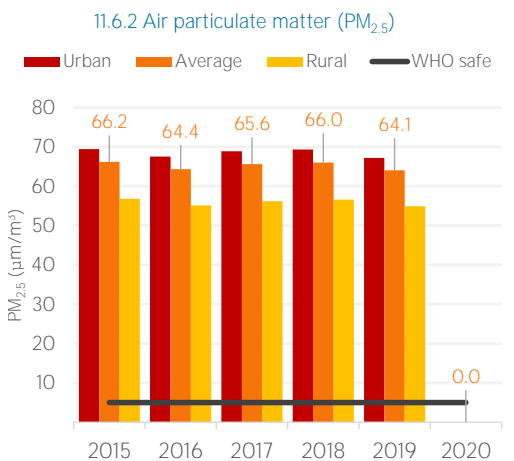
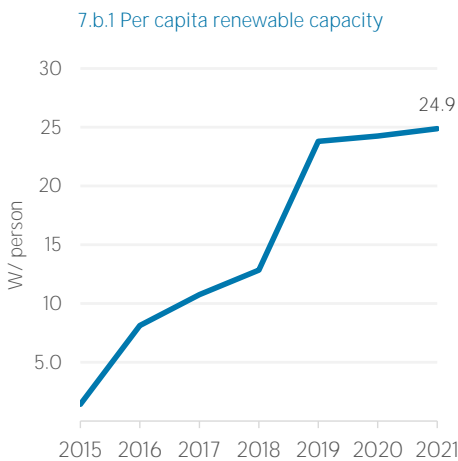
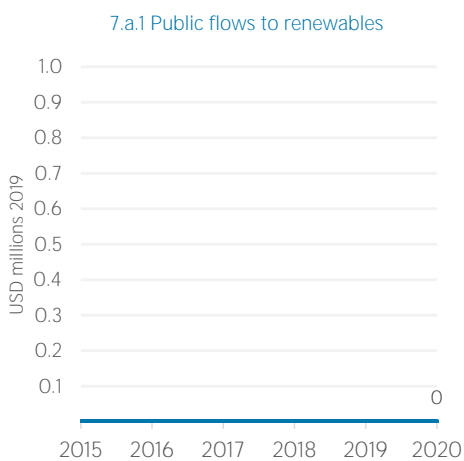
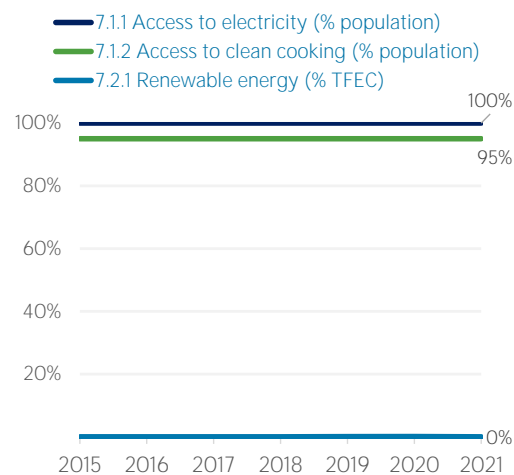
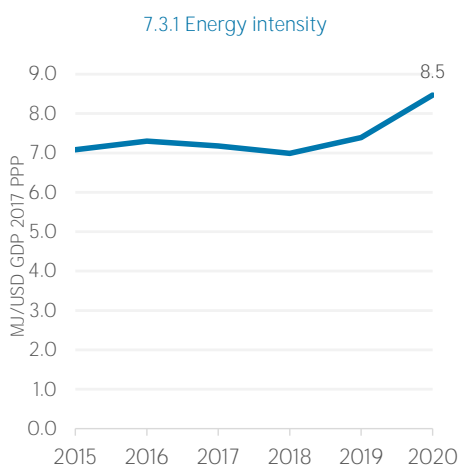
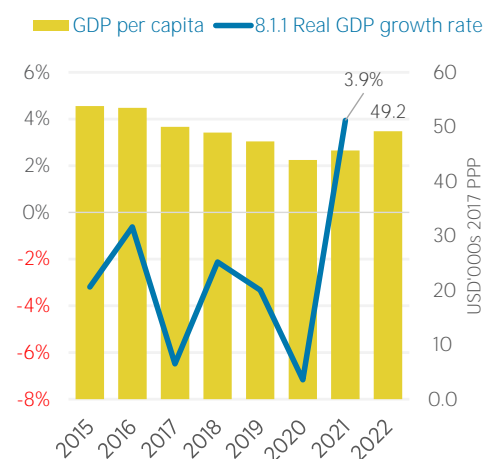


