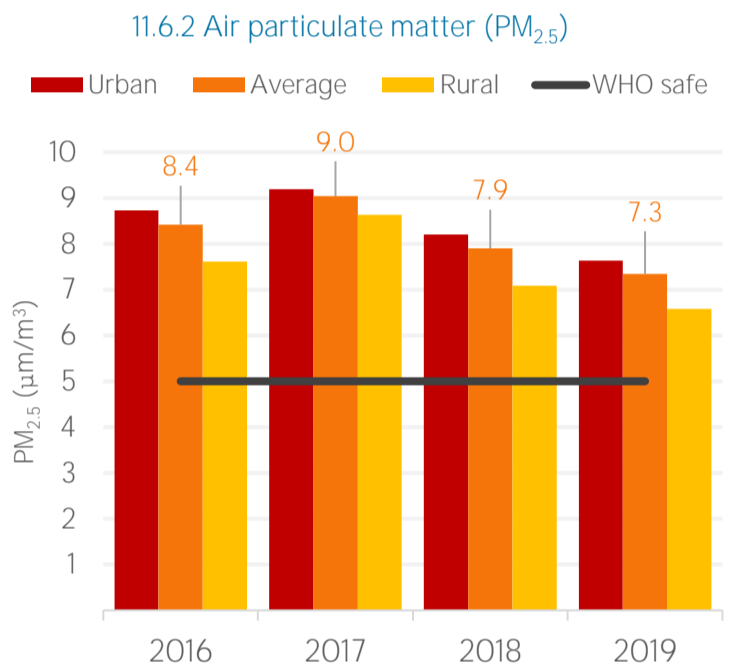
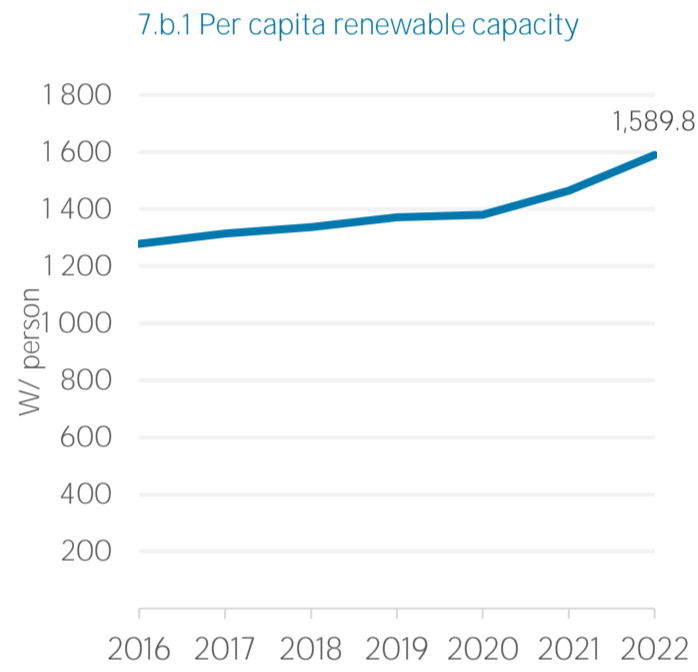
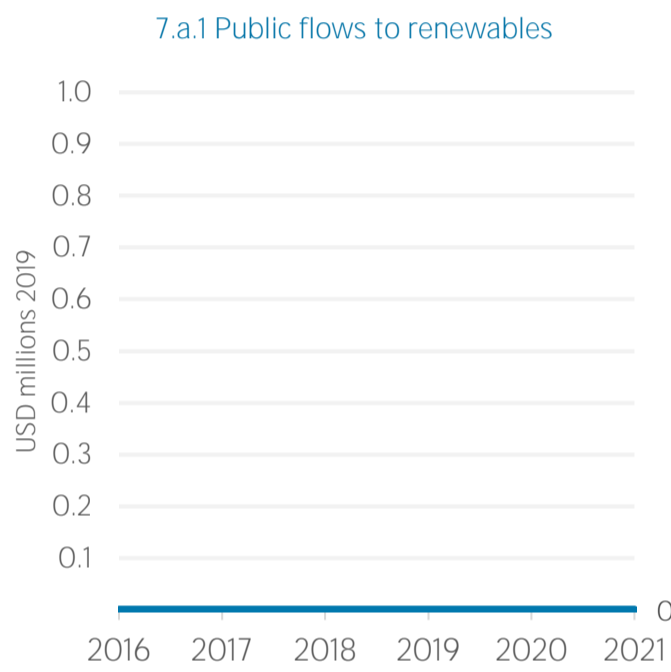
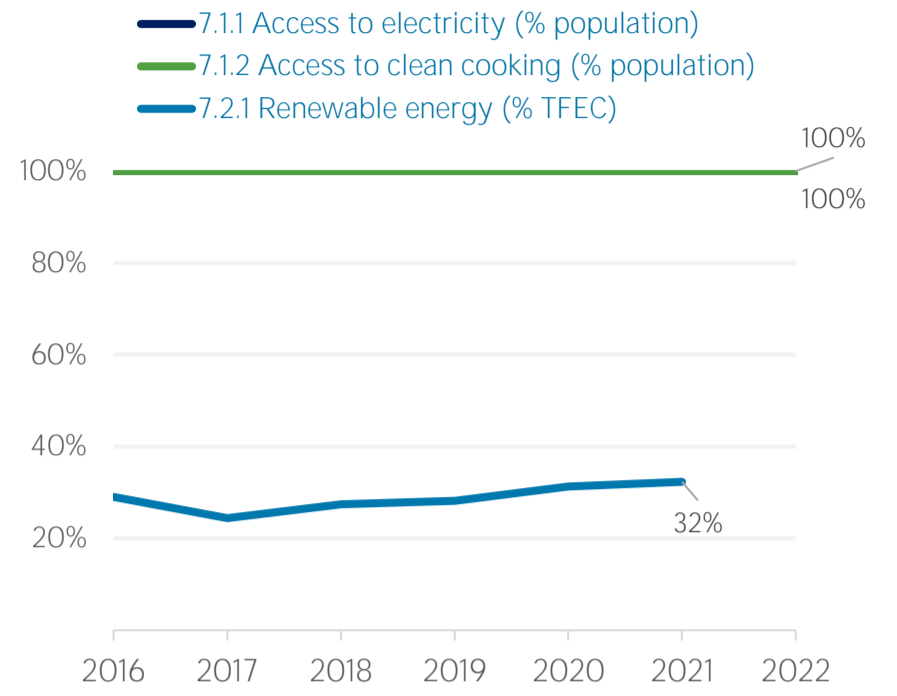
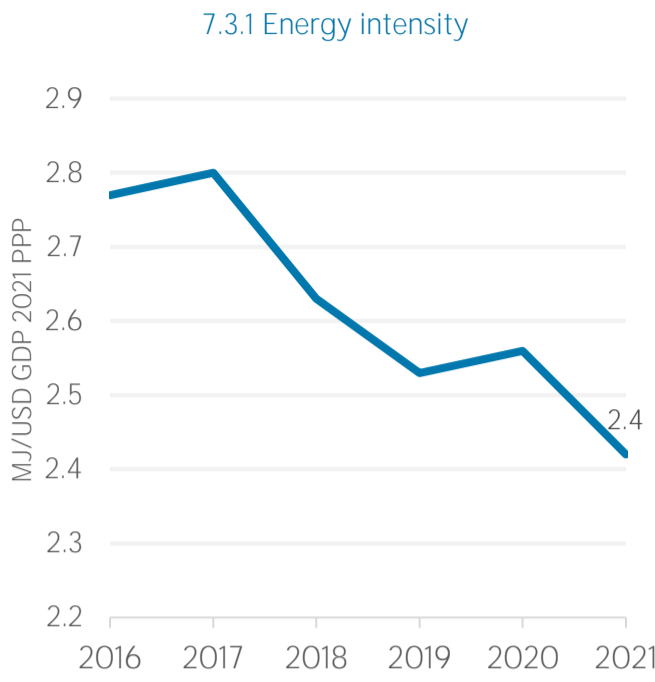
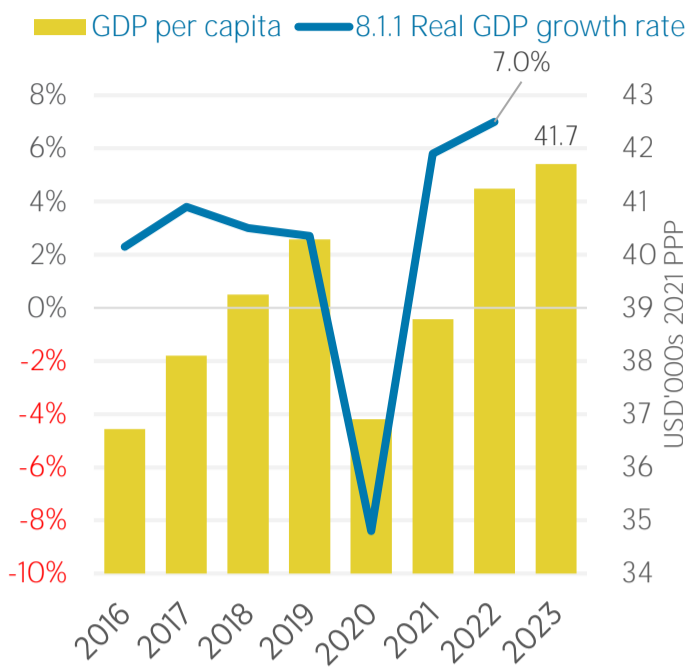


