9270	kg CO ₂ e/kWh	Electricity, medium voltage {AU} market for electricity, medium voltage EN15804, U
Electricity of Singapore	0.5440	kg CO ₂ e/kWh	Electricity, medium voltage {SG} market for electricity, medium voltage EN15804, U
Electricity of Japan	0.6307	kg CO ₂ e/kWh	Electricity, medium voltage {JP} market for electricity, medium voltage EN15804, U
Electricity of Canada	0.6916	kg CO ₂ e/kWh	Electricity, medium voltage {CA-AB} market for electricity, medium voltage EN15804, U
Natural gas	2.67226	kg CO ₂ e/m ³	Heat, district or industrial, natural gas {RoW} heat production, natural gas, at industrial furnace >100kW Cut-off, U
Diesel	6.09891	kg CO ₂ e/kg	Diesel, burned in agricultural machinery {GLO} diesel, burned in agricultural machinery Cut-off, U

Table 4.2 Data quality assessment

Process	Representativeness		
	Geographical	Technical	Time
Hydropower primary aluminum production in China	Good	Good	Very good
Primary aluminum alloy production in China	Good	Good	Very good
Polyester paint production	Fair	Good	Very good
Fluorocarbon paint production	Good	Good	Very good
Polyester thinner production	Good	Good	Very good
Conversion membrane production	Good	Good	Very good
Epoxy back paint production	Good	Good	Very good
Fluorocarbon diluent production	Good	Good	Very good
Acidic cleaning agent production	Good	Good	Very good
Alkaline cleaning agent production	Good	Good	Very good
Epoxy diluent production	Good	Good	Very good
Packaging film production	Good	Good	Very good
Tray production	Good	Good	Very good
Plastic steel belt production	Good	Good	Very good
Steel strip production	Good	Good	Very good
20mm Pallet production	Good	Good	Very good
Pearl cotton production	Good	Good	Very good
Paperboard production	Good	Good	Very good
Power mix generation in China	Very good	Very good	Very good
Photovoltaic power generation in Jiangsu Province in China	Good	Good	Very good
Natural gas preparation	Good	Good	Very good
Diesel preparation	Good	Good	Very good
Industrial water preparation	Good	Good	Very good

5. Environmental Impact Assessment

For Potential Human exposure efficiency relative to U235 (IRP), 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.

While for environmental impact indicator(Abiotic depletion potential for non-fossil resources(ADP-minerals&metals), Abiotic depletion potential for fossil resources(ADP-fossil), Water (user) deprivation potential, deprivation-weighted water consumption (WDP), Potential Comparative Toxic Unit for ecosystems (ETP-fw), Potential Comparative Toxic Unit for humans (HTP-c), Potential Comparative Toxic Unit for humans (HTP-nc), Potential Soil quality index (SQP)), the results of these 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.

5.1 Core environmental impact indicators

5.1.1 3.0-5052

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total		kg CO ₂ eq	8.24E+00	2.04E-01	9.64E-03	1.63E-01	4.39E-03	-1.45E+01
Climate change - Fossil		kg CO ₂ eq	8.35E+00	2.04E-01	9.58E-03	1.61E-01	4.36E-03	-1.45E+01
Climate change - Biogenic		kg CO ₂ eq	4.71E-03	1.66E-05	1.67E-06	1.08E-03	9.35E-06	-1.26E-02
Climate change - Land use and LU change		kg CO ₂ eq	5.39E-03	2.77E-05	3.90E-06	1.07E-04	4.80E-06	-7.76E-02
Ozone depletion		kg CFC11 eq	4.73E-07	1.28E-09	3.24E-12	6.54E-10	9.03E-11	-4.76E-08
Acidification		mol H ⁺ eq	9.06E-02	9.37E-04	2.20E-05	6.21E-04	2.71E-05	-9.32E-02
Eutrophication, freshwater		kg P eq	1.83E-03	3.34E-04	7.58E-07	4.41E-05	6.23E-07	-2.12E-02
Eutrophication, marine		kg N eq	9.73E-03	2.21E-04	5.10E-06	8.66E-05	1.12E-05	-1.62E-02
Eutrophication, terrestrial		mol N eq	9.95E-02	1.72E-03	5.51E-05	9.63E-04	1.08E-04	-1.30E-01
Photochemical formation	ozone	kg NMVOC eq	4.16E-02	4.60E-04	3.07E-05	3.04E-04	3.58E-05	-4.08E-02
Resource use, minerals and metals		kg Sb eq	1.15E-05	1.39E-07	3.13E-08	3.90E-06	9.52E-09	6.49E-05
Resource use, fossils		MJ	1.24E+02	2.16E+00	0.00E+00	9.16E-01	8.33E-02	-1.40E+02
Water use		m ³ depriv.	1.00E+00	1.32E-02	2.10E-04	2.21E-02	-4.24E-02	-3.26E+00

5.1.2 1.5-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.49E+01	2.73E-01	9.64E-03	1.78E-01	3.20E-03	-1.86E+01
Climate change - Fossil	kg CO ₂ eq	1.48E+01	2.72E-01	9.58E-03	1.77E-01	3.18E-03	-1.86E+01
Climate change - Biogenic	kg CO ₂ eq	2.50E-02	7.01E-05	1.67E-06	1.18E-03	6.81E-06	-1.06E-03
Climate change - Land use and LU change	kg CO ₂ eq	4.83E-02	2.02E-04	3.90E-06	1.17E-04	3.50E-06	-1.29E-03
Ozone depletion	kg CFC11 eq	3.72E-07	2.92E-10	3.24E-12	7.17E-10	6.59E-11	-2.74E-08
Acidification	mol H ⁺ eq	1.02E-01	1.91E-03	2.20E-05	6.80E-04	1.98E-05	-1.15E-01
Eutrophication, freshwater	kg P eq	4.71E-03	6.43E-05	7.58E-07	4.84E-05	4.54E-07	-3.21E-03
Eutrophication, marine	kg N eq	1.68E-02	4.09E-04	5.10E-06	9.50E-05	8.17E-06	-2.07E-02
Eutrophication, terrestrial	mol N eq	1.73E-01	4.34E-03	5.51E-05	1.06E-03	7.89E-05	-2.18E-01
Photochemical ozone formation	kg NMVOC eq	5.53E-02	1.18E-03	3.07E-05	3.33E-04	2.61E-05	-6.39E-02
Resource use, minerals and metals	kg Sb eq	4.51E-05	2.69E-07	3.13E-08	4.27E-06	6.94E-09	7.08E-05
Resource use, fossils	MJ	2.07E+00	0.00E+00	0.00E+00	1.00E+00	6.07E-02	0.00E+00
Water use	m ³ depriv.	1.24E+00	4.92E-02	2.10E-04	2.43E-02	-3.09E-02	-1.51E+00

