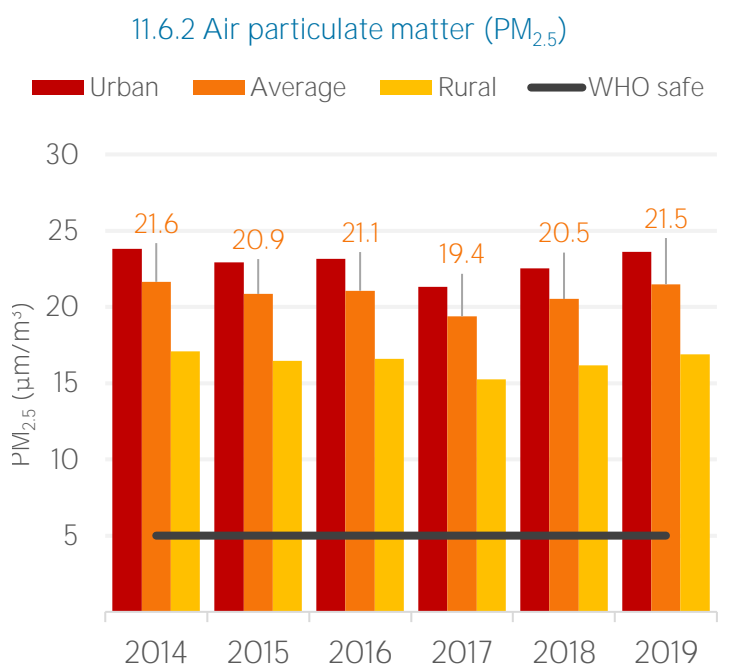
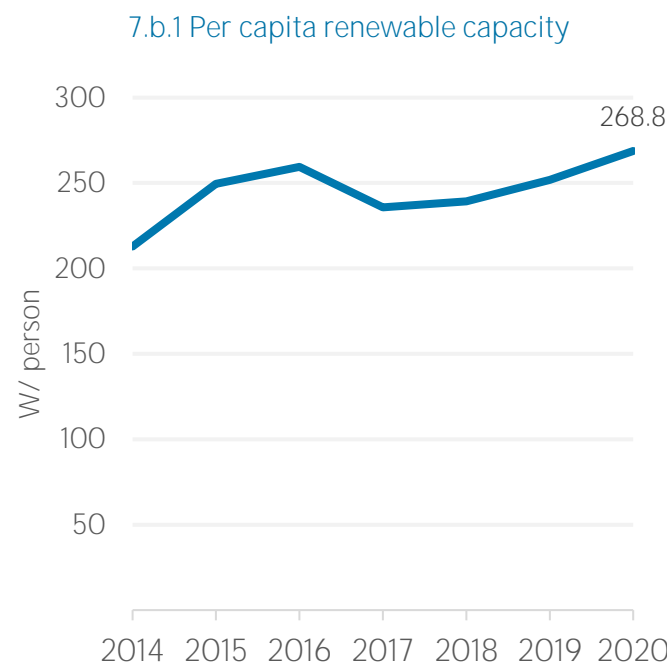
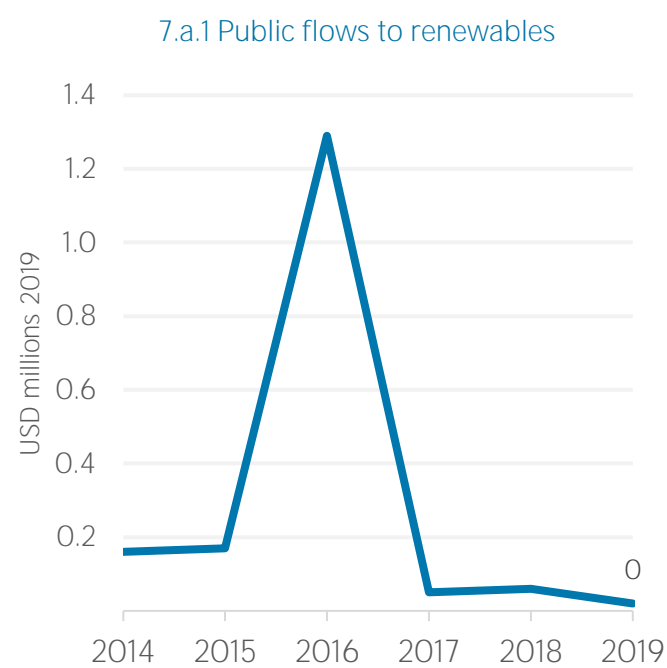
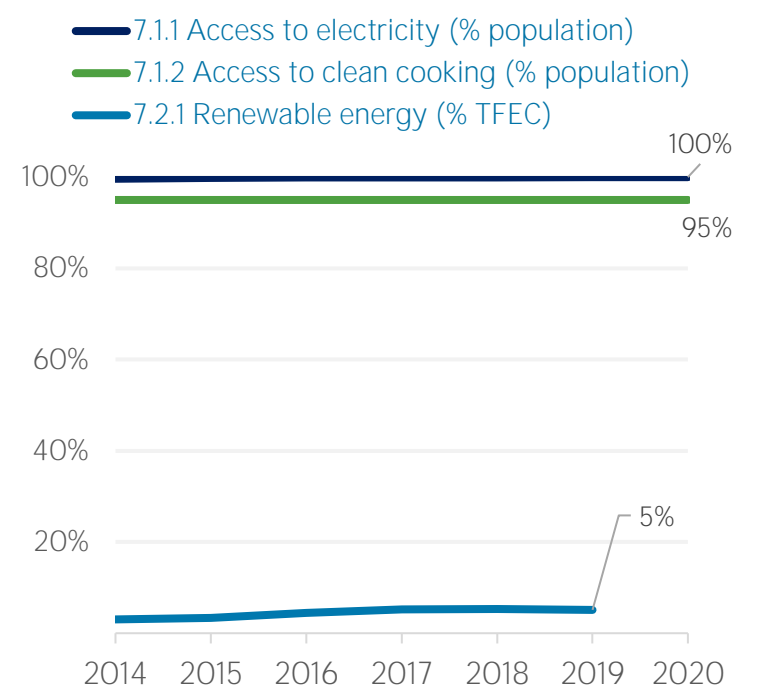
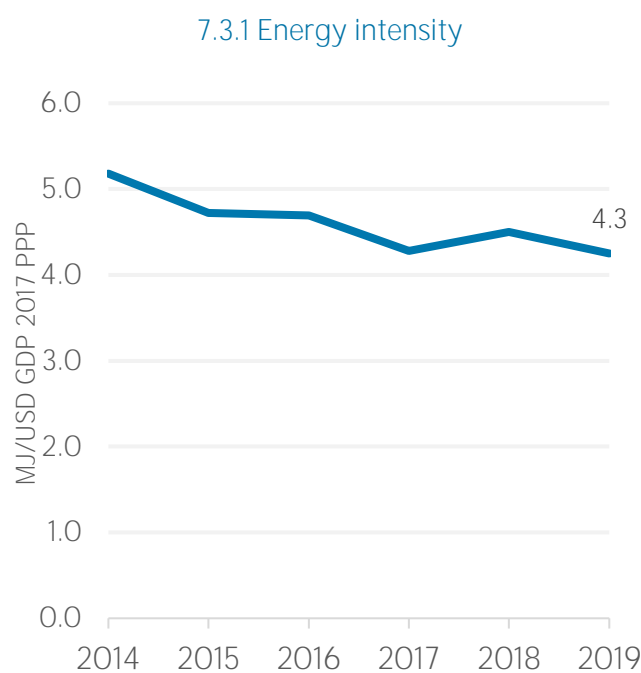
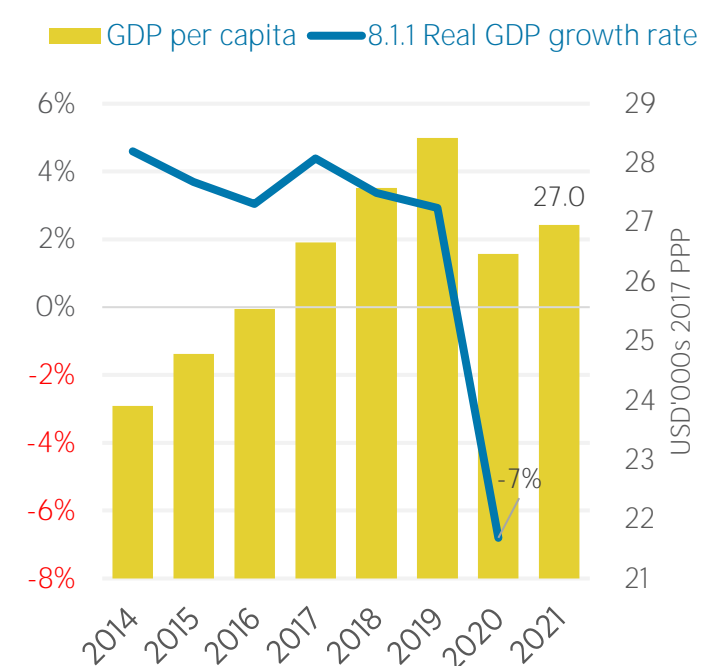


