



Antigua and Barbuda

Latin America & Caribbean

Ease of doing Solar classification



Achiever

Electricity Consumption
in kWh/capita (2020)

3267.7

Average PVout in kWh/kWp/day
(2020)

4.8

Cumulative Solar Capacity in MW
(2021)

12.9

Getting Electricity Score (2020)

83.5

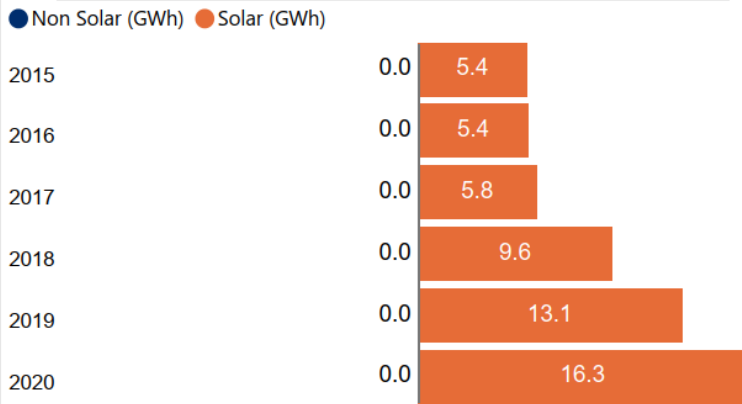
NDC Target by 2030 in %
(base year 2005)

Not available

Human Development Index (2021)

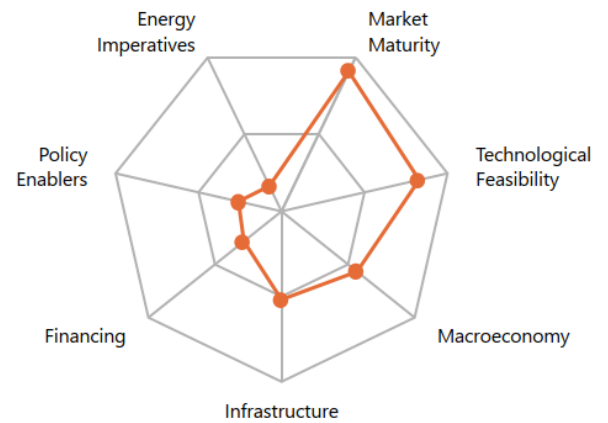
0.8

Renewable Energy Generation by Source

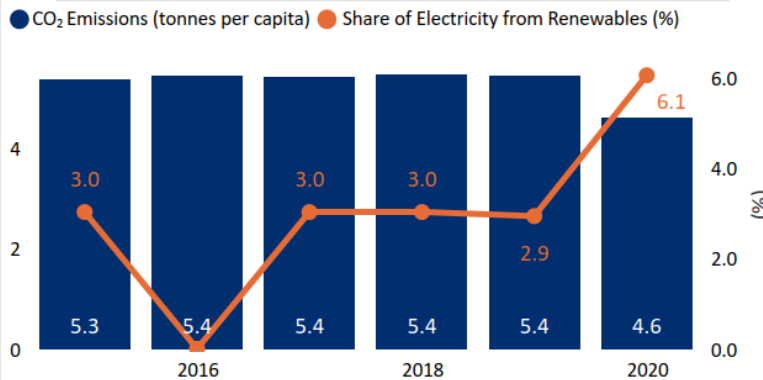


Non Solar RE includes Wind and Hydro;

Performance against 7 Drivers



CO₂ Emissions vs Electricity share from Renewables

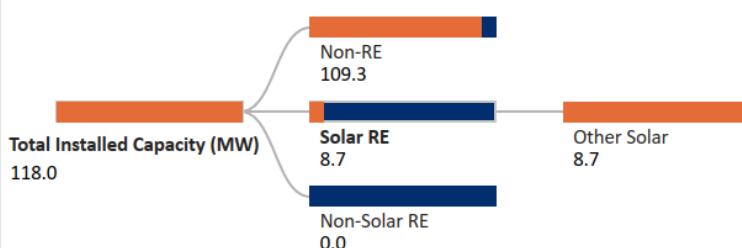


Fiscal Incentives & Public Financing for Renewables (2020)

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)

