

ENVIRONMENTAL PRODUCT DECLARATION

Three-phase oil immersed transformers

TR 40MVA 115/12KV OLTC NATURAL ESTER - ENEL ID 110031

TR 25 MVA ONAN 132/15.6KV - ENEL ID 110042

Production site:

SS265, 28, 81025 Marcianise Nord Industrial Area (CE) – ITALY

in accordance with ISO 14025:2006 and EN 50693:2019

Program Operator	EPDItaly
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TR 40MVA 115/12KV OLTC NATURAL ESTER



TR 25 MVA ONAN 132/15.6KV

1- GENERAL INFORMATION

Programme	EPDItaly Via Gaetano De Castillia, 10 20124 – MILAN www.epditaly.it
EPD Owner	Getra Power Spa Via G. Porzio IS. E5 80143 Naples (NA) – ITALY https://www.getra.it/ info@getra.it
EPD Type	Product EPD
Production site	SS265, 28, 81025 Industrial Area Marcianise Nord (CE)
Products and CPC	TR 40MVA 115/12KV OLTC NATURAL ESTER – ENEL ID 110031 TR 25 MVA ONAN 132/15.6KV – ENEL ID 110042 CPC 46121
System boundaries	Cradle to grave
Geographical scope	Global (Upstream), Italy (Core), Italy and Colombia (Downstream)
PCR and regulation	<u>Core</u> PCR EPDItaly 007 Electronic and electrical products and systems – v3.1, 2024-11-12 <u>Sub-PCR</u> EPDItaly 018 Electronic and electrical products and systems – Power transformers, v3.6, 2024-07-01 EPDItaly PROGRAMME REGULATIONS, rev.6, 2023-10-30

EN 50693 is the reference standard for PCR	
PCR review performed by:	Review Panel EPD Italy – info@epditaly.it
Independent verification of EPD and data in accordance with ISO 14025	☒ External ☐ Internal
Third-party verifier	SGS ICS Italia Srl via Caldera, 21, 20153 – Milan www.it.sgs.com Accredited by: Accredia, certificate no. 02242

EPDs published within the same product category, but from different programmes, may not be comparable.

The EPD Owner releases EPDItaly from any noncompliance with environmental legislation. The holder of the declaration will be responsible for the information and supporting evidence. EPDItaly accepts no responsibility for the information, data and results provided by the EPD Owner for the life cycle assessment.

2- ORGANIZATION DESCRIPTION

Getra Power is a company engaged in the production of large and medium power high voltage transformers, transformers for industrial applications and special interconnection systems for high voltage power grids.

The Marcianise (CE) plant is equipped with the most modern and efficient production and handling systems, cutting-edge heat treatment facilities, and three testing rooms capable of performing all the tests required by international standards.

The production plant is located in the Marcianise (CE) industrial area, approximately 500 meters from the Caserta Sud exit of the A1 motorway. It covers a total area of 35,000 square meters, 12,000 of which are covered. Its annual production capacity is 15,000 MVA.

Environmental policy

Getra Power's environmental policy includes the following commitments:

- promote the efficient use of energy resources and the reduction of greenhouse gas emissions through the implementation of highly energy-efficient technologies and the promotion of renewable sources;
- Minimize the environmental impact of operations by promoting the adoption, right from the design stages, of a Life Cycle Assessment (LCA) logic across all processes, with particular attention to water consumption,

waste, and the prevention of soil and air pollution;

- encourage and support suppliers to improve their performance, supporting the circular economy and promoting sustainability principles in their procurement choices for goods, products and services;
- monitor and communicate the positive and negative impacts on the environment, including through the preparation of the Sustainability Report and non-financial information.

