Gambia

Africa

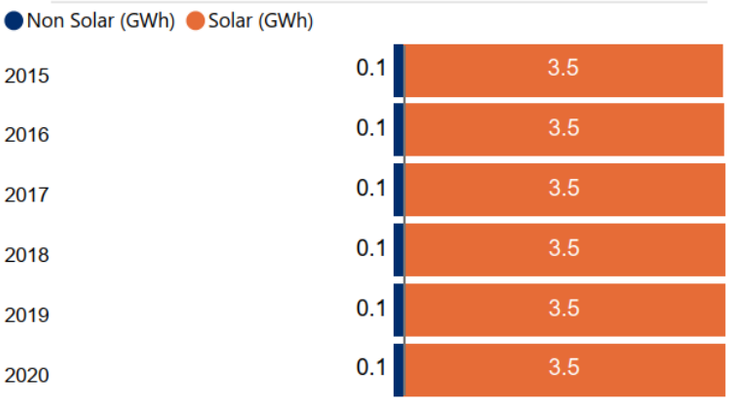
Ease of doing Solar classification

Influencer

Electricity Consumption in kWh/capita (2020)	Average PVout in kWh/kWp (2020)	Cumulative Solar Capacity in MW (2021)
120.0	4.6	2.2

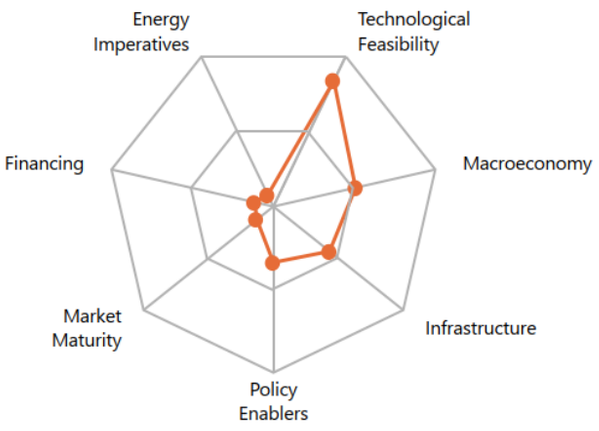
Getting Electricity Score (2020)	NDC Target by 2030 in % (base year 2005)	Human Development Index (2021)
49.6	49.7	0.5

Renewable Energy Generation by Source

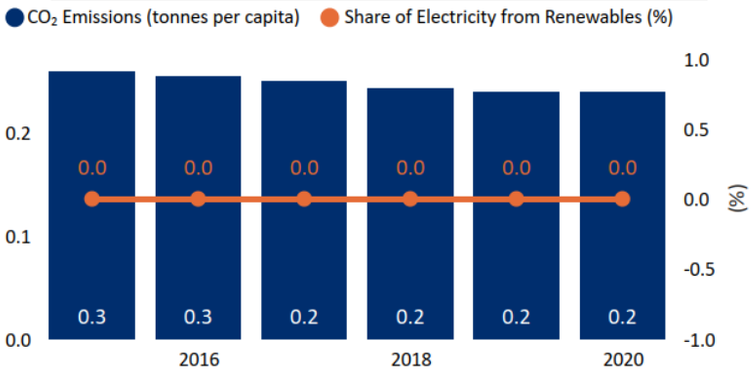


Non Solar RE includes Wind and Hydro;

Performance against 7 Drivers



CO_2 Emissions vs Electricity share from Renewables



Fiscal Incentives & Public Financing for Renewables (2020)

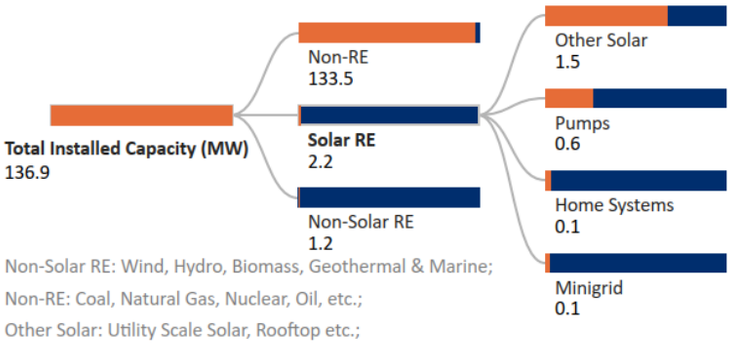
Investment or production tax credits?

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?

Yes

Net metering/Gross metering policies and regulations?

No

Renewable Energy Certificates?

No

Renewable Purchase Obligation?

