International Energy Agency

Clean Energy Transitions in Sahel 2021

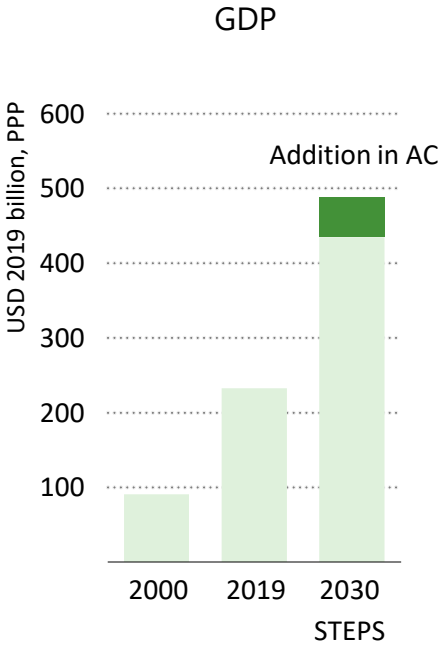
Ana Rovzar, Arnaud Rouget

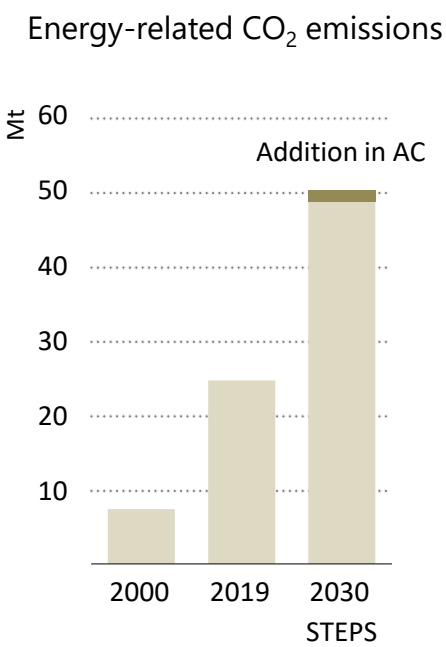
Analysis key findings - 30 September 2021

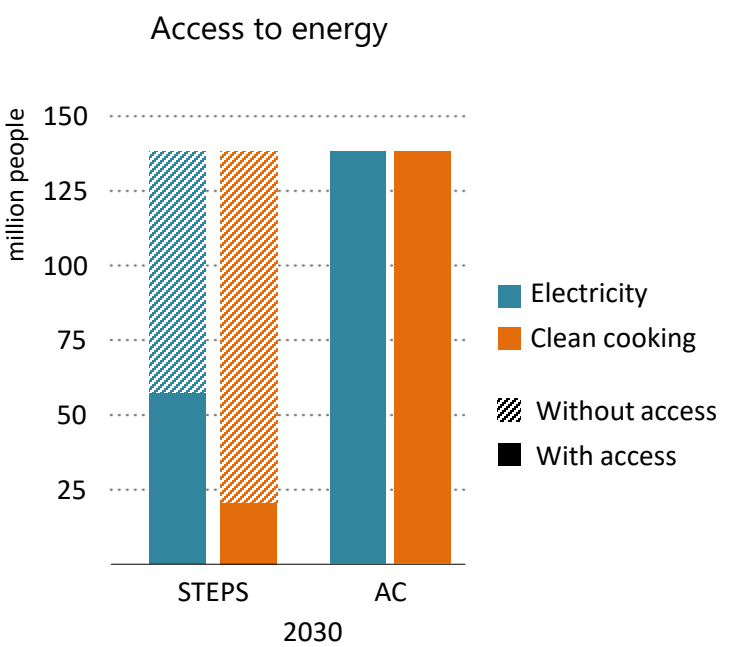
Clean energy transitions can boost Sahel development

- The Sahel has a dynamic, young and increasingly urban population and a fast-growing economy. Yet, lack of access to modern energy services, low electrification rates, vulnerability to climate change, as well as situations of conflict act as a brake to socio-economic development.
- As expanding population, economic growth, and urbanisation are driving energy demand, Sahelian countries have opportunities to transition towards clean energy systems. By placing the **Sustainable Development Goals** at the heart of policies by 2030, the region could:
  - Achieve universal access to electricity and clean cooking
  - Increase the share of modern renewables, especially in the power sector
  - Use just 25% more energy to fuel a two-times larger economy
- But there are **challenges to achieving this pathway**, including financing issues, which are exacerbated by Covid-19 and growing climate risks.
- The new IEA report provides a roadmap for the Sahel to overcome these challenges, and achieve rapid energy development while **controlling the growth of emissions** and avoiding lock-in as the world shifts to clean energy.

