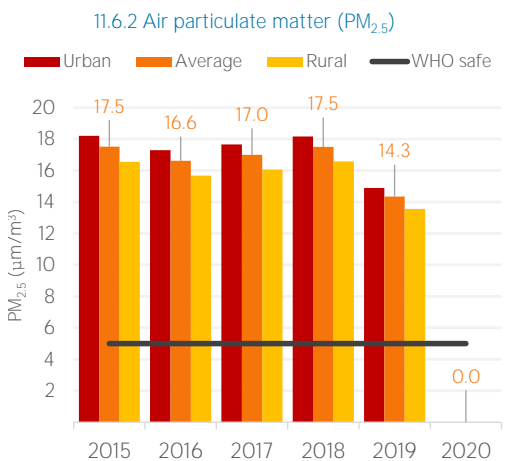
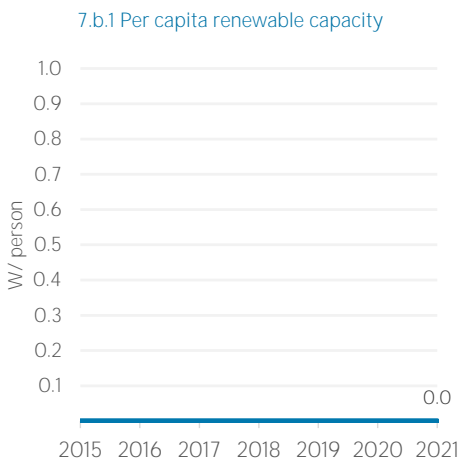
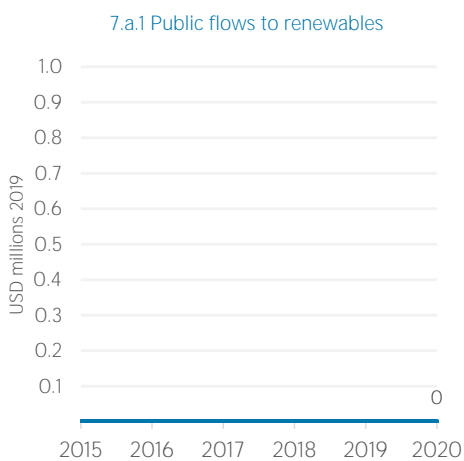
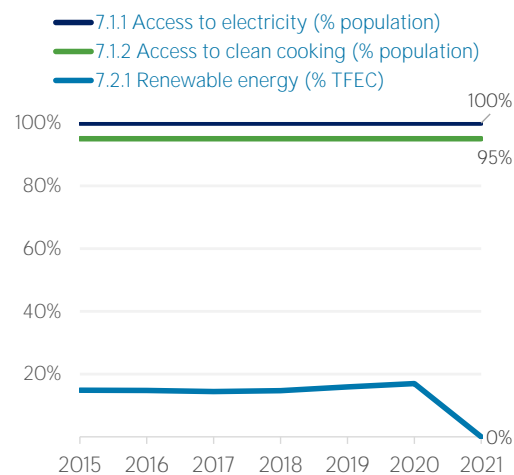
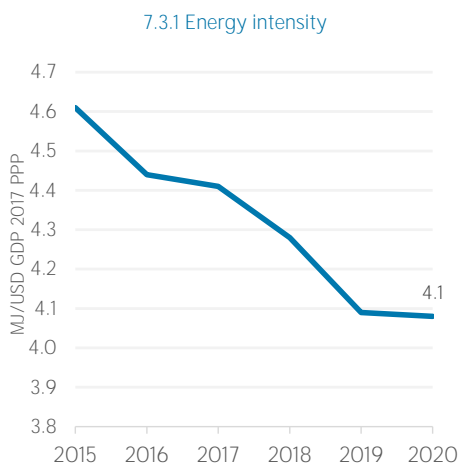
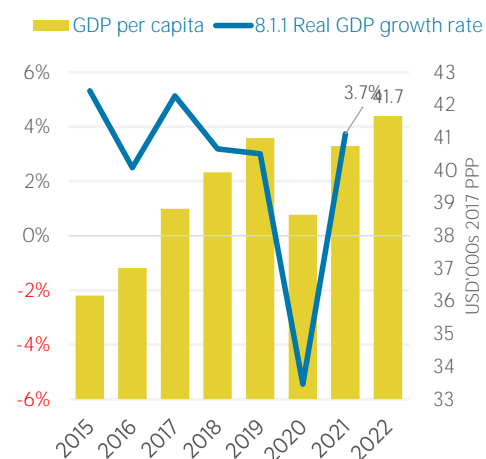