COUNTRY INDICATORS AND SDGS



TOTAL ENERGY SUPPLY (TES)

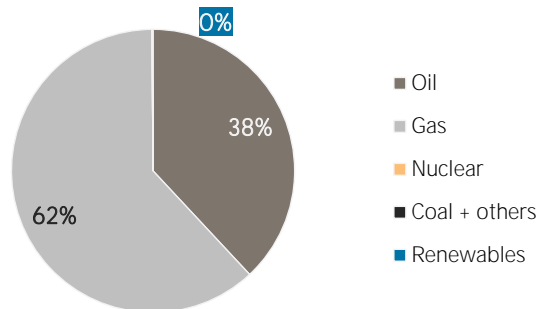
Total Energy Supply (TES)	2015	2020
Non-renewable (TJ)	1 404 130	1 527 751
Renewable (TJ)	1 251	1 827
Total (TJ)	1 405 381	1 529 578
Renewable share (%)	0	0

Growth in TES	2015-20	2019-20
Non-renewable (%)	+8.8	-4.3
Renewable (%)	+46.0	+129.0
Total (%)	+8.8	-4.2

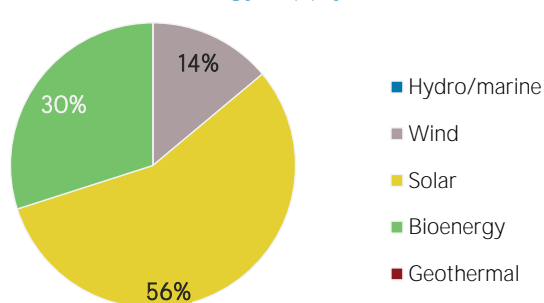
Primary energy trade	2015	2020
Imports (TJ)	137 873	210 708
Exports (TJ)	5 738 128	4 995 594
Net trade (TJ)	5 600 255	4 784 886

Imports (% of supply)	10	14
Exports (% of production)	82	79
Energy self-sufficiency (%)	499	415

