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Windhoek, Republic of Namibia
6–10 November 2023

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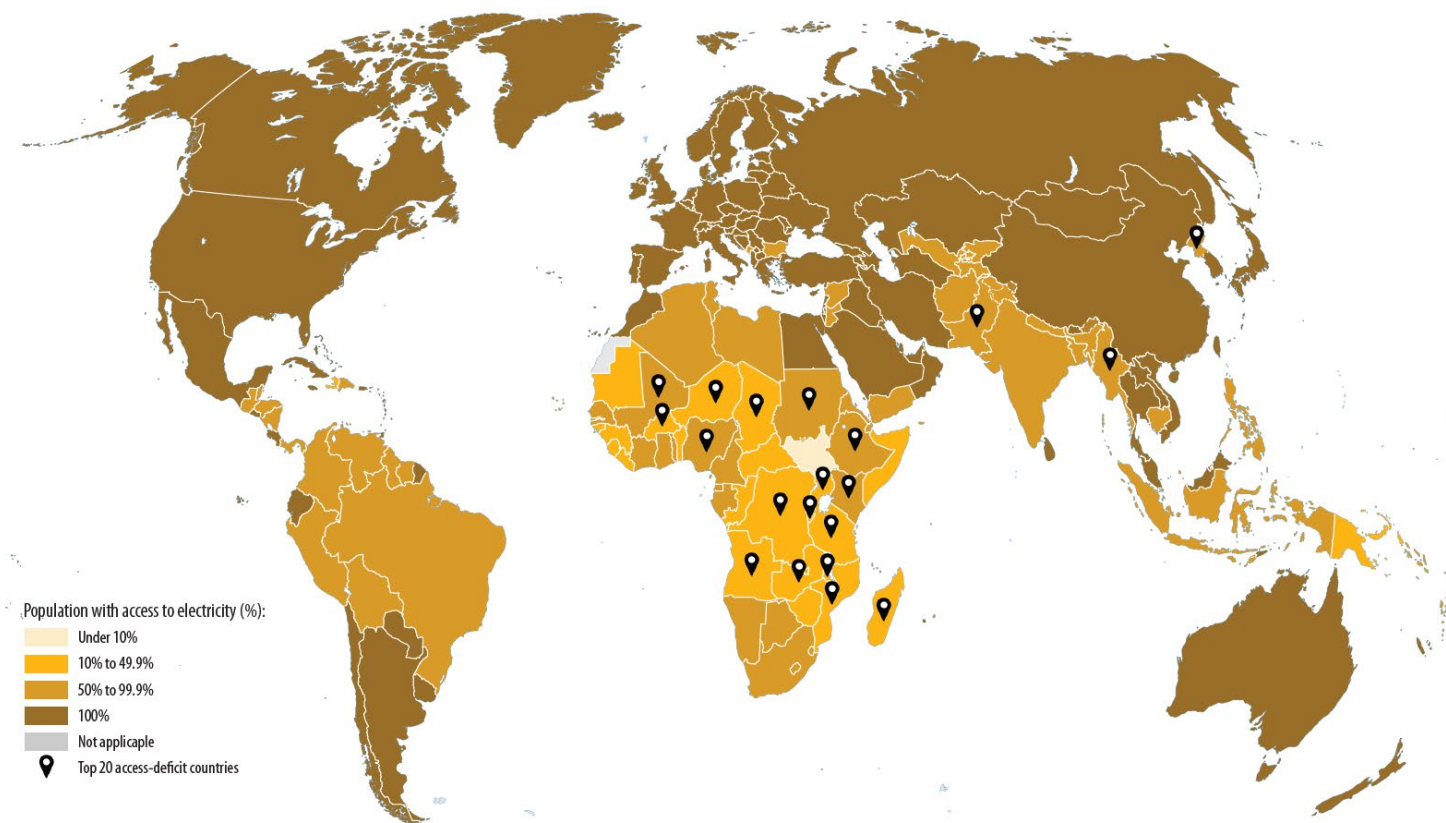
Africa- Energy Generation and Access Opportunities

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Windhoek, Republic of Namibia
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Status of Energy Access in Africa