COUNTRY INDICATORS AND SDGS



TOTAL ENERGY SUPPLY (TES)

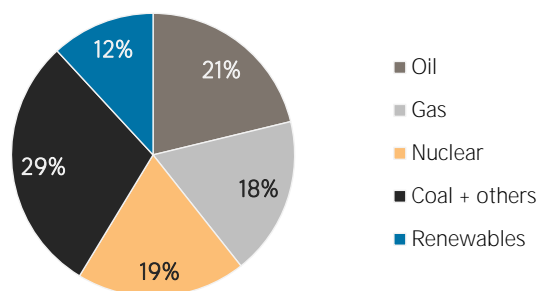
Total Energy Supply (TES)	2015	2020
Non-renewable (TJ)	1 584 246	1 481 564
Renewable (TJ)	173 199	199 409
Total (TJ)	1 757 445	1 680 973
Renewable share (%)	10	12

Growth in TES	2015-20	2019-20
Non-renewable (%)	-6.5	-7.3
Renewable (%)	+15.1	+4.4
Total (%)	-4.4	-6.0

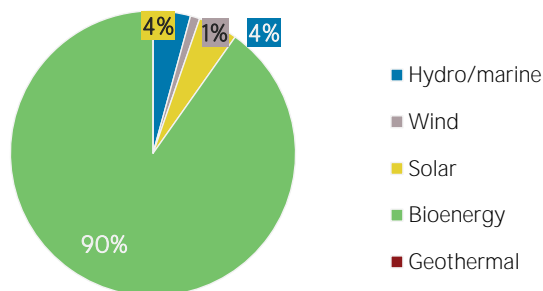
Primary energy trade	2015	2020
Imports (TJ)	914 153	887 522
Exports (TJ)	346 760	229 392
Net trade (TJ)	- 567 393	- 658 130

Imports (% of supply)	52	53
Exports (% of production)	29	23
Energy self-sufficiency (%)	69	59

