Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

ENVIRONMENTAL FOOTPRINT INSTITUTE

EXTRA HIGH VOLTAGE AC POWER CABLE (EHVAC)

Cu / XLPE / SAS / HDPE 1X2500 mm2 230 kV IEC 62067

From

BAHRA ADVANCED CABLE MANUFACTURE CO. LTD

BAHRA CABLES



Programme:	Environmental Footprint Institute https://www.environmentalfootprintinstitute.org/
Product group classification:	UN CPC 4635
Type of EPD:	EPD of single product from manufacturer
EPD registration number:	261005EPD CPR-3100
Version date:	2026-10-30
Validity date:	2031-10-29
Geographical Scope	*Manufactured in Saudi Arabia and distributed in Saudi Arabia.*

An Environmental Footprint (EF) should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environmentalfootprintinstitute.org

GENERAL INFORMATION

Programme Information	
Programme:	Environmental Footprint Institute
Address:	The Environmental Footprint Institute Calle CIRCE 49A Madrid 28022 Spain www.environmentalfootprintinstitute.org
Website:	https://www.environmentalfootprintinstitute.org/
E-mail:	info@environmentalfootprintinstitute.com

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR P-3100: Construction products in general (EN 15804:2012+A2:2019/AC:2021).
UN CPC code: 4635 - Other electric conductors, for voltage exceeding 1000V.
PCR review was conducted by: The Environmental Footprint Institute.

Life Cycle Assessment (LCA)
LCA Accountability: VR SRINIVASAN CERT PVT LTD - Web: vrscert.com/

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ **Individual EPD verification without a pre-verified LCA/EPD tool** Third-party verifier: Mr. Iván Jiménez Email: info@solidforest.com Accredited by: The Environmental Footprint Institute.
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programs may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of comparison.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: BAHRA ADVANCED CABLE MANUFACTURE CO. LTD

Address: CPC Industrial Park,

Jeddah-Makkah Highway,

P.O. Box 5989,

Jeddah 21432,

Kingdom of Saudi Arabia.

Contact:

Hossameldin Salah Mohammad

VP - Quality Assurance & Sustainability

hossameldin.mohammad@bahra-electric.com

BAHRA ADVANCED CABLE MANUFACTURE CO. LTD

Address and contact information of the LCA practitioner commissioned by the EPD owner, if applicable:

Udayakumar Inbamani - Carbon Footprint Analyst

VR SRINIVASAN CERT PVT LTD

Chennai - 600126

Mail: esg@vrscert.com

Web: vrscert.com/

Description of the organisation:

BAHRA ADVANCED CABLE MANUFACTURE CO. LTD was established in 2008 and has grown into a leading manufacturer of electrical products and power distribution solutions in Saudi Arabia and the wider Middle East. The company is headquartered in Bahra Industrial City, approximately 35 km from Jeddah, Saudi Arabia, and serves customers across Saudi Arabia, the GCC region, and international markets.

The company manufactures a diverse range of electrical products through its specialized manufacturing facilities. Its product portfolio includes wires and cables, transformers, busways, copper busbars and rods, aluminium rods, earthing and lightning protection systems, wiring devices, distribution boards, service enclosures, cable trays, PVC conduits and accessories, and flexible metallic conduits. These products support power transmission, electrical distribution, infrastructure, industrial, commercial, and construction applications.

BAHRA ADVANCED CABLE MANUFACTURE CO. LTD operates a large industrial facility covering more than 500,000 square meters, incorporating manufacturing facilities, design offices, laboratories, and storage areas. Its operations focus on delivering reliable and safe electrical products through quality-focused manufacturing, technological advancement, product innovation, and adherence to applicable international standards. The company also provides product approvals and technical documentation to support customer and project requirements.

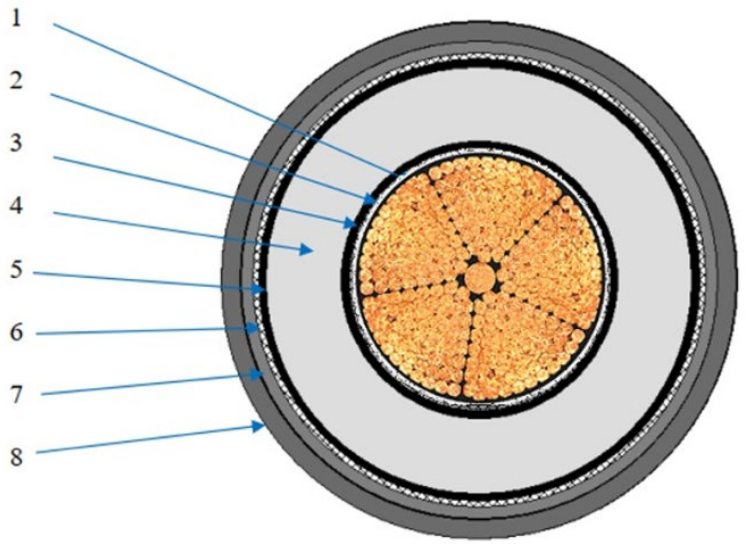
BAHRA ADVANCED CABLE MANUFACTURE CO. LTD aims to strengthen its position as a leading electrical equipment manufacturer in the Middle East while expanding the global presence of its Saudi-made products. Guided by its commitment to customer satisfaction, product quality, innovation, and social responsibility, the company emphasizes the development of reliable electrical solutions and sustainable business practices that support long-term customer value and industrial growth.

