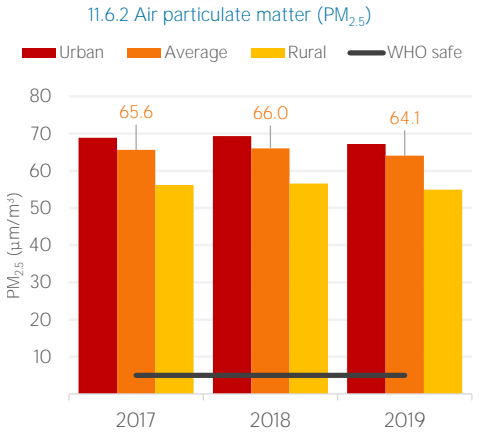
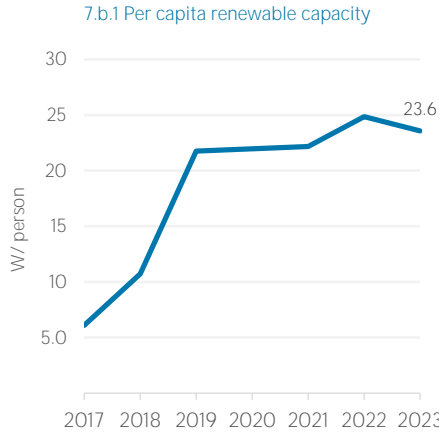
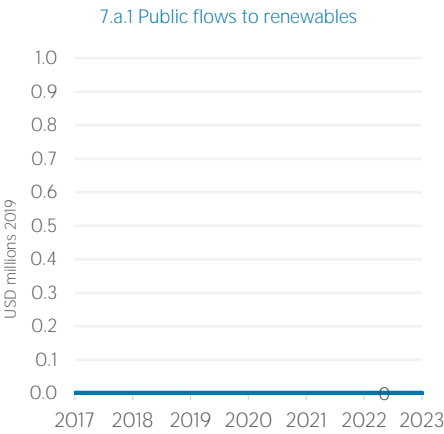
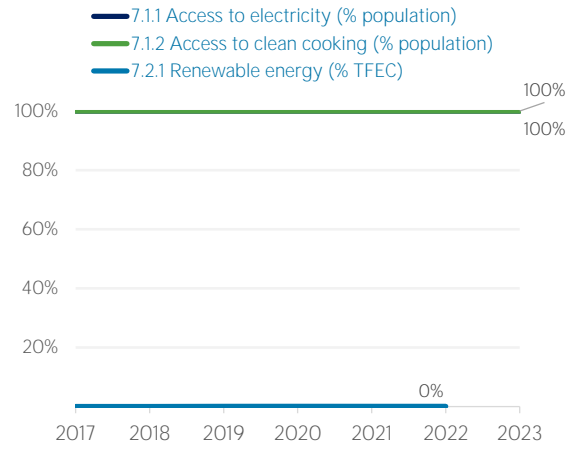
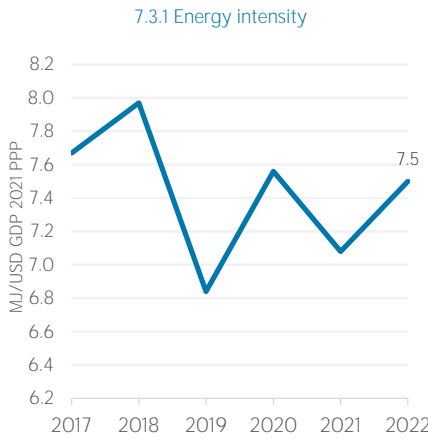
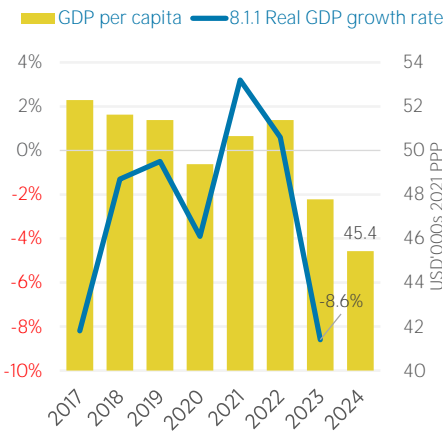