5.1.3 1.2-3004

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.54E+01	3.02E-01	9.64E-03	1.35E-01	6.46E-03	-1.75E+01
Climate change - Fossil	kg CO ₂ eq	1.53E+01	3.01E-01	9.58E-03	1.34E-01	6.43E-03	-1.75E+01
Climate change - Biogenic	kg CO ₂ eq	2.47E-02	2.98E-05	1.67E-06	8.99E-04	1.38E-05	-9.56E-03
Climate change - Land use and LU change	kg CO ₂ eq	5.87E-02	2.05E-05	3.90E-06	8.87E-05	7.07E-06	-3.59E-02
Ozone depletion	kg CFC11 eq	3.81E-07	6.63E-09	3.24E-12	5.44E-10	1.33E-10	-4.94E-08
Acidification	mol H ⁺ eq	1.01E-01	4.04E-04	2.20E-05	5.16E-04	4.00E-05	-1.07E-01
Eutrophication, freshwater	kg P eq	4.64E-03	1.05E-05	7.58E-07	3.67E-05	9.18E-07	-9.64E-03
Eutrophication, marine	kg N eq	1.66E-02	1.08E-04	5.10E-06	7.21E-05	1.65E-05	-1.84E-02
Eutrophication, terrestrial	mol N eq	1.71E-01	1.15E-03	5.51E-05	8.01E-04	1.59E-04	-1.86E-01
Photochemical ozone formation	kg NMVOC eq	5.50E-02	8.15E-04	3.07E-05	2.53E-04	5.27E-05	-5.41E-02
Resource use, minerals and metals	kg Sb eq	4.47E-05	3.34E-07	3.13E-08	3.24E-06	1.40E-08	5.27E-05
Resource use, fossils	MJ	2.16E+00	4.71E+00	0.00E+00	7.62E-01	1.23E-01	-1.84E+02
Water use	m ³ depriv.	1.23E+00	2.24E-02	2.10E-04	1.84E-02	-6.24E-02	-2.21E+00

5.1.4 0.98-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.51E+01	3.63E-01	9.64E-03	1.35E-01	6.46E-03	-1.75E+01
Climate change - Fossil	kg CO ₂ eq	1.50E+01	3.62E-01	9.58E-03	1.34E-01	6.43E-03	-1.75E+01
Climate change - Biogenic	kg CO ₂ eq	2.43E-02	3.59E-05	1.67E-06	8.99E-04	1.38E-05	-9.56E-03
Climate change - Land use and LU change	kg CO ₂ eq	5.07E-02	2.47E-05	3.90E-06	8.87E-05	7.07E-06	-3.59E-02
Ozone depletion	kg CFC11 eq	3.71E-07	7.98E-09	3.24E-12	5.44E-10	1.33E-10	-4.94E-08
Acidification	mol H ⁺ eq	9.87E-02	4.87E-04	2.20E-05	5.16E-04	4.00E-05	-1.07E-01
Eutrophication, freshwater	kg P eq	4.56E-03	1.27E-05	7.58E-07	3.67E-05	9.18E-07	-9.64E-03
Eutrophication, marine	kg N eq	1.63E-02	1.30E-04	5.10E-06	7.21E-05	1.65E-05	-1.84E-02
Eutrophication, terrestrial	mol N eq	1.68E-01	1.39E-03	5.51E-05	8.01E-04	1.59E-04	-1.86E-01
Photochemical ozone formation	kg NMVOC eq	5.35E-02	9.81E-04	3.07E-05	2.53E-04	5.27E-05	-5.41E-02
Resource use, minerals and metals	kg Sb eq	4.37E-05	4.03E-07	3.13E-08	3.24E-06	1.40E-08	5.27E-05
Resource use, fossils	MJ	2.32E+00	5.67E+00	0.00E+00	7.62E-01	1.23E-01	-1.84E+02
Water use	m ³ depriv.	1.21E+00	2.70E-02	2.10E-04	1.84E-02	-6.24E-02	-2.21E+00

5.1.5 0.9-3004

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.59E+01	4.04E-01	9.64E-03	1.35E-01	6.46E-03	-1.75E+01
Climate change - Fossil	kg CO ₂ eq	1.58E+01	4.03E-01	9.58E-03	1.34E-01	6.43E-03	-1.75E+01
Climate change - Biogenic	kg CO ₂ eq	2.55E-02	4.00E-05	1.67E-06	8.99E-04	1.38E-05	-9.56E-03
Climate change - Land use and LU change	kg CO ₂ eq	6.00E-02	2.75E-05	3.90E-06	8.87E-05	7.07E-06	-3.59E-02
Ozone depletion	kg CFC11 eq	3.73E-07	8.89E-09	3.24E-12	5.44E-10	1.33E-10	-4.94E-08
Acidification	mol H ⁺ eq	1.04E-01	5.42E-04	2.20E-05	5.16E-04	4.00E-05	-1.07E-01
Eutrophication, freshwater	kg P eq	4.80E-03	1.41E-05	7.58E-07	3.67E-05	9.18E-07	-9.64E-03
Eutrophication, marine	kg N eq	1.71E-02	1.44E-04	5.10E-06	7.21E-05	1.65E-05	-1.84E-02
Eutrophication, terrestrial	mol N eq	1.76E-01	1.54E-03	5.51E-05	8.01E-04	1.59E-04	-1.86E-01
Photochemical ozone formation	kg NMVOC eq	5.63E-02	1.09E-03	3.07E-05	2.53E-04	5.27E-05	-5.41E-02
Resource use, minerals and metals	kg Sb eq	4.59E-05	4.49E-07	3.13E-08	3.24E-06	1.40E-08	5.27E-05
Resource use, fossils	MJ	2.58E+00	6.31E+00	0.00E+00	7.62E-01	1.23E-01	-1.84E+02
Water use	m ³ depriv.	1.28E+00	3.01E-02	2.10E-04	1.84E-02	-6.24E-02	-2.21E+00

5.1.6 0.7-5005

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.55E+01	8.80E-01	9.64E-03	1.63E-01	4.39E-03	-1.45E+01
Climate change - Fossil	kg CO ₂ eq	1.53E+01	8.80E-01	9.58E-03	1.61E-01	4.36E-03	-1.45E+01
Climate change - Biogenic	kg CO ₂ eq	2.55E-02	7.12E-05	1.67E-06	1.08E-03	9.35E-06	-1.26E-02
Climate change - Land use and LU change	kg CO ₂ eq	1.18E-01	1.19E-04	3.90E-06	1.07E-04	4.80E-06	-7.76E-02
Ozone depletion	kg CFC11 eq	3.71E-07	5.49E-09	3.24E-12	6.54E-10	9.03E-11	-4.76E-08
Acidification	mol H ⁺ eq	1.05E-01	4.03E-03	2.20E-05	6.21E-04	2.71E-05	-9.32E-02
Eutrophication, freshwater	kg P eq	4.68E-03	1.44E-03	7.58E-07	4.41E-05	6.23E-07	-2.12E-02
Eutrophication, marine	kg N eq	1.70E-02	9.50E-04	5.10E-06	8.66E-05	1.12E-05	-1.62E-02
Eutrophication, terrestrial	mol N eq	1.72E-01	7.40E-03	5.51E-05	9.63E-04	1.08E-04	-1.30E-01
Photochemical ozone formation	kg NMVOC eq	5.50E-02	1.98E-03	3.07E-05	3.04E-04	3.58E-05	-4.08E-02
Resource use, minerals and metals	kg Sb eq	4.52E-05	6.00E-07	3.13E-08	3.90E-06	9.52E-09	6.49E-05
Resource use, fossils	MJ	4.05E-01	9.30E+00	0.00E+00	9.16E-01	8.33E-02	-1.40E+02
Water use	m ³ depriv.	1.23E+00	5.70E-02	2.10E-04	2.21E-02	-4.24E-02	-3.26E+00