Product portfolio:

BAHRA ADVANCED CABLE MANUFACTURE CO. LTD offers high-voltage (HV) and extra-high-voltage (EHV) power cables designed for electrical power transmission and distribution. The product covered in this EPD is a single-core, 230 kV power cable with a 2,500 mm² copper conductor, XLPE insulation, smooth aluminium sheath (SAS) and HDPE outer sheath. The cable is designated as Cu / XLPE / SAS / HDPE 1 × 2500 mm², 230 kV, and is manufactured in accordance with IEC 62067.

Description	Parameter
1	Copper conductor segmental, Watertight
2	Conductor moisture impervious layer
3	Extruded inner semi conductive layer (Bonded)
4	Extruded XLPE insulation
5	Extruded outer semi conductive layer (Bonded)
6	Semi-conductive water blocking tape
7	Smooth Aluminium Sheath + Extruded Copolymer layer
8	HDPE Outer Sheathing Black + Graphite Coating

CABLE DRAWING



Product-related or management system-related certifications:

BAHRA ADVANCED CABLE MANUFACTURE CO. LTD demonstrates a strong commitment to product quality, occupational health and safety, environmental responsibility, and compliance with applicable customer, regulatory, and technical requirements.

The company's management systems are certified in accordance with ISO 9001, ISO 14001, and ISO 45001, supporting a systematic approach to quality management, environmental management, and occupational health and safety. These systems promote consistent manufacturing processes, pollution prevention, workplace risk management, and continual improvement across its operations.

In support of product conformity and technical reliability, BAHRA ADVANCED CABLE MANUFACTURE CO. LTD maintains testing capabilities for mechanical and electrical properties. Its testing and calibration laboratory operates in accordance with ISO/IEC 17025:2017 - General Requirements for the Competence of Testing and Calibration Laboratories, demonstrating a structured approach to testing competence, technical reliability, and the validity of test results within its accredited scope.

Through the implementation of internationally recognized management systems and competent mechanical and electrical testing practices, BAHRA ADVANCED CABLE MANUFACTURE CO. LTD strengthens process control, documentation, performance monitoring, risk management, and product verification to support customer and project requirements.

This integrated framework reflects BAHRA ADVANCED CABLE MANUFACTURE CO. LTD's commitment to internationally recognized best practices in quality, environmental protection, occupational health and safety, and laboratory competence, reinforcing its reliability as an electrical products manufacturer serving regional and international markets.

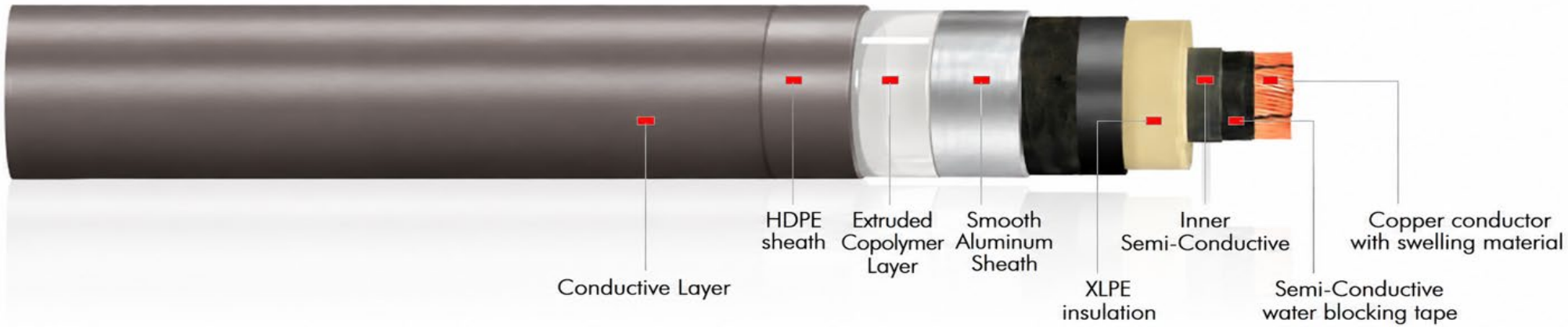
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
REGISTERED

