Zucchetti Centro Sistemi S.p.A.

ENVIRONMENTAL PRODUCT DECLARATION



ENERGY STORAGE SYSTEMS

Azzurro ZCB CABINET 64 KWH
Azzurro ZCB CABINET 80 KWH
Azzurro ZCB CABINET 96 KWH

SITES

No.8 Shiquanling Road, Dongsheng Village, Chenjiang Street, Zhongkai High-Tech Zone, 516006, Huizhou City, Guangdong Province, P.R. China

In accordance with ISO 14025 and EN 50693

Program Operator	EPDItaly
Publisher	EPDItaly

Declaration number	Azzurro ZCS 016
Registration Number	EPDITALY1474

Release Date	01/10/2026
Valid until	01/10/2031

GENERAL INFORMATION

EPD OWNER

Company Name	Zucchetti Centro Sistemi S.p.A. (https://www.zcscompany.com/it/)
Registered office	Via Lungarno, 305 52028 Terranuova Bracciolini (AR)
Contact for EPD information	Samanta Marzielli • e-mail: s.marzielli@zcscompany.com, • Tel: 0559197422

PROGRAM OPERATOR

EPDItaly	Via Gaetano De Castillia n° 10 - 20124 Milano, Italy

ABOUT THE EPD

Products Name	Azzurro ZCB CABINET 64 KWH Azzurro ZCB CABINET 80 KWH Azzurro ZCB CABINET 96 KWH
Sites	No.8 Shiquanling Road, Dongsheng Village, Chenjiang Street, Zhongkai High-Tech Zone, 516006, Huizhou City, Guangdong Province, P.R. China
Brief description and technical information of the products	The Azzurro ZCB Cabinet 64, ZCB Cabinet 80, and ZCB Cabinet 96 are modular lithium iron phosphate (LiFePO4) battery energy storage systems designed for floor-mounted industrial installations. These systems offer scalable energy capacities of 64.31 kWh, 80.38 kWh, and 96.46 kWh respectively, configured in a 1P16S arrangement at a nominal voltage of 600 Vdc. All models feature IP55-rated enclosures with C4 anticorrosion grade, an integrated automatic air conditioning system (1.5 kW cooling, 1 kW heating), and aerogel-based fire protection, ensuring reliable operation across a temperature range of -20°C to +50°C and up to 3000 m altitude. Each cabinet ships pre-assembled for rapid and safe installation, with active balancing at both module and cabinet level and a maximum depth of discharge of 90%. The three variants differ primarily in the number of battery packs per cabinet (4, 5, or 6), delivering nominal power outputs of 30.72 kW, 38.40 kW, and 46.08 kW respectively, with a maximum discharge current of 200 A. The system supports scalable expansion through parallel connections of up to 4 cabinets and is compatible with the Azzurro hybrid inverter via CAN communication, with cabling kits available for distances up to 100 metres.
Product application area	The products are perfectly suited for industrial applications with industrial-scale photovoltaic plants.

CPC Code https://unstats.un.org/unsd/classifications/Econ	CPC 464 "Accumulators, primary cells and primary batteries, and parts thereof"
EPD generation	EPD generated by means of a validated tool: ZCS LCA-Tool, version 1.0, 10/03/2025

VERIFICATION INFORMATION

PCR	Core PCR: EPDItaly007 – PCR for Electronic and Electrical Products and Systems, REV. 3.2 Issue date 2025/12/10 Sub-category PCR: EPDItaly021 "Electronic and electrical products and systems - Energy Storage", (Rev. 5), 03/10/2024
EPDItaly Regulation	Regulations of the EPDItaly Programme Revision 6.0. Issue date 30.10.2023
Project Report LCA	*Life Cycle Assessment Report* - LCA tool report
Independent Verification Statement	The PCR review was performed by ICMQ S.p.A. Independent verification of the declaration and data carried out in accordance with 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
Statement Comparability	Environmental claims published within the same product category, but from different programs, may not be comparable.
Statement Responsibility	The EPD Owner relieves EPDItaly from any non-compliance with environmental legislation. The holder of the statement will be responsible for the information and supporting evidence. EPDItaly declines all responsibility for the information, data and results provided by the EPD Owner for the life cycle assessment.

