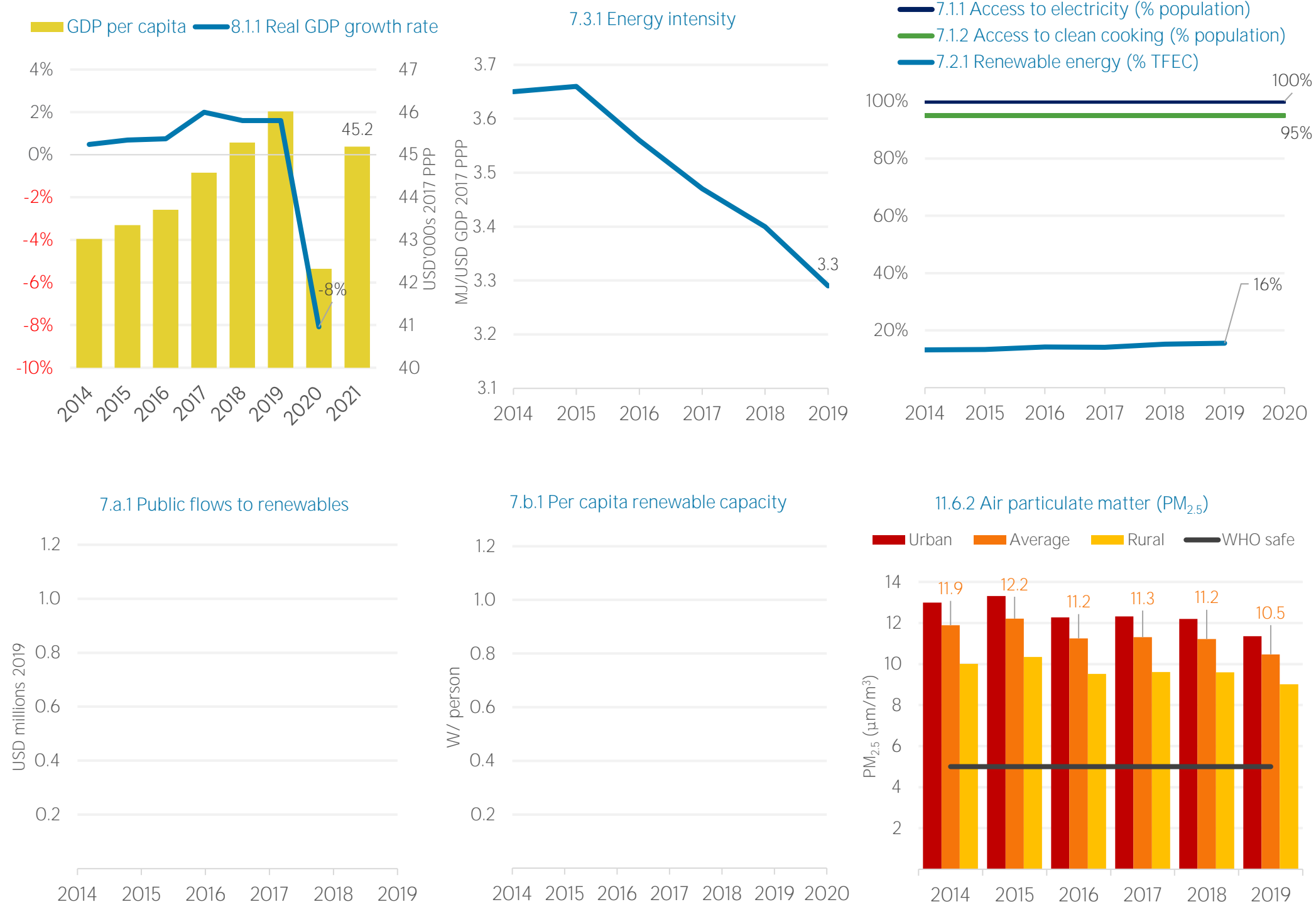


COUNTRY INDICATORS AND SDGS



TOTAL ENERGY SUPPLY (TES)

