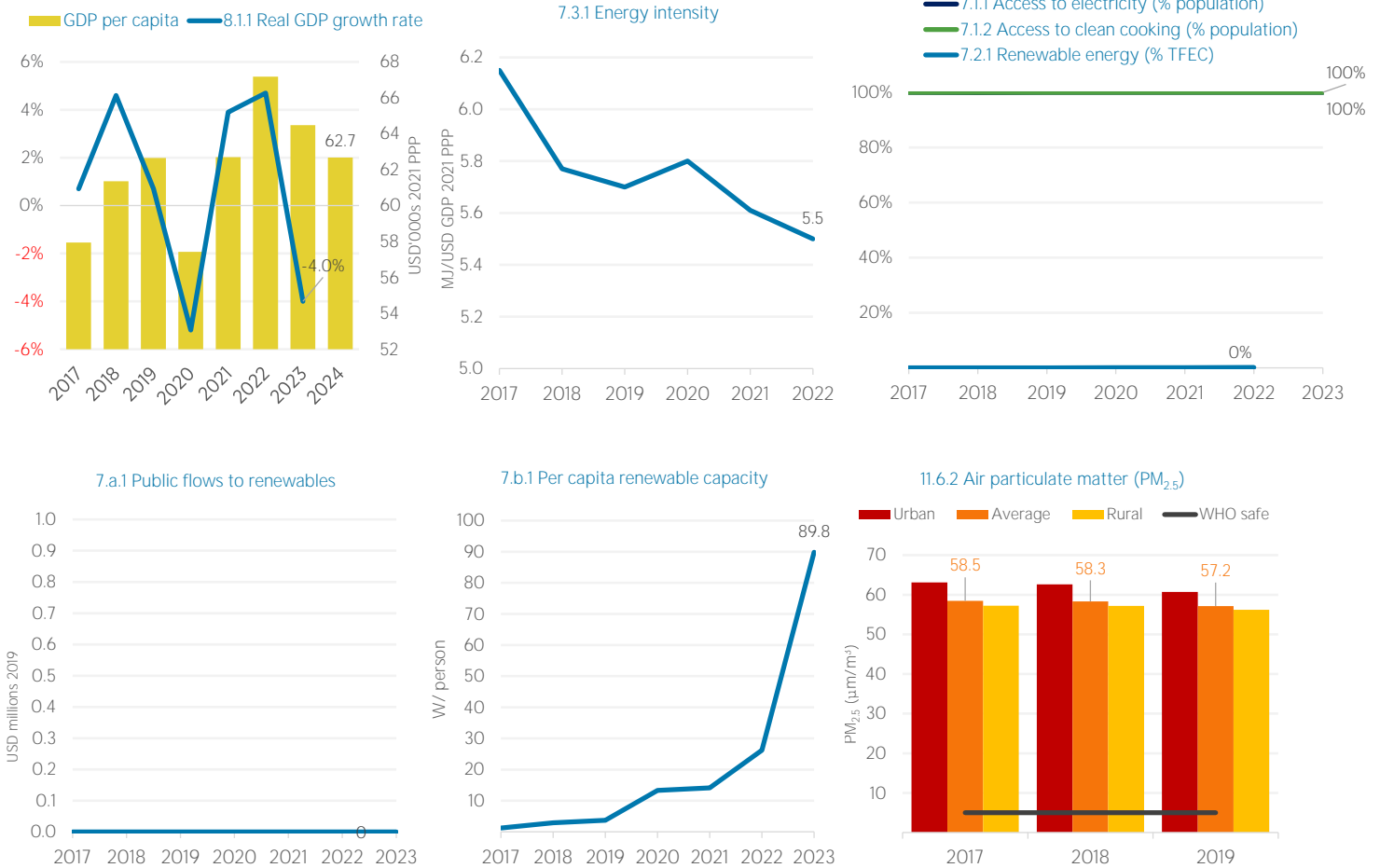


COUNTRY INDICATORS AND SDGS



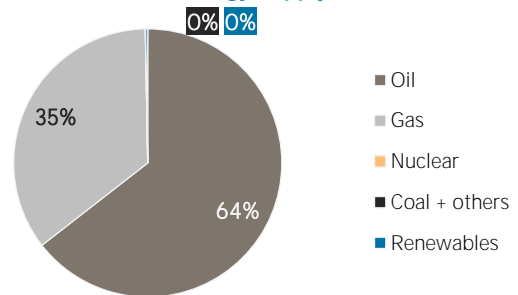
TOTAL ENERGY SUPPLY (TES)