Total energy supply in 2020

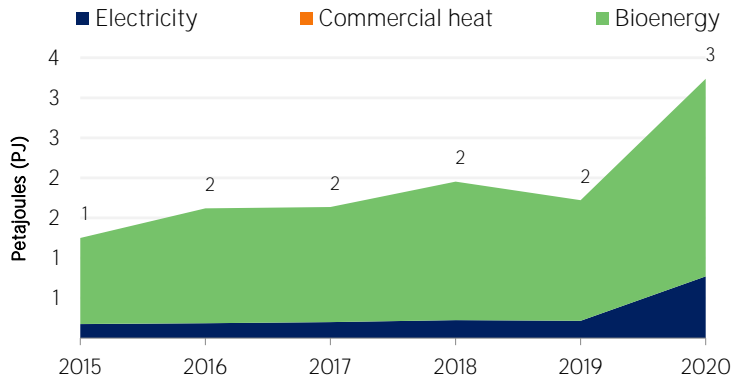


Renewable energy supply in 2020

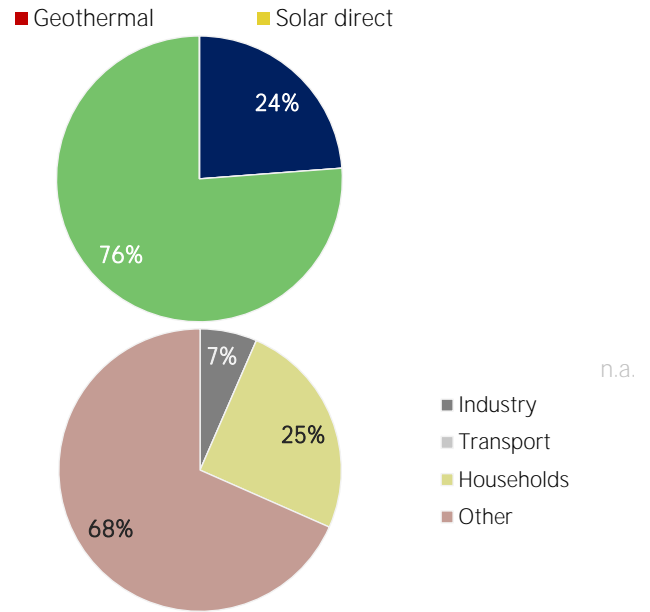


# RENEWABLE ENERGY CONSUMPTION (TFEC)

### Renewable TFEC trend



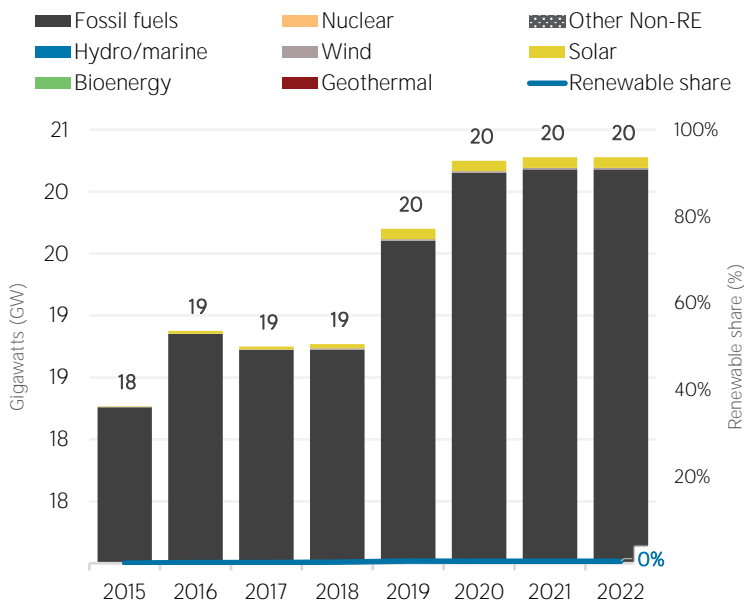
### Renewable energy consumption in 2020



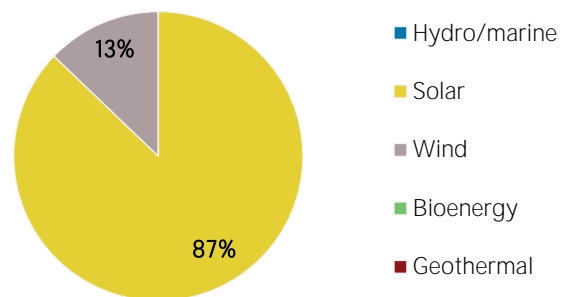
Consumption by sector	2015	2020
Industry (TJ)	0	211
Transport (TJ)	0	0
Households (TJ)	1 108	812
Other (TJ)	142	2 214

