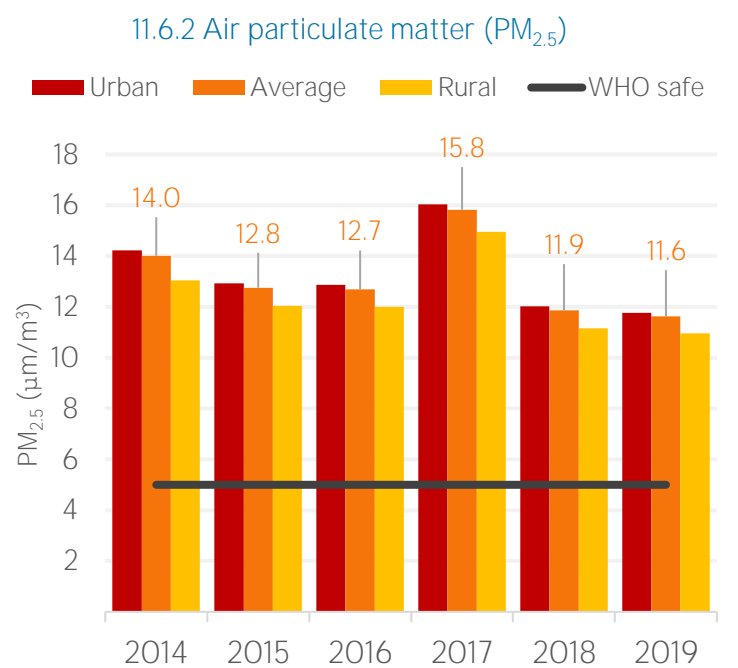
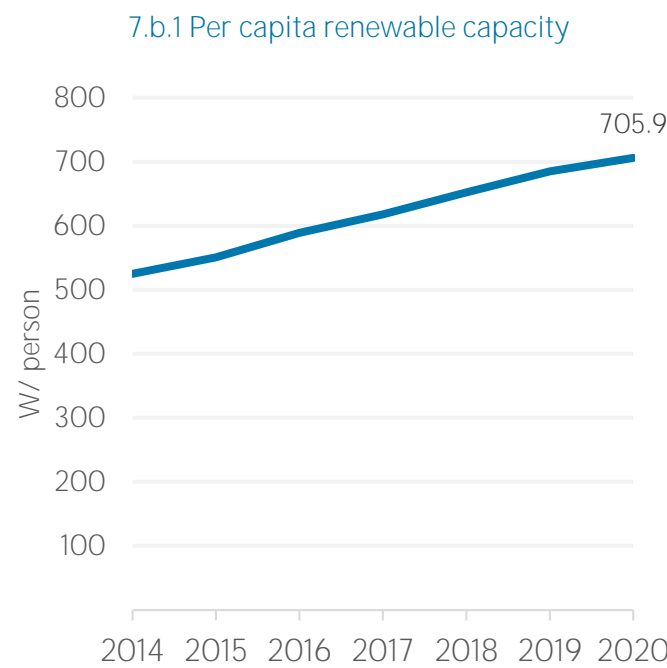
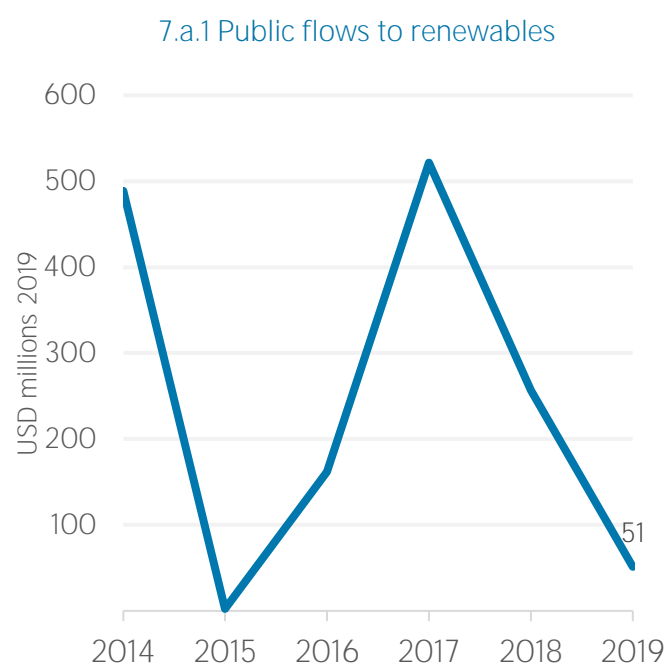
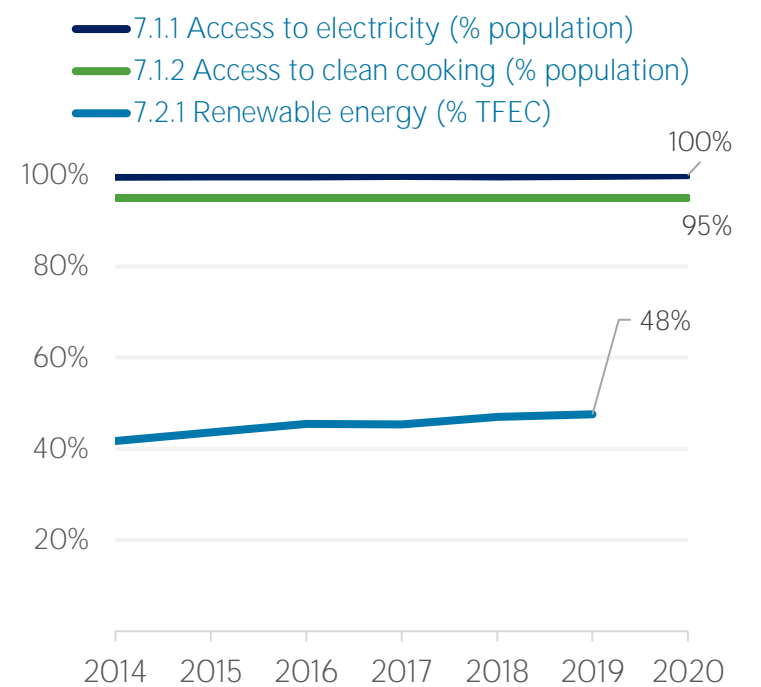
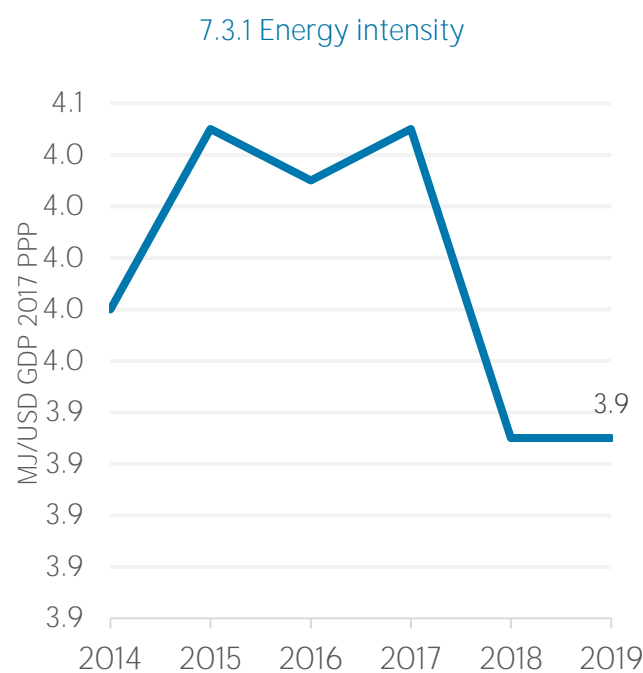
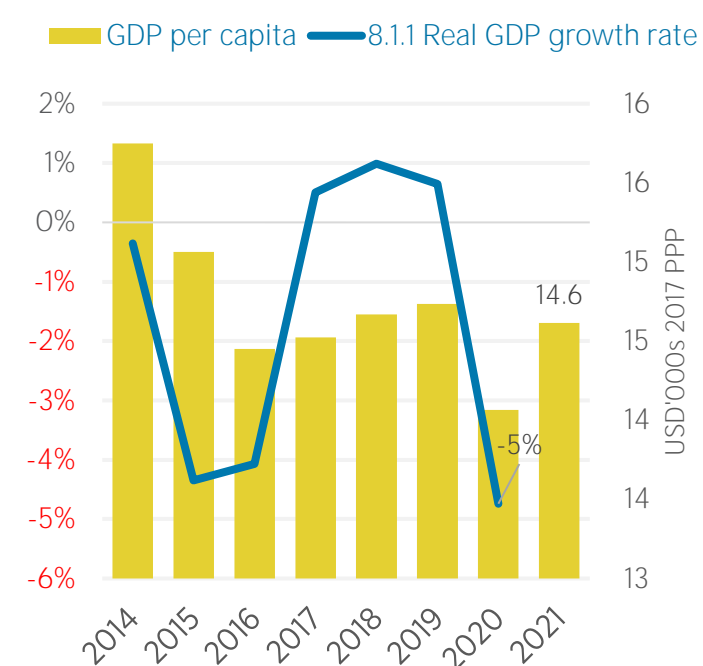


