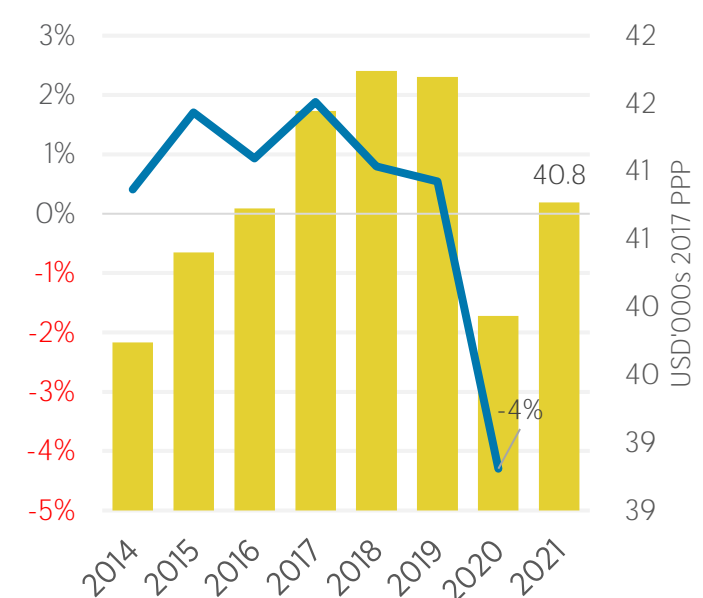
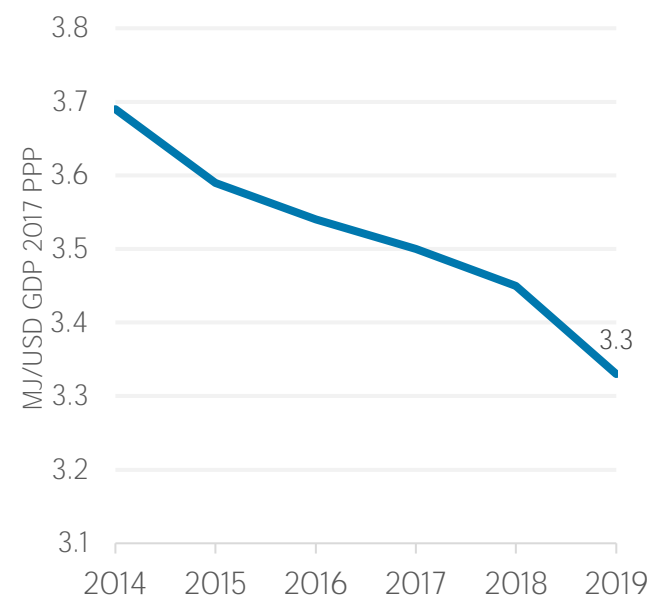


COUNTRY INDICATORS AND SDGS

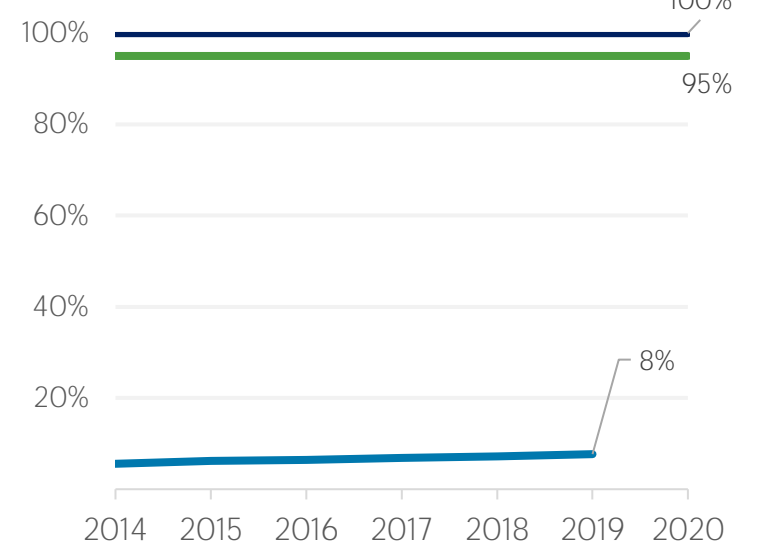
GDP per capita 8.1.1 Real GDP growth rate



7.3.1 Energy intensity



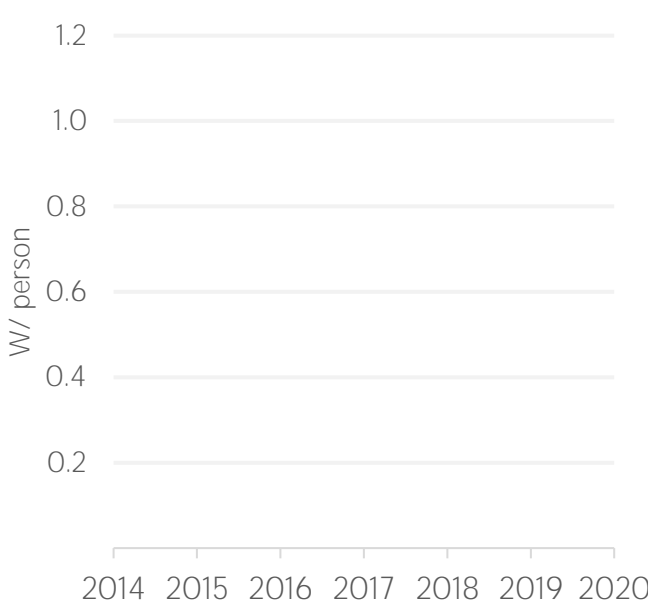
7.1.1 Access to electricity (% population)
7.1.2 Access to clean cooking (% population)
7.2.1 Renewable energy (% TREC)