# ELECTRICITY CAPACITY

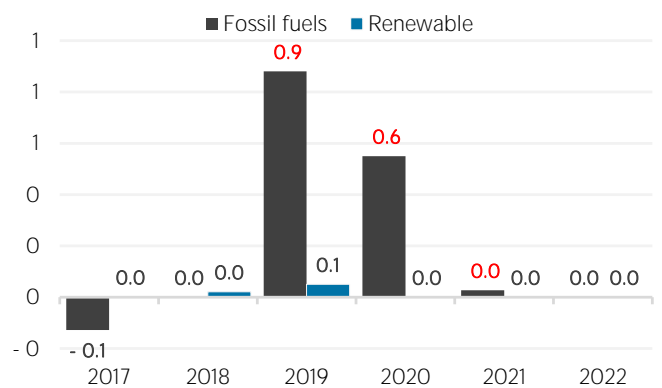
### Installed capacity trend



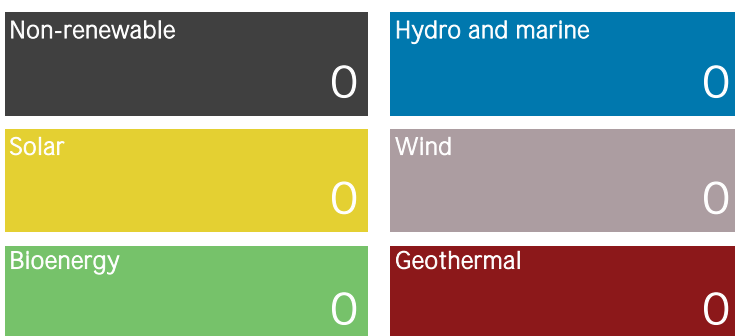
### Renewable capacity in 2022



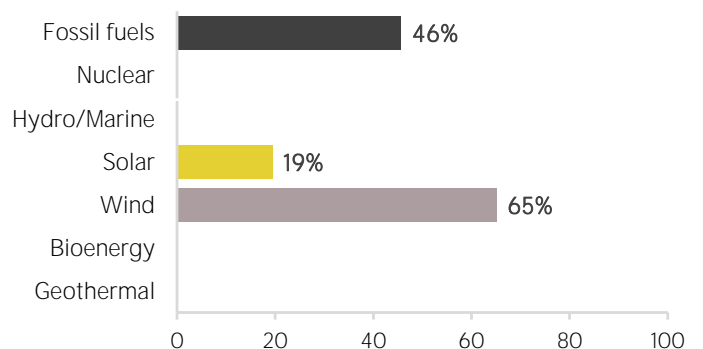
### Net capacity change (GW)



### Net capacity change in 2022 (MW)



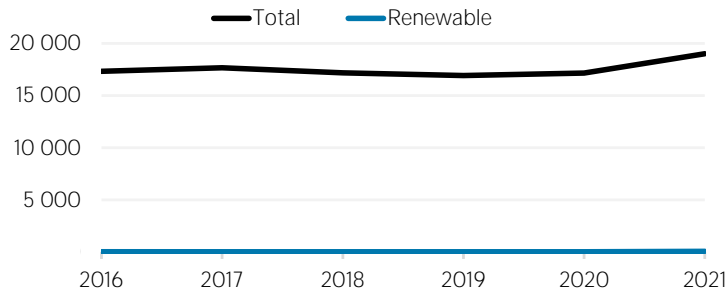
### Capacity utilisation in 2021 (%)