COUNTRY INDICATORS AND SDGS



TOTAL ENERGY SUPPLY (TES)

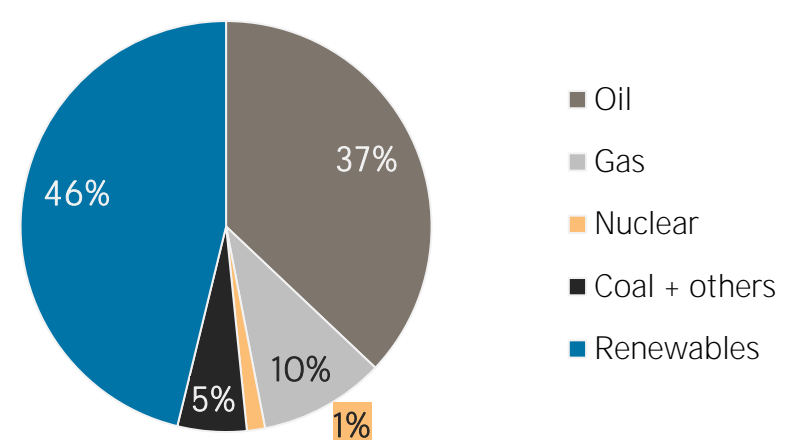
Total Energy Supply (TES)	2014	2019
Non-renewable (TJ)	7 632 012	6 565 049
Renewable (TJ)	4 943 430	5 634 431
Total (TJ)	12 575 442	12 199 480
Renewable share (%)	39	46

Growth in TES	2014-19	2018-19
Non-renewable (%)	-14.0	+0.3
Renewable (%)	+14.0	-1.6
Total (%)	-3.0	-0.6

