



Africa energy outlook

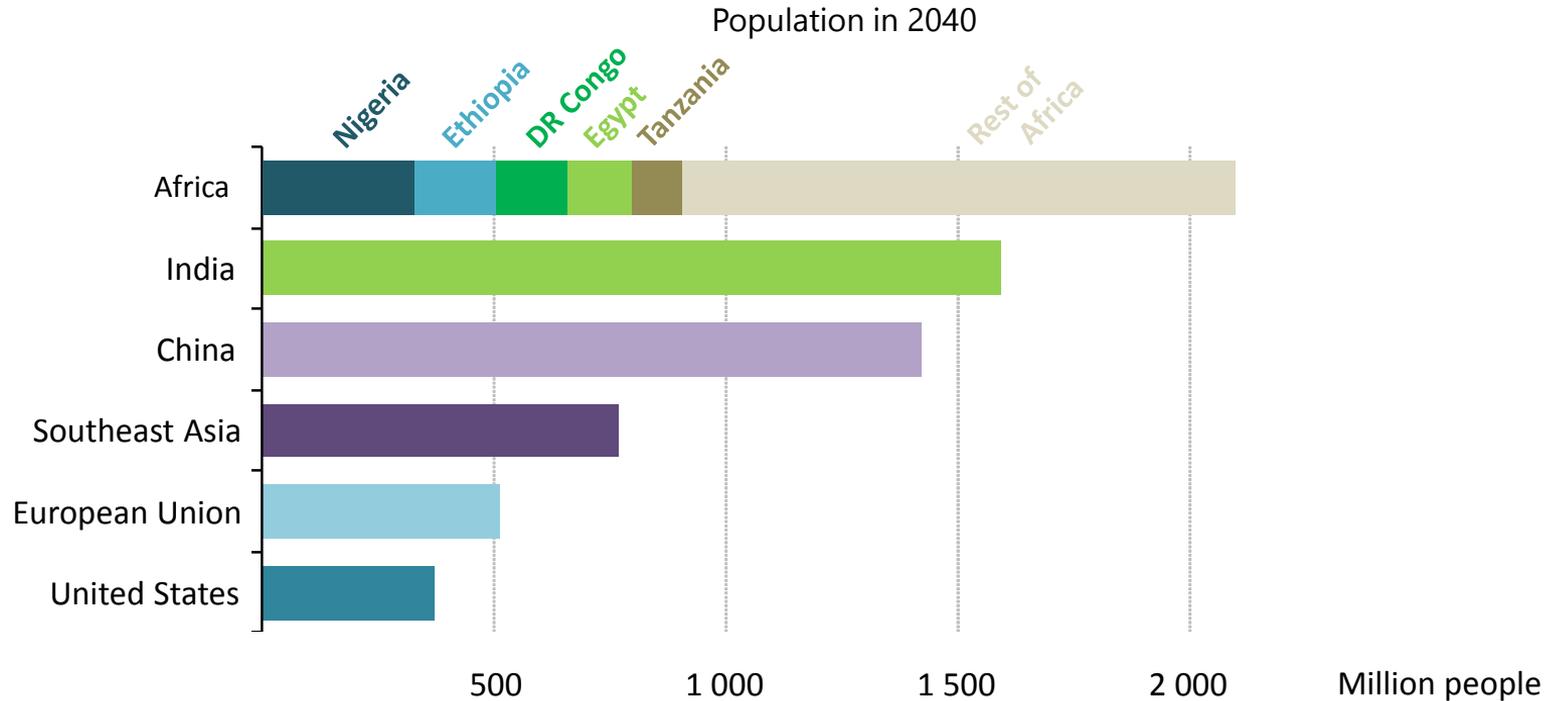
Atelier sur l'impact socio-économique de l'électrification décentralisée – 13 Novembre 2019