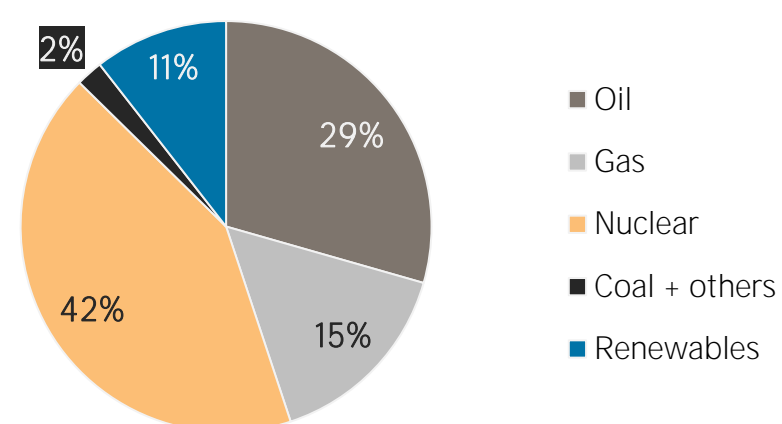
Total Energy Supply (TES)	2014	2019
Non-renewable (TJ)	9 497 885	9 082 716
Renewable (TJ)	866 170	1 070 534
Total (TJ)	10 364 055	10 153 250
Renewable share (%)	8	11

Growth in TES	2014-19	2018-19
Non-renewable (%)	-4.4	-1.8
Renewable (%)	+23.6	+5.3
Total (%)	-2.0	-1.1

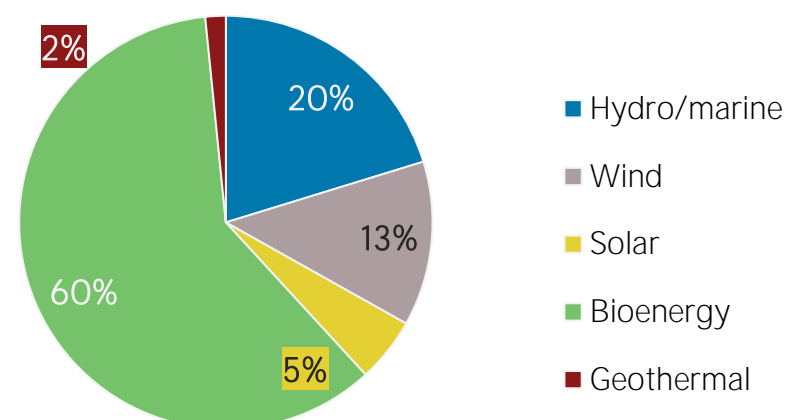
Primary energy trade	2014	2019
Imports (TJ)	6 387 422	6 507 444
Exports (TJ)	1 381 138	1 448 162
Net trade (TJ)	-5 006 284	-5 059 282

Imports (% of supply)	62	64
Exports (% of production)	24	26
Energy self-sufficiency (%)	55	54

