Djibouti

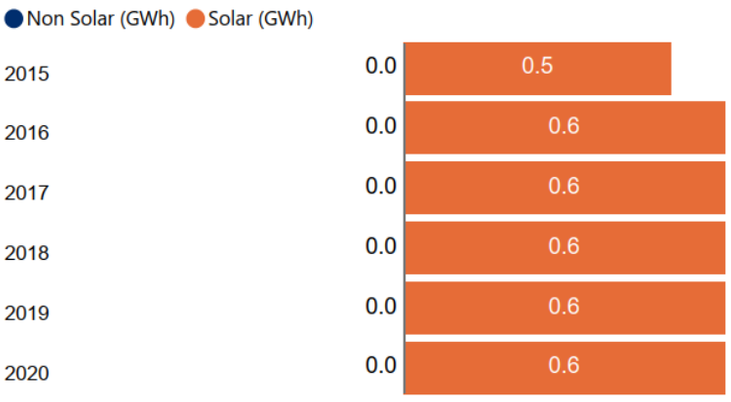
Africa

Ease of doing Solar classification

Influencer

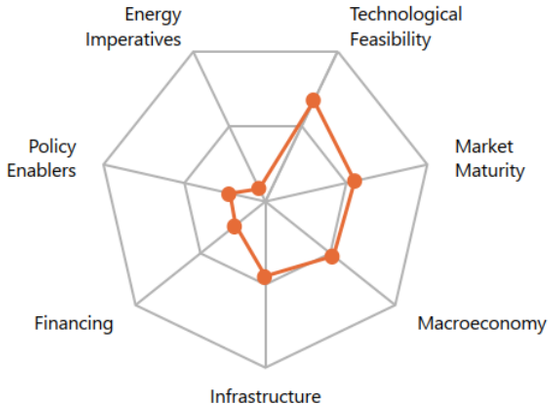
Electricity Consumption in kWh/capita (2020)	Average PVout in kWh/kWp/day (2020)	Cumulative Solar Capacity in MW (2021)
50.6	**4.8**	**0.4**
Getting Electricity Score (2020)	**NDC Target by 2030 in % (base year 2010)**	**Human Development Index (2021)**
64.6	**40.0**	**0.5**

Renewable Energy Generation by Source

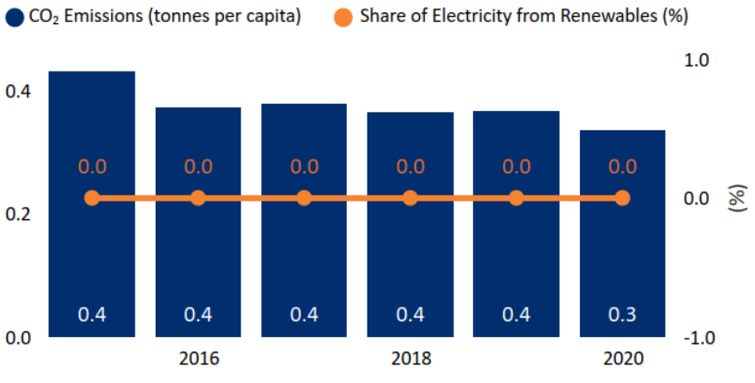


Non Solar RE includes Wind and Hydro;