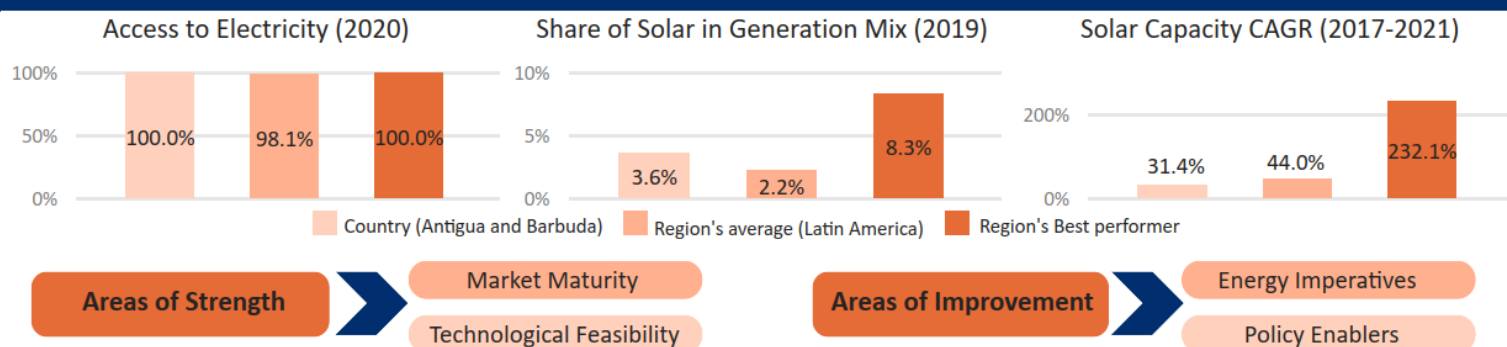
Feed-in-Tariffs for renewable energy supply to the grid?
No

Net metering/Gross metering policies and regulations?
No

Renewable Energy Certificates?
No

Renewable Purchase Obligation?
No

Country's regional performance and characteristics



Key Insights

Drivers

Insights



Macro-economy

- Antigua and Barbuda is a high-income country with a GDP per capita (PPP) of USD 21,010 as of 2021.^{1,4}
- Due to COVID-19 Pandemic, the GDP (Real) contracted by 20.2% in 2020. However, in 2021, the GDP has bounced back with an annual growth rate of 4.8%.¹
- The inflation rate (CPI) of the country has increased to 1.6% in 2021 from 1.1% levels in 2020.¹
- The general government gross debt to GDP has reached 102.2% in 2021 from 101.5% levels in 2020.¹



Policy enablers

- The country has submitted revised NDC targets in 2021 with a goal of reaching 86% share from RE in the generating mix by 2030. The country also have plans to ensure 100% of new vehicles sales to be EV by 2030.⁹
- To promote RE in the country interconnection standards, tax reductions and exemptions have already been implemented in the country.¹⁰



Technological Feasibility

- Antigua and Barbuda receive high levels of solar irradiation (GHI) of 5.8 kWh/m²/day and specific yield 4.8 kWh/kWp/day indicating a strong technical feasibility for solar in the country.⁵
- In 2021, 3.13% of the country's power demand was met through RE sources.⁶



Market Maturity

- 100% of the population in Antigua and Barbuda is having access to electricity since 2012.⁴
- Electricity, water, and communication services are provided in the country by the Antigua Public Utilities Authority (APUA).⁸
- The Ministry of Public Utilities manages and regulates the power sector in the country.⁸
- The country is highly reliant on imported fossil fuels for the generation of electricity leaving it susceptible to fluctuations in oil prices.⁸



Infrastructure

- The Caribbean Development Bank (CDB) authorised a grant of GBP 2.85 Mn to upgrade the island's 16 km long electricity network. Creating an underground network for electricity distribution and installation of hybrid solar systems are major areas to be covered.²
- The World Bank has carried out a variable renewable energy study to examine the island's power system and to determine the best approach to incorporate solar and wind generation into the grid and to protect the infrastructure against extreme weather occurrences. The government's revised National Energy Policy will also include the findings of the VRE Integration Study.¹²



Financing

- The government has established the Sustainable Island Resource Framework (SIRF) fund to synergise internal and external funding from multiple agencies to achieve the climate and sustainability goals.³
- A funding of USD 15 Mn has been sanctioned by the Abu Dhabi Fund for Development (ADFD) for the construction of an 8 MW solar and wind hybrid power plant under the seventh cycle of the IRENA/ADFD project facility.¹¹
- The governments of the United Arab Emirates, Antigua and Barbuda, and New Zealand, as well as the Antigua Public Utilities Authority (APUA) and the Barbuda Council are providing financial support for the government's plans to build a hybrid power plant (comprising solar, battery storage, and diesel energy sources).¹²



Energy Imperatives

- In 2020, the per capita electricity consumption stood at of 3.27 MWh which is close to the global average of 3.31 MWh.⁶
- Peak electricity demand in the country has remained consistent at 0.32 TWh in the past two years.⁶
- In 2021, the total installed capacity in the country has reached 0.09 GW with thermal power plants having 88.89% share followed by solar power having 11.11% share respectively.⁶
- The total installed solar PV capacity has grown at a CAGR of 31.4% reaching 12.9 MW in 2021 from 4.3 MW levels in 2017.⁷