Total energy supply in 2019

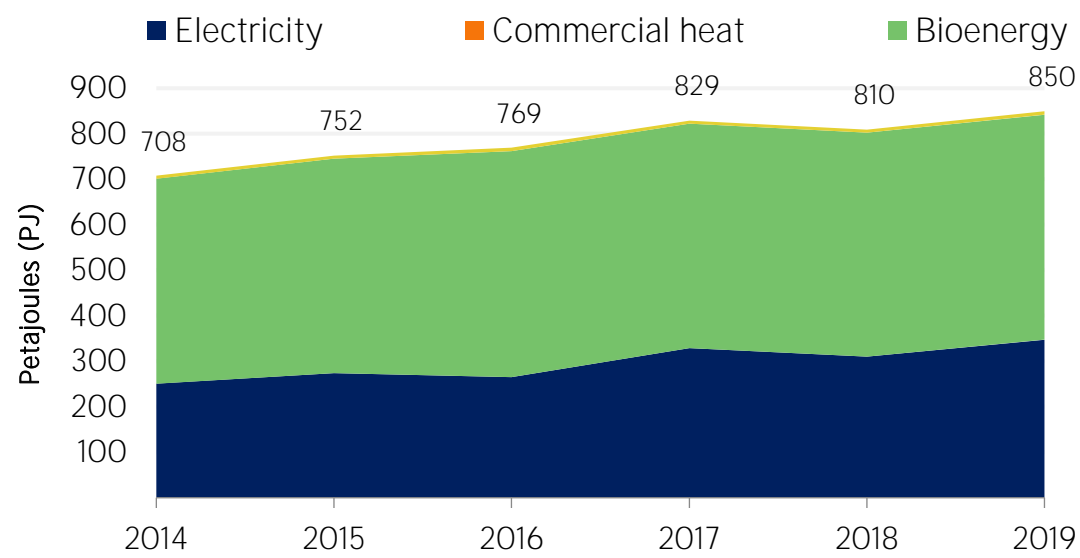


Renewable energy supply in 2019

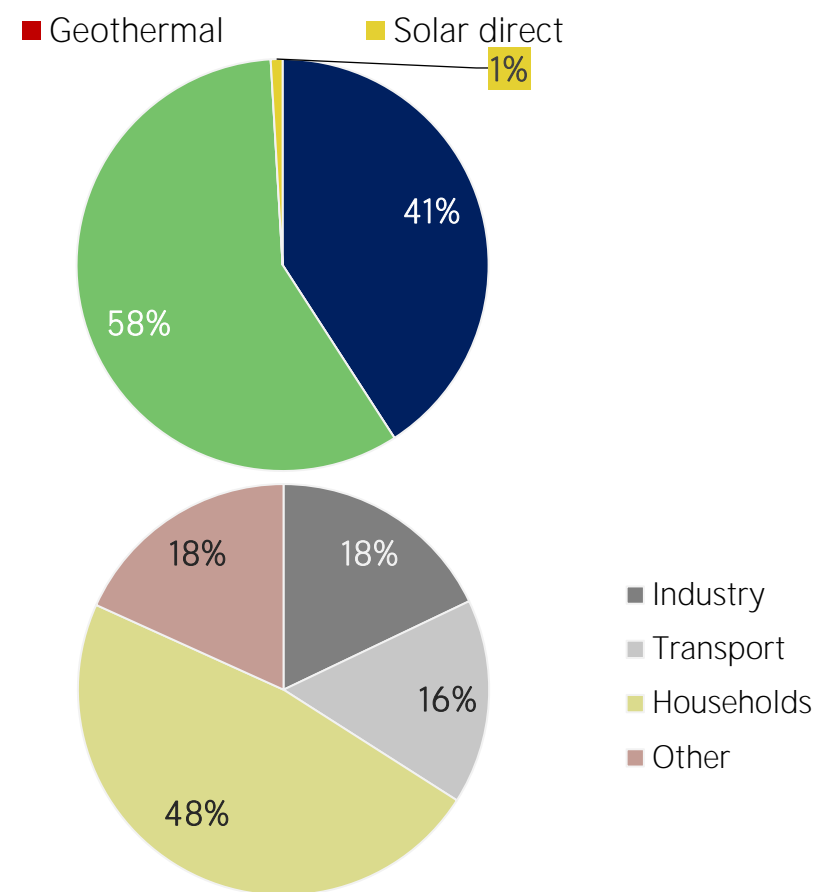


## RENEWABLE ENERGY CONSUMPTION (TFEC)

### Renewable TFEC trend



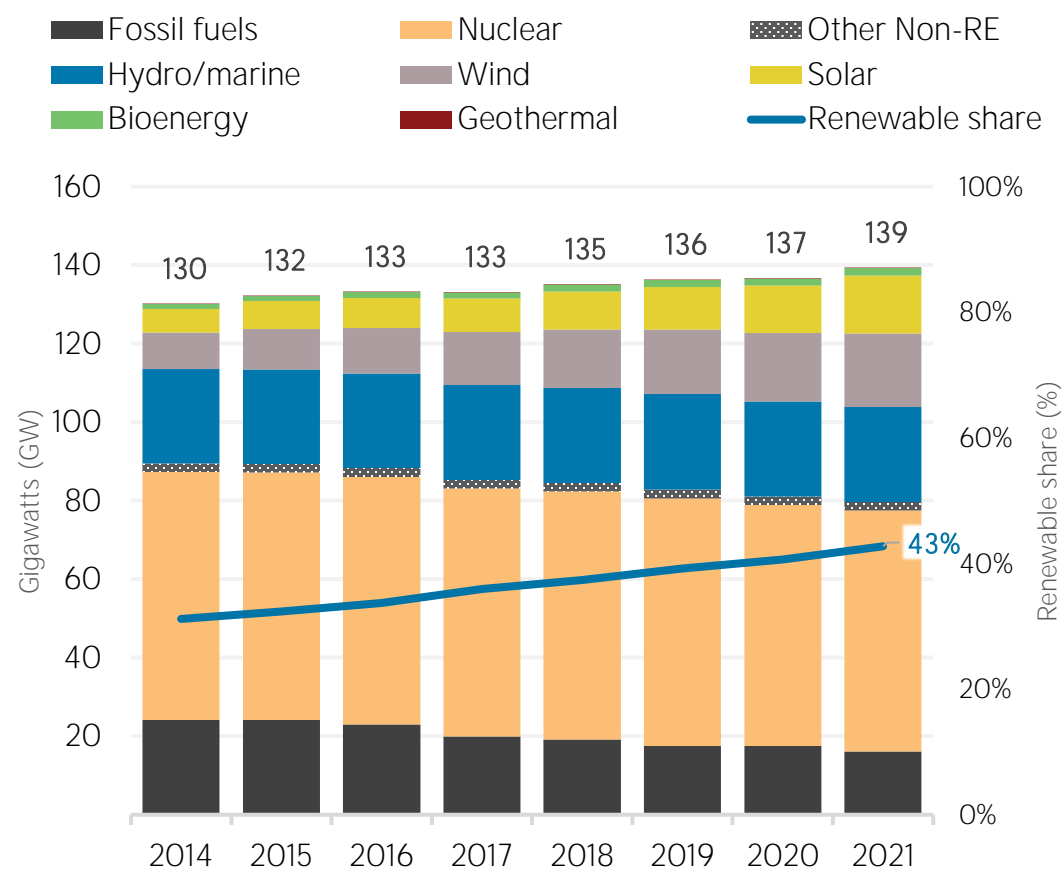