Universal access and economic growth with limited emissions

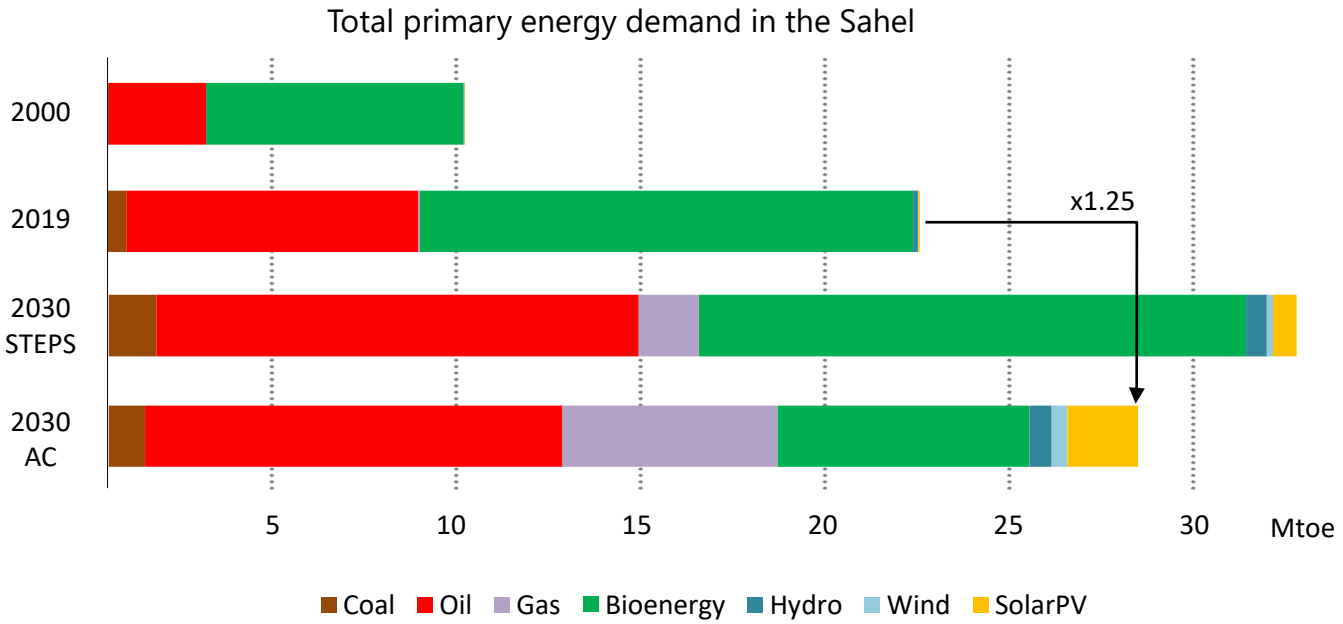






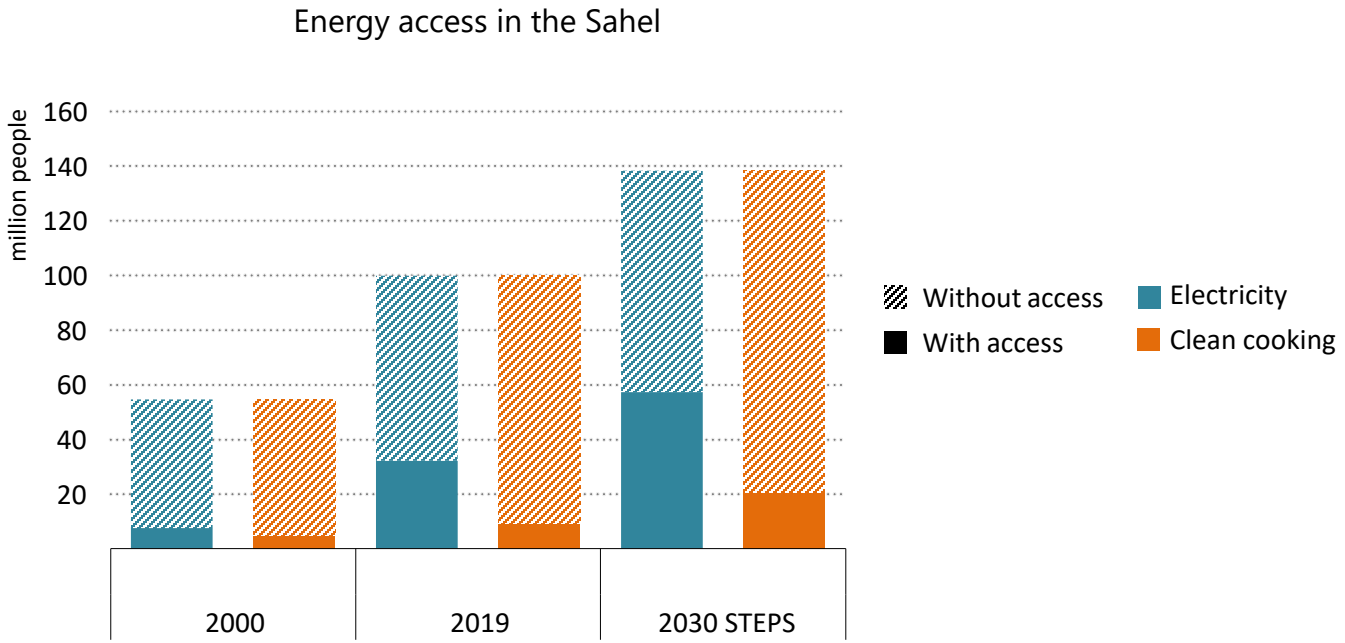
The Sahel represents only 0.15% of global CO_2 emissions and suffers from low energy access.
The Africa Case targets growth and achieves key SDGs including universal access to energy by 2030.

