# CUADROS ELÉCTRICOS NAZARENOS S.L.





### **ENVIRONMENTAL PRODUCT DECLARATION**

# ELECTRICAL SWITCHBOARD CBTG-440V-3P+N - 1600 A25 kA 1s - 50 Hz

PLANTS: SEVILLE, SPAIN

#### in compliance with ISO 14025 and EN 50693

Program Operator	GlobalEPD
Publisher	EPDItaly

Registration Number	MR-EPDITALY0055
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Issue Date	2022-05-26	
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# **AENOR**Confía

**Environmental** 

**Product** 

**Declaration** 

EN ISO 14025:2010 EN 50693:2019 EPD Italy PCR 007 EPD Italy PCR 015



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# **CUADROS ELÉCTRICOS NAZARENOS S.L.**



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# **ceη**solutions

#### **EPD** owner

CUADROS ELÉCTRICOS NAZARENOS S.L. (CEN SOLUTIONS)

Carretera de la Esclusa s/n
Zona Franca
Tel. +34 955 675 128
Censolutions@censolutions.es

41011 Sevilla (Spain) Web <u>www.censolutions.es</u>

#### **LCA Analysis**



LAVOLA - ANTHESIS GROUP

Rambla de Catalunya, 6, planta 2, 08007

Barcelona (Spain)

+34 938 515 055

Tel.

Web https://www.anthesisgroup.com/es/

#### **Program operator GlobalEPD**



AENOR Internacional S.A.U.C/ Génova 6

 Génova 6
 Tel.
 +34 902 102 201

 28009 – Madrid
 Mail
 aenordap@aenor.com

 (Spain)
 Web
 www.aenor.com

AENOR is a founding member of the European ECO Platform Association of Administrators of the EPD Verification Programme

EPDItaly 007 and 015 The European standard EN 50693:2019 is used as the base for the PCRs		
Independent verification of the declaration and data, according to EN ISO 14025:2010		
□ Internal	⊠External	

Third party verifier

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#### 1. General information

#### 1.1. The company

**CEN Solutions** is mainly active on the design, development and implementation of electrical equipment and provides integral solutions for several segments as energy, petrochemical, industry, aviation, and water sector.

These solutions allow to generate added value for its shareholders and employees, ensuring its current and future international presence and its investments profitability.

The CEN Solutions core business consists of the manufacturing of low and medium voltage electrical equipment, modular electrical rooms, power storage systems and other equipment for all kinds of facilities. The related services for electrical equipment include retrofitting, modifications, and preventive/corrective maintenance operations.

**CEN Solutions** is a leading company supplier for power storage solutions, with more than 140 MWh installed and 500 MWh produced, performed by benchmark customers on the power sector at various locations as United States of America, Spain, and Latin America.

At the present time, the company has an employee workforce above 200 workers. Our manufacturing plant has implemented a Quality Management System in accordance with ISO 9001 regulation as well as an Environmental Management System in accordance with ISO 14001 regulation.

The production plant is located at Zona Franca of Seville's harbour, even though its relocation is planned at the end of 2022 to the new facilities of Megapark industrial state based on Dos Hermanas (Seville).

The new production plant has a surface area of 30.100m2, of which 17.000 m2 is focused on equipment manufacturing processes.

#### 1.2. Scope of EPD.

This EPD describes the environmental performance of the product life cycle for the electrical switchboard CBTG-440V-3P+N – 1600 A 25 kA 1s – 50 Hz assembled by CEN Solutions (Cuadros Eléctricos Nazarenos S.L.) in the geographical and technological environment of Spain for year 2022.

The product use is intended for the electricity distribution of the main low voltage circuit coming from power transformer station to separate electrical circuits, to provide service for low voltage distribution networks.

The scope of the present EPD corresponds to a cradle to grave LCA study.

#### 1.3. Life cycle and compliance

The present EPD has been implemented and verified according to the following regulations:

UNE-EN ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations – Principles and procedures.

EN 50693:2019 Product category rules for life cycle assessments of electronic and electrical products and systems.

Product category rules 007 and 015 from EPDItaly defined at tables on the next page.