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Context

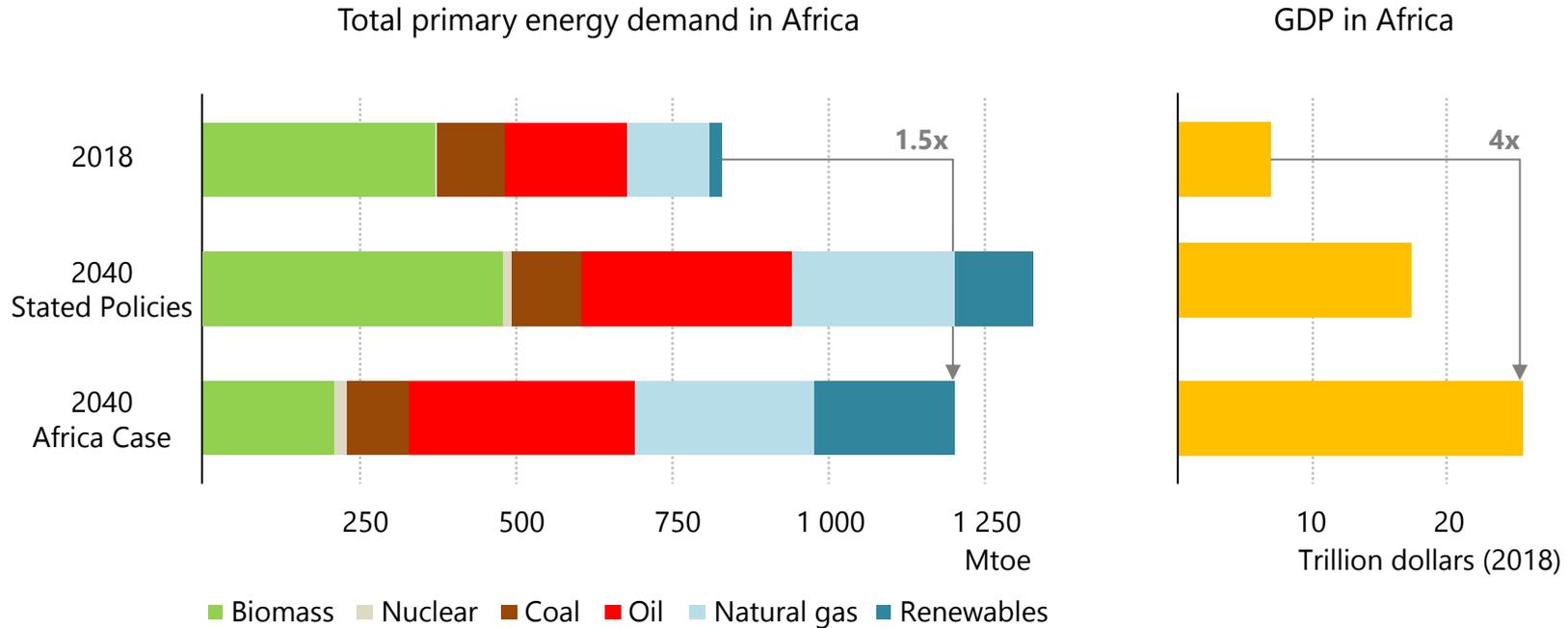
- With rising population, urbanisation and industrialisation, Africa is increasingly influential for global energy trends.
- Renewables and natural gas are acting as an accelerator to development in a few countries, but in many others, energy remains a brake to development:
 - Access to electricity and clean cooking remains elusive.
 - Investment in power infrastructures among the lowest in the world.
 - Traditional use of biomass dominates the energy mix.
- Five years after the IEA's first special report on Africa, we return to take an in-depth look at Africa's energy sector, with two prominent features:
 - Individual analysis of 11 sub-Saharan countries representing three-quarters of the region's GDP: *Angola, Côte d'Ivoire, DR Congo, Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Senegal, South Africa and Tanzania*
 - Africa Case: an analysis of how the energy sector can deliver the sustainable development goals and spur economic growth ambitions of Agenda 2063

Africa: home to more than 2 billion people by 2040



Africa's population increases by 800 million to 2040, 70% of the growth is in cities - the largest scale of urbanisation in history. By 2040, the average age in Africa is 12 years younger than the global average.

