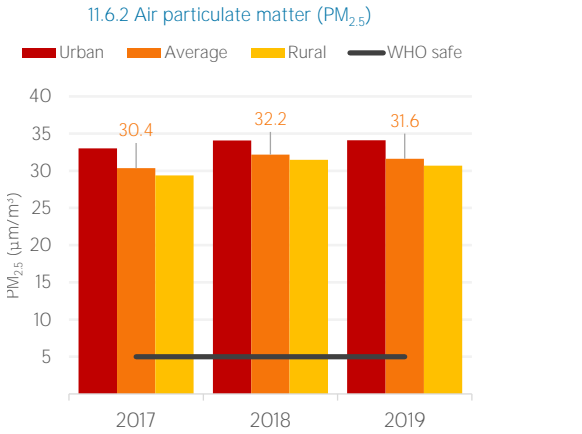
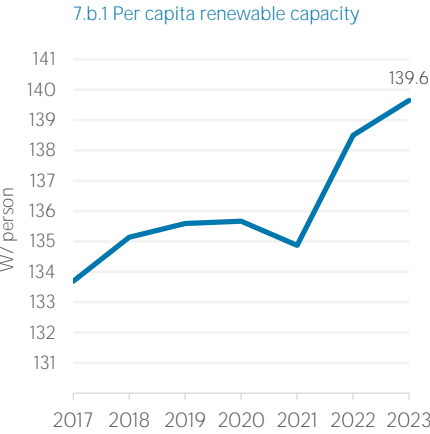
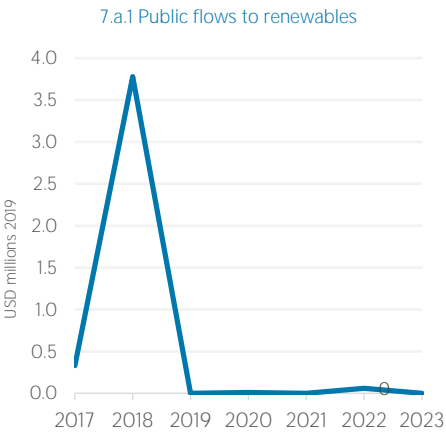
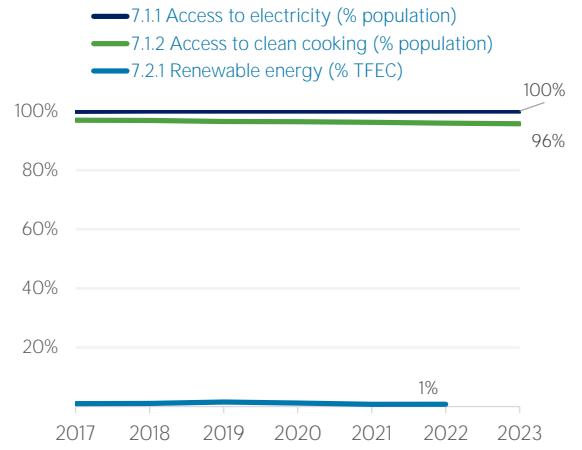
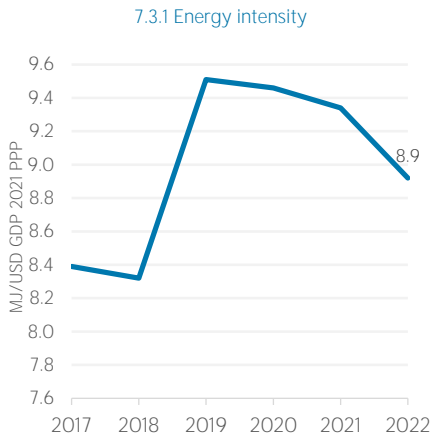
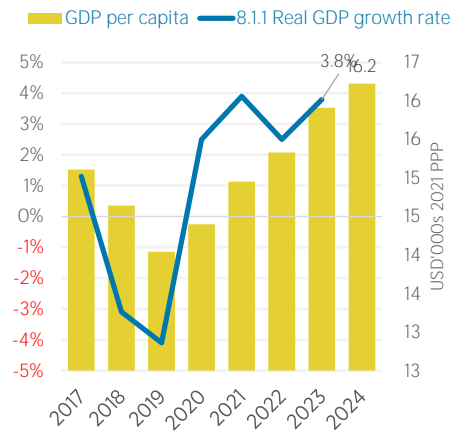