A dynamic but energy-poor region, with potential for a bright future



Traditional biomass and oil supply most demand in the Sahel and have doubled over the past 15 years. The energy system is expected to expand, and the *Africa Case* envisions a shift to a modern mix

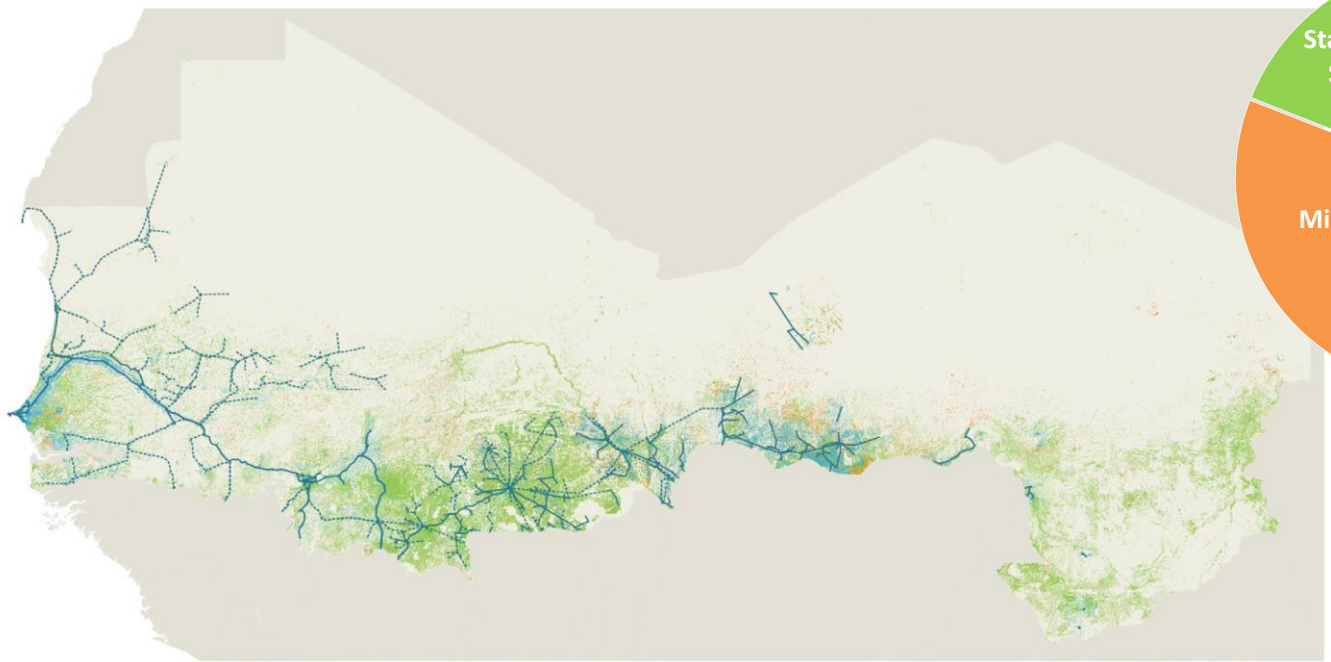
SDG 7.1: cooking, on- and off-grid policies can bring access for all