| Total Energy Supply (TES) | 2017 | 2022 |
|---------------------------|------------|------------|
| Non-renewable (TJ) | 10 035 172 | 10 254 980 |
| Renewable (TJ) | 2 161 | 24 919 |
| Total (TJ) | 10 037 333 | 10 279 899 |
| Renewable share (%) | 0 | 0 |

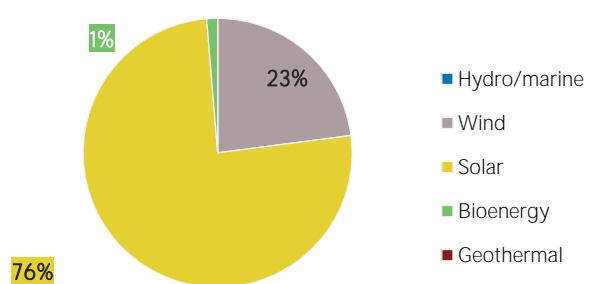
| Growth in TES | 2017-22 | 2021-22 |
|-------------------|---------|---------|
| Non-renewable (%) | +2.2 | -6.3 |
| Renewable (%) | +1053.0 | +114.5 |
| Total (%) | +2.4 | -6.2 |

| Primary energy trade | 2017 | 2022 |
|-----------------------------|------------|------------|
| Imports (TJ) | 1 227 831 | 869 962 |
| Exports (TJ) | 19 211 525 | 17 996 533 |
| Net trade (TJ) | 17 983 694 | 17 126 571 |
| Imports (% of supply) | 12 | 8 |
| Exports (% of production) | 68 | 64 |
| Energy self-sufficiency (%) | 280 | 275 |

Total energy supply in 2022

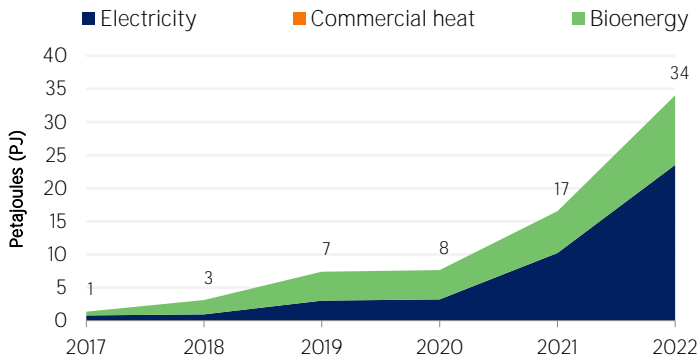


Renewable energy supply in 2022



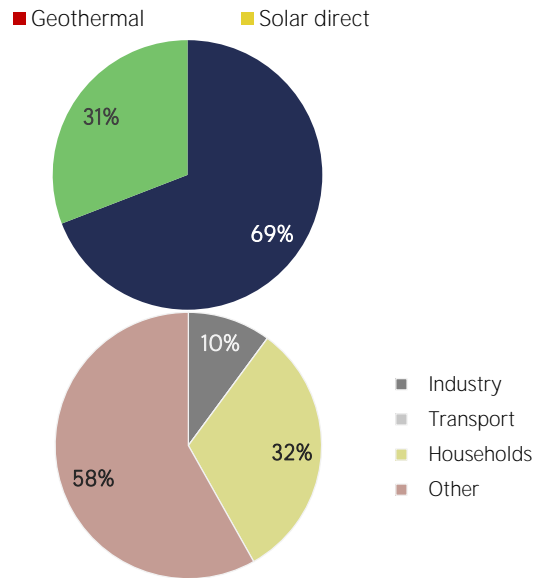
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend



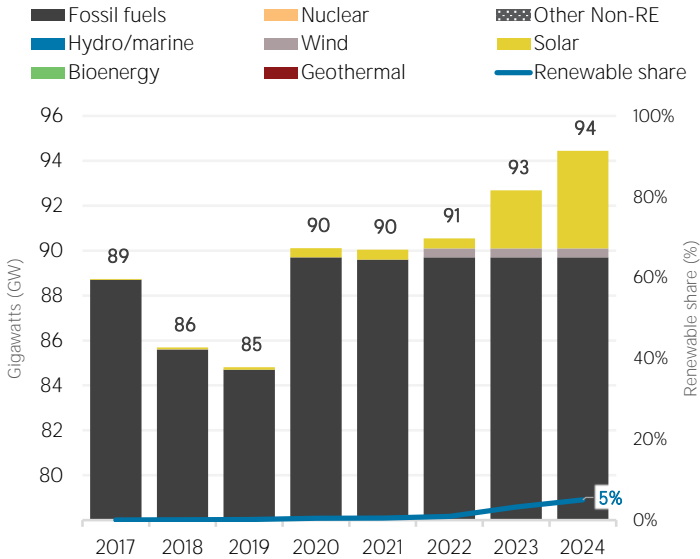
| Consumption by sector | 2017 | 2022 |
|-----------------------|------|--------|
| Industry (TJ) | 100 | 3 441 |
| Transport (TJ) | 0 | 0 |
| Households (TJ) | 728 | 10 795 |
| Other (TJ) | 512 | 19 792 |

Renewable energy consumption in 2022

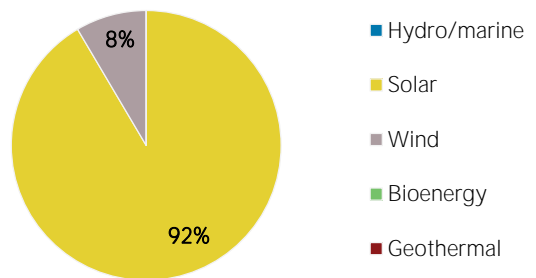


ELECTRICITY CAPACITY

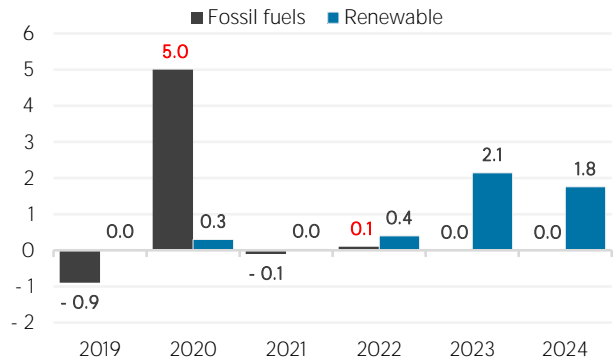
Installed capacity trend



Renewable capacity in 2024



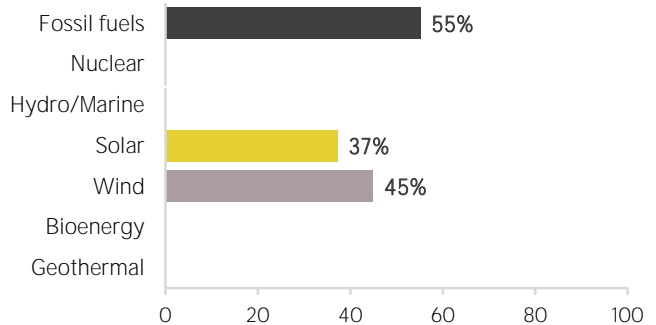
Net capacity change (GW)



Net capacity change in 2024 (MW)