COUNTRY INDICATORS AND SDGS

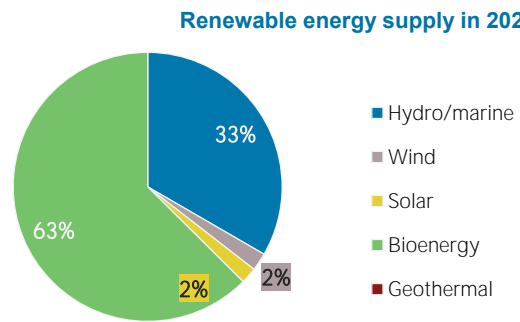
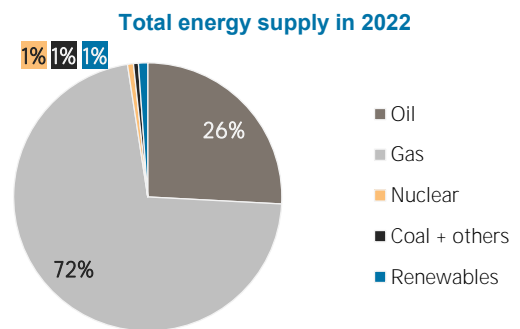


TOTAL ENERGY SUPPLY (TES)

Total Energy Supply (TES)	2017	2022
Non-renewable (TJ)	10 904 124	12 119 819
Renewable (TJ)	143 308	135 828
Total (TJ)	11 047 432	12 255 647
Renewable share (%)	1	1

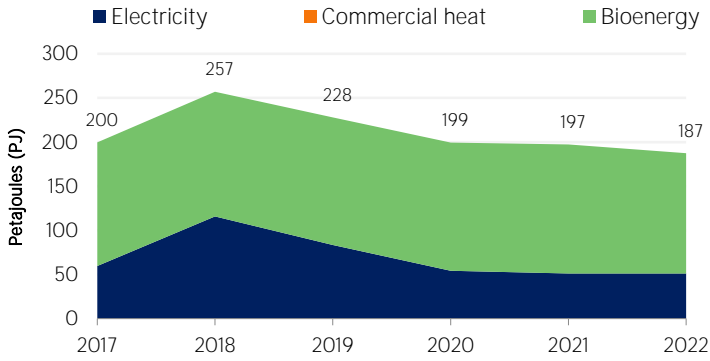
Growth in TES	2017-22	2021-22
Non-renewable (%)	+11.1	-0.5
Renewable (%)	-5.2	+1.3
Total (%)	+10.9	-0.5

Primary energy trade	2017	2022
Imports (TJ)	366 763	140 760
Exports (TJ)	6 508 616	4 137 741
Net trade (TJ)	6 141 853	3 996 981
Imports (% of supply)	3	1
Exports (% of production)	38	26
Energy self-sufficiency (%)	156	132



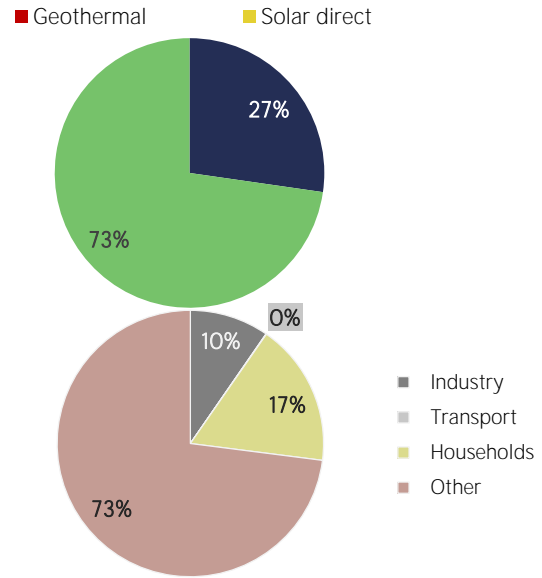
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend



