04 April 2025

MINERALS COUNCIL
SOUTH AFRICA

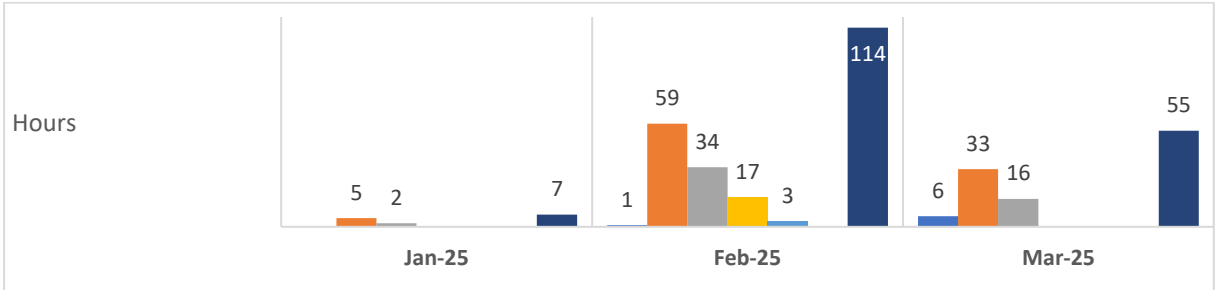
Electricity Update: **February to March 2025**

Metric	February	March	Unit
Energy Availability Factor (EAF)	57.4%	57.5%	Percentage
Loadshedding (all stages)	114	55	Hours
Open Cycle Gas Turbine (OCGT) Usage			Megawatt-Hours
- Average	481	631	
- Maximum	1,783	1,699	
Planned Maintenance (average)	6,984	5,741	Megawatts
Unplanned Maintenance/Outages (average)	12,359	13,864	
Other Maintenance (average)	558	293	
- Total	19,900	19,897	

Source: Eskom & Minerals Council SA

South Africa's power system remained constrained in March 2025, with the Energy Availability Factor (EAF) largely unchanged at 57.5%[1], compared to 57.4% in February. The narrow margin between dispatchable generation and electricity demand underscored these challenges. Average demand[2] for the month stood at 22,509 MW, while dispatchable generation averaged 22,357 MW, necessitating a total of 55 hours of loadshedding during March. From 7–10 March, a sudden loss of 2,700 MW in generation capacity - including Koeberg Unit 2 (930 MW) and two Kusile units - led to increased reliance on Open Cycle Gas Turbines (OCGTs) to meet demand. As these reserves were depleted, loadshedding became necessary to restore emergency reserves. Later, on 19 March, additional loadshedding was implemented following the failure of five generating units, two of which were from the Cahora Bassa hydroelectric system in Mozambique. Breakdowns were frequent and without warning in March.

Figure 1: Eskom – Hours and Stages of Loadshedding



	Jan-25	Feb-25	Mar-25
Stage 1	0	1	6
Stage 2	5	59	33
Stage 3	2	34	16
Stage 4	0	17	0
Stage 5	0	3	0
Stage 6	0	0	0
Total hours for the month	7	114	55