PRODUCT INFORMATION

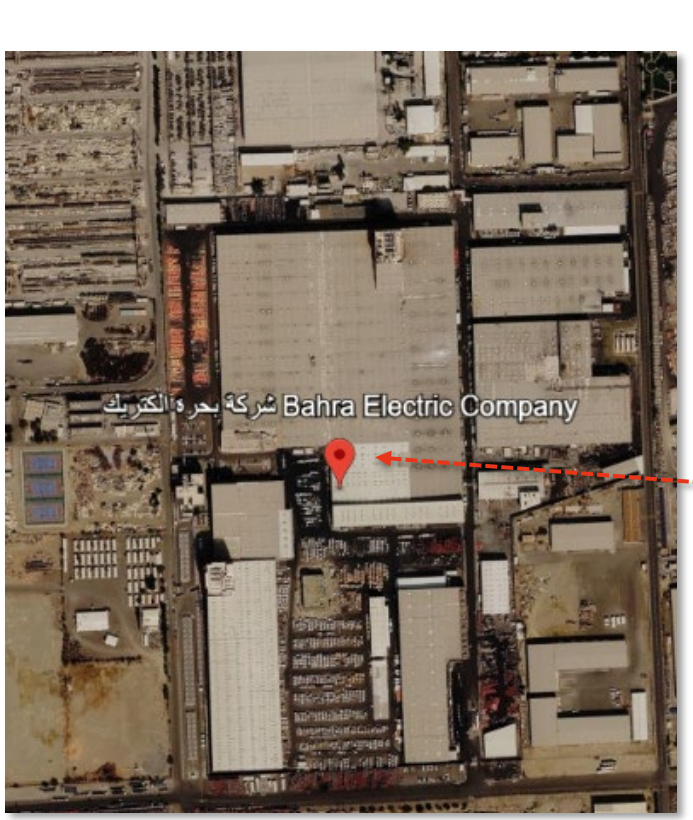
Product name: 1 m of Extra High Voltage AC Power Cable (EHVAC).

Product identification: Extra High Voltage AC Power Cable (EHVAC)

Product description:
The Cu / XLPE / SAS / HDPE 1 × 2500 mm², 230 kV IEC 62067 high-voltage power cable is a high-performance electrical transmission solution designed for reliable power transmission and distribution in extra-high-voltage networks. Featuring a 2,500 mm² copper conductor, XLPE insulation, smooth aluminium sheath (SAS) and HDPE outer sheath, the cable provides electrical insulation, moisture protection and mechanical protection, ensuring reliable performance in 230 kV power transmission applications. Manufactured in accordance with IEC 62067.



Name and location of production site(s): Kingdom of Saudi Arabia.





CONTENT DECLARATION

Declared unit: 1m of Extra High Voltage AC Power Cable (EHVAC).

Content of the Product:

Product components	Weight, kg	Pre-consumer material, weight-%	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Copper	23.1	5%	30%	0%
Aluminium	2.2	0%	0%	0%
Cross linked polyethylene	8.2	0%	0%	0%
High density polyethylene	1.8	0%	0%	0%
Polyester based tape	0.3	0%	0%	0%
Other	<0.1	0%	0%	0%
TOTAL	**35.8**	**3.2%**	**19.3%**	**0%**
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**		**Weight biogenic carbon, kg C/kg**
Steel drum	5	12.2%		0
TOTAL	**5**	**12.2%**		**0**

No substance listed in the *Candidate List of Substances of Very High Concern (SVHC) for Authorisation* is present in BAHRA ADVANCED CABLE MANUFACTURE CO. LTD's final products at concentrations exceeding 0.1% by weight, in compliance with the European REACH regulatory requirements.

LCA INFORMATION

Declared unit: 1m of Extra High Voltage AC Power Cable (EHVAC).

Product life span: 40 Years

Time representativeness: Facility-specific data for BAHRA ADVANCED CABLE MANUFACTURE CO. LTD have been collected as a 12-month average covering the period January 2025 to December 2025. The following rules for the time scope of data were applied: <10 years for background data and <2 years for manufacturer's data.

Geographical scope: Global

Database(s) and LCA software used: Ecoinvent 3.12, Air.e v3.22.0.13 Software and characterization factors of EN 15804 reference package based on EF 3.1 are utilized.