1. THE COMPANY

Zucchetti Centro Sistemi Spa (ZCS), founded in 1985 in the heart of Tuscany, Italy, is a leader in technological innovation, specializing in software development, robotics, automation, and renewable energy solutions. Under the visionary leadership of its founder and current CEO, Fabrizio Bernini, the company has expanded its presence in international markets, offering solutions that integrate advanced technologies. In 2000, ZCS became part of the Zucchetti Group, a prominent Italian and European leader in Information and Communication Technology (ICT). This integration has bolstered ZCS's capabilities, enabling it to develop vertically-oriented, cloud-based solutions for businesses of all sizes, aiming to enhance efficiency and effectiveness in business processes.

ZCS operates through five main business units:

- **Software**: Developing cloud-based solutions to improve business process efficiency.
- **Healthcare**: Designing integrated IT systems for healthcare facilities, including analysis labs and hospital services.
- **Automation**: Creating systems for traceability and security across various industries.
- **Robotics**: Producing innovative robots for gardening and pool maintenance, such as the Ambrogio Robot, an eco-friendly, autonomous lawn mower.
- **Green Innovation**: Distributing energy-saving solutions, including smart photovoltaic inverters and storage systems, to promote energy independence in residential, commercial, and industrial settings.

The Green Innovation Division is at the forefront of ZCS's commitment to sustainable development. It focuses on designing and delivering advanced energy solutions, including photovoltaic inverters, intelligent energy storage systems, and electric vehicle charging stations. These innovations empower residential, commercial, and industrial sectors to reduce energy consumption and enhance energy independence.

The company's mission focuses on improving quality of life and supporting business development through intelligent, eco-friendly technology, combining creativity with technological innovation. ZCS is committed to sustainability, emphasizing economic, environmental, and social responsibility in its operations. With a strong emphasis on research and development, ZCS's Idealab incubates innovative ideas, transforming them into market-ready solutions. The company has received numerous awards and recognitions for its commitment to innovation and social responsibility, including the prestigious "Award of Awards for Innovation" and the knighthood title "Cavaliere del Lavoro" awarded to Fabrizio Bernini in 2017.

2. THE PRODUCTS

The Azzurro ZCB Cabinet 64, ZCB Cabinet 80, and ZCB Cabinet 96 are modular lithium iron phosphate (LiFePO4) battery energy storage systems designed for floor-mounted industrial installations. These systems offer scalable energy capacities of 64.31 kWh, 80.38 kWh, and 96.46 kWh respectively, configured in a 1P16S arrangement at a nominal voltage of 600 Vdc. All models feature IP55-rated enclosures with C4 anticorrosion grade, an integrated automatic air conditioning system (1.5 kW cooling, 1 kW heating), and aerogel-based fire protection, ensuring reliable operation across a temperature range of -20°C to +50°C and up to 3000 m altitude. Each cabinet ships pre-assembled for rapid and safe installation, with active balancing at both module and cabinet level and a maximum depth of discharge of 90%. The three variants differ primarily in the number of battery packs per cabinet (4, 5, or 6), delivering nominal power outputs of 30.72 kW, 38.40 kW, and 46.08 kW respectively, with a maximum discharge current of 200 A. The system supports scalable expansion through parallel connections of up to 4 cabinets and is compatible with the Azzurro hybrid inverter via CAN communication, with cabling kits available for distances up to 100 metres.

TECHNICAL DATA	CABINET ZCB 64 KWH	CABINET ZCB 80 KWH	CABINET ZCB 96 KWH
Battery type	LiFePO4		
Nominal capacity	314 Ah		
Maximum charge current	150 A		
Maximum discharge current	200 A		
Battery pack configuration	1P16S		
Nominal voltage	600 Vd.c.		
Coupling type	DC-coupled (via Azzurro hybrid inverter)		
Number of battery packs	4 units/cabinet	5 units/cabinet	6 units/cabinet
Total battery energy [1]	64.31 kWh	80.38 kWh	96.46 kWh
Nominal power	30.72 kW	38.40 kW	46.08 kW
Maximum depth of discharge	90%		
Protection class	Category I		
IP protection rating	IP55		
Anticorrosion grade	C4		
Operating temperature range [2]	-20°C to +50°C (derating above 45°C)		
Relative humidity range	5%–95%		
Maximum operating altitude [3]	3000 m		
Installation	Floor mounting		
Communication	CAN		
Air conditioning mode	Automatic airflow management		
Air conditioner power	1.5 kW (cooling), 1 kW (heating)		
Noise level	65 dB (typical)		
Fire protection	Aerogel		
Dimensions (W×H×D)	750×2100×1150 mm (±20 mm)		

2.1. COMPOSITION

The three cabinet, whose total weight are approximately 952 kg (for the 64 kWh), 1043 kg (for the 80 kWh) and 1135 kg (for the 96 kWh), is composed of different materials, including steel, aluminium and other metals for rigid parts that make up the structure and for the internal parts. There are also other materials like electronic components, plastics and others.