### Renewable energy consumption in 2019



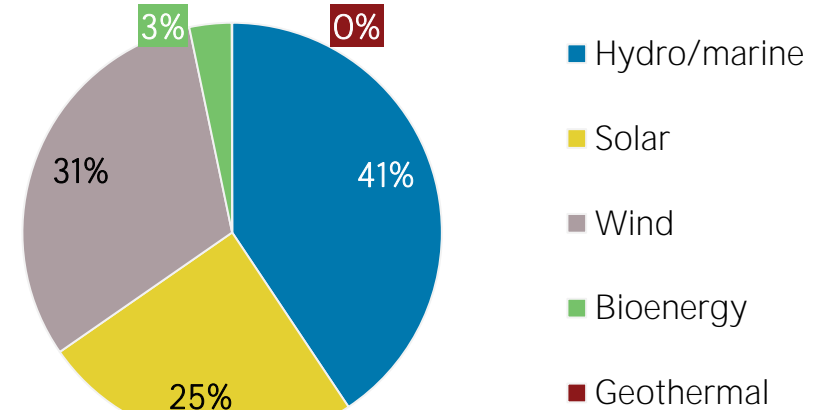
Consumption by sector	2014	2019
Industry (TJ)	119 666	152 222
Transport (TJ)	127 889	136 949
Households (TJ)	348 932	405 395
Other (TJ)	111 021	154 957