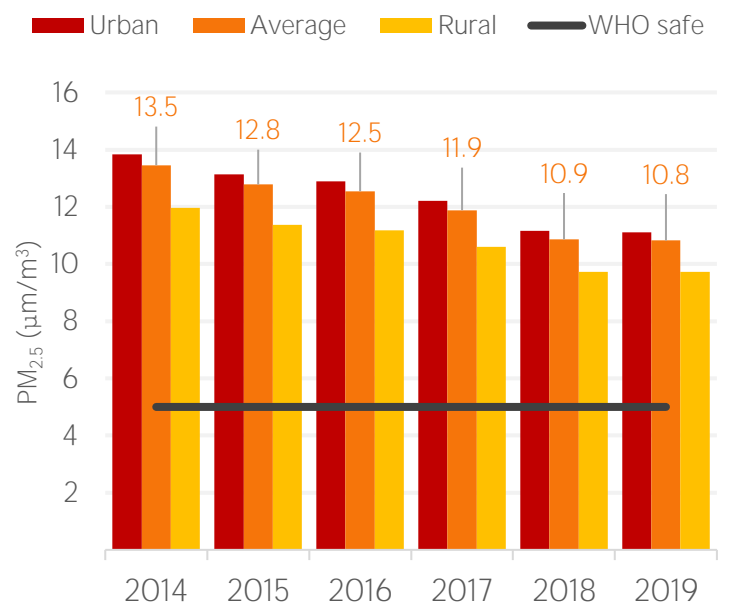
7.a.1 Public flows to renewables



7.b.1 Per capita renewable capacity



11.6.2 Air particulate matter (PM_{2.5})



TOTAL ENERGY SUPPLY (TES)

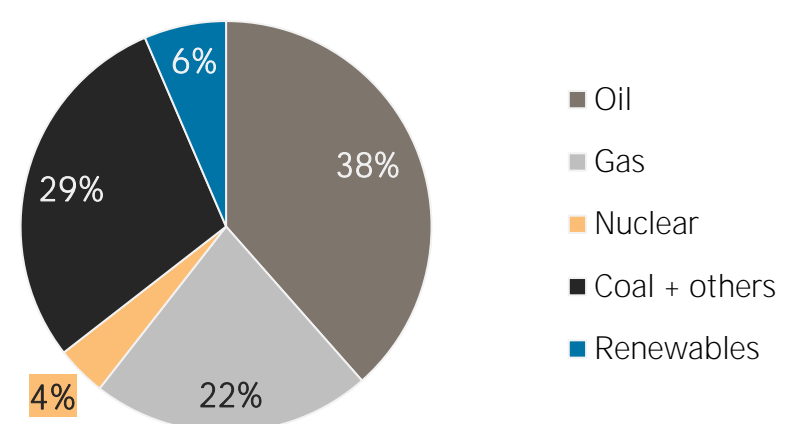
Total Energy Supply (TES)	2014	2019
Non-renewable (TJ)	17 612 981	16 346 191
Renewable (TJ)	901 657	1 129 117
Total (TJ)	18 514 638	17 475 308
Renewable share (%)	5	6

Growth in TES	2014-19	2018-19
Non-renewable (%)	-7.2	-3.6
Renewable (%)	+25.2	+6.8
Total (%)	-5.6	-3.0

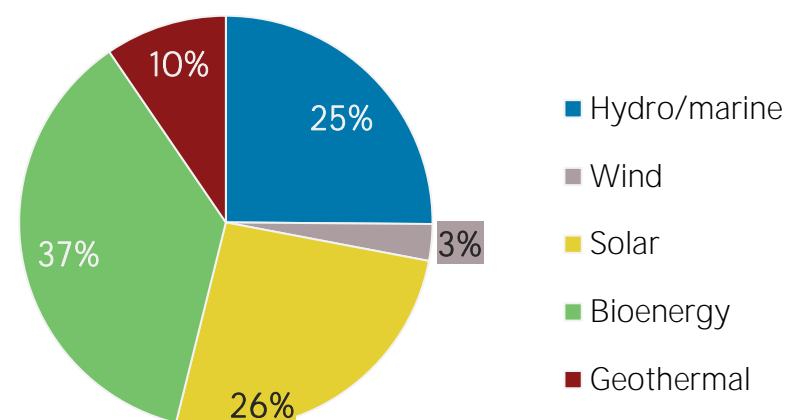
Primary energy trade	2014	2019
Imports (TJ)	18 271 877	16 670 932
Exports (TJ)	674 268	838 891
Net trade (TJ)	-17 597 609	-15 832 041

Imports (% of supply)	99	95
Exports (% of production)	56	40
Energy self-sufficiency (%)	7	12