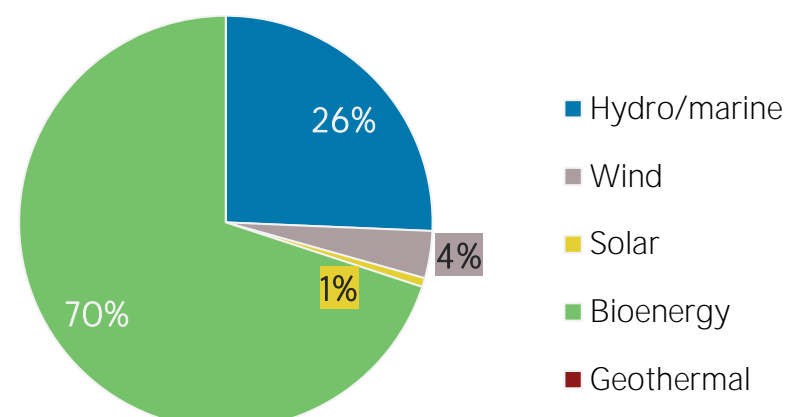
Primary energy trade	2014	2019
Imports (TJ)	3 250 047	2 588 851
Exports (TJ)	1 423 900	3 046 894
Net trade (TJ)	-1 826 147	458 043

Imports (% of supply)	26	21
Exports (% of production)	13	23
Energy self-sufficiency (%)	88	106

Total energy supply in 2019

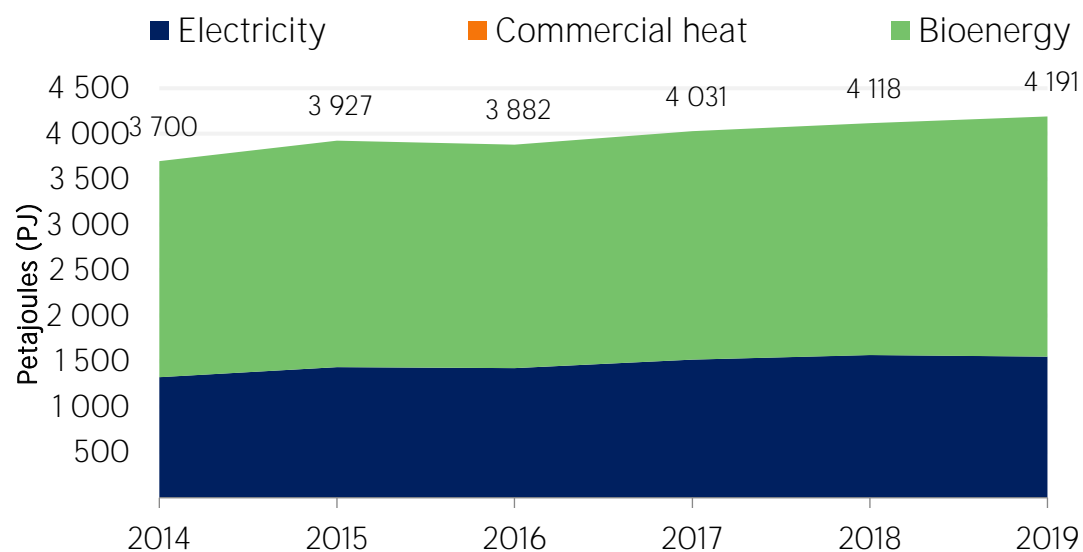


Renewable energy supply in 2019



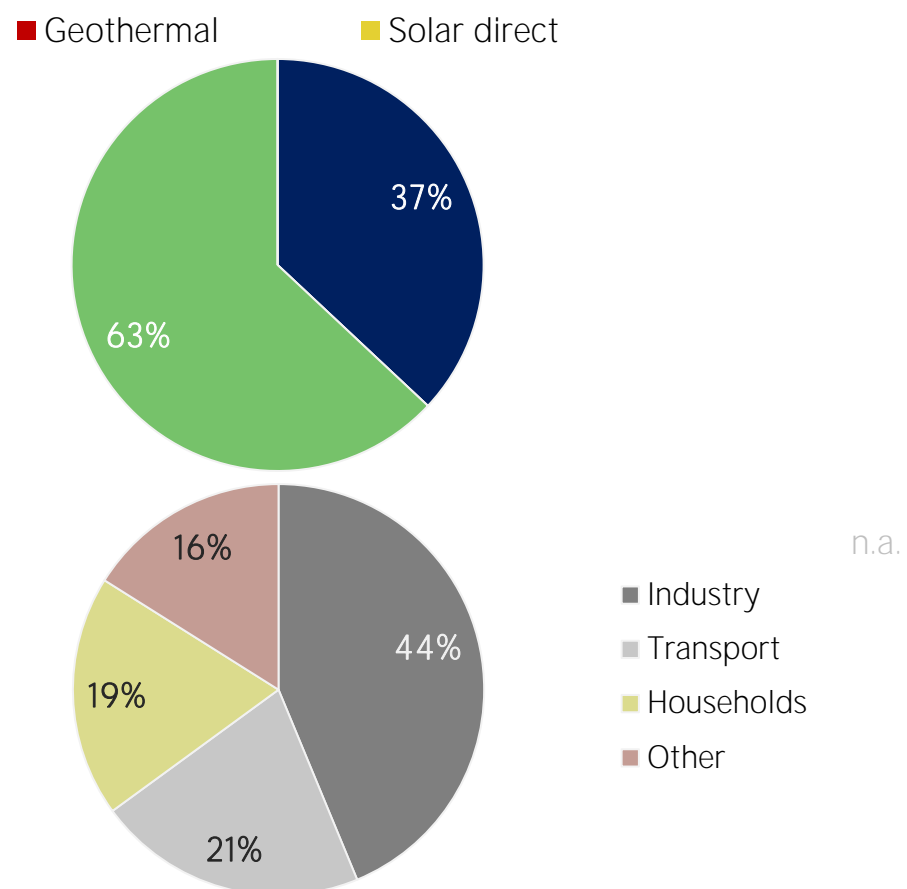
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend



