



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

History and forecast of global energy demand and production

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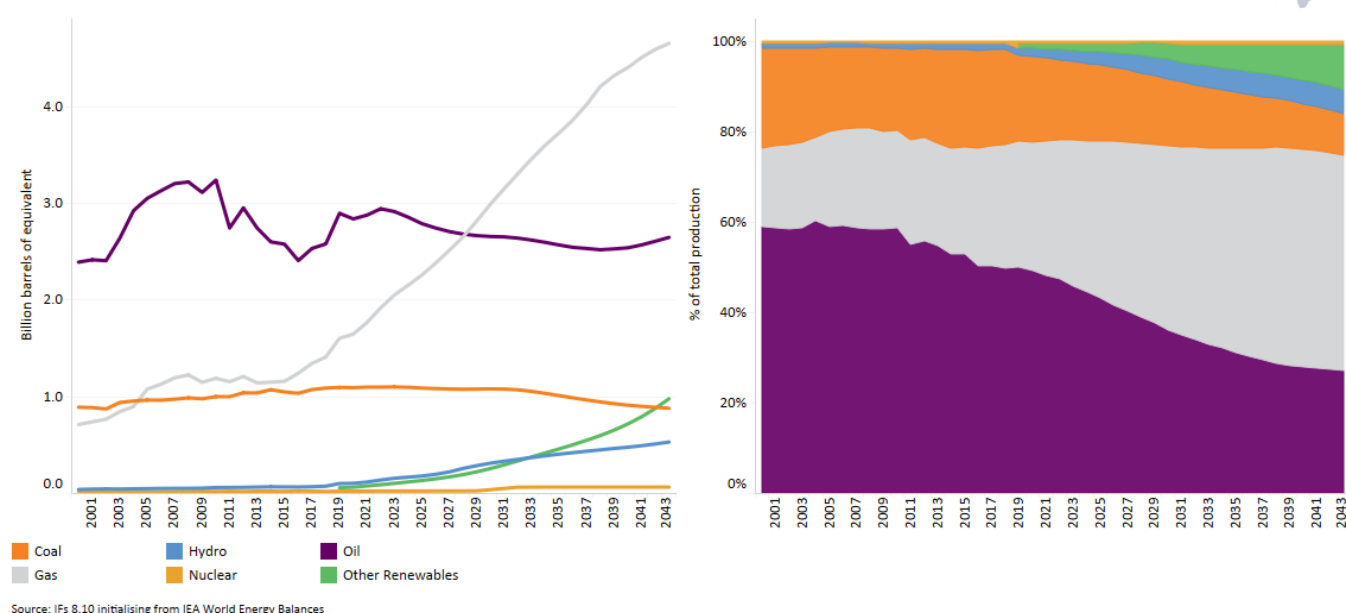
Last updated 09 November 2023

History and forecast of global energy demand and production

Energy demand and production (at the global level, they are essentially the same) continue to increase more rapidly than the global population even as the demand relative to GDP (energy intensity) declines slowly, reflecting greater energy efficiencies.

The historical picture since 2000 is presented in Chart 1, with a forecast to 2043. The trend of increased energy demand is evident when considering a world population that is set to increase from 8 billion in 2023 to 9.2 billion in 2043 (i.e. by 15%), while energy demand will increase from 94.8 BBOE, to 124.1 BBOE in 2043 (i.e. by more than double the population increase at 31%), reaffirming the strong relationship between energy availability and development. The data is available for various global groups, key countries, African regions and all African countries.

Chart 1: Energy production by type: 2000-2043



In 2023, only about 4.8% of global energy production came from 'other renewables', mostly sun and wind (equivalent to 4.6 BBOE). The share from oil was at 31%, gas at 27%, coal at 29%, and the remainder from nuclear (5.4%) and hydro (2.9%). The share of oil, coal and gas production, the three components of fossil energy in the global energy mix, has remained above 80% for the last two decades and is declining much more slowly than required to avoid rapid climate change.