Total energy supply in 2019

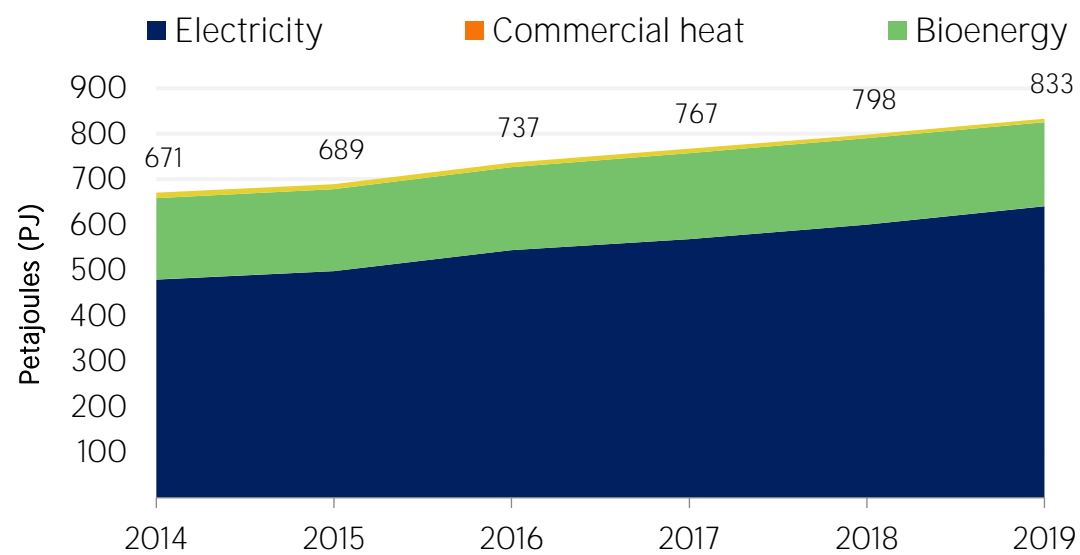


Renewable energy supply in 2019



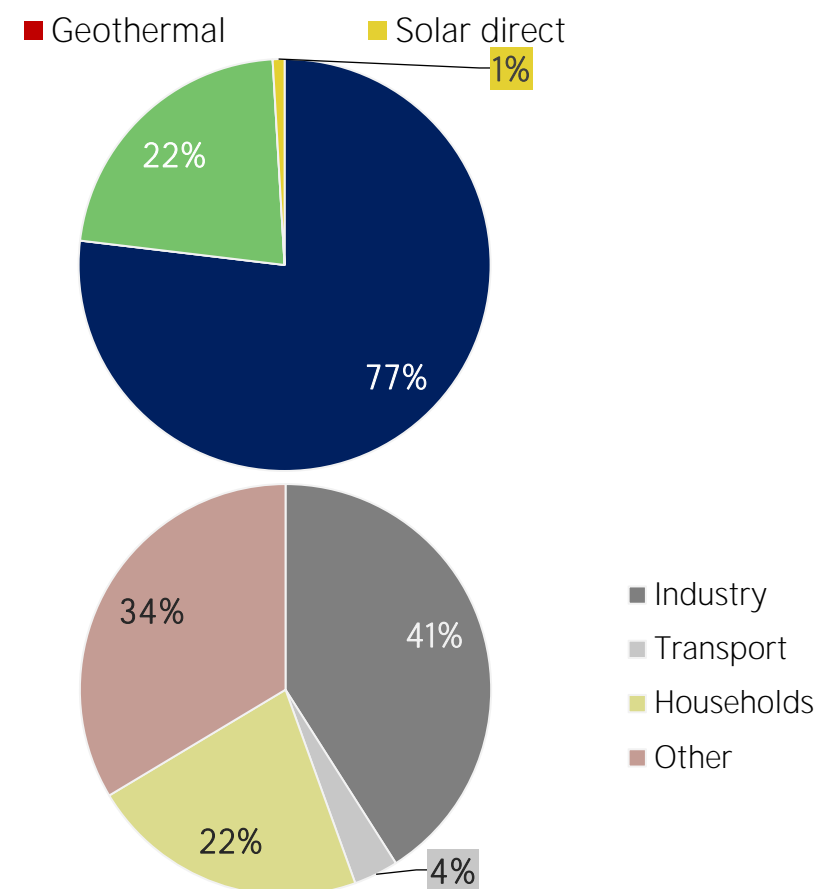
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFE trend



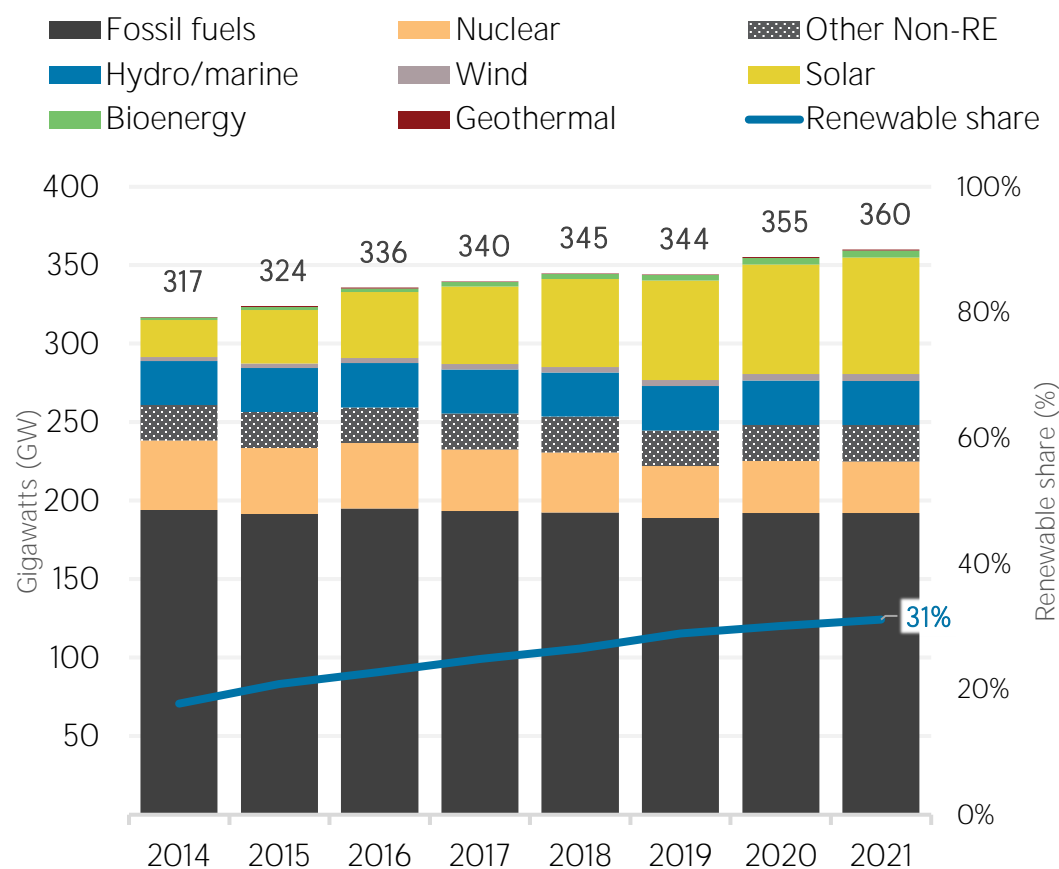
Consumption by sector	2014	2019
Industry (TJ)	284 347	341 441
Transport (TJ)	20 367	29 247
Households (TJ)	147 622	182 480
Other (TJ)	218 330	279 920

