



Kiribati

Asia & Pacific

Ease of doing Solar classification



Influencer

Electricity Consumption in kWh/capita (2020)

251.2

Average PVout in kWh/kWp/day (2020)

4.8

Cumulative Solar Capacity in MW (2021)

2.9

Getting Electricity Score (2020)

44.8

NDC Target by 2030 in %

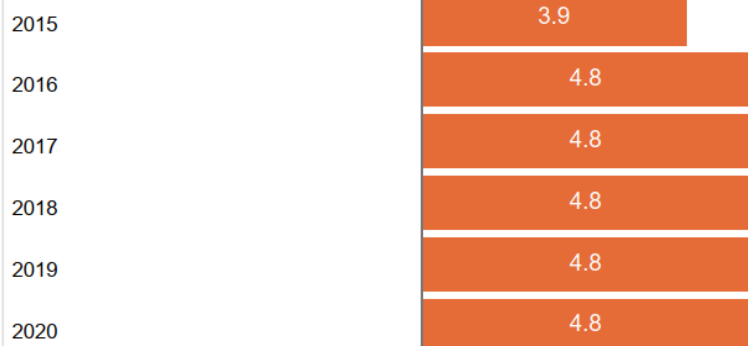
12.8

Human Development Index (2021)

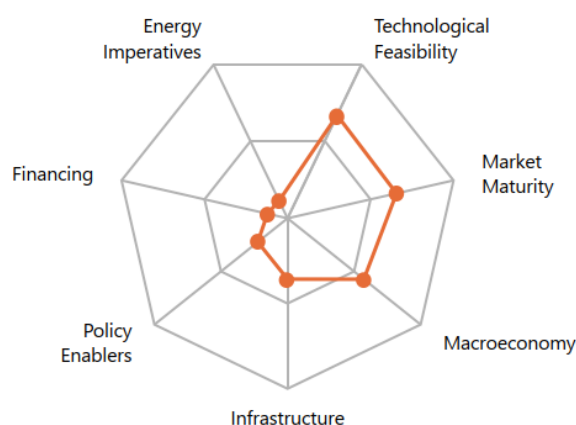
0.6

Renewable Energy Generation by Source

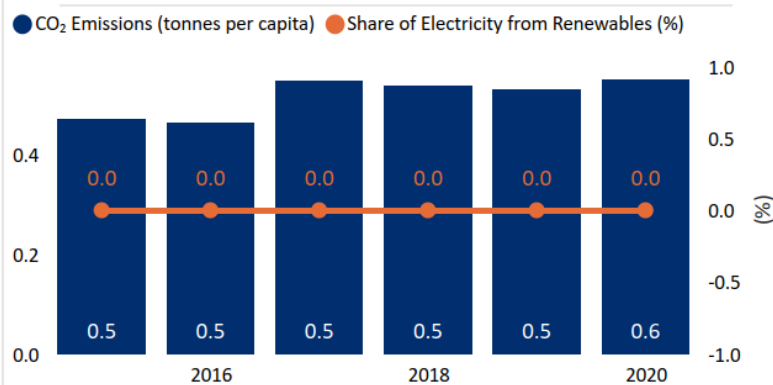
● Solar (GWh)



Performance against 7 Drivers



CO₂ Emissions vs Electricity share from Renewables



Fiscal Incentives & Public Financing for Renewables (2020)

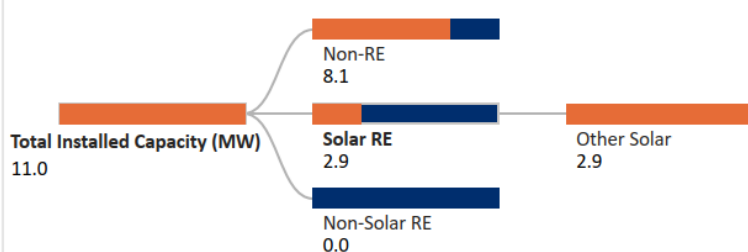
Investment or production tax credits?

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.;

Support for Renewables (2020)

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

No

Net metering/Gross metering policies and regulations?