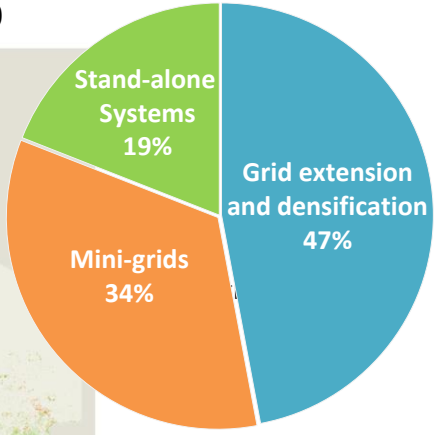


One-third of Sahelians have access to electricity, 10% to clean cooking fuels and equipments.

SDG 7.1: cooking, on- and off-grid policies can bring access for all

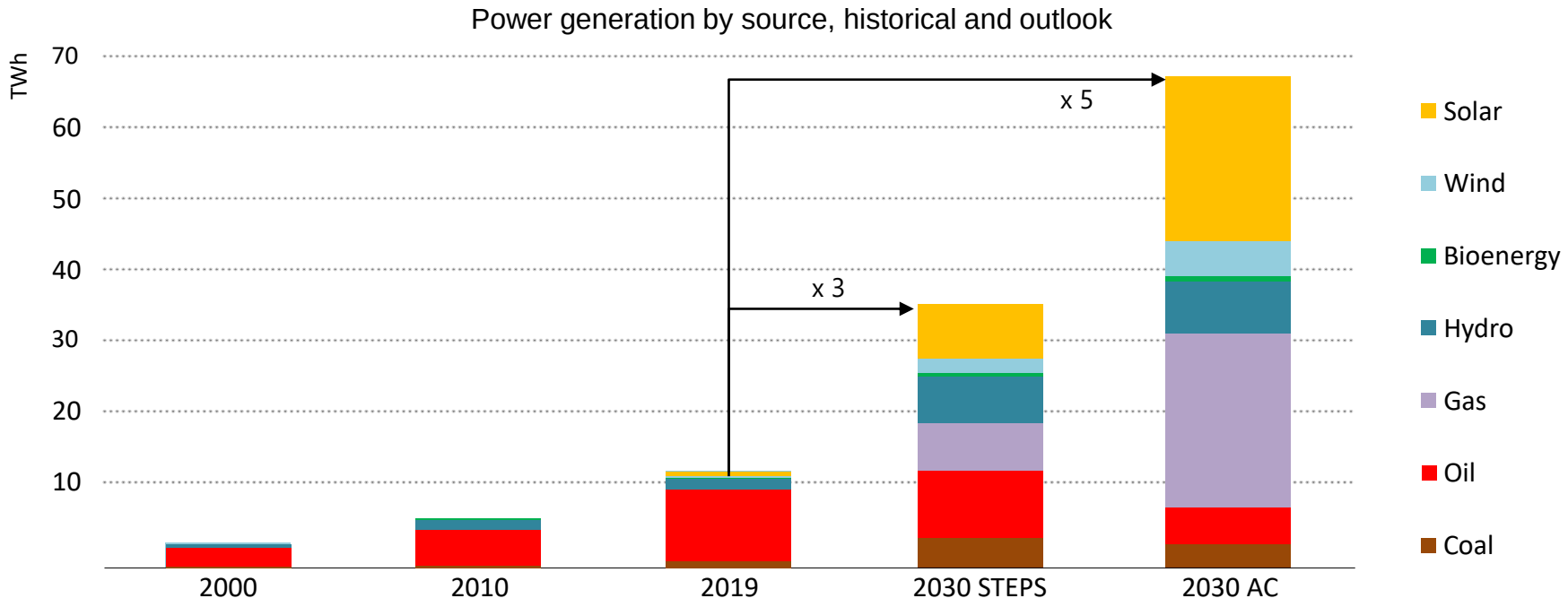
Energy access in the Sahel – least cost pahtway to universal access in 2030





