



Myanmar

Asia & Pacific

Ease of doing Solar classification



Potential

Electricity Consumption in kWh/capita (2020)

427.1

Average PVout in kWh/kWp/day (2020)

4.1

Cumulative Solar Capacity in MW (2021)

80.4

Getting Electricity Score (2020)

56.7

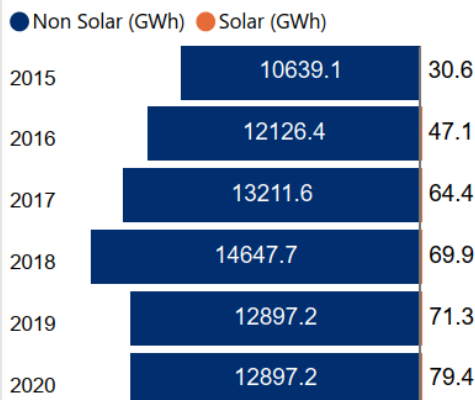
NDC Target by 2030 in MtCO₂e

414.8

Human Development Index (2021)

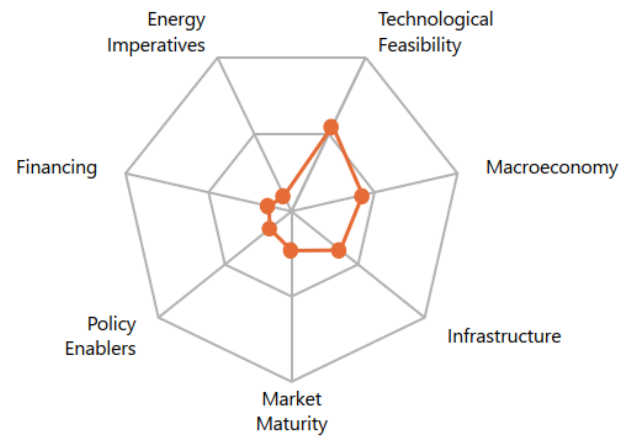
0.6

Renewable Energy Generation by Source

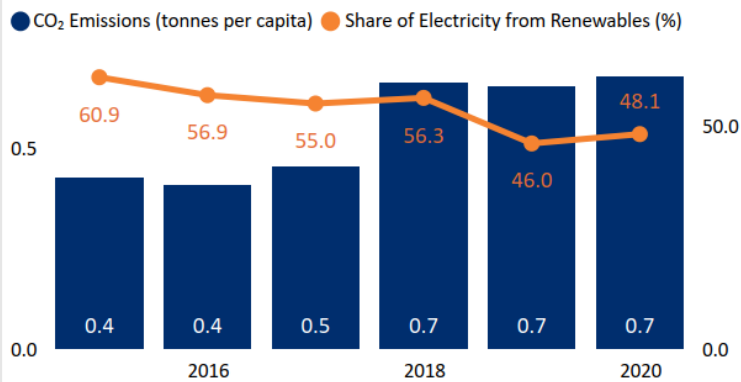


Non Solar RE includes Wind and Hydro;

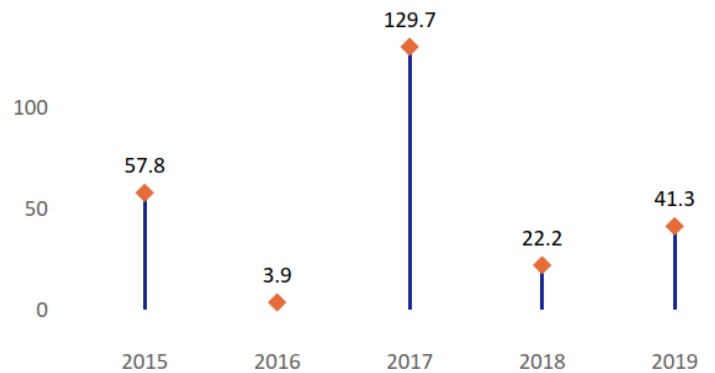
Performance against 7 Drivers



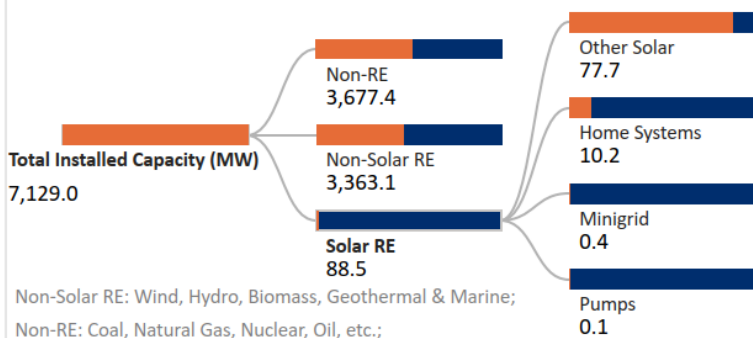
CO₂ Emissions vs Electricity share from Renewables



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?

No

Net metering/Gross metering policies and regulations?