COUNTRY INDICATORS AND SDGS



TOTAL ENERGY SUPPLY (TES)

| Total Energy Supply (TES) | 2016    | 2021    |
|---------------------------|---------|---------|
| Non-renewable (TJ)        | 685 173 | 587 536 |
| Renewable (TJ)            | 191 106 | 241 737 |
| Total (TJ)                | 876 279 | 829 273 |
| Renewable share (%)       | 22      | 29      |

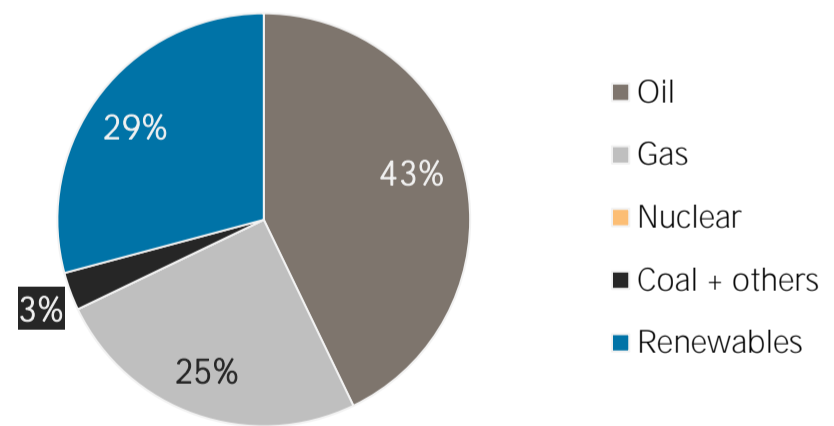
| Growth in TES     | 2016-21 | 2020-21 |
|-------------------|---------|---------|
| Non-renewable (%) | -14.2   | -3.5    |
| Renewable (%)     | +26.5   | +0.0    |
| Total (%)         | -5.4    | -2.5    |

| Primary energy trade | 2016      | 2021      |
|----------------------|-----------|-----------|
| Imports (TJ)         | 1 069 144 | 867 262   |
| Exports (TJ)         | 334 068   | 244 901   |
| Net trade (TJ)       | - 735 076 | - 622 361 |