COUNTRY INDICATORS AND SDGS



TOTAL ENERGY SUPPLY (TES)

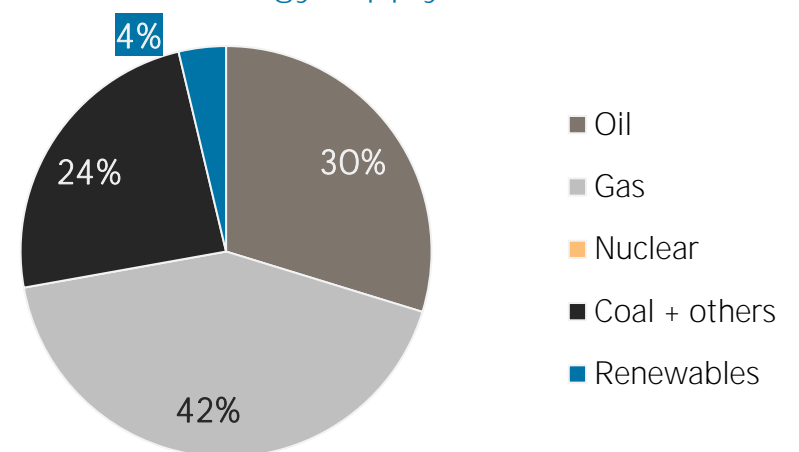
Total Energy Supply (TES)	2014	2019
Non-renewable (TJ)	3 517 722	3 747 000
Renewable (TJ)	100 704	144 728
Total (TJ)	3 618 426	3 891 728
Renewable share (%)	3	4

Growth in TES	2014-19	2018-19
Non-renewable (%)	+6.5	+1.7
Renewable (%)	+43.7	-0.0
Total (%)	+7.6	+1.7