IEC62474 Classname	IEC62474 ID	% by weight of total ZCB 64 kWh	% by weight of total ZCB 80 kWh	% by weight of total ZCB 96 kWh
Stainless steel	M-100	0.7	0.6	0.6
Other ferrous alloys, non-stainless steels	M-119	44.6	40.7	37.4
Alluminium and its alloys	M-120	1.8	1.7	1.5
Copper and its alloys	M-121	1.9	1.8	1.6
Other inorganic materials	M-199	0.2	0.2	0.2
PolyVinylChloride (PVC)	M-200	0.1	0.1	0.1
PolyEthylene (PE)	M-204	0.1	0.1	0.1
PolyCarbonate (PC)	M-204	0.01	0.01	0.01
PolyAmide (PA)	M-208	0.03	0.03	0.02
Other unfilled thermoplastics	M-249	0.2	0.2	0.2
Silicone	M-321	0.3	0.2	0.2
Paper	M-341	0.2	0.2	0.2
Battery cell	-	38.5	43.9	48.4
Electronic components	-	11.3	10.3	9.5

No substance in the product greater than 0,10% by weight is present on the "List of Potentially Hazardous Substances" candidates for authorization under the REACH legislation.

Printed circuit boards used in this product weight 9.03 kg and are modelled through the Ecoinvent 3.9 process "Printed wiring board, for surface mounting, Pb free surface {GLO}| printed wiring board production, for surface mounting, Pb free surface | Cut-off, S".

2.2. REFERENCE SERVICE LIFE (RSL)

The reference service life of the products has been assumed to be 10 years.

3. SCOPE AND TYPE OF EPD

This is a product-specific EPD, compliant with ISO 14025 and EN 50693 standards, as part of the EPDItaly program, for the Azzurro cabinet ZCB 64 kWh, Azzurro cabinet ZCB 80 kWh and Azzurro cabinet ZCB 96 kWh. They are battery and energy storage cabinets for industrial applications that can be integrated with photovoltaic production and energy storage. The study is based on a "cradle to grave" LCA methodology, in accordance with ISO 14040 and 14044 standards. The geographical scope of the data is referred to Italy as the products are mainly sold and used in Italy. The reference year is set at 2024, considering the current technological level. The results were generated using SimaPro 9.6 modeling software.

Representativeness	Scope
Spatial	Italy
Year	2024

3.1. FUNCTIONAL UNIT

The functional unit identified for the LCA study is a kWh of energy stored by the module.

3.2. PRINCIPLE OF MODULARITY AND ENVIRONMENTAL RESPONSIBILITY (PPP)

In the LCA study, the principle of modularity was adopted, which allows the product life cycle to be broken down into different phases, assigning specific environmental impacts to each of them. This approach

facilitates a clear attribution of environmental responsibilities at every stage of the production process, ensuring greater transparency and traceability of data.

In addition, the PPP (Polluter Pays Principle) has been complied with, according to which the entity causing an environmental impact is also the one responsible for the related mitigation or repair costs. This principle ensures that environmental costs are not passed on to the community, but are correctly attributed to those who generated them, promoting greater responsibility and incentivizing the adoption of more sustainable practices throughout the supply chain

3.3. SYSTEM BOUNDARIES

The system boundary implemented in this LCA covered the entire product life cycle, i.e. from "cradle to grave", with the life cycle phases and geographical areas for all the main activities involved, grouped into five distinct modules: upstream, core and downstream, according to EN 50693. These modules have further been divided into sub-modules: manufacturing, distribution, installation, use and maintenance and end-of-life. In the context of life cycle analysis (LCA), the terms upstream, core, and downstream refer to different stages of a product's lifecycle:

- **Upstream:** It includes the initial stages of production, such as extracting raw materials, processing them, and transporting them to the production site. It therefore concerns everything that happens before the manufacture of the product.
- **Core:** This is the middle stage of the life cycle, which includes the production of the product itself, assembly, and manufacturing operations. It is the part of the process where the product is created or built.
- **Downstream:** Involves post-production stages, such as transportation to the customer, end-user use, and end-of-life disposal or recycling. It focuses on what happens to the product after it is made and distributed.