**Table 1 PCR Information** 

Reference core PCR		
Title	Electronic and electrical products and systems	
Registration number	EPDItaly 007	
Issue date	2020-01-20	
Expiration date	2025-01-19	
Accordance	EN 50693:2019	
Programme operator	EPDItaly	

**Table 2 Sub-PCR information** 

Reference sub-PCR	
Title	Electronic and electrical products and systems - Switchboards
Registration number	EPDItaly 015
Issue date	2020-09-24
Expiration date	2025-09-24
Accordance	EN 50693:2019
Programme operator	EPDItaly

As required by the abovementioned PCRs, this EPD includes the entire life cycle of the product divided into the following stages, which are listed hereunder: Upstream module and Core module (Manufacturing stage), Downstream module (Distribution stage, Installation stage, Use and Maintenance stage and End of Life stage).

Environmental statements published within the same product category, but from different programs, may not be comparable.

Environmental Declarations may not be comparable if data origin is different (e.g., databases), not all relevant information modules are included, or they are not based on the same scenarios.

Comparison of electrical and electronic products and systems should be done using the same functional unit.





#### 2. The Product

#### 2.1. Product description

The present EPD covers the electrical switchboard model CBTG-440V-3P+N - 1600 A 25 kA 1s - 50 Hz assembled by CEN Solutions.

UN CPC Code: 46214

The product under study is a low voltage electrical panel with automatic switches intended for be installed at power transformer stations from ENDESA (ENEL).

This electrical switchboard has a one single design suitable for one to six electrical outputs, as well as for switches of several sizes and manufacturers.

The electrical panel is certified according to the requirements demanded by the following standards for electrical apparatus IEC 61439-1, IEC 61439-5 and ENDESA (ENEL) regulations.

The model CBTG is a set of components assembled on our manufacturing plant from Sevilla (Andalucía, Spain). The product use is intended for the electricity distribution of the main low voltage circuit coming from power transformer station to separate electrical circuits, in order to provide service for low voltage distribution networks.

The studied product is structured by the following components:

Incoming
Disconnector
Auxiliary input for generator
Distribution busbar
Protection system

#### 2.2. Product specifications

Hereunder, the main technical specifications of the product are described at the following tables

Table 3 Technical specifications for CBTG electrical switchboard

Parameters	Value	Unit
Nominal voltage (Ur)	440	V
Nominal current (Ir)	1600	А
Thermal current (lk)	25	kA
Test voltage (Uc)	10	kV
Nominal frequency	50	Hz

**Table 4 Reference product standards** 

Product regulations	
UNE-EN-61439-1	
UNE-EN-61439-5	
Endesa required specifications	





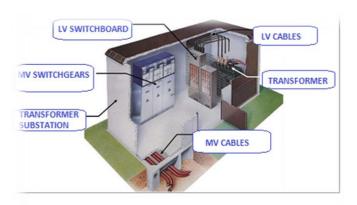
Figure 1 Electrical switchboard CBTG



Table 5 Composition of materials for CBTG electrical switchboard

Material	Amount
Copper	40-50%
Steel	20-30%
Plastic elements	1-5%
Non-manufactured products by CEN Solutions	30-40%
PRODUCT TOTAL WEIGHT (kg)	311,7

Figure 2 Electrical system chart for CBTG switchboard



#### 2.3. Product composition

At this point, the main components of the product and its packaging are presented at the attached tables per functional unit. It must be noted that the product under study is structured by several components, some of them not manufactured at CEN Solutions production plant. For this reason, these set of materials has been declared separately as a single group.

Table 6 Composition of materials for CBTG electrical switchboard packaging

Material	Amount
Wooden pallet	96%
Plastic film	2%
Polyamide strips	2%
PACKAGING TOTAL WEIGHT (kg)	29,1





#### 3. LCA Information

#### 3.1. Life cycle assessment

The scope of the present EPD is from cradle to grave, covering the total life cycle of the electrical switchboard CBTG. Therefore, the following processes are included: Raw materials extraction and processing, manufacturing of the electrical switchboard components, transportation of raw materials and components to manufacturing plant, product assembly, distribution of the electrical switchboard to the customer site and its further installation, product usage and end of life of the product.