System certifications

- ISO 9001:2015 (certificate no. IT13/0468.01, SGS Italia)
- ISO 14001:2015 (certificate no. IT06/0554, SGS Italia)
- ISO 37001:2016 (certificate no. ABMS-173/20, Rina)
- ISO 45001:2018 (certificate no. 334212, Bureau Veritas)
- UNI/PdR 125:2022 (certificate no. IT25/00000693.01, SGS Italia)
- EN 15085-2:2020 (certificate no. 1151-001, Bureau Veritas)
- UNI EN ISO 3834-2:2021 (certificate no. ITI000545, Bureau Veritas)

3- PRODUCT DESCRIPTION

The vegetable oil-filled power transformer, TR 40MVA 115/12KV OLTC NATURAL ESTER, covered by this EPD is a three-phase transformer with a nominal power of 30/35/40 MVA, a primary voltage of 115 kV, a secondary voltage of 12 kV, and a nominal frequency of 60 Hz. Based on the type of cooling, the transformer is defined as KNAN/KNAF1/KNAF2. It is built in accordance with GST 002 Rev. 01.

The other mineral oil-filled power transformer, TR 25 MVA ONAN 132/15.6KV, covered by this EPD, is a three-phase transformer with a nominal power of 25 MVA. The primary voltage is 132 kV, the secondary voltage is 15.6 kV, and the nominal frequency is 50 Hz. Based on the type of cooling, the transformer is defined as ONAN. It is built in accordance with GST 002 Rev. 02.

Power transformers are typically used in all applications where it is necessary to connect AC networks with high voltage levels for power transmission or distribution. In particular, network transformers are used to interconnect high-voltage transmission systems.

The production cycle is made up of various phases, each aimed at creating or assembling the semi-finished products and components necessary for the final creation of the product, which is then subjected to an oil filling cycle before final testing.

The main parts manufactured are the windings (high voltage, medium voltage and regulation) and the metal structures. The magnetic circuit of the transformer, made by packing cold-rolled grain-oriented silicon magnetic steel sheets, is supplied by external manufacturers.

The actual lifetime assumed to model the use and end-of-life phases is equal to 35 years, in accordance with the reference PCR.

Content Declaration

The following is the material content declaration according to IEC 62474:2018 Material Declaration for Products of and for the Electrotechnical Industry.

TR 40MVA 115/12KV OLTC NATURAL ESTER		
Material	Mass [kg]	%
1 Inorganic materials		
M-10 Steel and ferrous materials		
M-100 Stainless steel	30.0	0.05%
M-119 Other ferrous alloys	31925.0	54.1%
M-12 Non-ferrous metals and alloys		
M-121 Copper and its alloys	8074.0	13.7%
2 Organic materials		
M-20 Unfilled thermoplastic resin	150.0	0.25%
M-25 Filled thermoplastic resin	50.0	0.08%
M-30 Duromers		
M-319 Other duromers	1000.0	1.69%
M-32 Elastomers		
M-321 Silicone	170.0	0.29%
M-34 Natural materials		
M-340 Wood	21.0	0.04%
M-341 Paper	280.0	0.47%
M-40 Materials for product operation		
M-410 Oils and greases	17300.0	29.3%
Total	59000.0	100.0%

TR 25 MVA ONAN 132/15,6KV		
Material	Mass [kg]	%
1 Inorganic materials		
M-10 Steel and ferrous materials		
M-100 Stainless steel	30.0	0.06%
M-119 Other ferrous alloys	27965.0	57.1%
M-12 Non-ferrous metals and alloys		
M-121 Copper and its alloys	6420.0	13.1%
2 Organic materials		
M-20 Unfilled thermoplastic resin	150.0	0.31%
M-25 Filled thermoplastic resin	35.0	0.07%
M-30 Duromers		
M-319 Other duromers	750.0	1.53%
M-32 Elastomers		
M-321 Silicone	150.0	0.31%
M-34 Natural materials		
M-340 Wood	150.0	0.31%
M-341 Paper	250.0	0.51%
M-40 Materials for product operation		
M-410 Oils and greases	13100.0	26.7%
Total	49000.0	100.0%

The packaging consists of:

- Wooden platforms (organic material, M-340) weighing 240kg for the TR 40MVA and 160kg for the TR 25MVA.
- Wooden crates (organic material, M-340) weighing 95kg for the TR 40MVA and 140kg for the TR 25MVA.

None of the substances contained in the products are listed in the "Candidate List of Substances of Very High Concern for authorisation" or exceed the threshold set by the European Chemicals Agency.