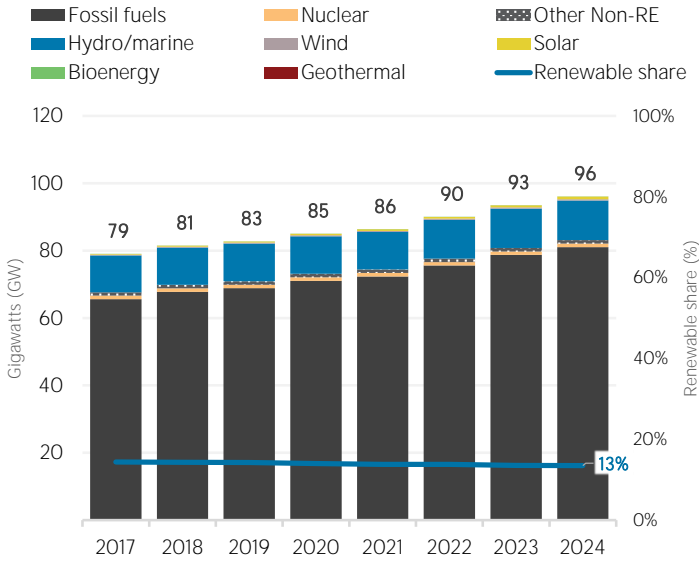
Consumption by sector	2017	2022
Industry (TJ)	19 167	18 017
Transport (TJ)	113	107
Households (TJ)	103 922	32 484
Other (TJ)	76 566	136 681

Renewable energy consumption in 2022

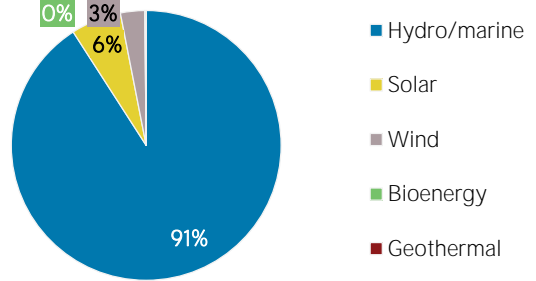


ELECTRICITY CAPACITY

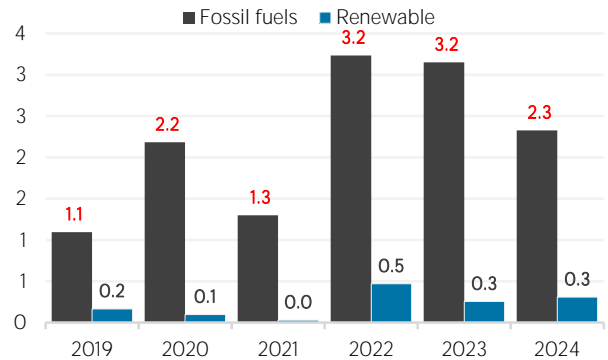
Installed capacity trend



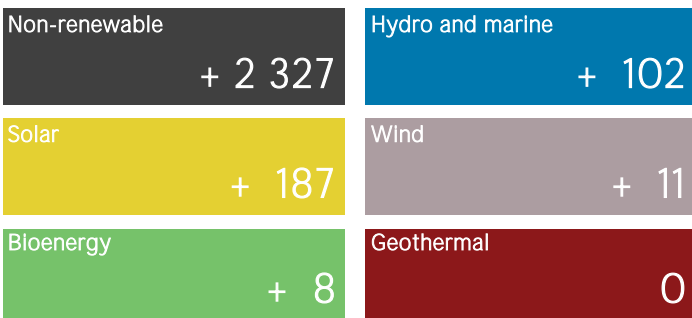
Renewable capacity in 2024



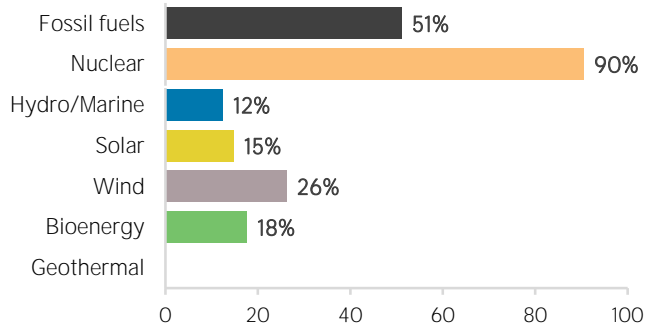
Net capacity change (GW)



Net capacity change in 2024 (MW)