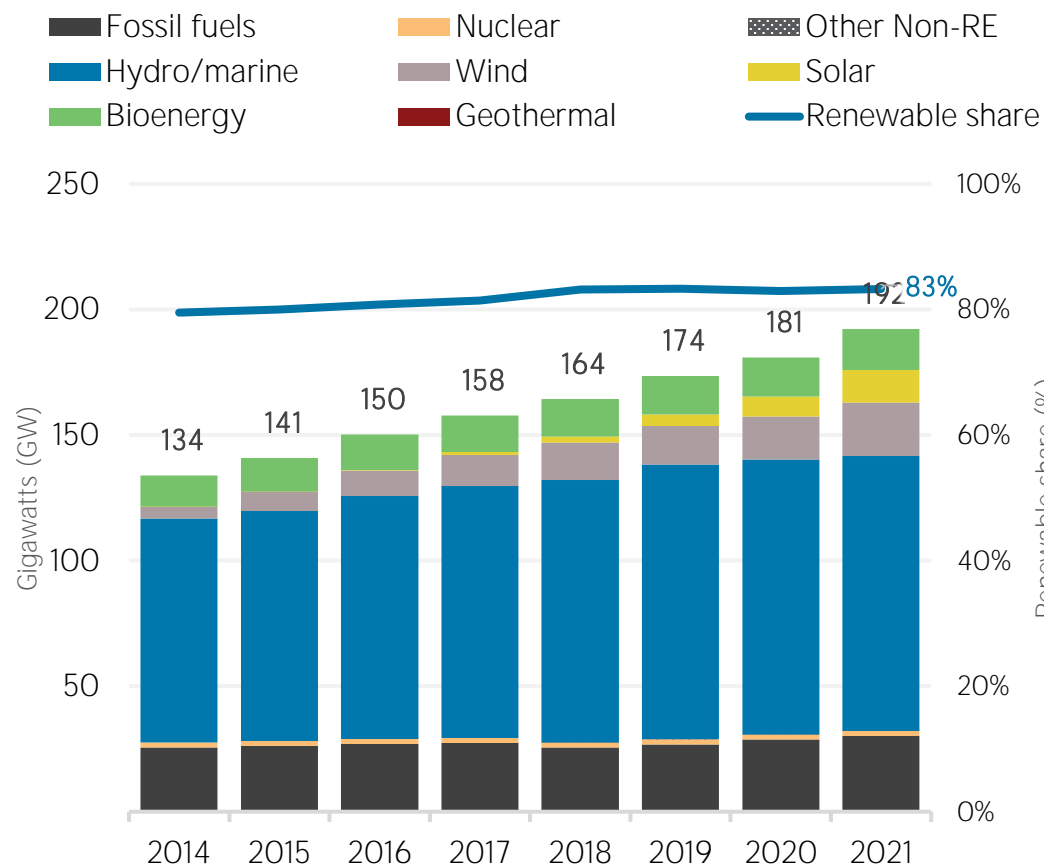
Consumption by sector	2014	2019
Industry (TJ)	1 852 677	1 833 468
Transport (TJ)	629 708	888 785
Households (TJ)	667 714	794 970
Other (TJ)	550 208	673 291