1- LCA INFORMATION

Functional unit

A single piece of transformer operating for 35 years (RSL).

Transformers have the following characteristics:

TR 40MVA 115/12KV OLTC NATURAL ESTER	
Operating power	40MVA
Primary voltage	115kV
Installation and operation site	Colombia
Total weight (excl. packaging)	59000kg

TR 25 MVA ONAN 132/15,6KV	
Operating power	25MVA
Primary voltage	132kV
Installation and operation site	Italy
Total weight (excl. packaging)	49000kg

Data reference year

2023

LCA database and software

Ecoinvent v.3.11 and SimaPro 10.2.

Description of the system boundaries

The system boundaries are cradle-to-grave. The following table shows the processes included within the system boundaries and the scenarios adopted for modeling the downstream module phases.

Cut-off rules and exclusions

The rule, defined by the PCR documents, provides a maximum cutoff of 5% of the overall impact of the studied system. However, only a few minor flows

were excluded and in particular:

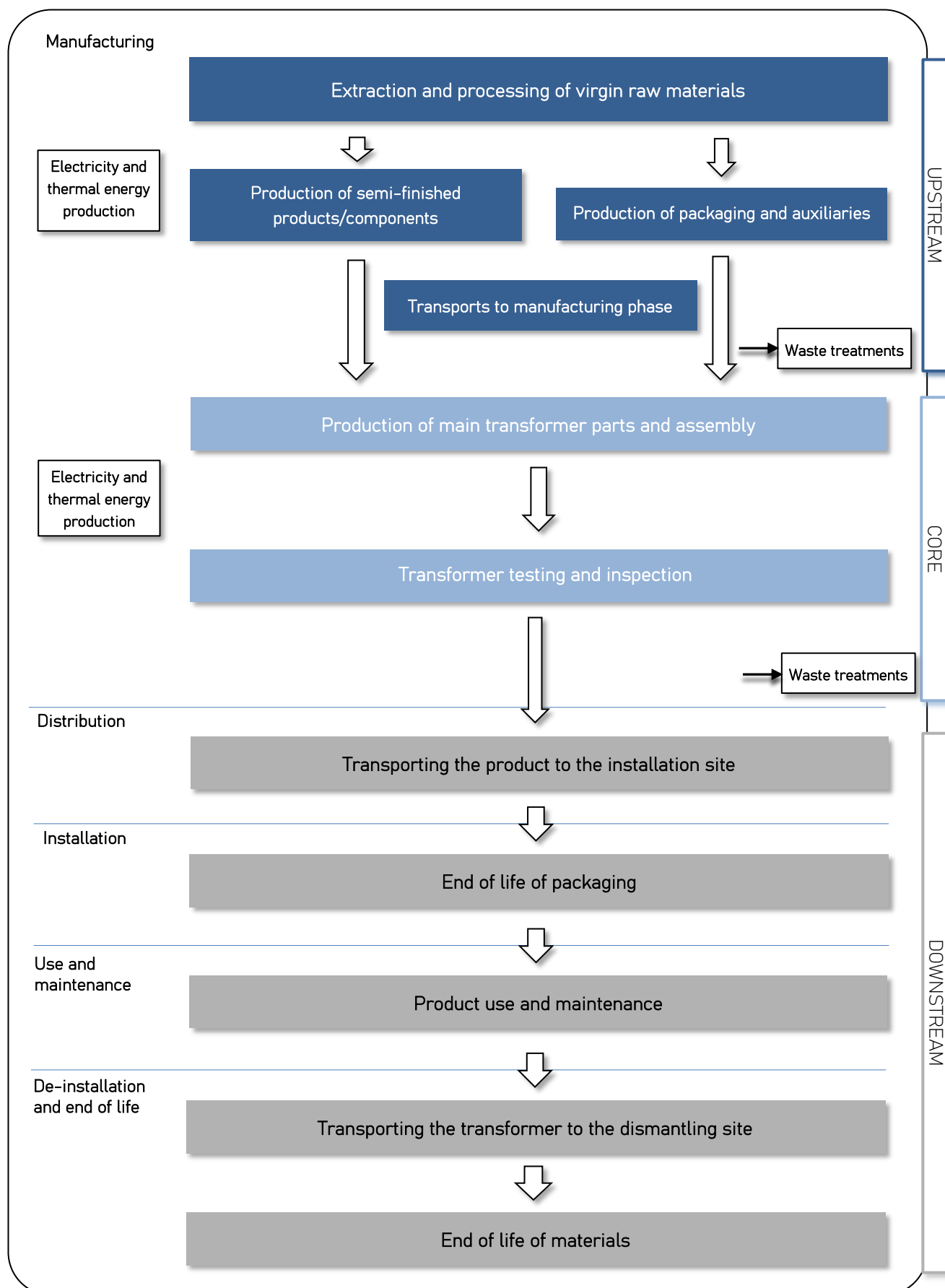
- Materials and products for ordinary and extraordinary maintenance of the machinery present in the factory
- auxiliary materials or substances used in small quantities such as acetylene
- packaging of semi-finished products and other transformer components
- transformer disassembly activities during end-of-life operations