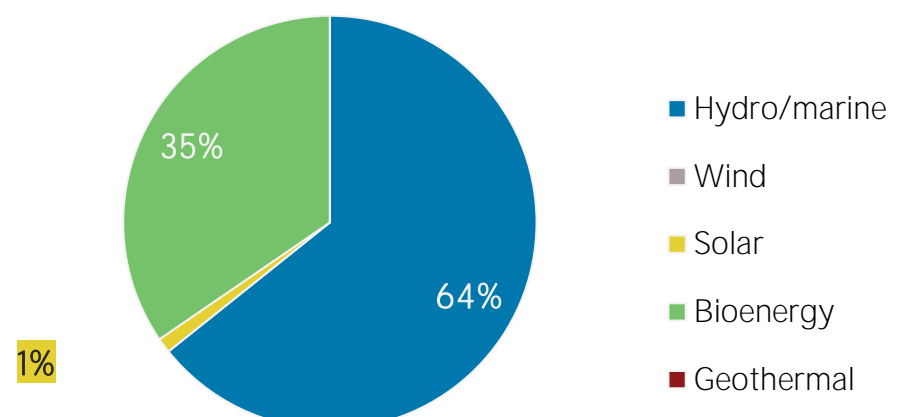
Primary energy trade	2014	2019
Imports (TJ)	1 970 885	2 262 009
Exports (TJ)	2 018 865	2 356 345
Net trade (TJ)	47 980	94 336

Imports (% of supply)	54	58
Exports (% of production)	54	58
Energy self-sufficiency (%)	104	105

