

Key facts

Company	Reseau de Transport d'Electricite (RTE)
Service area	Nationwide
Areas of business	Transmission system operator and developer
Ownership	Government-owned
Voltage level	45 kV–400 kV AC; 200 kV–270 kV DC

Growth in transmission network

	2015	2019	2020E	CAGR (%)
Line length (circuit km)	105,889	106,185	106,317	0.08
Transformer capacity (MVA)	237,583	242,395	244,731	0.59
No. of substations	2,709	2,786	2,806	0.71

Transmission line length by type (%)

	2015	2019	2020E
OHL	94.94	93.73	93.61
UGC	5.00	6.21	6.33
USC	0.06	0.06	0.06
Total	100.00	100.00	100.00

Voltage-wise break up of network (%)

Voltage (kV)	2020E		
	Line length	Transformer capacity	No. of substations
<90 kV AC	52.46	0.95	72.02
150 kV AC	0.90	0.55	0.84
225 kV AC	25.56	40.38	20.97
200/270 kV DC	0.17	-	-
320 kV DC	0.19	-	-
400 kV AC	20.72	58.12	6.17
Total	100.00	100.00	100.00

Operational indicators

	2015	2019	2020
Gross annual consumption (TWh)	475.4	473.0	NA
Average interruption time (minutes)	7.02	3.42	NA
Loss rate (%)	2.01	2.22	NA
Electricity losses from the network (TWh)	10.7	11.0	NA

Financial indicators

	2015	2019	2020
Revenue (EUR million)	4,461	4,856	NA
Operational cost (EUR million)	2,290	2,693	NA
Net income (EUR million)	379	681	NA
Debt equity ratio	2.55	1.48	NA
Return on equity (%)	18.8	11.9	NA
Profit margin (%)	8.5	14.0	NA

Trend in capex

	Actual							Forecasted (Planned)
	2014	2015	2016	2017	2018	2019	2020F	2021-30
Capex (EUR million)	1,373	1,402	1,519	1,393	1,447	1,456	1,808	19,950

 Planned network expansion¹

	2021-25	2026-30	2021-30
Total line length (km)	900	2,300	3,200
–66-90 kV UGC/OHL	250	1,200	1,450
–225 kV UGC/OHL	150	150	300
–400 kV OHL	100	150	250
–200-600 kV HVDC USC/UGC ²	1,005	515	1,519
No. of substations	5	1	6
Transformer capacity (MVA)	1,880	9,00	2,780

Note: E – 2020 line length figures are based on the assumption that only IFA2 Project (2nd UK–France Interconnector) was commissioned in 2020; transformer capacity and number of substations are estimated based on CAGR for the 2013-17 period and 2013-2019 period respectively; F – forecasted; 1 – Break-up has been estimate based on RTE's ten year development plan or Schéma décennal de développement de réseau (SDDR 2019); 2 – Lengths are based on planned interconnectors during the period.

Source: Reseau de Transport d'Electricite; Global Transmission Research

Key planned projects

Name	Voltage (kV)	Line Length (km)	Status	Year of completion
Grand Ile (France)–Piossasco (Italy) Interconnector 2	±320 kV HVDC	190	In execution	2021
France–Belgium Interconnector Phase 1 (Replacement with HTLS conductors)	400	80	In execution	2022
FABLink (France–Alderney–Britain) Interconnector	±320 kV HVDC	220	Under development	2022
Codrongianos (Italy)-Suvereto (Italy) (SA.CO.I. 3)	±200 kV HVDC	482	Under development	2023
Celtic Interconnector	±320 kV HVDC	575	Under development	2026
Basque Country (Spain)–Aquitaine (France) Interconnector/'Bahía Vizcaya' (Biscay Bay)	±320 kV HVDC	375	Under development	2025
Aragón region (Spain)–Marsillón (France) Interconnector	±320 kV HVDC	230	Announced/Planning	2027
Pamplona area (Spain)–Cantegrit (France) (Navarra–Landes France-Spain Interconnector)	±320 kV HVDC	225	Announced/Planning	2027
Muhlbach (France)–Eichstetten (Germany) Transmission Line	400	32	Announced/Planning	2025
Vigy (France)– Uchtelfangen (Germany) Interconnector	400	65	Announced/Planning	2027

Key contract awards

Contractor	Contract value	Scope of work
Nexans	EUR115 million	Cable supply for 496 MW Saint Brieuc offshore windfarm grid connection
KGAL Group	NA	The 75 MW Seine Rive gauche Nord (SRN) wind farm to provide voltage ancillary services to RTE
ABB and Atos Worldgrid	NA	Deployment of the SCADA or EMS by ABB; Atos managing the integration of the system and its maintenance.
Prysmian Group	NA	Design, manufacture and installation of the submarine and land cable for interconnection project. It will also supply a HVAC link that will connect the UK converter station to a local substation in Chilling.
ABB	NA	Supply of two HVDC converter stations.
CTE France	NA	Replacement works for the ±270 kV DC France–UK interconnection (IFA 2000)
Silec Cable	NA	Cable installation and testing works for the IFA 2000 link
Pfisterer SAS	NA	Supply of composite insulators for 63/90 kV, 225 kV and 400 kV lines