Allocation methods

The allocation methods applied in the core module, to associate elementary flows with the functional unit under consideration, are based on physical relationships (mass criterion). Where possible, allocation avoid has been avoided by using primary data, specific to the product under consideration.

Module	Phase	Phase included	Included processes and scenarios																								
Upstream	Manufacturing	X	- Extraction and processing of virgin raw materials - Production of semi-finished products - Production of finished product packaging - Production of oil and other auxiliary materials for the processing stages - Transport of semi-finished products, components, packaging and auxiliary substances entering the production phase - Production of electricity and heat for upstream processes																								
Core			- Production of main transformer parts and assembly - Transformer testing and inspection - Transport and treatment of waste produced - Production of electrical and thermal energy for core processes																								
Downstream	Distribution	X	Transporting the product to the installation site For the TR 40MVA 115/12KV OLTC NATURAL ESTER, the distribution distance to the installation site is 412 km by road and 11,380 km by sea. For the TR 25 MVA ONAN 132/15,6KV, the distribution distance to the installation site is 330 km travelled by road.																								
	Installation	X	End of life of packaging The transformer is shipped to the customer fully assembled and ready for operation. Installation is therefore considered negligible.																								
	Use and maintenance	X	- Electricity consumption associated with losses during operation in the 35-year RSL - Transformer maintenance during the 35-year RSL The parameters used to calculate the electricity consumed during use, according to the formula reported in section 4.2.4.5 of PCR 018 and based on the test results, are: <table><tr><th>TR</th><th>P_{load} [kW]</th><th>k_{load} [%]</th><th>P_{noload} [kW]</th><th>P_{aux} [kW]</th><th>f_{aux} [%]</th><th>t_{year} [h]</th><th>RSL [y]</th></tr><tr><td>TR 40MVA 115/12KV</td><td>173.04</td><td>0.7</td><td>13.26</td><td>3.00</td><td>1</td><td>8,760</td><td>35</td></tr><tr><td>TR 25 MVA 132/15,6 KV</td><td>103.17</td><td>0.7</td><td>12.60</td><td>na</td><td>na</td><td>8,760</td><td>35</td></tr></table>	TR	P _{load} [kW]	k _{load} [%]	P _{noload} [kW]	P _{aux} [kW]	f _{aux} [%]	t _{year} [h]	RSL [y]	TR 40MVA 115/12KV	173.04	0.7	13.26	3.00	1	8,760	35	TR 25 MVA 132/15,6 KV	103.17	0.7	12.60	na	na	8,760	35
	TR		P _{load} [kW]	k _{load} [%]	P _{noload} [kW]	P _{aux} [kW]	f _{aux} [%]	t _{year} [h]	RSL [y]																		
	TR 40MVA 115/12KV		173.04	0.7	13.26	3.00	1	8,760	35																		
TR 25 MVA 132/15,6 KV	103.17	0.7	12.60	na	na	8,760	35																				
		To model the electricity consumed during the use phase, the Colombian and Italian energy mix from Ecoinvent v3.11 were used, respectively for the TR 40MVA 115/12KV and TR 25 MVA 132/15.6KV transformers. The maintenance scenario was defined following an analysis of customer service requests and includes a complete replacement of radiators, insulators, paint, electrical accessories, mechanical accessories, and ancillary equipment during the 35-year RSL. No oil replacements or refilling are planned during the RSL, but as a precaution, a refill of 10% of the transformer's oil volume is assumed. Recovery or disposal operations for replaced materials have also been considered.																									
	De-installation and end of life	X	- Transporting the transformer to the dismantling site - End of life of materials In the absence of primary data relating to the distances required to transport the product to the dismantling site, a distance of 100 km by road was assumed. Transformer disassembly activities during end-of-life operations were not considered because they were deemed negligible. The end-of-life scenario involves emptying the transformer of its insulating oil and handing it over to waste oil recovery consortia. The metal and electrical parts are sent to specialized recovery plants, while the remaining materials, such as insulation and minor components, are disposed of in landfill or incinerated.																								