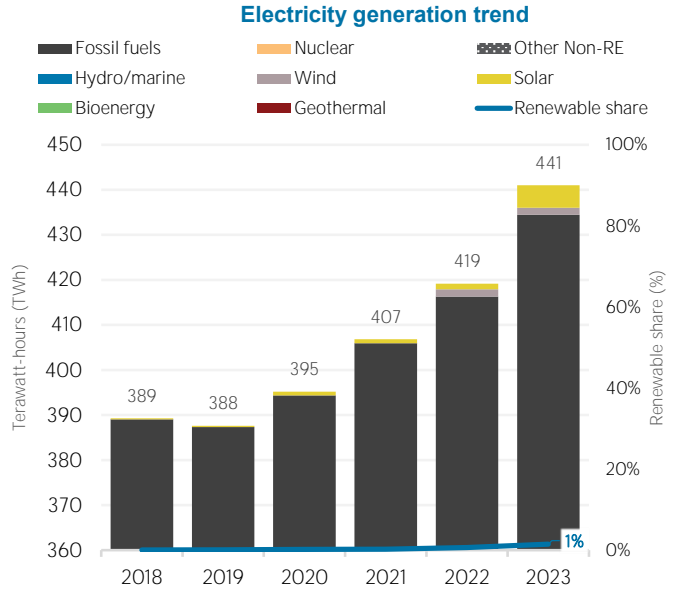
| | | | |
|---------------|---------|------------------|---|
| Non-renewable | 0 | Hydro and marine | 0 |
| Solar | + 1 755 | Wind | 0 |
| Bioenergy | 0 | Geothermal | 0 |

Capacity utilisation in 2023 (%)

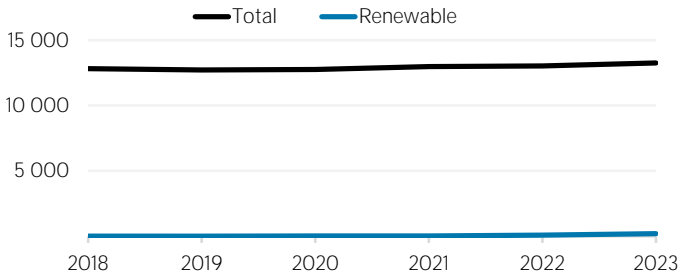


ELECTRICITY GENERATION

| Generation in 2023 | GWh | % |
|----------------------|----------------|------------|
| Non-renewable | 434 459 | 99 |
| Renewable | 6 534 | 1 |
| Hydro and marine | 0 | 0 |
| Solar | 4 946 | 1 |
| Wind | 1 588 | 0 |
| Bioenergy | 0 | 0 |
| Geothermal | 0 | 0 |
| Total | 440 993 | 100 |



Per capita electricity generation (kWh)

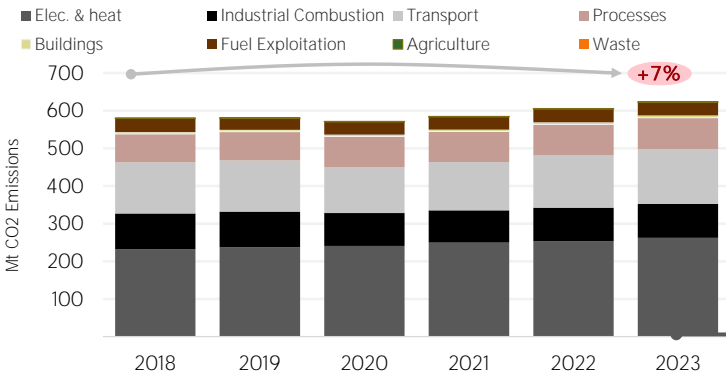


LATEST POLICIES, PROGRAMMES AND LEGISLATION

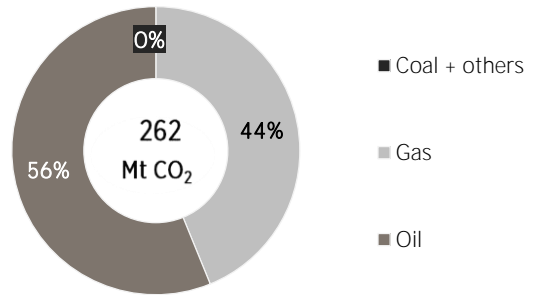
- 1 Saudi Arabia Corporate Average Fuel Economy (CAFE) standards for light-duty vehicles (2024-2028) **2024**
- 2 MI Call Series **2022**
- 3 King Salman Energy Park (SPARK) **2021**
- 4 Executive Regulation N°165 For Air Quality **2021**
- 5 Revised/Updated NDC of Saudi Arabia **2021**

