



Democratic Republic of Congo

Africa

Ease of doing Solar classification



Potential

Electricity Consumption in kWh/capita (2020)

647.0

Average PVout in kWh/kWp/day (2020)

4.3

Cumulative Solar Capacity in MW (2021)

20.0

Getting Electricity Score (2020)

34.7

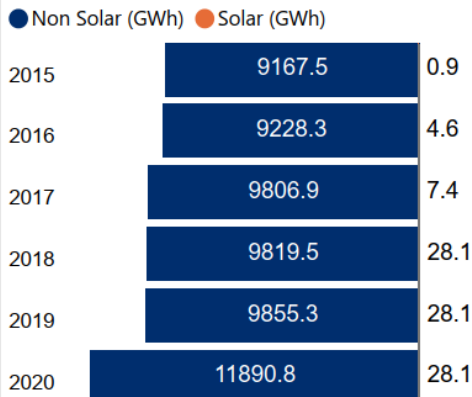
NDC Target by 2030 in % (base year 2005)

21.0

Human Development Index (2021)

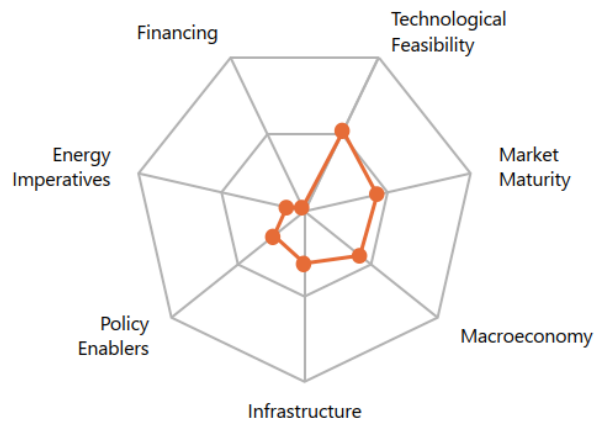
0.5

Renewable Energy Generation by Source

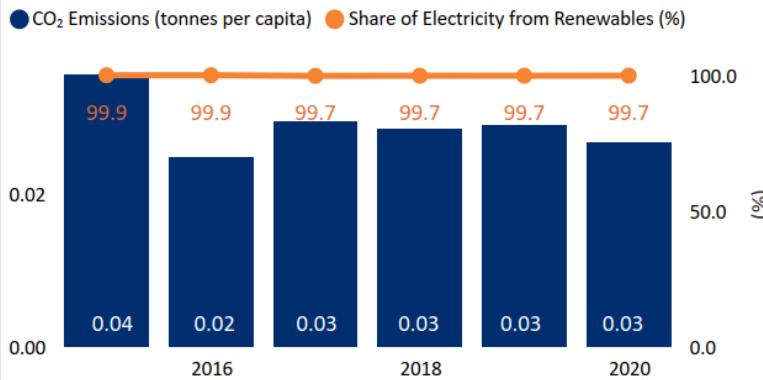


Non Solar RE includes Wind and Hydro;