These three modules cover the entire life cycle of a product, from initial production to disposal. The product lifecycle and inventory analysis, which describe all the activities, simplified assumptions, and modeling scenarios used in LCA, have been covered exhaustively in the next section.

Manufacturing	Distribution	Installation	Use and maintenance	End of Life
Upstream - Core	Downstream	Downstream	Downstream	Downstream
√	√	√	√	√

3.3.1. ALLOCATION RULES

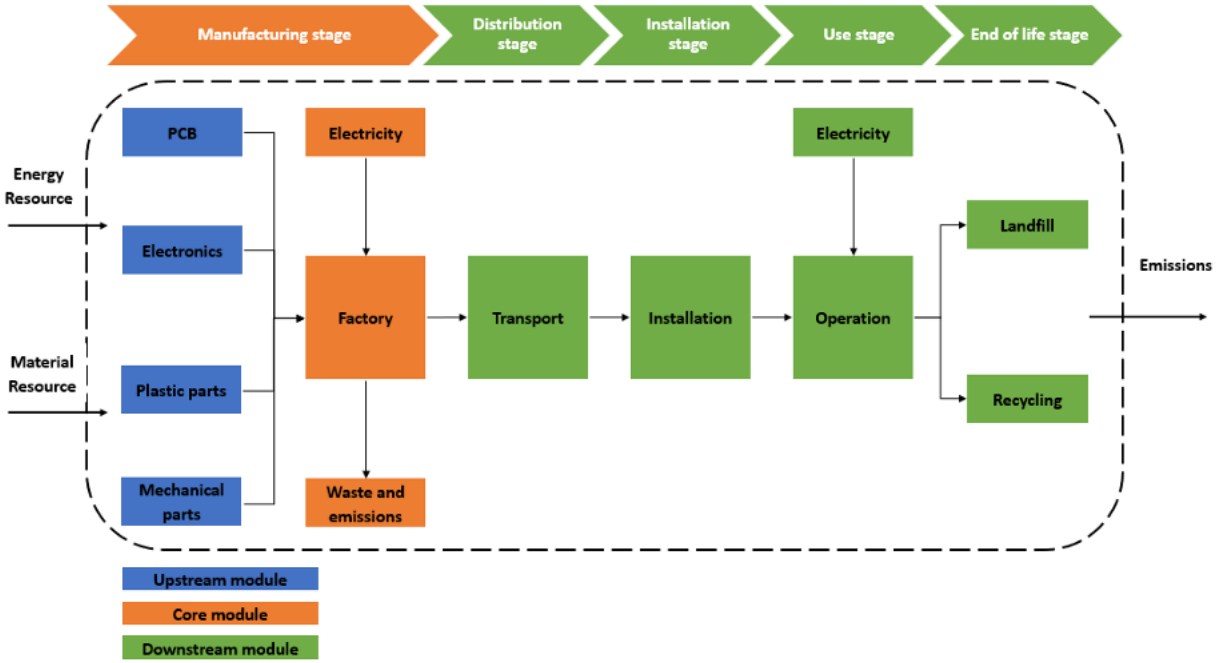
An allocation was made for electricity consumption, starting from the total annual electric energy consumed for the power magic production line and the total annual power magic production in kWh (battery capacity). Additionally, an allocation was also made for waste, based on the amount of each type of waste produced in the reference year and the total annual power magic production in kWh (battery capacity).

3.4. DATA QUALITY

The data used in the LCA study include both primary and secondary data. The primary data were obtained directly from Zucchetti Centro Sistemi S.p.A. and from the external manufacturing plant. This data is under the control and management of the company (e.g., bills, invoices, transport documents, weighing records). Secondary data comes from a variety of sources, including selected generic data from international databases; Proxy data: sourced from sources other than databases, used to create scenarios and fill in any information gaps. In the present study, secondary data were modeled using the Ecoinvent 3.9 database (2021), with citation of origin in the case of data from different sources.

4. LIFE CYCLE INVENTORY ANALYSIS (LCIA)

The Life Cycle Inventory (LCI) lists and quantifies all inflows and outflows at all declared life cycle stages of the product within the system boundary considered in relation to the scope of the study.



