

# Integrated Resources Plan (IRP) 2025

## What is the IRP in the South African context?

- The IRP is a living plan that is expected to be regularly reviewed, as necessitated by changing circumstances.
- The main purpose of the IRP is to ensure security of electricity supply necessary by balancing supply with demand, while considering the environment and total cost of supply.
- South Africa continues to pursue a diversified energy mix that will provide security of supply while ensuring compliance with its emission reduction plan. South Africa's approach to energy security is in line with international trends and developments



# What is Energy Availability Factor (EAF) and what does it mean?



The Energy Availability Factor (EAF) refers to **the percentage** of the maximum energy a plant can supply to the grid when not undergoing planned or unplanned outages.



The **IRP 2025** uses a moderate EAF, assuming partial implementation of the generation recovery plan. The plan is based on a forecast of **255 TWh** of electricity demand by 2029, with the updated energy availability factor range starting at **66% in 2025** and rising to **68% in 2030**.



A higher EAF means **more electricity** generation capacity is available to meet the country's electricity demand.



This, in essence, means that the electricity system will be **able to absorb any shocks** resulting from multiple unit trips without being adversely compromised. On the flip side, additional **economic growth** can be unlocked due to having a stable power system.



# What is the objective/purpose of the IRP?

## Security of Electricity Supply

ensuring security of electricity supply in South Africa – planning for adequate capacity to satisfy electricity demand and a power system which can endure contingencies or disruptions without interrupting supply



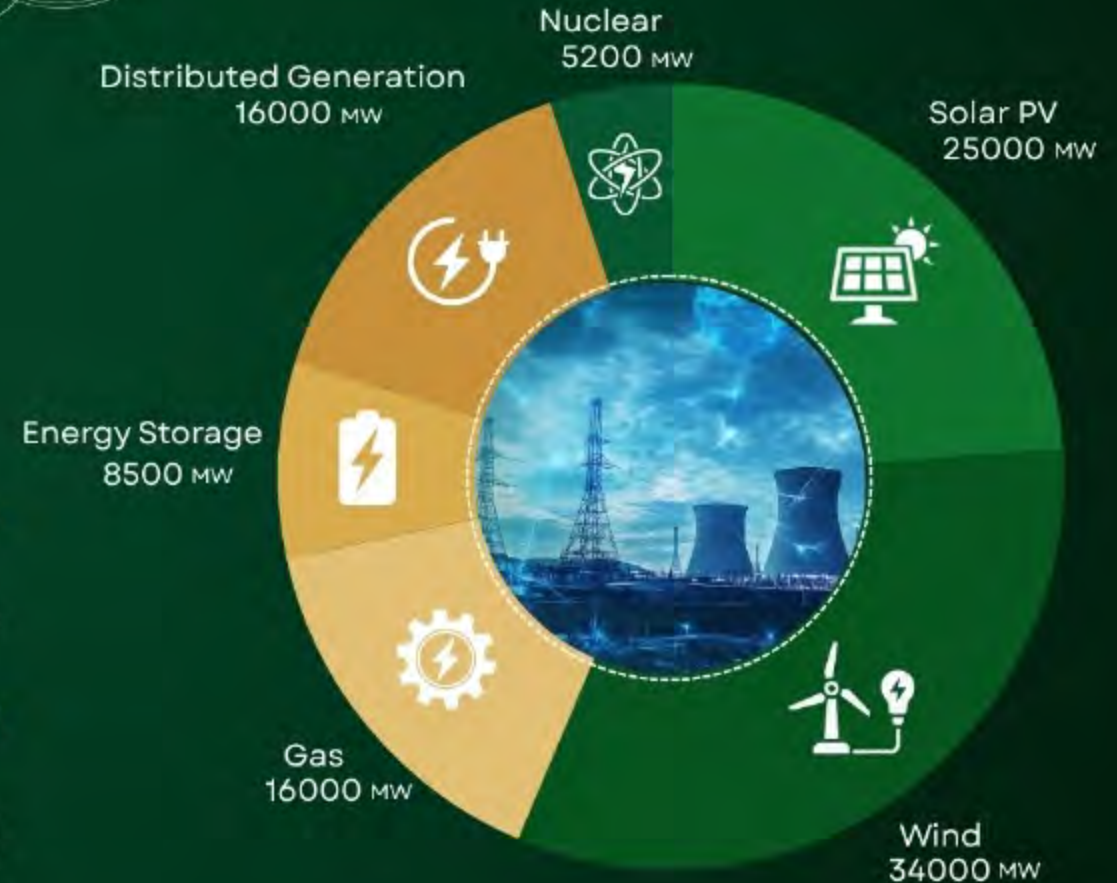
## Minimise

- **cost of electricity to the economy** – least cost power system planning subject to certain constraints (environment, lead times, etc).
- **environmental impact of electricity supply** – planning for reduction in global and local emissions while achieving the above objectives.



# IRP 2025 New Generation Capacity

- IRP 2025 projects more than **105 000 MW** of new generation capacity by **2039**.
- **6000 MW** of new gas-to-power by 2030 is critical for energy security and a stable power system.
- The nuclear industrialization plan will determine the merits of **10 000 MW** new nuclear generations capacity.
- Clean Coal Technologies Demonstration Plant by 2030, as the country explores alternative solutions that are potentially cheaper and more efficient than Flue Gas Desulphurization for the continued use of coal power generation.



# Electricity Sector's Green House Gas Emissions Trajectory



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*"A diverse, balanced, and greener energy future."*