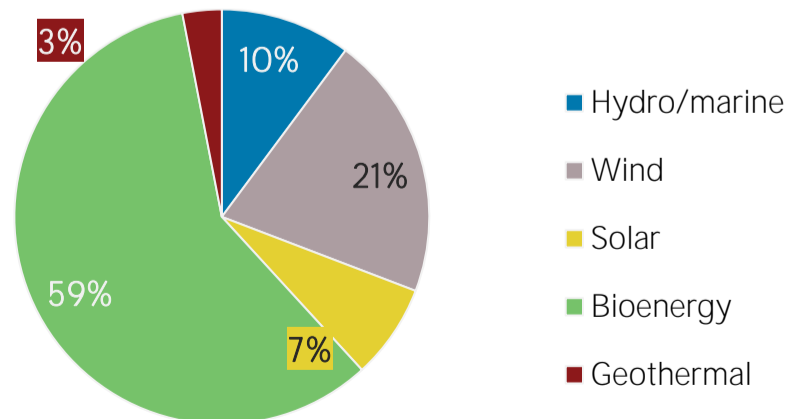
  

|                             |     |     |
|-----------------------------|-----|-----|
| Imports (% of supply)       | 122 | 105 |
| Exports (% of production)   | 154 | 100 |
| Energy self-sufficiency (%) | 25  | 30  |

Total energy supply in 2021

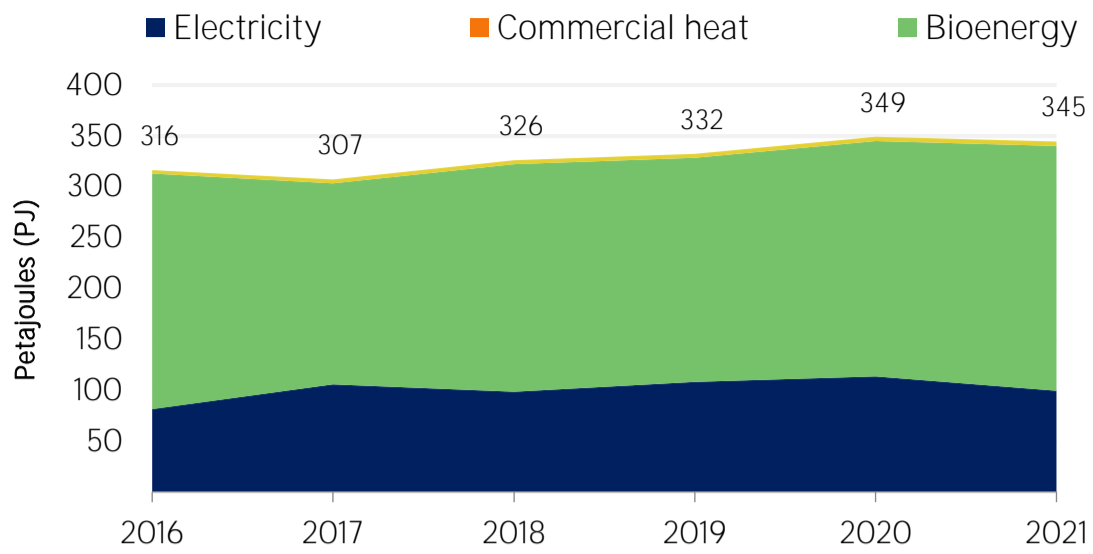


Renewable energy supply in 2021



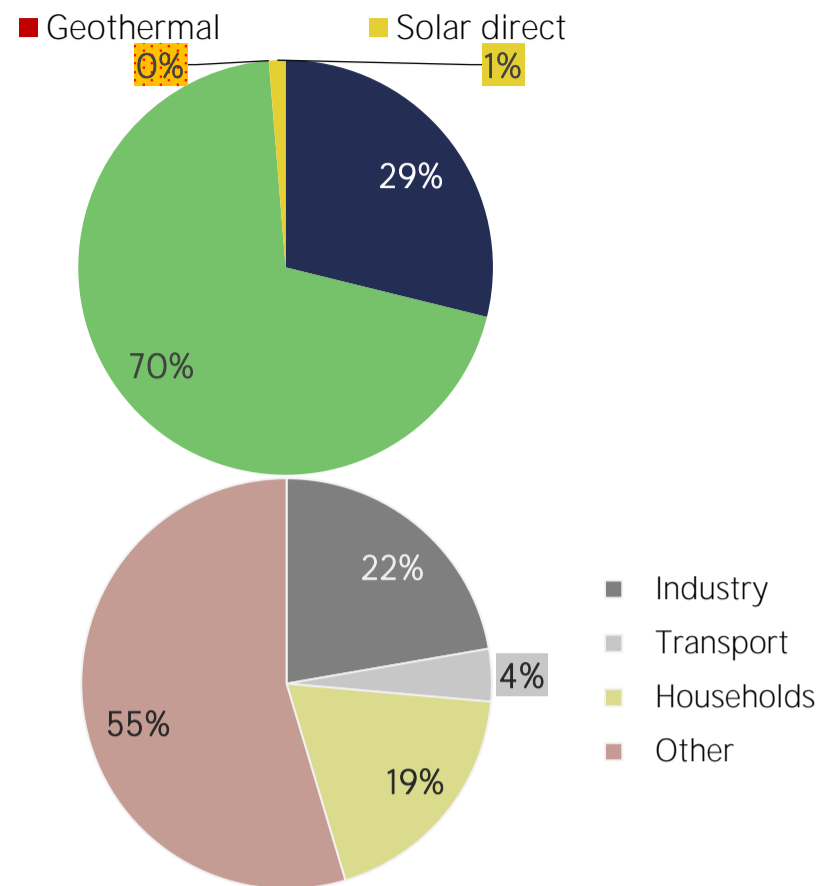
## RENEWABLE ENERGY CONSUMPTION (TFEC)