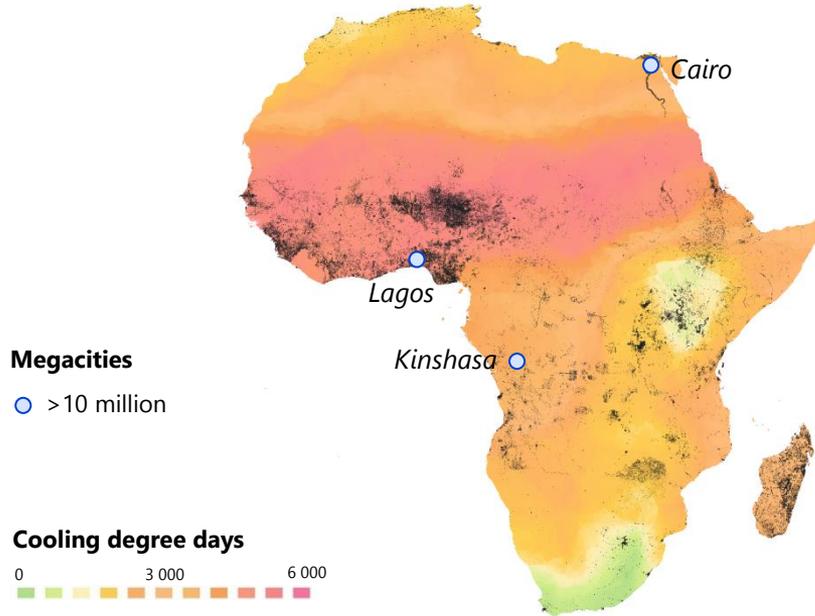
A major shift towards modern and efficient energy mix



The continent can fuel an economy four-times larger than today with only 50% more energy, driven by a major shift towards modern energy sources such as renewables and natural gas and efficiency improvements

With cooling needs set to double, efficiency measures are vital

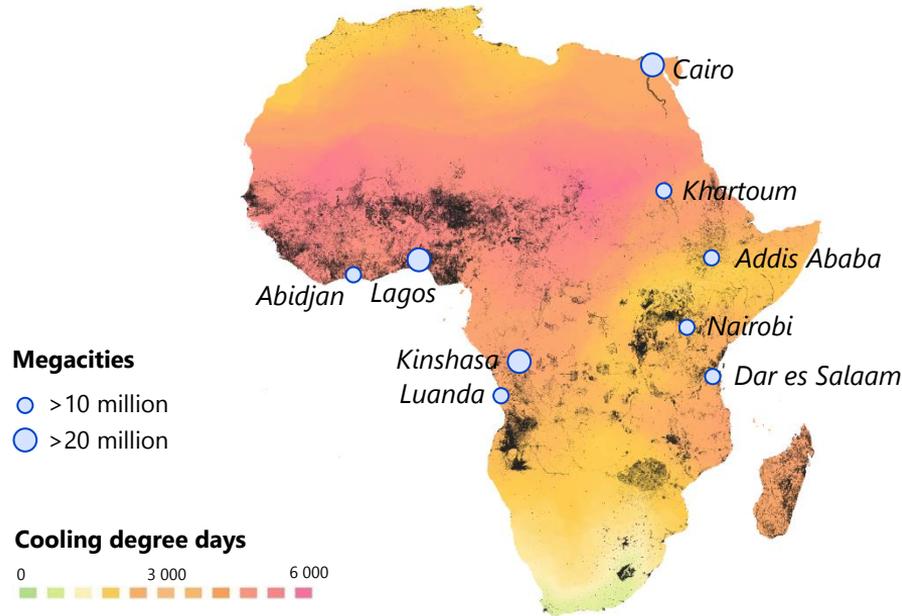
700 million people need cooling in Africa today