Description of system boundaries:
This EPD covers product stages from **"EPD type B, cradle to gate with options, modules A4 - A5, modules C1 - C4, and module D"**, meaning the Life Cycle Assessment (LCA) includes the Production stage (A1 - A3), Construction Stage (A4 - A5), End of- Life stages (C1 - C4), and Resource Recovery stage (D), in accordance with EN 15804:2012+A2:2019. The system boundaries of this environmental study encompass not only the processes directly controlled by BAHRA ADVANCED CABLE MANUFACTURE CO. LTD but also upstream and downstream activities such as raw material extraction, processing, fuel supply, and transportation. All related direct and indirect environmental impacts associated with these activities have been calculated and are included in the Life Cycle Assessment (LCA) within this EPD.

Data quality and data collection:
The EPD is based on data collected by BAHRA ADVANCED CABLE MANUFACTURE CO. LTD from its manufacturing facility over one year starting from January 2025 to December 2025. The EPD is representative of the production of 1m of Extra High Voltage AC Power Cable (EHVAC). The use and end-of-life stages of the EPD primarily reflect typical conditions across Global. Background data was sourced from the Ecoinvent 3.12 database. It shall be noted that there is no use of poor or very poor data, or fair data with > 30% impacts for any of the indicators assessed of relevant datasets using EN 15804:2012+A2:2019, Annex E, with all data meeting at least the E.2 quality level.

Process	Source Type	Source	Reference Year	Data Category	Share of primary data, of GWP-GHG results for A1–A3
Manufacturing of product	Collected data	EPD Owner	2025	Primary data	0.1%
Generation of electricity used in manufacturing of product	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Primary data	19.3%
Transport of raw materials and packaging to the production site	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Primary data	0.4%
Extraction & Production of copper	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Production of Aluminium	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Production of cross-linked polyethylene	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Production of high-density polyethylene	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Production of polyester based tape	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Production of steel drum	Database + collected quantities	EPD Owner + Ecoinvent v3.12	2025	Representative secondary data	0%
Total share of primary data, of GWP-GHG results for A1 - A3					**19.8%**

Allocation:

In this LCA, allocation is minimized by applying system boundary expansion wherever possible, in accordance with ISO 14044. Allocation has been avoided when possible, and where it cannot be avoided, a mass-based allocation approach has been applied, following the principles of physical causality, the polluter pays principle, and the modularity principle.

For background data, the Ecoinvent v3.12 database is used, applying its default allocation rules based on mass, energy, or economic value, unless otherwise specified. For secondary materials, the cut-off approach is applied, whereby secondary materials are considered free of upstream environmental burdens once they reach the end-of-waste state, in line with EN 15804, Section 6.3.4.2. Accordingly, only impacts related to the collection, processing, and transportation of secondary materials after the end-of-waste stage are included, avoiding double counting of upstream impacts.

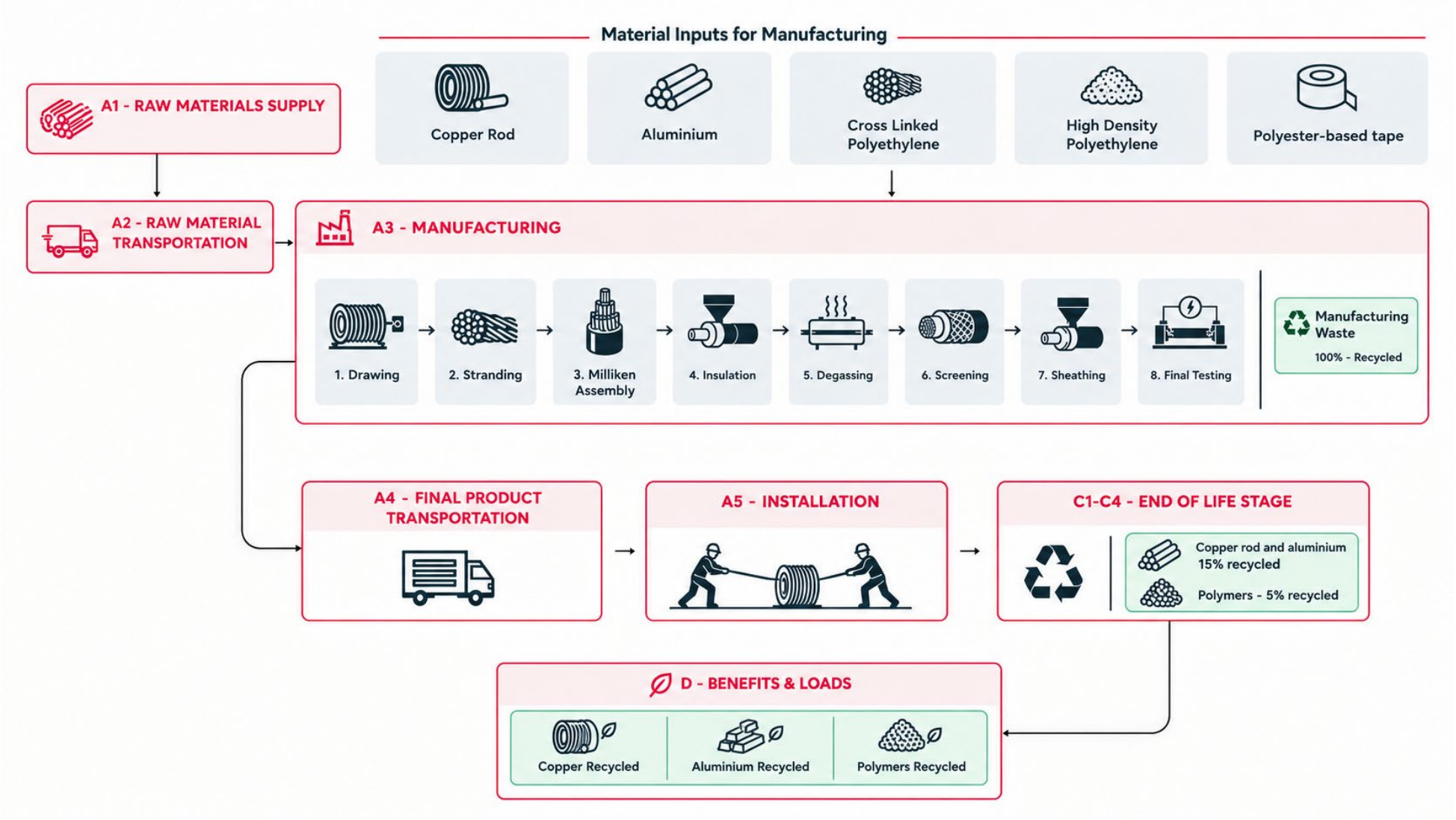
Within the A1 - A3 (product stage) system boundary, co-product allocation is avoided by sub-dividing process data wherever feasible. Where subdivision is not possible, allocation is carried out using physical relationships, primarily mass or energy input, to ensure accurate attribution of environmental impacts to the assessed product system.