The LCA study of the electrical switchboard CBTG, as well as the present EPD, has been performed by Anthesis Lavola Environmental Consultancy in 2022 using SimaPro software version 9.2 and Ecoinvent database version 3.8.

Likewise, this study has been based on the following LCA report: Life cycle analysis of the CBTG electrical panel, assembled by CEN Solutions.

#### 3.2. Functional unit

The functional unit used for the LCA performing is one electrical switchboard, which is defined as "the assembly of the electric device CBTG-440V-3P+N - 1600 A 25 kA 1s - 50 Hz, providing control, distribution and safety functions during a lifespan of 20 years".

#### 3.3. Reference service life (RSL)

The lifespan (Reference Service Life) of the electrical switchboard is 20 years, as required by PCR 007 Electronic and electrical products and systems and 015 Electronic and electrical products and systems Switchboards

#### 3.4. Allocation criteria

Regarding the modelling of electrical switchboard elements, the manufacturer has given mass quantity data for each component of the product, thus it has not been required any allocation procedure.

It also applies both to the components manufactured by CEN Solutions and the semi-finished products purchased from suppliers and furtherly assembled on the production plant.

On the other hand, for the calculation of power consumption arisen from the component's assembly (manufacturing of the electrical panel), as well as the amount of packaging materials for product distribution and the waste production from manufacturing plant, a mass allocation has been performed.

# 3.5. Representativeness, data quality and selection of data

Primary inventory data has been provided by CEN Solutions, which are corresponding to year 2022. Specifically, CEN Solutions has given data related to the manufacturing process of the product group made by the company (metal cabinet, hard copper, flexible copper and product labels).

Secondary data has been collected from the generic database Ecoinvent version 3.8, which is included on the LCA software SimaPro version 9.2 and international acknowledged. Whenever possible, it has been selected inventory data from Western Europe geographical framework.





This kind of data has been used for the modelling of raw materials production and transportation to manufacturing plant, as well as for the electrical switchboard components.

Furthermore, the processes related to the electricity production, waste management, use and maintenance operations, and the end of life of the electrical switchboard have been assumed with secondary data, since the manufacturer has no influence over them.

# 3.6. Other calculation rules and assumptions

The LCA has included the entire weight of all materials and components used for the production and assembly of the electrical switchboard, except for bolts since its mass represents less than 1% regarding the product weight.

Thus, the criterion of including at least 99% of the total product weight on the declared unit is fulfilled.

Moreover, no energy consumption process has been excluded for the LCA performing.

According to EN 50693 regulation, the cutoff criterion for the environmental impact assessment of the product do not exceed 5%.

Furthermore, the following processes have not been considered on the system boundaries:

- Manufacturing of production equipment, buildings or other capital goods
- Workers transportation to manufacturing plant and internal transportation inside the facility
- Maintenance, research and development activities of CEN Solutions production plant Long term emissions.







# 4. System boundaries, scenarios and additional technical information

Hereunder, the stages and modules considered for the LCA performing are described, which are defined by the generic PCR for electrical products "007 Electronic and electrical products and systems" and the specific PCR for electrical switchboards "015 Electronic and electrical products and systems – Switchboards". In addition, the equivalence of the product life cycle stages defined by EN 15804 for construction products are explained for clearer understanding.

#### Manufacturing stage

This stage corresponds to cradle to gate scope of an LCA study, and it considers the environmental impacts related to the electric switchboard production, which begin on raw materials extraction and end when the final product can be marketed.

Input and output inflows are considered at this stage, including the raw materials processing, the electrical switchboard assembly, the transportation of semifinished products during the entire supply chain, the production of electrical switchboard packaging, and the waste treatment arisen from manufacturing process.

Manufacturing stage is structured by Upstream and Core modules

#### 4.1. Upstream module

This module equals to the A1 module Raw materials extraction and processing and A2 module Raw materials transportation to production plant, which are considered on LCA studies of construction products. The Upstream module assesses the environmental impacts related to the raw

materials extraction and processing, as well as the manufacturing of semi-finished products and its packaging. Likewise, it also

includes the transportation of the raw materials and components to CEN Solutions manufacturing plant.

