

Building Africa's energy capacity

Sub-Saharan Africa is currently sitting on an electrification rate of only 43%, so much more need to be done to achieve the international community's goals of universal electricity access by 2030.



Fred Kabanda, chief oil sector regulatory officer, African Natural Resources Centre, African Development Bank, Cote d'Ivoire

Total installed generation capacity on the subcontinent is 122GW, and accounts for 4.5% of global primary energy demand (619 million tonnes of oil equivalent) according to the International Energy Agency's 2017 report. Three-quarters of the generated capacity is fossil fuel-based, with coal accounting for 35%. Renewables make up about a quarter of total capacity, with large-scale hydropower accounting for the bulk. There are a number of key challenges facing the transformation of the sector, however, developments are happening across the continent.

Half the region's primary demand is for solid biomass for mainly household cooking, while coal and oil meet a third of the demand. South Africa has the largest demand for coal for power generation while roughly two-million barrels of oil per day is evenly distributed across the region. Renewables contribute 18%, and natural gas around 4%.

Energy transformation on the continent

"Access to energy is critical for Africa's development, which is why it forms one of five priorities for the African Development Bank", says Fred Kabanda, chief oil sector regulatory officer, African Natural Resources Centre, African Development Bank, Cote d'Ivoire. "With power, the other four priorities: Feeding Africa; Industrialising Africa; Integrating Africa; and Improving the quality of life for the people of Africa, will be fulfilled. If the extractives are managed well, they will contribute to meeting all five of the AfDB's priorities."

Extractives (oil, gas and mineral) resources currently contribute over 70% of the electricity generated in Africa. For countries using coal as a main energy source, there is a need to use improved technology to reduce pollution effects. With the cost of renewable energy technologies decreasing, it makes sense for sub-Saharan leaders to focus on energy efficient technologies as a means to deliver power to their people. Extractives however, still have a role to play on the continent. Natural gas is emerging as a popular clean energy source, as are renewables like solar, wind and hydro, which will continue to significantly rely on minerals for manufacture of the required parts for the electricity generation.

“While extractives will still be important in Africa’s electricity future, there may need to be more emphasis on environmental aspects,” says Kabanda. “Many African countries have recently discovered extractive resources, and they are planning on using these resources to generate electricity and other products for themselves and their neighbours.”

Enabling innovation

Innovation in this sector is needed for both on and off-grid solutions, and there are many opportunities for private independent power producers to accelerate supply across sub-Saharan Africa. The regulatory environment needs to be addressed however, and an enabling environment supported by the right policies, infrastructure, planning and incentives must be fostered.

Kabanda says that the African Development Bank supports the private sector by financing them when they have viable projects. “The population growth coupled with the steady economic growth continues to create demand for energy in Africa. Governments have different priorities and where private sector is able to play a role, they have been encouraged in many African countries. This has led to many IPPs investing in Africa’s electricity sector. The governments will need to create a conducive investment climate to continue attracting the IPPs. On the other hand, IPPs must continue to produce power using energy sources and technologies that can avail affordable power tariffs for the countries.”

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