COUNTRY INDICATORS AND SDGS

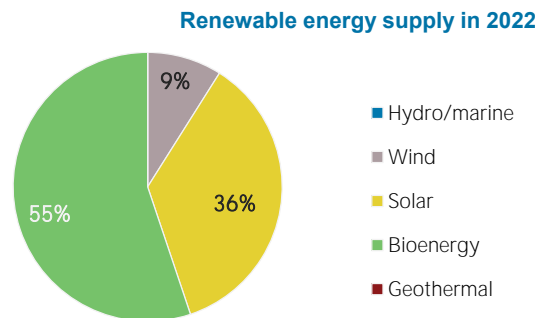
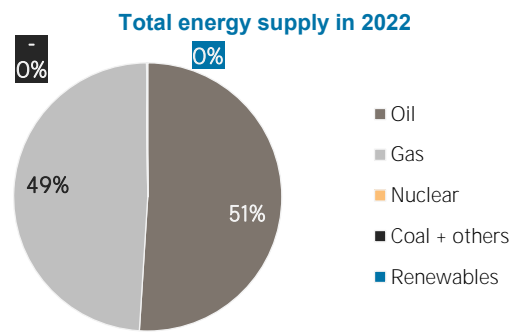


TOTAL ENERGY SUPPLY (TES)

Total Energy Supply (TES)	2017	2022
Non-renewable (TJ)	1 470 060	1 768 819
Renewable (TJ)	1 629	2 295
Total (TJ)	1 471 689	1 771 114
Renewable share (%)	0	0

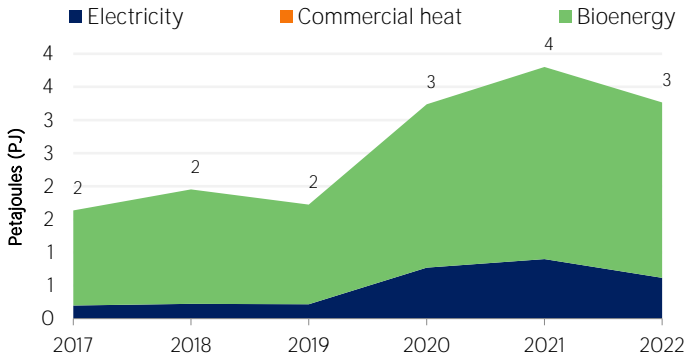
Growth in TES	2017-22	2021-22
Non-renewable (%)	+20.3	+17.2
Renewable (%)	+40.9	-17.2
Total (%)	+20.3	+17.1

Primary energy trade	2017	2022
Imports (TJ)	192 391	362 711
Exports (TJ)	5 543 324	5 299 568
Net trade (TJ)	5 350 933	4 936 857
Imports (% of supply)	13	20
Exports (% of production)	82	77
Energy self-sufficiency (%)	460	390

