



Namibia

Africa

Ease of doing Solar classification



Influencer

Electricity Consumption in kWh/capita (2020)

417.2

Average PVout in kWh/kWp/day (2020)

5.4

Cumulative Solar Capacity in MW (2021)

145.0

Getting Electricity Score (2020)

78.3

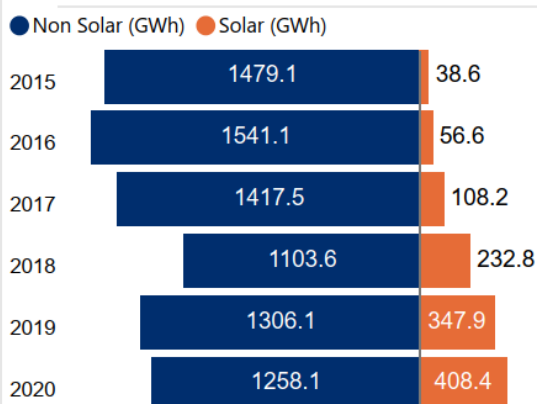
NDC Target by 2030 in %

91.0

Human Development Index (2021)

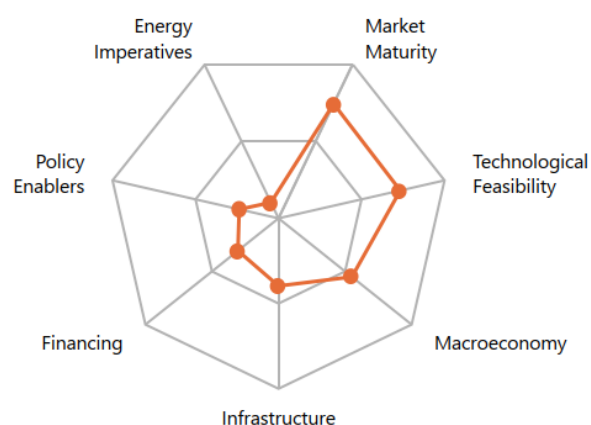
0.6

Renewable Energy Generation by Source

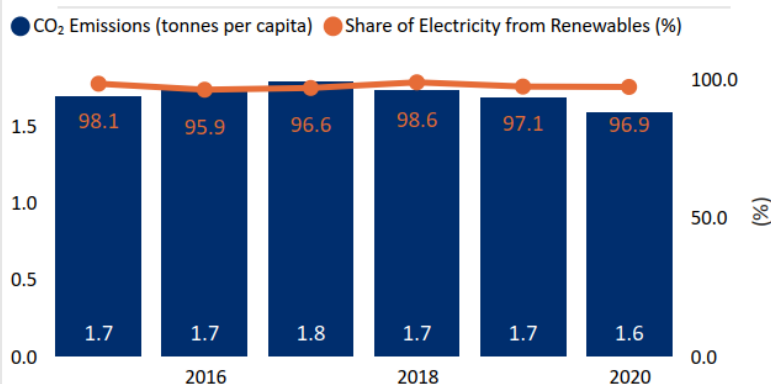


Non Solar RE includes Wind and Hydro;

Performance against 7 Drivers



CO₂ Emissions vs Electricity share from Renewables



Fiscal Incentives & Public Financing for Renewables (2020)

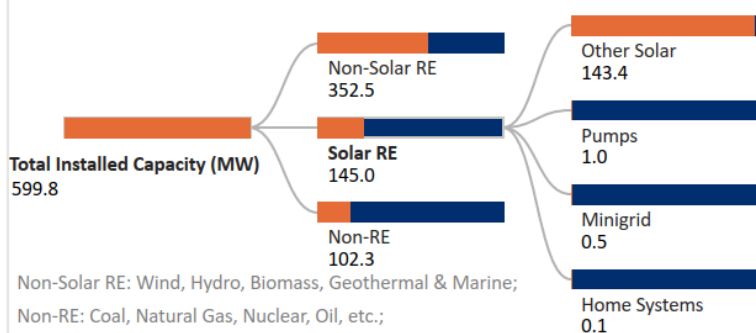
Investment or production tax credits?

No

Public investment, loans, grants, capital subsidies or rebates?

No

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?

No

Net metering/Gross metering policies and regulations?

