

## GENERATION PLANT MIX

Eskom supplies approximately 96% of South Africa's electricity and more than 45% of 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. 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 coal-fired power stations with an installed capacity of 39 342 MW.

Africa's first nuclear power station, Koeberg, is also a base load station, with capacity of 1 940 MW of power.

The generation mix also includes two conventional hydroelectric power stations and three hydro pumped storage schemes. 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 2 732 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 100MW renewable project, demonstrating the power utility's commitment to sustainable development.

### Plant mix

Type	Installed capacity	Location
Coal-fired stations	Arnot: 2 352 MW	Middelburg, Mpumalanga
	Camden: 1 561 MW	Ermelo, Mpumalanga
	Duvha: 3 600 MW	Witbank, Mpumalanga
	Grootvlei: 1 180 MW	Balfour, Mpumalanga
	Hendrina: 1 893 MW	Hendrina, Mpumalanga
	Kendal: 4 116 MW	Witbank, Mpumalanga
	Komati: 990 MW	Middelburg, Mpumalanga
	Kriel: 3 000 MW	Kriel, Mpumalanga
	Lethabo: 3 708 MW	Sasolburg, Free State
	Majuba: 4 110 MW	Volksrust, Mpumalanga
	Matimba: 3 990 MW	Lephalale, Limpopo
	Matla: 3 600 MW	Kriel, Mpumalanga

	Medupi: 1 588 MW	Lephalale, Limpopo
	Tutuka: 3 654 MW	Standerton, Mpumalanga
Nuclear station	Koeberg: 1 940 MW	Melkbosstrand, Western Cape
Conventional hydro stations – Orange River	Gariep: 360 MW	Norvalspont, Border of the Eastern Cape and Free State
	Vanderkloof: 240 MW	Petrusville, Northern Cape
Pumped storage schemes	Drakensberg: 1000 MW	Bergville, KwaZulu Natal
	Palmiet: 400 MW	Grabouw, Western Cape
	Ingula: 1 332 MW	Ladysmith, KwaZulu Natal
Gas-fired stations	Acacia: 171 MW	Cape Town, Western Cape
	Port Rex: 171 MW	East London, Eastern Cape
	Ankerlig: 1 338 MW	Atlantis, Western Cape
	Gourikwa: 746 MW	Mossel Bay, Western Cape
Windfarm	Sere: 100 MW	Lutzville, Western Cape
<p><b><i>GENERATION'S TOTAL INSTALLED CAPACITY: 47 040 MW</i></b></p> <p><b><i>NOTE: ESKOM'S TOTAL INSTALLED CAPACITY: 47 201 MW - includes an additional 61 MW from Colley Wobbles, First Falls, Ncora and Second Falls hydro power stations operated by the Renewable Energy Division and also includes the Sere 100MW Wind Farm which is a Renewable asset.</i></b></p>		

#### **New build programme still under construction**

<b>Type</b>	<b>Installed capacity</b>	<b>Location</b>
Coal-fired power stations	Kusile: 4 800 MW	Mpumalanga
	Medupi: 4 764 MW	Lephalale, Limpopo

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For more information on Eskom related topics see the Eskom website ([www.eskom.co.za](http://www.eskom.co.za)).  
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