No

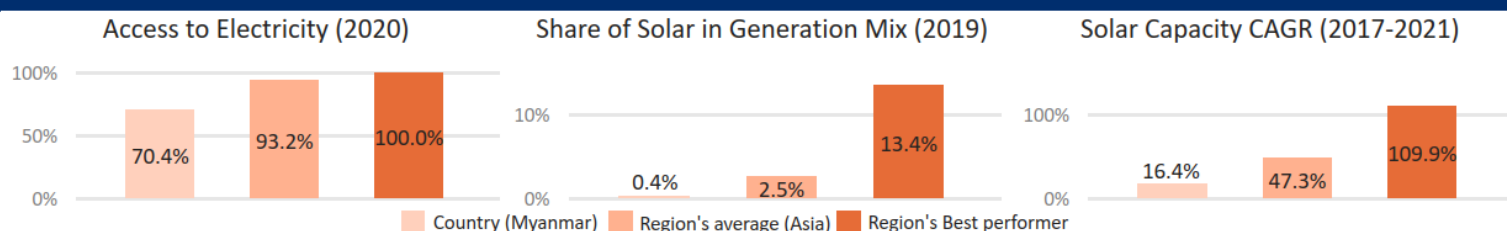
Renewable Energy Certificates?

No

Renewable Purchase Obligation?

No

Country's regional performance and characteristics



Areas of Strength

Macroeconomy
Technological Feasibility

Areas of Improvement

Energy Imperatives
Financing

Key Insights

Drivers

Insights



Macroeconomy

- Myanmar is a lower middle-income country with a GDP per capita (PPP) of USD 4,430 in 2021. ^{1, 2}
- Due to COVID-19 Pandemic, the GDP (Real) was 3.2 % in 2020. However, in 2021, the GDP further declined to a negative growth rate of 17.9%.³
- The inflation rate (CPI) of Myanmar has decreased to 3.6% in 2021 from 5.7% levels in 2020.⁴
- The general government gross debt to GDP has decreased to 62.3% in 2021 from 39.3% levels in 2020.⁵



Policy enablers

- Myanmar Energy Master Plan has envisioned to achieve an energy generation mix with 57% hydropower, 30% coal, 8% natural gas and 5% solar and wind by 2030.⁶
- World Wildlife Fund (WWF) report on Myanmar has envisioned 100% renewable power by 2050.⁷
- Myanmar's Ministry of Electricity and Energy (MOEE) issued an invitation to bid In Aug'21 for the construction of ground-mounted 1 GW solar power projects on an independent power producer (IPP) and build-operate-own (BOO) basis.⁸



Technological Feasibility

- Myanmar receives moderate levels of solar irradiation (GHI) of 4.7 kWh/m²/day and specific yield 4.1 kWh/kWp/day indicating a moderate technical feasibility for solar in the country.⁹
- Myanmar has one utility-scale solar power project, the 170 MW Minbu solar project in Magwe Region which is fully operational and has been producing 350 MUs annually providing electricity to 2,10,000 households.¹⁰
- Myanmar has a storage system with an integration of 231 KWp PV, 160 KVA/ 624 kWh BESS and 150 KW DG which aims to supply electricity to unelectrified villages in Myanmar.¹¹



Market Maturity

- 70.4% of the population in Myanmar had access to electricity as of 2020.¹²
- Myanmar's Ministry of Electricity and Energy has different departments for electricity power planning, electricity generation, transmission & distribution.¹³
- Myanmar has three major Distribution enterprise i.e, Yangon Electricity Supply Corporation (YESC), Mandalay Electricity Supply Corporation (MESC) and Electric Supply Enterprise (ESE).¹³



Infrastructure

- Myanmar's transmission system comprises of a network of 230 kV, 132 kV, and 66 kV transmission lines and sub-stations.¹³
- To improve efficiency of transmission system, Myanmar has planned to replace the 6.6 kV systems with 11 kV network, and to expand the 33 kV systems.¹³



Financing

- The World Bank has approved a USD 350 Mn credit from the International Development Association (IDA) to improve efficiency of power in Myanmar.¹⁴
- The Asian Development Bank (ADB) has approved a USD 171.27 Mn loan in 2020 to help Myanmar in constructing 44 medium-voltage sub-stations and 1,006 km of distribution lines across Kayin state and the Ayeyarwady, east Bago, and Magway regions.¹⁵
- World Bank has funded with USD 3.45 Mn to support solar projects in Myanmar, focussing on the rural areas.¹⁶



Energy Imperatives

- In 2020, the per capita consumption of electricity stood at 0.42 MWh, which is significantly lower as compared to the global average of 3.31 MWh.¹⁷
- The total installed capacity of Solar PV witnessed a CAGR of 16.4% between 2017-2021 wherein in 2017 the installed capacity was 43.8 MW and in 2021 it became 80.4 MW.¹⁸
- The peak demand for electricity in the country stood at 23.24 TWh in 2021 which remained similar to that in 2020.¹⁹
- In 2021, the total installed capacity in the country reached 6.03 GW with a significant share coming from hydro (54%), natural gas (41%) followed by smaller contributions coming from coal (2%) and solar (1%).^{20, 26}