No

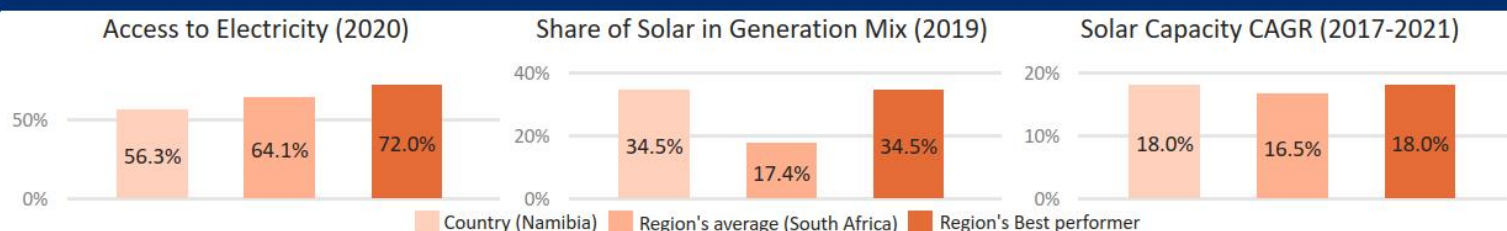
Renewable Energy Certificates?

No

Renewable Purchase Obligation?

No

Country's regional performance and characteristics



Areas of Strength

Market Maturity
Technological Feasibility

Areas of Improvement

Energy Imperatives
Policy Enablers

Key Insights

Drivers

Insights



Macro-economy

- Namibia is an upper-middle-income country with a GDP per capita (PPP) of USD 10,039 in 2021. ^{1, 2}
- GDP (Real) grew at an annual rate of 0.9% in 2021 and it is estimated to grow by 2.8% in 2022. ³
- The fiscal deficit is estimated at 8.1% of GDP in 2021 due to COVID-19 related spending and lower revenues. ⁴
- Total public debt in the country is estimated at 57.8% of GDP in 2021. ⁴



Policy enablers

- The Ministry of Mines and Energy (MME) is responsible for developing energy policy and approving licenses as recommended by the Electricity Control Board (ECB). ⁵
- NamPower, the country's power utility, has set an ambitious target of generating 70% of the country's electricity from renewable sources by 2030. ⁶
- In 2015, Namibia started the RE FIT programme for biomass, solar PV, and wind projects. ⁷



Technological Feasibility

- Namibia receives very high levels of solar irradiation of 6.3 kWh/m²/day and a specific yield of 5.4 kWh/kWp/day indicating strong technical feasibility for solar in the country. ⁸
- Namibia receives an average of 3,876 hours of sunlight per year. It is sunny 88.4% of daylight hours, and 11.6% of daylight hours are likely cloudy or with shade, haze, or low sun intensity. ⁹
- The United Nations Development Programme (UNDP) in Namibia in collaboration with UNICEF Namibia launched the Vehicle-Grid-Integration (VGI) and Electric Vehicle (EV) project. ¹⁰



Market Maturity

- 56.3% population in Namibia had access to electricity as of 2020. ¹¹
- NamPower, the national electricity utility, is a state-owned company with a mandate to generate, trade, transmit, import, export, and distribute electricity. ¹²
- The Electricity Control Board (ECB) is a statutory regulatory authority to exercise control over the electricity supply industry with the main responsibility of regulating electricity generation, transmission, and distribution. ¹³
- Regional Electricity Distributors (REDs) are autonomous companies that manage the distribution of power to electricity consumers in a specified region of the country. ⁵



Infrastructure

- NamPower owns a world-class transmission system and network of 132 kV to 400 kV of overhead power lines spanning more than 25,000 km. ¹⁴
- A twin-circuit 220 kV transmission line from Walmund near Swakopmund to Rossing has been recently commissioned. ¹⁵
- A 400 kV line will be built from Kunene to the existing Omatando substation that will significantly increase the power supply capacity to Oshakati, Ondangwa. ¹⁶



Financing

- The AfDB Group's Country Strategy Paper (CSP) 2020-2024 for Namibia lays out the strategy that will guide the bank to support the country for the achievement of sustainable and inclusive growth. ¹⁷
- The AfDB approved USD 129.4 Mn loan to finance the Namibia Economic Governance and Competitiveness Support Programme. ¹⁸



Energy Imperatives

- In 2020, Namibia's per capita electricity consumption stood at 0.42 MWh, which is significantly lower in comparison to the global average of 3.31 MWh. ²¹
- The total installed capacity in the country stood at 599.73 MW in 2019. ¹⁹
- The total installed capacity of Solar PV witnessed a CAGR of 18% between 2017-2021 reaching 144.9 MW in 2021 from 74.8 MW levels in 2017. ²⁰
- The price of electricity in the country stood at 13.5 US Cents/kWh as of 2019. ²²