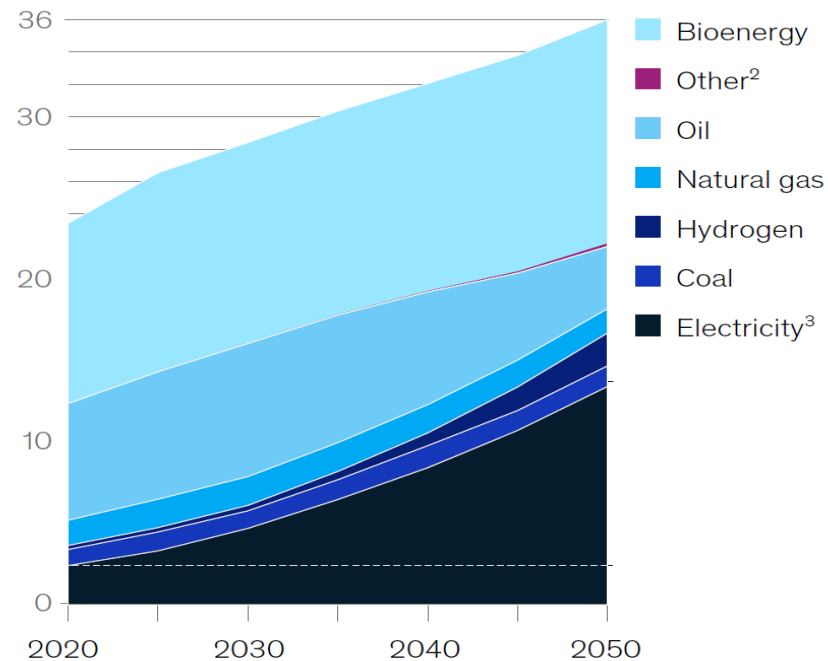


- ✓ **600 million people** lack access to electricity, most of them in sub-Saharan Africa.
- ✓ If no additional efforts and measures are put in place, some **560 million in Sub-Saharan Africa will remain unserved in 2030** (*IEA 2022*)
- ✓ In Sub-Saharan Africa, the number of people without access was roughly the same in 2021 as in 2010.
- ✓ Access gap highest in remote and rural areas.
- ✓ 60 percent of the population in Sub-Saharan Africa is projected to lack access to clean cooking in 2030

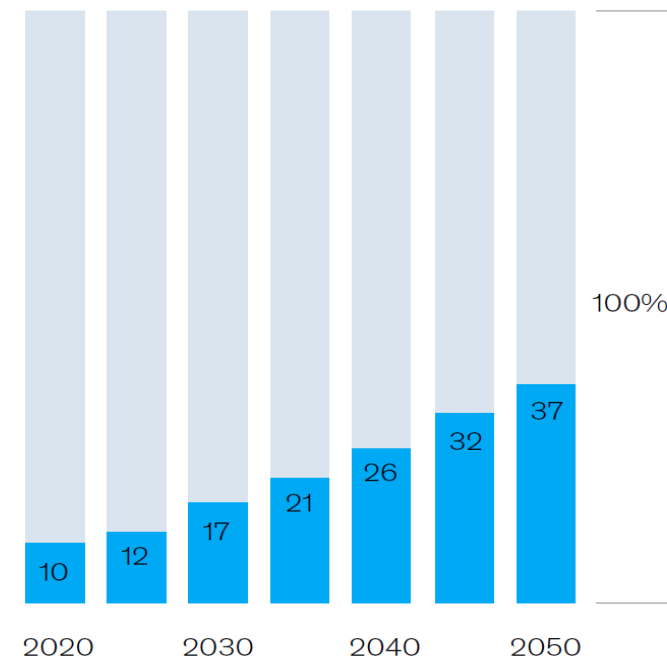
Energy Demand in Africa

Africa's electricity consumption is projected to grow sixfold by 2050.

Final energy consumption per fuel type,¹
million terajoules



Electricity in final consumption,
% share



Key issues- Hardest to reach :

- ✓ Limited paying capacity
- ✓ Low population densities
- ✓ Weak utility creditworthiness
- ✓ Absence of grid infrastructure

¹In Africa in Achieved Commitments scenario.