Renewable energy consumption in 2019

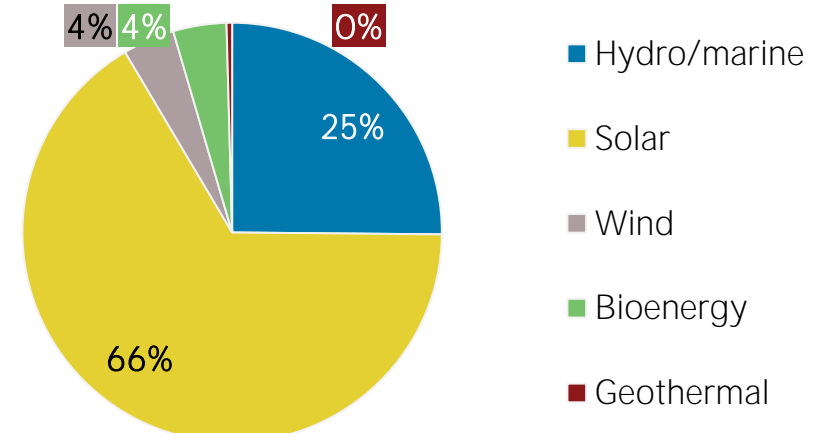


ELECTRICITY CAPACITY

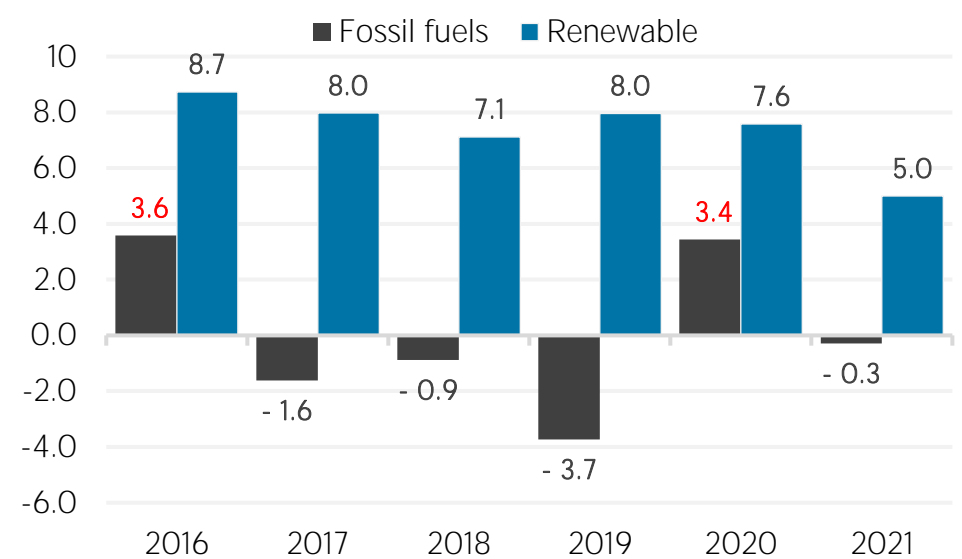
Installed capacity trend



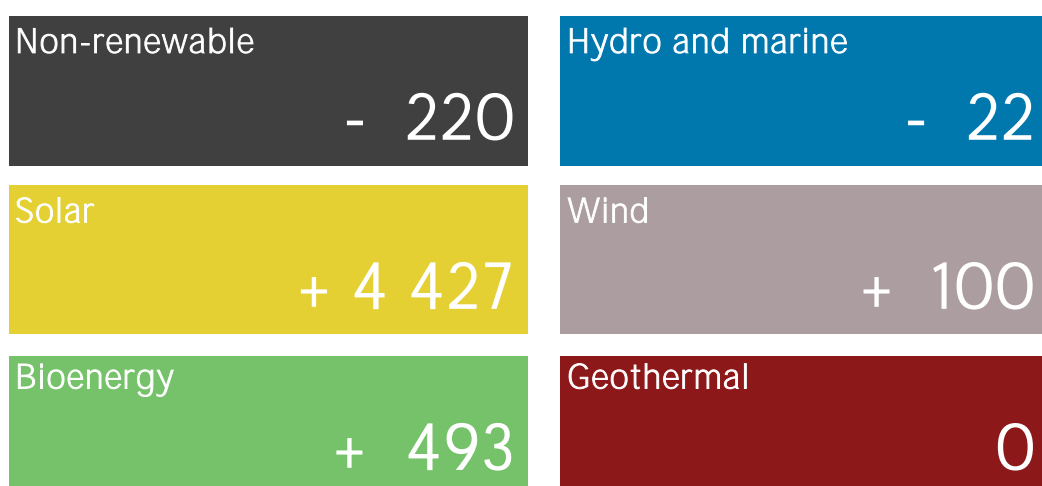
