



Mozambique

Africa

Ease of doing Solar classification



Influencer

Electricity Consumption in kWh/capita (2020)

569.5

Average PVout in kWh/kWp/day (2020)

4.4

Cumulative Solar Capacity in MW (2021)

55.0

Getting Electricity Score (2020)

71.7

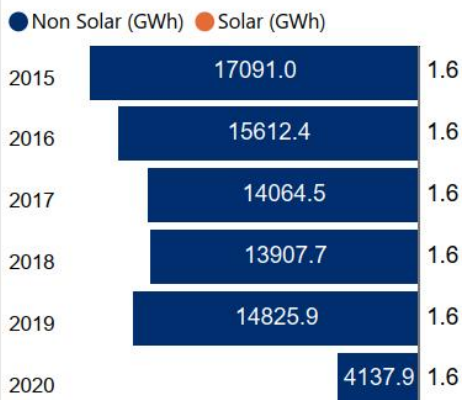
NDC Target by 2025 in MtCO₂e

40.0

Human Development Index (2021)

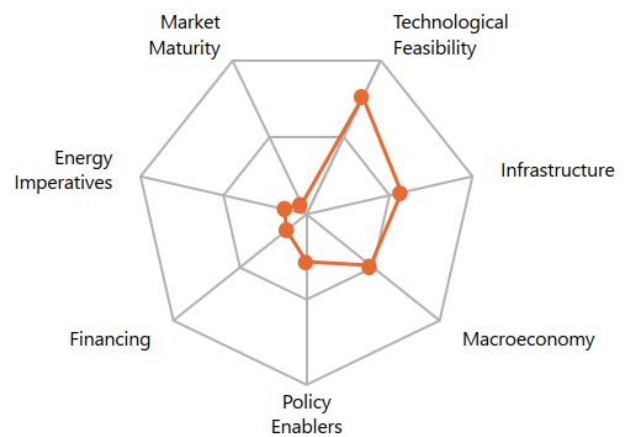
0.4

Renewable Energy Generation by Source

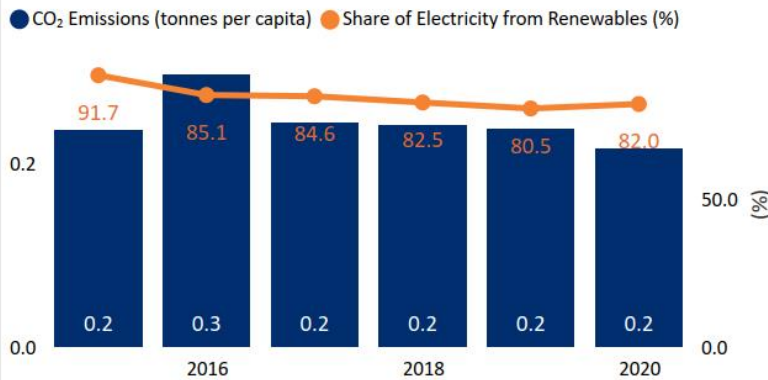


Non Solar RE includes Wind and Hydro;

