Beijing XCHARGE Technology Co., Ltd

ENVIRONMENTAL PRODUCT DECLARATION

PRODUCT:

Net Zero Series Charging Station C8

PLANTS:

Shuangyang Road No.12, Yizhuang, Daxing District, Beijing, P.R. China

in compliance with ISO 14025 and EN15804 +A2

Program Operator	The Norwegian EPD Foundation
Publisher	EPDItaly

Declaration Number	NEPD-5719-5004-EN
Registration Number	MR-EPDITALY0080

Issue Date	05 / 01/ 2024
Valid to	05 / 01 / 2029

Registered under the mutual recognition between EPDItaly and The Norwegian EPD Foundation.
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Global Program Operator

Environmental Product Declaration

In accordance with 14025 and EN15804 +A2

Net Zero Series Charging Station C8

XCHARGE

Owner of the declaration:
Beijing XCHARGE Technology Co., Ltd

Product name:
Net Zero Series Charging Station C8

Declared unit:
1 pcs

Product category /PCR:
PCR EPDItaly017 – Charging Stations

Program holder and publisher:
The Norwegian EPD foundation

Declaration number:
NEPD-5719-5004-EN

Registration number:
NEPD-5719-5004-EN

Issue date: 05.01.2024

Valid to: 05.01.2029

The Norwegian
EPD Foundation

General information

Product:
Net Zero Series Charging Station C8

Program operator:
The Norwegian EPD Foundation
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Declaration number:
NEPD-5719-5004-EN

This declaration is based on Product Category Rules:
PCR EPDItaly017 – Charging Stations

Statements:
The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer, life cycle assessment data and evidences.

Declared unit:
1 pcs Net Zero Series Charging Station C8 (C8NZS) with 1 Energy-storage-system (ESS)

Declared unit with option:
Manufacturing, distribution, installation, use & maintenance and end-of-life stage

Functional unit:
Production of 1 pcs C8NZS with 1 ESS and maintained for a period of 20 years

Verification:
Independent verification of the declaration and data, according to ISO14025:2010

internal ☐ external ☑

Sign

Vito D'Incognito
Independent verifier approved by EPD Norway

Owner of the declaration:
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Manufacturer:
Beijing XCHARGE Technology Co., Ltd

Place of production:
Shuangyang Road No.12, Yizhuang, Daxing District, Beijing, P.R. China

Management system:
ISO 9001, ISO 14001, ISO 45001, ISO/IEC 20000-1, ISO/IEC 27001, IATF 16949

Organisation no:
911101083397675346

Issue date: 05.01.2024

Valid to: 05.01.2029

Year of study:
2022

Comparability:
EPDs from other programmes may not be comparable

The EPD has been worked out by:
Jiliu WU & Daqi Wang

Approved

Håkon Hauan

Manager of EPD Norway

Product

Product description:

XCHARGE Net Zero Series Product integrates Energy-storage-system (ESS), which uses Li-ion batteries as energy storage devices. ESS with its local or remote EMS management system enables optimized energy supply and demands among grid, batteries and EVs, which is significantly applicate in peak and valley power consumption as well as lack of grid power capacity. The integration with ESS demonstrates its advantages in high-Charging -Power with less input. XCHARGE ESS compact charger is with thin-wall design and suitable for parking station, commercial center and EV experience center. Modular design provides high stability, easy and simple operation possibility so that it can achieve flexible deployment and uniformed service. Automatic recognition of connector plug-in and automatic charging scheduling function make it user-friendly and improve charging efficiency.

Table 1 Product information

Parameters	
Type	DC charging station
Weights	about 3200kg (1*ESS) / 5800kg (2*ESS)
Weights of packaging	about 230kg
Dimensions	2.3m*0.75m*2.38m (w*d*h)

Product specification:

All raw material components of 1 pcs Net Zero Series Charging Station C8 were divided into several categories, which shows in following table.

Table 2 Raw Materials of C8

Materials	KG	%
Metal	2072.16	60.01%
Plastic	192.46	5.57%
Lithium iron phosphate	532.27	15.42%
Electrolyte	304.15	8.81%
Graphite	228.11	6.61%
Other	123.64	3.58%

All packaging components of 1 pcs Net Zero Series Charging Station C8 were divided into several categories as well.