4.1. MANUFACTURING STAGE

The Life Cycle Study (LCA) includes both the "Upstream" phase, and the "Core" processes related to production. The Upstream phase includes the semi-finished products, the materials used in the production system and the manufacturing of the product by the external supplier's power magic production plant (No.8 Shiquanling Road, Zhongkai High-Tech Zone, Huizhou City, Guangdong Province). It also includes the transportation of the raw materials and semi-finished products to the external manufacturing plant as well as the transportation of the final product from the Chinese manufacturer to Zucchetti Centro Sistemi premises, where the product is then shipped to the customer.

The core processes concern all the internal processes to which the product and its components are subjected within Zucchetti Centro Sistemi's plant. However, given that there is no manufacturing process taking place at Zucchetti Centro Sistemi's premises, the impacts considered in the core phase are related to the energy consumption of the building where the Green Innovation Division operates.

These data, extracted from the ERP and bills of the company, were entered into the SimaPro software to calculate the environmental impact of the production cycle of the product.

4.2. DISTRIBUTION STAGE

This stage includes the transportation of the product to the final customer. Based on the main country of shipment, in this case Italy, an assumed mean fixed value of 300 km has been chosen as distance to calculate the ton*km value. The transportation takes place only within the European Union and is assumed to be carried by truck, EURO 4, 16-32 ton.

4.3. INSTALLATION STAGE

This module calculates the environmental impacts associated with the installation of the product. In this case, the product is manually installed, so there is no impact associated with it, while the impact come from the discarding of the packaging. For the impact modeling of this phase, the treatment percentage guidelines from EN 50693 and EUROSTAT were used. The distance from the recycler is assumed to be 50 km, according to the relevant PCR.

4.4. USE & MAINTENANCE STAGE

This module analyses the environmental impacts associated with the use and maintenance of the product, by excluding energy carriers used in maintenance, such as spare parts and materials specified by the

manufacturer, due to the lack of reliable data on failure times and maintenance frequencies. The analysis of emissions during the use phase of the module is based on the information available from the product data sheet and the formulas reported in the relevant PCR and c-PCR. In particular, the total energy consumption value (expressed in kWh per RSL) is calculated using this formula:

$$E_{tot}\ [kWh] = E_{use} + E_{loss}$$

$$E_{use}\ [kWh] = \frac{P_{use} * 8760 * RSL}{1000}$$

$$E_{loss}\ [kWh] = \sum_{i=0}^{RSL} \frac{E_{useful\ i} * N_{cycles} * 365}{DC\ RTEi} * (1 - DC\ RTEi)$$

Applying the following formulas for an RSL of 10 years as reported by the corresponding c-PCR, the total energy consumption value is expected to be 12920 kWh for the Azzurro Cabinet ZCB 64, 15931 kWh for the Azzurro Cabinet ZCB 80 and 18941 kWh for the Azzurro Cabinet ZCB 96.

To model this phase, a process from Ecoinvent describing the production of electric energy from photovoltaic (to which the inverter is connected, in this case in the "slanted-roof" configuration) has been used:

"Electricity, low voltage {IT}| electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted | Cut-off, S".

The emission factor (GWP) of this specific process is 0,0835 kg CO_2eq/kWh.

The relevant geographic area for the use phase is Italy.

4.5. END OF LIFE STAGE

This section examines product end-of-life, for which Zucchetti Centro Sistemi does not have primary data that can be used in the LCA study. End-of-life has been calculated according to the end-of-life scenarios outlined in the EN 50693 and EUROSTAT (the only exception is for batteries and electronic components, for which a specific process from Ecoinvent was directly applied), estimating a distance from the recycler of 50 km by truck, EURO 4, 16-32 ton. For the environmental impact of the different waste treatments, the EcoInvent database has been used.

5. RESULTS

In this section, the results of the study are presented, divided by different impact parameters and by the phases of the study that constituted the LCA.

Environmental impacts were calculated using the EN 15804 + A2, Cumulative Energy Demand (LHV), Selected LCI results, additional, and EDIP 2003 methodologies, as indicated in the SimaPro Methods library. These methodologies are used to calculate environmental impact categories, resource use and waste produced, as required by the PCR: EPDItaly007-PCR for electronic and electrical products and systems (Stand-alone) – Rev 3.2.

