Africa’s energy systems face several climate risks. Extreme weather can lead to widespread damage to electricity generation, transmission, and distribution networks. Higher temperatures reduce the operating efficiency of thermal generation, while simultaneously increasing energy demand for air conditioning. Reduced rainfall and associated streamflow can limit hydropower output and other water-dependent energy generation. Several African countries are particularly vulnerable to reduced rainfall and runoff due to their heavy reliance on hydropower for generation. In East and Southern Africa (excluding South Africa), hydropower represents over half of electricity generation.

Constrained hydropower generation due to reduced rainfall and runoff has already resulted in drought induced electricity rationing in several African countries. Energy production is central to addressing developmental challenges, such as poverty, inequality, climate change, food security, health and education.
Priority action areas

- Integrated water resource management.
- Promote power system planning for a climate-resilient, low-emission electricity network.
- Increase power capacity by harnessing the regional potential of river basins to strengthen resilience to droughts and get renewable energy to markets.
- Strengthen power sector reforms to enable renewable energy.
- Expand renewable capacity through competitive auctions.
- Strengthen finance and risk mitigation for efficient and renewable energy.
- Enhance access to energy efficient solutions for all.
- Increase adoption of new low-cost, energy saving technologies.
- Build climate resilience and a just transition with a focus on women, girls and young people.

Regional policy frameworks

The Programme for Infrastructural Development in Africa (PIDA) provides a common framework for African stakeholders to build the infrastructure necessary for more integrated energy networks. The African Union Green Recovery Action Plan (AU GRAP) will strengthen collaboration on shared priorities in support of the African Union’s objectives for sustainable and green recovery from COVID-19 by focusing on critical areas of joint priority including renewable energy.

Regional flagship initiatives

The Africa Renewable Energy Initiative (AREI) is an inclusive, transformative, Africa-owned and Africa-led effort to accelerate and scale up the harnessing of the continent’s renewable energy potential. Under the mandate of the African Union and endorsed by the Committee of African Heads of State and Government on Climate Change (CAHOSCC), the initiative aims to achieve at least 300 GW by 2030. The Africa Clean Energy Corridor (ACEC) is a regional initiative to accelerate the development of renewable energy potential and cross-border trade of renewable power within the Eastern Africa Power Pool (EAPP) and Southern African Power Pool (SAPP).