Azerbaijan

Total Energy Supply (TES)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-renewable (TJ)</td>
<td>578 185</td>
<td>654 649</td>
</tr>
<tr>
<td>Renewable (TJ)</td>
<td>10 452</td>
<td>7 202</td>
</tr>
<tr>
<td>Total (TJ)</td>
<td>588 637</td>
<td>661 851</td>
</tr>
<tr>
<td>Renewable share (%)</td>
<td>2%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Growth in TES

<table>
<thead>
<tr>
<th></th>
<th>2014-19</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-renewable (%)</td>
<td>+13.2</td>
<td>-9.5</td>
</tr>
<tr>
<td>Renewable (%)</td>
<td>-311</td>
<td>-38.2</td>
</tr>
<tr>
<td>Total (%)</td>
<td>+12.4</td>
<td>+9.1</td>
</tr>
</tbody>
</table>

Primary energy trade

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports (TJ)</td>
<td>12 436</td>
<td>12 778</td>
</tr>
<tr>
<td>Exports (TJ)</td>
<td>1893 136</td>
<td>1802 234</td>
</tr>
<tr>
<td>Net trade (TJ)</td>
<td>1880 700</td>
<td>1789 456</td>
</tr>
<tr>
<td>Imports (% of supply)</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Exports (% of production)</td>
<td>76%</td>
<td>73%</td>
</tr>
<tr>
<td>Energy self-sufficiency (%)</td>
<td>421%</td>
<td>374%</td>
</tr>
</tbody>
</table>
**Consumption by sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th>2014</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry (TJ)</td>
<td>862</td>
<td>1121</td>
</tr>
<tr>
<td>Transport (TJ)</td>
<td>153</td>
<td>79</td>
</tr>
<tr>
<td>Households (TJ)</td>
<td>4,091</td>
<td>1,664</td>
</tr>
<tr>
<td>Other (TJ)</td>
<td>2,556</td>
<td>2,410</td>
</tr>
</tbody>
</table>

**Renewable TFEC trend**

- Electricity
- Commercial heat
- Bioenergy

**Renewable energy consumption in 2019**

- Geothermal
- Solar direct

**ELECTRICITY CAPACITY**

- Installed capacity trend
  - Fossil fuels
  - Nuclear
  - Other Non-RE
  - Hydro/marine
  - Wind
  - Solar
  - Bioenergy
  - Geothermal
  - Renewable share

- Renewable capacity in 2021
  - Hydro/marine
  - Solar
  - Wind
  - Bioenergy
  - Geothermal

**Net capacity change in 2021 (MW)**

- Non-renewable: +20
- Solar: +5
- Bioenergy: 0
- Hydro and marine: +3
- Wind: +1

**Capacity utilisation in 2020 (%)**

- Fossil fuels: 44%
- Nuclear: 11%
- Hydro/Marine: 16%
- Solar: 17%
- Wind: 51%
- Bioenergy: 51%
- Geothermal: 51%
**ELECTRICITY GENERATION**

<table>
<thead>
<tr>
<th>Generation in 2020</th>
<th>GWh</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-renewable</td>
<td>24,426</td>
<td>95</td>
</tr>
<tr>
<td>Renewable</td>
<td>14,13</td>
<td>5</td>
</tr>
<tr>
<td>Hydro and marine</td>
<td>10,70</td>
<td>4</td>
</tr>
<tr>
<td>Solar</td>
<td>47</td>
<td>0</td>
</tr>
<tr>
<td>Wind</td>
<td>96</td>
<td>0</td>
</tr>
<tr>
<td>Bioenergy</td>
<td>201</td>
<td>1</td>
</tr>
<tr>
<td>Geothermal</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25,839</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Per capita electricity generation (kWh)**

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

**Electricity generation trend**

- **Fossil fuels**
- **Nuclear**
- **Other Non-RE**
- **Hydro/marine**
- **Wind**
- **Solar**
- **Bioenergy**
- **Geothermal**
- **Renewable share**

**LATEST POLICIES, PROGRAMMES AND LEGISLATION**

1. **Azerbaijan 2030: National Priorities for Socio-economic Development**
   - 2021
2. **Law on Use of Renewable Energy Resources in Electricity Production**
   - 2021
3. **Nationally Determined Contribution (NDC) to the Paris Agreement: Azerbaijan**
   - 2021
4. **Cabinet of Ministers Decree on approval of the Rules for financing, creation, protection, use, volume and accounting of fuel reserves**
   - 2020
5. **Cabinet of Ministers Decree on approval of the Rules of installation of the electrical equipments**
   - 2020

**ENERGY AND EMISSIONS**

**Energy-related CO₂ emissions by sector**

- Elect. & heat
- Other Industrial
- Transport
- Other
- Buildings

**Avoided emissions from renewable elec. & heat**

- Emitted CO₂
- RE Avoided CO₂

**Elec. & heat generation CO₂ emissions in Mt CO₂**

- Coal + others
- Gas
- Oil

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

- AZE
- Eurasia
- World

Calculated by dividing power sector emissions by elec. + heat gen.
Biomass potential: net primary production

- Biomass potential is measured as the amount of carbon fixed by plants and accumulated as biomass each year. It is a basic measure of biomass productivity.
- The chart shows the average NPP in the country (tC/ha/yr), compared to the global average NPP of 3-4 tC/ha/yr.

Indicators of renewable resource potential

- **Solar PV**: Solar resource potential has been divided into seven classes, each representing a range of annual PV output per unit of capacity (kWh/kWp/yr). The bar chart shows the proportion of a country’s land area in each of these classes and the global distribution of land area across the classes (for comparison).

- **Onshore wind**: Potential wind power density (W/m²) is shown in the seven classes used by NREL, measured at a height of 100m. The bar chart shows the distribution of the country’s land area in each of these classes compared to the global distribution of wind resources. Areas in the third class or above are considered to be a good wind resource.

- **Biomass**: Net primary production (NPP) is the amount of carbon fixed by plants and accumulated as biomass each year. It is a basic measure of biomass productivity. The chart shows the average NPP in the country (tC/ha/yr), compared to the global average NPP of 3-4 tonnes of carbon.