Total energy supply in 2019

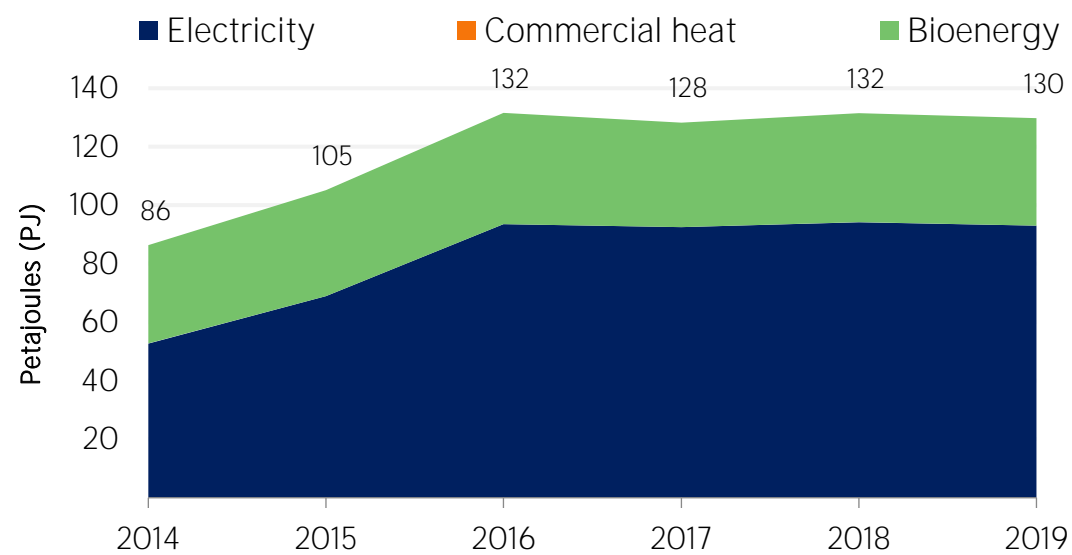


Renewable energy supply in 2019

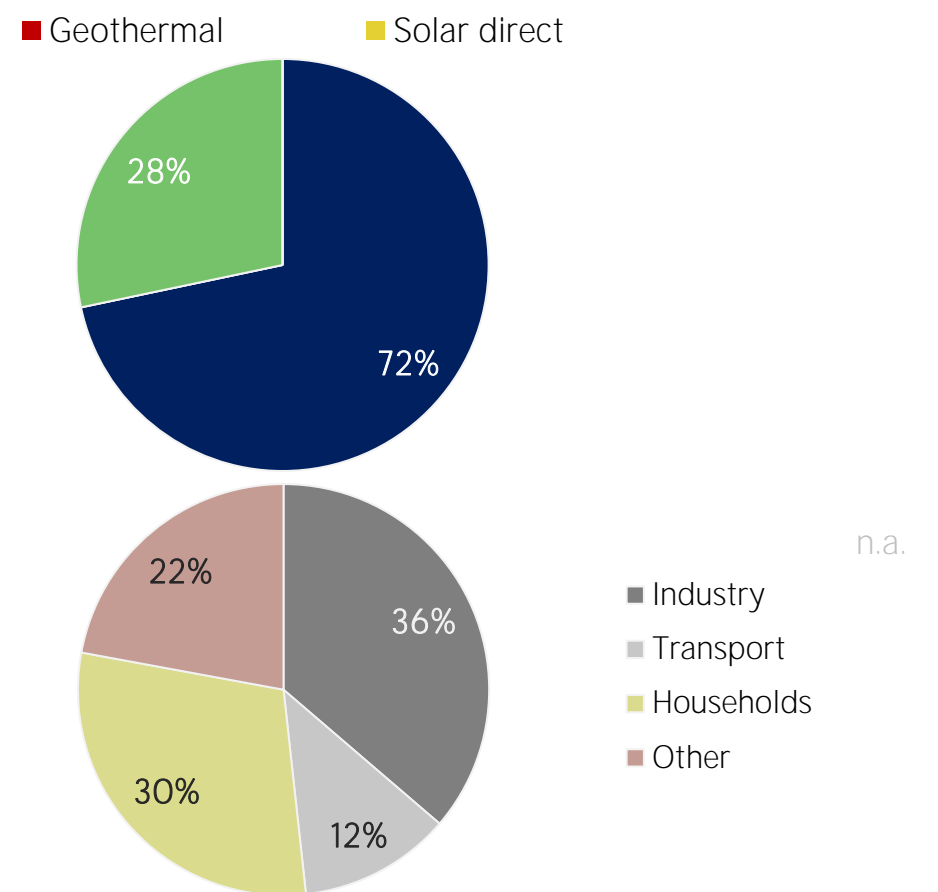


RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend



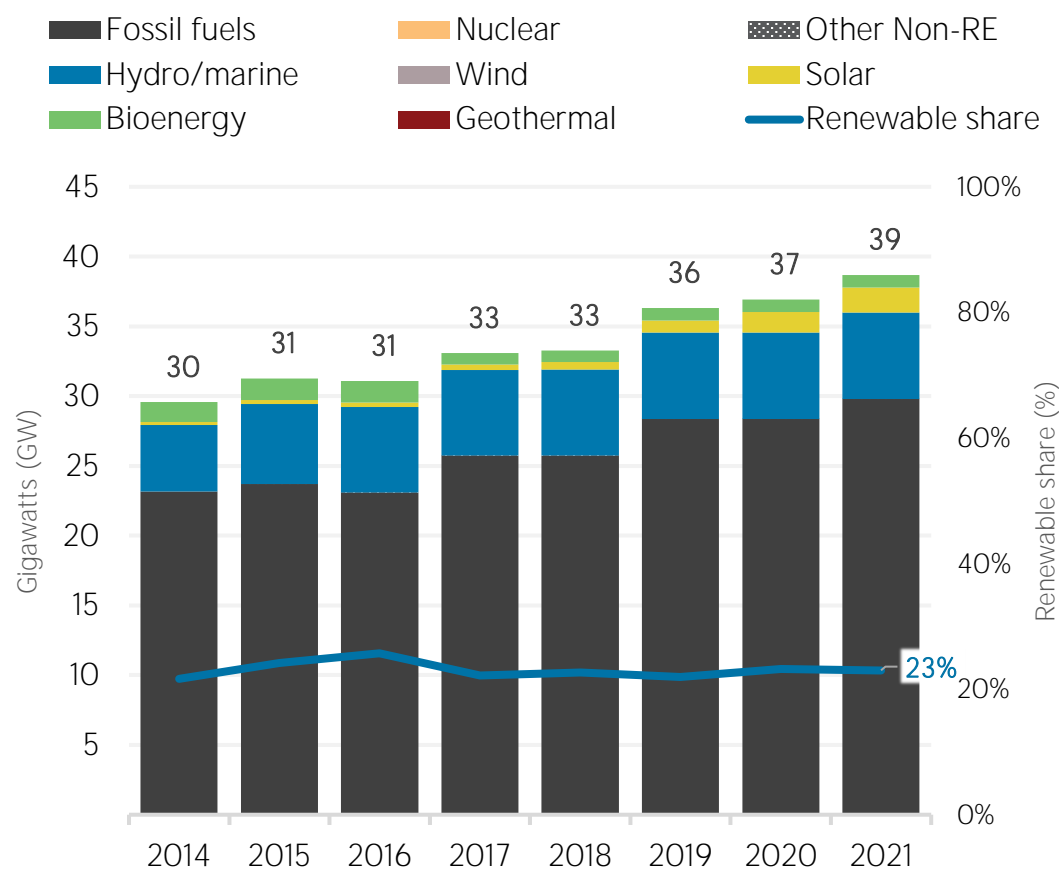
Renewable energy consumption in 2019



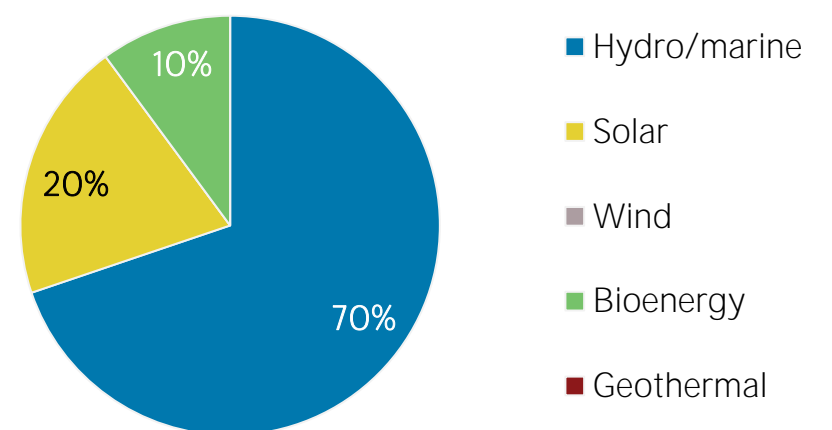
Consumption by sector	2014	2019
Industry (TJ)	24 467	47 070
Transport (TJ)	10 225	15 524
Households (TJ)	33 527	38 444
Other (TJ)	18 172	28 673