System Boundary Flowchart



2- RESULTS OF ENVIRONMENTAL INDICATORS

The results reported below refer to the functional unit and have been evaluated using the characterization models and factors required by the EN 15804:2012+A2:2019 standard (EF 3.1).

RESULTS TR 40MVA 115/12KV OLTC NATURAL ESTER

Environmental impact categories

Indicator	Unit	Upstream	Core	Downstream				TOTAL
		Manufacturing		Distribution	Installation	Use and maintenance	De-installation and end of life	
Climate change – total	kg CO ₂ eq.	2,24E+05	2,32E+04	9,49E+03	4,95E+02	5,87E+06	4,56E+04	6,17E+06
Climate change – fossil	kg CO ₂ eq.	2,28E+05	2,25E+04	9,49E+03	5,13E+00	4,17E+06	6,89E+02	4,43E+06
Climate change – biogenic	kg CO ₂ eq.	-4,02E+04	7,69E+02	5,28E-01	4,90E+02	9,96E+05	4,49E+04	1,00E+06
Climate change – land use	kg CO ₂ eq.	3,55E+04	1,86E+00	4,64E+00	1,43E-03	7,03E+05	3,38E-01	7,38E+05
Ozone layer depletion	kg CFC 11 eq.	1,54E-02	6,33E-04	1,54E-04	5,78E-08	3,52E-02	1,43E-05	5,13E-02
Acidification	mol H ⁺ eq.	7,15E+03	4,72E+01	2,12E+02	5,41E-02	3,10E+04	2,59E+00	3,84E+04
Eutrophication, freshwater	kg PO ₄ ³⁻ eq.	4,05E+02	3,95E+00	4,26E-01	2,33E-03	1,09E+03	7,09E-02	1,50E+03
Eutrophication, marine	kg N eq.	7,28E+02	1,14E+01	5,34E+01	2,87E-02	3,62E+03	1,61E+00	4,41E+03
Eutrophication, terrestrial	mol N eq.	5,19E+03	1,17E+02	5,93E+02	2,76E-01	3,84E+04	8,72E+00	4,43E+04
Photochemical oxidation	kg NMVOC eq.	1,69E+03	4,69E+01	1,66E+02	6,92E-02	1,28E+04	4,21E+00	1,47E+04
Depletion of abiotic resources – Elements*	kg Sb eq.	9,30E+01	1,72E-02	1,42E-02	9,05E-06	6,59E+00	2,23E-03	9,96E+01
Depletion of abiotic resources – fossil fuels*	MJ	2,88E+06	3,20E+05	1,22E+05	4,61E+01	5,40E+07	1,01E+04	5,73E+07
Water scarcity potential*	m ³	1,47E+05	1,05E+03	3,64E+02	2,16E+00	5,75E+05	-1,58E+02	7,22E+05

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

Use of resources

Indicator	Unit	Upstream	Core	Downstream				TOTAL
		Manufacturing		Distribution	Installation	Use and maintenance	De-installation and end of life	
PERE	MJ, net calorific value	4,40E+05	4,06E+03	1,23E+03	1,21E+00	1,02E+08	2,40E+02	1,02E+08