Total energy supply in 2020

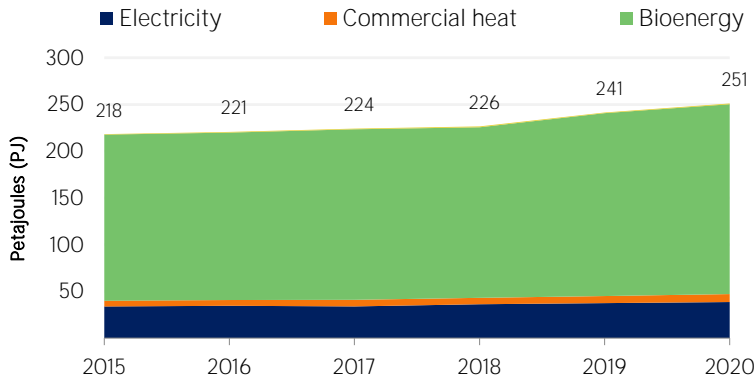


Renewable energy supply in 2020



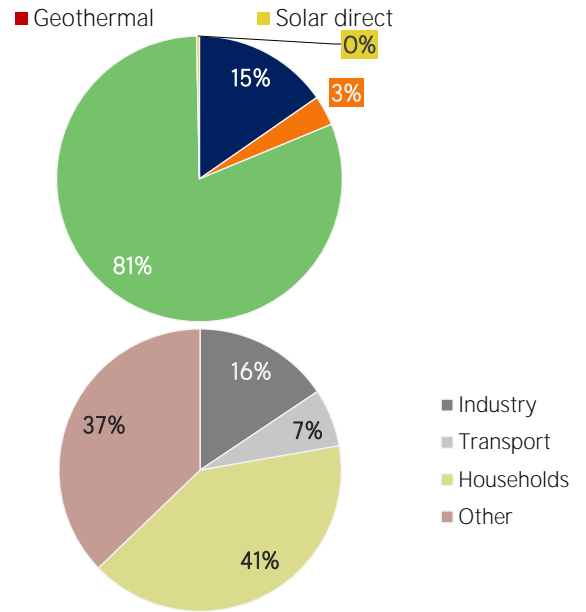
# RENEWABLE ENERGY CONSUMPTION (TFEC)

## Renewable TFEC trend



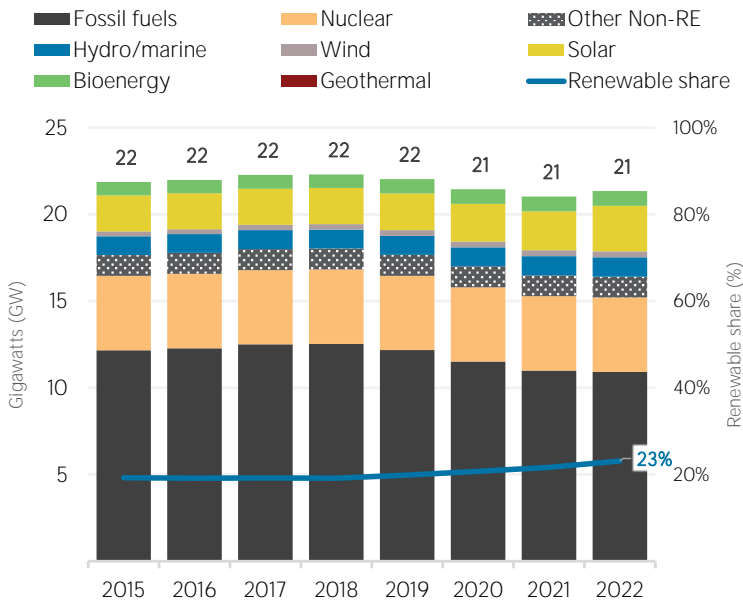
Consumption by sector	2015	2020
Industry (TJ)	35 725	39 199
Transport (TJ)	13 340	16 664
Households (TJ)	85 910	101 841
Other (TJ)	83 370	93 375