Table 3 Packaging materials of C8

	Materials	KG	%
Packaging of C8NZS	Metal, steel bar	0.06	0.03%
	Plastic, protective film	0.35	0.15%

	Wood, plywood and label	84.71	35.70%
Packaging of base	Wood, plywood	92.16	38.84%
Packaging of battery cabinet	Wood, plywood	60.00	25.29%

Technical data:

A brief Net Zero Series Charging Station C8 technical data is showed in table below.

Table 4 Technical data

Parameters	
ESS Parameters	
Battery capacity	233kWh / 2*233kWh
Usable energy (SAT)	208kWh / 2*208kWh
Max. recharge power	30kW / 60kW
Charging Parameters	
Connectors	2
Charging power	DC max. 150kW+30kW/60kW=180kW/210kW
Power distribution	2 connectors intelligent distribution
Cable	200A, 5m, CCS2 (250A optional)
Total charging efficiency	max. 95.20%
Power intensity transfer	3.5kWh/min
Maximum charging time	27.4min (Audi E-Tron, 800V from 0%-100%)
Input voltage	3Phase 400Vac ± 10% (working situation) Single Phase 220Vac ± 10% (standby situation)
Circuit breaker	125A, 4P
Input frequency	50Hz ± 1Hz
Output voltage range	150VDC - 1000VDC
Standby power	152W (1*ESS)
Reference service life	20 years

Market:

Mainly Europe

Reference service life, product:

20 years

Reference service life, building:

N/A

LCA: Calculation rules

Declared unit:

1 pcs Net Zero Series Charging Station C8 with 1 Energy-storage-system (ESS)

Data quality:

In this study, primary activity data is mainly from 2022/07/01 to 2023/06/30, and the production volume and electricity consumption refer to July 2022- June 2023.

Data about the weight and material compositions of each of the charging station components are provided by suppliers. The questionnaire and primary data sheet are referred in the Annex document. Material losses happened during the components manufacturing is considered. Data about materials quantities and components weight have been checked by verifying the mass balance of the charging station.

Activity data on transportation of components from suppliers to XCHARGE have been calculated based on the distance on e-map, starting from the address of the production site of each supplier.

Therefore, all the activity data mentioned before have to be considered of very good quality with reference to precision, completeness, and consistency, and very representative of the system under study.

XCHARGE does only have specific electricity consumption values from test during the production stages. This data is from allocation for all factory electricity consumption of good quality regarding precision and consistency and completeness.

The data of distribution distance is based on the default scenario of PEFCR Guidance.

In installation stage, diesel used in forklift and crane is calculated by hourly fuel consumption and estimated working time.

The electricity consumption figure during the use stage is from a test report of good quality regarding precision and consistency and completeness.

Ordinary maintenance consists only filter replacement. The filter material is from the BOM provided by suppliers and the distance is based on the default scenario of PEFCR Guidance.

At the end of life stage, percentage of different material treatment method (recovery and disposal) is from chapter 4.2.3.3 of EN 50693. And the distance is also from PEFCR Guidance.

Background data about materials, production processes, transport activities and Eol treatments are retrieved from the ecoinvent v3.9.1 LCI library. The ecoinvent library is the most comprehensive LCI library available, with information about data quality and representativeness.

The electricity mix of the networks providing electricity for the test in manufacturing is modelled with ecoinvent v3.9.1. datasets representing low-voltage electricity in State Grid North China Branch.

Allocation:

The electricity consumption for one charging station related to the activities performed in XCHARGE production site has been estimated by allocation of the total consumption of the production site in one year to the production of all charging stations.

The electricity use for charging station manufacturing is mostly from ageing test, other assembly processes are mainly manual. However, due to the fact that the entire factory only has one electricity meter, testing electricity cannot be calculated separately from assembly department and office-use electricity. Also, different types of charging stations are tested in the same test center, so the energy consumption is difficult to allocate between various products. According to the company it was taken the assumption that energy consumption is the same for any charging station despite the type and the production volume. Therefore, the electricity consumption from July 2022 to June 2023 for the entire factory was divided by the total amount of produced stations obtaining the average electricity consumption for one charging station.

System boundary:

The system boundary is from cradle to grave according to the PCR.