Globally, the following important energy production transition points to 2043 are evident from Chart 1:

- Global gas production overtakes coal in 2026 and oil in 2031.
- The share from other renewables in global energy production overtakes nuclear in 2024, coal in 2040, oil in 2044, and gas in 2049.

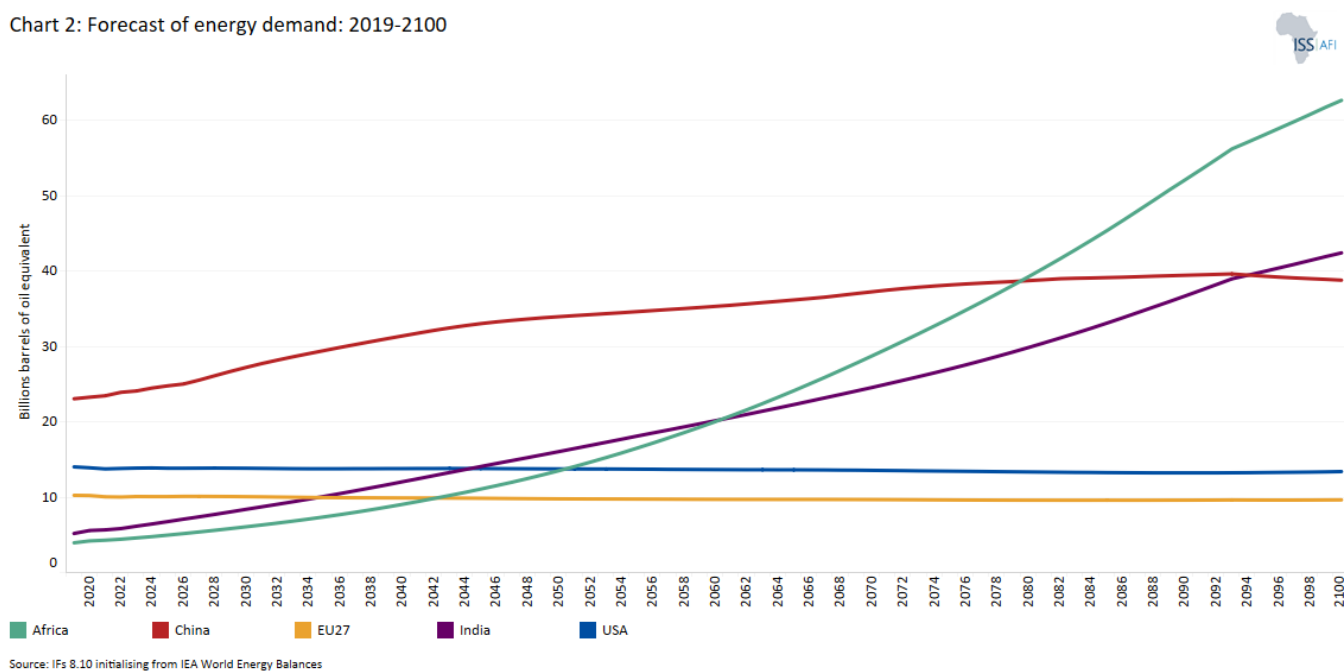
In 2023, only about 1.6% of Africa's energy production came from 'other renewables' equivalent to 0.1 BBOE. The share from oil is 45.8%, gas at 32.3%, coal at 17.3%, hydro at 2.5% and other renewables at 1.6%

In Africa, the following important energy production transition points to 2043 are evident from Chart 1:

- Gas overtakes oil in 2028
- Other renewables overtake hydro in 2033 and coal in 2042

Because of a growing population and economy, Africa's portion of the world energy demand will increase from 4.35% in 2019 to 14.82% by 2063. On the Current Path forecast, Africa's energy demand will overtake the EU27 in 2043, the USA in 2050, India in 2050, and China in 2079.

Chart 2: Forecast of energy demand: 2019-2100



The main reason for Africa's increase in its energy demand is its growing population. In 2023, Africa's population surpassed that of India and China. It will continue increasing rapidly after that.

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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.

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