### Renewable TFE trend



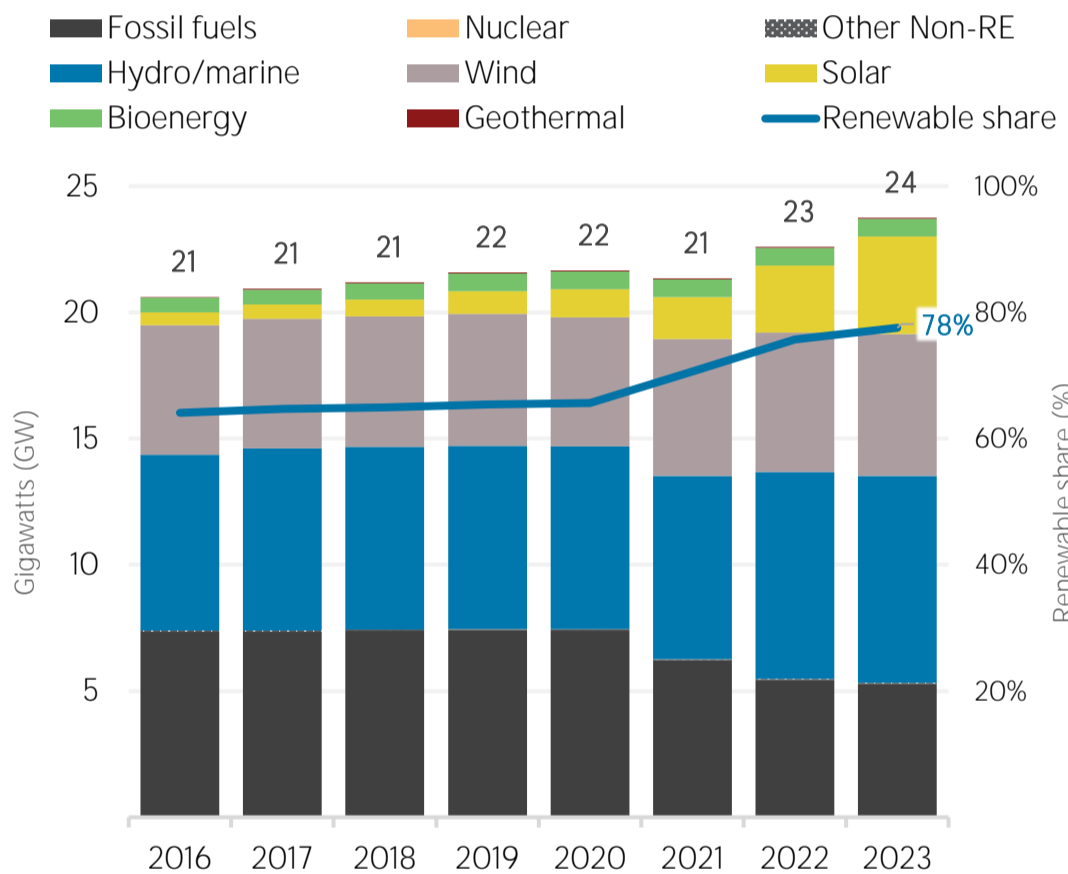
| Consumption by sector | 2016    | 2021    |
|-----------------------|---------|---------|
| Industry (TJ)         | 70 114  | 76 766  |
| Transport (TJ)        | 11 782  | 14 223  |
| Households (TJ)       | 56 830  | 65 348  |
| Other (TJ)            | 177 590 | 188 241 |