Table 5 Life cycle stages and modules

MANUFACTURING STAGE		DISTRIBUTION STAGE	INSTALLATION STAGE	USE & Maintenance STAGE	END-OF-LIFE STAGE De-installation
UPSTREAM MODULE	CORE MODULE	DOWNSTREAM MODULE			
extraction of raw materials, including waste recycling processes and the production of semi-finished and ancillary products	manufacturing of the product constituents, including all the stages	IN ACCORDANCE WITH EN 50693			
transportation of raw materials to the manufacturing company	product assembly				
	packaging				
	waste recycling processes				

The system boundary is from cradle to grave. Specific life cycle stages are included in three modules:

1) Upstream module, which includes all relevant supply chain processes:

- Raw materials acquisition;

- Components manufacturing;

- Waste disposal;

- Raw materials transportation.

2) Core module, which includes all the relevant processes managed by the organization proposing the EPD:

- Charging station manual assembly;

- Charging station test;

- Packaging to area for shipment.

3) Downstream module, which includes all the relevant processes that take place outside of the organization proposing the EPD:

- Product transportation/distribution;

- Installation;

- Use & maintenance;

- Disassembly;

- End of life.

Cut-off criteria:

What defined in chapter 4.2.3.3 of PCR EPD Italy 007 applied.

Flows must not be omitted to avoid hiding significant impacts. The EPD Italy Regulations and PCR EPD Italy 007 apply; specifically, the following flows and operations may be cut-off:

- Production, use and disposal of the packaging components and semi-finished intermediates.

- Materials making up the charging station itself whose total mass does not exceed 2% of the total weight of the device.

- Materials and energy flows related to the installation stage.

- Materials and energy flows related to dismantling phase.

- Devices external to the product itself required for installation.

- Additionally, what defined in 4.2.3.3 of EN 50693 applies.

In this study, impacts related to the production, transportation, and installation of capital goods (buildings, infrastructure, machinery, internal transport packaging) and general operations (staff travel, marketing and communication actions) that cannot be directly allocated to products are excluded from the LCA study.

The packaging materials of the components is cut-off in this study.

No component of charging station is cut-off in this study.

The contribution of office activities such as water and nature gas consumption is excluded in this study.

However, the contribution of office activities as electricity is included due to the fact that the entire factory only has one electricity meter.

Diesel used in forklift and crane is considered in installation phase, but other installation accessories and protective equipment such as bolts, screws, safety helmet and insulated gloves have been excluded as they could be reused.

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

Manufacturing stage

Data with regard to which raw materials and quantities per manufactured charging station were collected by XCHARGE. In addition, the company asked their suppliers for data and information on which manufacturing processes are used for each component.

Manufacturing processes are presented for each type of material that is included in the study, which have been used to produce all components, but there are other manufacturing processes that are embedded in the upstream data that has used in the LCA. Figures for material loss were under assumption.

Table 5 Manufacturing processes and materials losses for each type of material

Type of material	Manufacturing process	Loss of material
Metal	Metal working	10%
Plastic	Injection moulding	5%
Other	N/A	0%

Distribution stage

This module includes the impact to the distribution of the product at the installation site. One C8NZS charging station with package was transported from XCHARGE to Europe. In this scenario, three transportation phases are considered: plant gate to sea stations, sea transport to export countries, distribution locations to installation sites. Distances in the first two phases are default values in PEFCR Guidance, and the average distance in the third phase is assumed as 300 km is PCR EPD Italy 017. In the absence of any primary data on the fleet of vehicles used, a EURO 4 category vehicle is considered in this study.

Table 6 Transportation Information of Distribute Stage

Type	Type of vehicle	Distance	Description	Source
Lorry	32+ metric ton, euro 4	1000 km	gate to transport stations	ecoinvent 3.9.1
Container Ship	-	18000 km	transport station to export areas	ecoinvent 3.9.1
Lorry	3.5-7.5 metric ton, euro 4	300 km	to installation	ecoinvent 3.9.1

Installation stage

This module includes impacts arising from the installation of the charging station in the operational site. According to the product instruction, 5t forklift and 5t crane are used in installation, diesel with density of 0.85kg/L is assumed to be used in this forklift with a working time of 30 mins and fuel consumption of 5L/h. While the fuel consumption of crane is assumed to be 6L/h. The accessories listed in the instruction could be reused without any environmental burden. There is little waste and scrap generated during the installation stage, so the only outflow is the end-of-life (Eol) for both product and battery cabinet packaging. To identify the waste amount, default values for recovery rates were grabbed in BS EN 50693:2019.

