



Bangladesh

Asia & Pacific

Ease of doing Solar classification



Influencer

Electricity Consumption in kWh/capita (2020)

458.6

Average PVout in kWh/kWp/day (2020)

3.9

Cumulative Solar Capacity in MW (2021)

329.1

Getting Electricity Score (2020)

34.9

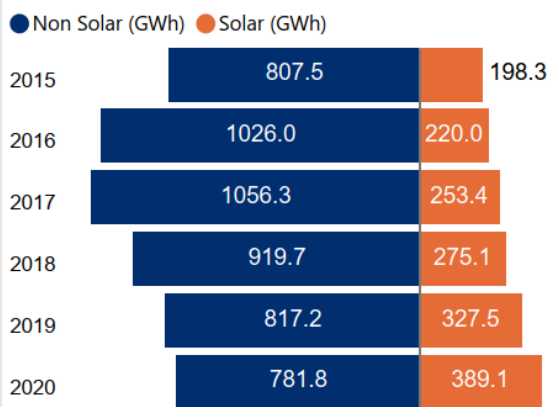
NDC Target by 2030 in %

15.12

Human Development Index (2021)

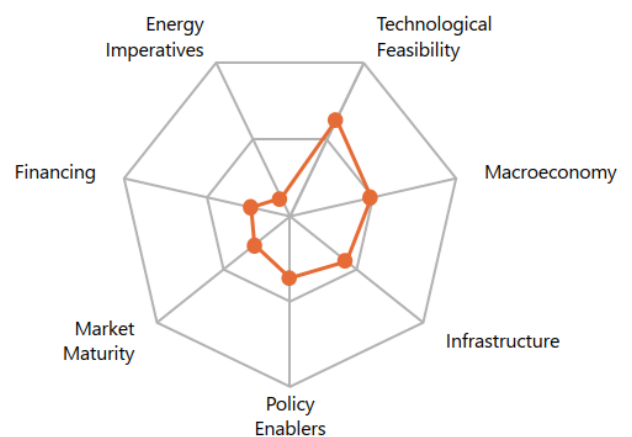
0.7

Renewable Energy Generation by Source

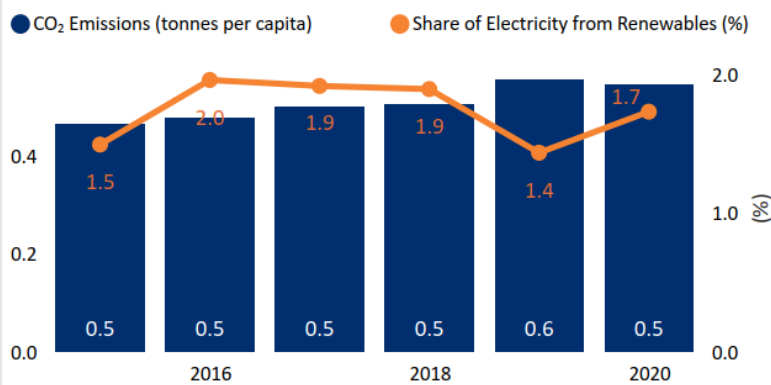


Non Solar RE includes Wind and Hydro;

