



# Oman

Asia & Pacific

Ease of doing Solar classification



**Achiever**

Electricity Consumption in kWh/capita (2020)

**6761.1**

Average PVout in kWh/kWp/day (2020)

**5.2**

Cumulative Solar Capacity in MW (2021)

**137.6**

Getting Electricity Score (2020)

**87.1**

NDC Target by 2030 in %

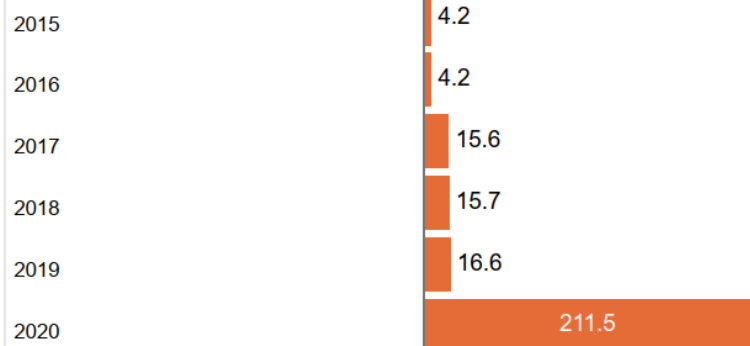
**7.0**

Human Development Index (2021)

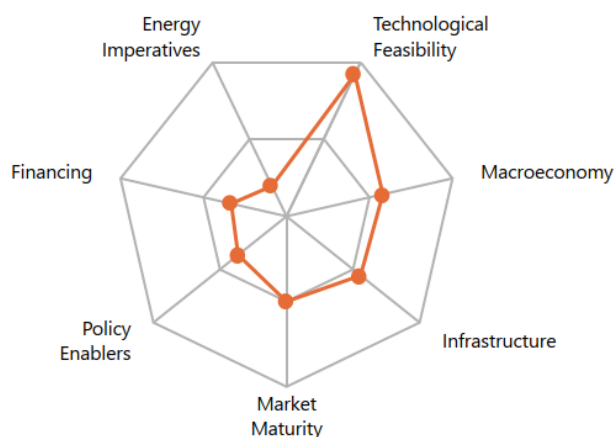
**0.8**

## Renewable Energy Generation by Source

● Solar (GWh)

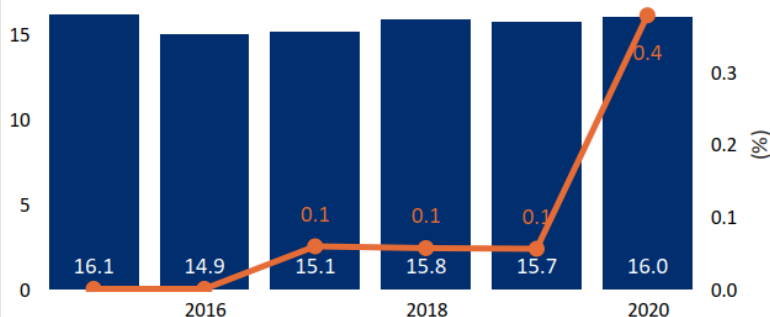


## Performance against 7 Drivers



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

● CO<sub>2</sub> Emissions (tonnes per capita) ● Share of Electricity from Renewables (%)



## Fiscal Incentives & Public Financing for Renewables (2020)

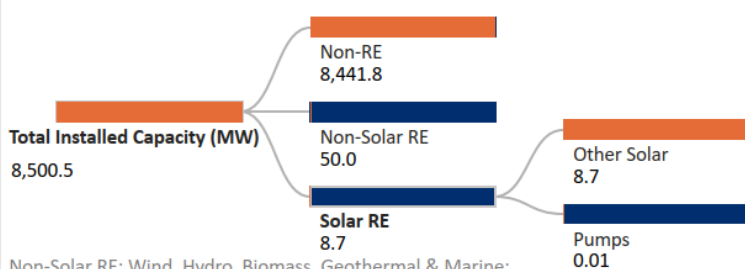
Investment or production tax credits?