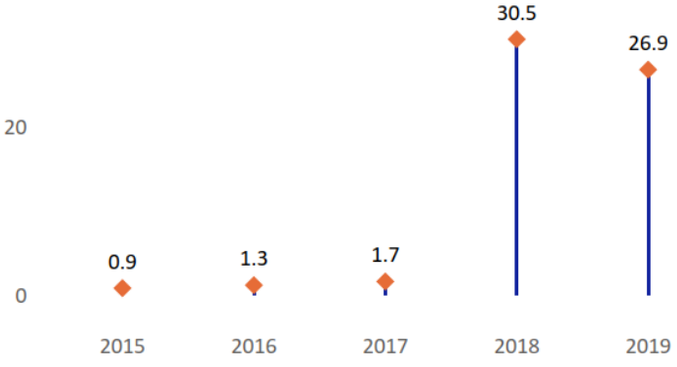
Performance against 7 Drivers



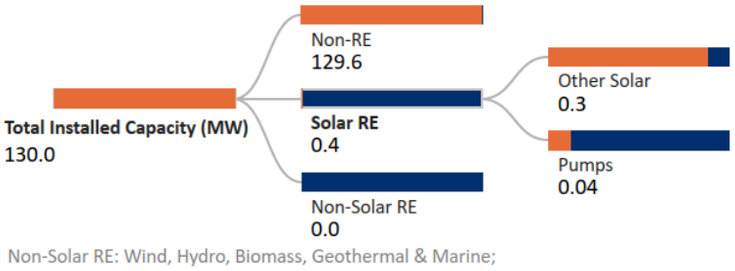
CO_2 Emissions vs Electricity share from Renewables



International Finance received for Clean Energy (Million US Dollars)



Installed Capacity by Source (2019)



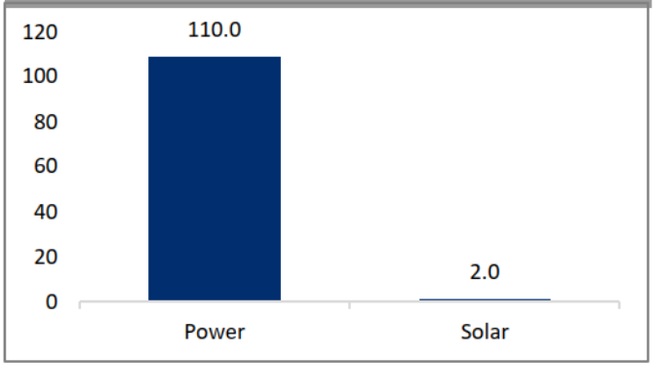
Non-Solar RE: Wind, Hydro, Biomass, Geothermal & Marine;
Non-RE: Coal, Natural Gas, Nuclear, Oil, etc.;
Other Solar: Utility Scale Solar, Rooftop etc.;
Data not available for other Solar RE segments;

Support for Renewables (2020)

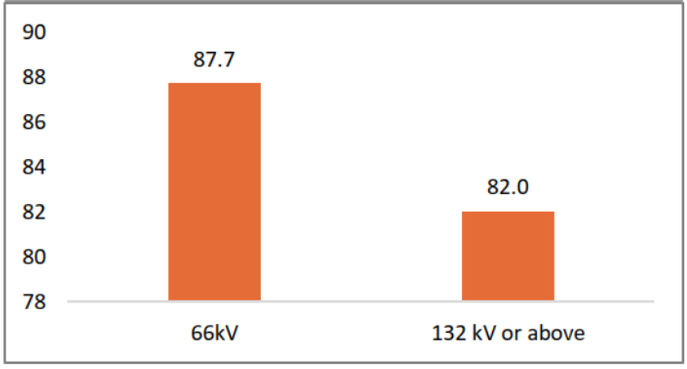
Feed-in-Tariffs for renewable energy supply to the grid?	Net metering/Gross metering policies and regulations?
No	**No**
Renewable Energy Certificates?	**Renewable Purchase Obligation?**
No	**No**

Peak Demand in MW (2021)	Electricity Consumption CAGR in % (2022 - 2026)	Average term of Solar PPAs in years (2021)
132.1	7.5	25

Electricity Generation in GWh (2021)



Transmission Lines in ckm (2021)