5.1. ENVIRONMENTAL IMPACTS

Azzurro Cabinet ZCB 64 kWh

				Upstream - Core	*Downstream*			
Impact indicators	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Global warming Potential - Total	GWP - Total	kg CO2 eq	2.13E+02	1.94E+02	8.72E-01	6.87E-01	1.69E+01	4.18E-01
Global warming Potential - Fossil	GWP - Fossil	kg CO2 eq	2.10E+02	1.93E+02	7.93E-04	1.57E-02	1.68E+01	2.78E-01
Global warming Potential – Biogenic	GWP - Biogenic	kg CO2 eq	2.51E+00	7.71E-01	8.71E-01	6.71E-01	5.72E-02	1.40E-01
Global warming Potential - Land use and LU change	GWP - Luluc	kg CO2 eq	9.12E-01	8.80E-01	4.26E-04	6.12E-06	3.16E-02	8.57E-05
Ozone depletion Potential	ODP	kg CFC11 eq	1.36E-05	1.25E-05	1.91E-08	2.94E-10	1.06E-06	4.20E-09
Acidification Potential	AP	mol H+ eq	2.93E+00	2.80E+00	3.60E-03	1.11E-04	1.26E-01	7.54E-04
Eutrophication Potential, freshwater	EP - freshwater	kg P eq	1.47E-01	1.36E-01	6.13E-05	3.81E-06	1.03E-02	2.19E-05
Eutrophication Potential, marine	EP - marine	kg N eq	3.24E-01	3.03E-01	1.38E-03	1.05E-04	1.93E-02	3.53E-04
Eutrophication Potential, terrestrial	EP - terrestrial	mol N eq	5.97E+00	5.75E+00	1.47E-02	5.26E-04	2.02E-01	3.04E-03
Photochemical ozone formation Potential	POCP	kg NMVOC eq	1.15E+00	1.07E+00	5.28E-03	1.52E-04	7.17E-02	1.06E-03
Resource use Potential, minerals and metals	ADP - minerals&metals*	kg Sb eq	4.00E-02	3.90E-02	2.81E-06	3.50E-08	1.02E-03	5.20E-07
Resource use Potential, fossil	ADP – fossil*	MJ	2.65E+03	2.42E+03	1.24E+01	1.83E-01	2.10E+02	2.39E+00
Water deprivation Potential	WDP*	m3 depriv.	6.07E+01	4.84E+01	5.06E-02	-3.21E-03	1.21E+01	5.52E-02

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

Azzurro Cabinet ZCB 80 kWh

				Upstream - Core	*Downstream*			
Impact indicators	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Global warming Potential - Total	GWP - Total	kg CO2 eq	1.85E+02	1.67E+02	7.61E-01	5.49E-01	1.66E+01	3.45E-01
Global warming Potential - Fossil	GWP - Fossil	kg CO2 eq	1.82E+02	1.65E+02	6.92E-04	1.26E-02	1.65E+01	2.23E-01
Global warming Potential – Biogenic	GWP - Biogenic	kg CO2 eq	2.12E+00	6.49E-01	7.60E-01	5.37E-01	5.64E-02	1.22E-01
Global warming Potential - Land use and LU change	GWP - Luluc	kg CO2 eq	7.49E-01	7.18E-01	3.72E-04	4.90E-06	3.12E-02	7.38E-05
Ozone depletion Potential	ODP	kg CFC11 eq	1.14E-05	1.03E-05	1.67E-08	2.35E-10	1.04E-06	3.59E-09
Acidification Potential	AP	mol H+ eq	2.67E+00	2.54E+00	3.15E-03	8.86E-05	1.24E-01	6.47E-04
Eutrophication Potential, freshwater	EP - freshwater	kg P eq	1.29E-01	1.19E-01	5.36E-05	3.05E-06	1.02E-02	1.82E-05
Eutrophication Potential, marine	EP - marine	kg N eq	2.86E-01	2.66E-01	1.20E-03	8.38E-05	1.90E-02	2.99E-04
Eutrophication Potential, terrestrial	EP - terrestrial	mol N eq	5.55E+00	5.34E+00	1.28E-02	4.21E-04	1.99E-01	2.61E-03
Photochemical ozone formation Potential	POCP	kg NMVOC eq	9.91E-01	9.15E-01	4.61E-03	1.22E-04	7.08E-02	9.15E-04
Resource use Potential, minerals and metals	ADP - minerals&metals*	kg Sb eq	3.36E-02	3.26E-02	2.46E-06	2.80E-08	1.00E-03	4.50E-07
Resource use Potential, fossil	ADP - fossil*	MJ	2.29E+03	2.07E+03	1.08E+01	1.46E-01	2.07E+02	2.07E+00
Water deprivation Potential	WDP*	m3 depriv.	5.49E+01	4.28E+01	4.42E-02	-2.57E-03	1.20E+01	4.48E-02