## ELECTRICITY CAPACITY

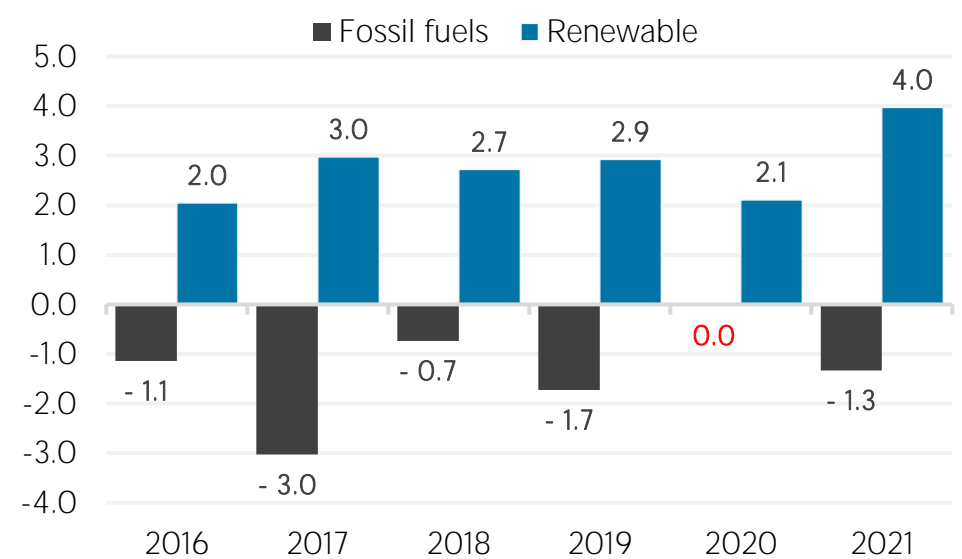
### Installed capacity trend



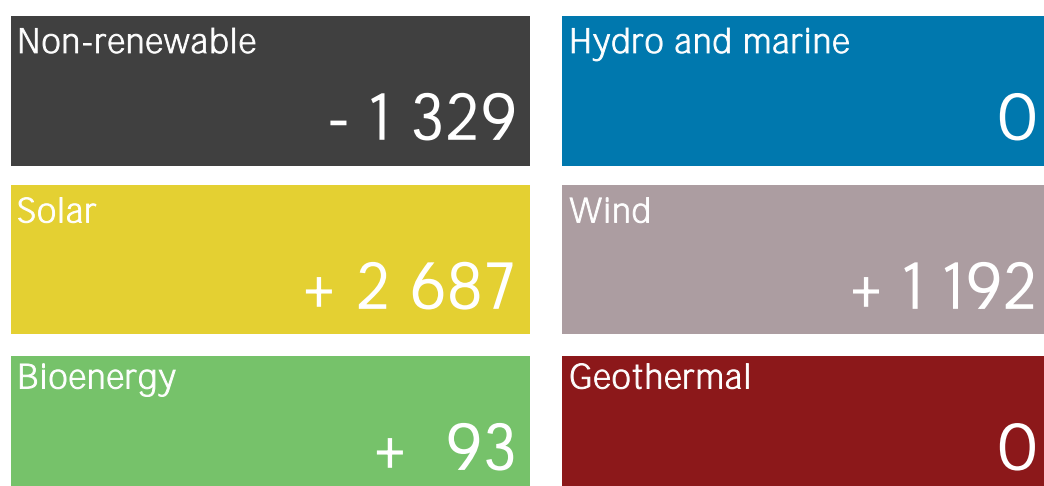
### Renewable capacity in 2021



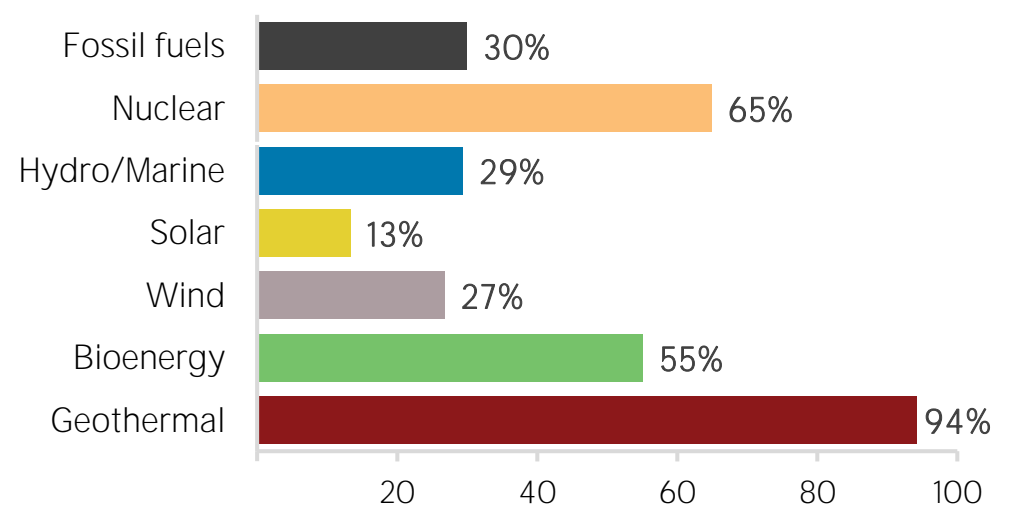
### Net capacity change (GW)