No

Threshold for licensing Solar Power in MW (2013)	Average Term of Solar PPAs in years (2021)	Testing Facility/R&D Availability for Solar (2021)
1.5	20.0 to 25.0	No

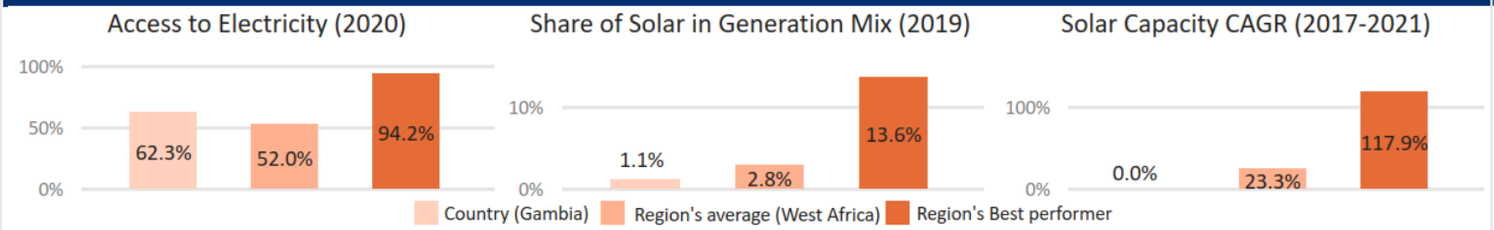
Support for Renewables (2021)	
Renewable Generation Obligations (RGO) i.e. Mandate for Non Renewable energy generators to produce electricity from Renewable sources	No
Franchising for solar business	Yes
Manufacturing facility for solar equipment (inverters and balance of systems)	No

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.)	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	Yes
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
Yes	Yes	Yes	Yes	Yes	No	Yes	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	No

Country's regional performance and characteristics



Areas of Strength: Macroeconomy; Technological Feasibility

Areas of Improvement: Energy Imperatives; Financing

Key Insights

Drivers	Insights
Macro-economy	•Gambia is a low-income country with GDP per capita (PPP) of USD 2,281 as of 2021. [1, 2] •GDP (Real) grew at an annual rate of 5.6% in 2021 and it is estimated to increase by 5.6% in 2022. [3] •Inflation rate in the country increased to 7.5% in 2021 from 5.9% levels in 2020 due to high energy prices and freight charges. [4] •The fiscal deficit in the country increased to 4.0% of GDP in 2021 from 2.2% levels in 2020. [4]
Policy enablers	•The Ministry of Energy (MOE) is responsible for establishing the policy and strategies for the energy sector. [5] •Power-up Gambia (PUG) has a net metering arrangement where in a utility dispatches excess solar power to the grid and draws it back at night. [6] •Renewable Energy Association of The Gambia (REAGAM) is responsible for promoting RE projects like small solar PV installations and solar thermal. [5] •The National Electricity Road Map 2017-2021 has set plans to improve power generation and transmission capacity and to reduce T&D losses. [7]
Technological Feasibility	•Gambia receives very high levels of solar irradiation of 5.7 kWh/m^2/day and specific yield of 4.6 kWh/kWp/day indicating a very strong technical feasibility for solar in the country. [8] •Gambia receives 6-7 hours of sunlight per day and on an average, 2,630 hours of sunlight per year indicating strong solar potential. [9, 18]
Market Maturity	•As of 2020, 62.3% population in Gambia had access to electricity. [11] •Public Utilities Regulatory Authority (PURA) is responsible for regulating the electricity, water, and telecommunication sectors. [5] •The National Water and Electricity Company (NAWEC) operates the transmission and distribution network and is responsible for setting electricity tariffs, administering PPAs and implementing rural electrification projects. [5] •Gambia is the member of the West African Power Pool (WAPP), which aims to integrate the national power systems into a unified regional electricity market. [12] •The average duration or term of Power Purchase Agreements (PPAs) for solar PV projects is (20 to 25) years. [18]
Infrastructure	•The transmission network consists of 250 km of 30 kV lines installed in the provincial grids plus 135 km of MV/LV lines and 94 km of LV overhead lines. [5] •Gambia plans to construct three 30 kV Transmission Lines and Distribution Networks in the North Bank and Upper River Regions. [7] •National Agricultural Research Institute (NARI) is responsible for research, development, and dissemination of RE technologies, mainly solar and biomass. [5]
Financing	•The AFDB-managed Sustainable Energy Fund for Africa (SEFA) approved a USD 995,000 grant to The Gambia to implement a programme to facilitate private investments in Green Mini-Grids (GMG). [13] •In 2021, the World Bank approved 'The new Regional Electricity Access and Battery-Energy Storage Technologies' (BEST) Project for $465 Mn to strengthen the WAPP's network operation with battery-energy storage technologies infrastructure. [14]
Energy Imperatives	•The total installed capacity in the country stood at 136.9 MW in 2019. [15] •The total installed capacity of Solar mini-grids stood at 0.2 MW in 2021. [18] •In 2020, the per capita electricity consumption of 0.12 MWh which is significantly lower in comparison to the global average of 3.31 MWh. [16] •The price of electricity in the country was 20 US Cents/kWh as of 2019. [17]