ELECTRICITY CAPACITY

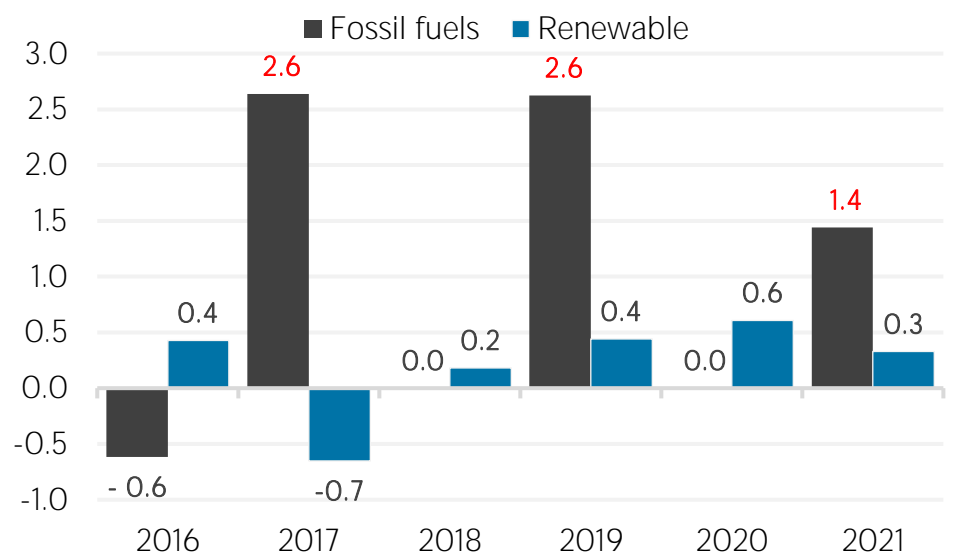
Installed capacity trend



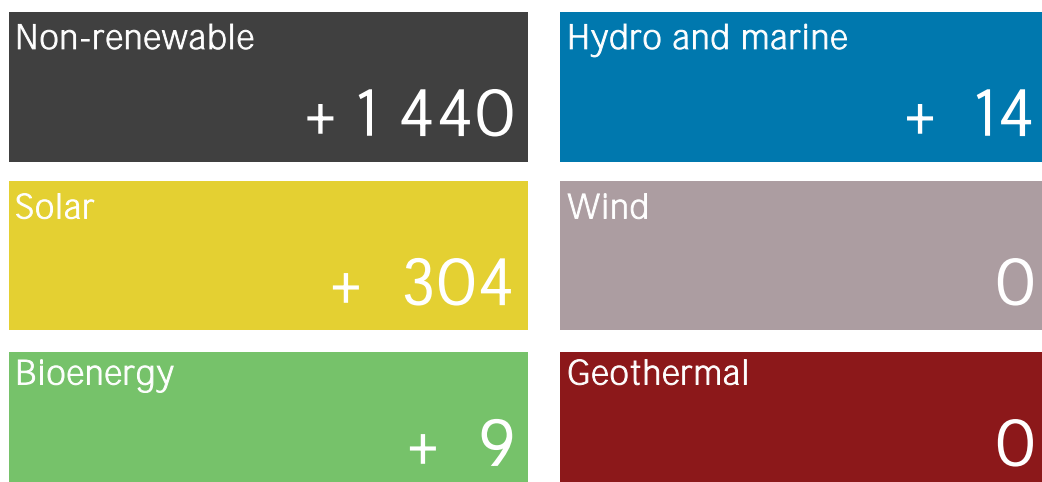
Renewable capacity in 2021



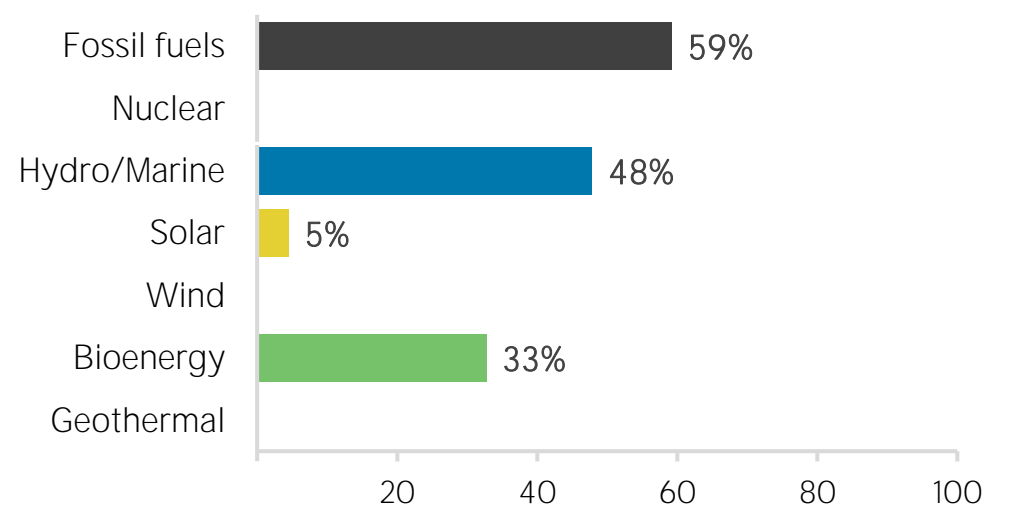
Net capacity change (GW)



Net capacity change in 2021 (MW)

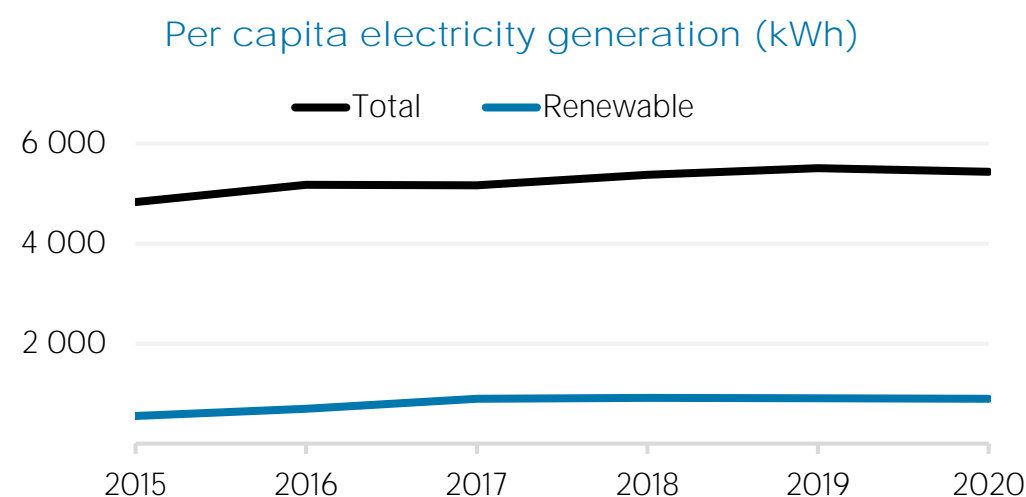


Capacity utilisation in 2020 (%)