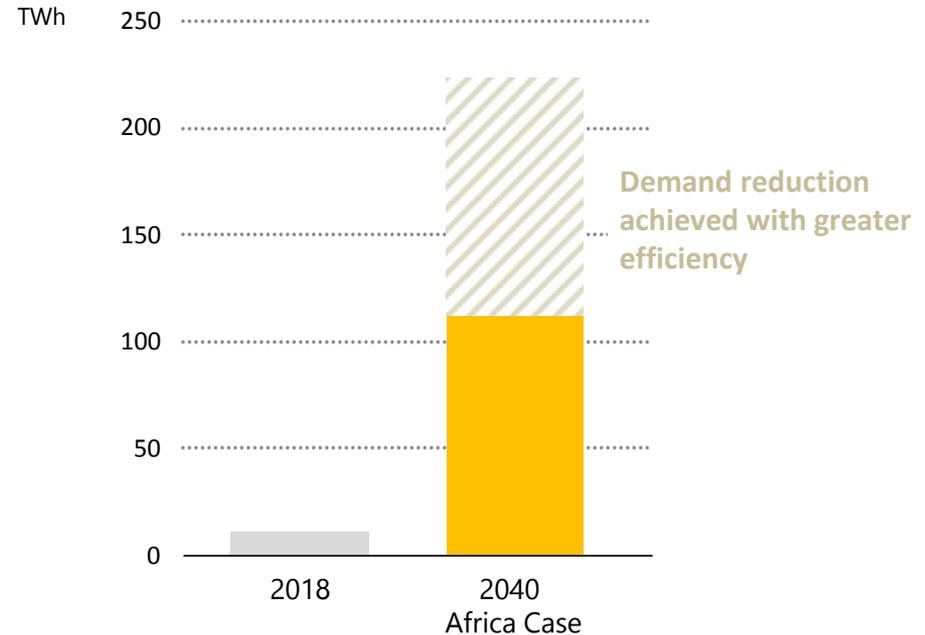
A major increase in the number of hot days in Africa, alongside rapid urbanisation and higher incomes, drives growing demand for cooling. Efficiency measures cut the potential impact on electricity demand in half

With cooling needs set to double, efficiency measures are vital

In 2040: **1 200 million people** need cooling



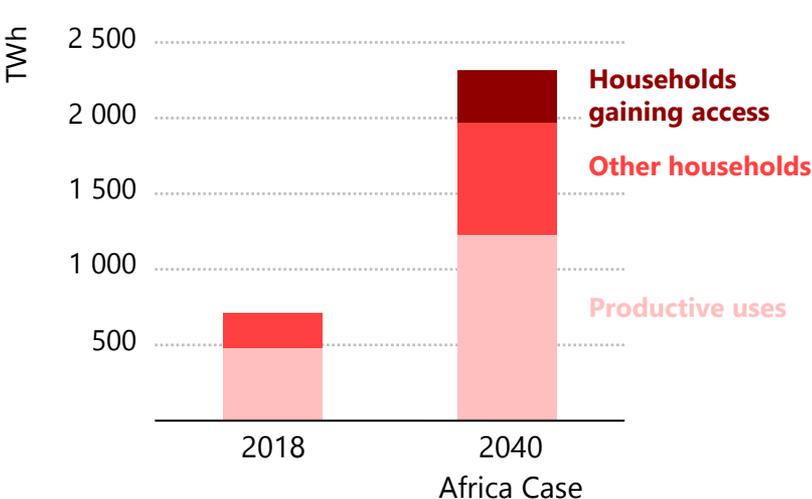
Residential cooling demand, 2018 and 2040



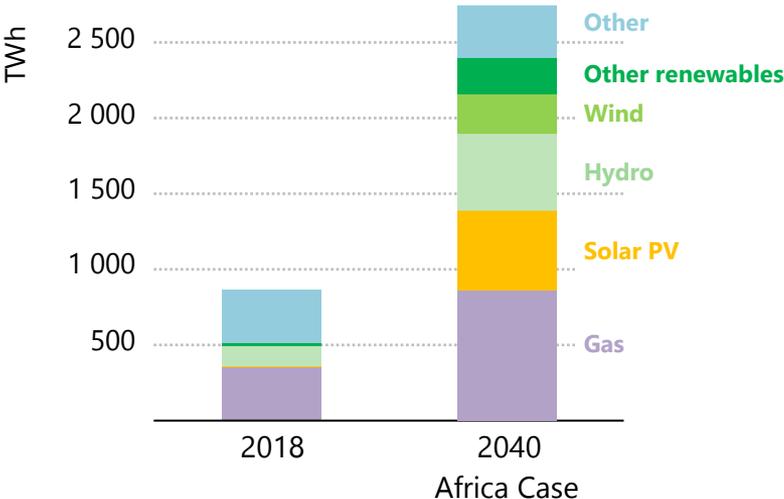
A major increase in the number of hot days in Africa, alongside rapid urbanisation and higher incomes, drives growing demand for cooling. Efficiency measures cut the potential impact on electricity demand in half