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

Azzurro Cabinet ZCB 96 kWh

				Upstream - Core	*Downstream*			
Impact indicators	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Global warming Potential - Total	GWP - Total	kg CO2 eq	1.66E+02	1.48E+02	6.88E-01	4.58E-01	1.65E+01	2.97E-01
Global warming Potential - Fossil	GWP - Fossil	kg CO2 eq	1.64E+02	1.47E+02	6.26E-04	1.05E-02	1.64E+01	1.86E-01
Global warming Potential – Biogenic	GWP - Biogenic	kg CO2 eq	1.87E+00	5.68E-01	6.87E-01	4.47E-01	5.59E-02	1.11E-01
Global warming Potential - Land use and LU change	GWP - Luluc	kg CO2 eq	6.41E-01	6.09E-01	3.36E-04	4.08E-06	3.09E-02	6.59E-05
Ozone depletion Potential	ODP	kg CFC11 eq	9.94E-06	8.89E-06	1.50E-08	1.96E-10	1.03E-06	3.19E-09
Acidification Potential	AP	mol H+ eq	2.50E+00	2.37E+00	2.84E-03	7.38E-05	1.23E-01	5.76E-04
Eutrophication Potential, freshwater	EP - freshwater	kg P eq	1.18E-01	1.08E-01	4.84E-05	2.54E-06	1.01E-02	1.58E-05
Eutrophication Potential, marine	EP - marine	kg N eq	2.61E-01	2.41E-01	1.09E-03	6.98E-05	1.89E-02	2.64E-04
Eutrophication Potential, terrestrial	EP - terrestrial	mol N eq	5.27E+00	5.06E+00	1.16E-02	3.51E-04	1.98E-01	2.32E-03
Photochemical ozone formation Potential	POCP	kg NMVOC eq	8.88E-01	8.13E-01	4.17E-03	1.01E-04	7.01E-02	8.16E-04
Resource use Potential, minerals and metals	ADP - minerals&metals*	kg Sb eq	2.93E-02	2.83E-02	2.22E-06	2.33E-08	9.95E-04	4.04E-07
Resource use Potential, fossil	ADP – fossil*	MJ	2.06E+03	1.84E+03	9.80E+00	1.22E-01	2.05E+02	1.85E+00
Water deprivation Potential	WDP*	m3 depriv.	5.11E+01	3.91E+01	4.00E-02	-2.14E-03	1.19E+01	3.78E-02

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

5.2. USE OF RESOURCES

Azzurro Cabinet ZCB 64 kWh

				Upstream - Core	*Downstream*			
Parameter	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Renewable primary energy as energy carrier	PERE	MJ	1.09E+03	2.77E+02	1.93E-01	3.51E-03	8.13E+02	4.47E-02
Renewable primary energy resource as material utilization	PERM	MJ	1.10E+01	1.10E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	PERT	MJ	1.10E+03	2.88E+02	1.93E-01	3.51E-03	8.13E+02	4.47E-02
Non-renewable primary energy as energy carrier	PENRE	MJ	2.64E+03	2.41E+03	1.24E+01	1.83E-01	2.10E+02	2.39E+00
Non-renewable primary energy as material utilization	PENRM	MJ	4.68E+00	4.68E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	PENRT	MJ	2.64E+03	2.42E+03	1.24E+01	1.83E-01	2.10E+02	2.39E+00
Use of secondary material	SM	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	FW	m3	2.04E+00	1.58E+00	1.77E-03	-4.53E-05	4.52E-01	1.78E-03

Azzurro Cabinet ZCB 80 kWh

				Upstream - Core	*Downstream*			
Parameter	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Renewable primary energy as energy carrier	PERE	MJ	1.04E+03	2.38E+02	1.69E-01	2.81E-03	8.02E+02	3.81E-02
Renewable primary energy resource as material utilization	PERM	MJ	8.78E+00	8.78E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	PERT	MJ	1.05E+03	2.47E+02	1.69E-01	2.81E-03	8.02E+02	3.81E-02
Non-renewable primary energy as energy carrier	PENRE	MJ	2.29E+03	2.07E+03	1.08E+01	1.46E-01	2.07E+02	2.07E+00
Non-renewable primary energy as material utilization	PENRM	MJ	3.74E+00	3.74E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	PENRT	MJ	2.29E+03	2.07E+03	1.08E+01	1.46E-01	2.07E+02	2.07E+00
Use of secondary material	SM	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	FW	m3	1.82E+00	1.37E+00	1.55E-03	-3.62E-05	4.46E-01	1.44E-03

