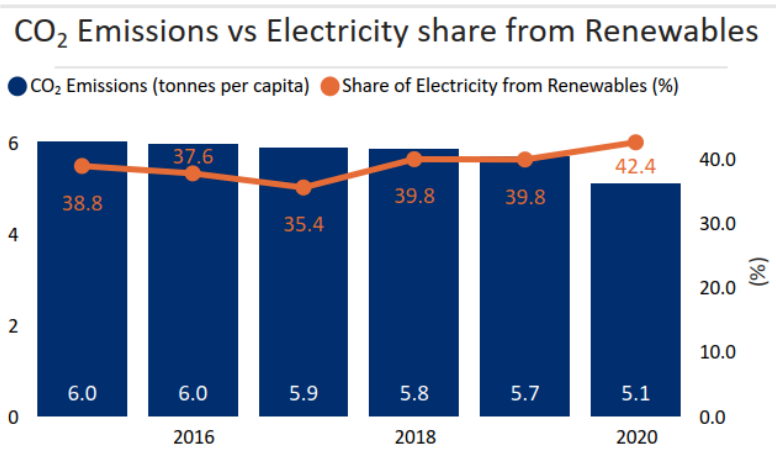
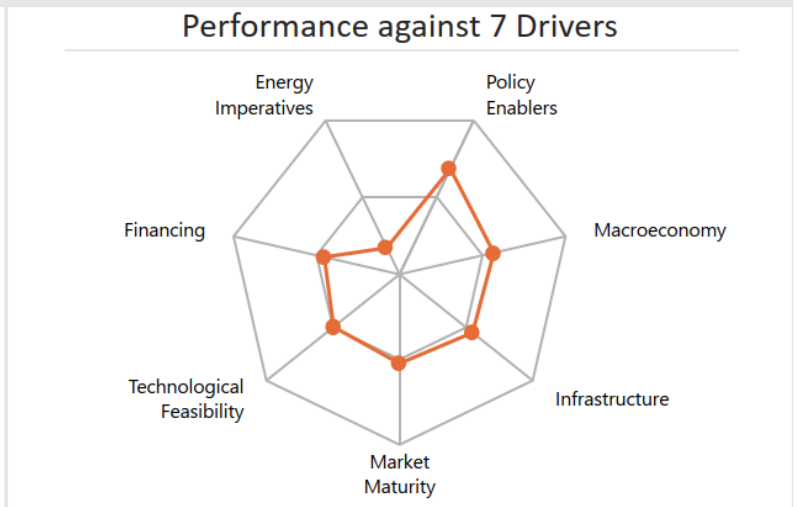
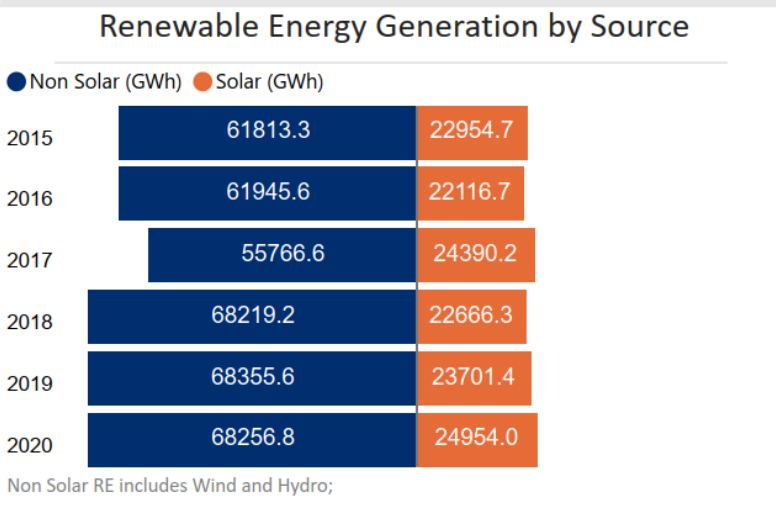


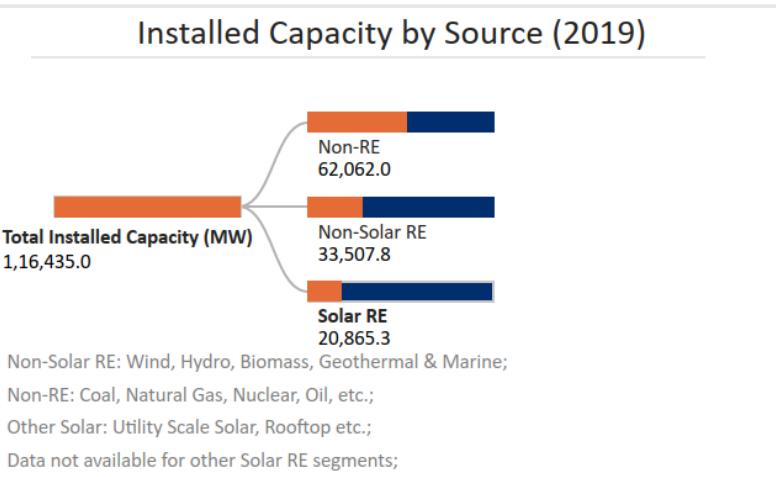
	<b>Italy</b>	Ease of doing Solar classification
	Europe and others	<b>Achiever</b>

Electricity Consumption in kWh/capita (2020) <b>4544.0</b>	Average PVout in kWh/ kWp/day (2020) <b>4.0</b>	Cumulative Solar Capacity in MW (2021) <b>22692.0</b>
Getting Electricity Score (2020) <b>86.1</b>	NDC Target by 2030 in % (base year 1990) <b>55.0</b>	Human Development Index (2021) <b>0.9</b>