### Net capacity change in 2021 (MW)

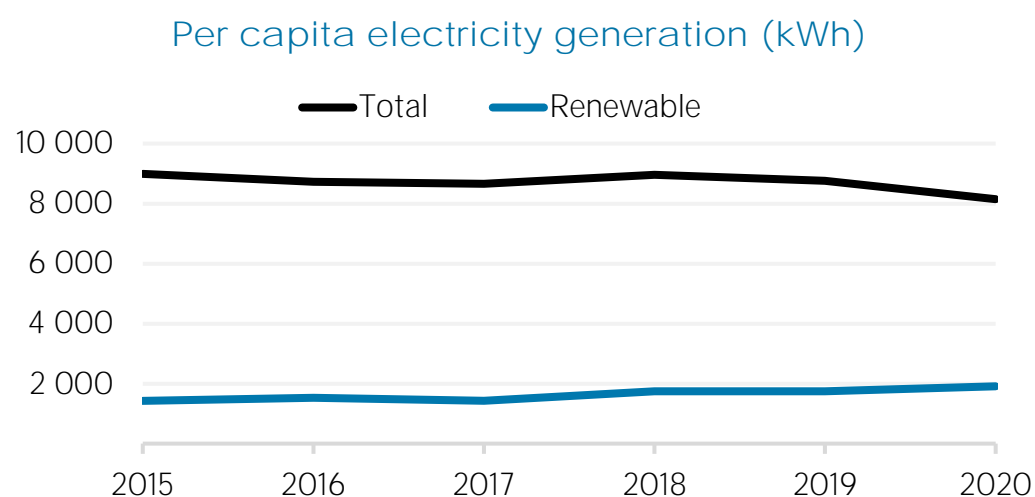


### Capacity utilisation in 2020 (%)

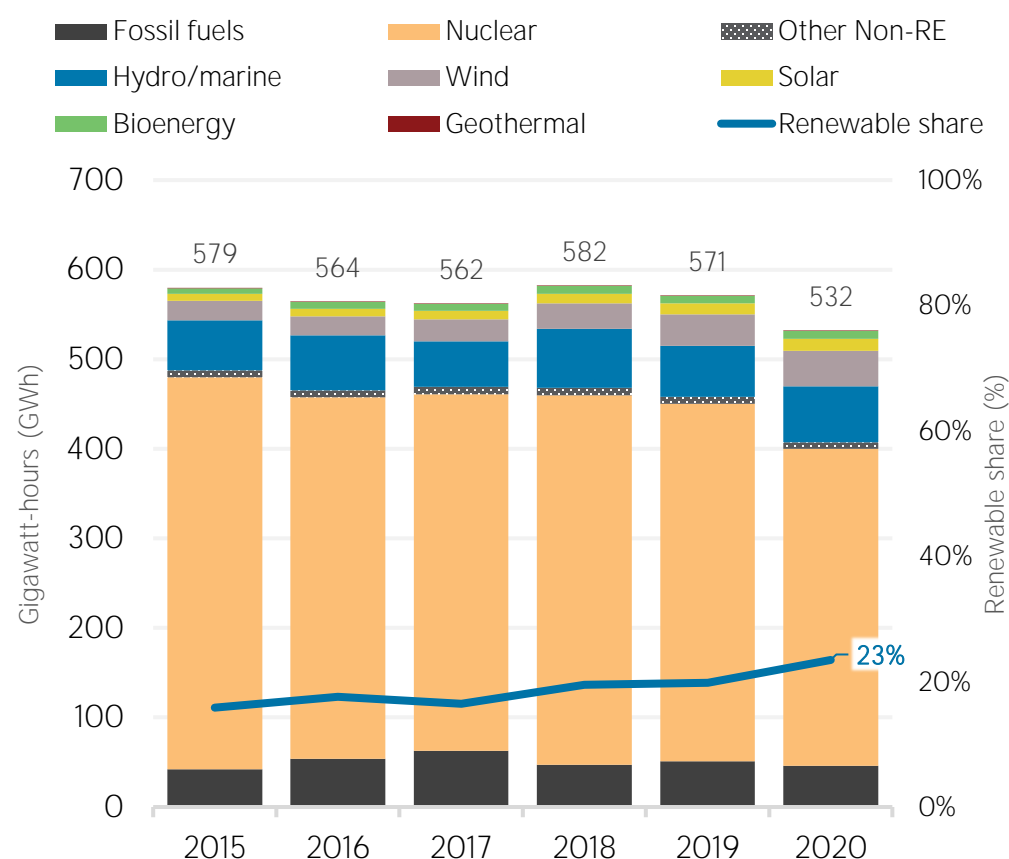


## ELECTRICITY GENERATION

Generation in 2020	GWh	%
<b>Non-renewable</b>	<b>407 050</b>	<b>77</b>
<b>Renewable</b>	<b>124 712</b>	<b>23</b>
Hydro and marine	62 544	12
Solar	13 398	3
Wind	39 792	7
Bioenergy	8 845	2
Geothermal	133	0
<b>Total</b>	<b>531 762</b>	<b>100</b>



