



# Tanzania

Africa

## Ease of doing Solar classification



### Influencer

Electricity Consumption in kWh/capita (2020)

# 120.2

Average PVout in kWh/kWp/day (2020)

# 4.5

Cumulative Solar Capacity in MW (2021)

# 23.6

Getting Electricity Score (2020)

# 74.9

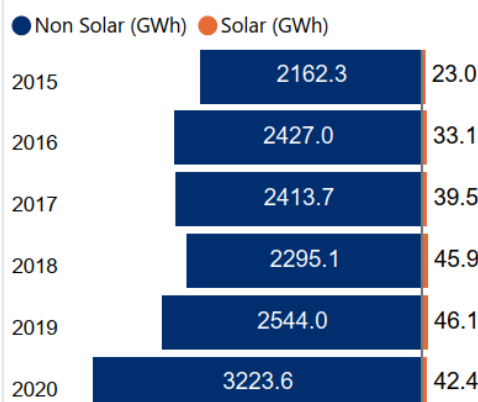
NDC Target by 2030 in % (base year 2000)

# 30.0 to 35.0

Human Development Index (2021)

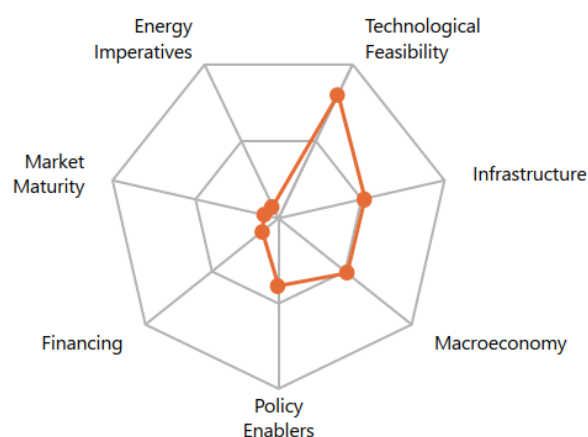
# 0.5

## Renewable Energy Generation by Source

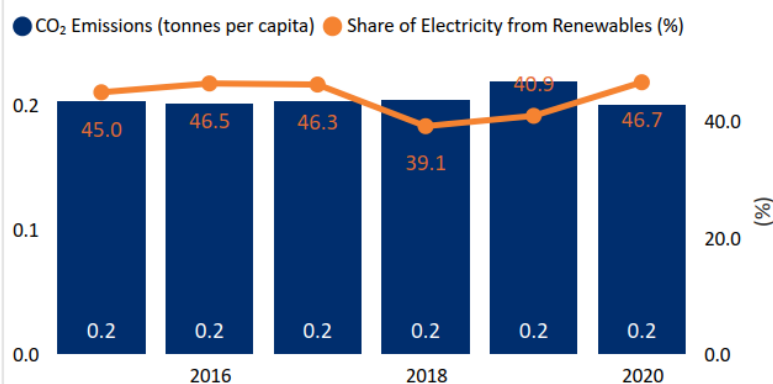


Non Solar RE includes Wind and Hydro;

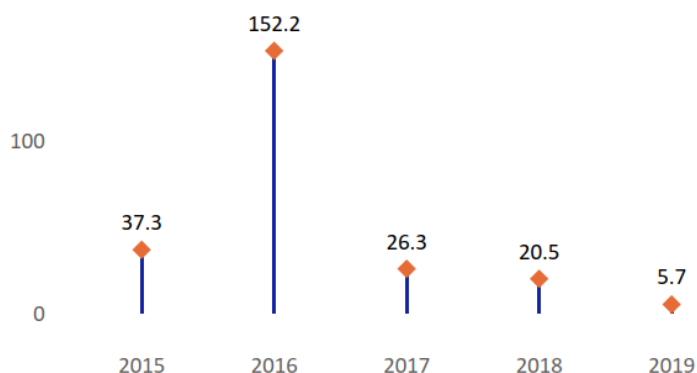
## Performance against 7 Drivers



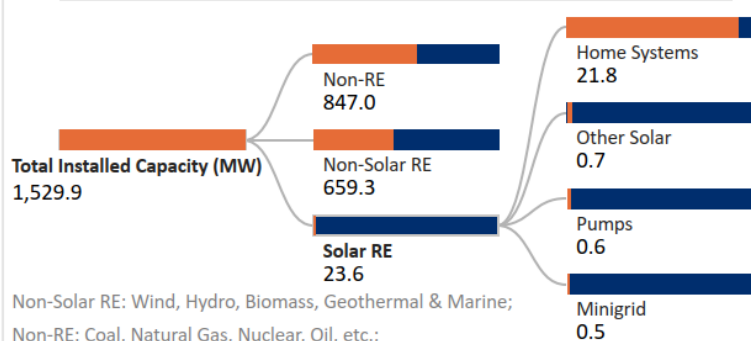
## CO<sub>2</sub> Emissions vs Electricity share from Renewables



## 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?

# Yes

Net metering/Gross metering policies and regulations?