Renewable capacity in 2021



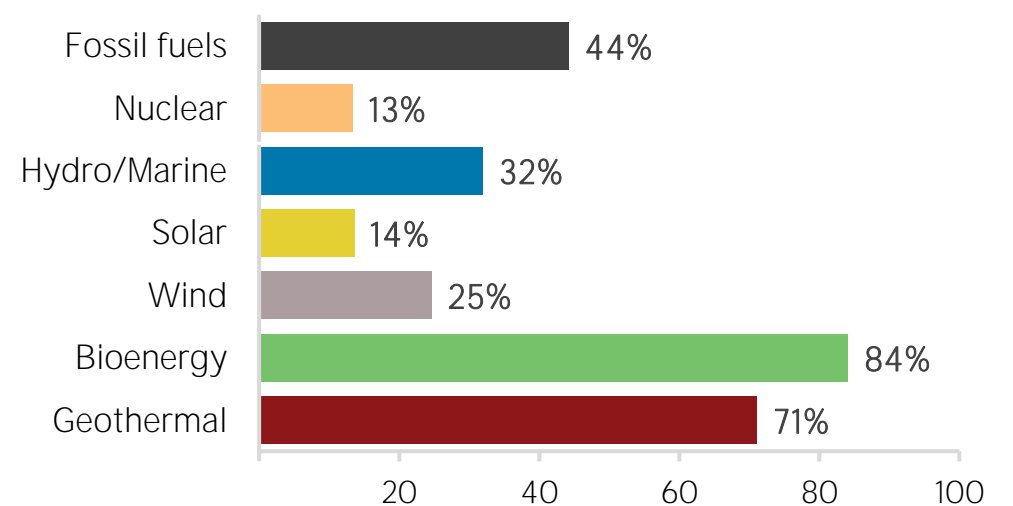
Net capacity change (GW)



Net capacity change in 2021 (MW)

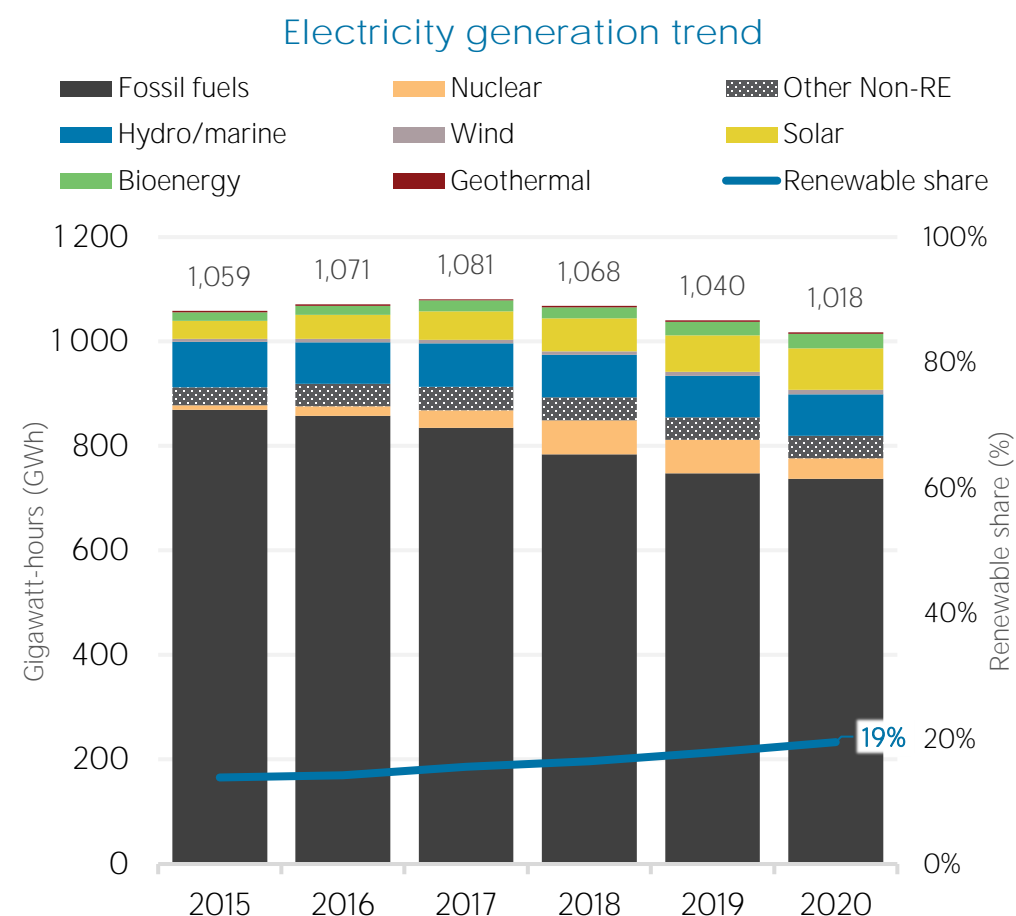
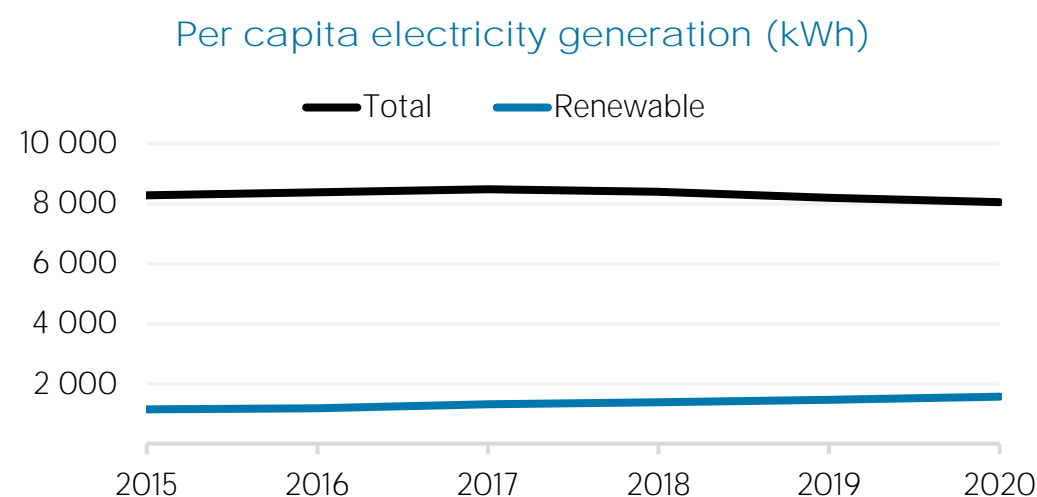