No

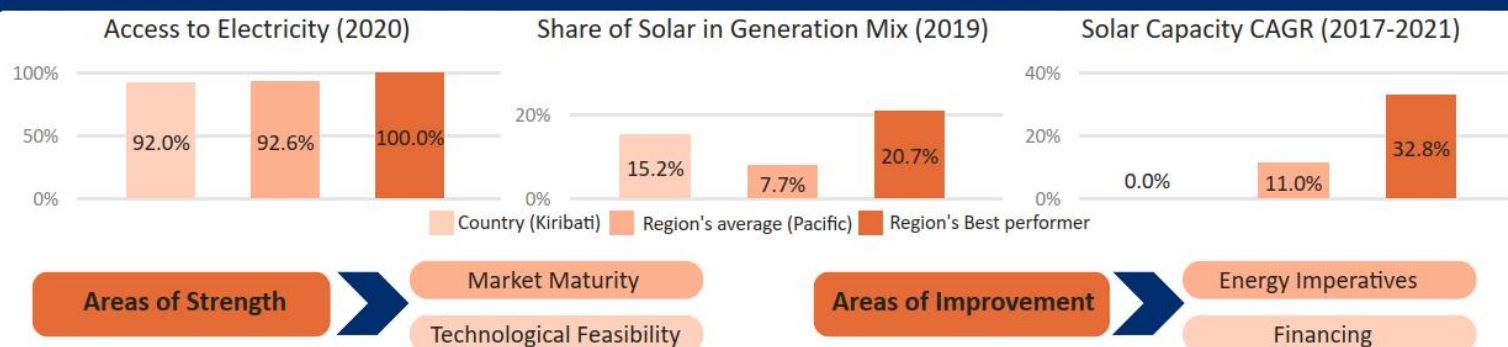
Renewable Energy Certificates?

No

Renewable Purchase Obligation?

No

Country's regional performance and characteristics



Key Insights

Drivers

Insights



Macro-economy

- Kiribati is a lower middle-income country with a GDP per capita (PPP) of USD 2,128 in 2020.^{1, 2}
- Due to COVID-19 Pandemic, the GDP (Real) had declined by 0.5% in 2020. However, in 2021, the GDP bounced back with an annual growth rate of 1.5%.³
- The inflation rate (CPI) of Kiribati has increased to 3% in 2021 from 2.5% levels in 2020.⁴
- The general government gross debt to GDP has decreased to 17.6% in 2021 from 19% levels in 2020.⁵



Policy enablers

- Kiribati government in association with Global Environment Fund is promoting RE through “Promoting Outer Island Development through the Integrated Energy Roadmap” (POIDIER) Project.⁶
- The government of Kiribati in its Kiribati Integrated Energy Roadmap (KIER) has envisaged their goal of reducing usage of fossil fuels by 2025 in South Tarawa, Kiritimati and outer islands by a share of 23%, 40% and 40% respectively.⁷
- Kiribati’s Energy Efficiency-Supply Side Management (EESM) initiatives has projected to reduce auxiliaries, technical and non-technical losses by 1.81%, 3.12% and 4.75%, respectively by 2025 with estimated saving of 2,033 MWh.⁷



Technological Feasibility

- Kiribati receives very high levels of solar irradiation (GHI) of 6.1 kWh/m²/day and specific yield 4.8 kWh/kWp/day indicating a very strong technical feasibility for solar in the country.⁸
- Under Kiribati’s Kiritimati Renewable Energy Program a 150 kW of ground mounted solar plant was commissioned in 2018.⁹
- Kiribati with its project on “Scaling-up Renewable Energy Program Investment Plan” has set up solar micro grid with a capacity 36.5 kW and coupled with battery storage of 346 kWh.¹⁰



Market Maturity

- 92% of the population in Kiribati had access to electricity as of 2020.¹¹
- The Ministry of Public Works and Utilities (MPWU) is responsible for the planning, management and coordination of the energy sector.¹²
- The Kiribati Solar Energy Company (KSEC), an incorporated company majority owned by the Government, is responsible for renewable energy, particularly sale or lease of solar PV systems and relevant components.¹²
- The Ministry of Lines and Phoenix is responsible for all government services including the development of power, electrification and transmission in Kiritimati Island.¹²
- The Energy Planning Unit (EPU) is responsible for coordinating the implementation of energy policies and providing necessary advice and assistance to all energy activities and energy-related matters.¹²



Infrastructure

- The Kiribati Electricity system is operated by the Ministry of Line and Phoenix Island Development which is divided into 3 parts, i.e., South Tarawa, Kiritimati Island and Outer Islands having several isolated grids under operation.¹³
- Kiribati Integrated Energy Road Map (KIER) has implemented installation of SCADA and Energy Management System to optimise the grid integration of RE.¹³



Financing

- The Climate Investment Funds (CIF) through its Scaling up Renewable Energy Program (SREP) has invested USD 0.5 Mn in the country.¹⁴
- The World bank had coordinated USD 1 Mn grant from GEF and USD 2.92 Mn grant from the Government of Australia through the Pacific Regional Infrastructure Facility (PRIF) for Kiribati Grid Connected Solar PV Project.¹⁵



Energy Imperatives

- In 2020, the per capita consumption of electricity is 0.25 MWh, which is significantly lower as compared to the global average of 3.31 MWh.¹⁶
- The demand for electricity in the country in 2021 stood at 0.03 TWh remaining the same as the previous year’s.¹⁸
- In 2021, the total installed capacity in the country has reached 7 MW with almost 100% share coming from fossil fuels.^{18, 26}