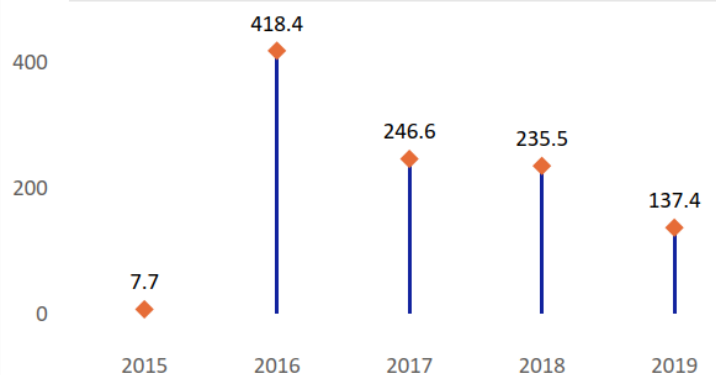
Performance against 7 Drivers



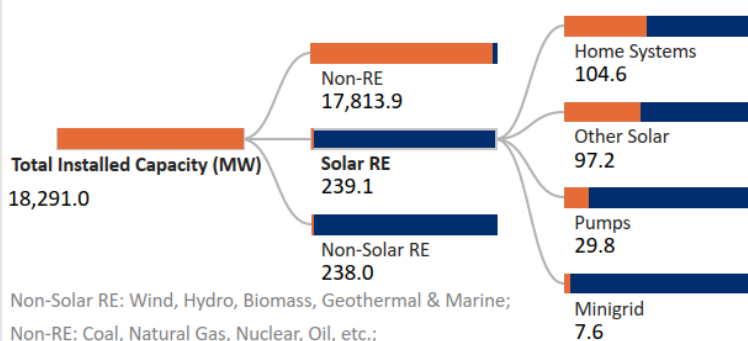
CO₂ Emissions vs Electricity share from Renewables



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?

Yes

Renewable Energy Certificates?

No

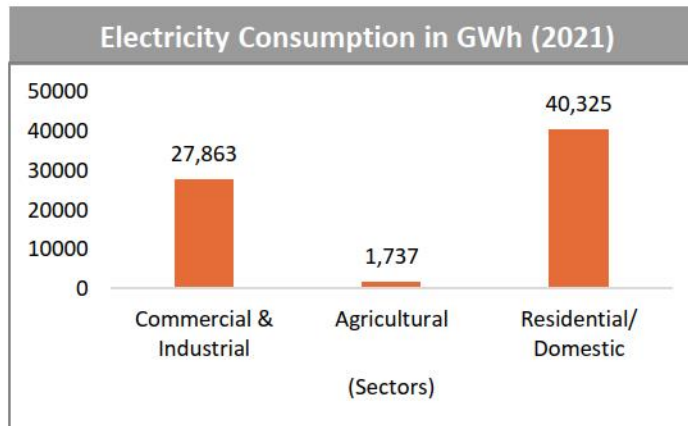
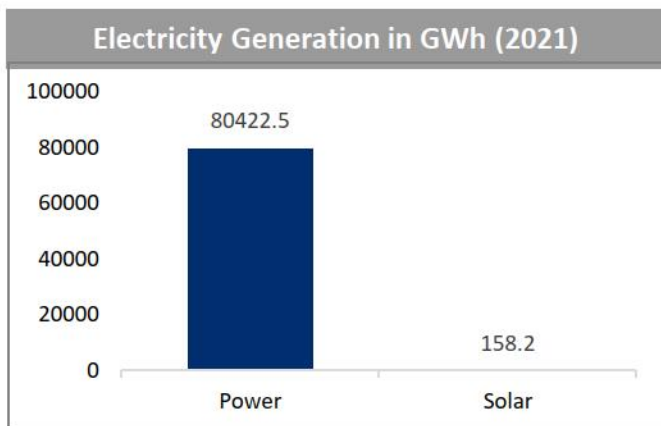
Renewable Purchase Obligation?