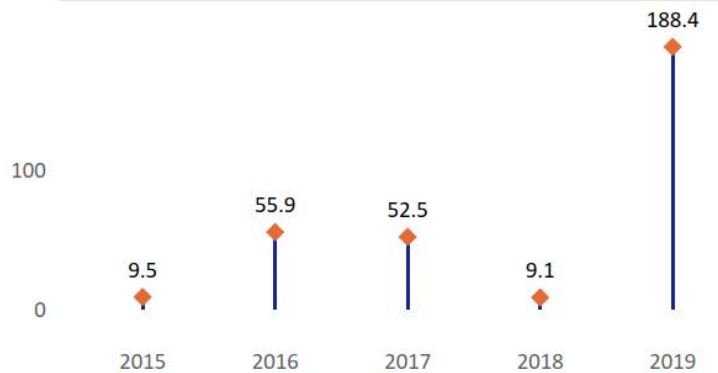
Performance against 7 Drivers



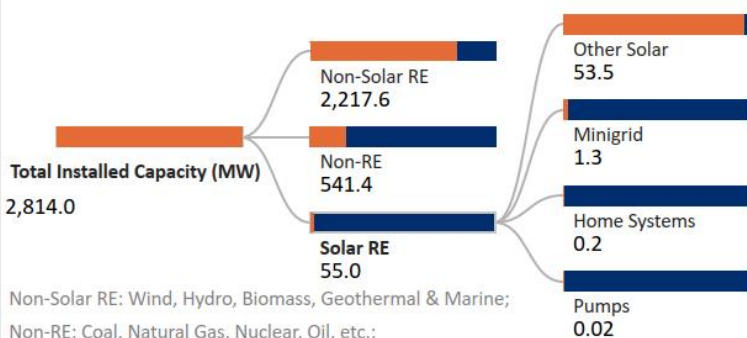
CO₂ Emissions vs Electricity share from Renewables



International Finance received for Clean Energy (Million US Dollars)



Installed Capacity by Source (2019)



Non-Solar RE: Wind, Hydro, Biomass, Geothermal & Marine;

Non-RE: Coal, Natural Gas, Nuclear, Oil, etc.;

Other Solar: Utility Scale Solar, Rooftop etc.;

Data not available for other Solar RE segments;

Support for Renewables (2020)

Feed-in-Tariffs for renewable energy supply to the grid?

Yes

Net metering/Gross metering policies and regulations?

No

Renewable Energy Certificates?

No

Renewable Purchase Obligation?

No

Average term of Solar PPAs in years (2021)	Cheapest Source of Power (2021)	Testing Facility/R&D Availability for Solar (2021)
20.0	Hydro	Yes

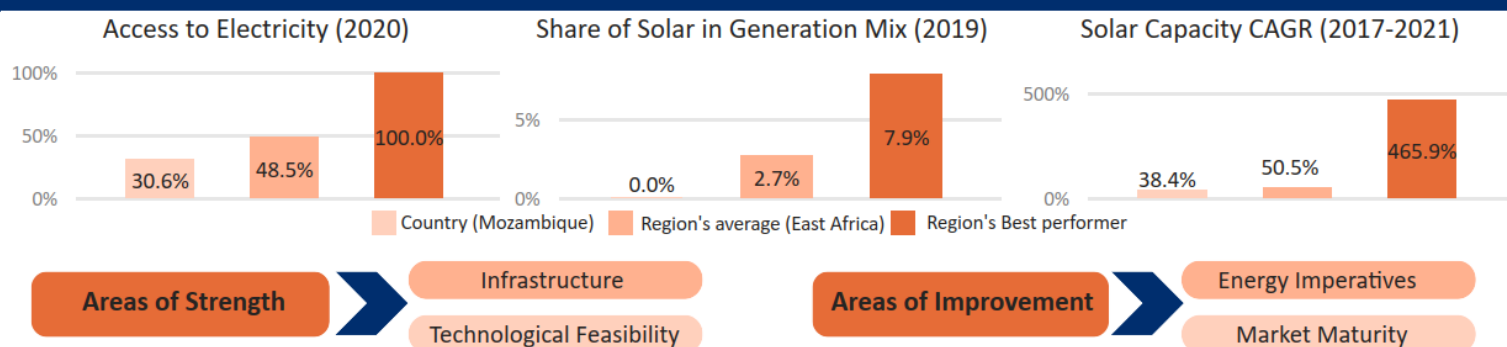
Support for Renewables (2021)	
Renewable Generation Obligations (RGO) i.e. Mandate for Non Renewable energy generators to produce electricity from Renewable sources	No
Franchising for solar business	No
Presence of regulatory framework for integrating solar generation to grid-powered electricity	Yes
Manufacturing facility for solar equipment (inverters and balance of systems)	No

Financial Support Mechanisms (2021)	
Duty waivers to solar developers for importing/procuring material from foreign land	Yes
Tax waivers for manufacturers of raw materials (modules, off grid appliances, etc.)	Yes
Credit facilitation for solar energy from financial institutions (FIs)	Yes
Viability Gap Funding (VGF) i.e. Grant to support RE projects that are economically justified but fall short of financial viability	No
Accelerated Depreciation benefit for Industrial/commercial users of Solar Power	No