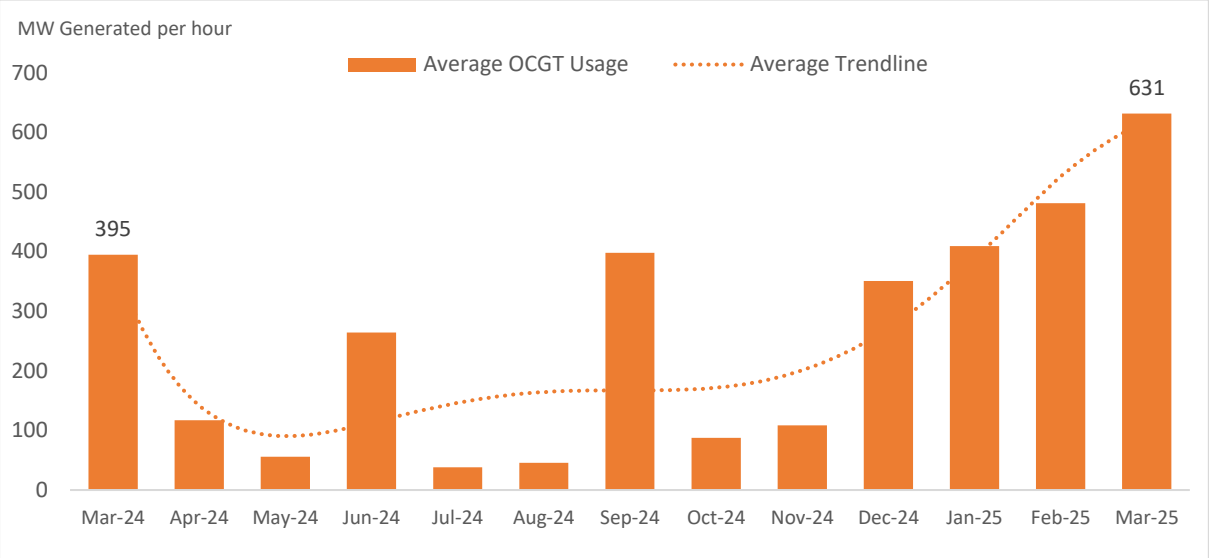
Source: Eskom & Minerals Council SA

[1] The EAF in March ranged from a minimum of 51.8% and a maximum of 62.7%.
[2] Peak demand in March amounted to 28,905MW with peak dispatchable generation at 27,580MW.

T +27 11 498 7100 E info@mineralscouncil.org.za W www.mineralscouncil.org.za
7th Floor, Rosebank Towers, 19 Biermann Avenue, Rosebank, 2196

The chart above illustrates the number of hours and respective stages of loadshedding required by the system during the first quarter of the year. Eskom acknowledges that unexpected generation unit losses are disruptive. However, the *Summer Outlook* published in August 2024 remains unchanged, with a continued focus on the *Generation Recovery Plan*. The strain in terms of breakdowns that necessitated loadshedding to replenish emergency energy reserves is also reflected in the usage of the Open Cycle Gas Turbines (OCGTs). March saw the highest average utilisation of the OCGTs since the worst of loadshedding in 2023.

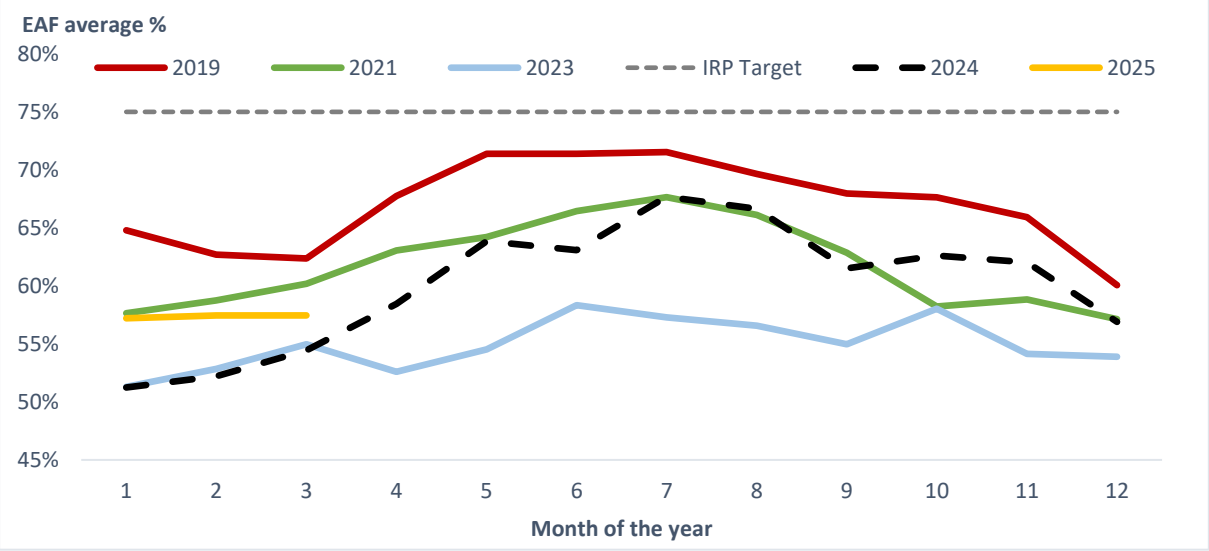
Figure 2: Eskom - Open Cycle Gas Turbine Electricity Generation



Source: Eskom & Minerals Council SA

Disappointingly, when tracking the historical EAF over recent years, 2025 is trending downward after a promising start to the year. In 2025, the EAF appears to be aligning with the lower levels seen in the first few months of 2024 and remains well below the pre-COVID highs of 2019.