Capacity utilisation in 2020 (%)



ELECTRICITY GENERATION

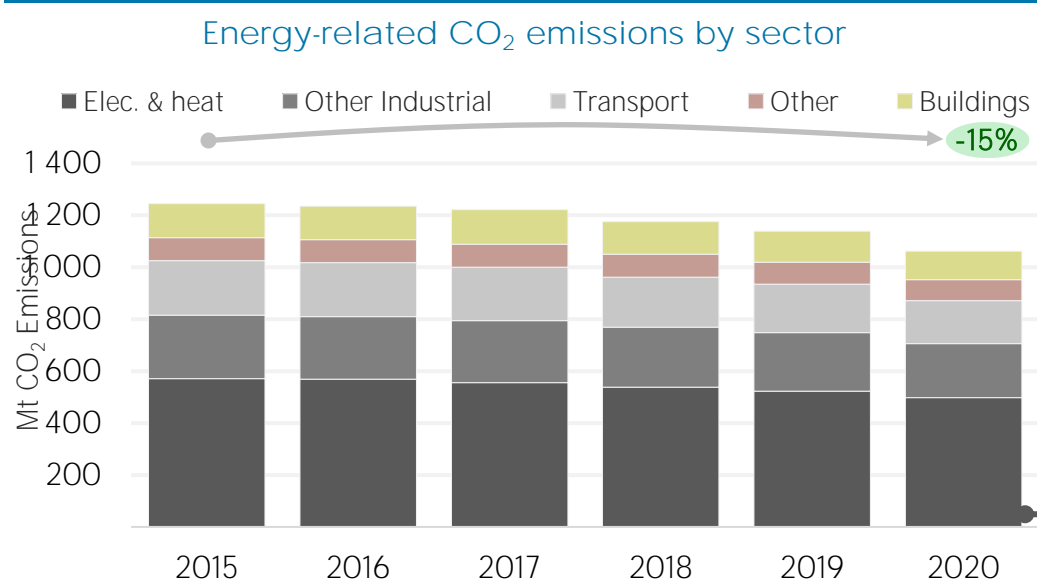
Generation in 2020	GWh	%
Non-renewable	819 928	81
Renewable	197 851	19
Hydro and marine	78 807	8
Solar	79 087	8
Wind	8 970	1
Bioenergy	27 995	3
Geothermal	2 992	0
Total	1 017 779	100