#### 4.2. Core module

This module equals to A3 module Manufacturing, according to EN 15804 regulation for construction products. It includes the manufacturing process of the electrical switchboard at CEN Solutions production plant located in Sevilla (Spain). Specifically, the electricity consumption required for the assembly of product components is considered. Moreover, the production of primary and secondary packaging of the product (wooden pallet, plastic film, and polyamide strips), and the generation of waste from manufacturing plant are assessed at this module.

#### 4.3. Downstream module

This module includes the following stages: Distribution, Installation, Use and Maintenance and End of life.

#### **Distribution stage**

This stage equals to A4 module Distribution, according to EN 15804 regulation, and it includes the environmental impacts related to the transportation of finished product from CEN Solutions manufacturing plant to the installation site. It has been considered the specific distance for each location where the electric switchboard is conveyed.





Table 7. Specifications for distribution scenario

Parameters	Unit (expressed per FU)
Fuel type and consumption of vehicle or vehicle type used for transport	16-32 ton EURO IV lorry
Distance	94% at 194 km and 5,7% at 968 km
Capacity utilisation (including empty returns)	% Assumed on Ecoinvent
Weight of transported products (including packaging)	340,81 kg
Volume capacity utilisation factor	1

Installation stage

This stage equals to A5 module Installation, according to EN 15804, and it covers the environmental impacts related with the installation process of the electrical switchboard. The required ancillary materials (steel bolts, washers, and nuts) and the electricity consumption needed for product installation, as well as the end of life of product packaging (wooden pallets, plastic film and polyamide strips).

#### Use and maintenance stage

This stage equals to **B1 module Use and B2 module Maintenance**, according to EN 15804 regulation, and it includes the environmental impacts related to the electricity distribution by the electrical switchboard during its Reference Service Life, which is expected for 20 years, as well as the expected maintenance operations.

It has been considered an uninterrupted operation of the product along its RSL. The estimated electricity consumption for the product performance (electricity distribution) is 6,13E+03 kWh for 20 years. Following the Joule Effect principle, this amount corresponds to the heat losses produced during the electricity transmission, which is a 0,05% of the product electrical power (704 Kw) along its lifespan.

Regarding the product maintenance, are developed annually cleaning operations during the RSL of the electrical switchboard. The electricity consumption estimated for the product cleaning operations is 2,40E+01 kWh. It is also included the transport of the operator.



#### End of life stage

This stage equals to the following modules defined on EN 15804, C1 module Deconstruction, C2 module Transportation to waste manager, C3 module Waste processing and C4 module Disposal, which are included at the End-of-life stage C1-C4. The last stage of the product life cycle includes the dismantling operations for the electrical switchboard (electricity consumption) and its further treatment as a waste.





Thus, the output flows assessed are the transportation of the electrical switchboard to the waste collection site, as well as the dismantling operations and the shipping of product waste to manager for its further treatment (recycling).

It has been estimated an electricity consumption of 1,1 kWh required for the dismantling operations and a default distance of 50 km between the installation site of the product and the waste manager.

Regarding the treatment of product waste, it has been considered that 100% of its materials and components are potentially recyclable.

Following the "polluter pays principle", the impacts related to waste treatment for recycling processes have not been allocate to the system boundaries of the product under study.

Table 7 Specifications for the End-of-life scenario

Parameters	Unit (expressed per FU)
Collection process, specified by	kg collected separately 311,7 kg (100% of product weight)
type	kg collected mixed with other waste type 0 kg
Recovery system, specified by type	kg for reuse 0 kg
	kg for recycling 311,7 kg (100% of product weight)
	kg for energy recovery 0 kg
Disposal	kg for product disposal 0 kg (100% of the product materials are potentially recyclable)
Transport assumptions	16-32 ton EURO V lorry 50 km default distance to waste manager