5.1.7 0.6-5052

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.45E+01	6.95E-01	9.64E-03	1.79E-01	3.16E-03	-2.31E+01
Climate change - Fossil	kg CO ₂ eq	1.43E+01	6.95E-01	9.58E-03	1.77E-01	3.15E-03	-2.31E+01
Climate change - Biogenic	kg CO ₂ eq	2.40E-02	9.87E-05	1.67E-06	1.19E-03	6.74E-06	-1.26E-02
Climate change - Land use and LU change	kg CO ₂ eq	1.28E-01	6.78E-05	3.90E-06	1.17E-04	3.46E-06	-4.75E-02
Ozone depletion	kg CFC11 eq	3.69E-07	1.14E-08	3.24E-12	7.19E-10	6.52E-11	-6.53E-08
Acidification	mol H ⁺ eq	9.85E-02	3.24E-03	2.20E-05	6.82E-04	1.96E-05	-1.41E-01
Eutrophication, freshwater	kg P eq	4.37E-03	3.75E-04	7.58E-07	4.85E-05	4.50E-07	-1.27E-02
Eutrophication, marine	kg N eq	1.60E-02	6.35E-04	5.10E-06	9.52E-05	8.08E-06	-2.43E-02
Eutrophication, terrestrial	mol N eq	1.60E-01	6.28E-03	5.51E-05	1.06E-03	7.80E-05	-2.46E-01
Photochemical ozone formation	kg NMVOC eq	5.19E-02	1.92E-03	3.07E-05	3.34E-04	2.58E-05	-7.14E-02
Resource use, minerals and metals	kg Sb eq	4.29E-05	6.89E-07	3.13E-08	4.28E-06	6.87E-09	6.97E-05
Resource use, fossils	MJ	3.47E+00	9.73E+00	0.00E+00	1.01E+00	6.01E-02	-2.43E+02
Water use	m ³ depriv.	1.20E+00	7.47E-02	2.10E-04	2.43E-02	-3.06E-02	-2.91E+00

5.1.8 0.46-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.52E+01	1.07E+00	9.64E-03	1.47E-01	5.56E-03	-4.55E+00
Climate change - Fossil	kg CO ₂ eq	1.49E+01	1.07E+00	9.58E-03	1.46E-01	5.53E-03	-4.52E+00
Climate change - Biogenic	kg CO ₂ eq	2.51E-02	1.56E-04	1.67E-06	9.78E-04	1.18E-05	-4.30E-03
Climate change - Land use and LU change	kg CO ₂ eq	1.41E-01	1.87E-04	3.90E-06	9.65E-05	6.08E-06	-7.33E-02
Ozone depletion	kg CFC11 eq	3.68E-07	6.58E-09	3.24E-12	5.92E-10	1.14E-10	-4.27E-08
Acidification	mol H ⁺ eq	1.04E-01	2.30E-03	2.20E-05	5.62E-04	3.44E-05	-4.18E-02
Eutrophication, freshwater	kg P eq	4.57E-03	7.33E-04	7.58E-07	4.00E-05	7.90E-07	-6.24E-04
Eutrophication, marine	kg N eq	1.68E-02	5.97E-04	5.10E-06	7.84E-05	1.42E-05	-4.56E-03
Eutrophication, terrestrial	mol N eq	1.68E-01	4.96E-03	5.51E-05	8.72E-04	1.37E-04	-4.75E-02
Photochemical ozone formation	kg NMVOC eq	5.39E-02	2.34E-03	3.07E-05	2.75E-04	4.53E-05	-1.89E-02
Resource use, minerals and metals	kg Sb eq	4.48E-05	1.27E-06	3.13E-08	3.53E-06	1.21E-08	5.91E-05
Resource use, fossils	MJ	4.23E-01	1.54E+01	0.00E+00	8.29E-01	1.06E-01	-4.55E+01
Water use	m ³ depriv.	1.20E+00	2.21E-01	2.10E-04	2.00E-02	-5.37E-02	-8.20E+00

5.1.9 0.38-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.52E+01	1.19E+00	9.64E-03	1.47E-01	5.56E-03	-4.55E+00
Climate change - Fossil	kg CO ₂ eq	1.51E+01	1.19E+00	9.58E-03	1.46E-01	5.53E-03	-4.52E+00
Climate change - Biogenic	kg CO ₂ eq	2.51E-02	1.72E-04	1.67E-06	9.78E-04	1.18E-05	-4.30E-03
Climate change - Land use and LU change	kg CO ₂ eq	1.05E-01	2.07E-04	3.90E-06	9.65E-05	6.08E-06	-7.33E-02
Ozone depletion	kg CFC11 eq	3.71E-07	7.27E-09	3.24E-12	5.92E-10	1.14E-10	-4.27E-08
Acidification	mol H ⁺ eq	1.03E-01	2.54E-03	2.20E-05	5.62E-04	3.44E-05	-4.18E-02
Eutrophication, freshwater	kg P eq	4.61E-03	8.10E-04	7.58E-07	4.00E-05	7.90E-07	-6.24E-04
Eutrophication, marine	kg N eq	1.67E-02	6.60E-04	5.10E-06	7.84E-05	1.42E-05	-4.56E-03
Eutrophication, terrestrial	mol N eq	1.70E-01	5.48E-03	5.51E-05	8.72E-04	1.37E-04	-4.75E-02
Photochemical ozone formation	kg NMVOC eq	5.42E-02	2.59E-03	3.07E-05	2.75E-04	4.53E-05	-1.89E-02
Resource use, minerals and metals	kg Sb eq	4.44E-05	1.41E-06	3.13E-08	3.53E-06	1.21E-08	5.91E-05
Resource use, fossils	MJ	4.87E-01	1.70E+01	0.00E+00	8.29E-01	1.06E-01	-4.55E+01
Water use	m ³ depriv.	1.21E+00	2.45E-01	2.10E-04	2.00E-02	-5.37E-02	-8.20E+00