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

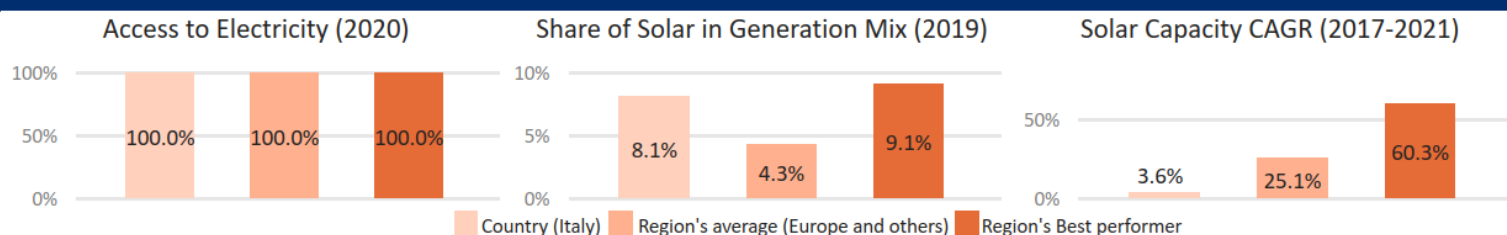
- Investment or production tax credits? **Yes**
- Public investment, loans, grants, capital subsidies or rebates? **Yes**



### 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



### Areas of Strength

Macroeconomy

Policy Enablers

### Areas of Improvement

Energy Imperatives

Financing

## Key Insights

### Drivers

### Insights



Macroeconomy

- Italy is a high-income country with a GDP per capita (PPP) of USD 46,374 in 2021.<sup>1,2</sup>
- Due to COVID-19 Pandemic, the GDP (Real) had declined by 9% in 2020. However, in 2021 it has bounced back by growing at 6.7%.<sup>3</sup>
- The inflation rate (CPI) of Italy has increased to 1.9% in 2021 from -0.1% levels in 2020.<sup>4</sup>
- The general government gross debt to GDP has slightly reduced to 150.9% in 2021 from 155.3% levels in 2020.<sup>5</sup>



Policy enablers

- Italy has targeted to reduce its carbon emissions to around 60% by 2030 from 1990 levels.<sup>6</sup>
- Italy's National Energy and Climate Plan has set targets to achieve renewable energy contribution to 30% in total energy consumption by 2030.<sup>7</sup>
- Italy's National Recovery and Resilience Plan (2021) has set 5 objectives: increase energy from renewable sources, improvement in digitalisation of the electricity grid, production-distribution of hydrogen, sustainable transport and R&D in clean transition.<sup>8</sup>



Technological Feasibility

- Italy receives moderate solar irradiation (GHI) of 4.1 kWh/m<sup>2</sup>/day and specific yield 4.0 kWh/kWp/day indicating a moderate technical feasibility for solar in the country.<sup>9</sup>
- Italy's Battery energy storage system (BESS) capacity has reached 1,227 MWh in 2022, of which 977 MWh is part of distributed energy storage.<sup>10</sup>
- Triggiano Solar Park in Italy, with a capacity of 99.17 MW developed by Winch Energy, supplies electricity to rural areas through solar mini grids.<sup>11</sup>



Market Maturity

- The Italian Regulatory Authority for Energy, Networks and Environment (ARERA) is the agency responsible for carrying out regulatory and supervisory activities for electricity, gas, and water sector.<sup>12</sup>
- Terna is responsible for transmission of electricity through high and extra-high voltage power grid all over Italy.<sup>13</sup>
- Gestore dei Mercati Energetici S.p.A (GME) is the Italian Power Exchange (IPEX) which operates through a forward physical market (MTE), a market for the trading of daily products (MPEG) with continuous trading mode, a day ahead auction market (MGP), and an intraday auction market (MI).<sup>14</sup>



Infrastructure

- Italy has set a target to expand 40 GW grid connected renewable energy by 2030.<sup>15</sup>
- Italy's transmission network operates at 132 kV/150 kV, 220 kV and 380 kV voltage levels.<sup>15</sup>
- Italy has a total transmission line length of 74,855 kms with 26 cross border interconnection lines.<sup>16</sup>
- Italy has cross border transmission lines with Switzerland, Austria, Slovenia, and France.<sup>17</sup>



Financing

- The Italian government has proposed to invest USD 5.86 Bn in RE projects which is a part of its National Resilience and Recovery Plan.<sup>18</sup>
- For the expansion of transmission lines in Italy, Terna would invest Euro 18 Bn.<sup>15</sup>
- The EIB has invested USD 48.9 Mn in RE under its Green Developer Financing Programme in Tuscany, Italy.<sup>19</sup>
- The Council of Europe Development Bank (CEB) and Italy's multi-utility company IREN S.p.A. have signed a USD 79.9 Mn loan to augment the use of green energy in metropolitan area of Turin in Italy.<sup>20</sup>



Energy Imperatives

- In 2020, Italy's per capita electricity consumption stood at 4.54 MWh which is comparatively higher to the global average of 3.31 MWh.<sup>21</sup>
- The total installed capacity of Solar PV witnessed a CAGR of 3.6% reaching 22,692 MW in 2021 from 19,682 MW levels in 2017.<sup>22</sup>
- In 2021, the total installed capacity in the country reached 116.98 GW with a significant share coming from gas (49.68%), followed by hydro (15.8%), solar (8.94%), wind (7.38%), bioenergy (7.01%), coal (5.01%), fossil fuel based (4.39%) and other renewables (2.08%).<sup>23,24</sup>