Renewables push ahead to power Africa's brighter future

Electricity demand in Africa

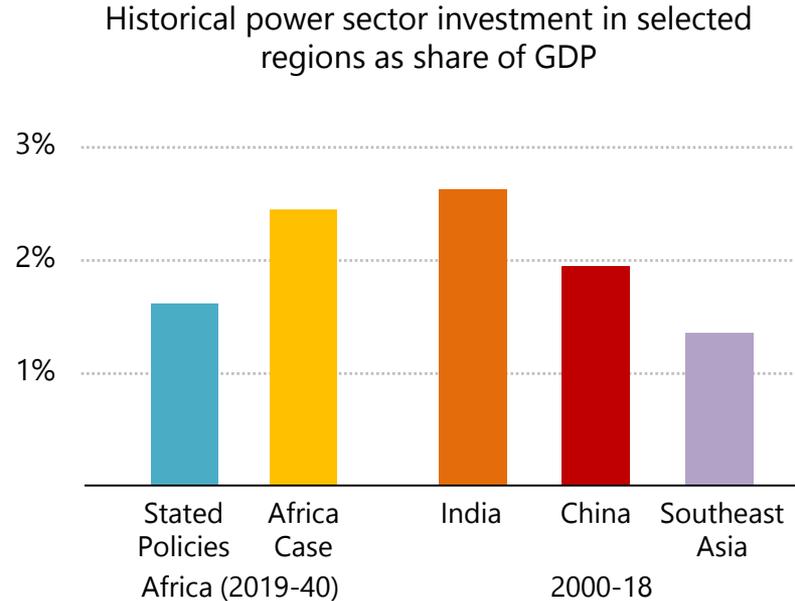
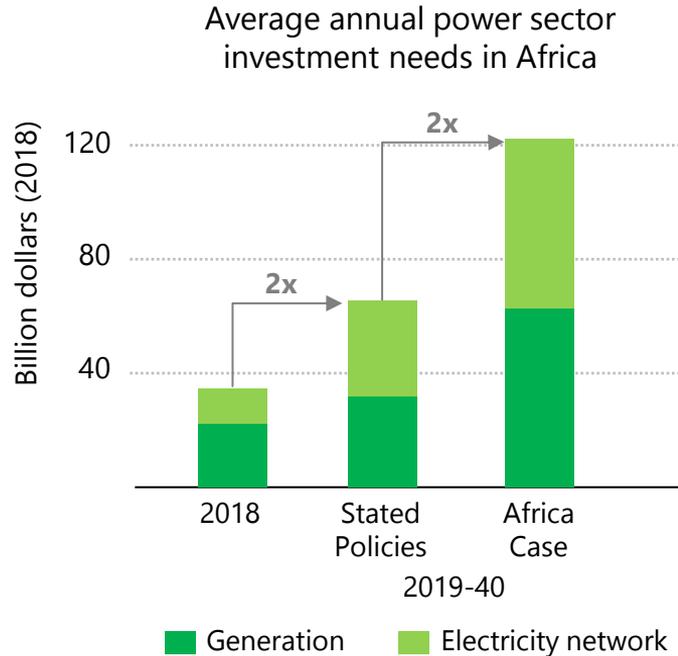


Electricity generation in Africa



Electricity demand growth potential is large, primarily from emerging middle classes and productive uses; renewables provide over half of electricity with solar PV becoming the second largest source of generation