5.1.10 1.0-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change - Total	kg CO ₂ eq	1.52E+01	3.93E-01	9.64E-03	1.78E-01	3.20E-03	-1.86E+01
Climate change - Fossil	kg CO ₂ eq	1.51E+01	3.92E-01	9.58E-03	1.77E-01	3.18E-03	-1.86E+01
Climate change - Biogenic	kg CO ₂ eq	2.47E-02	1.01E-04	1.67E-06	1.18E-03	6.81E-06	-1.06E-03
Climate change - Land use and LU change	kg CO ₂ eq	6.62E-02	2.90E-04	3.90E-06	1.17E-04	3.50E-06	-1.29E-03
Ozone depletion	kg CFC11 eq	3.65E-07	4.20E-10	3.24E-12	7.17E-10	6.59E-11	-2.74E-08
Acidification	mol H ⁺ eq	1.01E-01	2.74E-03	2.20E-05	6.80E-04	1.98E-05	-1.15E-01
Eutrophication, freshwater	kg P eq	4.59E-03	9.25E-05	7.58E-07	4.84E-05	4.54E-07	-3.21E-03
Eutrophication, marine	kg N eq	1.64E-02	5.89E-04	5.10E-06	9.50E-05	8.17E-06	-2.07E-02
Eutrophication, terrestrial	mol N eq	1.69E-01	6.25E-03	5.51E-05	1.06E-03	7.89E-05	-2.18E-01
Photochemical ozone formation	kg NMVOC eq	5.38E-02	1.70E-03	3.07E-05	3.33E-04	2.61E-05	-6.39E-02
Resource use, minerals and metals	kg Sb eq	4.35E-05	3.87E-07	3.13E-08	4.27E-06	6.94E-09	7.08E-05
Resource use, fossils	MJ	2.29E-01	0.00E+00	0.00E+00	1.00E+00	6.07E-02	0.00E+00
Water use	m ³ depriv.	1.19E+00	7.07E-02	2.10E-04	2.43E-02	-3.09E-02	-1.51E+00

5.2 Additional environmental impact indicators

5.2.1 3.0-5052

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.		9.78E-07	1.52E-09	5.70E-10	1.14E-08	5.59E-10	-6.28E-07
Ionising radiation	kBq U-235 eq		1.50E-01	3.18E-04	1.12E-04	4.08E-03	1.24E-04	-5.35E-02
Ecotoxicity, freshwater	CTUe		3.06E+01	4.80E-01	3.61E-02	6.34E-01	3.37E+01	-3.30E+01
Human toxicity, cancer	CTUh		1.52E-08	2.98E-11	5.03E-11	5.44E-11	2.41E-12	1.27E-09
Human toxicity, non-cancer	CTUh		7.64E-08	1.66E-09	8.44E-11	3.51E-09	4.60E-10	-8.91E-08
Land use	Pt		3.39E+01	1.62E-01	8.15E-02	9.75E-01	1.60E-01	-7.08E+00

5.2.2 1.5-3003

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.		1.15E-06	2.55E-08	5.70E-10	1.24E-08	4.07E-10	-1.63E-06
Ionising radiation	kBq U-235 eq		3.31E-01	3.93E-02	1.12E-04	4.48E-03	9.01E-05	-6.54E-02
Ecotoxicity, freshwater	CTUe		5.81E+01	1.06E+00	3.61E-02	6.96E-01	2.45E+01	-4.33E+01
Human toxicity, cancer	CTUh		3.63E-08	3.10E-10	5.03E-11	5.97E-11	1.76E-12	-1.91E-08
Human toxicity, non-cancer	CTUh		1.33E-07	1.93E-09	8.44E-11	3.85E-09	3.35E-10	-5.30E-08
Land use	Pt		3.02E+01	6.66E-01	8.15E-02	1.07E+00	1.17E-01	-3.13E+01

5.2.3 1.2-3004

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.		1.14E-06	1.67E-09	5.70E-10	9.45E-09	8.23E-10	-8.51E-07
Ionising radiation	kBq U-235 eq		3.29E-01	5.90E-04	1.12E-04	3.40E-03	1.82E-04	-5.65E-02
Ecotoxicity, freshwater	CTUe		5.79E+01	2.12E-01	3.61E-02	5.28E-01	4.96E+01	-2.50E+01
Human toxicity, cancer	CTUh		3.55E-08	2.54E-11	5.03E-11	4.53E-11	3.56E-12	1.41E-09
Human toxicity, non-cancer	CTUh		1.28E-07	6.38E-10	8.44E-11	2.92E-09	6.77E-10	-6.35E-08

Land use	Pt	3.07E+01	2.32E-01	8.15E-02	8.11E-01	2.36E-01	-2.42E+01
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5.2.4 0.98-3003

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.		1.12E-06	2.01E-09	5.70E-10	9.45E-09	8.23E-10	-8.51E-07
Ionising radiation	kBq U-235 eq		3.23E-01	7.11E-04	1.12E-04	3.40E-03	1.82E-04	-5.65E-02
Ecotoxicity, freshwater	CTUe		5.72E+01	2.55E-01	3.61E-02	5.28E-01	4.96E+01	-2.50E+01
Human toxicity, cancer	CTUh		3.50E-08	3.06E-11	5.03E-11	4.53E-11	3.56E-12	1.41E-09
Human toxicity, non-cancer	CTUh		1.29E-07	7.68E-10	8.44E-11	2.92E-09	6.77E-10	-6.35E-08
Land use	Pt		2.93E+01	2.79E-01	8.15E-02	8.11E-01	2.36E-01	-2.42E+01

5.2.5 0.9-3004

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.		1.18E-06	2.23E-09	5.70E-10	9.45E-09	8.23E-10	-8.51E-07
Ionising radiation	kBq U-235 eq		3.40E-01	7.92E-04	1.12E-04	3.40E-03	1.82E-04	-5.65E-02
Ecotoxicity, freshwater	CTUe		6.07E+01	2.84E-01	3.61E-02	5.28E-01	4.96E+01	-2.50E+01
Human toxicity, cancer	CTUh		3.66E-08	3.41E-11	5.03E-11	4.53E-11	3.56E-12	1.41E-09
Human toxicity, non-cancer	CTUh		1.32E-07	8.56E-10	8.44E-11	2.92E-09	6.77E-10	-6.35E-08
Land use	Pt		3.13E+01	3.11E-01	8.15E-02	8.11E-01	2.36E-01	-2.42E+01

5.2.6 0.7-5005

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.		1.15E-06	6.53E-09	5.70E-10	1.14E-08	5.59E-10	-6.28E-07
Ionising radiation	kBq U-235 eq		3.39E-01	1.37E-03	1.12E-04	4.08E-03	1.24E-04	-5.35E-02
Ecotoxicity, freshwater	CTUe		7.37E+01	2.07E+00	3.61E-02	6.34E-01	3.37E+01	-3.30E+01
Human toxicity, cancer	CTUh		3.53E-08	1.28E-10	5.03E-11	5.44E-11	2.41E-12	1.27E-09