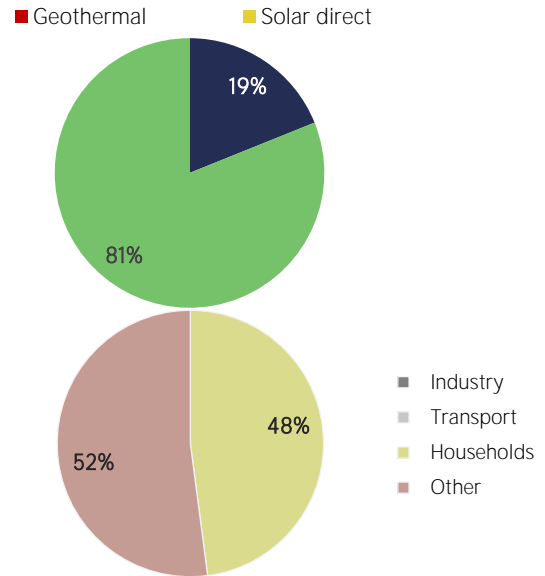


# RENEWABLE ENERGY CONSUMPTION (TFEC)

### Renewable TFEC trend



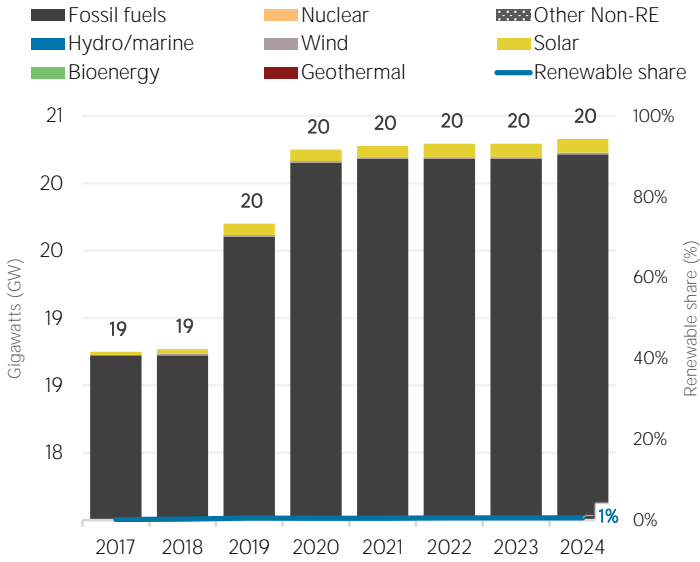
### Renewable energy consumption in 2022



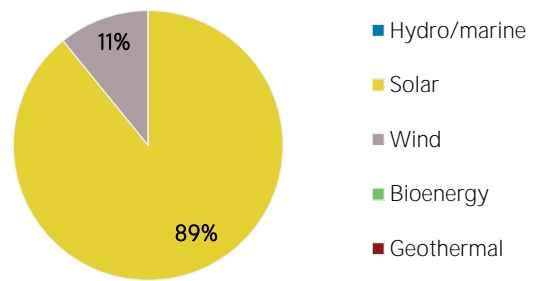
Consumption by sector	2017	2022
Industry (TJ)	0	0
Transport (TJ)	0	0
Households (TJ)	1 475	1 565
Other (TJ)	161	1 700

# ELECTRICITY CAPACITY

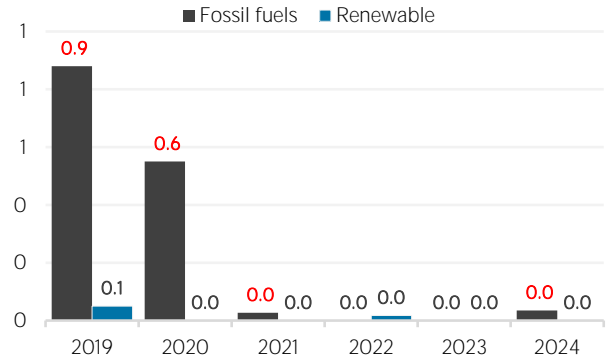
### Installed capacity trend



### Renewable capacity in 2024



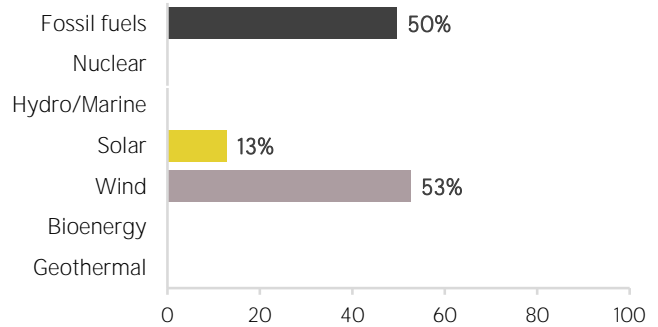
### Net capacity change (GW)