### Electricity generation trend

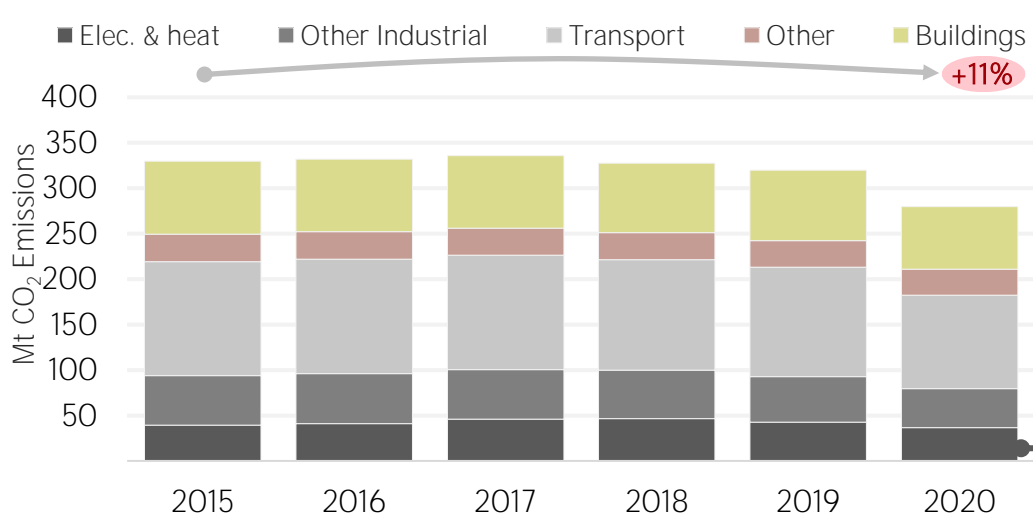


## LATEST POLICIES, PROGRAMMES AND LEGISLATION

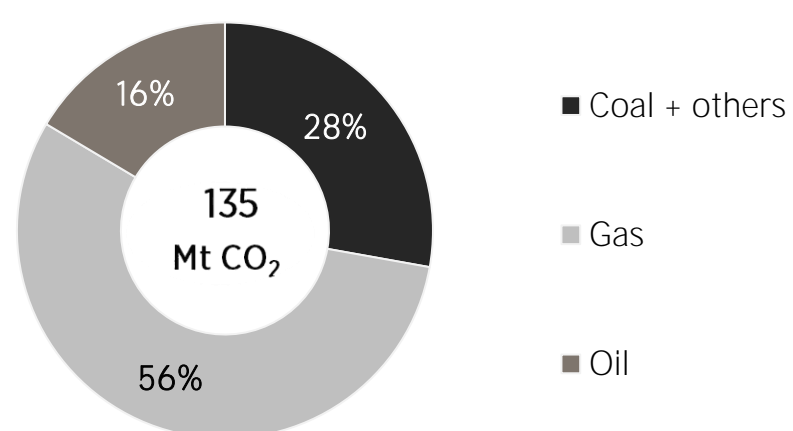
- "France 2030 investment Plan"- Critical minerals investment 2022
- "France 2030 investment Plan"- Investment in renewable energy innovation 2022