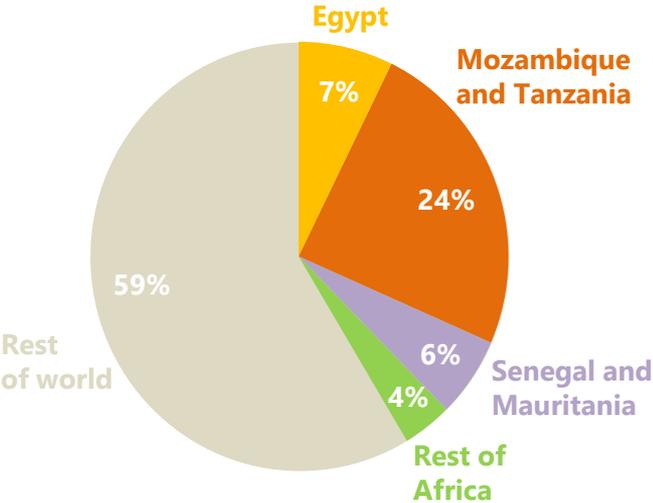
Mobilising investment – challenging but achievable



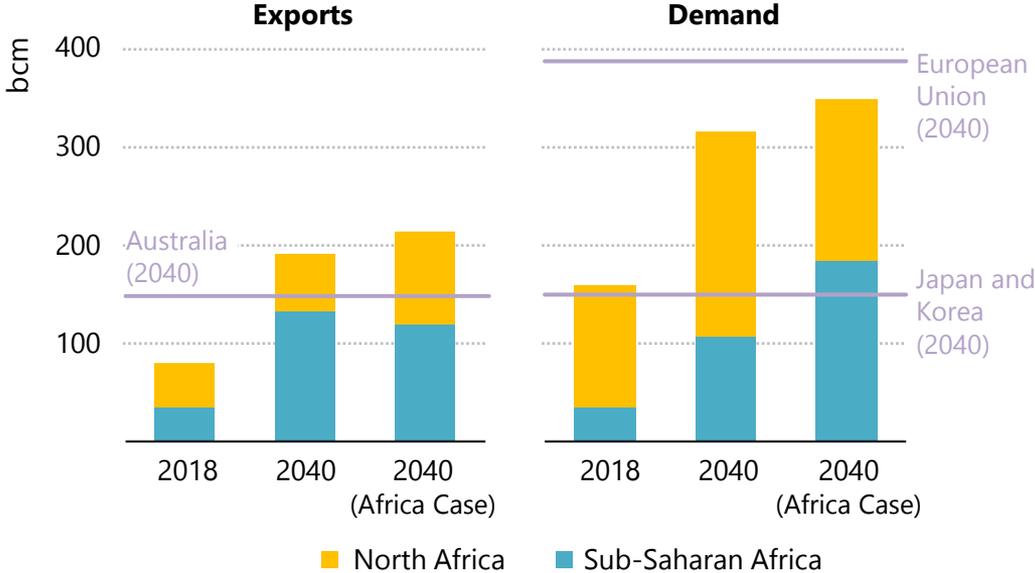
Achieving Africa's ambition requires almost a fourfold increase in power sector investment, to around \$120 billion a year, with the vast majority going to low-carbon generation and grid networks