Renewable energy consumption in 2019

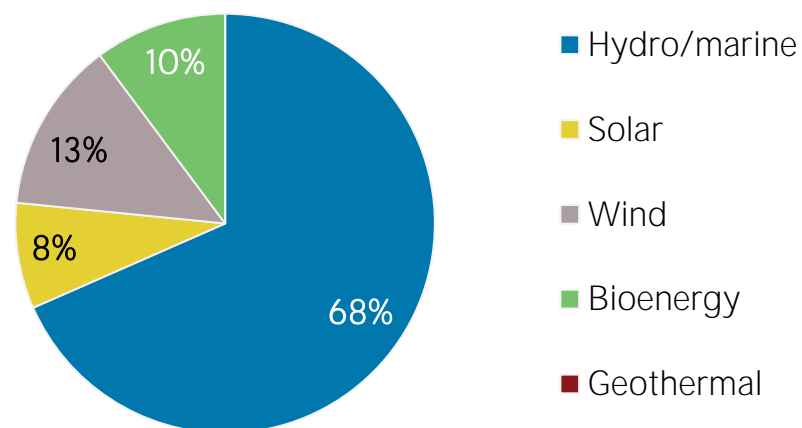


ELECTRICITY CAPACITY

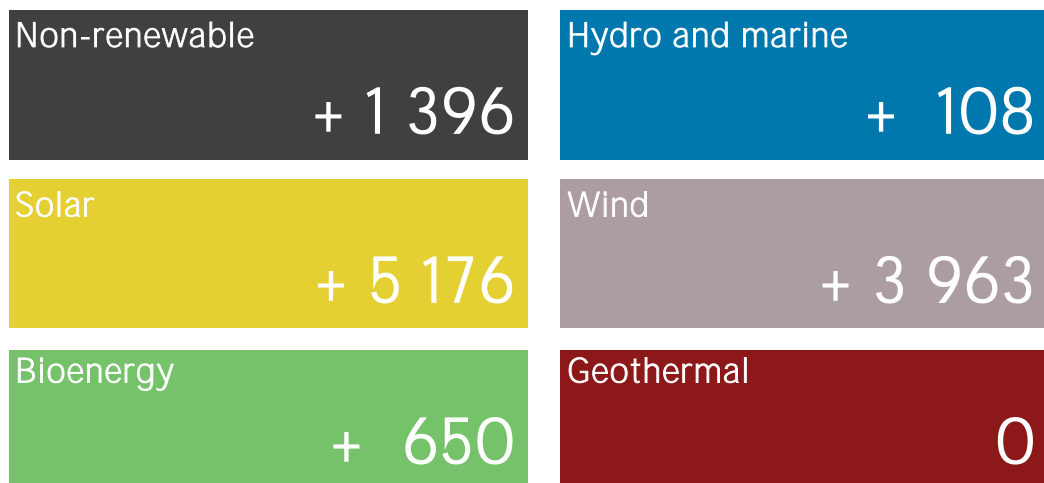
Installed capacity trend



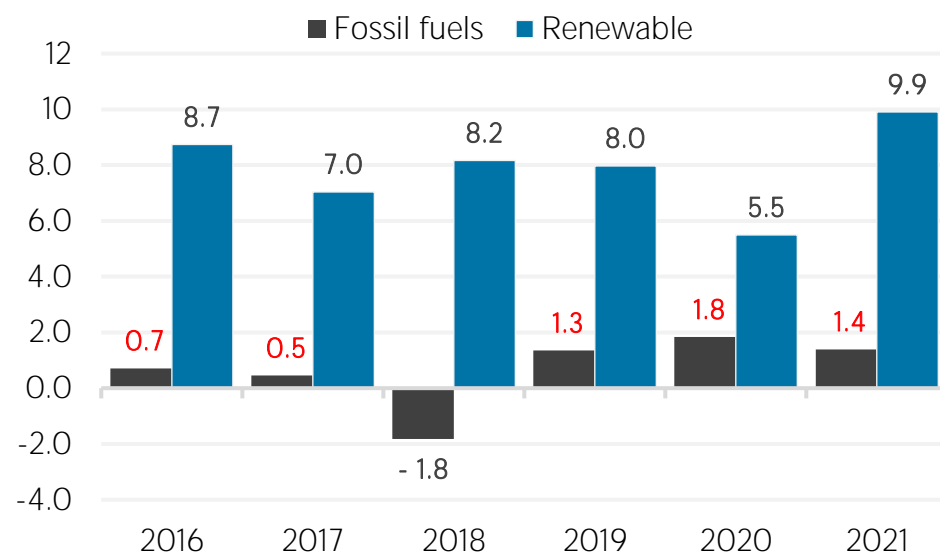
Renewable capacity in 2021



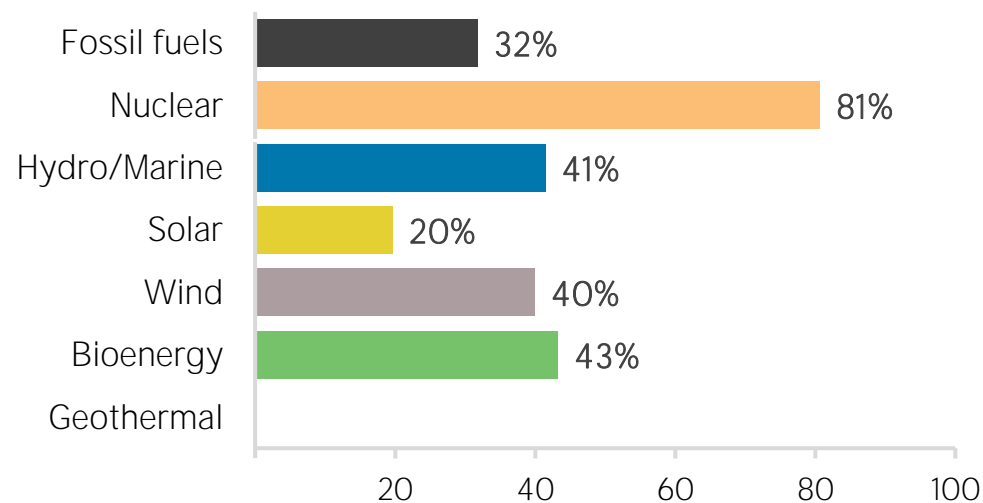
Net capacity change in 2021 (MW)



Net capacity change (GW)

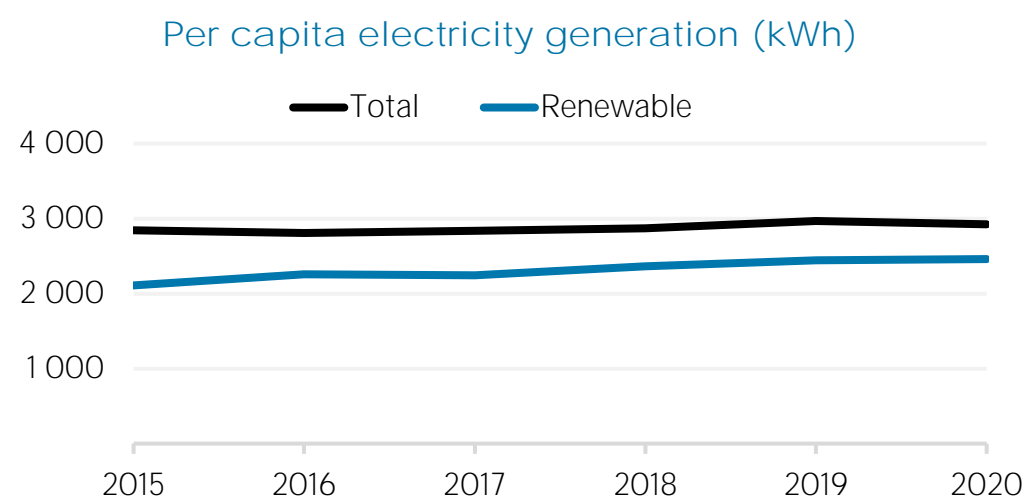


Capacity utilisation in 2020 (%)