No

Peak Demand/Load in GW (2021)
13.8

Average Term of Solar PPAs in years (2021)
20.0

Threshold for licensing Solar in MW (2021)
5.0

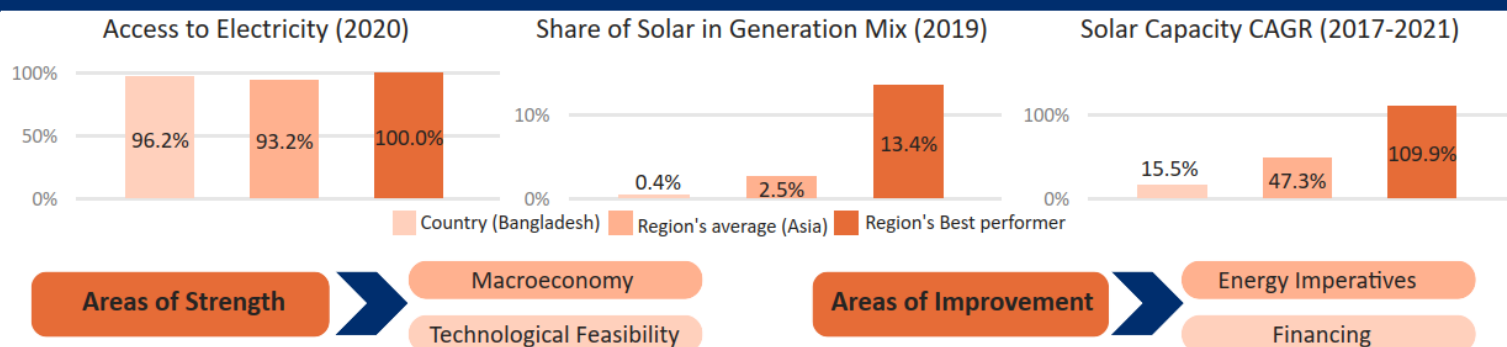


Financial Support Mechanisms (2021)	
Duty waivers to solar developers for importing/procuring material from foreign land	Yes
Tax waivers for manufacturers of raw materials (modules, off grid appliances, etc.)	No
Credit facilitation for solar energy from financial institutions (FIs)	No
Viability Gap Funding (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 management	Green Hydrogen
Yes	Yes	Yes	Yes	Yes	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)	No
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



Key Insights

Drivers

Insights



Macroeconomy

- Bangladesh is a lower middle-income² country having GDP per capita (PPP) of USD 6,494 in 2021¹ with service and agriculture sectors as the dominant contributors to the economy.⁶
- Bangladesh's GDP (Real) grew at an annual rate of 5% in 2021 and it is estimated to grow at 6.4% in 2022³ with public debt of 41.39 % of GDP as of 2021.⁴
- Inflation rate in the country marginally decreased to 5.6% in 2021 from 5.7% levels in 2020.⁵



Policy enablers

- Bangladesh has constituted Sustainable and Renewable Energy Development Authority (SREDA) as the nodal agency for all RE related initiatives.⁷
- Bangladesh targets to increase the share of solar to 10% of the energy mix by 2030.³⁰
- Bangladesh government directed all scheduled banks to allocate a minimum of 2% of their financing towards green finance and 15% towards sustainable finance (including green finance).¹¹
- Bangladesh Council of Scientific and Industrial Research (BCSIR) is working towards setting up full-fledged hydrogen energy laboratory.¹⁴



Technological Feasibility

- The country receives moderate levels of solar irradiation (GHI) of 4.6 kWh/m²/day and specific yield 3.9 kWh/kWp/day indicating a moderate technical feasibility for solar in the country.¹⁶
- The country typically receives 8 hours of sunlight per day.³⁰
- Infrastructure Development Company Ltd (IDCOL) is the implementing agency for all mini grid projects and currently there are 7 solar PV-diesel hybrid mini grids operating in Bangladesh.¹⁷



Market Maturity

- 96.2% of the population in the country had access to electricity as of 2020.²⁰
- For generation & distribution-Bangladesh Power Development Board is the sole entity whereas for transmission PowerGrid Company of Bangladesh owns and manages the network comprising of 132 kV, 230 kV and 400 kV voltage levels.²¹
- Bangladesh Energy Regulatory Commission (BERC) advises to the government regarding electricity generation, transmission, marketing, supply, distribution, and storage of energy and has also formulated the Electricity Grid Code.^{25,22}



Infrastructure

- The country's transmission network voltage is at 11 kV and 132 kV with 6,29,000 ckm and 13,889 ckm of transmission lines.³⁰
- Bangladesh is modernising its electricity distribution network through Electricity Distribution Modernization Program, funded by World Bank with Bangladesh Rural Electrification Board as the implementing agency.²⁶
- The country's average transmission and distribution loss levels are 3% and 8% respectively in 2021.³⁰



Financing

- The Asian Development Bank (ADB) is one of the key financing agencies in Bangladesh. In 2020 it had signed USD 17.7 Mn financing package with Spectra Solar Park Ltd (SSPL) to install 35 MW solar PV plant.²⁹
- The World Bank has helped Bangladesh by providing financing for building a modern, reliable and sustainable electricity supply system.²⁸
- The Asia Infrastructure Investment Bank (AIIB) being an investment agency continues to finance multisectoral project through IDCOL in Bangladesh.²⁹



Energy Imperatives

- Of the total electricity generation of 80,422 MU, solar electricity generation contributed 158 MU in 2021.³⁰
- The total installed capacity of rooftop solar and solar mini-grids are 85 MW and 6 MW in 2021.³²
- The average capital cost of a solar PV project in Bangladesh is USD 770,930/MW as of 2022.³⁰
- The average solar tariff in Bangladesh stood at 0.1075 USD/kWh and 0.1025 USD/kWh in 2019 and 2021 respectively.