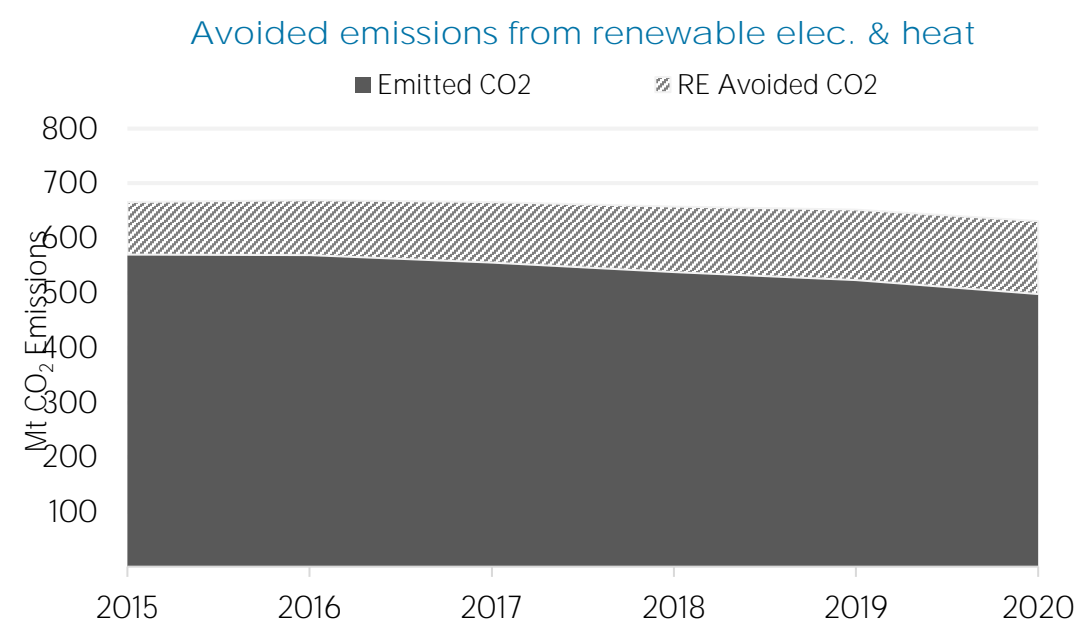
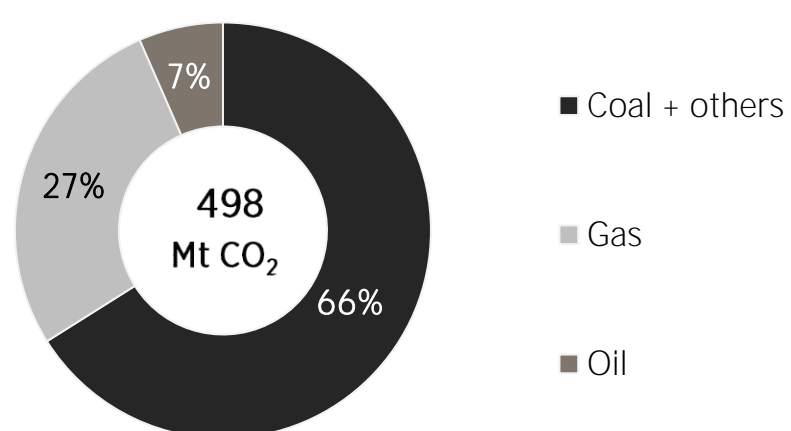
LATEST POLICIES, PROGRAMMES AND LEGISLATION

- 1 Japan - Indonesia cooperation agreement on decarbonization technologies 2022
- 2 Basic Guidelines on Climate Transition Finance 2021
- 3 Decarbonised Infrastructure, Joint-Credit Mechanism 2021
- 4 Domestic Battery Production Subsidies 2021
- 5 Green Innovation Fund - METI funds hydrogen supply chain 2021

