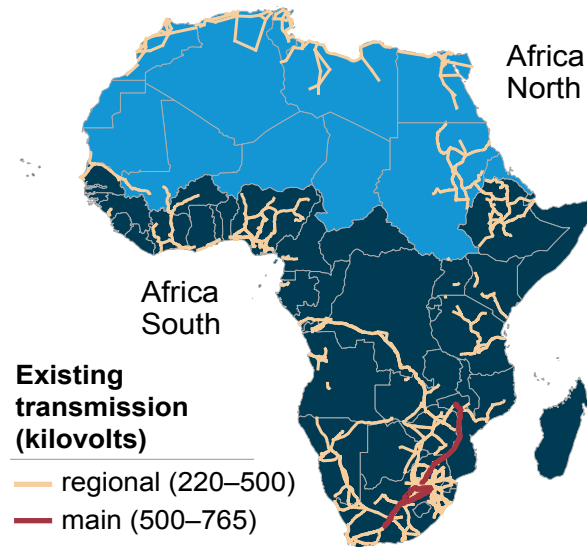




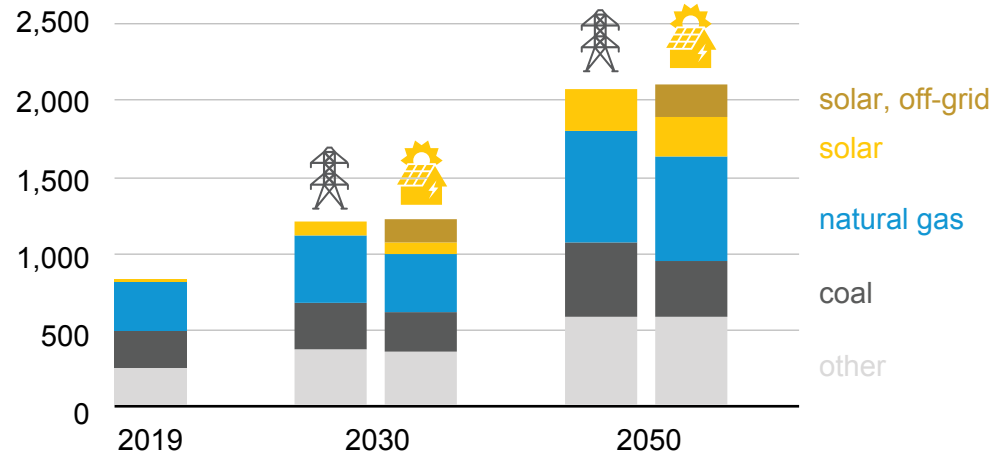
Off-grid generation could shift the future generation mix in Africa

Future electricity demand in Africa, if met by additional expansion of the centralized grid, could yield higher growth in coal- and natural gas-fired generation. If the demand were met instead by off-grid resources, the generation mix could increase the share of non-hydroelectric renewables sources, reducing fossil fuel generation.



- Most of Africa’s natural gas-fired generating capacity is located in Africa North, where most of the natural gas resources in the continent are located.
- Most of the continent’s coal-fired generating capacity is located in Africa South. The Sahara Desert increases the difficulty of shipping fuels and transmitting electricity across the continent.

billion kilowatthours



- Maximum Grid Expansion case:** The central grid meets all electricity demand growth in Africa.
- Maximum Off-Grid case:** Growth in Africa is met by off-grid solar resources.

These cases illustrate the range of possibilities for central grid expansion and off-grid development.

Centralized grid expansion reinforces the existing sources of baseload supply. The Maximum Off-Grid case assigns the entire incremental demand to off-grid solar resources, which increases renewable energy use in Africa South.