



Samoa

Asia & Pacific

Ease of doing Solar classification



Influencer

Electricity Consumption
in kWh/capita (2020)

705.6

Average PVout in kWh/
kWp/day (2020)

4.1

Cumulative Solar Capacity in MW
(2021)

13.7

Getting Electricity Score (2020)

79.7

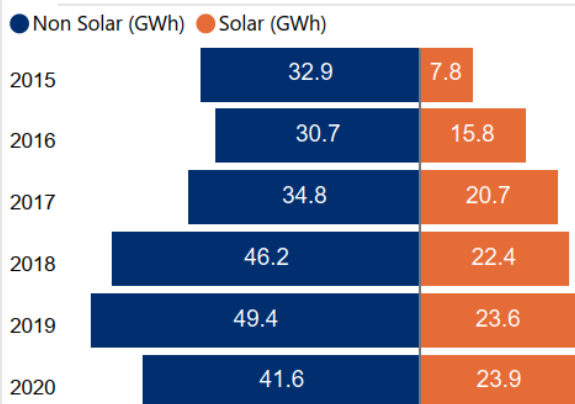
NDC Target by 2030 in %
(base year 2007)

26.0

Human Development Index (2021)

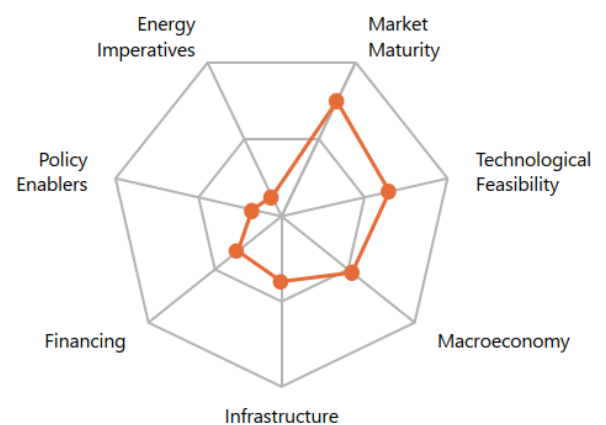
0.7

Renewable Energy Generation by Source

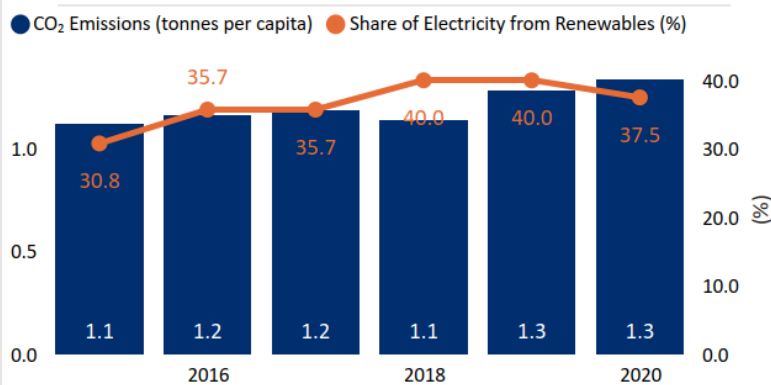


Non Solar RE includes Wind and Hydro;

Performance against 7 Drivers



CO₂ Emissions vs Electricity share from Renewables

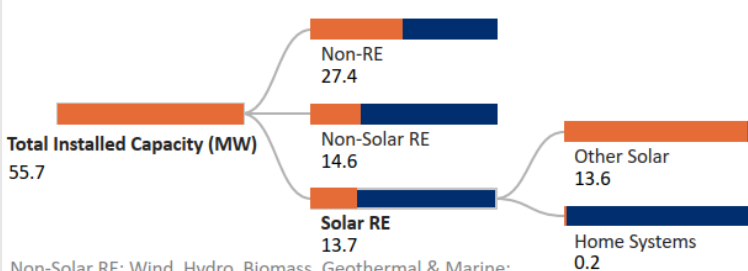


Fiscal Incentives & Public Financing for Renewables (2020)

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)

