ISS | AFRICAN FUTURES

# Energy

## Energy Scenarios

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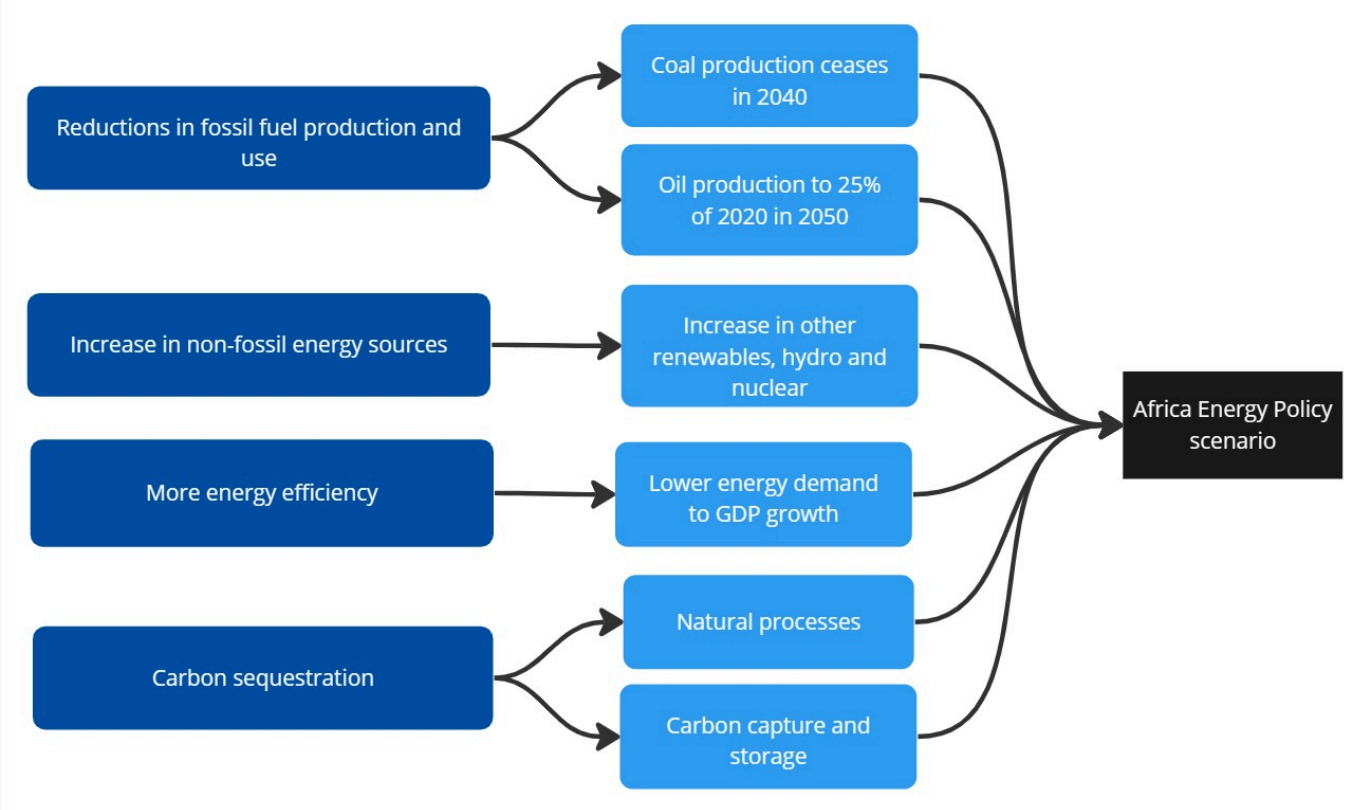
Based on the benchmarking and analysis done in the previous sections, it is now possible to present an **Africa Energy Policy scenario**. Our modelling consists of four intervention clusters:

- Government policies and actions that end coal production by 2040 and reduce oil production by 2050;
- Ambitious increases in Africa's energy production from other renewables, nuclear and hydro;
- Institutional, management, technological and infrastructure improvements leading to more energy efficiency, thus reducing energy intensity (demand to GDP); and
- Carbon sequestration to reduce the carbon generated by burning coal, oil and gas[1] including forest regeneration[2], carbon capture and storage and improved land management.

Our scenario does not include a carbon tax. Some countries are phasing in such taxes, but it is unlikely that Africa would lead on such policies; instead, it would join a global effort in this regard and even then belatedly. We explore the impact of a global carbon tax in the climate theme in four alternative scenarios, ranging from a universal tax (Everyone Pays scenario) to a tax on high emitters only (Polluters Pay scenario).