One-third of Sahelians have access to electricity, 10% to clean cooking fuels and equipments. Reaching universal access by 2030 is still possible and requires a combination of technologies.

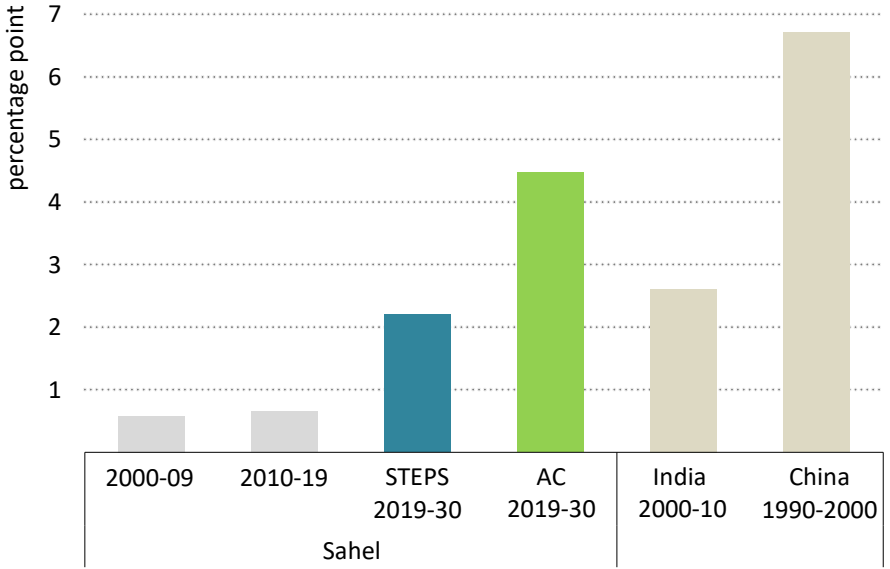
SDG 7.2: Renewables can accelerate further with right policy mix



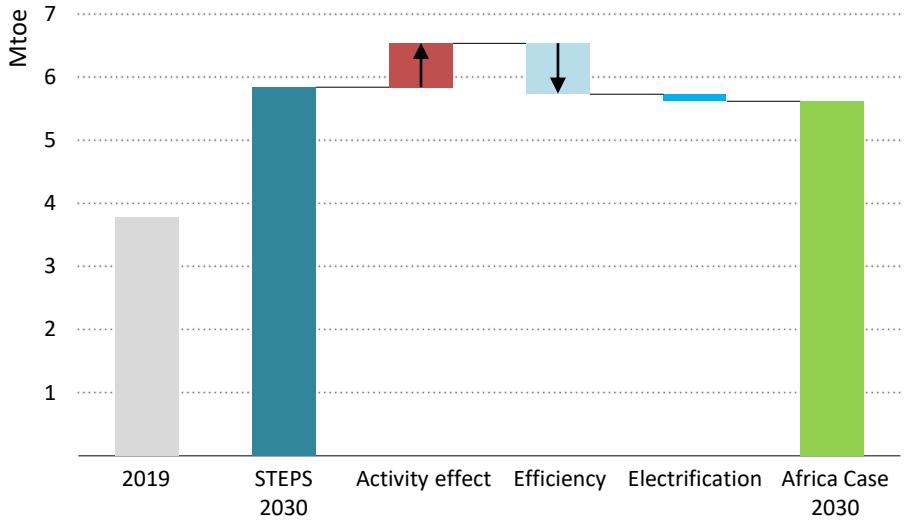
To support its development, the region could generate three to five-times more electricity than today. Tapping into its solar and wind potential, the Africa Case envisions nearly 10 GW of additional capacity.