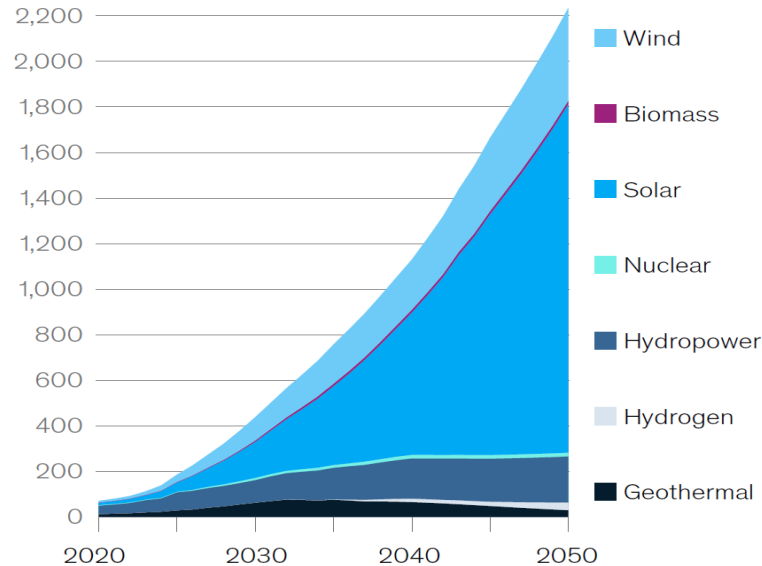
²Other includes heat, other renewables, solar, and synthetic fuels.

³Includes all renewable-generated electricity (including nuclear), as well as conventionally generated electricity (gas, oil, coal).

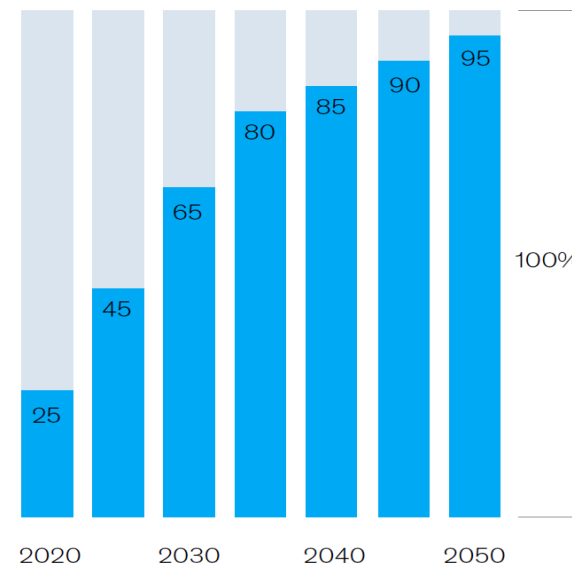
Source: Global Energy Perspective 2022, McKinsey Energy Insights

Projected RE Capacity in Africa

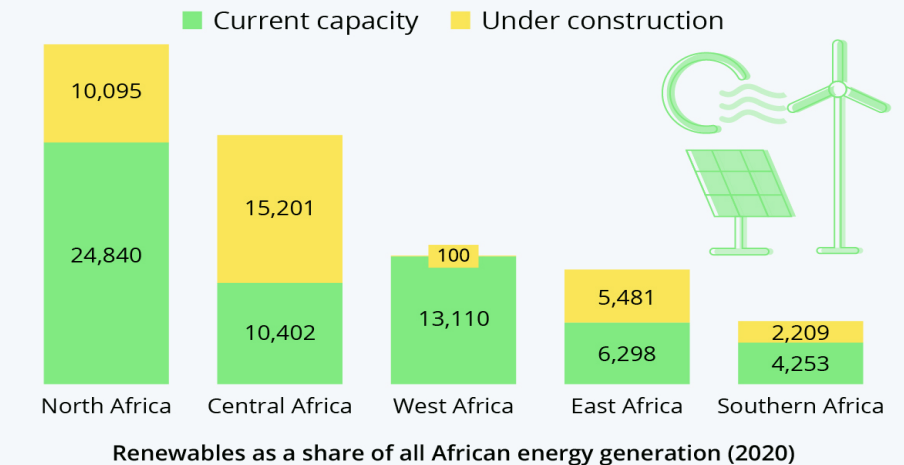
Projected installed renewable power capacity,¹ gigawatts



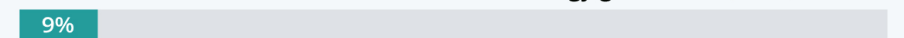
Projected installed renewable power,² % share of renewables



Current/under construction capacity of African renewable energy projects in 2021, by region (in MW)



Renewables as a share of all African energy generation (2020)



Source: PwC

¹In Africa in Achieved Commitments scenario.