At BAHRA ADVANCED CABLE MANUFACTURE CO. LTD, shared on-site activities are allocated based on production output data. Forklift fuel consumption used for internal material handling and electricity consumption are allocated to the product on a mass-based production output, reflecting the direct relationship between material throughput and energy use. This allocation approach ensures that environmental loads are assigned proportionally to the products responsible for generating them, in accordance with the polluter pays principle.

Cut-Off-Rules:

In cases where sufficient information is not available, material inputs contributing less than 0.1% of the total product mass may be excluded, provided they do not cause significant environmental impacts. The total of all excluded inputs does not exceed 5% of the total mass or emissions. Flows related to human activities (e.g. employee transport) and the construction of plants, machinery, and transport infrastructure are excluded, as their impacts are negligible over the lifetime of the production system.

Process flow diagram:



Product Stage:

A1. RAW MATERIAL EXTRACTION:

The primary raw materials used in the production of BAHRA ADVANCED CABLE MANUFACTURE CO. LTD include copper rod, aluminium rod, cross-linked polyethylene (XLPE), high-density polyethylene (HDPE), and Smooth Aluminum Sheath. This stage covers the upstream processes associated with the extraction and processing of copper and aluminium, including copper production and refining into copper rod, and aluminium production and processing into the required forms. It also includes the production of polymer materials, such as XLPE and HDPE, as well as the manufacture of smooth Aluminum sheath. All relevant upstream activities associated with raw material extraction, material processing, and manufacturing of these inputs are included in this stage.

A2. TRANSPORT:

This stage accounts for the transportation of raw materials to the manufacturing plant.

A3. MANUFACTURING:

This stage covers the manufacturing of high-voltage power Cable at BAHRA ADVANCED CABLE MANUFACTURE CO. LTD, including drawing, stranding, Milliken assembly, insulation, degassing, screening, and sheathing, followed by final inspection and testing.

This module contains:

- → Electricity consumed during manufacturing, modelled using the KSA electricity grid mix.
- → Diesel consumed by forklifts for internal material handling.
- → Manufacturing waste generated during production, which is collected and recovered on-site. The recovered materials are subsequently sold to external parties for recycling. Therefore, they do not undergo external waste treatment within the manufacturing system boundary, and no separate external waste-treatment process is included in this module.

A4. TRANSPORT

The EHVAC product assessed in this EPD was manufactured specifically for a designated project in Saudi Arabia. Accordingly, transportation is modelled based on the actual project-specific delivery distance of 10 km by road from the manufacturing facility to the project site. Transportation is modelled using a diesel-powered freight lorry (16 - 32 metric tons, EURO 5).

A5. INSTALLATION:

This stage covers the installation of Extra High Voltage AC Power Cable (EHVAC) manufactured by BAHRA ADVANCED CABLE MANUFACTURE CO. LTD. at the project site. The cable installation is carried out through manual pulling without the use of mechanical equipment or additional ancillary materials.