ENERGY AND EMISSIONS

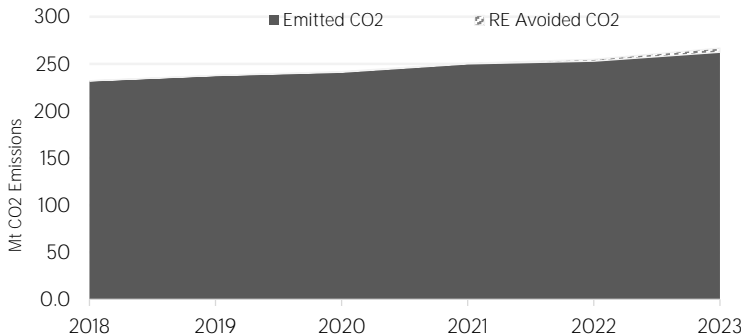
CO₂ emissions by sector



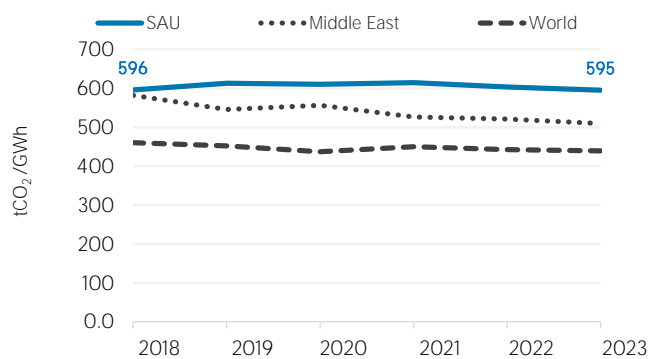
Elec. & heat generation CO₂ emissions in



Avoided emissions from renewable elec. & heat



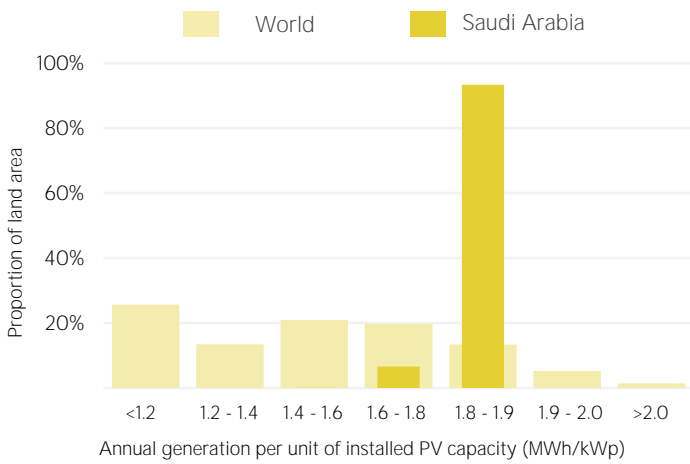
CO₂ emission factor for elec. & heat generation



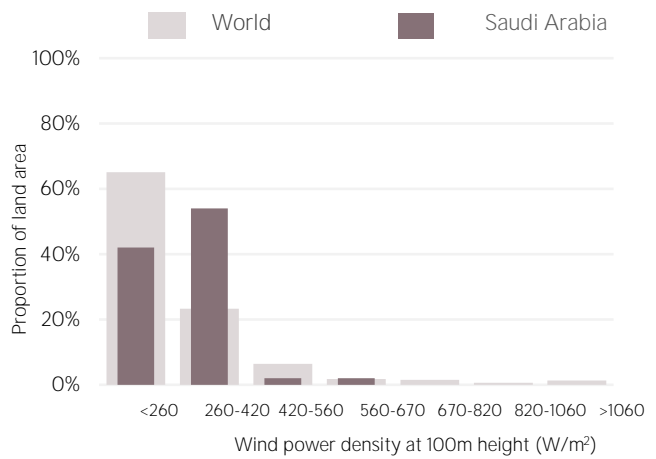
Avoided emissions based on fossil fuel mix used for power

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/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

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.

Last updated on: 22 September, 2025