



Cambodia

Asia & Pacific

Ease of doing Solar classification



Influencer

Electricity Consumption
in kWh/capita (2020)

457.6

Average PVout in kWh/kWp/day
(2020)

4.1

Cumulative Solar Capacity in MW
(2021)

427.9

Getting Electricity Score (2020)

57.5

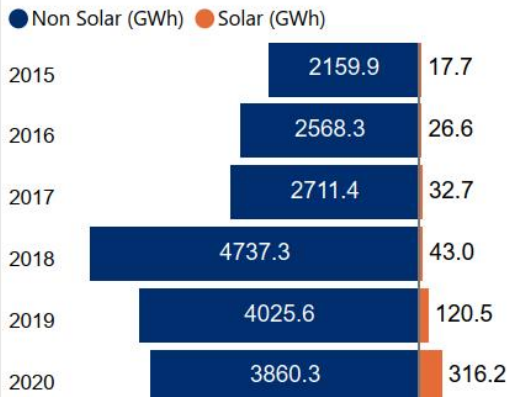
NDC Target by 2030 in MtCO₂e

34.4

Human Development Index (2021)

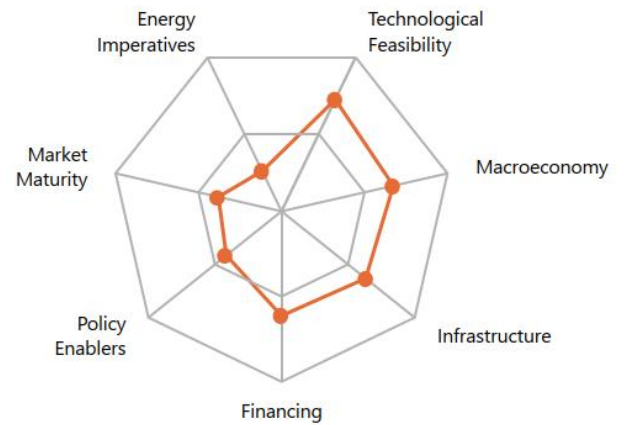
0.6

Renewable Energy Generation by Source

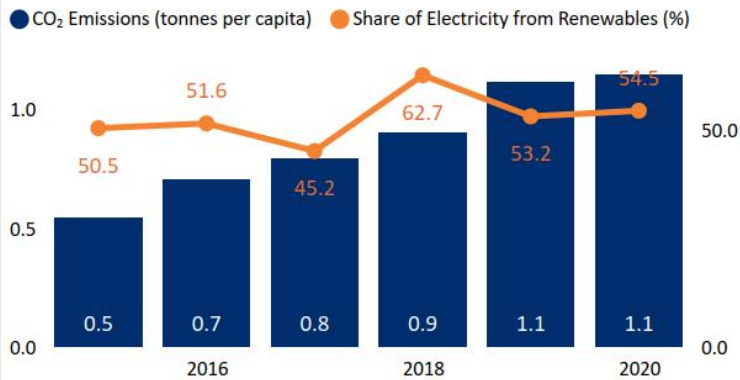


Non Solar RE includes Wind and Hydro;

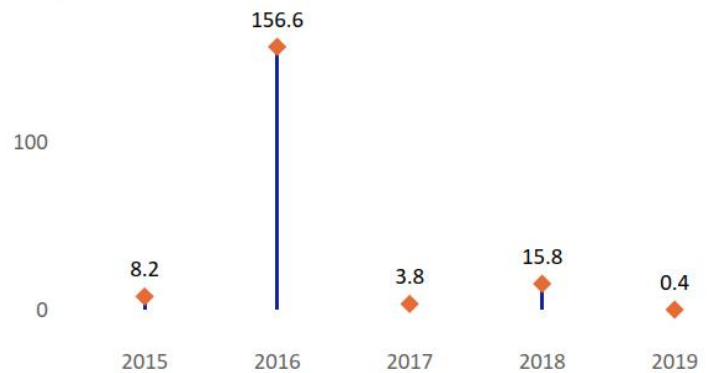
Performance against 7 Drivers



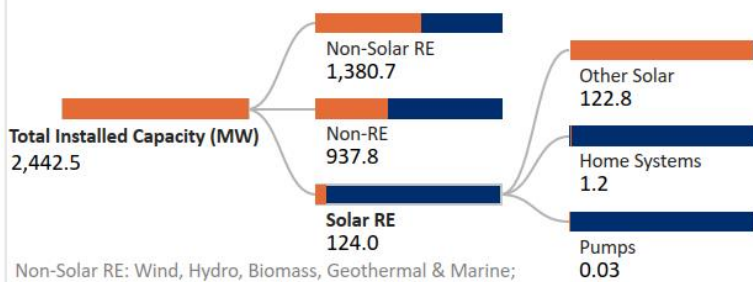
CO₂ Emissions vs Electricity share from Renewables