Human toxicity, non-cancer	CTUh	1.31E-07	7.15E-09	8.44E-11	3.51E-09	4.60E-10	-8.91E-08
Land use	Pt	3.58E+01	6.99E-01	8.15E-02	9.75E-01	1.60E-01	-7.08E+00

5.2.7 0.6-5052

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.	1.07E-06	9.60E-09	5.70E-10	1.25E-08	4.03E-10	-1.12E-06
Ionising radiation	kBq U-235 eq	3.29E-01	9.50E-02	1.12E-04	4.49E-03	8.91E-05	-7.46E-02
Ecotoxicity, freshwater	CTUe	7.55E+01	7.87E-01	3.61E-02	6.97E-01	2.43E+01	-3.31E+01
Human toxicity, cancer	CTUh	3.29E-08	1.11E-10	5.03E-11	5.98E-11	1.74E-12	1.86E-09
Human toxicity, non-cancer	CTUh	1.22E-07	3.43E-09	8.44E-11	3.86E-09	3.32E-10	-8.39E-08
Land use	Pt	3.54E+01	1.97E+00	8.15E-02	1.07E+00	1.15E-01	-3.20E+01

5.2.8 0.46-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.	1.12E-06	6.04E-09	5.70E-10	1.03E-08	7.08E-10	-7.19E-07
Ionising radiation	kBq U-235 eq	3.39E-01	8.34E-03	1.12E-04	3.70E-03	1.57E-04	-3.72E-02
Ecotoxicity, freshwater	CTUe	8.12E+01	1.59E+00	3.61E-02	5.74E-01	4.26E+01	-2.41E+00
Human toxicity, cancer	CTUh	3.47E-08	1.09E-10	5.03E-11	4.93E-11	3.06E-12	-2.77E-08
Human toxicity, non-cancer	CTUh	1.28E-07	5.47E-09	8.44E-11	3.18E-09	5.83E-10	9.41E-09
Land use	Pt	3.87E+01	1.15E+00	8.15E-02	8.83E-01	2.03E-01	3.06E+01

5.2.9 0.38-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.	1.14E-06	6.67E-09	5.70E-10	1.03E-08	7.08E-10	-7.19E-07
Ionising radiation	kBq U-235 eq	3.31E-01	9.22E-03	1.12E-04	3.70E-03	1.57E-04	-3.72E-02
Ecotoxicity, freshwater	CTUe	6.85E+01	1.76E+00	3.61E-02	5.74E-01	4.26E+01	-2.41E+00

Human toxicity, cancer	CTUh	3.47E-08	1.20E-10	5.03E-11	4.93E-11	3.06E-12	-2.77E-08
Human toxicity, non-cancer	CTUh	1.29E-07	6.05E-09	8.44E-11	3.18E-09	5.83E-10	9.41E-09
Land use	Pt	4.04E+01	1.27E+00	8.15E-02	8.83E-01	2.03E-01	3.06E+01

5.2.10 1.0-3003

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Particulate matter	disease inc.		1.13E-06	3.67E-08	5.70E-10	1.24E-08	4.07E-10	-1.63E-06
Ionising radiation	kBq U-235 eq		3.19E-01	5.65E-02	1.12E-04	4.48E-03	9.01E-05	-6.54E-02
Ecotoxicity, freshwater	CTUe		5.70E+01	1.53E+00	3.61E-02	6.96E-01	2.45E+01	-4.33E+01
Human toxicity, cancer	CTUh		3.46E-08	4.47E-10	5.03E-11	5.97E-11	1.76E-12	-1.91E-08
Human toxicity, non-cancer	CTUh		1.30E-07	2.78E-09	8.44E-11	3.85E-09	3.35E-10	-5.30E-08
Land use	Pt		2.99E+01	9.58E-01	8.15E-02	1.07E+00	1.17E-01	-3.13E+01

5.3 Parameters describing resource use

5.3.1 3.0-5052

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
PERE		MJ (LHV)	6.01E+01	1.98E-01	1.79E-03	1.35E-01	1.87E-03	-1.26E+01
PERM		MJ (LHV)	2.76E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT		MJ (LHV)	3.36E+02	1.98E-01	1.79E-03	1.35E-01	1.87E-03	-1.26E+01
PENRE		MJ (LHV)	1.24E+02	2.16E+00	6.88E-06	9.18E-01	8.33E-02	-1.40E+02
PENRM		MJ (LHV)	4.51E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT		MJ (LHV)	1.25E+02	2.16E+00	6.88E-06	9.18E-01	8.33E-02	-1.40E+02
Use of secondary material		kg	1.96E-02	1.30E-04	0.00E+00	9.04E-04	3.06E-05	-1.51E-02
Use of renewable secondary fuels		MJ (LHV)	5.04E-04	7.85E-07	0.00E+00	2.70E-05	5.21E-07	-2.74E-04
Use of non-renewable secondary fuels		MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water		m ³	2.54E-02	4.02E-04	8.09E-06	5.54E-04	-9.85E-04	-8.34E-02

5.3.2 1.5-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ (LHV)	1.62E+01	2.23E-01	1.79E-03	1.48E-01	1.36E-03	-6.94E+00
PERM	MJ (LHV)	9.36E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ (LHV)	2.56E+01	2.23E-01	1.79E-03	1.48E-01	1.36E-03	-6.94E+00
PENRE	MJ (LHV)	2.09E+00	3.26E-05	6.88E-06	1.01E+00	6.08E-02	-1.99E-03
PENRM	MJ (LHV)	9.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ (LHV)	3.04E+00	3.26E-05	6.88E-06	1.01E+00	6.08E-02	-1.99E-03
Use of secondary material	kg	4.78E-04	0.00E+00	0.00E+00	9.91E-04	2.23E-05	0.00E+00
Use of renewable secondary fuels	MJ (LHV)	6.40E-04	0.00E+00	0.00E+00	2.96E-05	3.80E-07	0.00E+00
Use of non-renewable secondary fuels	MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m ³	5.43E-02	1.17E-03	8.09E-06	6.08E-04	-7.18E-04	-3.64E-02

5.3.3 1.2-3004

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ (LHV)	1.61E+01	4.73E-02	1.79E-03	1.12E-01	2.75E-03	-7.47E+00
PERM	MJ (LHV)	1.20E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ (LHV)	2.82E+01	4.73E-02	1.79E-03	1.12E-01	2.75E-03	-7.47E+00
PENRE	MJ (LHV)	2.21E+00	4.71E+00	6.88E-06	7.64E-01	1.23E-01	-1.84E+02
PENRM	MJ (LHV)	1.14E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ (LHV)	3.35E+00	4.71E+00	6.88E-06	7.64E-01	1.23E-01	-1.84E+02
Use of secondary material	kg	5.05E-04	1.08E-03	0.00E+00	7.52E-04	4.51E-05	-1.66E-02
Use of renewable secondary fuels	MJ (LHV)	6.75E-04	1.09E-06	0.00E+00	2.25E-05	7.67E-07	-3.03E-04
Use of non-renewable secondary fuels	MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m ³	5.36E-02	5.31E-04	8.09E-06	4.61E-04	-1.45E-03	-5.48E-02