### Net capacity change in 2024 (MW)

Non-renewable	+ 35	Hydro and marine	0
Solar	0	Wind	0
Bioenergy	0	Geothermal	0

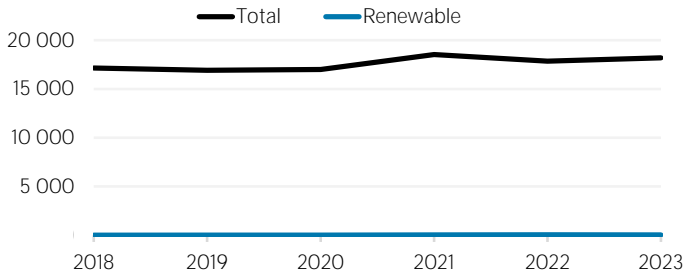
### Capacity utilisation in 2023 (%)



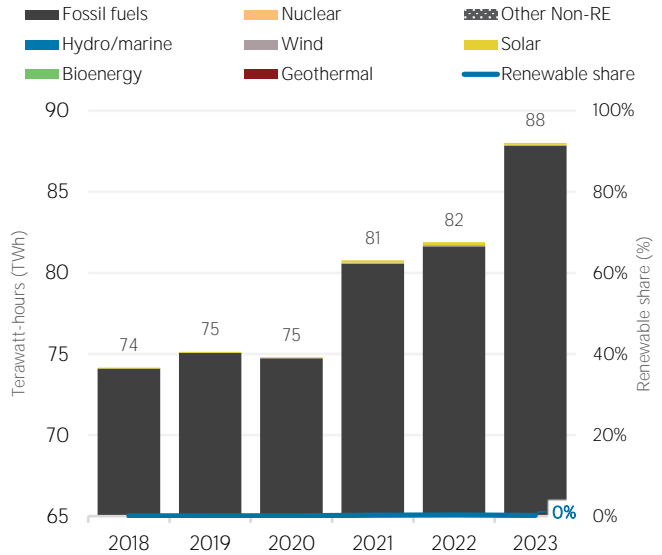
## ELECTRICITY GENERATION

Generation in 2023	GWh	%
<b>Non-renewable</b>	<b>87 846</b>	<b>100</b>
<b>Renewable</b>	<b>172</b>	<b>0</b>
Hydro and marine	0	0
Solar	114	0
Wind	57	0
Bioenergy	0	0
Geothermal	0	0
<b>Total</b>	<b>88 017</b>	<b>100</b>

Per capita electricity generation (kWh)



Electricity generation trend

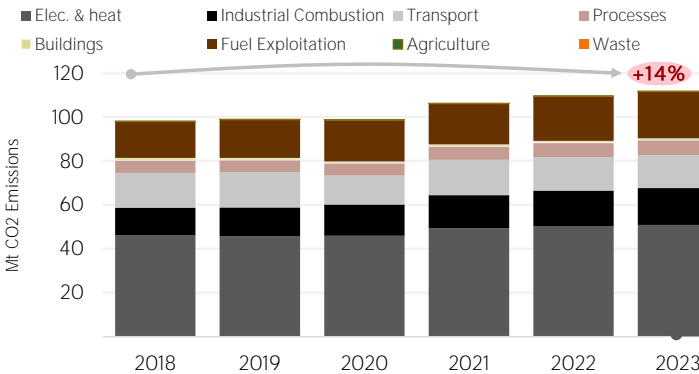


## LATEST POLICIES, PROGRAMMES AND LEGISLATION

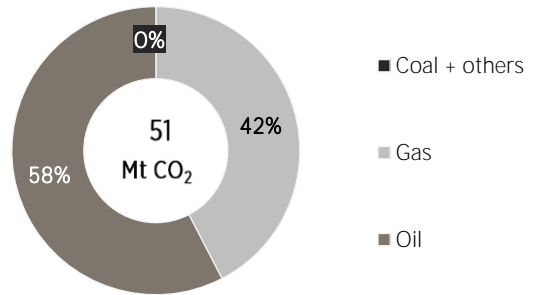
- 1 Kuwait Nationally Determined Contributions 2021 2021
- 2 Decree No. 5 for 2020: executive regulation for gas flaring following the Law No. 42 for 2014 2020
- 3 First biennial update report of the state of Kuwait to the UNFCCC 2020
- 4 Decree No. 8 for 2017: executive regulation for air pollution 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