### Renewable energy consumption in 2021

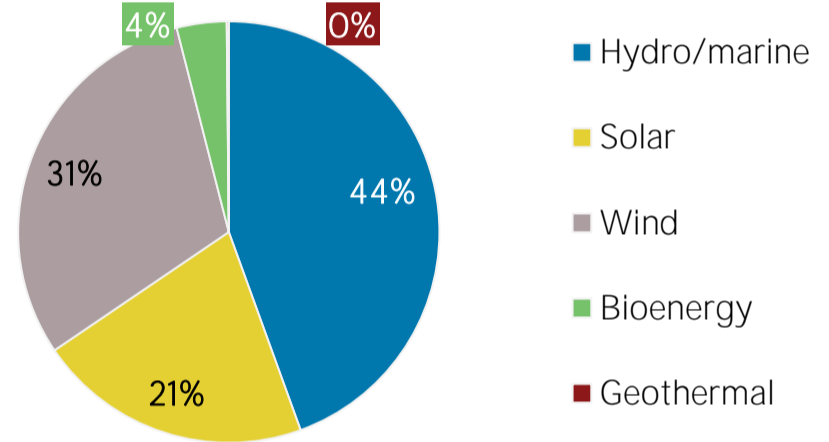


## ELECTRICITY CAPACITY

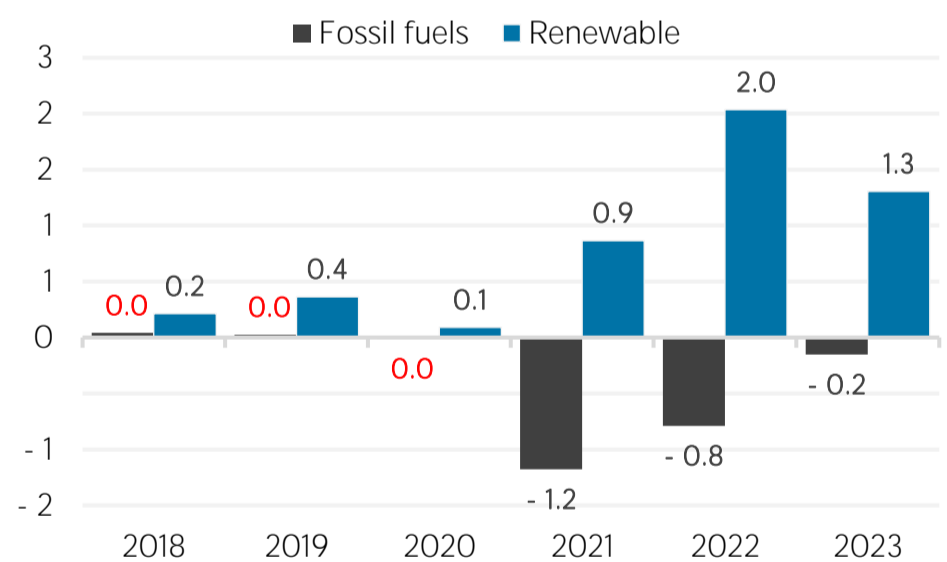
### Installed capacity trend



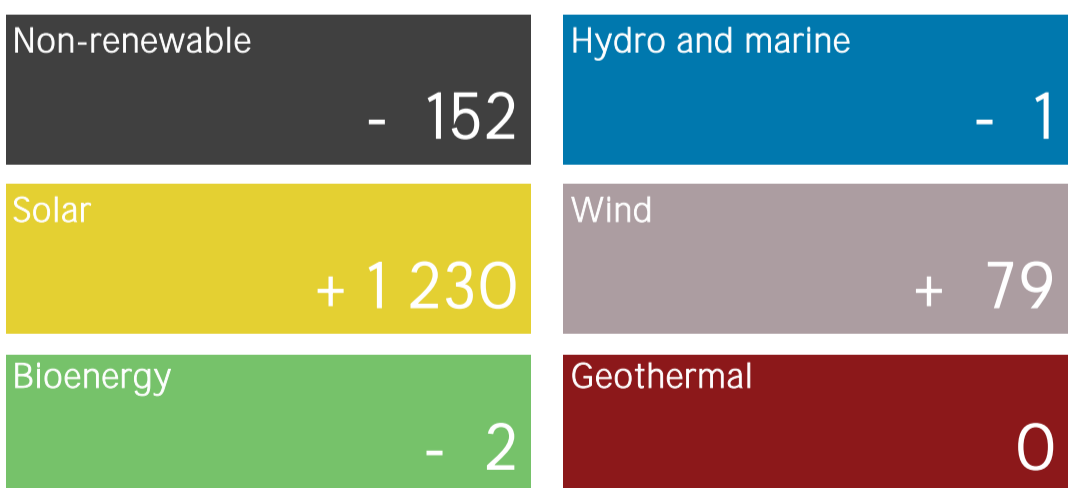
### Renewable capacity in 2023



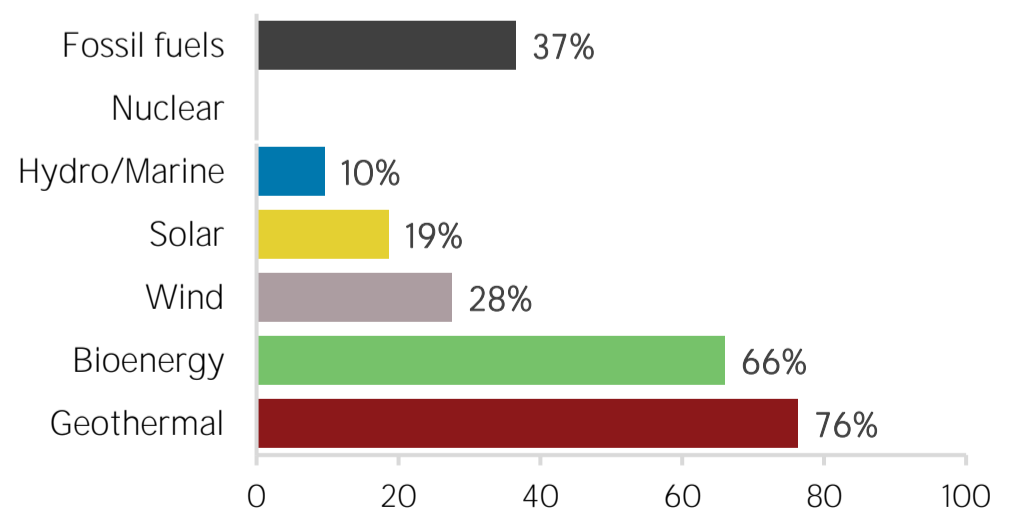
### Net capacity change (GW)



