



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

Hydro

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Hydro

Africa has the highest untapped hydropower potential worldwide, with only 37GW of installed capacity – roughly 11% of its potential. In 2023, only 2.5% of Africa's energy production came from hydro (equivalent to 0.16 BBOE). An important reason for low implementation is the need for long transmission networks to transport electricity, often in unstable areas.

On the Current Path forecast, hydro will contribute 5.3% of the continent's production in 2043, equivalent to less than 0.5 BBOE. Several large hydroelectric schemes are currently being built in Africa. For example, Ethiopia recently completed the US\$5 billion Grand Ethiopian Renaissance Dam (GERD) on the upper reaches of the Blue Nile close to its border with Sudan, the third-largest hydroelectric facility in the world in terms of installed capacity, capable of generating almost 6.5 GW in peak operating conditions. With the completion of GERD, Ethiopia is now the largest source of hydroelectric power in Africa, having overtaken the DR Congo.

There are also several other large projects underway, such as the Julius Nyerere Hydropower Plant and Dam in the Rufiji River basin in Tanzania that would deliver 2.1 GW.[1]

In the DR Congo, the first two dams of the Grand Inga scheme, Inga I and II, are built, and Inga III is imminent. But the larger Grand Inga has been in planning since the 1950s, held back by poor planning, inefficiencies, corruption – and the need to lay transmission lines over several thousand kilometres to South African and Nigerian markets.

Endnotes

1. Xinhua, Tanzania allocates over 600 mln USD for mega hydropower project in 2020/2021, xinhuanet.com, 9 May 2020. Also see: The Arab Contractors, Julius Nyerere Hydropower Plant and Dam – Tanzania.

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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 and head of the African Futures and Innovation (AFI) programme at the Pretoria office of the Institute. 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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