



Background note on Africa's Current Path Energy Future to 2043

Nuclear

Jakkie Cilliers

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Nuclear

Several African countries have expressed interest in building nuclear power stations. Currently, only South Africa has a commercial nuclear power plant, the Koeberg station near Cape Town, that accounts for around 6% of its electricity production, with a capacity of 1 940 MW. The first unit was synchronised to the grid in 1984 and originally scheduled to be decommissioned in 2024, but its lifespan is now being extended to 2044. Plans for South Africa to procure an additional 2 500 MW of nuclear power were approved by the National Energy Regulator of South Africa in 2021.[1]

Elsewhere in Africa, Egypt has embarked upon a nuclear build program, awarded a US\$25 billion contract to Russia's Rosatom company for a 4.8 GW power plant at El-Dabaa along the Mediterranean coast, with the first unit expected to enter into service in 2028 and all four units operational by 2030[2]. Other African countries that are exploring a nuclear power option include Ghana, Morocco, Uganda and Rwanda, but none have started construction.[3]

The potential development of small-scale nuclear plants, so-called small modular reactors (SMRs) with 100 MW capacity, has the potential to be ratcheted up or down to help balance the grid alongside surging renewable output in a decade or so. Larger units providing 1 GW would provide substantial additional base-load capacity.

Endnotes

1. Koeberg nuclear power station, Eskom, National Energy Regulator of South Africa, 18 December 2021.
2. D Procto, [Russia says construction of Egypt's first nuclear plant ahead of schedule](#), 20 November 2022, Power
3. J Kincer and J Lovering, [2023 Update: Who in Africa is Ready for Nuclear Power?](#) Energy for Growth Hub, 7 February 2023

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About the authors

Dr Jakkie Cilliers is the ISS's founder and former executive director of the ISS. He currently serves as chair of the ISS Board of Trustees and head of the African Futures and Innovation (AFI) programme at the Pretoria office of the ISS. His 2017 best-seller *Fate of the Nation* addresses South Africa's futures from political, economic and social perspectives. His three most recent books, *Africa First! Igniting a Growth Revolution* (March 2020), *The Future of Africa: Challenges and Opportunities* (April 2021), and *Africa Tomorrow: Pathways to Prosperity* (June 2022) take a rigorous look at the continent as a whole.

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