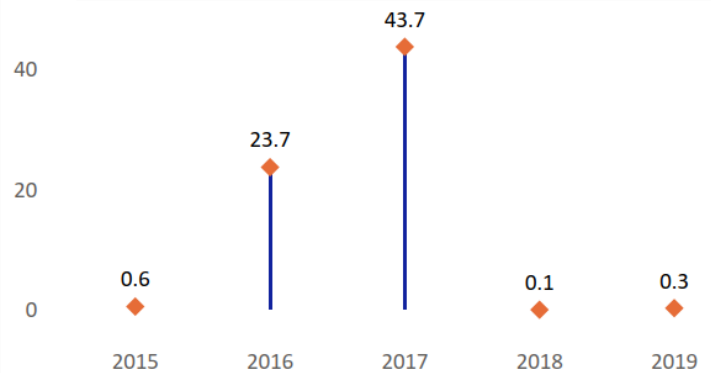
Performance against 7 Drivers



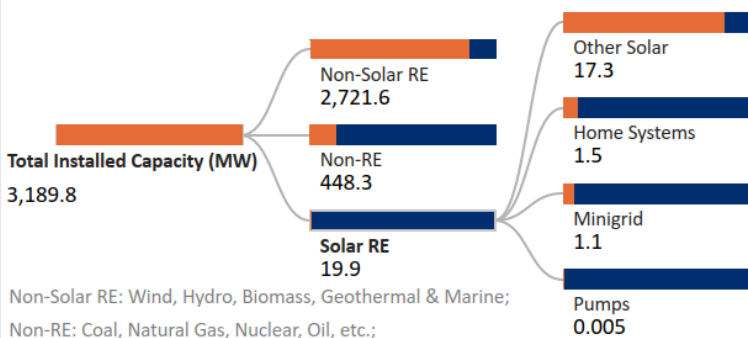
CO₂ Emissions vs Electricity share from Renewables



International Finance received for Clean Energy (Million US Dollars)

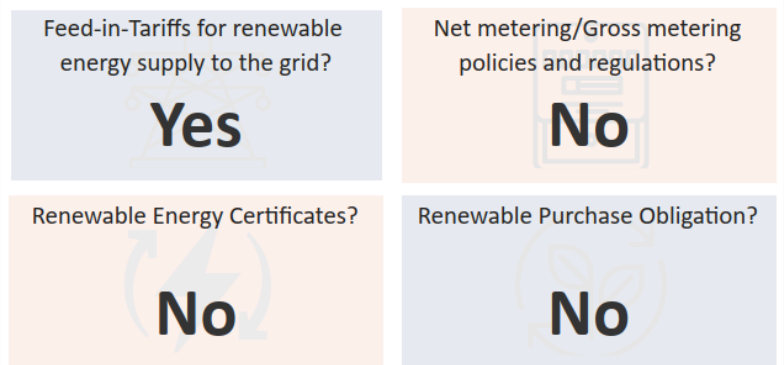


Installed Capacity by Source (2019)



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)



Cumulative Power Generation in GWh (2022)
13,148.0

Cheapest Source of Power (2021)
Hydro

Average term of Solar PPAs in years (2021)
30.0

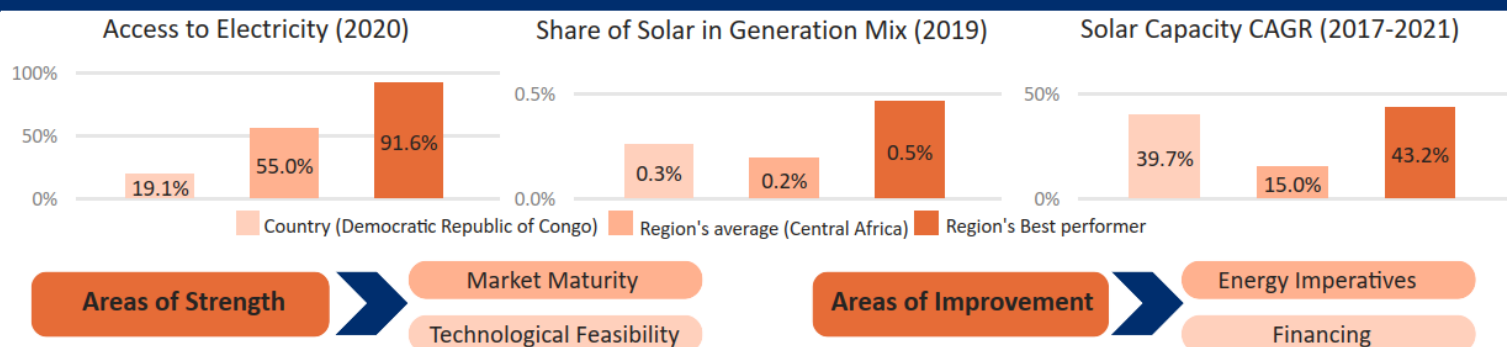
Power Sector - Structure	
Unbundling Generation, Transmission and Distribution (G-T-D)	Yes
Regulatory bodies	Yes
Load Dispatch centres	Yes
Technical Standards pertaining to Power equipment	Yes
Access to Power Exchange	No
Access to spot power market	Yes
Green Energy Trading plan/Strategy	No
Availability of Third-party procurement regulations	No

