



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

Nuclear

Jakkie Cilliers

Last updated 09 November 2023

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

Reuse our work

- All visualizations, data, and text produced by African Futures are completely open access under the [Creative Commons BY license](#). You have the permission to use, distribute, and reproduce these in any medium, provided the source and authors are credited.
- The data produced by third parties and made available by African Futures is subject to the license terms from the original third-party authors. We will always indicate the original source of the data in our documentation, so you should always check the license of any such third-party data before use and redistribution.
- All of our charts [can be embedded](#) in any site.

Cite this research

Jakkie Cilliers (2025) Background note on Africa's Current Path Energy Future to 2043. Published online at futures.issafrica.org. Retrieved from <https://futures.issafrica.org/special-reports/other/Energy/> [Online Resource] Updated 09 November 2023.

About the authors

Dr Jakkie Cilliers is the ISS's founder and former executive director. He currently serves as chair of the ISS Board of Trustees, head of the African Futures and Innovation (AFI) programme at the Pretoria office of the Institute, and is an extraordinary professor at the University of Pretoria. 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.

About African Futures & Innovation

Scenarios and forecasting can help Africa identify and respond to opportunities and threats. The work of the African Futures & Innovation (AFI) program at the Institute for Security Studies aims to understand and address a widening gap between indices of wellbeing in Africa and elsewhere in the world. The AFI helps stakeholders understand likely future developments. Research findings and their policy implications are widely disseminated, often in collaboration with in-country partners. Forecasting tools inspire debate and provide insights into possible trajectories that inform planning, prioritisation and effective resource allocation. Africa's future depends on today's choices and actions by governments and their non-governmental and international partners. The AFI provides empirical data that informs short- and medium-term decisions with long-term implications. The AFI enhances Africa's capacity to prepare for and respond to future challenges. The program is headed by Dr Jakkie Cilliers.