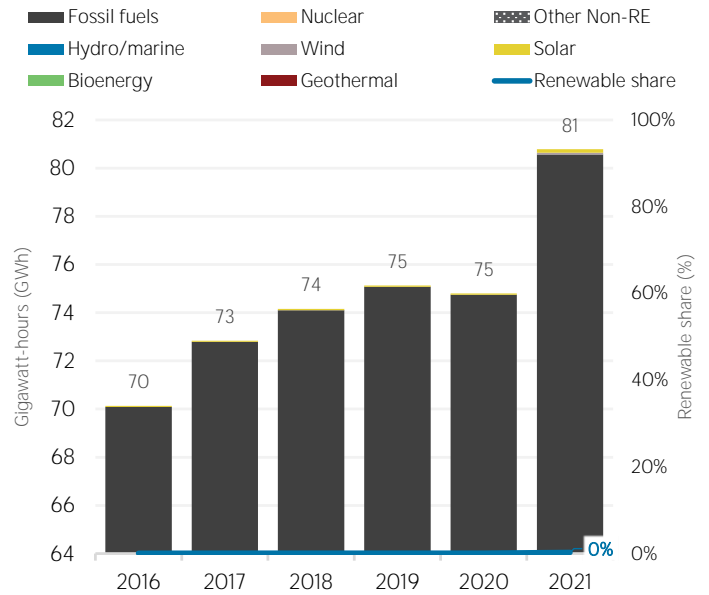
## ELECTRICITY GENERATION

Generation in 2021	GWh	%
<b>Non-renewable</b>	<b>80 569</b>	<b>100</b>
<b>Renewable</b>	<b>214</b>	<b>0</b>
Hydro and marine	0	0
Solar	143	0
Wind	71	0
Bioenergy	0	0
Geothermal	0	0
<b>Total</b>	<b>80 783</b>	<b>100</b>

Per capita electricity generation (kWh)



Electricity generation trend

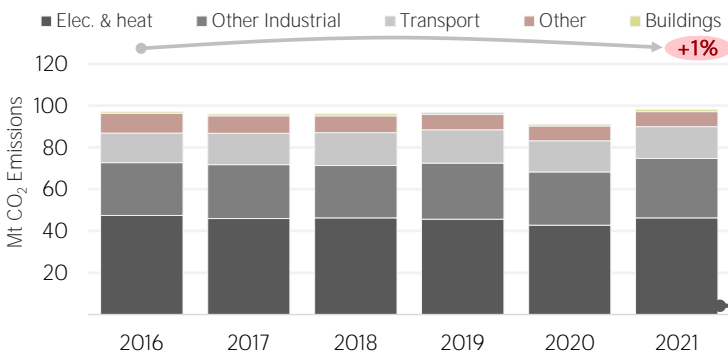


## LATEST POLICIES, PROGRAMMES AND LEGISLATION

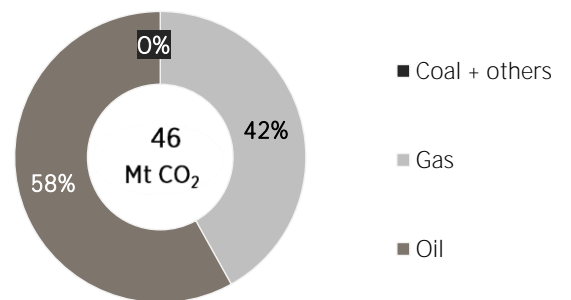
- 1 Kuwait Nationally Determined Contributions 2021 2021
- 2 Decree No. 5 for 2020: executive regulation for gas flaring following the Law No. 42 for 2014 2020
- 3 First biennial update report of the state of Kuwait to the UNFCCC 2020
- 4 Decree No. 8 for 2017: executive regulation for air pollution protection according to the Law No. 42 for 2014 2017
- 5 Decree No.2 for 2017: executive regulations about engineering and environmental specifications for facilities in Kuwait 2017

## ENERGY AND EMISSIONS

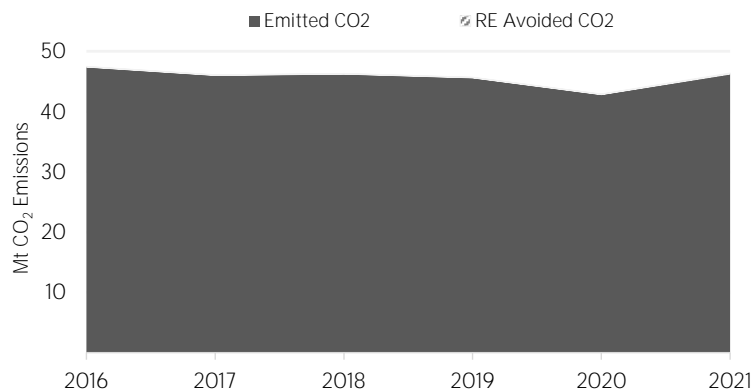
Energy-related CO<sub>2</sub> emissions by sector