Support for Renewables (2021)	
Feed-in-Tariffs for Renewable Energy Supply to the Grid	Yes
Renewable-cum-storage based tenders	No
Carbon Taxation	Yes
Manufacturing facility for solar equipment (inverters and balance of systems)	No

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.)	Yes
Viability Gap Funding (VGF) i.e. Grant to support RE projects that are economically justified but fall short of financial viability	Yes

Policies/Schemes for Solar Segments (2021)			
Solar Mini Grids	Standalone solar systems	Solar Parks	Floating Solar
Yes	Yes	Yes	No

Country's regional performance and characteristics



Key Insights

Drivers

Insights



Macro-economy

- Democratic Republic of Congo is a low-income country¹ with GDP per capita (PPP) of USD 1,179 in 2021.²
- GDP (Real) grew at an annual rate of 5.7% in 2021 and it is estimated to grow by 6.4% in 2022.³
- Inflation rate in the country declined to 9.3% in 2021 from 11.4% levels in 2020.⁴
- The budget deficit in the country reduced to 1.6% of GDP in 2021 from 2.1% levels in 2020.⁴



Policy enablers

- The country targets to achieve 30% share of solar in the energy mix by 2030.⁵
- In 2020, the Ministry of the Environment revised the Climate Change Policy, Strategy and Action Plan and developed its National Adaptation Plan (2020–2024) to reinforce resilience.⁴
- The country targets to reduce its GHG emissions to 21% by 2030.⁴



Technological Feasibility

- Democratic Republic of Congo receives high levels of solar irradiation of 5.1 kWh/m²/day and specific yield of 4.3 kWh/kWp/day indicating a strong technical feasibility for solar in the country.⁶
- The Green Mini-Grid Program serves as the pilot to an innovative private-led electrification approach to deploy renewable-based mini-grid solutions in the country.⁷



Market Maturity

- 19.1% population in Democratic Republic of Congo has access to electricity as of 2020.⁸
- The Ministry of Mines, Energy and Hydrocarbons is responsible for managing the energy sector.⁹
- Electricity Regulation Authority (ARE) is the energy regulator in the country.⁹
- The Société National d'Electricité (SNEL) is the sole generator, transmitter, and distributor of electric energy.⁹



Infrastructure

- The West-Southern transmission grid operated by SNEL consists of high voltage lines with a length of 6,937 km (including 1,827 km HVDC lines).¹⁰
- The West-Southern transmission grid is interconnected with Congo Brazzaville and Zambia (with respective transit capacities of 150 MW and 500 MW).¹⁰
- The Eastern transmission grid covers the Kivu provinces and is interconnected with Rwanda and Burundi.¹⁰



Financing

- In 2019, the AfDB approved the allocation of USD 20 Mn for Green Mini-Grid Program in Democratic Republic of Congo.¹¹
- The AfDB is providing USD 1 Mn under Sustainable Energy Fund for Africa (SEFA) grant to provide advisory services to the government of the Democratic Republic of Congo for the procurement of solar PV mini-grid systems.¹¹
- In DR Congo, the World Bank is providing USD 145 Mn for improving Electricity Access and Service Expansion project (EASE).¹²



Energy Imperatives

- The total installed capacity in the country stood at 3,189.83 MW in 2019.¹³
- The total installed capacity of solar PV witnessed a CAGR of 39.7% between 2017-2021 reaching 19.93 MW in 2021 from 5.24 MW levels in 2017.¹⁴
- In 2020, the per capita electricity consumption stood at 0.64 MWh which is significantly lower in comparison to the global average of 3.31 MWh.¹⁵
- The price of electricity in the country was 10 US Cents/kWh as of 2019.¹⁶