ENERGY AND EMISSIONS

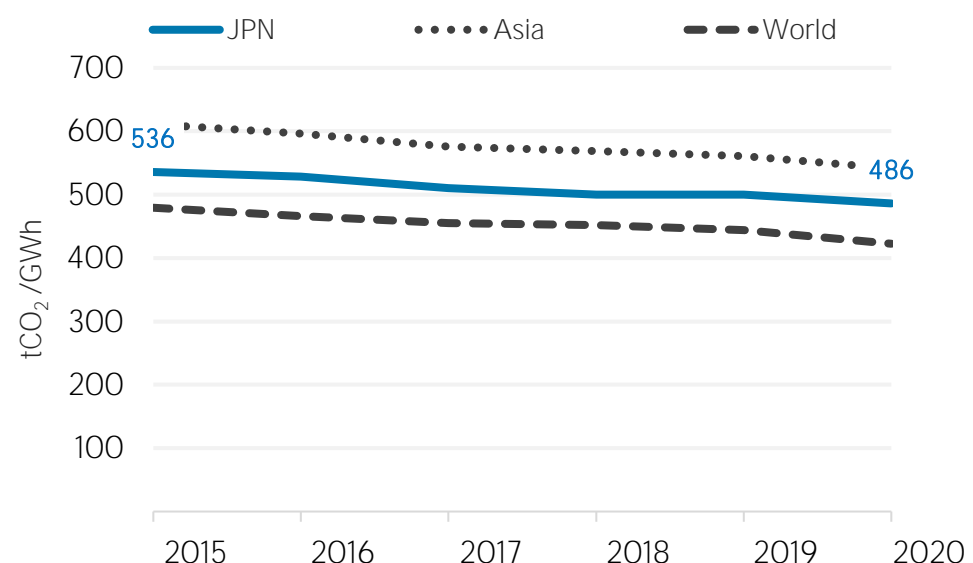


Elec. & heat generation CO₂ emissions in



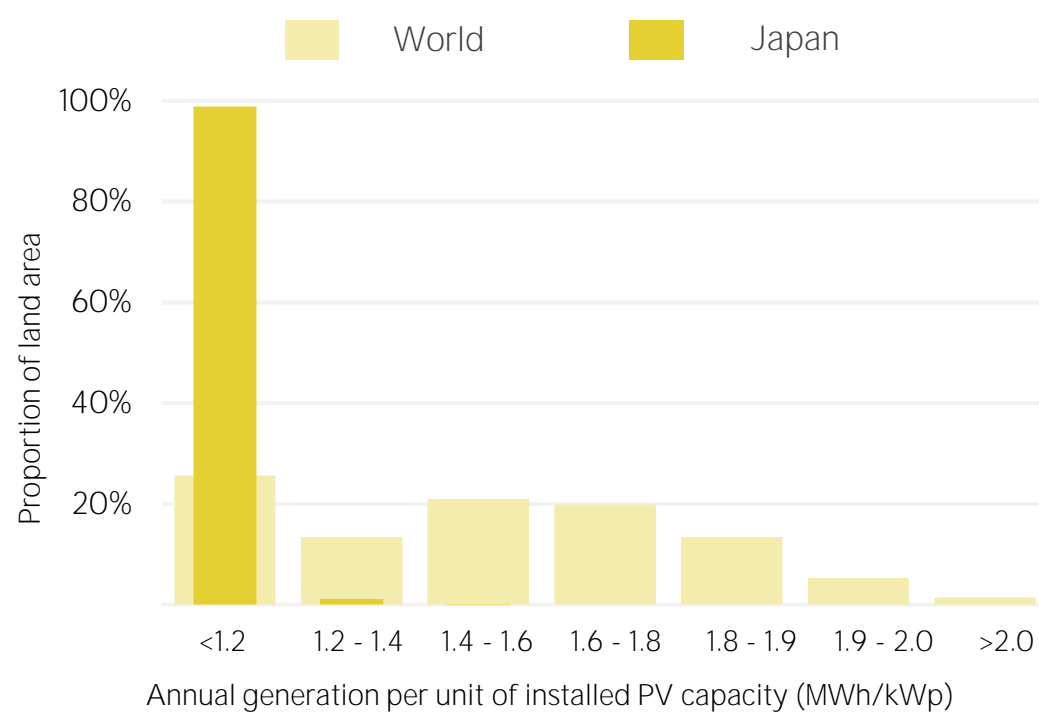
Avoided emissions based on fossil fuel mix used for power

CO₂ emission factor for elec. & heat generation

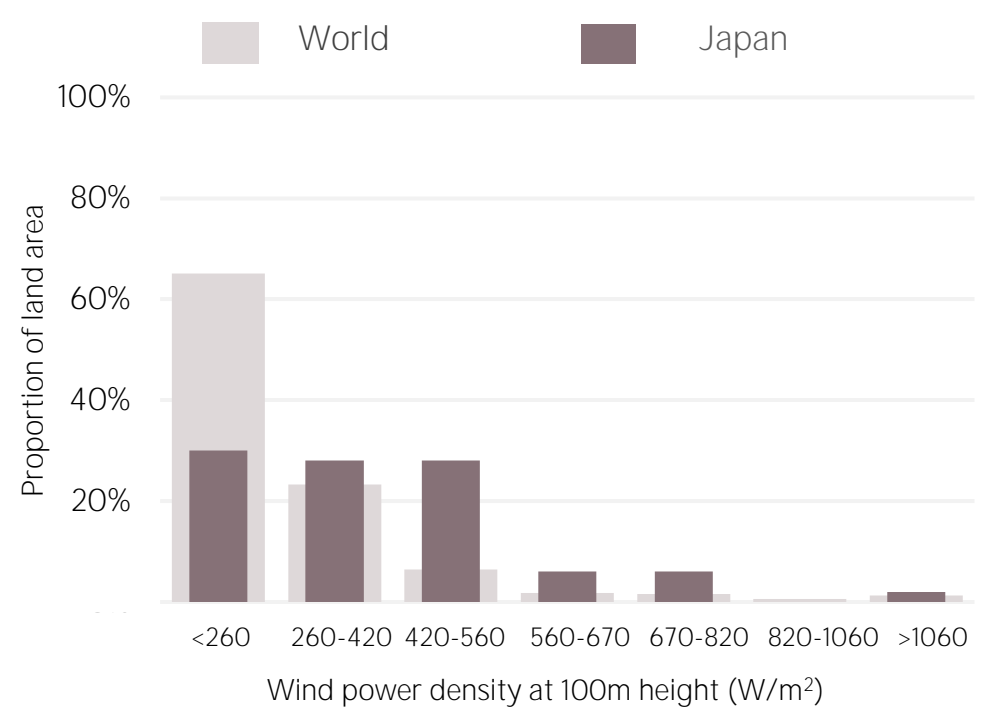


Calculated by dividing power sector emissions by elec. + heat gen.

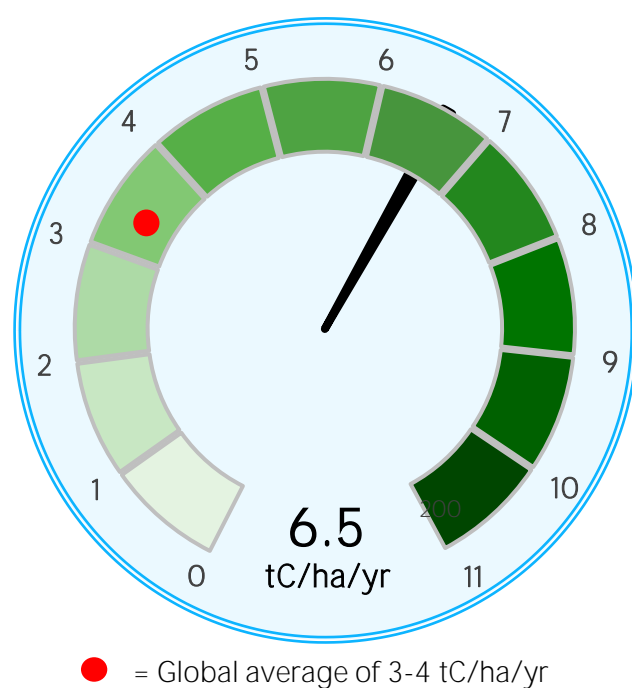
Distribution of solar potential



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/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.

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