## Renewable energy consumption in 2020

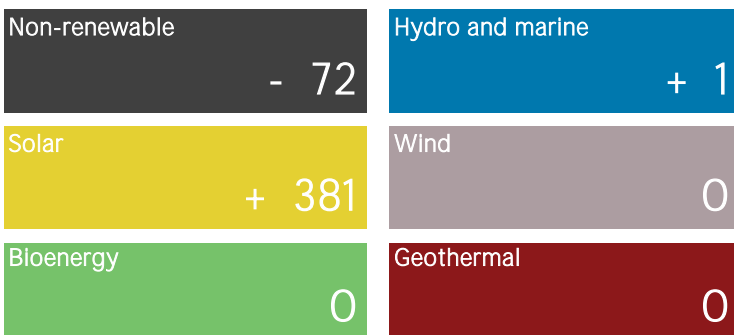


# ELECTRICITY CAPACITY

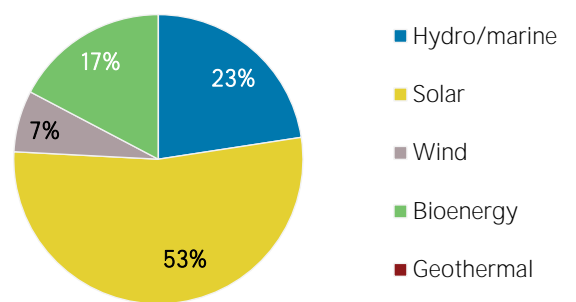
## Installed capacity trend



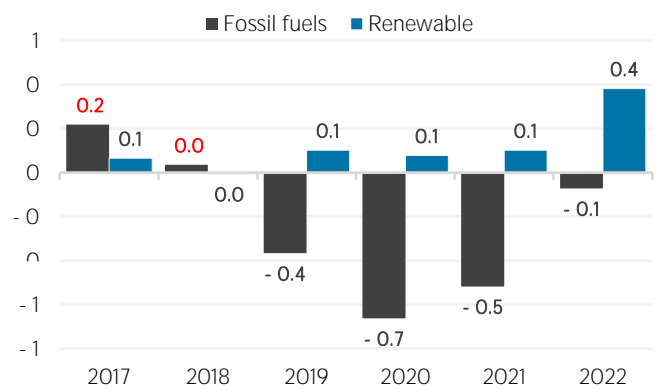
## Net capacity change in 2022 (MW)



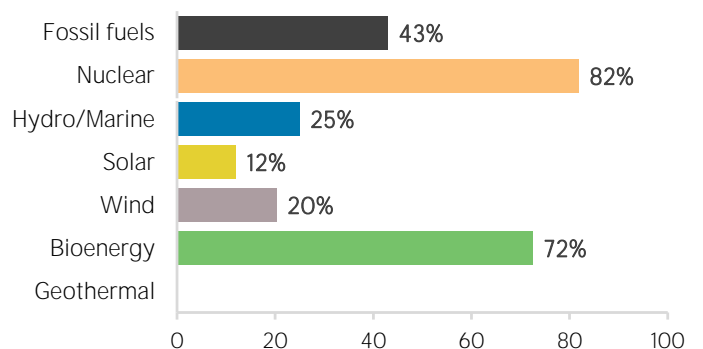
## Renewable capacity in 2022



## Net capacity change (GW)



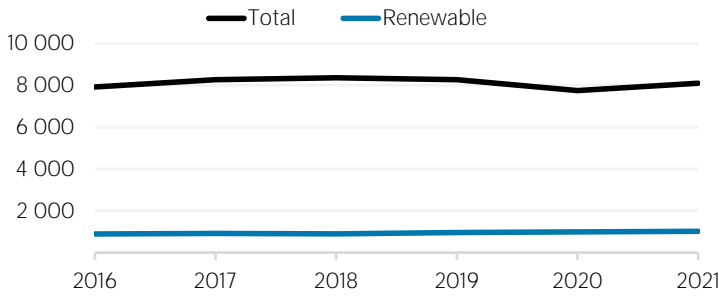
## Capacity utilisation in 2021 (%)