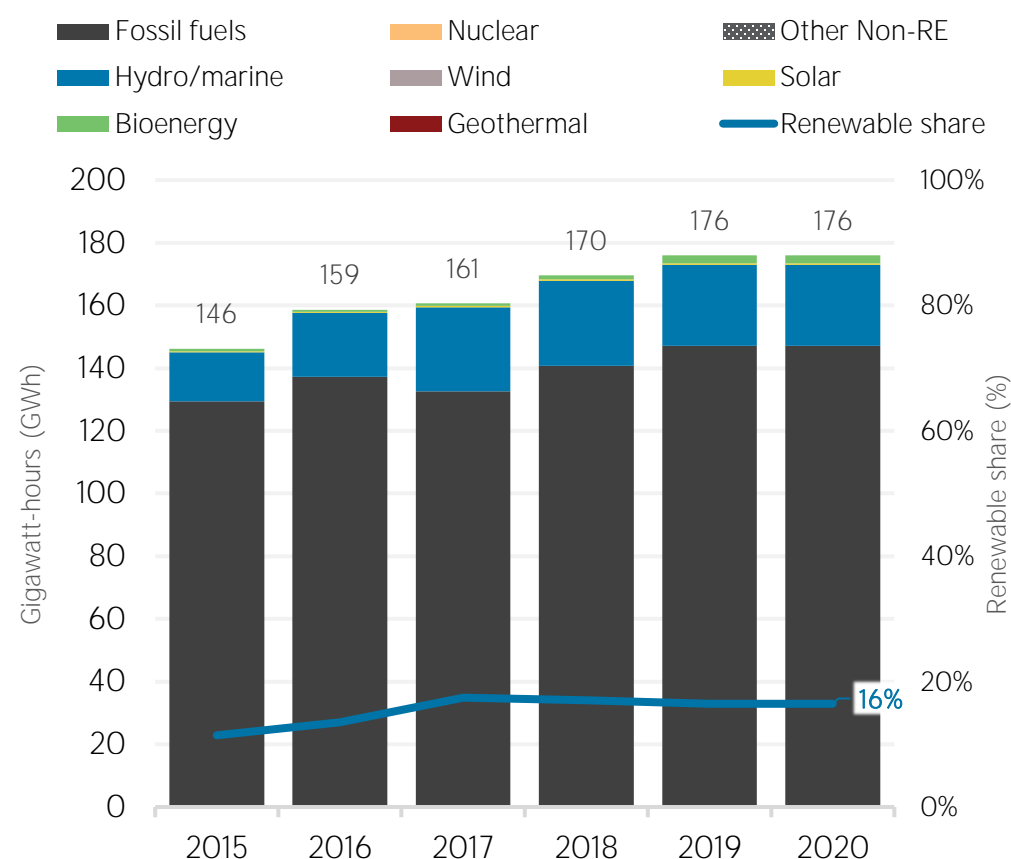


ELECTRICITY GENERATION

Generation in 2020	GWh	%
Non-renewable	147 077	84
Renewable	28 918	16
Hydro and marine	25 906	15
Solar	471	0
Wind	0	0
Bioenergy	2 541	1
Geothermal	0	0
Total	175 995	100