Natural gas is facing a potential turning point in Africa

Share of global gas discoveries, 2011-18



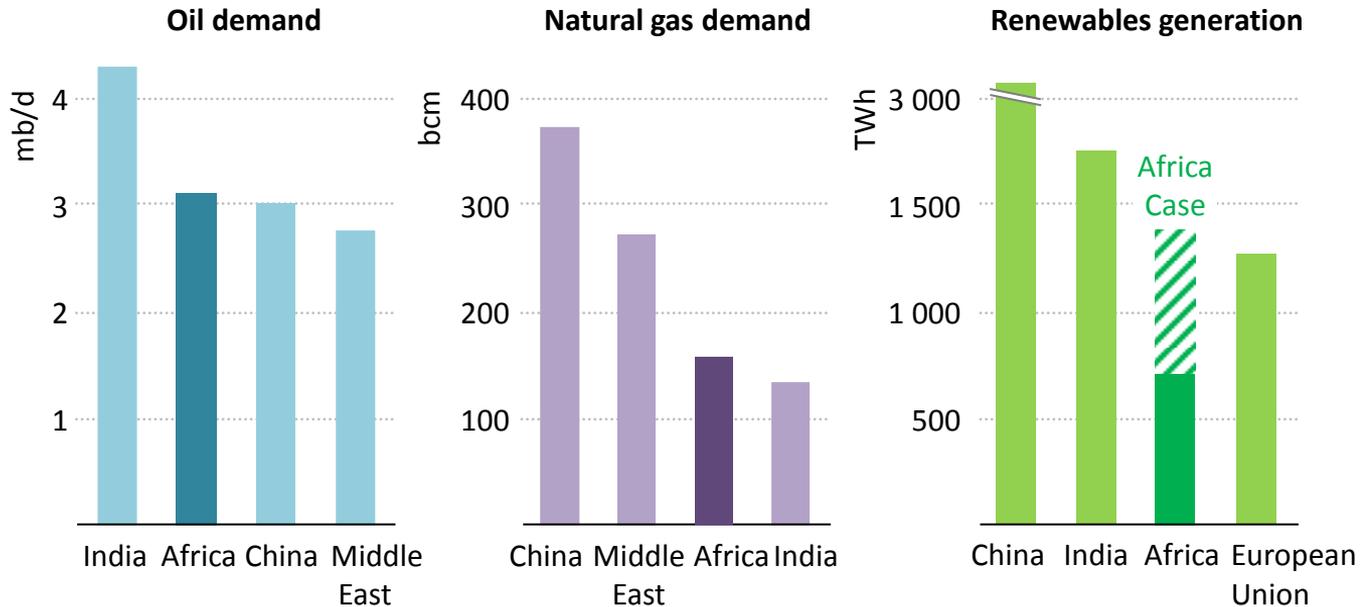
Gas net exports and demand in Africa



Recent discoveries across the continent could fit well with Africa’s push for industrial growth and its need for reliable electricity, but developing infrastructure requires strong policy supports

Africa emerges as a key driver for global energy markets

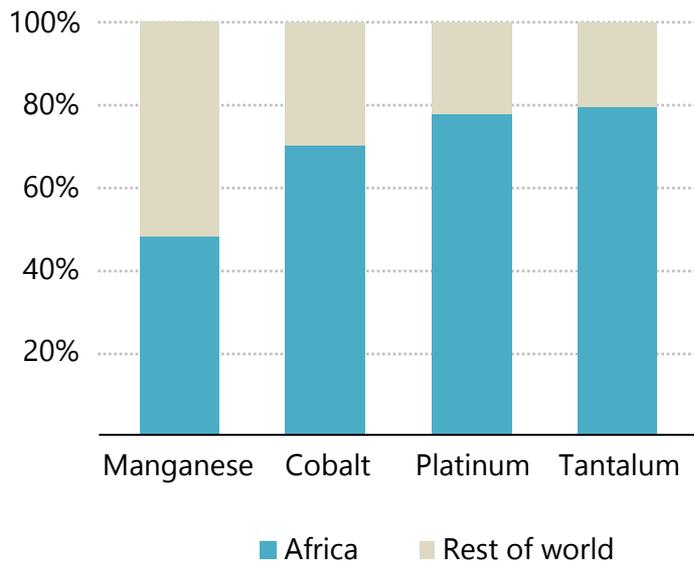
Africa's role in global energy growth, 2018-40



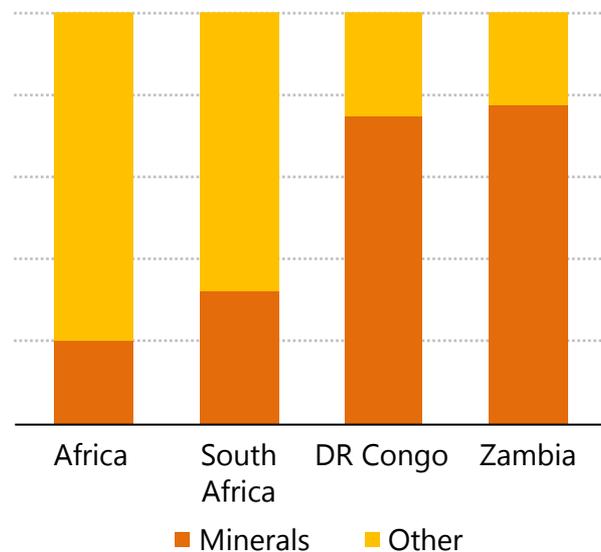
With rapidly rising population and a major switch away from the traditional use of biomass, Africa emerges as a major source of global growth for oil, natural gas and renewables