5.3.4 0.98-3003

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
PERE		MJ (LHV)	1.59E+01	5.70E-02	1.79E-03	1.12E-01	2.75E-03	-7.47E+00
PERM		MJ (LHV)	1.58E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT		MJ (LHV)	3.16E+01	5.70E-02	1.79E-03	1.12E-01	2.75E-03	-7.47E+00
PENRE		MJ (LHV)	2.36E+00	5.67E+00	6.88E-06	7.64E-01	1.23E-01	-1.84E+02
PENRM		MJ (LHV)	1.11E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT		MJ (LHV)	3.46E+00	5.67E+00	6.88E-06	7.64E-01	1.23E-01	-1.84E+02
Use of secondary material		kg	5.42E-04	1.30E-03	0.00E+00	7.52E-04	4.51E-05	-1.66E-02
Use of renewable secondary fuels		MJ (LHV)	7.23E-04	1.31E-06	0.00E+00	2.25E-05	7.67E-07	-3.03E-04
Use of non-renewable secondary fuels		MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water		m ³	5.29E-02	6.39E-04	8.09E-06	4.61E-04	-1.45E-03	-5.48E-02

5.3.5 0.9-3004

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
PERE		MJ (LHV)	1.67E+01	6.35E-02	1.79E-03	1.12E-01	2.75E-03	-7.47E+00
PERM		MJ (LHV)	1.31E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT		MJ (LHV)	2.98E+01	6.35E-02	1.79E-03	1.12E-01	2.75E-03	-7.47E+00
PENRE		MJ (LHV)	2.63E+00	6.31E+00	6.88E-06	7.64E-01	1.23E-01	-1.84E+02
PENRM		MJ (LHV)	1.32E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT		MJ (LHV)	3.95E+00	6.31E+00	6.88E-06	7.64E-01	1.23E-01	-1.84E+02
Use of secondary material		kg	6.08E-04	1.45E-03	0.00E+00	7.52E-04	4.51E-05	-1.66E-02
Use of renewable secondary fuels		MJ (LHV)	8.13E-04	1.46E-06	0.00E+00	2.25E-05	7.67E-07	-3.03E-04
Use of non-renewable secondary fuels		MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water		m ³	5.57E-02	7.11E-04	8.09E-06	4.61E-04	-1.45E-03	-5.48E-02

5.3.6 0.7-5005

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
PERE		MJ (LHV)	1.73E+01	8.51E-01	1.79E-03	1.35E-01	1.87E-03	-1.26E+01
PERM		MJ (LHV)	1.07E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT		MJ (LHV)	2.80E+01	8.51E-01	1.79E-03	1.35E-01	1.87E-03	-1.26E+01
PENRE		MJ (LHV)	6.00E-01	9.30E+00	6.88E-06	9.18E-01	8.33E-02	-1.40E+02
PENRM		MJ (LHV)	1.02E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT		MJ (LHV)	1.62E+00	9.30E+00	6.88E-06	9.18E-01	8.33E-02	-1.40E+02
Use of secondary material		kg	1.92E-05	5.60E-04	0.00E+00	9.04E-04	3.06E-05	-1.51E-02
Use of renewable secondary fuels		MJ (LHV)	5.12E-06	3.38E-06	0.00E+00	2.70E-05	5.21E-07	-2.74E-04
Use of non-renewable secondary fuels		MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water		m ³	5.49E-02	1.73E-03	8.09E-06	5.54E-04	-9.85E-04	-8.34E-02

5.3.7 0.6-5052

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
PERE		MJ (LHV)	1.64E+01	9.89E-01	1.79E-03	1.49E-01	1.35E-03	-9.87E+00
PERM		MJ (LHV)	1.72E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT		MJ (LHV)	3.36E+01	9.89E-01	1.79E-03	1.49E-01	1.35E-03	-9.87E+00
PENRE		MJ (LHV)	3.69E+00	9.73E+00	6.88E-06	1.01E+00	6.01E-02	-2.43E+02
PENRM		MJ (LHV)	2.64E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT		MJ (LHV)	6.33E+00	9.73E+00	6.88E-06	1.01E+00	6.01E-02	-2.43E+02
Use of secondary material		kg	8.20E-04	1.02E-03	0.00E+00	9.93E-04	2.21E-05	-2.19E-02
Use of renewable secondary fuels		MJ (LHV)	1.10E-03	4.10E-06	0.00E+00	2.97E-05	3.76E-07	-4.00E-04
Use of non-renewable secondary fuels		MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water		m ³	5.26E-02	2.28E-03	8.09E-06	6.09E-04	-7.11E-04	-7.24E-02

5.3.8 0.46-3003

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
PERE		MJ (LHV)	1.75E+01	1.60E+00	1.79E-03	1.22E-01	2.37E-03	-3.86E+01
PERM		MJ (LHV)	8.21E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT		MJ (LHV)	9.96E+01	1.60E+00	1.79E-03	1.22E-01	2.37E-03	-3.86E+01
PENRE		MJ (LHV)	6.76E-01	1.54E+01	6.88E-06	8.31E-01	1.06E-01	-4.55E+01
PENRM		MJ (LHV)	1.34E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT		MJ (LHV)	2.02E+00	1.54E+01	6.88E-06	8.31E-01	1.06E-01	-4.55E+01
Use of secondary material		kg	3.68E-05	2.10E-03	0.00E+00	8.18E-04	3.88E-05	-1.42E-02
Use of renewable secondary fuels		MJ (LHV)	1.25E-05	5.61E-06	0.00E+00	2.45E-05	6.60E-07	-1.29E-04
Use of non-renewable secondary fuels		MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water		m ³	5.38E-02	5.37E-03	8.09E-06	5.02E-04	-1.25E-03	-1.99E-01

5.3.9 0.38-3003

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
PERE		MJ (LHV)	1.82E+01	1.77E+00	1.79E-03	1.22E-01	2.37E-03	-3.86E+01
PERM		MJ (LHV)	3.04E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT		MJ (LHV)	3.23E+02	1.77E+00	1.79E-03	1.22E-01	2.37E-03	-3.86E+01
PENRE		MJ (LHV)	6.50E-01	1.70E+01	6.88E-06	8.31E-01	1.06E-01	-4.55E+01
PENRM		MJ (LHV)	8.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT		MJ (LHV)	1.50E+00	1.70E+01	6.88E-06	8.31E-01	1.06E-01	-4.55E+01
Use of secondary material		kg	8.17E-05	2.32E-03	0.00E+00	8.18E-04	3.88E-05	-1.42E-02
Use of renewable secondary fuels		MJ (LHV)	1.01E-05	6.20E-06	0.00E+00	2.45E-05	6.60E-07	-1.29E-04
Use of non-renewable secondary fuels		MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water		m ³	5.40E-02	5.93E-03	8.09E-06	5.02E-04	-1.25E-03	-1.99E-01