Azzurro Cabinet ZCB 96 kWh

				Upstream - Core	*Downstream*			
Parameter	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Renewable primary energy as energy carrier	PERE	MJ	1.01E+03	2.12E+02	1.52E-01	2.34E-03	7.95E+02	3.38E-02
Renewable primary energy resource as material utilization	PERM	MJ	7.31E+00	7.31E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	PERT	MJ	1.01E+03	2.19E+02	1.52E-01	2.34E-03	7.95E+02	3.38E-02
Non-renewable primary energy as energy carrier	PENRE	MJ	2.06E+03	1.84E+03	9.80E+00	1.22E-01	2.05E+02	1.85E+00
Non-renewable primary energy as material utilization	PENRM	MJ	3.12E+00	3.12E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	PENRT	MJ	2.06E+03	1.84E+03	9.80E+00	1.22E-01	2.05E+02	1.85E+00
Use of secondary material	SM	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	FW	m3	1.68E+00	1.23E+00	1.40E-03	-3.02E-05	4.42E-01	1.22E-03

5.3. WASTE AND OUTPUT FLOWS

Azzurro Cabinet ZCB 64 kWh

				Upstream - Core	*Downstream*			
Parameter/indicator	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Hazardous waste disposed	HWD	Kg	7.59E-01	1.41E-01	3.08E-04	2.86E-03	1.56E-01	4.58E-01
Non-hazardous waste disposed	NHWD	Kg	3.91E+01	3.49E+01	6.07E-01	1.59E-01	2.52E+00	9.26E-01
Radioactive waste disposed	RWD	Kg	4.25E-03	3.86E-03	4.04E-06	5.82E-08	3.79E-04	8.41E-07
Components for re-use	CRU	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	MFR	Kg	5.83E+00	0.00E+00	0.00E+00	4.63E-02	0.00E+00	5.78E+00
Materials for energy recovery	MER	Kg	3.71E-01	0.00E+00	0.00E+00	2.99E-01	0.00E+00	7.20E-02
Exported thermal energy	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported electricity energy	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Azzurro Cabinet ZCB 80 kWh

				Upstream - Core	*Downstream*			
Parameter/indicator	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Hazardous waste disposed	HWD	Kg	6.44E-01	1.21E-01	2.69E-04	2.29E-03	1.54E-01	3.67E-01
Non-hazardous waste disposed	NHWD	Kg	3.52E+01	3.13E+01	5.30E-01	1.27E-01	2.48E+00	7.48E-01
Radioactive waste disposed	RWD	Kg	3.60E-03	3.22E-03	3.53E-06	4.65E-08	3.74E-04	7.22E-07
Components for re-use	CRU	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	MFR	Kg	4.66E+00	0.00E+00	0.00E+00	3.71E-02	0.00E+00	4.62E+00
Materials for energy recovery	MER	Kg	2.97E-01	0.00E+00	0.00E+00	2.39E-01	0.00E+00	5.76E-02
Exported thermal energy	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported electricity energy	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Azzurro Cabinet ZCB 96 kWh

				Upstream - Core	*Downstream*			
Parameter/indicator	**Nomenclatures**	**Unit**	**Total**	**Manufacturing**	**Distribution**	**Installation**	**Use & Maintenance**	**End of Life**
Hazardous waste disposed	HWD	Kg	5.68E-01	1.08E-01	2.43E-04	1.91E-03	1.53E-01	3.05E-01
Non-hazardous waste disposed	NHWD	Kg	3.26E+01	2.89E+01	4.79E-01	1.06E-01	2.46E+00	6.29E-01
Radioactive waste disposed	RWD	Kg	3.17E-03	2.80E-03	3.19E-06	3.88E-08	3.70E-04	6.43E-07
Components for re-use	CRU	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	MFR	Kg	3.88E+00	0.00E+00	0.00E+00	3.09E-02	0.00E+00	3.85E+00
Materials for energy recovery	MER	Kg	2.47E-01	0.00E+00	0.00E+00	1.99E-01	0.00E+00	4.80E-02
Exported thermal energy	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported electricity energy	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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