PERM	MJ, net calorific value	5,10E+05	0,00E+00	0,00E+00	0,00E+00	5,10E+04	0,00E+00	5,61E+05
PERT	MJ, net calorific value	9,50E+05	4,06E+03	1,23E+03	1,21E+00	1,02E+08	2,40E+02	1,03E+08
PENRE	MJ, net calorific value	2,94E+06	3,20E+05	1,22E+05	4,61E+01	5,40E+07	1,01E+04	5,74E+07
PENRM	MJ, net calorific value	2,55E+04	0,00E+00	0,00E+00	0,00E+00	2,55E+03	0,00E+00	2,81E+04
PENRT	MJ, net calorific value	2,97E+06	3,20E+05	1,22E+05	4,61E+01	5,40E+07	1,01E+04	5,74E+07
SM	kg	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
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	3,78E+03	3,97E+01	1,02E+01	6,50E-02	1,05E+05	-3,40E+00	1,09E+05
ACRONYMS	PERE = Renewable primary energy use excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Secondary material use; RSF = Renewable secondary fuel use; NRSF = Non-renewable secondary fuel use; FW = Net fresh water use							

Waste production

Indicator	Unit	Upstream	Core	Downstream				TOTAL
		Manufacturing		Distribution	Installation	Use and maintenance	De-installation and end of life	
Hazardous waste for disposal	kg	1,46E+02	1,63E+00	6,89E-01	2,90E-04	2,24E+02	6,51E-02	3,72E+02
Non-hazardous waste for disposal	kg	3,74E+04	4,23E+02	3,32E+03	3,16E+00	6,02E+05	2,07E+03	6,45E+05
Radioactive waste for disposal	kg	5,87E+00	2,15E-01	1,93E-02	1,32E-05	3,84E+00	4,19E-03	9,95E+00
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	0,00E+00	1,56E+03	0,00E+00	0,00E+00	7,94E+03	5,67E+04	6,62E+04
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – electricity	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – thermal	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

RESULTS TR 25 MVA ONAN 132/15.6KV

Environmental impact categories

Indicator	Unit	Upstream	Core	Downstream				TOTAL
		Manufacturing		Distribution	Installation	Use and maintenance	De-installation and end of life	
Climate change – total	kg CO ₂ eq.	1,98E+05	2,00E+04	1,93E+03	4,44E+02	7,49E+06	2,60E+03	7,71E+06
Climate change – fossil	kg CO ₂ eq.	1,97E+05	1,93E+04	1,92E+03	4,60E+00	7,11E+06	5,76E+02	7,33E+06
Climate change – biogenic	kg CO ₂ eq.	1,13E+03	6,62E+02	1,18E+00	4,39E+02	3,81E+05	2,02E+03	3,85E+05
Climate change – land use	kg CO ₂ eq.	2,08E+02	1,60E+00	6,91E-01	1,28E-03	9,64E+02	2,86E-01	1,18E+03
Ozone layer depletion	kg CFC 11 eq.	1,42E-02	5,45E-04	4,21E-05	5,18E-08	1,83E-01	1,19E-05	1,98E-01
Acidification	mol H ⁺ eq.	5,63E+03	4,06E+01	6,37E+00	4,84E-02	2,31E+04	2,18E+00	2,87E+04
Eutrophication, freshwater	kg PO ₄ ³⁻ eq.	3,14E+02	3,40E+00	1,36E-01	2,08E-03	1,65E+03	6,10E-02	1,97E+03
Eutrophication, marine	kg N eq.	3,21E+02	9,80E+00	2,16E+00	2,57E-02	4,34E+03	1,31E+00	4,68E+03
Eutrophication, terrestrial	mol N eq.	3,96E+03	1,01E+02	2,35E+01	2,47E-01	4,52E+04	7,35E+00	4,93E+04
Photochemical oxidation	kg NMVOC eq.	1,39E+03	4,04E+01	1,01E+01	6,20E-02	1,87E+04	3,49E+00	2,01E+04
Depletion of abiotic resources – Elements*	kg Sb eq.	7,23E+01	1,48E-02	5,41E-03	8,10E-06	9,49E+00	1,88E-03	8,18E+01
Depletion of abiotic resources – fossil fuels*	MJ	3,05E+06	2,75E+05	2,81E+04	4,13E+01	1,21E+08	8,42E+03	1,24E+08
Water scarcity potential*	m ³	1,17E+05	9,01E+02	1,28E+02	1,93E+00	3,54E+06	-1,20E+02	3,66E+06