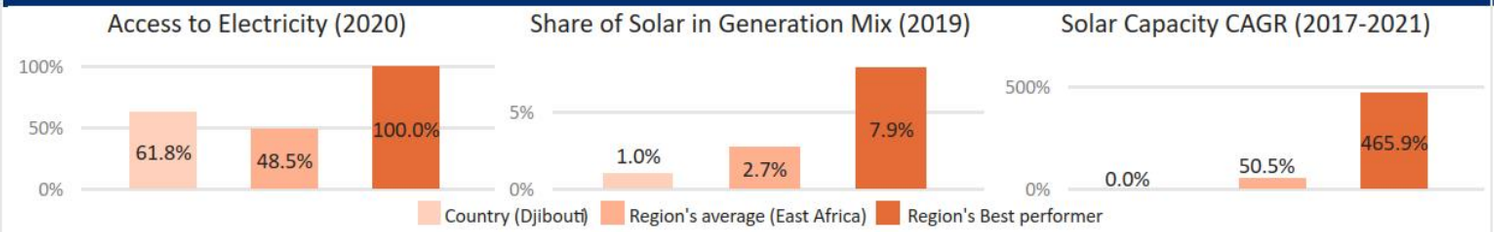


Financial Support Mechanisms (2021)	
Duty waivers to solar developers for importing/procuring material from foreign land	Yes
Tax waivers for manufacturers of raw materials (modules, off grid appliances, etc.)	No
Credit facilitation for solar energy from financial institutions (FIs)	No
Viability Gap Funding (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 manage ment	Green Hydrogen
No	No	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)	Yes
Emerging technologies - the next generation technologies (Example: Artificial Intelligence, Machine learning, Internet of Things, etc.)	No
E-mobility/Electric vehicles	Yes

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	•Djibouti is a lower middle-income country [1] with GDP per capita (PPP) of USD 5,398 in 2021.[2] •GDP (Real) grew at an annual rate of 4% in 2021 and it is estimated to grow by 3% in 2022. [3] •Inflation rate in the country increased to 1.2% in 2021 from 0.3% levels in 2020. [4] •Total public debt in the country declined to 67.7% of GDP in 2021 from the levels of 73.1% in 2020. [4]
Policy enablers	•The country aims to reduce its GHG emissions to 40% by 2030 and to achieve a 100% green energy mix by 2025. [4] •Djibouti has set a target to increase the share of solar to 10% in the energy mix by 2024. [5] •Djiboutian Agency for Energy Management (ADME) is responsible to promote energy efficiency and renewable energy in the country. [6] •The National Energy Commission is responsible to implement and monitor the Djibouti National Energy Master Plan. [6]
Technological Feasibility	•Djibouti receives very high levels of solar irradiation of 5.9 kWh/m^2/day and specific yield of 4.8 kWh/kWp/day indicating a very strong technical feasibility for solar in the country.[7] •The country typically receives 12 hours of sunlight per day indicating a strong potential of Solar. [5] •The project 'Promotion of better access to modern energy services through sustainable mini-grids and hybrid technologies in Djibouti' focuses on improving access to modern energy services through sustainable mini-grids in the country. [8]
Market Maturity	•61.8% population in Djibouti is having access to electricity since 2020. [9] •Ministry of Energy and Natural Resources (MERN) is responsible for designing and developing government policies on energy and natural resources. [6] •Electricity of Djibouti (EdD) is a state-owned utility and has a monopoly on electricity generation, transmission and distribution. [6] •On a regional level, the country is a member of the East African Power Pool. [10]
Infrastructure	•The expected investment in the Transmission & Distribution Infrastructure over (2022-2026) is USD 28.9 Mn. [5] •In 2021, the construction of 230 kV double circuit transmission line from Semera (Ethiopia) to Nagad (Djibouti) with line length of 292 km (102 km in Ethiopia and 190 km in Djibouti) has been initiated in the country. [11]
Financing	•In 2022, the African Development Fund has approved USD 5.5 Mn grant to initiate the flagship 'Desert to Power initiative' in Djibouti. [12] •In 2021, the AfDB approved USD 83.6 Mn to boost cross-border trade in electricity between Ethiopia and Djibouti. [13] •In 2022, the World Bank approved the 'Djibouti-Power System Interconnection Project', which aims to enhance regional connectivity through improved low-cost and clean electricity transmission between Ethiopia and Djibouti. [14]
Energy Imperatives	•The total installed capacity in the country stood at 130 MW in 2019. [15] •The installed capacity of solar mini grids is 0.6 MW as of 2021. [5] •In 2020, the per capita electricity consumption stood at 0.05 MWh which is significantly lower in comparison to the global average of 3.31 MWh. [16] •The price of electricity in the country was 25.5 US Cents/kWh as of 2019. [17]