Table 7 Recovery and Waste Management Scenario in Packaging on each Type of Material per Functional Unit (fu)

Packaging	Material	Weight (kg/fu)	Recovery rate	Waste management scenario
C8NZS	Metal, steel bar	0.06	80%	20% landfill
	Plastic, protective film	0.35	0%	All landfill
	Wood, plywood and label	176.87	0%	All landfill
Battery cabinet	Wood, plywood	60.00	0%	All landfill

In this study, we assumed all packaging material would be collected and transported to a disassembly site, then delivered to recycle/disposal sites. For these two transport phases, the distances of 100 km are assumed. The lorry is assumed to be a EURO 4 category vehicle with a load capacity of 32+ tons.

Assuming that the waste in packaging not used for recycling will be landfilled as based on regional factors in ecoinvent.

Use & maintenance

From the test report, standby power consumers of C8NZS is 152W, which was used in this study.

Thinking about C8NZS charging station will be operated in EU in our scenario, the electricity is assumed to come from the local grid and is based on residual mix emission factor in ecoinvent v3.9.1.

Ordinary scheduled maintenance is included in the system. Based on XCHARGE's recommendation, the air filter (a part of component A08.ESS01.3 in BOM) should be replaced once per year. This air filter is composed of aluminium alloy and PET. Every year when a new air filter is replaced, the used one is assumed to be collected and transported to a disassembly place then to recovery/disposal sites. The same values of recovery rates were used here, and transport distances were assumed as 100 km, with a EURO 4 category vehicle with a load capacity of 32+ tons.

Table 8 Waste Treatment Scenarios on Material for Air Filters

Material	Weight (kg/pcs)	Quantity in RSL	Recovery Rate	Scenario
Metal, aluminum frame	2.28	20	70%	30% landfill
Filter, PET	0.18	20	0%	All landfill

When modelling, 19 air filters were treated in Use & maintenance stage; the last piece entered the end-of-life stage as a part of the whole machine.

Assuming that the waste in filters not used for recycling will be landfilled as based on regional factors in ecoinvent.

There is no extraordinary scheduled maintenance in this scenario. The maintenance related part is modelled separately in downstream module.

End of Life stage

When finishing the service life, the charging station would be delivered to a disassemble place, then all materials entering the final period of waste treatment: disposal and recycling. In absence of primary data, the default values for material recovery rates were used: all BOM components were divided into 3 main categories by homogeneous material - metal, plastic and other, 11 sub-categories in the table below to match specific material types in BS EN 50693: 2019. Moreover, the reference figures for recovery were grabbed there, except recovery proportion, other parts were assumed to disposal. Table 7 shows specific information about waste treatment. In addition, there are no recycled parts in used raw material, from XCHARGE engineers.

Recovery rates for charging station material are showed in End-of-Life stage, which is the declared part in this report. Further operations starting from the recycled materials are out of the system boundaries, according to PCR EPD Italy 017. There is no material for re-use and energy recovery in this study under scenario.

Table 9 Recovery and Waste Management Scenario on each Type of Material per Functional Unit (fu)

Material	Weight (kg/fu)	Recovery rate	Weight to be landfilled (kg/fu)
Metal, aluminium	108.50	70%	32.55
Metal, copper	32.54	60%	13.02
Metal, ferrous	39.84	80%	7.97
Metal, steel	1297.14	80%	259.43
Metal, other	10.54	60%	4.22
Plastic, ABS	1.25	20%	1.00
Plastic, PP	2.56	20%	2.05
Plastic, PS	0.10	20%	0.08
Plastic, rubber	0.02	0%	0.02
Plastic, other	142.79	0%	142.79
Other	123.64	0%	123.64
Total	1758.91	67% (calculated)	586.75

The end-of-life treatment of the battery will be considered separately according to the scenario below in PEFCR of battery. The worst situation is considered, unidentified stream is treated as landfill.

