**ENERGY PROFILE**

**China**

### Country Indicators and SDGs

**Total Energy Supply (TES)**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-renewable (TJ)</td>
<td>111,746,107</td>
<td>128,939,885</td>
</tr>
<tr>
<td>Renewable (TJ)</td>
<td>9,064,951</td>
<td>12,119,545</td>
</tr>
<tr>
<td>Total (TJ)</td>
<td>120,811,058</td>
<td>141,059,431</td>
</tr>
<tr>
<td>Renewable share (%)</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

**Growth in TES**

<table>
<thead>
<tr>
<th></th>
<th>2015-20</th>
<th>2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-renewable (%)</td>
<td>+15.4</td>
<td>+2.5</td>
</tr>
<tr>
<td>Renewable (%)</td>
<td>+33.7</td>
<td>+7.2</td>
</tr>
<tr>
<td>Total (%)</td>
<td>+35.8</td>
<td>+2.9</td>
</tr>
</tbody>
</table>

**Primary energy trade**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports (TJ)</td>
<td>22,088,628</td>
<td>35,875,563</td>
</tr>
<tr>
<td>Exports (TJ)</td>
<td>2,436,359</td>
<td>3,294,221</td>
</tr>
<tr>
<td>Net trade (TJ)</td>
<td>-19,652,269</td>
<td>-32,581,342</td>
</tr>
<tr>
<td>Imports (% of supply)</td>
<td>18</td>
<td>25</td>
</tr>
<tr>
<td>Exports (% of production)</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Energy self-sufficiency (%)</td>
<td>84</td>
<td>80</td>
</tr>
</tbody>
</table>
### Consumption by sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>4,317,986</td>
<td>6,014,891</td>
</tr>
<tr>
<td>Transport</td>
<td>432,761</td>
<td>599,793</td>
</tr>
<tr>
<td>Households</td>
<td>1,479,084</td>
<td>2,259,925</td>
</tr>
<tr>
<td>Other</td>
<td>7,850,458</td>
<td>11,090,948</td>
</tr>
</tbody>
</table>

### Renewable TFEC trend

- **Electricity**
- **Commercial heat**
- **Bioenergy**

### Renewable energy consumption in 2020

- **Geothermal**
- **Solar direct**

### Installed capacity trend

- **Fossil fuels**
- **Hydro/marine**
- **Wind**
- **Solar**
- **Bioenergy**
- **Geothermal**

### Net capacity change in 2022 (MW)

- **Non-renewable** +46,604
- **Solar** +86,059
- **Bioenergy** +4,335
- **Hydro and marine** +13,180
- **Wind** +36,991

### Renewable capacity in 2022

- **Hydro/marine**
- **Solar**
- **Wind**
- **Bioenergy**
- **Geothermal**

### Capacity utilisation in 2021 (%)

- **Fossil fuels** 52%
- **Nuclear** 90%
- **Hydro/Marine** 43%
- **Solar** 13%
- **Wind** 25%
- **Bioenergy** 52%
- **Geothermal** 0%
### ELECTRICITY GENERATION

#### Generation in 2021

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>GWh</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-renewable</td>
<td>6,129,868</td>
<td>72</td>
</tr>
<tr>
<td>Renewable</td>
<td>2,405,538</td>
<td>28</td>
</tr>
<tr>
<td>Hydro and marine</td>
<td>1,300,007</td>
<td>15</td>
</tr>
<tr>
<td>Solar</td>
<td>327,572</td>
<td>4</td>
</tr>
<tr>
<td>Wind</td>
<td>656,705</td>
<td>8</td>
</tr>
<tr>
<td>Bioenergy</td>
<td>121,111</td>
<td>1</td>
</tr>
<tr>
<td>Geothermal</td>
<td>144</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8,535,406</td>
<td>100</td>
</tr>
</tbody>
</table>

### Per capita electricity generation (kWh)

- **Total**
- **Renewable**

### LATEST POLICIES, PROGRAMMES AND LEGISLATION

1. **Renewable Energy Electricity Subsidy for 2023**
2. **Subsidy on New Energy Vehicle 2023**
3. **(Inner Mongolia) Coal Industry Development 14th Five-Year Plan - Coalbed Methane Development and Utilization Supporting Scheme**
4. **Chongqing gas subsidy scheme**
5. **Hydrogen Industry Development Plan (2021-2035)**

### ENERGY AND EMISSIONS

#### Energy-related CO₂ emissions by sector

- **Elec. & heat**
- **Other Industrial**
- **Transport**
- **Other**
- **Buildings**

#### Elec. & heat generation CO₂ emissions in

- **Coal + others**
- **Gas**
- **Oil**

#### CO₂ emission factor for elec. & heat generation

- **CHN**
- **Asia**
- **World**

### Avoided emissions from renewable elec. & heat

- **Emitted CO₂**
- **RE Avoided CO₂**
RENEWABLE RESOURCE POTENTIAL

Distribution of solar potential
- World
- China

Distribution of wind potential
- World
- China

Biomass potential: net primary production

Sources: IRENA statistics, plus data from the following sources: UN SDG Database (original sources: WHO; World Bank; IEA; IRENA; and UNSD); UN World Population Prospects; UNSD Energy Balances; UN COMTRADE; World Bank World Development Indicators; EDGAR; IRENA Global Status Report; IEA-IRENA Joint Policies and Measures Database; IRENA Global Atlas; and World Bank Global Solar Atlas and Global Wind Atlas.

Additional notes: Capacity per capita and public investments SDGs only apply to developing areas. Energy self-sufficiency has been defined as total primary energy production divided by total primary energy supply. Energy trade includes all commodities in Chapter 27 of the Harmonised System (HS). Capacity utilisation is calculated as annual generation divided by year-end capacity x 8,760h/year. Avoided emissions from renewable power is calculated as renewable generation divided by fossil fuel generation multiplied by reported emissions from the power sector. This assumes that, if renewable power did not exist, fossil fuels would be used in its place to generate the same amount of power and using the same mix of fossil fuels. In countries and years where no fossil fuel generation occurs, an average fossil fuel emission factor has been used to calculate the avoided emissions.

These profiles have been produced to provide an overview of developments in renewable energy in different countries and areas. The IRENA statistics team would welcome comments and feedback on its structure and content, which can be sent to statistics@irena.org.

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