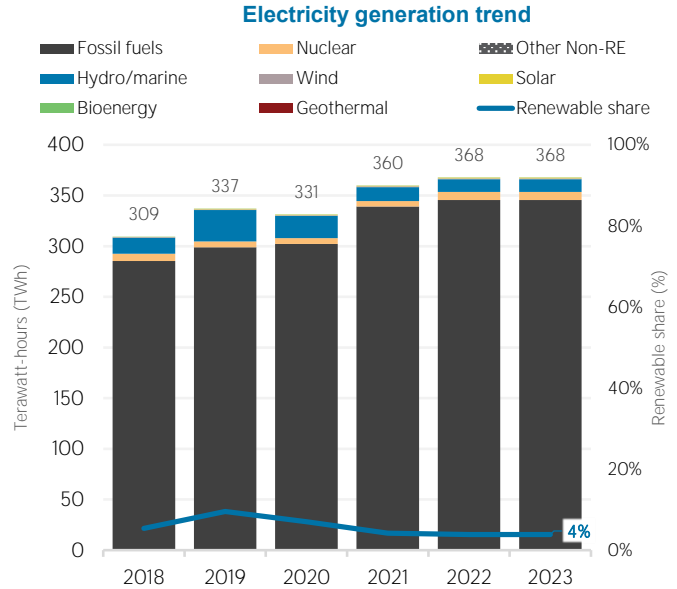


Capacity utilisation in 2023 (%)

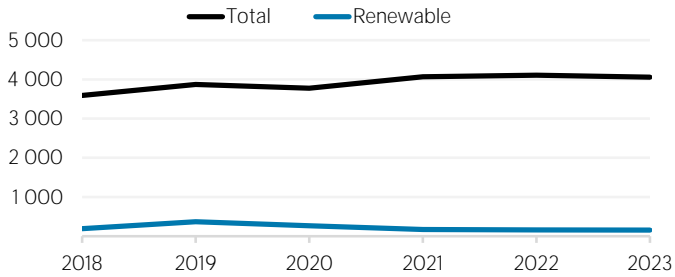


ELECTRICITY GENERATION

Generation in 2023	GWh	%
Non-renewable	353 477	96
Renewable	14 189	4
Hydro and marine	12 619	3
Solar	736	0
Wind	812	0
Bioenergy	22	0
Geothermal	0	0
Total	367 666	100



Per capita electricity generation (kWh)

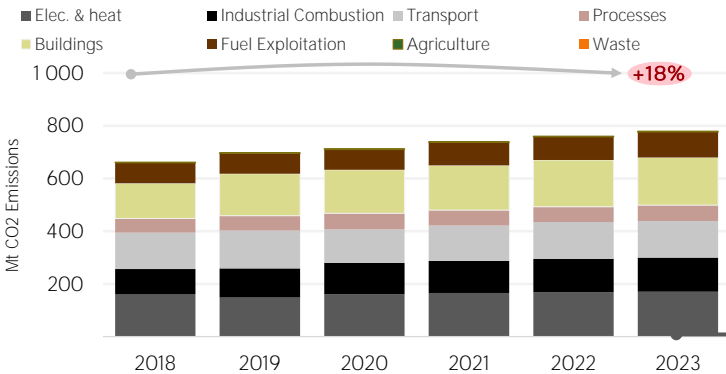


LATEST POLICIES, PROGRAMMES AND LEGISLATION

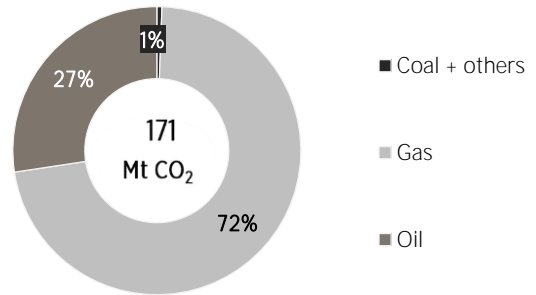
- 1 Eurasian Economic Union - Iran Free Trade Agreement FTA 2023
- 2 Strategic plan to protect country's infrastructure 2023
- 3 Iran Petroleum Contract 2016
- 4 Renewable portfolio standards: Law on the Sixth Five-Year Economic, Cultural, and Social Development Plan for 1396-1400 (2016-2021) 2016
- 5 Supplying 20% of electricity consumed by ministries, institutes, governmental sectors and public non-governmental entities from renewable sources in Iran 2016