Figure 3: Historical Eskom EAF

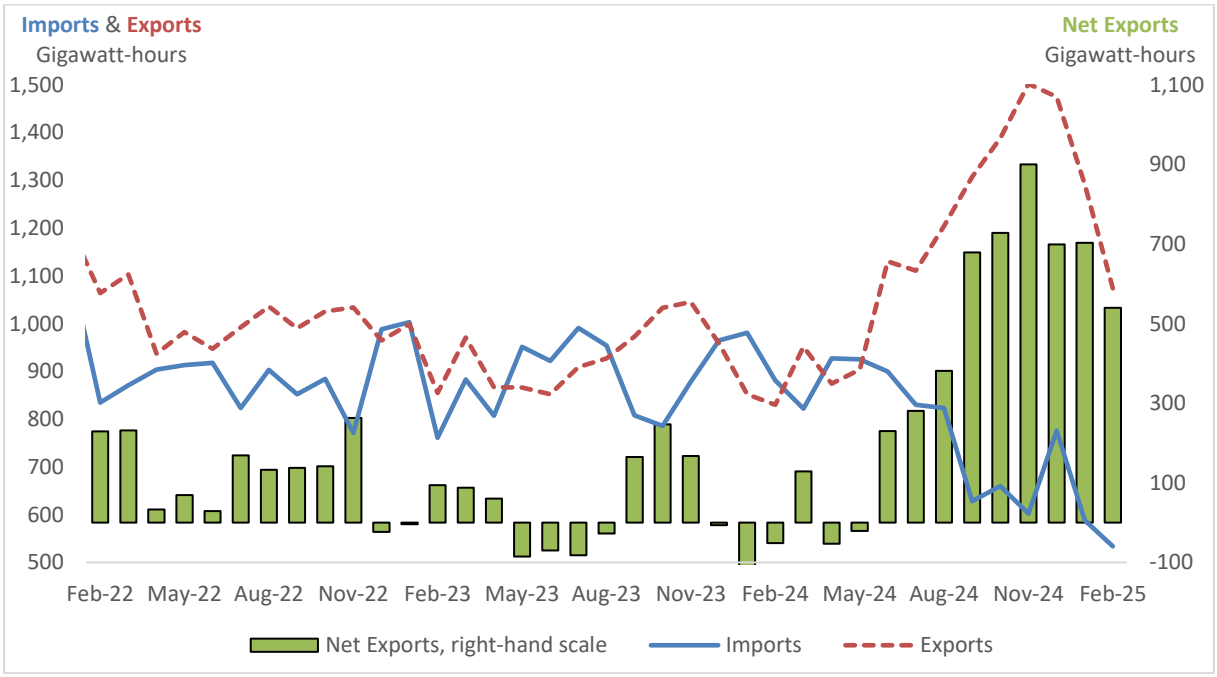


Source: Eskom & Minerals Council SA

Data released by Stats SA (3 April) indicated that seasonally adjusted real electricity generation **fell** by **2.5% year-on-year in February 2025**. However, on **a month-to-month** basis, **production edged up by 0.5%** compared to January 2024. The Stats SA data aligns with data from Eskom showing that February was a particularly challenging month for Eskom, as it recorded the largest gap between minimum and maximum EAF levels since 2022 - highlighting the system's fragility.

Seeing as loadshedding in March was partially caused by failing generating units in Mozambique, Figure 4 illustrates the trend in electricity exports and imports for all producers in South Africa. In 2024, exports were severely constrained, and imports played a critical role in balancing demand. However, this trend has since reversed, with net exports once again dominating. This shift reflects improved electricity availability, particularly from Eskom, enabling increased exports to other neighbouring countries - an encouraging sign for both regional supply stability and Eskom's financial position.

Figure 4: Eskom – Imports and Exports of Electricity



Source: Stats SA & Minerals Council SA

Conclusion

While South Africa's electricity system remains under severe strain - evident in indicators such as the idle Energy Availability Factor - Eskom has reaffirmed its commitment to maintenance and improving the reliability of repairs.

March saw several notable developments in the electricity sector. The Minister of Electricity & Energy issued a *Section 34 determination* to procure 1,164 km of 400 kV transmission lines and associated infrastructure across the Northern Cape, North West, and Gauteng provinces. This initiative aims to ease transmission constraints, enabling more renewable energy projects to connect to the grid, particularly in the Cape provinces which are most suited to renewable energy projects. This aligns with the recent cabinet approval of the *South African Renewable*

Energy Masterplan (SAREM), which focuses on leveraging the growing demand for renewable energy and storage technologies.

Additionally, after 17 years of delays, corruption allegations, plant failures, and significant cost overruns, Eskom announced on 23 March 2025 that the final 800 MW unit at its Kusile coal-fired power station had achieved first synchronisation with the national grid. With six units and a total capacity of 4,800 MW, Kusile is now the fourth-largest coal-fired power station in the world.

While there is notable progress in electricity generation, transmission, and distribution reforms, Eskom remains under pressure to stabilise its existing generation capacity and improve the reliability of its coal-fired fleet. However, as the country approaches the winter months, Eskom has not flagged any immediate concerns regarding its ability to meet the seasonal increase in electricity demand.

André Lourens
Economist
Tel: +27 11 498 7100
Cell: +27 73 614 6161
Email: **ALOURENS@MINERALSCOUNCIL.ORG.ZA**

- End -