Table 10 Transportation Information of EoL Stage

Type	Type of vehicle	Distance	Description	Source
Lorry	32+ metric ton, euro 4	100 km	installation site to disassemble plant	ecoinvent 3.9.1
Lorry	32+ metric ton, euro 4	100 km	disassemble plant to final platform (recovery or disposal)	ecoinvent 3.9.1

Table 11 Eol scenario in EU to be applied in the PEF declaration battery

Waste treatment	Rate
Collection for recycling	45%
Unidentified stream	30%
Landfill	16%
Incineration	9%

Table 12 Recovery and waste management scenario on each type of material per functional unit battery

Material in battery	Weight / F.U.	Recycling	Incineration	Landfill
Lithium iron phosphate	532.27kg	239.52kg	N/A	244.84kg
Graphite	228.11kg	102.65kg	N/A	104.93kg
Electrolyte	304.15kg	136.87kg	N/A	139.91kg
Polypropylene	36.12kg	16.25kg	N/A	16.61kg
Copper	136.87kg	61.59kg	N/A	62.96kg
Aluminium alloy	239.52kg	107.78kg	N/A	110.18kg
Total	1477.04kg	664.67kg	132.93kg	679.44kg

Assuming that the waste in products not used for recovery will be landfilled as based on regional factors in ecoinvent.

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Core environmental impact indicators

Table 13 Core environmental impact indicators

Indicator	Unit	Manufacturing		Distribution	Installation	Use & maintenance	End-of-life
		Upstream	Core	Downstream			
GWP-total	kg CO2 eq.	4.11E+04	2.26E+02	1.58E+03	3.16E+01	1.06E+04	9.21E+02

GWP-fossil	kg CO2 eq.	4.09E+04	2.27E+02	1.57E+03	1.16E+01	1.03E+04	4.58E+02
GWP-biogenic	kg CO2 eq.	1.19E+02	-1.33E+00	5.13E-01	2.00E+01	3.29E+02	4.63E+02
GWP-LULUC	kg CO2 eq.	7.56E+01	3.49E-02	1.01E+00	5.76E-03	2.60E+01	1.35E-01
ODP	kg CFC11 eq.	1.48E-03	4.32E-07	2.82E-05	4.24E-07	2.42E-04	2.39E-05
AP	mol H^+ eq.	6.20E+02	1.29E+00	2.27E+01	6.24E-02	5.95E+01	9.03E-01
EP-freshwater	kg P eq.	3.75E+01	4.49E-02	9.98E-02	1.12E-03	9.22E+00	1.08E-01
EP-marine	kg N eq.	6.58E+01	2.58E-01	6.12E+00	1.02E-01	9.65E+00	1.68E+00
EP-terrestial	mol N eq.	1.38E+03	2.75E+00	6.72E+01	2.03E-01	8.85E+01	2.73E+00
POCP	kg NMVOC eq.	2.00E+02	7.28E-01	1.96E+01	9.79E-02	2.84E+01	1.14E+00
ADP-M&M	kg Sb eq.	7.41E+00	7.38E-04	4.13E-03	2.22E-05	1.59E-01	6.61E-04
ADP-fossil	MJ	5.01E+05	2.08E+03	2.12E+04	3.76E+02	2.23E+05	2.99E+03
WDP	m^3	1.06E+04	2.45E+01	7.82E+01	3.22E+00	2.56E+03	5.94E+01

GWP-total: *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;* ***ODP:*** *Depletion potential of the stratospheric ozone layer;* ***AP:*** *Acidification potential, Accumulated Exceedance;* ***EP-freshwater:*** *Eutrophication potential, fraction of nutrients reaching freshwater end compartment; See "additional requirements" for indicator given as PO4 eq.* ***EP-marine:*** *Eutrophication potential, fraction of nutrients reaching freshwater end compartment;* ***EP-terrestrial:*** *Eutrophication potential, Accumulated Exceedance;* ***POCP****: Formation potential of tropospheric ozone;* ***ADP-M&M****: Abiotic depletion potential for non-fossil resources (minerals and metals);* ***ADP-fossil:*** *Abiotic depletion potential for fossil resources;* ***WDP:*** *Water deprivation potential, deprivation weighted water consumption*