ENERGY AND EMISSIONS

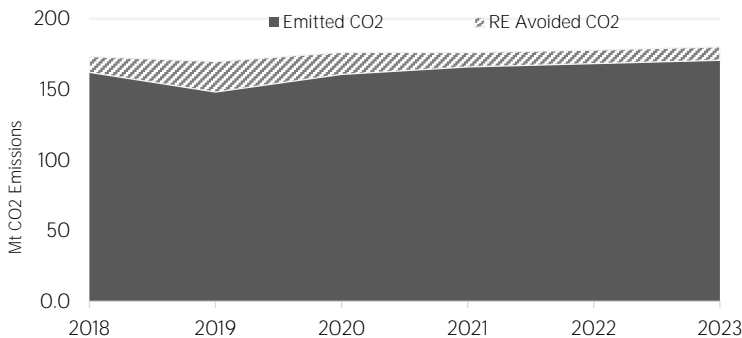
CO₂ emissions by sector



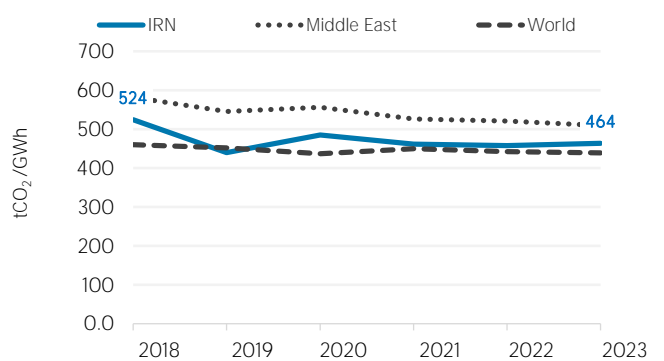
Elec. & heat generation CO₂ emissions in



Avoided emissions from renewable elec. & heat



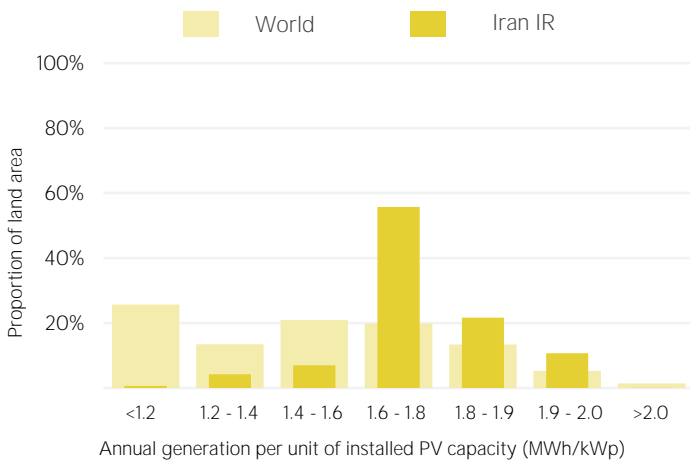
CO₂ emission factor for elec. & heat generation



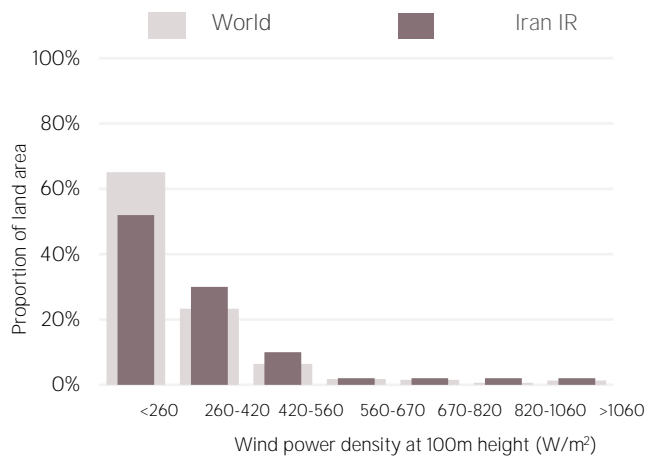
Avoided emissions based on fossil fuel mix used for power

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

Distribution of solar potential



Distribution of wind potential



Biomass potential: net primary production



= 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.

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