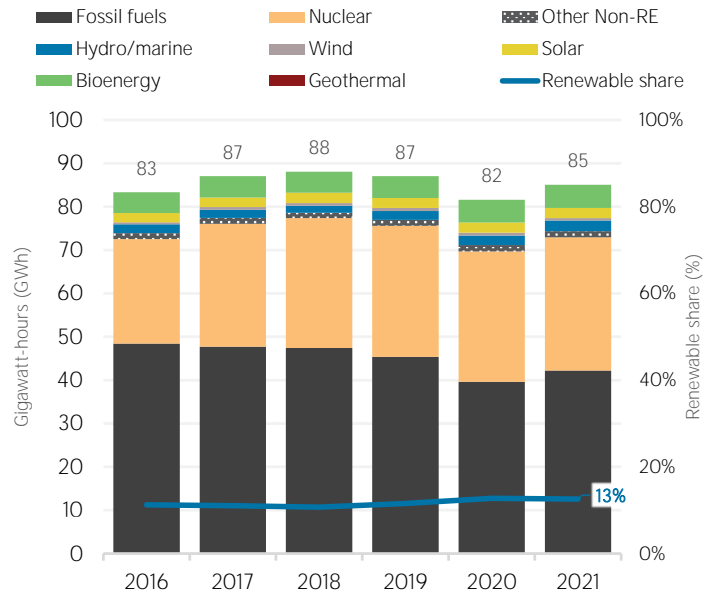
## ELECTRICITY GENERATION

Generation in 2021	GWh	%
<b>Non-renewable</b>	<b>74 371</b>	<b>87</b>
<b>Renewable</b>	<b>10 711</b>	<b>13</b>
Hydro and marine	2 409	3
Solar	2 316	3
Wind	602	1
Bioenergy	5 385	6
Geothermal	0	0
<b>Total</b>	<b>85 082</b>	<b>100</b>

Per capita electricity generation (kWh)



Electricity generation trend

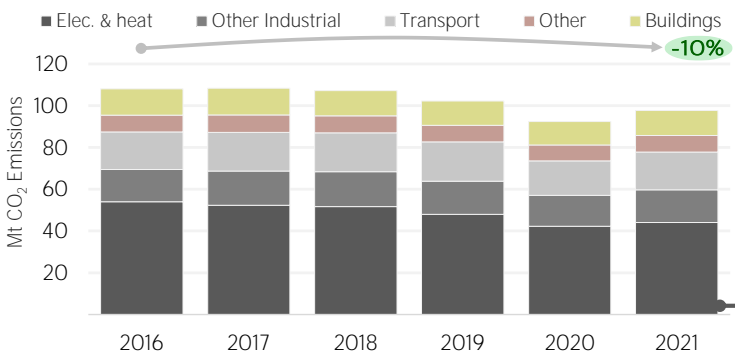


## LATEST POLICIES, PROGRAMMES AND LEGISLATION

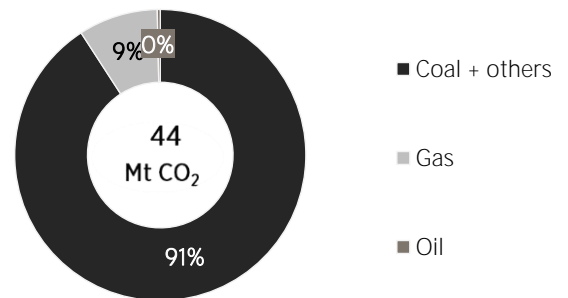
- 1 2023 cap on electricity and gas prices 2023
- 2 Cap on electricity and gas prices for large companies 2023
- 3 Compensation mechanism for electricity suppliers affected by the electricity price cap 2023
- 4 Subsidy for Czech electricity TSO ČEPS 2023
- 5 Cost of living package [Amendment to Energy Act] 2022

## ENERGY AND EMISSIONS

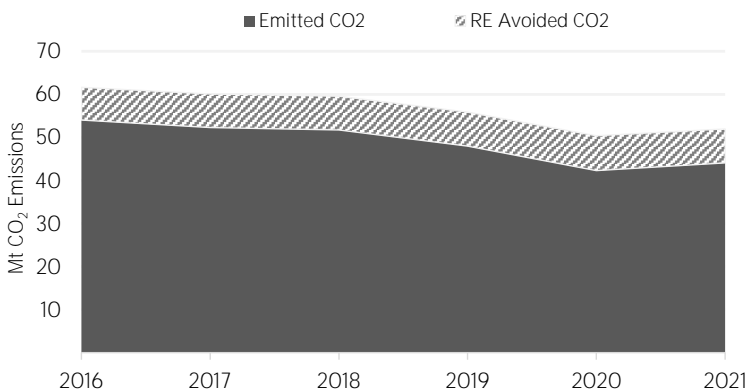
Energy-related CO<sub>2</sub> emissions by sector