**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**

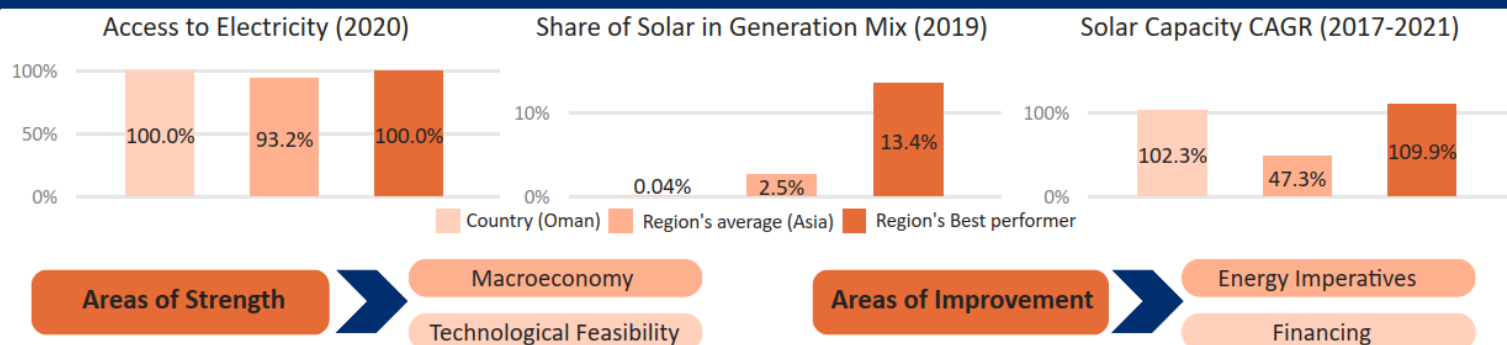
Renewable Energy Certificates?

**No**

Renewable Purchase Obligation?

**No**

## Country's regional performance and characteristics



## Key Insights

### Drivers

### Insights



Macroeconomy

- The Sultanate of Oman is a high-income status country with GDP per capita (PPP) of USD 37,676. Oil and gas sector is the dominant contributor to the economy.<sup>1, 2, 3</sup>
- Due to COVID-19 pandemic, the GDP (Real) had declined by 2.8% in 2020, but the economy has bounced back by growing at 2% in 2021.<sup>3</sup>
- In 2021, agriculture contributed 2.38% to the GDP while 52.2% share came from the industry and 50.67% from the service sector.<sup>4</sup>



Policy enablers

- The country is determined to reduce their absolute GHG emissions by 7% relative to a business-as-usual (BAU) scenario by 2030.<sup>5</sup>
- The country is planning to expand its electricity-generation capacities through RE independent power projects (IPP) and has planned to derive at least 30% of electricity from RE by 2030.<sup>6</sup>
- SAHIM is a renewable initiative taken up by Oman's Authority of Public Services Regulation.<sup>7</sup>



Technological Feasibility

- Oman receives high levels of solar irradiation (GHI) of 6.3 kWh/m<sup>2</sup>/day and specific yield of 5.2 kWh/kWp/day indicating a strong technical feasibility for solar in the country.<sup>8</sup>
- Oman's energy supply is entirely generated by nationally produced natural gas and oil products.<sup>9</sup>
- Oman's state-owned Rural Electricity Company (Tanweer) tendered 11 solar-diesel-storage hybrid projects (in 2019) with a combined capacity of 146 MW for non-interconnected areas.<sup>10</sup>



Market Maturity

- The Authority for Electricity Regulation Oman is responsible for regulating the electricity and related water sector in Oman.<sup>12</sup>
- The Oman Power and Water Procurement Company (OPWP) is the sole buyer of power and water for all IPP/IWPP projects within Oman.<sup>13</sup>
- Muscat Electricity Distribution Company SAOC, Majan Electricity Company SAOC, Mazoon Electricity Company SAOC and Dhofar Energy Company are the electricity distribution companies operating in Oman.<sup>15</sup>



Infrastructure

- The Oman Electricity Transmission Company SAOC (OETC) owns and operates the 132 kV, 220 kV and 400 kV interconnected transmission systems.<sup>16</sup>
- The transmission grid network of Dhofar operates at 132 kV level with 8 grid stations and 520 km length of power circuit lines.<sup>16</sup>
- The transmission system is interconnected with the transmission system of UAE (Abu Dhabi Transco) at Mahdah (Al Wasit) grid station through a 220kV interconnector.<sup>16</sup>
- Oman has achieved 99.99% of network reliability with an interruption time of 0.95 min.<sup>17</sup>



Financing

- The Asian Infrastructure Investment Bank (AIIB) approved a USD 60 Mn loan to increase Oman's renewable power generation capacity and reduce the country's dependence on gas and other fossil fuels for electricity generation.<sup>18</sup>
- AIIB has approved financing of up to USD 60 Mn for the Ibrill 500 MW Solar PV Independent Power Plant Project.<sup>19</sup>



Energy Imperatives

- In 2020, the per capita electricity consumption stood at 6.76 MWh, which is almost twice in comparison to the global average of 3.31 MWh.<sup>20</sup>
- The total installed capacity of Solar PV witnessed a CAGR of 102.3% between 2017-2021 reaching to 137.59 MW in 2021 from 8.2 MW levels in 2017.<sup>20</sup>
- The demand of electricity in Oman in 2021 stood at 34.21 TWh with no change observed from the 2020 levels.<sup>21</sup>
- Oman is dominated by gas based thermal power station comprising 99.2% and rest 0.88 % is from renewables.<sup>23</sup>