This module contains:

→ Transportation of steel drums (packaging) from the installation site back to the designated facility for reuse.

B1 TO B7: USE STAGE

The use stage (B1–B7) is not declared for BAHRA ADVANCED CABLE MANUFACTURE CO. LTD's Extra High Voltage AC Power Cable (EHVAC). Therefore, modules B1 - B7 are not included in the environmental impact assessment.

C1: DEMOLITION

This stage includes the activities required to detach and remove the Extra High Voltage AC Power Cable (EHVAC) from the installation site at the end of their service life, including associated on-site handling. No equipment is required for cable removal; therefore, the associated impacts are reported as zero.

C2: WASTE TRANSPORT

The generated EHVAC waste is transported from the demolition site to the designated treatment facility over an assumed distance of 130 km.

C3: WASTE PROCESSING:

This stage represents the processing of EHVAC waste generated at the end of the product's service life. Based on the recycling and waste management scenario reported in the journal *"Waste Management and Circular Economy in Saudi Arabia: Policy Frameworks, Sectoral Pathways, and Strategic Transition Toward Vision 2030 Goals"*, it is assumed that 15% of copper and aluminium waste and 5% of polymer waste, including XLPE and HDPE, are sent to recycling facilities for material recovery. The environmental impacts associated with the respective waste treatment processes are accounted for in this module.
https://www.sciencedirect.com/science/article/pii/S3051052X26000355.

C4: DISPOSAL:

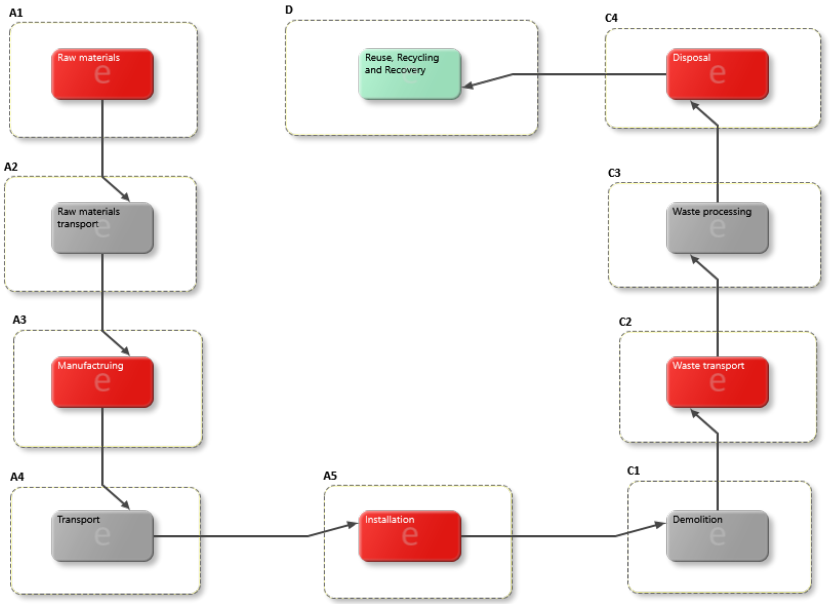
This stage represents the final disposal of EHVAC waste at the end of the product's service life. Based on the waste management scenario reported in the journal *"Waste Management and Circular Economy in Saudi Arabia: Policy Frameworks, Sectoral Pathways, and Strategic Transition Toward Vision 2030 Goals"*, it is assumed that 85% of

copper and aluminium waste and 95% of polymer waste, including XLPE and HDPE, are sent to landfill. The environmental impacts associated with the respective waste treatment processes are accounted for in this module.

D: REUSE, RECYCLING & RECOVERY:

This stage accounts for potential environmental benefits and loads beyond the system boundary resulting from material recycling. For BAHRA ADVANCED CABLE MANUFACTURE CO. LTD's Extra High Voltage AC Power Cable (EHVAC), it is assumed that 15% of the copper and aluminium waste and 5% of the polymer waste generated at the end-of-life stage are recycled, substituting equivalent virgin materials and avoiding the associated environmental burdens of primary material production. The resulting avoided environmental burdens associated with material recycling are reported in Module D, while the remaining end-of-life impacts are accounted for in Modules C1 - C4.