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

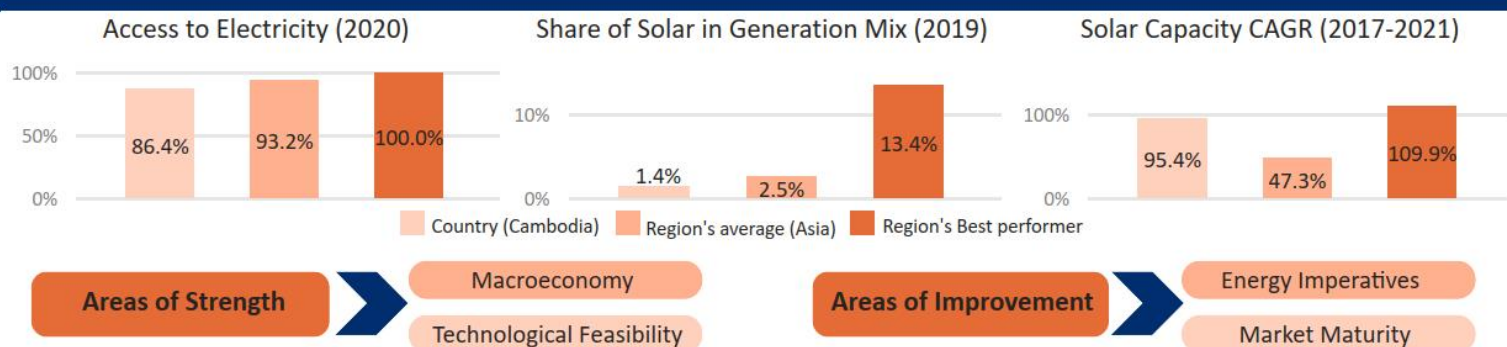
Renewable Energy Certificates?

No

Renewable Purchase Obligation?

No

Country's regional performance and characteristics



Key Insights

Drivers

Insights



Macroeconomy

- Cambodia is a lower middle-income country with a GDP per capita (PPP) of USD 4,784 in 2021.¹
- Due to COVID-19 Pandemic the GDP (Real) had declined by 3.1% in 2020. However, in 2021, the GDP has bounced back registering an annual growth rate of 2.2%.²
- The inflation rate (CPI) of Cambodia had increased to 3.0% in 2021 from 2.9% levels in 2020.³
- The general government gross debt to GDP has reached 38.7% in 2021 from 34.3% levels in 2020.⁴



Policy enablers

- In 2019, the Ministry of Mines and Energy (MME) came up with Cambodia Basic Energy Plan (BEP) to ensure affordability, accessibility, security, safety, and transparency in energy supply.⁵
- Cambodia has set a target to achieve an energy mix of coal (35%), hydro power (55%) and other RE (10%) by 2030.⁵
- The Environmental Code of Cambodia is currently in its 11th draft. Once it is promulgated, it will provide a host of additional incentives for green energy producers.⁵
- Cambodia in its Long-Term Strategy for Carbon Neutrality (LTS4CN) has outlined a vision to achieve carbon neutral economy by 2050.⁶



Technological Feasibility

- Cambodia receives very high levels of solar irradiation (GHI) of 5.01 kWh/m²/day and specific yield 4.1 kWh/kWp/day indicating a strong technical feasibility for solar in the country.⁷
- The Ministry of Mines and Energy in collaboration with UNDP is planning to have SMG systems and SHS at villages that have not been electrified.⁸
- Total Solar Distributed Generation in partnership with Canopy Power has been developing 1.25 MW ground mounted solar with 2 MWh BESS in Koh Rong Samloem island.⁹



Market Maturity

- The Electricity Authority of Cambodia is responsible for issuing service licenses, and implementing operational standards for licensees to ensure the quality of supply and service to consumers.¹¹
- Cambodia in association with Agence Francaise De Developpement (AFD) are targeting to strengthen the electricity connectivity of 100% villages by 2020 and 90% of households by 2030.¹²
- Electricite Du Cambodge (EDC) is a government-owned power utility company that transmits, generates, supplies, and distributes electric power to distribution systems and bulk power consumers in Cambodia.¹³



Infrastructure

- Cambodia Power Transmission Lines (CPTL) of 115 kV transmit power from Thailand to the province of Banteay Mancheay, Siem Reap, Battambang.¹⁴
- The government of Cambodia has signed an agreement with the French Government for USD 70 Mn concessional loan and USD 1 Mn grant from the European Union for capacity building of EDC staff through AFD.¹⁵



Financing

- Climate investment funds have invested USD 30 Mn for Scaling Up Renewable Energy Program (SREP) to support solar energy development program.¹⁷
- ADB has approved a USD 127.8 Mn loan to support the construction of transmission lines and substations in Cambodia.¹⁸
- Multilateral Investment Guarantee Agency (MIGA), a member World Bank Group, has funded for many transmissions infrastructure projects in Cambodia.¹⁹



Energy Imperatives

- In 2020, the per capita electricity consumption of 0.46 MWh is lower than the global average of 3.31 MWh.²⁰
- The peak demand for electricity in the country stood at 7.65 TWh remaining same in 2021 and 2020.²²
- In 2021, the total installed capacity in the country has reached over 3.1 GW²³ with a significant share coming from coal (45%) and hydro (45.62%) followed by other fossil (5.36%), and bioenergy (2.88%).²²