Policies/Schemes for Solar Segments (2021)								
Rooftop Solar	Solar Mini Grids	Standalone solar systems	Utility scale solar	Solar Parks	Floating Solar	Solar heating and cooling system	Battery waste management	Green Hydrogen
No	Yes	No	No	No	No	No	No	No

Emerging Technologies/Innovative Models (2021)	
Hybrid technologies - combination of two or more technologies to achieve efficient systems (Example: wind + solar PV hybrid systems, solar + storage systems)	No
Emerging technologies - the next generation technologies (Example: Artificial Intelligence, Machine learning, Internet of Things, etc.)	No
E-mobility/Electric vehicles	No

Country's regional performance and characteristics



Key Insights

Drivers

Insights



Macro-economy

- Mozambique is a low-income country with a GDP per capita (PPP) of USD 1,348 in 2021. ^{1, 2}
- GDP (Real) grew at an annual rate of 2.2% in 2021 and it is estimated to grow by 3.8% in 2022. ³
- The inflation rate in the country increased to 5.7% in 2021 from 3.1% levels in 2020. ⁴
- The fiscal deficit in the country narrowed down to 6.0% of GDP in 2021 from 7.0% levels in 2020. ⁴



Policy enablers

- The Ministry of Mineral Resources and Energy (MIREME) is responsible for planning the national energy strategy and policy for supervising the operation and development of the energy sector. ⁵
- The National Directorate of Energy (DNE) is the central technical body within the MIREME responsible for the analysis, preparation, roll-out of energy policies and licensing of electrical installations. ⁵
- The National Energy Fund (FUNAE) aims to grant financial loans for energy production, equipments, and techniques related to the production, distribution, and conservation of energy. ⁶
- Mozambique provides specific policies/schemes for Solar Mini Grids in the country. ¹⁸



Technological Feasibility

- Mozambique receives high levels of solar irradiation of 5.3 kWh/m²/day and a specific yield of 4.4 kWh/kWp/day indicating strong technical feasibility for solar in the country. ⁷
- The UN Environment program is currently active in Mozambique and is working towards introduction of electric light duty vehicles. ⁸



Market Maturity

- 30.6% population in Mozambique had access to electricity as of 2020. ⁹
- The ARENE, is the Energy Regulatory Authority functioning as a regulator for the generation, transmission, and sale of electricity. ⁵
- Electricidade de Moçambique (EDM), a state-owned and vertically integrated utility, is responsible for the generation, procurement, transmission, distribution, and sale of electricity. ⁵
- The average duration or term of Power Purchase Agreements (PPAs) for Solar PV Projects in Mozambique is 20 years. ¹⁸



Infrastructure

- As of 2019, Mozambique's transmission network comprised of about 8,310 km of lines and 77 sub-stations ranging between the 66 kV to ±533 kV high voltage direct current (HVDC) levels. ¹⁰
- Mozambique has cross-border interconnections with South Africa, Zimbabwe, and Swaziland. The interconnections with South Africa are established via ±533 kV HVDC, 400 kV, 275 kV, and 110 kV lines. ¹⁰
- In the distribution segment, EDM owns 19,495 km of medium voltage lines, 24,311 km of low voltage lines, and 12,277 transformer stations. ¹⁰



Financing

- International Finance Corporation (IFC) announced a financing package of USD 55 Mn to build Mozambique's first utility-scale solar PV plant, which will help increase the country's climate resilience and deliver power to rural areas. ¹¹
- In Mozambique, AfDB finances UA 25.9 Mn for Mozambique Energy for ALL (MEFA) program that aims to increase the stability of the Mozambican power system. ¹²
- The Sustainable Energy Fund for Africa (SEFA) has approved a USD 740,000 technical assistance grant to enhance the private investments in the RE sector. ¹³



Energy Imperatives

- In 2020, Mozambique per capita electricity consumption stood at 0.57 MWh, which is significantly lower in comparison to the global average of 3.31 MWh. ¹⁶
- The total installed capacity in the country stood at 2,814 MW in 2019. ¹⁴
- The total installed capacity of Solar PV witnessed a CAGR of 38.4% between 2017-2021 reaching 55 MW in 2021 from 15 MW levels in 2017. ¹⁵
- The price of electricity in the country was 10.4 US Cents/kWh as of 2019. ¹⁷