LCA SOFTWARE ANALYSIS: Air.e LCA Tool v3.22.0.13



Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	GLO	GLO	KSA	KSA	KSA	-	-	-	-	-	-	-	KSA	KSA	KSA	KSA	KSA
Share of primary data	19.8%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Included = "X"; Excluded/Not Declared = "ND"; Kingdom of Saudi Arabia = "KSA"

ENVIRONMENTAL PERFORMANCE

LCA results of the product(s) - Core environmental performance results

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Results per declared unit - 1 m of Extra High Voltage AC Power Cable (EHVAC)									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	3.05E+02	3.98E-02	5.55E-03	0.00E+00	9.40E-01	8.93E+00	1.01E+01	-1.70E+01
GWP-biogenic	kg CO_2 eq.	3.07E+00	9.17E-06	1.28E-06	0.00E+00	2.09E-04	1.72E-02	9.59E-03	-4.68E-02
GWP- luluc	kg CO_2 eq.	3.21E-01	1.77E-05	2.47E-06	0.00E+00	4.14E-04	1.28E-02	3.08E-03	-2.22E-02
GWP-total	kg CO_2 eq.	3.08E+02	3.98E-02	5.56E-03	0.00E+00	9.41E-01	8.96E+00	1.01E+01	-1.70E+01
ODP	kg CFC 11 eq.	1.04E-05	5.78E-10	8.08E-11	0.00E+00	1.29E-08	7.19E-08	4.83E-08	-2.50E-07
AP	mol H^+ eq.	7.18E+00	1.38E-04	1.93E-05	0.00E+00	3.20E-03	3.59E-01	3.25E-02	-3.89E-01
EP-freshwater	kg P eq.	2.19E+00	4.31E-06	6.02E-07	0.00E+00	1.03E-04	1.72E-02	3.93E-03	-2.72E-01
EP-marine	kg N eq.	1.10E+00	4.62E-05	6.45E-06	0.00E+00	1.05E-03	1.88E-02	1.03E-02	-1.13E-01
EP-terrestrial	mol N eq.	1.51E+01	4.94E-04	6.90E-05	0.00E+00	1.13E-02	2.35E-01	1.11E-01	-1.63E+00
POCP	kg NMVOC eq.	3.45E+00	2.03E-04	2.83E-05	0.00E+00	4.43E-03	7.21E-02	3.20E-02	-3.23E-01
ADP minerals & metals*	kg Sb eq.	8.39E-02	1.11E-07	1.55E-08	0.00E+00	3.10E-06	4.34E-03	2.62E-05	-4.96E-03
ADP-fossil*	MJ	2.80E+03	5.19E-01	7.25E-02	0.00E+00	1.19E+01	7.65E+01	5.34E+01	-1.59E+02
WDP*	m^3	1.10E+02	3.45E-03	4.81E-04	0.00E+00	7.11E-02	5.37E+00	8.68E-01	-4.88E+00
Acronyms	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; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; 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								

** Disclaimer: 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.*

Additional mandatory and voluntary impact category indicators

Results per declared unit - 1 m of Extra High Voltage AC Power Cable (EHVAC)									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	3.08E+02	3.98E-02	5.56E-03	0.00E+00	9.41E-01	8.96E+00	1.01E+01	-1.70E+01
Acronyms	GWP-GHG = Potential global warming - Greenhouse Gases								

Resource use indicators

Results per declared unit - 1 m of Extra High Voltage AC Power Cable (EHVAC)									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	7.74E+02	7.89E-03	1.10E-03	0.00E+00	1.81E-01	1.88E+01	2.73E+00	-7.48E+01
PERM	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
PERT	MJ	7.74E+02	7.89E-03	1.10E-03	0.00E+00	1.81E-01	1.88E+01	2.73E+00	-7.48E+01
PENRE	MJ	3.12E+03	5.67E-01	7.92E-02	0.00E+00	1.30E+01	8.17E+01	6.04E+01	-1.98E+02
PENRM	MJ	4.55E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.60E+01	0.00E+00	-2.21E+01
PENRT	MJ	3.57E+03	5.67E-01	7.92E-02	0.00E+00	1.30E+01	9.77E+01	6.04E+01	-2.20E+02
SM	kg	1.70E+01	2.37E-04	3.32E-05	0.00E+00	5.72E-03	4.91E+00	1.39E-02	-4.10E-01
RSF	MJ	1.03E-01	3.10E-06	4.33E-07	0.00E+00	7.41E-05	3.56E-03	2.11E-03	-8.09E-03
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
FW	m^3	3.16E+00	8.38E-05	1.17E-05	0.00E+00	1.73E-03	1.31E-01	2.14E-02	-1.86E-01
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; 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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water								

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Waste indicators

Results per declared unit - 1 m of Extra High Voltage AC Power Cable (EHVAC)									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	9.89E+03	3.63E-03	5.07E-04	0.00E+00	9.01E-02	6.75E+01	6.54E+01	-1.25E+03
Non-hazardous waste disposed	kg	2.07E+03	7.17E-02	1.00E-02	0.00E+00	1.18E+00	1.18E+02	1.22E+01	-6.37E+01
Radioactive waste disposed	kg	3.83E-03	1.14E-07	1.59E-08	0.00E+00	2.43E-06	1.60E-04	2.37E-05	-2.57E-04