²Includes solar, wind, hydropower, biomass, nuclear, geothermal, and hydrogen-fired gas turbines.

Source: Expert interviews; *Global Energy Perspective 2022*, McKinsey Energy Insights; McKinsey Power Solutions

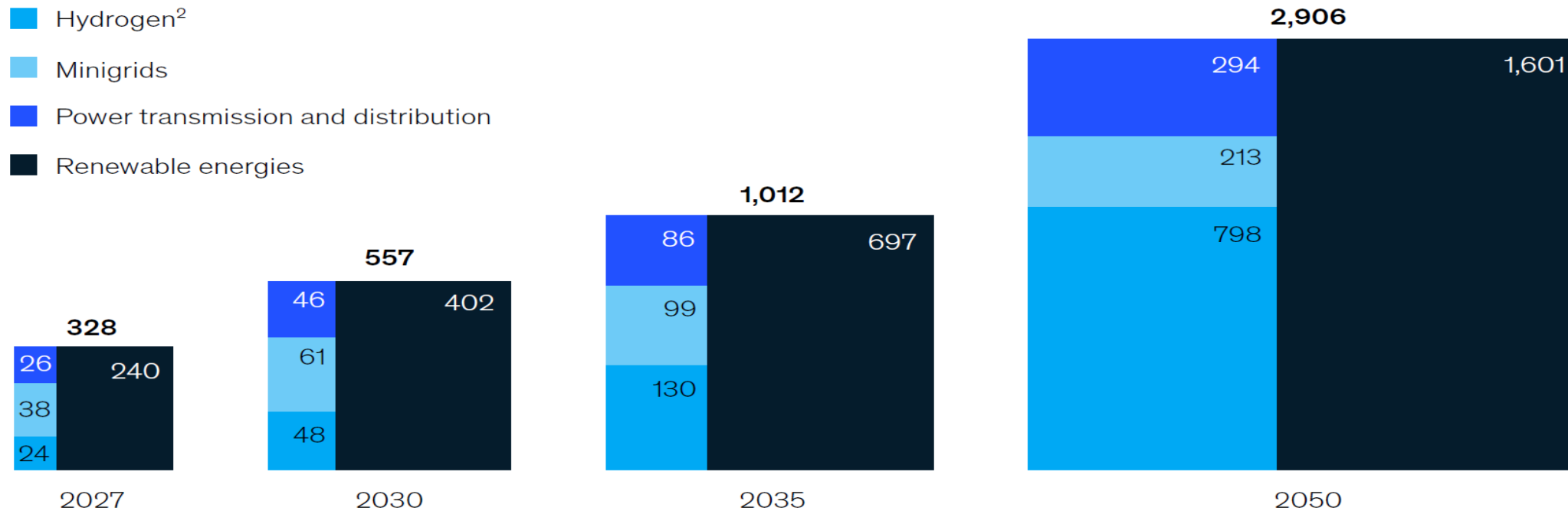
- ✓ Despite highest quality RE resource, only 9% of all energy generated in Africa came from renewable (over 24GW), with a strong reliance (6.8 percent) on hydropower.
- ✓ Africa's estimated RE potential is 1,000 times larger than its projected demand for electricity in 2040.
- ✓ Cost of capital for utility-scale clean energy generation projects in Africa is at least two to three times higher than other regions.

Investment needs for Energy Transition in Africa



Just under \$3 trillion of cumulative capital expenditure would be required to shift Africa's energy landscape.

Cumulative expected investment,¹ \$ billion



¹In Africa in Achieved Commitments scenario.

²Hydrogen assets include the related renewables build-up (47%), electrolyzer and production assets (31%), and transmission and distribution (22%).

Challenges to Financing Clean Energy in Africa



- ✓ By 2030, an investment of nearly USD 25 billion per year is required to ensure modern energy for all
- ✓ Affordability constraints make it less likely that projects will be commercially viable
- ✓ Despite the limited technology risk, the cost of capital for clean energy generation projects is very high, which pushes up the cost of electricity for consumers
- ✓ Mismatch between the type of capital available and the needs of Africa's emerging clean energy sector
- ✓ Nascent markets, the regulatory environment
- ✓ Most of the countries with rising debt have higher payment risks from state-owned utilities
- ✓ High political and security risks in fragile states





