أديبك ADIPEC
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CASE STUDY

Bridging the energy access gap: Renewable energy investment in Africa

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Bridging the energy access gap: Renewable energy investment in Africa

CONTEXT

The disparity between energy access in the Global North and South is glaringly evident, with Africa exemplifying this imbalance. In 2022, 600 million Africans lacked access to electricity, with a staggering 98% of this number living in Sub-Saharan Africa[1]. Although Africa comprises 18% of the global population, it consumes less than 6% of the world's energy, much of which is diverted to export-driven oil and gas production[2].

To address the continent's urgent need for clean and secure energy, Africa requires substantial investments to drive economic growth and ensure sustainability. UAE-based renewable energy company Masdar is stepping in to help bridge this investment gap through a range of initiatives and investments. The goal is to empower African nations to unlock their full potential, secure a reliable energy supply, and improve millions of lives in an environmentally sustainable way.

BRIDGING THE INEQUITY GAP: MASDAR'S COMMITMENT TO AFRICA'S SUSTAINABLE ENERGY FUTURE

Masdar is collaborating with six African governments – Angola, Republic of Congo, Kenya, Mozambique, Uganda, and Zambia – and various organisations to initiate renewable energy projects across Africa through partnership agreements announced at COP28.

The agreements jointly aim to establish 10 GW of renewable energy capacity by 2030. As part of this commitment, Masdar will invest US$2 billion in equity capital over the next six years and

600 mn
Number of Africans without access to electricity[1]

10 GW
Amount of renewable energy facilities to be developed by Masdar in Africa by 2030[5]

US$190 bn
Amount of investment needed in Africa annually from 2026 to 2030 to meet climate objectives and energy needs[3]

10 TW
Amount of solar potential in Africa[6]

Organisations involved

- Masdar
- Republic of Angola's Ministry of Energy and Water
- Uganda's Ministry of Energy and Mineral Development
- Geothermal Development Company of Kenya
- Ministry of Energy & Hydraulics of the Republic of Congo
- Mozambique Ministry of Energy and Mineral Resources
- Pertamina Geothermal Energy (PGE) of Indonesia
- ZESCO
- International Resource Holdings

Industry

Energy

Location

West Africa

Investment

US$10 bn

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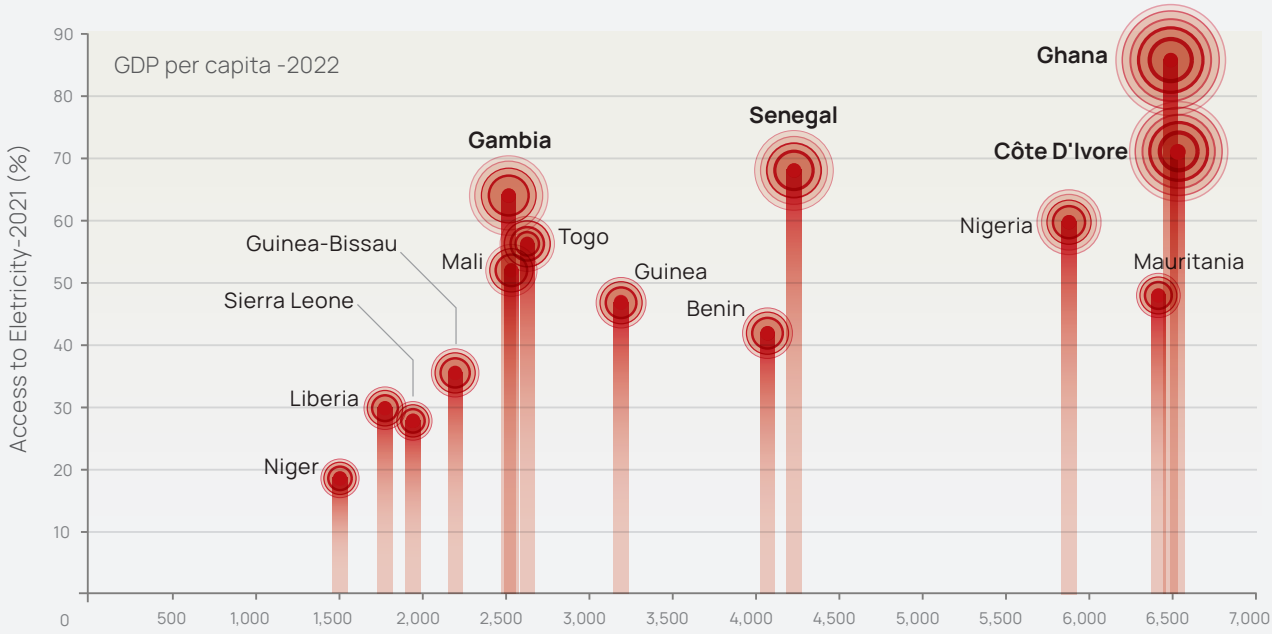
Africa: Resource-rich but energy-deficient