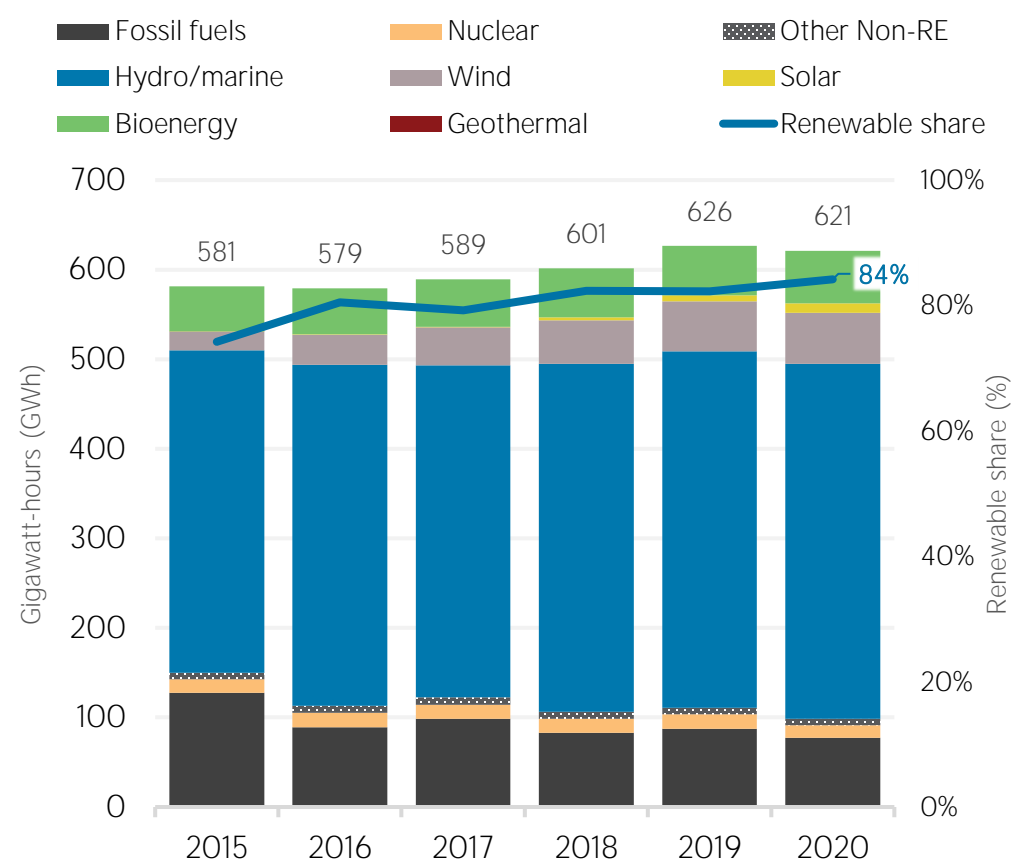


ELECTRICITY GENERATION

Generation in 2020	GWh	%
Non-renewable	98 329	16
Renewable	522 935	84
Hydro and marine	396 382	64
Solar	10 759	2
Wind	57 050	9
Bioenergy	58 744	9
Geothermal	0	0
Total	621 264	100