Crucial linkage between African minerals and global energy transition

Share of Africa in global minerals production, 2018



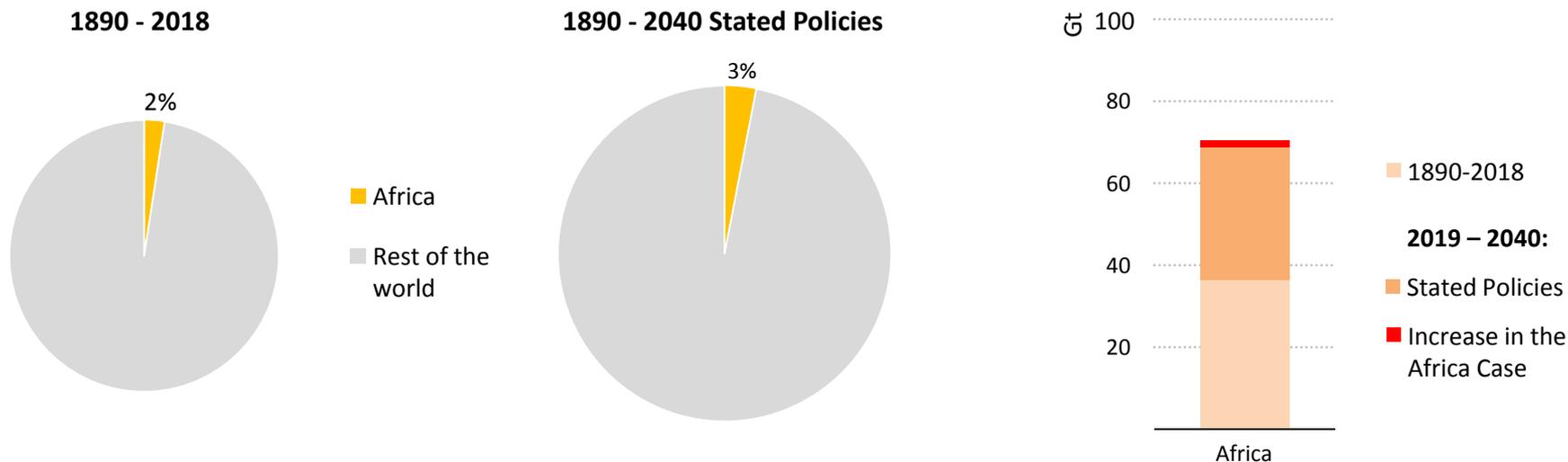
Share of minerals in product exports in Africa, 2017



Responsible and sustainable development of Africa's mineral resources is vital for Africa's economic outcomes and global energy transitions

Not a major emitter, but climate change matters greatly for Africa

Cumulative energy-related CO₂ emissions by scenario



While Africa is responsible for a small portion of global CO₂ emissions, it suffers greatly from the impacts of climate change, underlining the importance of climate-resilient infrastructure

Conclusion

- Africa's young, fast growing and increasingly urban population is set to drive the continent's economic and energy development as well as global energy trends.
- Thanks to technology improvements and resource endowments, Africa has the unique opportunity to build its development on cleaner energies such as renewables and gas.
- A critical task for policymakers is to address the persistent lack of access to electricity and clean cooking, and the unreliability of electricity supply.
- Building a reliable power system requires a significant scale-up in investment; mobilising capital is a challenging undertaking, but can be achievable with adequate policy measures.
- Achieving the outcomes of the Africa Case would be neither energy-intensive nor emissions-intensive thanks to stronger roles of energy efficiency and clean energies.
- Although not a major emitter, Africa is in the front line for the effects of a changing climate. Energy infrastructure planning must be climate-resilient.

Africa Energy Outlook 2019

<https://www.iea.org/Africa2019>



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