5.3.10 1.0-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ (LHV)	1.60E+01	3.20E-01	1.79E-03	1.48E-01	1.36E-03	-6.94E+00
PERM	MJ (LHV)	8.65E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ (LHV)	2.46E+01	3.20E-01	1.79E-03	1.48E-01	1.36E-03	-6.94E+00
PENRE	MJ (LHV)	2.97E-01	4.69E-05	6.88E-06	1.01E+00	6.08E-02	-1.99E-03
PENRM	MJ (LHV)	3.49E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ (LHV)	6.46E-01	4.69E-05	6.88E-06	1.01E+00	6.08E-02	-1.99E-03
Use of secondary material	kg	1.43E-05	0.00E+00	0.00E+00	9.91E-04	2.23E-05	0.00E+00
Use of renewable secondary fuels	MJ (LHV)	6.63E-06	0.00E+00	0.00E+00	2.96E-05	3.80E-07	0.00E+00
Use of non-renewable secondary fuels	MJ (LHV)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m ³	5.24E-02	1.69E-03	8.09E-06	6.08E-04	-7.18E-04	-3.64E-02

5.4 Environmental information describing waste categories

5.4.1 3.0-5052

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.88E+00	1.61E-02	1.62E-04	1.29E-02	4.14E-04	-2.48E+00
Non-hazardous waste disposed	kg	8.09E+00	1.61E+00	1.29E-03	3.63E-01	7.47E-01	-1.03E+02
Radioactive waste disposed	kg	2.65E-05	6.73E-08	0.00E+00	9.96E-07	3.02E-08	-1.92E-05

5.4.2 1.5-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.38E+00	2.15E-02	1.62E-04	1.41E-02	3.01E-04	-2.90E+00
Non-hazardous waste disposed	kg	2.54E+00	2.25E-02	1.29E-03	3.98E-01	5.45E-01	-1.08E+00
Radioactive waste disposed	kg	1.36E-06	0.00E+00	0.00E+00	1.09E-06	2.20E-08	0.00E+00

5.4.3 1.2-3004

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.35E+00	3.97E-03	1.62E-04	1.07E-02	6.09E-04	-2.88E+00
Non-hazardous waste disposed	kg	2.93E+00	6.75E-02	1.29E-03	3.02E-01	1.10E+00	-4.70E+01
Radioactive waste disposed	kg	1.43E-06	1.37E-07	0.00E+00	8.29E-07	4.45E-08	-1.86E-05

5.4.4 0.98-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.31E+00	4.78E-03	1.62E-04	1.07E-02	6.09E-04	-2.88E+00
Non-hazardous waste disposed	kg	2.69E+00	8.13E-02	1.29E-03	3.02E-01	1.10E+00	-4.70E+01
Radioactive waste disposed	kg	1.53E-06	1.65E-07	0.00E+00	8.29E-07	4.45E-08	-1.86E-05

5.4.5 0.9-3004

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed		kg	2.43E+00	5.32E-03	1.62E-04	1.07E-02	6.09E-04	-2.88E+00
Non-hazardous waste disposed		kg	3.07E+00	9.06E-02	1.29E-03	3.02E-01	1.10E+00	-4.70E+01
Radioactive waste disposed		kg	1.71E-06	1.84E-07	0.00E+00	8.29E-07	4.45E-08	-1.86E-05

5.4.6 0.7-5005

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed		kg	2.40E+00	6.92E-02	1.62E-04	1.29E-02	4.14E-04	-2.48E+00
Non-hazardous waste disposed		kg	4.61E+00	6.91E+00	1.29E-03	3.63E-01	7.47E-01	-1.03E+02
Radioactive waste disposed		kg	1.12E-07	2.89E-07	0.00E+00	9.96E-07	3.02E-08	-1.92E-05

5.4.7 0.6-5052

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed		kg	2.23E+00	4.85E-02	1.62E-04	1.42E-02	2.98E-04	-3.80E+00
Non-hazardous waste disposed		kg	5.76E+00	1.85E+00	1.29E-03	3.99E-01	5.39E-01	-6.21E+01
Radioactive waste disposed		kg	2.29E-06	2.06E-05	0.00E+00	1.09E-06	2.18E-08	-2.45E-05

5.4.8 0.46-3003

Environment Category	Impact	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed		kg	2.34E+00	1.12E-02	1.62E-04	1.17E-02	5.24E-04	-1.91E+00
Non-hazardous waste disposed		kg	5.48E+00	3.57E+00	1.29E-03	3.29E-01	9.47E-01	-4.02E+00
Radioactive waste disposed		kg	1.40E-07	2.09E-06	0.00E+00	9.02E-07	3.83E-08	-1.49E-05

5.4.9 0.38-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.36E+00	1.24E-02	1.62E-04	1.17E-02	5.24E-04	-1.91E+00
Non-hazardous waste disposed	kg	4.13E+00	3.95E+00	1.29E-03	3.29E-01	9.47E-01	-4.02E+00
Radioactive waste disposed	kg	2.11E-07	2.31E-06	0.00E+00	9.02E-07	3.83E-08	-1.49E-05

5.4.10 1.0-3003

Environment Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.35E+00	3.09E-02	1.62E-04	1.41E-02	3.01E-04	-2.90E+00
Non-hazardous waste disposed	kg	2.70E+00	3.23E-02	1.29E-03	3.98E-01	5.45E-01	-1.08E+00
Radioactive waste disposed	kg	9.55E-08	0.00E+00	0.00E+00	1.09E-06	2.20E-08	0.00E+00

5.5 Environmental information describing output flows

5.5.1 3.0-5052

Environment Category	Impact	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
Materials for recycling		kg	5.39E-03	1.33E-04	0.00E+00	6.32E-01	1.66E-06	-8.75E-03
Materials for energy recovery		kg	3.87E-06	2.22E-08	0.00E+00	4.22E-07	5.97E-09	-2.47E-06
Exported energy - electricity		MJ	7.93E-03	3.62E-05	0.00E+00	2.14E-02	2.40E-04	-6.57E-03
Exported energy - heat		MJ	1.09E-02	6.77E-05	0.00E+00	7.96E-03	2.22E-05	-6.94E-03

5.5.2 1.5-3003

Environment Category	Impact	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
Materials for recycling		kg	4.18E-05	0.00E+00	0.00E+00	6.92E-01	1.21E-06	0.00E+00
Materials for energy recovery		kg	1.60E-07	0.00E+00	0.00E+00	4.62E-07	4.35E-09	0.00E+00
Exported energy - electricity		MJ	7.03E-04	0.00E+00	0.00E+00	2.35E-02	1.75E-04	0.00E+00
Exported energy - heat		MJ	4.38E-04	0.00E+00	0.00E+00	8.72E-03	1.62E-05	0.00E+00