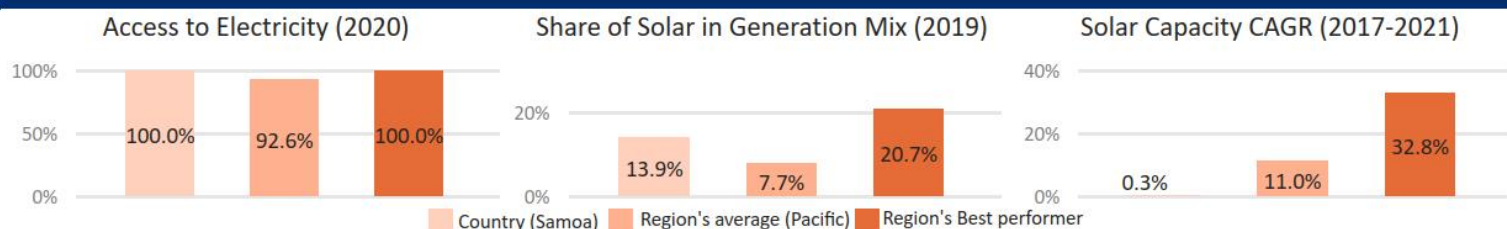
Feed-in-Tariffs for renewable energy supply to the grid?
No

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

- Samoa is a lower middle-income¹ country with a GDP per capita (PPP) of USD 6,080 in 2021.²
- Due to COVID-19 Pandemic, the GDP (Real) had declined by 3.1% in 2020 and it further declined by 7.1% in 2021.³
- The inflation rate (CPI) of Samoa has declined by 3% in 2021 from 1.5% levels in 2020.⁴
- The general government gross debt to GDP has reached 46.3% in 2021 from 43.2% levels in 2020.⁵



Policy enablers

- Samoa has set a goal to generate 100% of its electricity from Renewable Energy by 2025.⁶
- Samoa in its Samoa Energy Sector Plan (2017-22) has prepared a framework to achieve affordable energy for all.⁷
- Samoa has a Feed-in-Tariff policy to support the development of new renewable energy projects by offering long-term power purchase agreements for the sale of RE electricity.⁸



Technological Feasibility

- Samoa receives high levels of solar irradiation (GHI) of 4.8 kWh/m²/day and specific yield 4.1 kWh/kWp/day indicating a high technical feasibility for solar in the country.⁹
- Samoa RE sources includes wind, biomass, biogas, hydro, solar and municipal waste energy.⁸
- Samoa's Fiago Power Station has a battery storage system which is about 6 MW capacity and another at the Faleolo International Airport is of 2MW capacity.¹⁰



Market Maturity

- 100% of the population in Samoa had access to electricity as of 2020.¹¹
- The Electric Power Corporation (EPC) is responsible for the generation, transmission, distribution, and sale of electricity in Samoa.¹²
- EPC is regulated by Electric Power Corporation Act, 1980.¹⁴



Infrastructure

- Samoa's transmission network comprises of 22 kV and 33 kV voltage levels.¹³
- Samoa has upgraded its 4 sub stations by installing of SCADA monitoring system.¹³



Financing

- ADB has supported Samoa in the past with a loan up to USD 2 Mn to develop solar energy capability.¹⁵
- Small Island Developing States (SIDS) program of Green Climate Fund covers Samoa, one out of seven small Asia-Pacific islands, for moving to RE based generation from diesel based with a funding of USD 60.1 Mn.¹⁶



Energy Imperatives

- In 2020, the per capita electricity consumption stood at 0.71 MWh in Samoa, which is significantly lower in comparison to the global average of 3.31 MWh.¹⁷
- The total installed capacity of solar PV witnessed a CAGR of 0.3% between 2017-2021 reaching 13.71 MW in 2021 from 13.55 MW levels in 2017.¹⁸
- The peak demand for electricity in the country stood at 0.14 TWh remaining similar in 2021 and 2020.¹⁹
- In 2021, the total installed capacity in the country reached 60.37 MW²⁰ with maximum share coming from fossil fuels (71.43%) followed by hydro (28.57%).¹⁹