Generation plant mix

Eskom supplies approximately 90% of South Africa's electricity and generates approximately 40% of the electricity used in Africa. Eskom uses various technologies to generate electricity, the combination of which is called the 'plant mix'. The utility is constantly investigating other forms of energy and renewable energy sources that could be used to expand its current plant mix.

Coal-fired base load power stations make up the largest portion of Eskom's plant mix (84%). These stations use coal as their energy source and operate 24 hours a day to meet the demand for electricity. Eskom's Generation Division has 14 active coal-fired power stations with an installed capacity of 45 340 MW.

Africa's first nuclear power station, Koeberg, is also a base load station, with capacity of 1 934 MW.

The generation mix also includes two conventional hydroelectric power stations, three hydro pumped storage schemes and four non-dispatchable mini hydro stations. These stations are used when there is a sudden increase, or peak, in the demand for electricity which cannot immediately be met by the base load stations. They have a combined installed capacity of 3 393 MW.

The last of the present mix are four quick reaction, gas turbine power stations with an installed capacity of 2 426 MW. These stations are used only at peak periods and during extreme emergencies due to their very high operating costs. The two smaller, 'older generation' open cycle gas turbine stations (OCGTs) use kerosene to power their engines whereas the two new gas power stations run on diesel.

Sere Wind Farm is Eskom's flagship renewable project, demonstrating the power utility's commitment to sustainable development.

Plant mix

Base-load Stations	Installed Capacity (MW)	Nominal Capacity (MW)
Coal-fired power stations (14)	***45 340***	***39 322***
Arnot: *Middleburg*	2 200	2 100
Camden: *Ermelo*	1 561	1 481
Duvha: *Emalahleni*	3 000	2 875
Grootvlei: *Balfour*	1 180	570
Hendrina: *Middelburg*	1 666	1 041
Kendal: *Emalahleni*	4 116	3 840
Komati: *Middleburg*	Part of the Just Energy Transition Programme (JET)	
Kriel: *Bethal*	2 790	2 640
Lethabo: *Vereeniging*	3 708	3 558
Majuba: *Volksrust*	4 110	3 807
Matimba: *Lephalale*	3 990	3 690
Matla: *Bethal*	3 600	2 875
Tutuka: *Standerton*	3 654	2 925
Kusile: *Ogies*	3 995	3 600
Medupi: *Lephalale*	4 760	4 320

Nuclear station (1)	***1934***	***1854***
Koeberg: *Cape Town*	1 934	1854
Peak-Load Station		
Gas/liquid fuel turbine stations (4)	***2 426***	***2 409***
Acacia: *Cape Town*	171	171
Ankerlig: *Atlantis*	1 338	1 327
Gourikwa: *Mossel Bay*	746	740
Port Rex: *East London*	171	171
Pumped Storage Schemes (3)	***2 732***	***2 724***
Drakensberg: *Bergville*	1 000	1 000
Palmiet: *Grabouw*	400	400
Ingula: *Ladysmith*	1 332	1 324
Hydroelectric stations (2)	***600***	***600***
Gariep: *Norvalspont*	360	360
Vanderkloof: *Petrusville*	240	240
Wind energy (1)	***100***	***100***
Sere: *Vredenburg*	100	100
Other hydro stations (4)	***61***	***2***
Mbashe: *Mbashe River*	42	
First Falls: *Umtata River*	6	
Ncora: *Ncora River*	2,4	2,4
Second Falls: *Umtata River*	11	
Battery Energy Storage System (BESS)		
Hex BESS: Worcester	20	20
Total Generation power station capacities (31)	**53 214**	**47 031**
Total Generation power station capacity without BESS, wind and other hydros	**53 032**	**46 909**

(Reference – Power station capacity table as at July 2025)

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For more information on Eskom related topics see the Eskom website (www.eskom.co.za). Select ‘About Eskom’, ‘About electricity’ and ‘Facts sheets’.