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

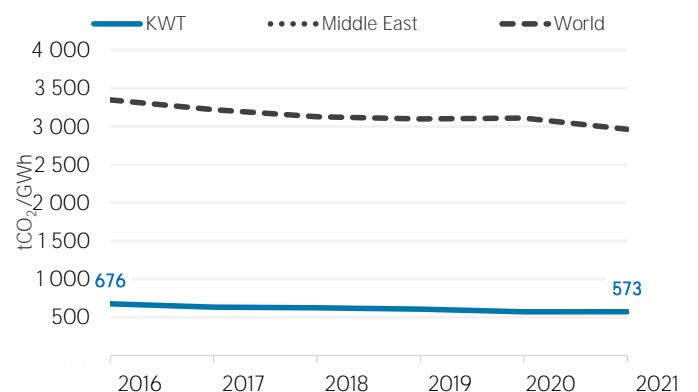


Avoided emissions from renewable elec. & heat



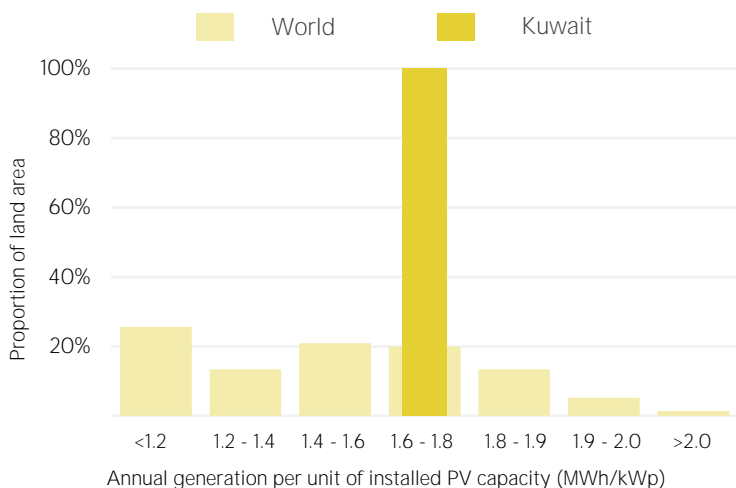
Avoided emissions based on fossil fuel mix used for power

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

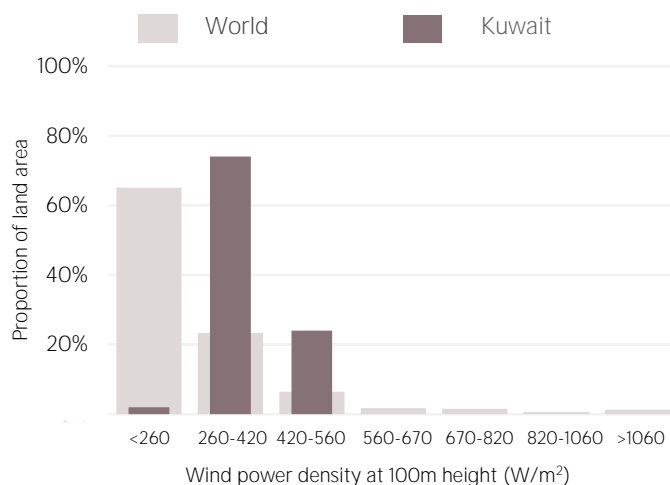


Calculated by dividing power sector emissions by elec. + heat gen.

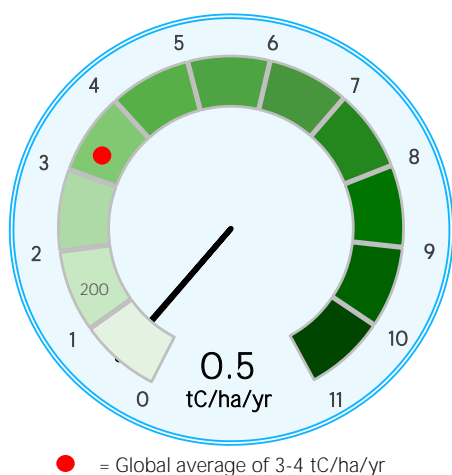
Distribution of solar potential



Distribution of wind potential



Biomass potential: net primary production



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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