SYSTEM BOUNDARIES DISTRIBUTION STAGE ELECTRICAL SWITCHBOARD TRANSPORTATION TO INSTALLATION SITE MANUFACTURING MANUFACTURING INSTALLATION STAGE STAGE STAGE ANCILLARY MANUFACTURING MATERIALS RAW MATERIALS AND ASSEMBLY OF REQUIRED FOR EXTRACTION AND THE ELECTRICAL PROCESSING SWITCHBOARD INSTALLATION PROCESS TRANSPORTATION DOWNSTREAM AND TREATMENT OF WASTE ARISEN UPSTREAM FROM THE MANUFACTURING PRODUCTION OF INSTALLATION CORE OF SEMI-FINISHED PRIMARY AND PROCESS PRODUCTS AND SECONDARY ANCILLARY PACKAGING OF MATERIALS THE PRODUCT USE STAGE OPERATIONAL POWER CONSUMPTION TRANSPORTATION TRANSPORTATION OF RAW AND TREATMENT OF THE MATERIALS AND OF THE WASTE ELECTRICAL COMPONENTS TO ARISEN FROM SWITCHBOARD PRODUCTION MANUFACTURING PLANT PLANT END OF LIFE STAGE PRODUCT DISASSEMBLY. TRANSPORTATION AND TREATMENT OF THE PRODUCT WASTE

Figure 3 System boundaries of the product under study





At the following tables, are shown the life cycle environmental performance results for CBTG electric switchboard according to the impact category indicators required by the PCR 007 and 015 from EPDItaly.

The presented results are structured by modules in compliance with abovementioned product category rules and UNE-EN-50693 (Upstream, Core, Downstream and corresponding its stages), as well as by UNE-EN-15804 modules (A1-A3+B1-B7+C1-C4) achieve a clearer and more detailed understanding.







### 5. Environmental parameters declaration for Ica and Ici

#### **Environmental impacts**

Impact category	Unit	UPSTREAM		CORE	DOWNSTREAM								
		MANUFACTURE			DISTRIBUTION	INSTALLATION		SE AND TENANCE	END OF LIFE				
		A1 Raw materials extraction and processing	A2 Raw materials transportation	A3 Manufacturing	A4 Distribution	A5 Installation	B1 Use	B2 Maintenance	C1 Deconstruction	C2 Transportation to waste manager	C3 Waste treatment	C4 Disposal	
GWP-total	kg CO2 eq	2,20E+03	4,70E+01	3,07E+01	5,80E+00	9,82E+00	1,91E+03	1,92E+01	3,42E-01	5,22E+00	0,00E+00	0,00E+00	
GWP- fossil	kg CO2 eq	2,22E+03	4,70E+01	2,07E+02	5,80E+00	3,57E+00	1,88E+03	1,91E+01	3,38E-01	5,22E+00	0,00E+00	0,00E+00	
GWP- biogenic	kg CO2 eq	-2,71E+01	1,50E-02	-1,79E+02	1,90E-03	6,24E+00	1,19E+01	5,20E-02	2,14E-03	1,70E-03	0,00E+00	0,00E+00	
GWP-luluc	kg CO2 eq	5,06E+00	4,13E-04	2,26E+00	4,66E-05	4,95E-03	1,54E+01	6,19E-02	2,77E-03	4,18E-05	0,00E+00	0,00E+00	
ODP	kg CFC11 eq	1,16E-04	1,10E-05	2,32E-05	1,37E-06	2,82E-07	1,15E-04	3,05E-06	2,06E-08	1,23E-06	0,00E+00	0,00E+00	
AP	mol H+ eq	1,00E+02	2,96E-01	1,05E+00	2,61E-02	1,54E-02	1,60E+01	9,89E-02	2,87E-03	1,67E-02	0,00E+00	0,00E+00	
EP- freshwater	kg P eq	4,47E-01	2,41E-05	5,57E-03	2,95E-06	1,27E-04	8,11E-02	3,40E-04	1,45E-05	2,65E-06	0,00E+00	0,00E+00	
POCP	kg NMVOC eq	2,07E+01	2,43E-01	7,71E-01	2,74E-02	1,30E-02	6,89E+00	6,01E-02	1,24E-03	1,54E-02	0,00E+00	0,00E+00	
ADP- minerals	kg Sb eq	2,32E+00	1,88E-06	4,37E-05	2,50E-07	1,52E-05	7,47E-05	1,28E-06	1,34E-08	2,24E-07	0,00E+00	0,00E+00	
ADP-fossil	MJ	2,85E+04	6,56E+02	6,10E+03	8,17E+01	4,25E+01	4,48E+04	3,37E+02	8,03E+00	7,33E+01	0,00E+00	0,00E+00	
WDP	m3	1,84E+03	-1,10E-01	1,88E+02	-1,37E-02	7,28E-01	1,26E+03	5,03E+00	2,25E-01	-1,23E-02	0,00E+00	0,00E+00	