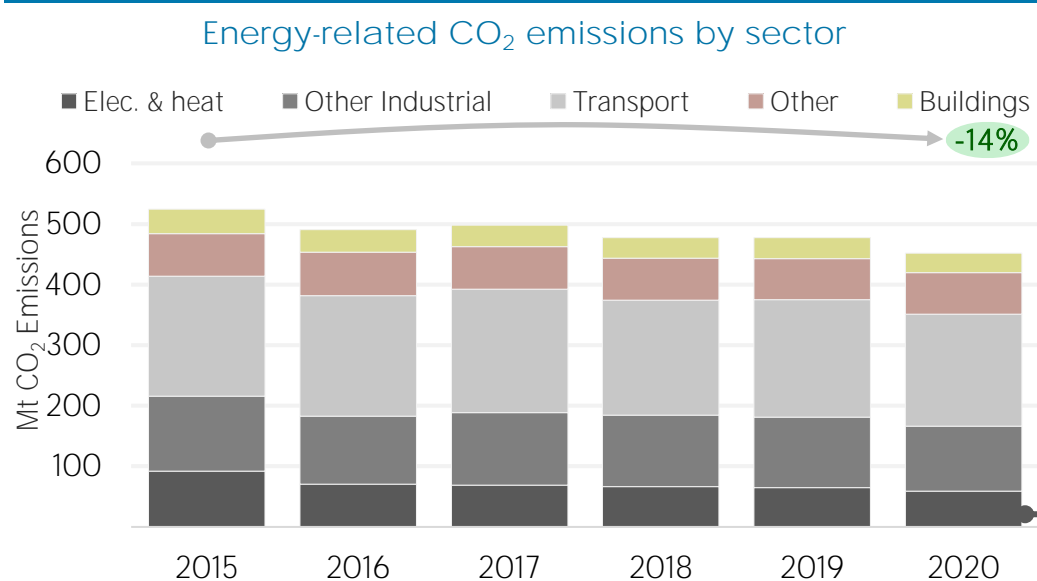
Electricity generation trend



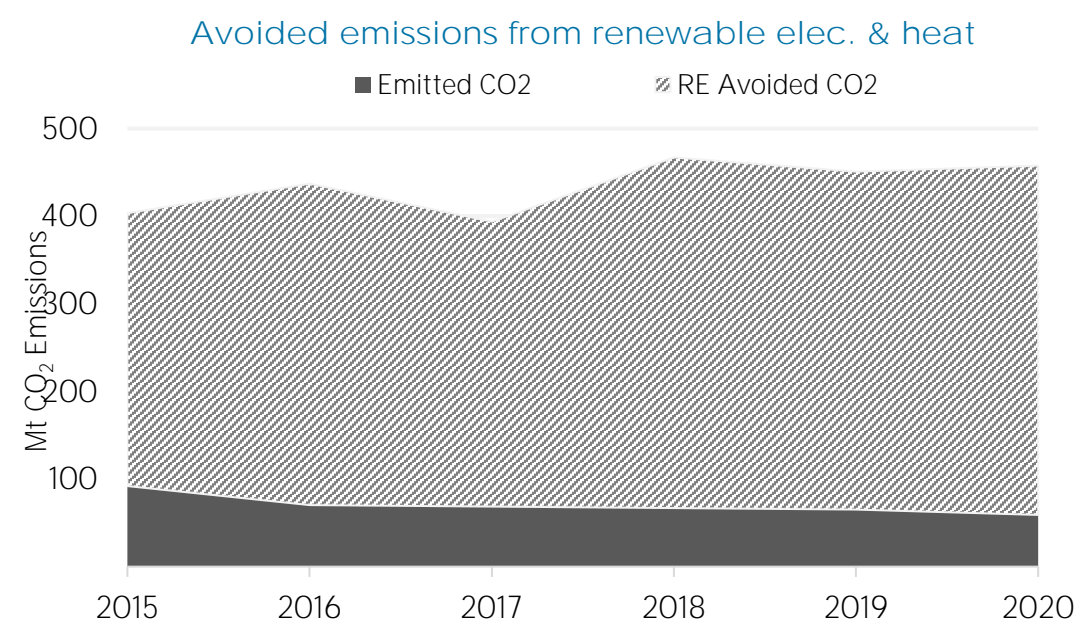
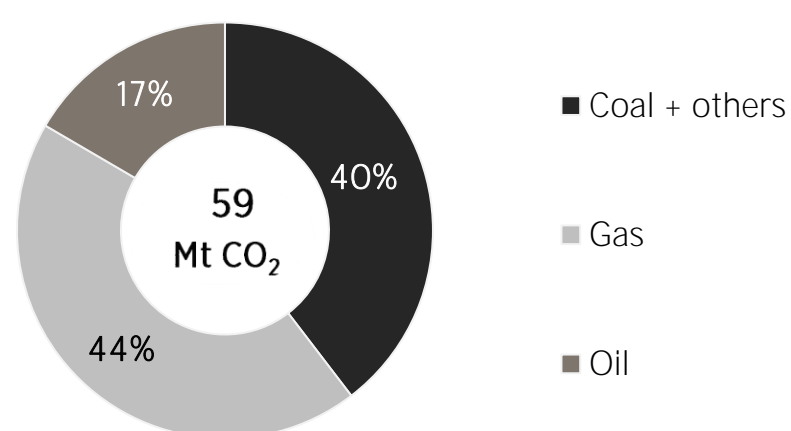
LATEST POLICIES, PROGRAMMES AND LEGISLATION

- 1 Just Energy Transition Programme 2022
- 2 Legal framework for distributed microgeneration and mini-generation, the Electricity Compensation System (SCEE) and the Social Renewable Energy Programme (PERS) 2022
- 3 Angra 3 Nuclear Power Plant Critical Path Acceleration Plan 2021
- 4 BNDE financing for a wind farm in Bahia 2021
- 5 BNDES Renovabio 2021