5.5.3 1.2-3004

Environment Category	Impact	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
Materials for recycling		kg	4.40E-05	2.04E-04	0.00E+00	5.25E-01	2.44E-06	-1.14E-02
Materials for energy recovery		kg	1.69E-07	5.96E-08	0.00E+00	3.51E-07	8.80E-09	-4.70E-06
Exported energy - electricity		MJ	7.42E-04	5.43E-02	0.00E+00	1.78E-02	3.53E-04	-5.57E-03
Exported energy - heat		MJ	4.62E-04	7.38E-05	0.00E+00	6.62E-03	3.27E-05	-7.45E-03

5.5.4 0.98-3003

Environment Impact Category	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
Materials for recycling	kg	4.70E-05	2.46E-04	0.00E+00	5.25E-01	2.44E-06	-1.14E-02
Materials for energy recovery	kg	1.81E-07	7.18E-08	0.00E+00	3.51E-07	8.80E-09	-4.70E-06
Exported energy - electricity	MJ	7.95E-04	6.54E-02	0.00E+00	1.78E-02	3.53E-04	-5.57E-03
Exported energy - heat	MJ	4.95E-04	8.88E-05	0.00E+00	6.62E-03	3.27E-05	-7.45E-03

5.5.5 0.9-3004

Environment Impact Category	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
Materials for recycling	kg	5.25E-05	2.74E-04	0.00E+00	5.25E-01	2.44E-06	-1.14E-02
Materials for energy recovery	kg	2.03E-07	7.99E-08	0.00E+00	3.51E-07	8.80E-09	-4.70E-06
Exported energy - electricity	MJ	8.93E-04	7.28E-02	0.00E+00	1.78E-02	3.53E-04	-5.57E-03
Exported energy - heat	MJ	5.56E-04	9.89E-05	0.00E+00	6.62E-03	3.27E-05	-7.45E-03

5.5.6 0.7-5005

Environment Impact Category	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
Materials for recycling	kg	4.31E-06	5.72E-04	0.00E+00	6.32E-01	1.66E-06	-8.75E-03
Materials for energy recovery	kg	7.44E-09	9.53E-08	0.00E+00	4.22E-07	5.97E-09	-2.47E-06
Exported energy - electricity	MJ	1.92E-05	1.56E-04	0.00E+00	2.14E-02	2.40E-04	-6.57E-03
Exported energy - heat	MJ	3.29E-05	2.91E-04	0.00E+00	7.96E-03	2.22E-05	-6.94E-03

5.5.7 0.6-5052

Environment Impact Category	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
Materials for recycling	kg	6.99E-05	2.77E-04	0.00E+00	6.94E-01	1.20E-06	-1.51E-02
Materials for energy recovery	kg	2.74E-07	1.43E-07	0.00E+00	4.63E-07	4.31E-09	-6.20E-06
Exported energy - electricity	MJ	1.21E-03	9.36E-02	0.00E+00	2.35E-02	1.73E-04	-7.36E-03
Exported energy - heat	MJ	7.48E-04	2.57E-04	0.00E+00	8.75E-03	1.60E-05	-9.85E-03

5.5.8 0.46-3003

Environment Category	Impact	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
Materials for recycling		kg	5.43E-06	1.21E-03	0.00E+00	5.72E-01	2.10E-06	-1.45E-02
Materials for energy recovery		kg	1.09E-08	1.81E-07	0.00E+00	3.82E-07	7.57E-09	-1.73E-06
Exported energy - electricity		MJ	3.14E-05	2.44E-04	0.00E+00	1.94E-02	3.04E-04	-4.53E-03
Exported energy - heat		MJ	3.12E-05	5.44E-04	0.00E+00	7.20E-03	2.81E-05	-3.33E-03

5.5.9 0.38-3003

Environment Category	Impact	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
Materials for recycling		kg	8.54E-06	1.33E-03	0.00E+00	5.72E-01	2.10E-06	-1.45E-02
Materials for energy recovery		kg	1.77E-08	2.01E-07	0.00E+00	3.82E-07	7.57E-09	-1.73E-06
Exported energy - electricity		MJ	5.98E-05	2.70E-04	0.00E+00	1.94E-02	3.04E-04	-4.53E-03
Exported energy - heat		MJ	4.94E-05	6.02E-04	0.00E+00	7.20E-03	2.81E-05	-3.33E-03

5.5.10 1.0-3003

Environment Category	Impact	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
Materials for recycling		kg	3.73E-06	0.00E+00	0.00E+00	6.92E-01	1.21E-06	0.00E+00
Materials for energy recovery		kg	5.09E-09	0.00E+00	0.00E+00	4.62E-07	4.35E-09	0.00E+00
Exported energy - electricity		MJ	1.31E-05	0.00E+00	0.00E+00	2.35E-02	1.75E-04	0.00E+00

Exported energy - heat	MJ	1.64E-05	0.00E+00	0.00E+00	8.72E-03	1.62E-05	0.00E+00
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5.6 Information describing the biogenic carbon content at the factory gate

5.6.1 3.0-5052

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	9.27E+00

5.6.2 1.5-3003

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	3.14E-01

5.6.3 1.2-3004

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	4.03E-01

5.6.4 0.98-3003

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	5.29E-01

5.6.5 0.9-3004

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	4.39E-01

5.6.6 0.7-5005

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	3.58E-01

5.6.7 0.6-5052

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	5.76E-01

5.6.8 0.46-3003

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	2.75E+00

5.6.9 0.38-3003

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	1.02E+01

5.6.10 1.0-3003

Environment Impact Category	Unit	Value
Biogenic carbon content - product	kg C	0.00E+00
Biogenic carbon content - packaging	kg C	2.90E-01

6. Reference

- ISO 14040:2006 Environmental management — Life cycle assessment — Requirements and guidelines
- ISO 14044:2006 Environmental management — Life cycle assessment — Principles and framework
- ICMQ-001/15 rev 3.1 (12/11/2024) (according to EN 15804:2012+A2:2019/AC:2021)
- EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
- SGS/2025/LCAR/E/0601 LCA Report (25/08/2025)
- EPDIItaly Regulations Rev 6.0 (30/10/2023)
- Ecoinvent v3.11 database

Annex A Abbreviation

Abbreviation	Full name
IPCC	Intergovernmental Panel on Climate Change
CO ₂ eq.	Carbon Dioxide Equivalent
LCA	Life cycle assessment
BSI	British Standards Institution
ISO	International Organization for Standardization
PEF	Product Environment Footprint
GWP	Global Warming Potential
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 (primary energy and primary energy resources used as raw materials)
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 (primary energy and primary energy resources used as raw materials)