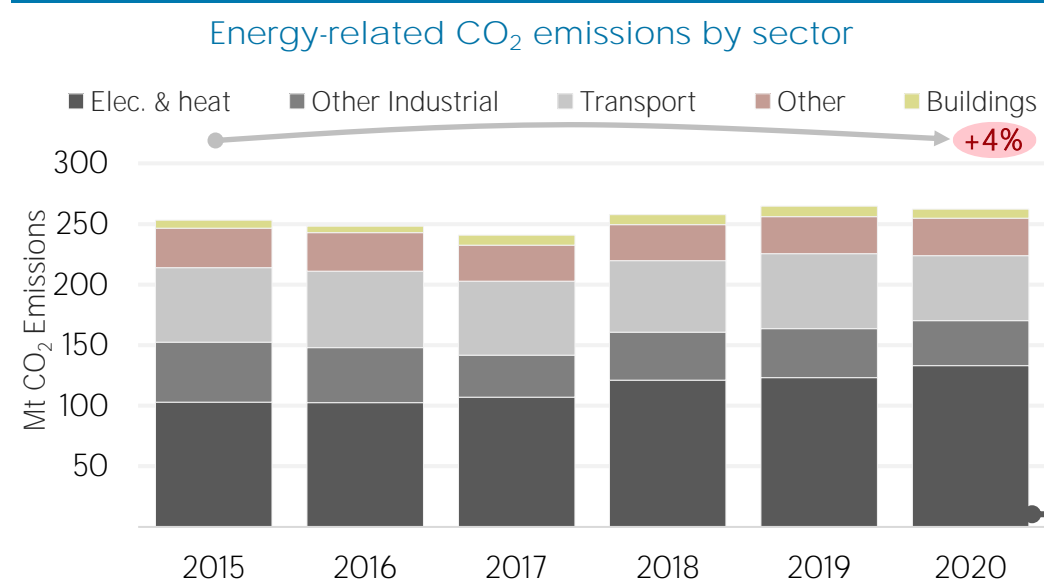
Electricity generation trend



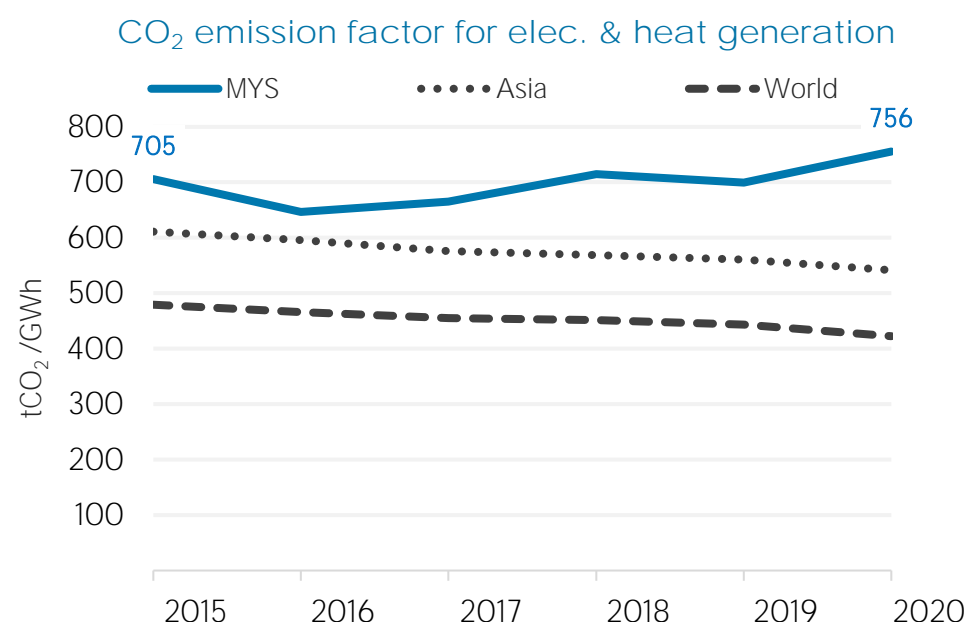
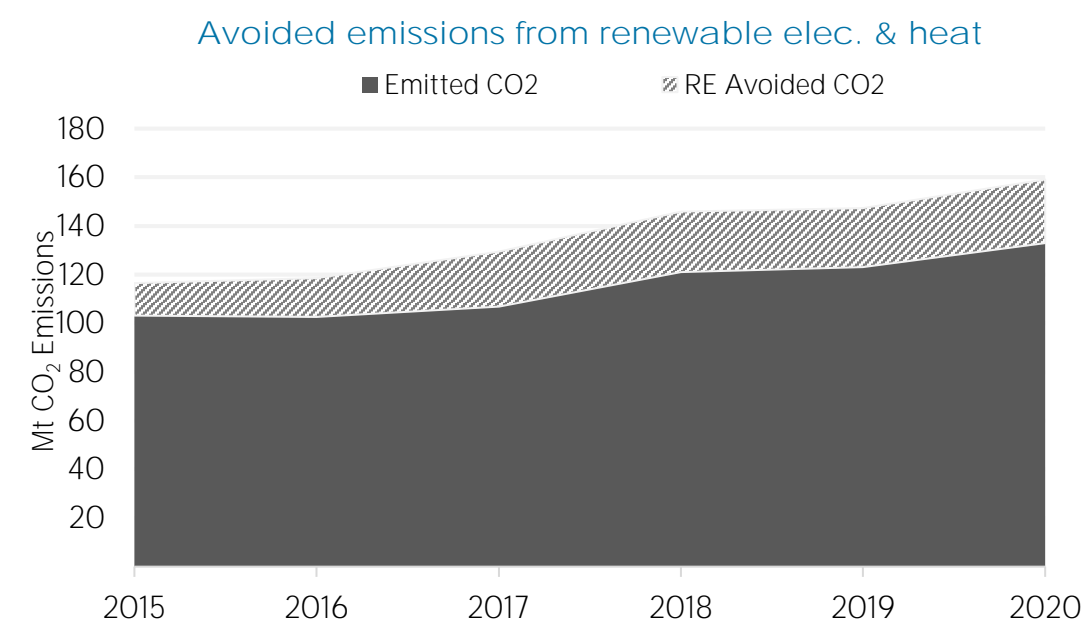
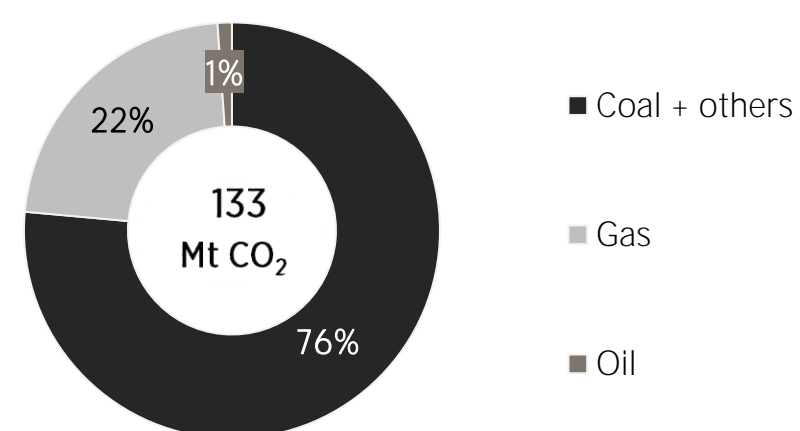
LATEST POLICIES, PROGRAMMES AND LEGISLATION

- 1 Nationally Determined Contribution (NDC) to the Paris Agreement: Malaysia 2021
- 2 Minimum Energy Performance Standards and Labelling for Air Conditioners with Cooling Capacity = 7.1kW 2018
- 3 Minimum Energy Performance Standards and Labelling for Refrigerator 2018
- 4 Minimum Energy Performance Standards and Labelling for Washing Machine 2018
- 5 National Energy Efficiency Action Plan 2016-2025 2016