Key contracts

Name	Designation
Xavier Piechaczyk	Chairman
Thérèse Boussard	Managing Director of the Infrastructure Management Department
Clotilde Levillain	General Manager of the Customers Department - Systems Design and Operation
Laurent Martel	Managing Director of the Finance Purchasing Department
Sophie Moreau-Follenfant	Managing Director of the Transformation - Employee Environment Department
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Source: Réseau de Transport d'Electricite; Global Transmission Research

Key facts

Company	Eskom Holdings SOC Limited
Service area	Nationwide
Type of utility	Vertically integrated power utility
Ownership	Government-owned
Voltage level	132 kV–765 kV AC; 533 kV DC

Growth in transmission network

	2015	2019	2020	CAGR (%)
Line length (km)	31,107	32,698	33,027	1.21
Transformer capacity (MVA)	139,610	152,415	153,135	1.87
No. of transformers	423	444	446	1.07

Voltage-wise break up of line length (%)

Voltage (kV)	Share (%)	
	2015	2020
132 kV AC	2.8	2.7
220 kV AC	3.9	4.1
275 kV AC	23.7	21.9
400 kV AC	59.1	59.8
533 kV DC	3.3	3.1
765 kV AC	7.2	8.4
Total	100.0	100.0

Operational indicators

	2015	2019	2020
Energy availability factor (EAF) (%)	73.73	69.95	66.64
SAIDI (hours)	36.2	38.0	36.9
SAIFI (events)	19.7	14.9	14.4
Transmission losses (%)	2.5	2.2	2.2
Major incidents (number)	2	3	3

Financial indicators

	2015	2019	2020
Revenue (ZAR million)	18,973	33,767	40,831
Operational cost (ZAR million)	18,103	NA	NA
Net income (ZAR million)	332	5,403	4,096
Debt equity ratio ¹	2.70	2.90	2.20
Return on equity (%) ¹	2.96	(13.96)	(11.03)
Profit margin (%) ¹	2.45	(0.12)	(0.10)

Trend in capex

	Actual ²							Forecasted (Planned)
	2014	2015	2016	2017	2018	2019	2020	2021-30
Capex (ZAR million)	1,516	1,121	1,067	1,041	1,008	1,110	887	117,751

Planned network expansion

	2021-25	2026-30	2021-30
Total line length (km)	2,714	2,937	5,651
–275 kV	29	43	72
–400 kV	2,609	2,132	4,741
–765 kV	76	762	838
No. of transformers	31	52	83
Transformer capacity (MVA)	15,010	26,585	41,595

Note: Data is as of March 31 for the mentioned year; 1- ratios have been estimate and are for the company's entire business operations and not specific to transmission; 2- Capital expenditure for each year excludes the capitalised borrowing cost.

Source: Eskom; Global Transmission Research

Key planned projects

Name	Voltage (kV)	Line Length (km)	Status	Year of completion
Botswana–South Africa (BOSA) interconnector	400	210	Under development	2024
MoZambique-Zimbabwe-South Africa (MoZiSa) interconnector	400	935	Under development	2022
Medupi Transmission Integration	400 kV and 765 kV	3,210 km (900 km of 765 kV and 2,310 km of 400 kV)	In execution (to be implemented in phases)	2021
South Coast Strengthening	400 kV and 132 kV	175	In execution	2021/2030
Namaqualand Strengthening Phase 2: Juno Gromis Project	400	228	In execution	NA
Bloemfontein Strengthening	275 kV and 400 kV	NA	In execution	2021/2028
East London Strengthening	132 kV and 400 kV	NA	In execution	2022/2026
Limpopo East Corridor Strengthening	275 kV and 400 kV	110	Under development	2024
Upington Phase 2 Strengthening	132 kV and 400 kV	NA	Under development	2024
Sorata Substation Strengthening	132 kV and 400 kV	60	Announced	2028

Key contract awards

Contractor	Contract value	Scope of work
Consolidated Power Projects	ZAR159.8 million	Construction of the Medupi - Borutho (Section A and B) Line
Jyoti Structures Ltd	ZAR202.0 million	Construction of Masa-Ngwedi 765 kV and 400 kV transmission lines (Section D)
Babcock Ntuthuko Powerlines	ZAR168.5 million	Construction of Masa-Ngwedi 1 & 2 765 kV and 400 kV lines (Section A)
Mkhulu Electro Distribution Projects SA	ZAR241.7 million	Construction of Masa-Ngwedi 765 kV and 400 kV transmission lines (Section E)
Power Line Africa, Siyavuya and Umso	NA	Construction of 400 kV Juno–Gromis line
AURECON	NA	Transaction Advisor for feasibility study of Botswana-South Africa interconnection
KPMG Services Proprietary Limited and Trans-Africa Project (Pty) Limited	NA	Technical advisors for MoZambique-Zimbabwe-South Africa (MoZiSa) interconnector
GIBB (Pty) Limited	NA	Undertaking environmental studies for MoZambique-Zimbabwe-South Africa (MoZiSa) interconnector

Key contracts

Name	Designation
André de Ruyter	Group Chief Executive
Segomoco Scheppers	Group Executive Transmission
Jacob Machinjike	General Manager: Grid Planning
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Source: Eskom; Global Transmission Research