SDG 7.3: Basic energy efficiency policy can offset demand growth

Average annual energy intensity improvements



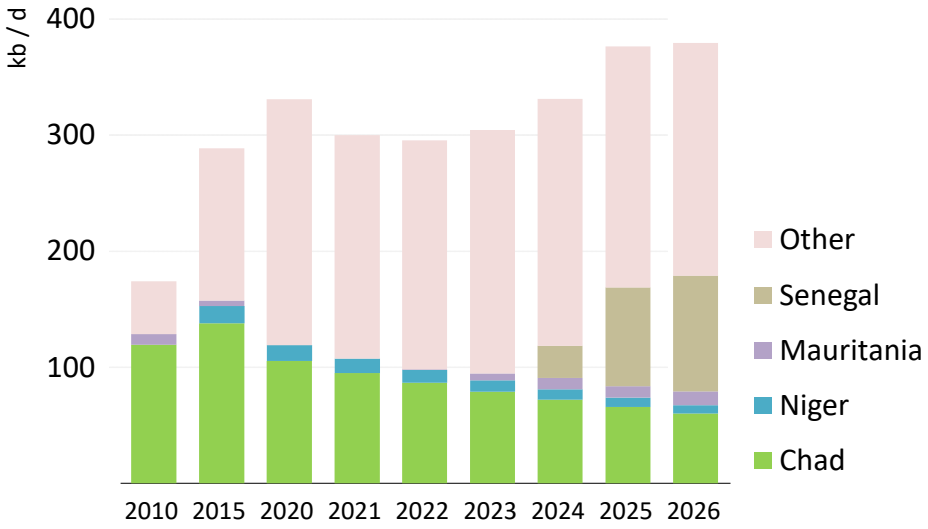
Energy consumption in transport sector



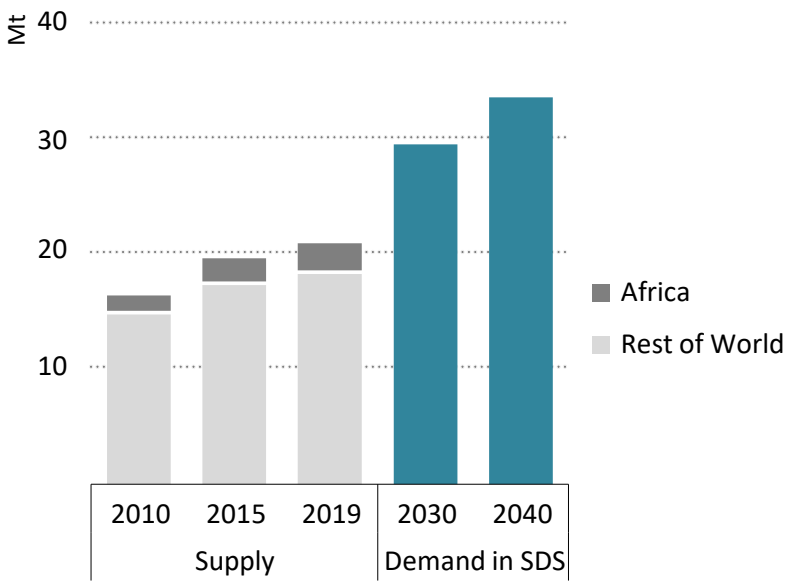
Efficiency is a key resource to develop cleaner energy systems, and the levels of improvements required are comparable to what other regions achieved. Measures can be taken in all sectors.

Global net-zero targets creates risks and opportunities for mining

Total oil supply in West Africa (excluding Nigeria)



Copper: historical supply and projected demand



Regional oil and gas resources can supply global markets as demand is to be stable in the near term. Looking further ahead, other supplies such as minerals could bring more sustainable opportunities.

Clean energy transition in Sahel needs investments to scale-up

- New international climate finance promises will be central to clean energy transitions in sub-Saharan Africa.
- Clean energy transitions will require more funds than the 100 billion USD pledged internationally.
- Infrastructure must come first: reliable electricity and transportation are needed inputs to develop industry, rural communities, and access mineral wealth
- Delivering these investments requires supporting policies in the region, which can de-risk investments, train workers and support nascent industries
- Clear policy that connects to SDGs for energy access, efficiency, and clean power will position governments to tap into climate finance and international investment
- Clean energy and access policies help governments with their primary objectives: job creation, developing a skilled workforce, addresses inequity, and reduce vulnerability to climate change