ENERGY AND EMISSIONS



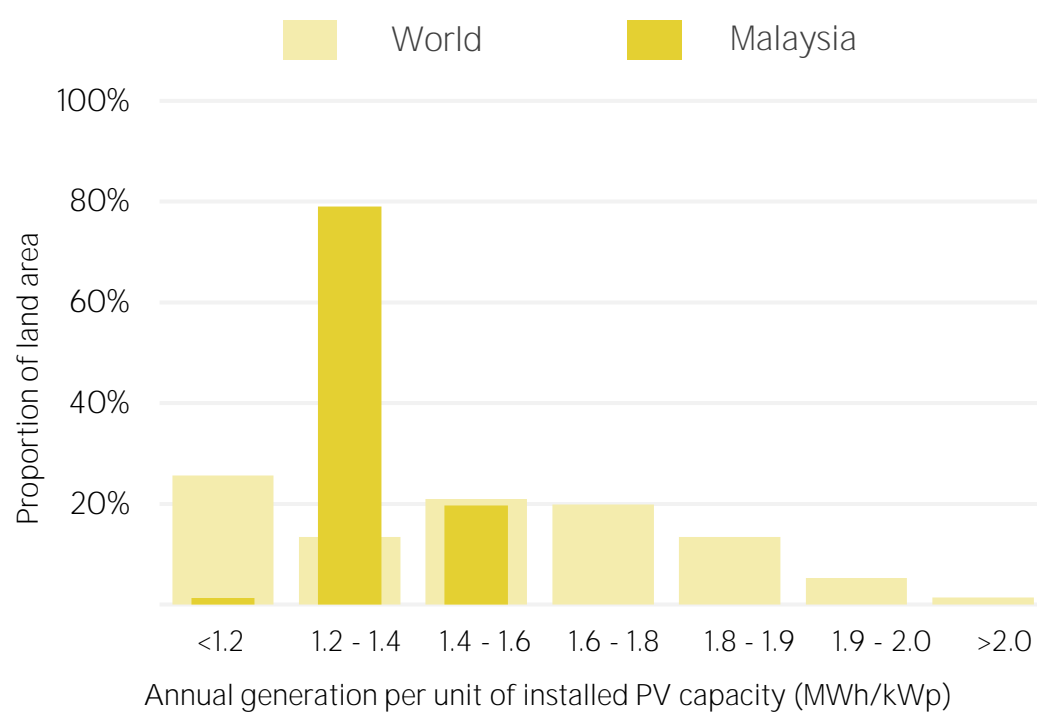
Elec. & heat generation CO₂ emissions in



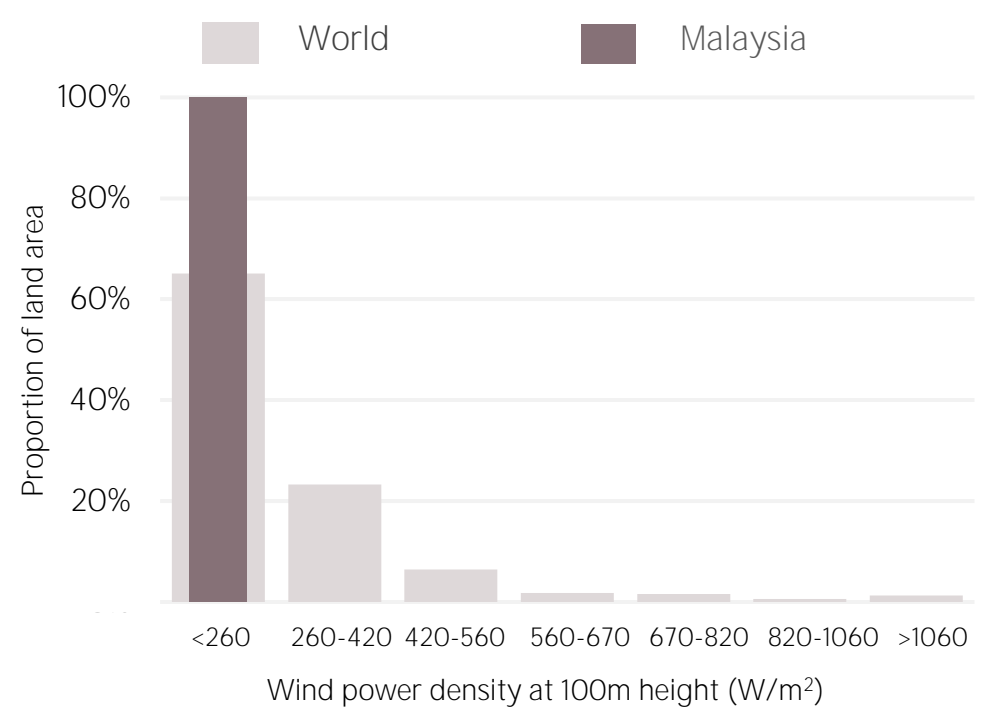
Avoided emissions based on fossil fuel mix used for power

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

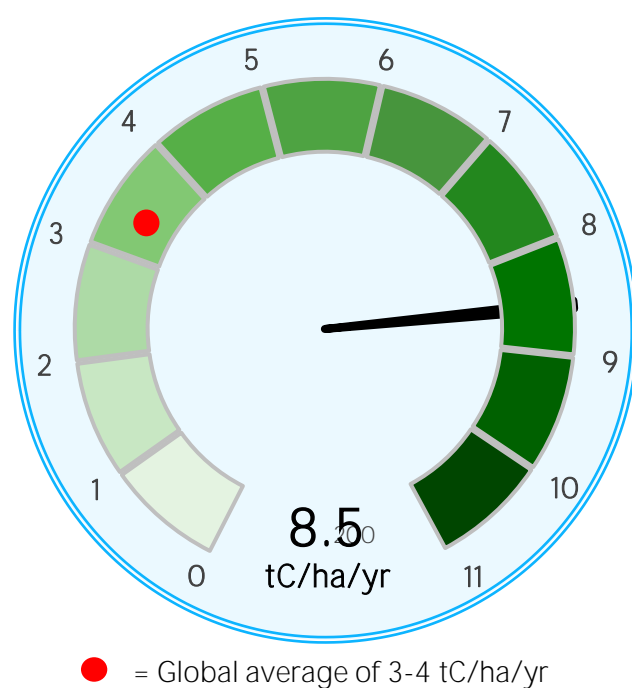
Distribution of solar potential



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