The continent has not been able to harness its abundant natural resources because of lack of funding, leaving almost 43% of its population, at 600 million, without access to electricity



Note: Access to electricity and GDP per capita for countries in West Africa

Source: Accelerating renewable energy investment in West Africa. Study by PWC and Masdar

mobilise about US$10 billion in renewable energy investments.

In this regard, Masdar has signed an agreement with Angola's Ministry of Energy and Water to develop a 15-megawatt (MW) solar plant to power 90,000 homes.

In Uganda, the UAE-based clean energy powerhouse signed a memorandum of understanding (MoU) to implement a 1-GW solar PV project.

In the Republic of Congo, the company is developing 500 MW of renewable energy capacity.

In Kenya, Masdar, together with PT Pertamina Geothermal and Geothermal Development Company, is investing US$1.2 billion to develop 300 MW of geothermal power by 2030.

In Mozambique, Masdar aims to develop up to 1 GW of renewable projects, powering 400,000 households and offsetting 3.8 million tonnes (Mt) of carbon emissions over a 20-year cycle life.

In Zambia, Masdar has partnered with the national electricity provider ZESCO and International Resources Holding (IRH) to reduce the carbon footprint of the country's mining industry by supplying green electricity to mines.

Despite possessing extensive energy resources – 10 terawatts (TW) of solar potential, 350 GW of hydro potential, 110 GW of wind, and approximately 15 GW of geothermal energy – Africa has struggled to fully harness its clean energy sources to achieve energy independence and security due to the lack of financing.

Although Africa is home to 60% of the world's optimal solar resources, its installed solar PV capacity is a mere 1%. According to the International Energy Agency (IEA), achieving universal electricity

access in Africa by 2030 would require nearly doubling the continent's total generation capacity from 260 GW (currently representing 3% of global capacity) to 510 GW. The IEA estimates that renewables could meet 80% of this demand.

To meet Africa's energy and climate objectives, energy investment must more than double over this decade. This would require an annual investment exceeding US$190 billion from 2026 to 2030, with two-thirds allocated to clean energy[3].

Innovative policy actions and international collaboration, such as the one between Masdar and African public and private entities, are crucial to transforming Africa's energy landscape. These efforts are essential in bridging the gap between the Global North and South, ensuring equitable economic development, and providing energy access to every corner of the globe, leaving no one behind.

Concessional capital too can act as a catalyst for project development and private investment. Alongside improvements in policy and regulation, concessional capital of around US$28 billion per year is needed to mobilise the US$90 billion of private sector investment by 2030 in the Sustainable Africa Scenario[4].

Timely investments can bridge the global energy divide and ensure that no one is left behind. Masdar's investment in Africa is a step in this direction.

> As the largest pure-play renewable energy company on the continent, we are proud of our long-term partnerships, and we look forward to developing an important pipeline of clean energy projects, working for Africa, with Africa.

Mohamed Jameel Al Ramahi,
Chief Executive Officer, Masdar

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