**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; **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.



#### Use of resources

		UPS	UPSTREAM CORE		DOWNSTREAM									
Impact		MANUFACTURE			DISTRIBUTION	INSTALLATION	USE AND MAINTENANCE		END OF LIFE					
Impact category  PERE PERM PERT PENRE PENRM PENRT FW	Unit	A1 Raw materials extraction and processing	A2 Raw materials transportation	A3 Manufacturing	A4 Distribution	A5 Installation	B1 Use	B2 Maintenance	C1 Deconstruction	C2 Transportation to waste manager	C3 Waste treatment	C4 Disposal		
PERE	MJ	6,23E+03	9,94E-01	5,62E+03	1,25E-01	4,20E+00	1,02E+04	4,59E+01	1,83E+00	1,12E-01	0,00E+00	0,00E+00		
PERM	MJ	0,00E+00	0,00E+00	1,04E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00		
PERT	MJ	6,23E+03	9,94E-01	5,72E+03	1,25E-01	4,20E+00	1,02E+04	4,59E+01	1,83E+00	1,12E-01	0,00E+00	0,00E+00		
PENRE	MJ	3,04E+04	6,97E+02	6,23E+03	8,67E+01	-5,64E+02	4,63E+04	3,53E+02	8,31E+00	7,78E+01	0,00E+00	0,00E+00		
PENRM	MJ	0,00E+00	0,00E+00	1,34E+02	0,00E+00	6,09E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00		
PENRT	MJ	3,04E+04	6,97E+02	6,36E+03	8,67E+01	4,49E+01	4,63E+04	3,53E+02	8,31E+00	7,78E+01	0,00E+00	0,00E+00		
FW	m3	4,61E+01	1,86E-03	2,88E+00	2,24E-04	2,17E-02	1,81E+01	7,42E-02	3,25E-03	2,01E-04	0,00E+00	0,00E+00		
MS	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00		
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00		
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00		

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; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; PENRT = Total use of non-renewable secondary fuels; PENRT = Use of non-renewa





#### Waste production and output flows

Impact category		UPSTREAM C		CORE	DOWNSTREAM								
		MANUFACTURE			DISTRIBUTION	DISTRIBUTION INSTALLATION USE AND MAINTENANCE			END OF LIFE				
	Unit	A1 Raw materials extraction and processing	A2 Raw materials transportation	A3 Manufacturing	A4 Distribution	A5 Installation	B1 Use	B2 Maintenance	C1 Deconstruction	C2 Transportation to waste manager	C3 Waste treatment	C4 Disposal	
HWD	kg	7,92E-02	1,61E-03	3,30E-03	2,15E-04	1,23E-04	1,19E-02	6,49E-04	2,13E-06	1,93E-04	0,00E+00	0,00E+00	
NHWD	kg	5,78E+02	3,48E-02	1,79E+01	4,29E-03	1,94E+01	6,87E+01	3,01E-01	1,23E-02	3,84E-03	0,00E+00	0,00E+00	
RWD	kg	8,18E-02	4,70E-03	4,95E-02	5,84E-04	1,92E-04	3,50E-01	2,52E-03	6,28E-05	5,24E-04	0,00E+00	0,00E+00	
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
MFR	kg	0,00E+00	0,00E+00	4,30E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,12E+02	0,00E+00	
CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	

**HWD** = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; **CRU** = Components for reuse; MFR = Materials for recycling; **MER** = Materials for energy recovery; **EEE** = Exported energy, electricity; **EET** = Exported energy, thermal



# 6. Additional environmental information

There is no additional information to mention.







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