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

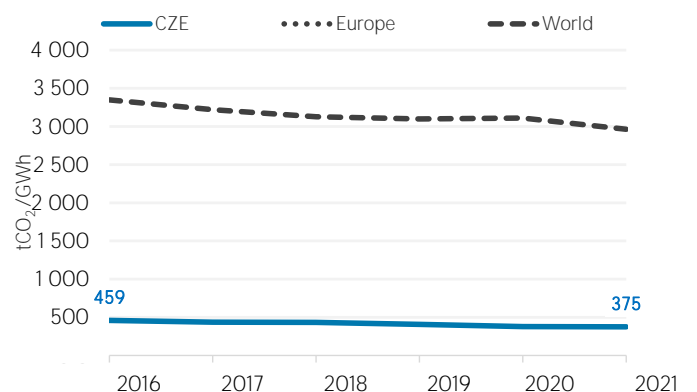


Avoided emissions from renewable elec. & heat



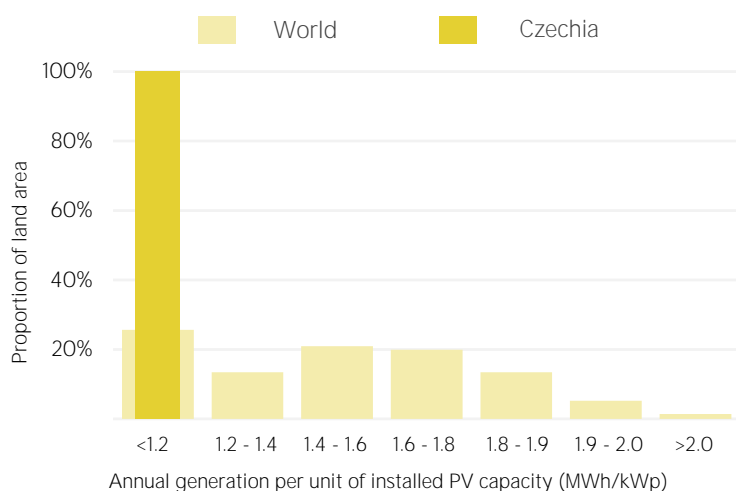
Avoided emissions based on fossil fuel mix used for power

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

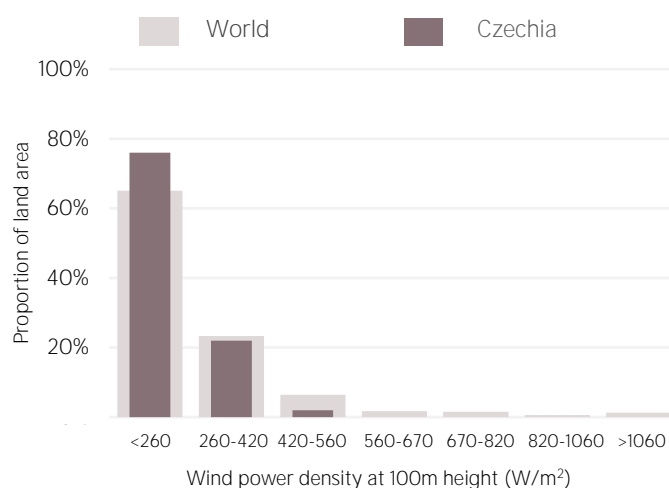


Calculated by dividing power sector emissions by elec. + heat gen.

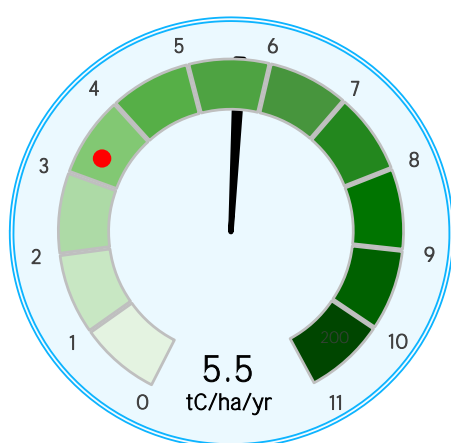
Distribution of solar potential



Distribution of wind potential



Biomass potential: net primary production



● = Global average 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 ( $W/m^2$ ) 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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