### Net capacity change in 2023 (MW)

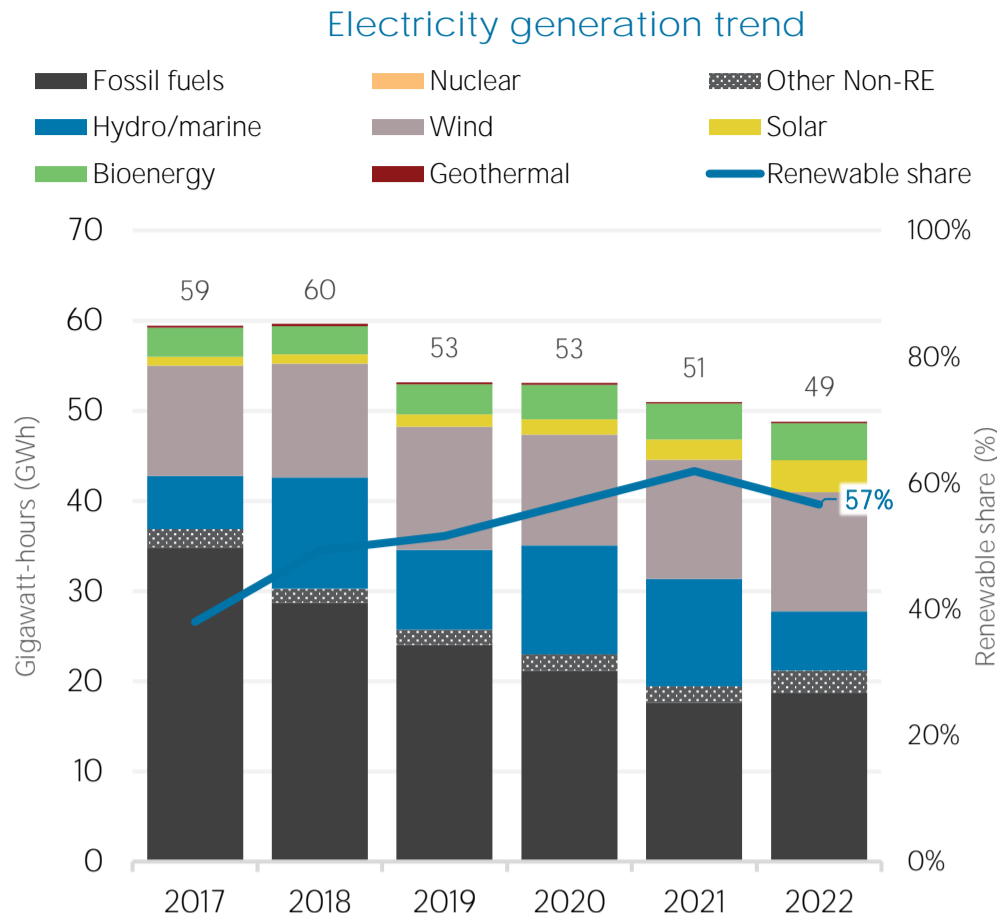


### Capacity utilisation in 2022 (%)

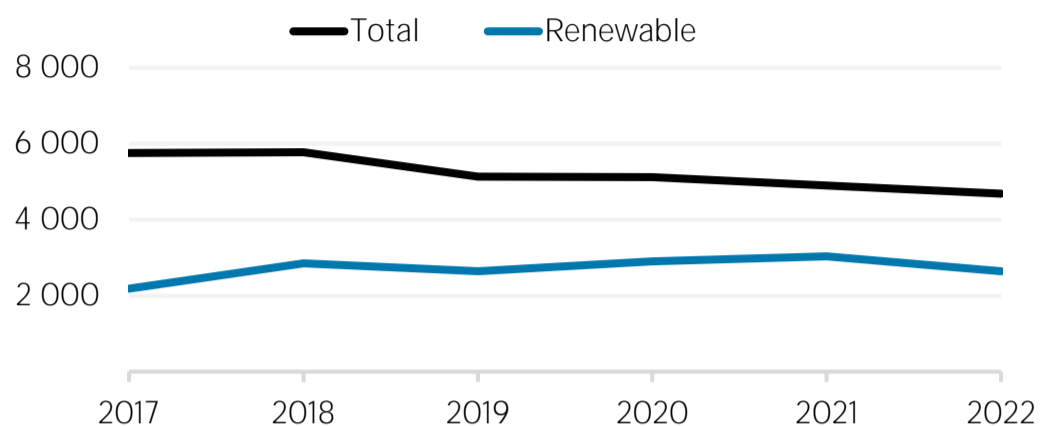


## ELECTRICITY GENERATION

| Generation in 2022   | GWh           | %          |
|----------------------|---------------|------------|
| <b>Non-renewable</b> | <b>21 201</b> | <b>43</b>  |
| <b>Renewable</b>     | <b>27 606</b> | <b>57</b>  |
| Hydro and marine     | 6 536         | 13         |
| Solar                | 3 519         | 7          |
| Wind                 | 13 244        | 27         |
| Bioenergy            | 4 113         | 8          |
| Geothermal           | 195           | 0          |
| <b>Total</b>         | <b>48 808</b> | <b>100</b> |



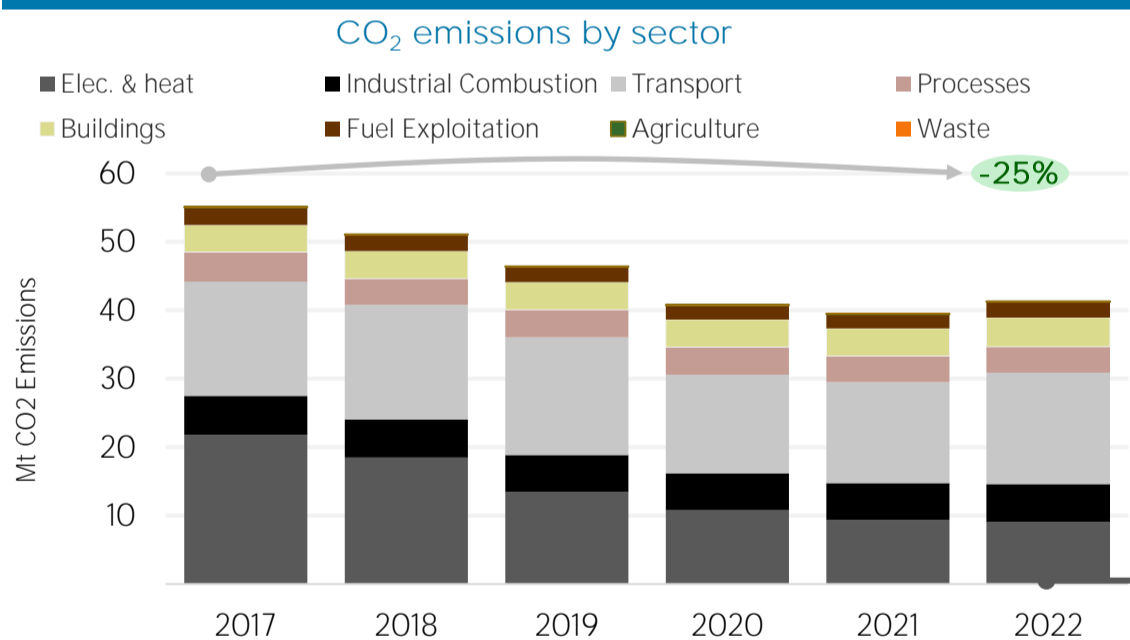
Per capita electricity generation (kWh)