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

Use of resources

Indicator	Unit	Upstream	Core	Downstream				TOTAL
		Manufacturing		Distribution	Installation	Use and maintenance	De-installation and end of life	
PERE	MJ, net calorific value	3,48E+05	3,50E+03	4,34E+02	1,08E+00	4,09E+07	2,04E+02	4,13E+07
PERM	MJ, net calorific value	1,88E+04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,88E+04
PERT	MJ, net calorific value	3,67E+05	3,50E+03	4,34E+02	1,08E+00	4,09E+07	2,04E+02	4,13E+07
PENRE	MJ, net calorific value	2,66E+06	2,75E+05	2,81E+04	4,13E+01	1,21E+08	8,42E+03	1,24E+08

PENRM	MJ, net calorific value	3,87E+05	0,00E+00	0,00E+00	0,00E+00	3,87E+04	0,00E+00	4,25E+05
PENRT	MJ, net calorific value	3,05E+06	2,75E+05	2,81E+04	4,13E+01	1,21E+08	8,42E+03	1,24E+08
SM	kg	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
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	2,72E+03	3,42E+01	3,64E+00	5,83E-02	9,86E+04	-2,55E+00	1,01E+05
ACRONYMS	PERE = Renewable primary energy use excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Secondary material use; RSF = Renewable secondary fuel use; NRSF = Non-renewable secondary fuel use; FW = Net fresh water use							

Waste production

Indicator	Unit	Upstream	Core	Downstream				TOTAL
		Manufacturing		Distribution	Installation	Use and maintenance	De-installation and end of life	
Hazardous waste for disposal	kg	1,15E+02	1,41E+00	1,87E-01	2,60E-04	5,77E+02	5,41E-02	6,94E+02
Non-hazardous waste for disposal	kg	3,02E+04	3,64E+02	2,43E+03	2,83E+00	2,67E+05	1,66E+03	3,02E+05
Radioactive waste for disposal	kg	4,28E+00	1,85E-01	7,74E-03	1,18E-05	2,69E+02	3,56E-03	2,73E+02
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	0,00E+00	1,34E+03	0,00E+00	0,00E+00	6,02E+03	4,70E+04	5,44E+04
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – electricity	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – thermal	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental information

Getra Power Spa has an Environmental Management System in compliance with the requirements of the UNI EN ISO 14001:2015 standard (certificate no. IT06/0554, SGS Italia), developed to ensure that its activities are carried out in compliance with current legislation and any codes of practice subscribed to.

3- BIBLIOGRAPHICAL REFERENCES

- Life Cycle Assessment (LCA) of three-phase transformers immersed in oil, 2023 data, dic. 2025, Getra Power Spa
- EN 50693:2019 Product category rules for life cycle assessments of electronic and electrical products and systems.
- PCR EPDItaly 007 Electronic and electrical products and systems – rev. 3.1, 2024-11-12
- Sub-PCR EPDItaly 018 Electronic and electrical products and systems – Power transformers, v3.6, 2024-07-01
- EPDItaly PROGRAMME REGULATIONS, rev. 6, October 30, 2023
- ISO (UNI EN), 2006, 2020, Environmental Management – Life Cycle Assessment – Principles and Framework, ISO 14040:2006 + A1:2020, International Organization for Standardization, Geneva, Switzerland.
- ISO (UNI EN), 2006, 2018, 2020, Environmental Management – Life Cycle Assessment – Requirements and Guidelines, ISO 14044:2006 + A1:2018 + A2:2020, International Organization for Standardization, Geneva, Switzerland