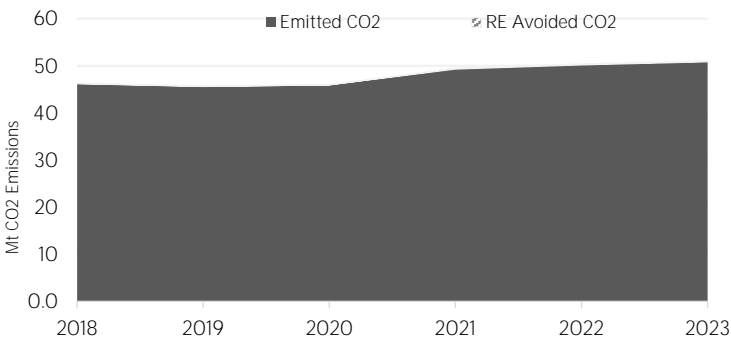
CO<sub>2</sub> emissions by sector



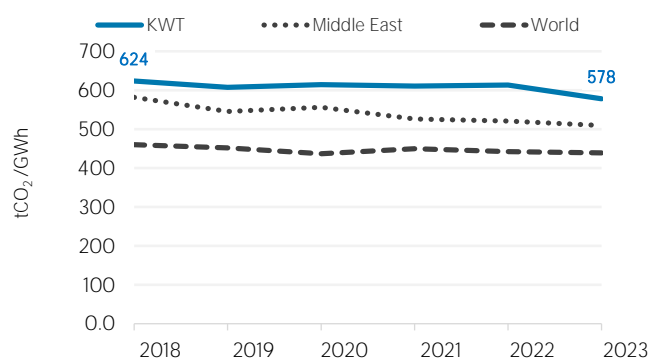
Elec. & heat generation CO<sub>2</sub> emissions in



Avoided emissions from renewable elec. & heat



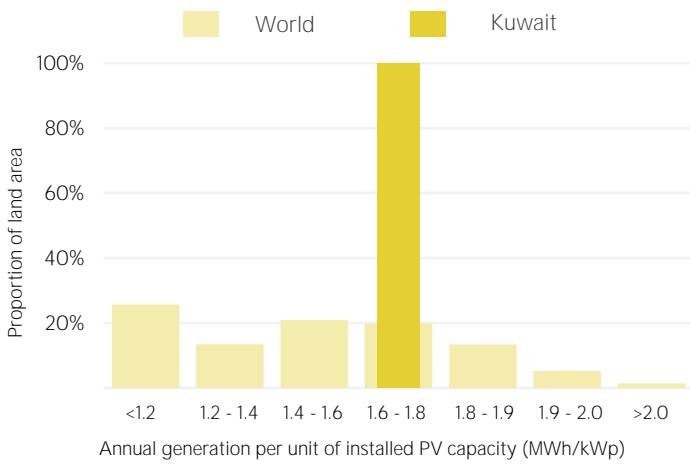
CO<sub>2</sub> emission factor for elec. & heat generation



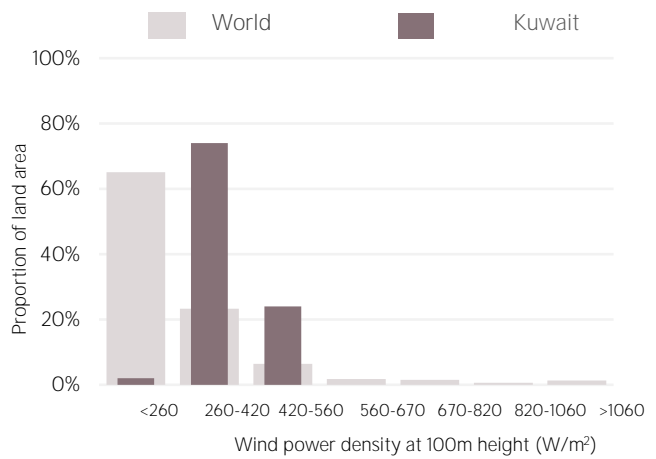
Avoided emissions based on fossil fuel mix used for power

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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