GCF's investments in Africa

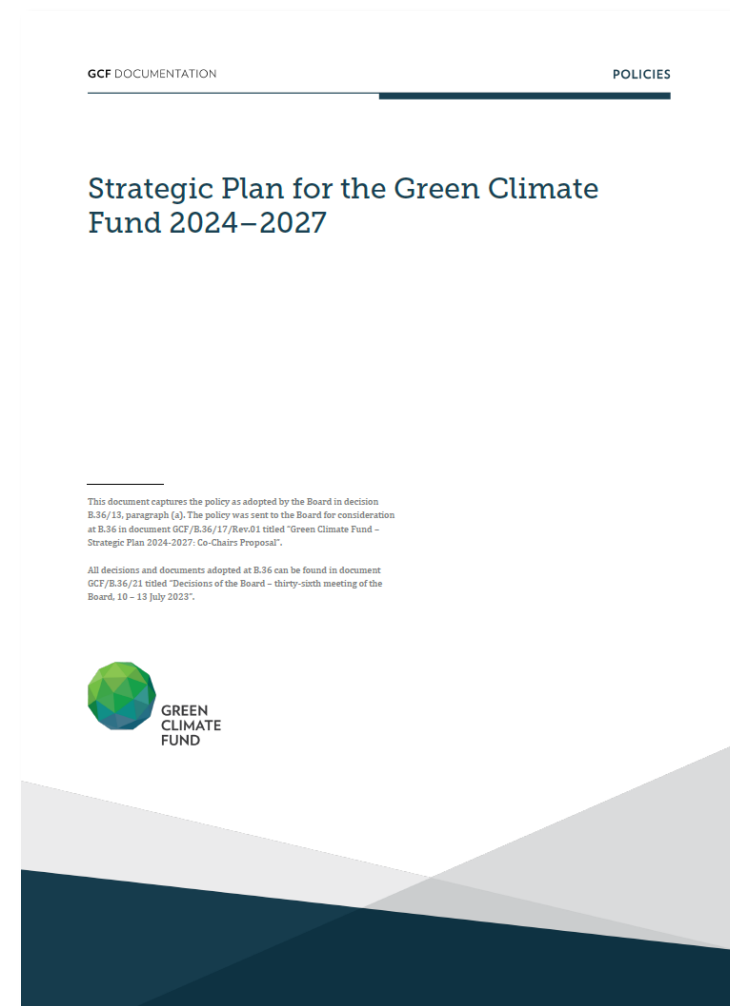
Existing GCF portfolio

Total 38 Energy Projects (24 in Africa, \$2.8B) with 3.81B GCF's funding

- ✓ 15 public sector projects with 1.38B GCF's funding
- ✓ 23 private sector projects with 2.42B GCF's funding
- ✓ 20 mitigation projects with 2.42B GCF's funding (Africa \$1.81 B)
- ✓ 18 crosscutting and adaptation projects with 1.94B GCF's funding
- ✓ 60% funding for non LDC and SIDs countries
- ✓ 9 projects with >50% disbursement
- ✓ 5 projects with reported results

What does USP2 require?

- Updated Strategic Plan (2024-27) Results (Energy Transition): *20 to 30 developing countries supported to expand access to sustainable, affordable, resilient, reliable renewable energy, particularly for hardest to reach, and/or to increase renewable energy sources in the energy mix.*
- *Other related priorities:*
 - Doubling the number of Direct Access Entities with projects
 - Enhanced access to early-stage capital for MSMEs and startups (adaptation and energy access)
 - Smallholders helped to adopt low-emission, and climate resilient agriculture and fisheries
 - Green financing institutions established
 - Local FIs engaged to expand access to green finance





Opportunities for USP 2 in Africa

Transformational Opportunities for USP2

Human Centric | Mitigate and Adapt | Drive Development | People and Planet



1. Enhance energy access-hardest to reach

(Africa and SIDS)

- Basic services (health, education, water)
- Irrigation and agriculture value-chain
- Livelihood applications



2. Create markets - First GW of RE

(Countries with high-potential, low market development)

- Local Finance Initiative financing
- Policy support
- Capacity building of private developers



3. Path to Net-zero- 50% RE by 2030

(Countries with >15% RE penetration)

- Grid flexibility
- System friendly procurement
- New Smarter demand
- Distributed RE



4. Hard to Abate- demonstrate solutions

(Countries with high industrial demand)

- Green Hydrogen
- Thermal RE
- Sectoral strategies and mandates



Thank you

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