Additional environmental impact indicators

Table 14 Additional environmental impact indicators

Indicator	Unit	Manufacturing		Distribution	Installation	Use & maintenance	End-of-life
		Upstream	Core	Downstream			
PM	Disease incidence	4.58E-03	1.72E-05	9.07E-05	1.10E-06	2.62E-04	1.46E-05
IRP	kBq U235 eq.	3.10E+03	2.59E+00	2.49E+01	2.34E-01	6.08E+03	8.32E+00
ETP-fw	CTUe	7.05E+05	6.67E+02	1.10E+04	1.97E+02	3.89E+04	8.44E+03
HTP-c	CTUh	1.05E-04	5.46E-08	7.29E-07	5.24E-09	5.34E-06	2.56E-07
HTP-nc	CTUh	2.84E-03	2.73E-06	1.18E-05	1.29E-07	1.91E-04	3.30E-06
SQP	Dimensionless	2.90E+05	4.87E+02	9.35E+03	2.26E+02	4.35E+04	1.99E+03

PM: *Particulate matter emissions;* ***IRP:*** *Ionising radiation, human health;* ***ETP-fw:*** *Ecotoxicity (freshwater);* ***HTP-c:*** *Human toxicity, cancer effects;* ***HTP-nc:*** *Human toxicity, non-cancer effects;* ***SQP:*** *Land use related*

Resource use

Table 15 Resource use

Parameter	Unit	Manufacturing		Distribution	Installation	Use & maintenance	End-of-life
		Upstream	Core	Downstream			
RPEE	MJ	2.03E+03	9.54E+01	1.40E+02	9.54E-01	2.85E+04	4.56E+01
RPEM	MJ	2.85E+04	0.00E+00	0.00E+00	2.42E-01	2.23E+02	0.00E+00
TPE	MJ	3.05E+04	9.54E+01	1.40E+02	1.20E+00	2.87E+04	4.56E+01
NRPE	MJ	5.82E+04	2.08E+03	2.12E+04	1.33E+02	2.14E+05	2.99E+03
NRPM	MJ	4.42E+05	0.00E+00	0.00E+00	2.43E+02	8.67E+03	0.00E+00
TRPE	MJ	5.01E+05	2.08E+03	2.12E+04	3.76E+02	2.23E+05	2.99E+03
SM	kg	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
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
W	m^3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

RPEE Renewable primary energy resources used as energy carrier; RPEM Renewable primary energy resources used as raw materials; TPE Total use of renewable primary energy resources; NRPE Non renewable primary energy resources used as energy carrier; NRPM Non renewable primary energy resources used as materials; TRPE Total use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; NRSF Use of non renewable secondary fuels; W Use of net fresh water

End of life – Waste

Table 16 End of life – Waste

Parameter	Unit	Manufacturing		Distribution	Installation	Use & maintenance	End-of-life
		Upstream	Core	Downstream			
HW	KG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E+02
NHW	KG	2.17E+02	0.00E+00	0.00E+00	2.37E+02	1.65E+01	1.27E+03
RW	KG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed

End of life – output flow

Table 17 End of life – output flow

Parameter	Unit	Manufacturing		Distribution	Installation	Use & maintenance	End-of-life
		Upstream	Core	Downstream			
CR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	kg	0.00E+00	0.00E+00	0.00E+00	4.80E-02	3.03E+01	1.97E+03
MER	kg	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
ETE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy

Information describing the biogenic carbon content at the factory gate

Table 18 Information describing the biogenic carbon content at the factory gate

Biogenic carbon content	Unit	Value	Unit	Value
Biogenic carbon content in product	kg C	0.00E+00	Kg CO2 eq	0.00E+00
Biogenic carbon content in the accompanying packaging	kg C	1.19E+02	Kg CO2 eq	4.35E+02

Additional requirements

Greenhous gas emission from the use of electricity in the manufacturing phase

LCI data for the generation of electricity used in the manufacturing stage is listed below.

Table 19 Information describing the electricity used in the manufacturing stage

National electricity grid	Unit	Value
Market for electricity, low voltage, State Grid North China Branch (ecoinvent 3.9.1)	kg CO2 eq / kWh	1.22

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