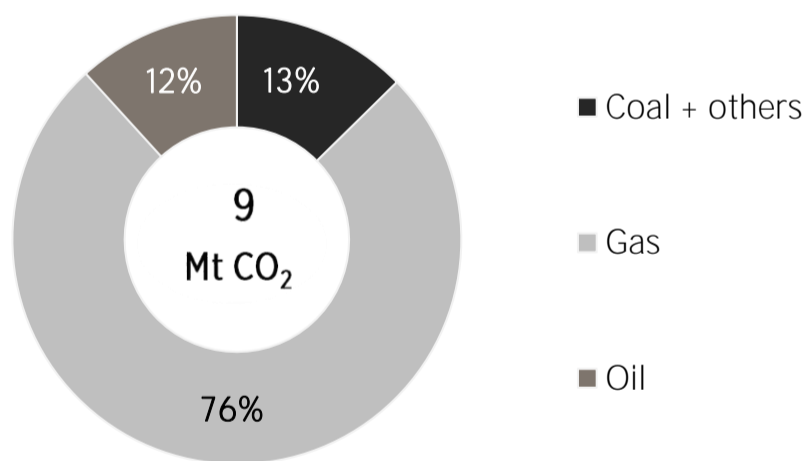
## LATEST POLICIES, PROGRAMMES AND LEGISLATION

- 2023 Energy affordability support package for businesses 2023
- 2023 incentives for decentralised renewable electricity production 2023
- 2023 Incentives for low-carbon company vehicle fleets 2023
- Freezing of urban travel pass prices for 2023 2023
- Natural gas subsidy for consumers outside the regulated tariff system 2023

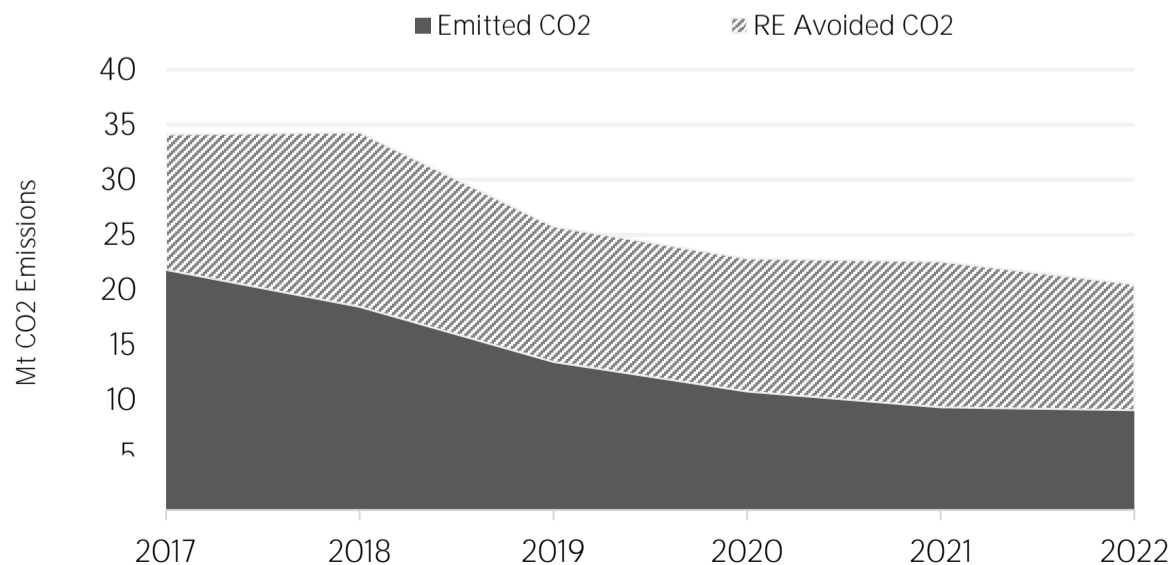
## ENERGY AND EMISSIONS



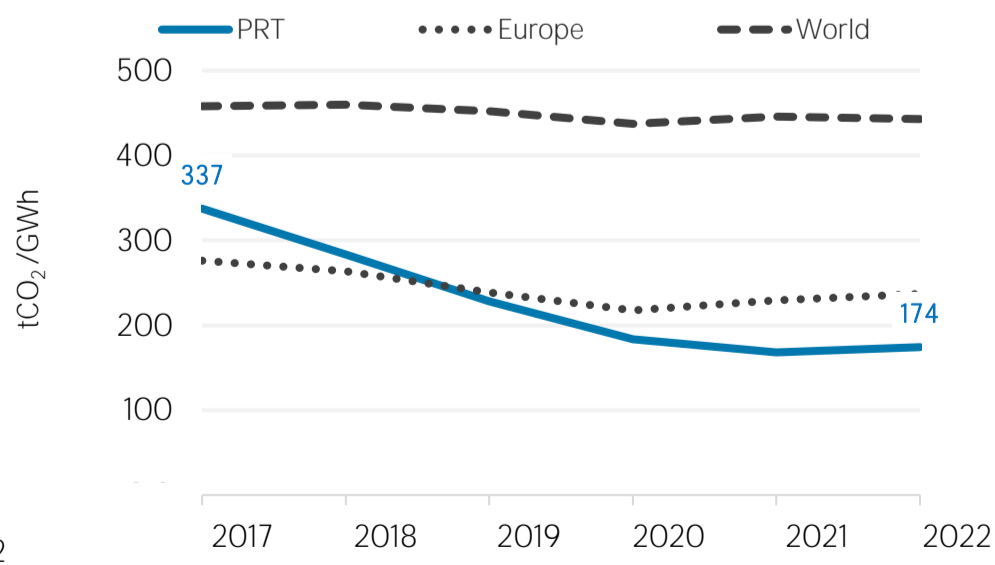
Elec. & heat generation CO<sub>2</sub> emissions in