Output flow indicators

Results per declared unit - 1 m of Extra High Voltage AC Power Cable (EHVAC)									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	5.87E+00	1.55E-05	2.16E-06	0.00E+00	3.47E-04	3.61E-01	3.83E-03	-2.11E-02
Materials for energy recovery	kg	1.21E-03	2.56E-08	3.57E-09	0.00E+00	8.43E-07	1.96E-04	8.66E-06	-6.02E-05
Exported energy, electricity	MJ	1.11E+00	5.30E-05	7.40E-06	0.00E+00	1.10E-03	3.07E-02	1.26E-02	-9.18E-02
Exported energy, thermal	MJ	1.47E+00	5.94E-05	8.30E-06	0.00E+00	1.94E-03	1.53E-01	1.12E-02	-7.17E-02

Additional Environmental Indicators

Results per declared unit – 1 m of Extra High Voltage AC Power Cable (EHVAC)									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	D.I.	4.10E-05	3.89E-09	5.44E-10	0.00E+00	7.29E-08	1.22E-06	3.47E-07	-3.45E-06
IRP**	kBq U235e	1.54E+01	4.76E-04	6.65E-05	0.00E+00	1.02E-02	6.31E-01	9.75E-02	-1.05E+00
FETP*	CTUe	2.73E+04	1.18E-01	1.64E-02	0.00E+00	2.98E+00	2.56E+02	2.40E+03	-3.29E+03
HTC-c*	CTUh	5.57E-07	6.24E-12	8.72E-13	0.00E+00	1.52E-10	4.50E-08	9.73E-08	-1.32E-08
HTC-nc*	CTUh	4.73E-05	3.53E-10	4.92E-11	0.00E+00	7.87E-09	4.44E-06	7.52E-06	-6.14E-07
LUP*	pt	3.63E+03	5.66E-01	7.90E-02	0.00E+00	7.69E+00	1.31E+02	6.54E+01	-2.93E+02
Acronyms	PM= Particulate Matter emissions; IRP= Ionizing radiation, human Health; FETP= Eco-toxicity; HTC-c= Human toxicity, cancer effects; HTC-nc= Human toxicity, non-cancer Effects; LUP= Land use related impacts								

** 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.*

*** Disclaimer: This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.*

ABBREVIATIONS

ADP	Abiotic Depletion Potential	**FU**	Functional Unit
EN	European Norm (Standard)	**FW**	Fresh Water
EF	Environmental Footprint	**PENRE**	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials
ISO	International Organization for Standardization	**PENRM**	Use of non-renewable primary energy resources used as raw materials
CEN	European Committee for Standardization	**PENRT**	Total use of non-renewable primary energy re-sources
CPC	Central product classification	**PERE**	Use of renewable primary energy excluding renewable primary energy resources used as raw materials
GHS	Globally harmonized system of classification and labelling of chemicals	**PERM**	Use of renewable primary energy resources used as raw materials
SVHC	Substances of Very High Concern	**PERT**	Total use of renewable primary energy resources
ND	Not Declared	**PM**	Particulate Material
GHG	Greenhouse gas	**POCP**	Potential of Tropospheric Ozone
GWP	Global warming potential	**RSF**	Use of renewable secondary fuels
IRP	Ionising radiation Potential	**RSL**	Reference Service Life
LCA	Life cycle assessment	**SM**	Use of secondary material
NRSF	Use of non-renewable secondary fuels	**EHVAC**	Extra High Voltage AC Power Cable
ODP	Depletion potential of the stratospheric ozone layer	**SAS**	Smooth Aluminium Sheath
PCR	Product category rules	**KSA**	Kingdom of Saudi Arabia
UN	United Nations	**CPR**	Construction product regulation
WDP	Water Deprivation Potential	**EP**	Eutrophication potential
AP	Acidification Potential	**EPD**	Environmental product declaration
CO2	Carbon dioxide	**GCC**	Gulf Cooperation Council

VERSION HISTORY

Original version of the EPD 2026-10-30

REFERENCES

- → Ecoinvent database (v3.12) - www.ecoinvent.ch
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- → EN ISO 14025: EN ISO 14025:2011-10 Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- → EN ISO 14040: EN ISO 14040:2009-11 Environmental management - Life cycle assessment - Principles and framework
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- → Waste management and circular economy in Saudi Arabia: Policy
- → BAHRA ADVANCED CABLE MANUFACTURE CO. LTD Profile
- → Air.e LCA Tool v3.22.0.13
- → Google Earth-Bahra Advanced Cable Manufacture Co. Ltd Location


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