# Yes

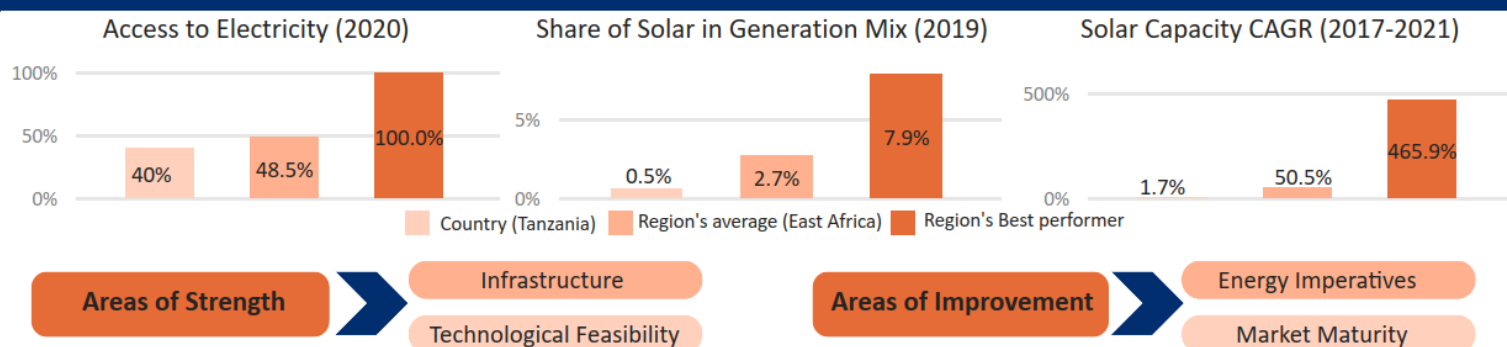
Renewable Energy Certificates?

# No

Renewable Purchase Obligation?

# No

## Country's regional performance and characteristics



## Key Insights

### Drivers

### Insights



Macro-economy

- Tanzania is a lower middle-income country<sup>1</sup> with a GDP per capita (PPP) of USD 2,836 in 2021.<sup>2</sup>
- GDP (Real) grew at an annual rate of 4.9% in 2021 and it is estimated to grow by 4.8% in 2022.<sup>3</sup>
- The inflation rate in the country increased to 3.7% in 2021 from 3.3% levels in 2020.<sup>4</sup>
- The fiscal deficit in the country increased to 3.4% of GDP in 2021 from 0.8% levels in 2020.<sup>5</sup>



Policy enablers

- Tanzania aims to reduce its GHG emissions to 10-20% by 2030, relative to the projected 2030 business-as-usual emissions of 138-153 MtCO<sub>2</sub>e, through the promotion of clean technologies and RE sources.<sup>5</sup>
- The Ministry of Energy and Minerals is responsible for developing policies, plans, and programs related to electricity and renewable energy in the country.<sup>6</sup>
- National Energy Policy (NEP) aims at scaling up the RE utilization and diversifying the country's energy mix using solar, biomass, wind, small-scale hydro, and geothermal energy.<sup>7</sup>
- Feed-in-tariff (FIT) provisions are established to attract private investors to set up small power plants (SPPs) using RE.<sup>8</sup>



Technological Feasibility

- Tanzania receives very high levels of solar irradiation of 5.6 kWh/m<sup>2</sup>/day and a specific yield of 4.5 kWh/kWp/day indicating a very strong technical feasibility for solar in the country.<sup>9</sup>
- The UN Environment program is currently active in Tanzania and is working towards the introduction of electric vehicles (two and three-wheelers) and zero/low-emissions buses.<sup>10</sup>
- During the Covid-19 crisis, Tanzanian mini-grid company JUMEME provided free electricity to the 10 healthcare facilities that were connected to its mini-grids.<sup>11</sup>



Market Maturity

- 40% population in Tanzania had access to electricity as of 2020.<sup>12</sup>
- The Energy and Water Utilities Regulatory Authority (EWURA) is responsible for regulating energy and water utilities transparently and efficiently that ensures quality, availability, and affordability.<sup>13</sup>
- Tanzania Electric Supply Company Limited (TANESCO) is responsible for the transmission and distribution of electricity, promotion of services, and customer service matters in the country.<sup>14, 15</sup>
- Tanzania is a member of the Eastern African Power Pool (EAPP) which aims to optimize the available energy resources and reduce electricity costs in the region.<sup>16</sup>



Infrastructure

- Tanzania's transmission network comprises 3010 km of 220 kV lines, 1672 km of 132 kV lines, 543 km of 66 kV lines, and 670 km of 400 kV lines totalling to around 5896 km of lines and 57 substations.<sup>15</sup>
- TANESCO's transmission network expansion plan includes the construction of 414 km of 400 kV Singida – Arusha - Namanga transmission line.<sup>15</sup>
- Tanzania is planning to spend USD 1.9 Bn to upgrade its power transmission and distribution network to end electricity outages.<sup>17</sup>



Financing

- To promote investment in RE projects Tanzania, in collaboration with the World Bank's Carbon Partnership Facility, designed an innovative financing instrument that monetized carbon credits from private RE projects.<sup>18</sup>
- The AfDB has shown keen interest in improving RE investments to increase electricity access rates and RE generation.<sup>19</sup>
- As of 2020, the AfDB approved a USD 120 Mn loan to fund the construction of a 50 MW hydropower plant in Western Tanzania.<sup>20</sup>



Energy Imperatives

- In 2020, Tanzania's per capita electricity consumption stood at 0.12 MWh, which is significantly lower in comparison to the global average of 3.31 MWh.<sup>23</sup>
- The total installed capacity in the country stood at 1,529.9 MW in 2019.<sup>21</sup>
- The total installed capacity of solar PV witnessed a CAGR of 1.7% reaching 23.64 MW in 2021 from 22.07 MW levels in 2017.<sup>22</sup>