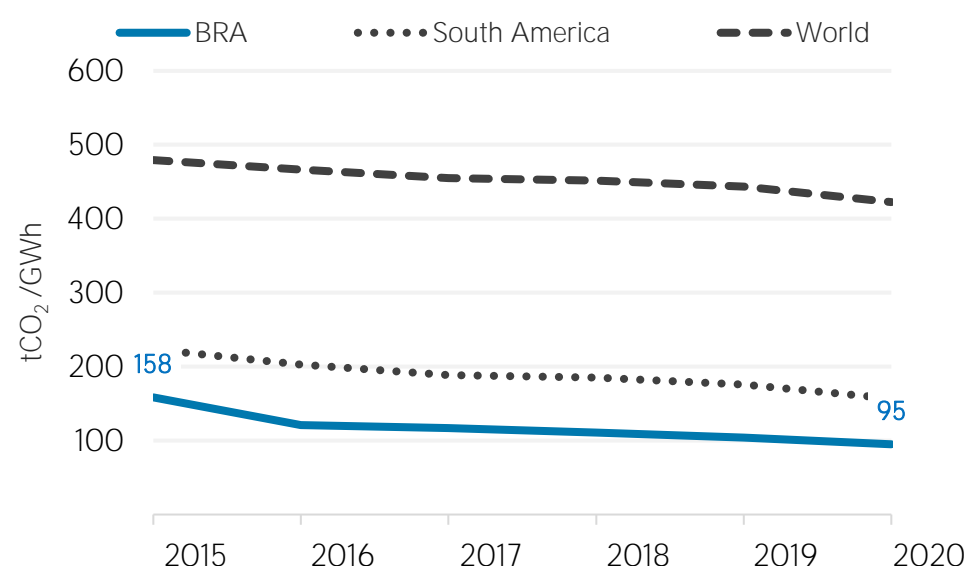
ENERGY AND EMISSIONS



Elec. & heat generation CO₂ emissions in



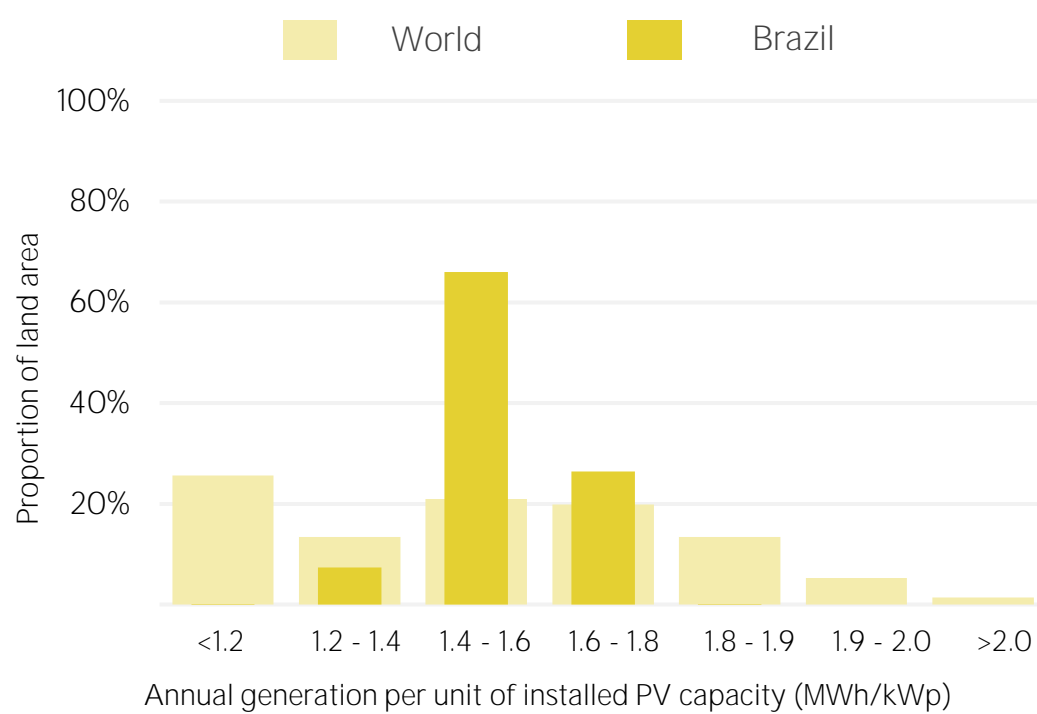
CO₂ emission factor for elec. & heat generation



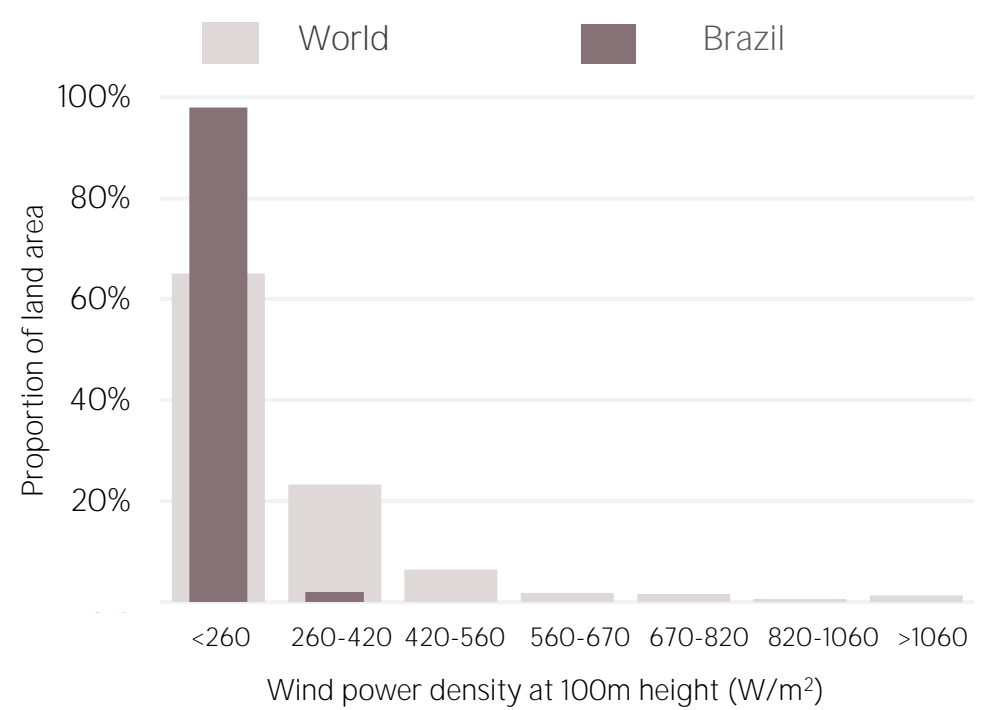
Avoided emissions based on fossil fuel mix used for power

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

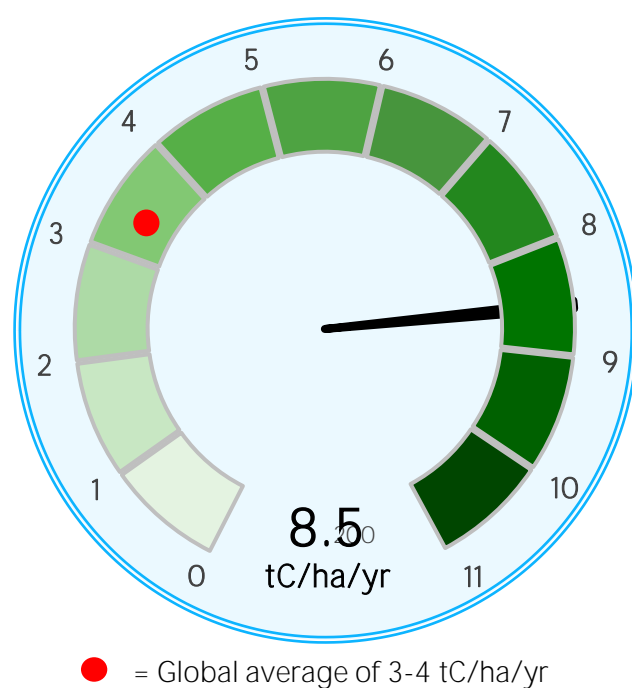
Distribution of solar potential



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/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.

Last updated on: 24th August, 2022