**Chart 9: Africa Energy Policy scenario**

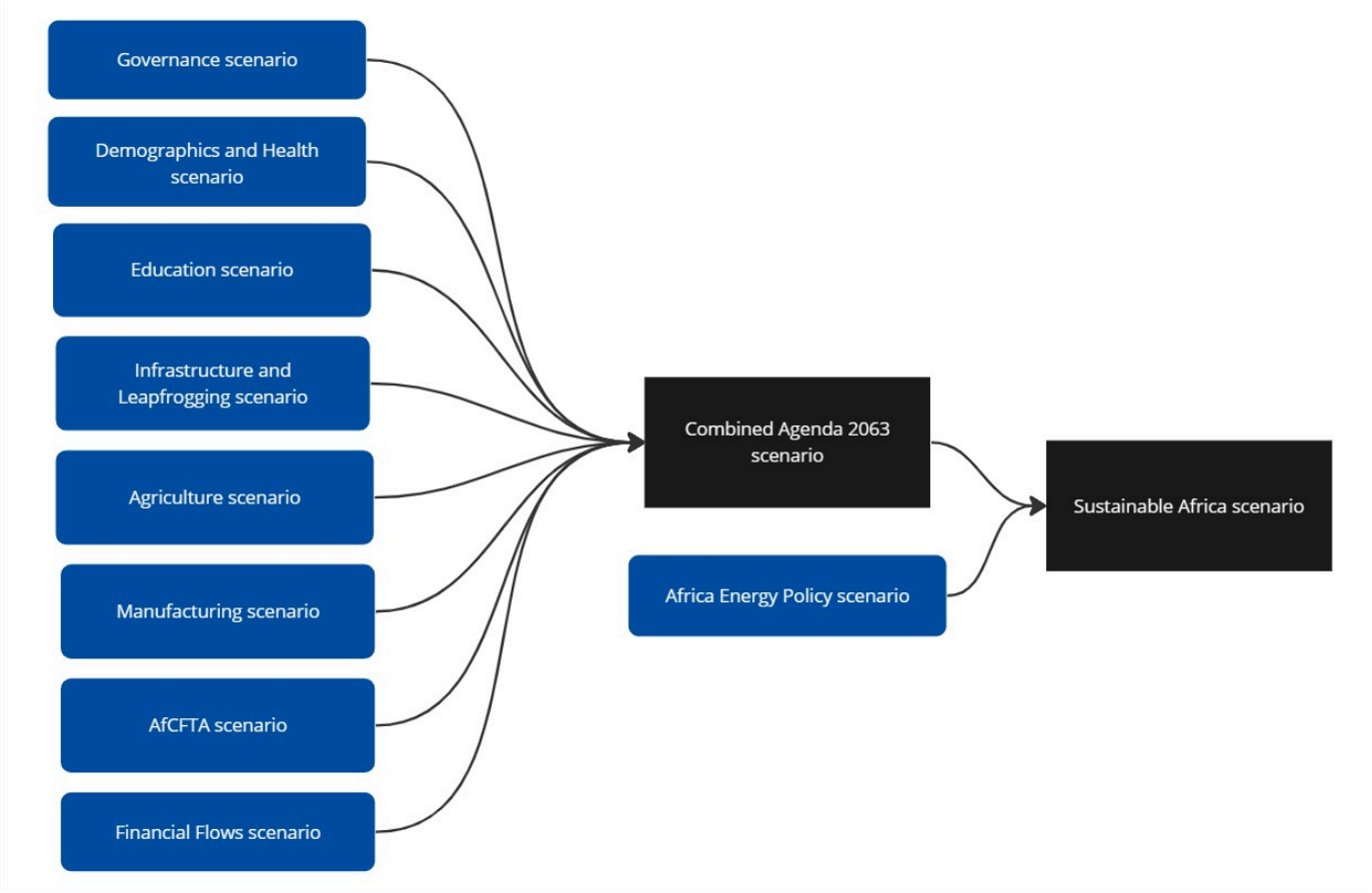



The Africa Energy Policy scenario reflects Africa's energy demand and production on its likely future development pathway. It would see average economic growth amongst African economies of 4.7% from 2024 to 2050.

In the final step (Chart 10), we develop our ***Sustainable Africa scenario***. It combines the Africa Energy Policy scenario with the Combined Agenda 2063 scenario, which consists of eight sectoral scenarios that advance Africa's development

prospects (ranging from agriculture to manufacturing and the full implementation of the AfCFTA). Chart 10 presents the composition of the Sustainable Africa scenario. In this scenario the average economic growth rate if 7.7%.

**Chart 10: Sustainable Africa scenario**



## Endnotes

1. The intervention is done at the global level.
2. Applied to Angola, Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, DR Congo, Republic of Congo, Eswatini, Gambia, Ghana, Guinea, Madagascar, Malawi, Mozambique, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, Tanzania, Togo, Zambia and Zimbabwe.

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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 oce 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.

**Ms Alize le Roux** joined the AFI in May 2021 as a senior researcher. Before joining the ISS, she worked as a principal geo-informatics researcher at the CSIR, supporting various local and national policy- and decision-makers with long-term planning support. Alize has 14 years of experience in spatial data analysis, disaster risk reduction and urban and regional modelling. She has a master's degree in geographical sciences from the University of Utrecht, specialising in multi-hazard risk assessments and spatial decision support systems.

## 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.