Avoided emissions from renewable elec. & heat



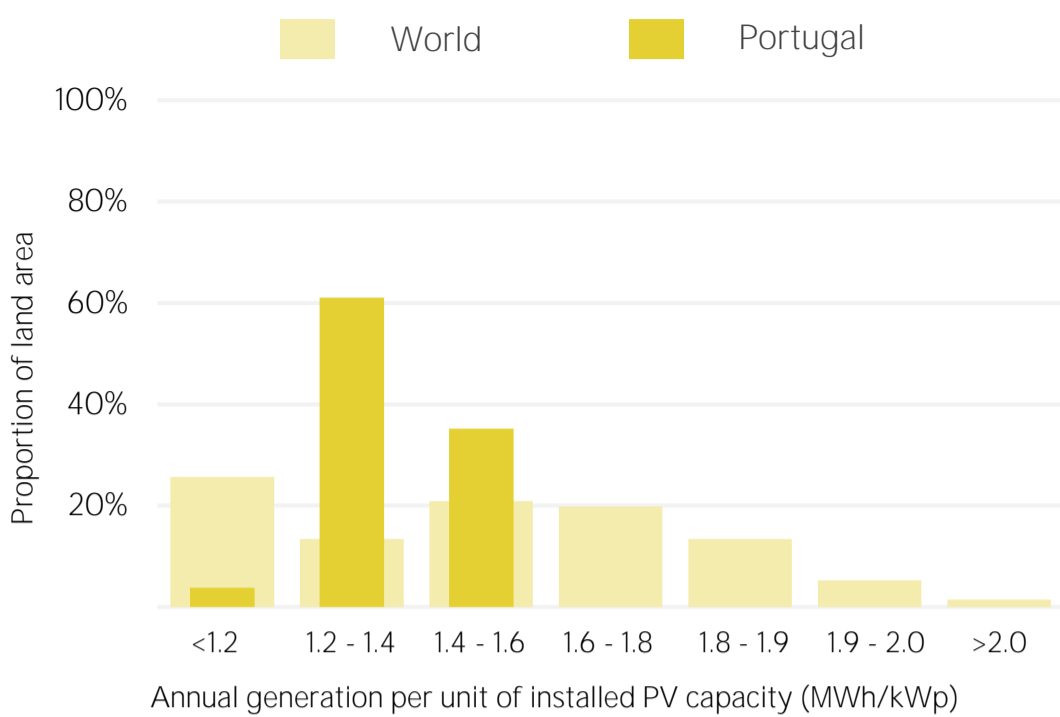
CO<sub>2</sub> emission factor for elec. & heat generation



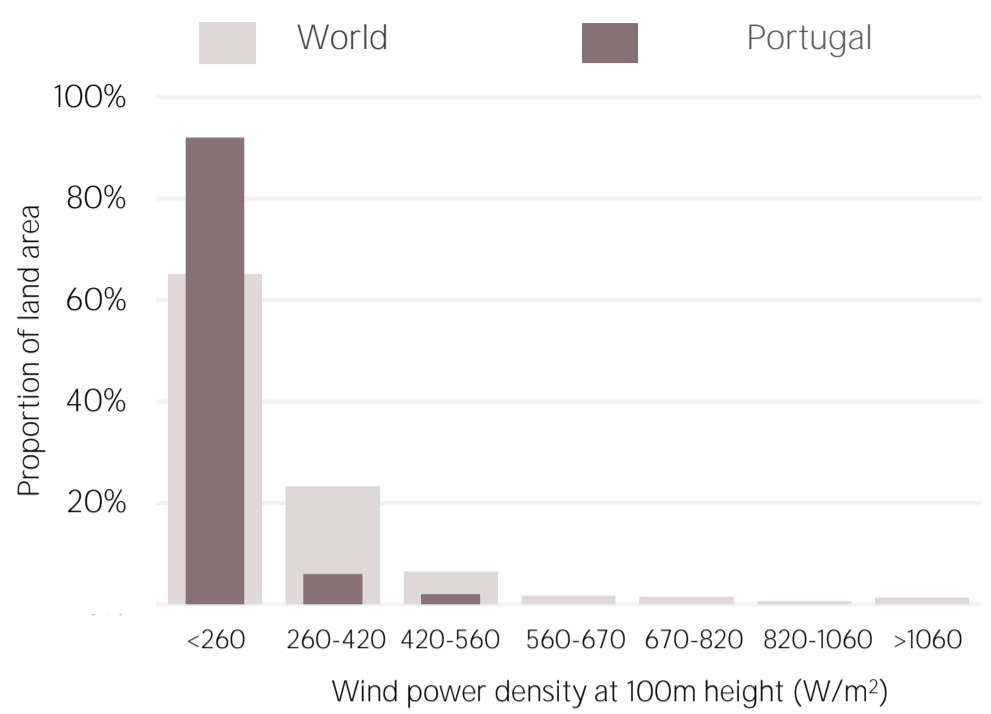
Avoided emissions based on fossil fuel mix used for power

Calculated by dividing power sector emissions by elec. + heat gen.

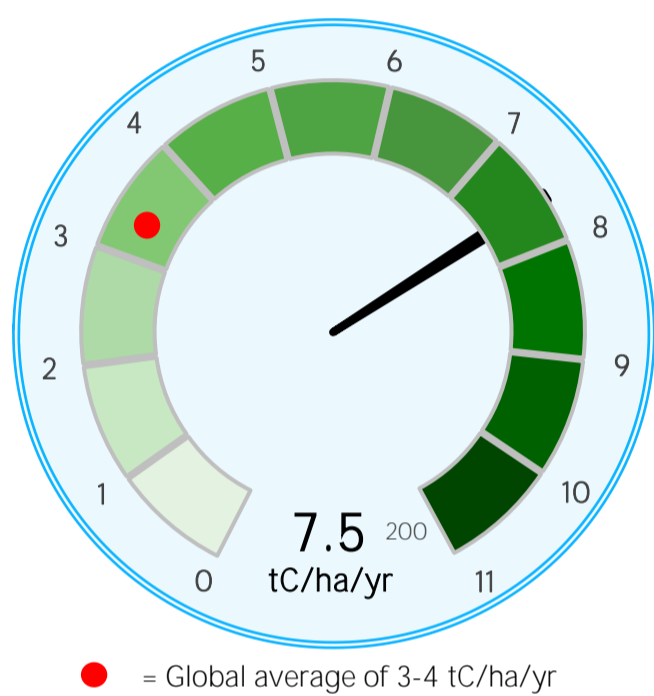
Distribution of solar potential



Distribution of wind potential



Biomass potential: net primary production



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/m<sup>2</sup>) 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

**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; REN21 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](mailto:statistics@irena.org).

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