- "France 2030 Investment Plan"- Small Modular Reactor investment 2022
- "France 2030" Investment Plan 2022
- "France 2030" investment plan- Clean transport investment 2022

## ENERGY AND EMISSIONS

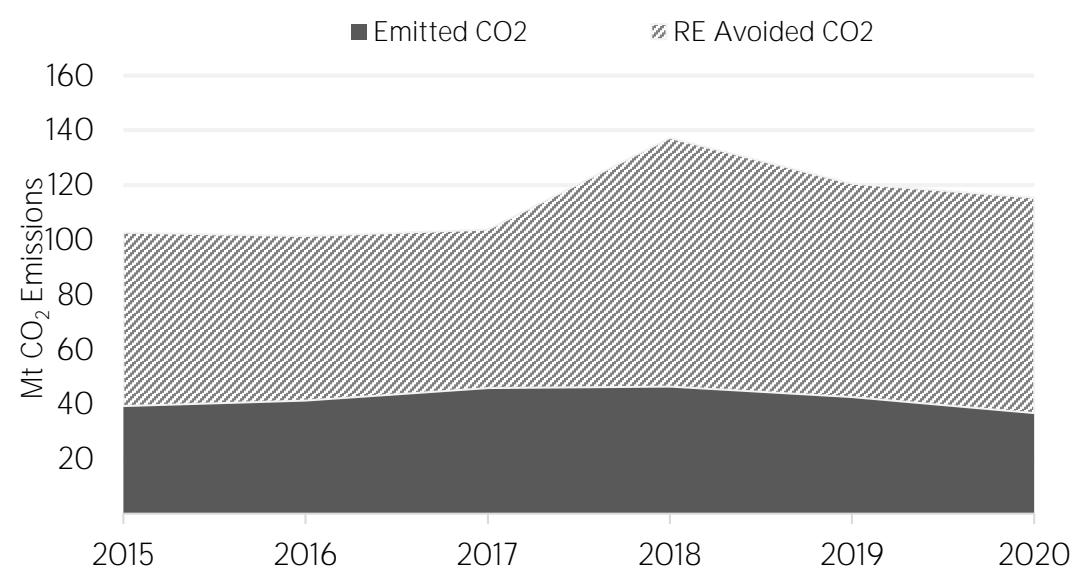
### Energy-related CO<sub>2</sub> emissions by sector



### Elec. & heat generation CO<sub>2</sub> emissions in

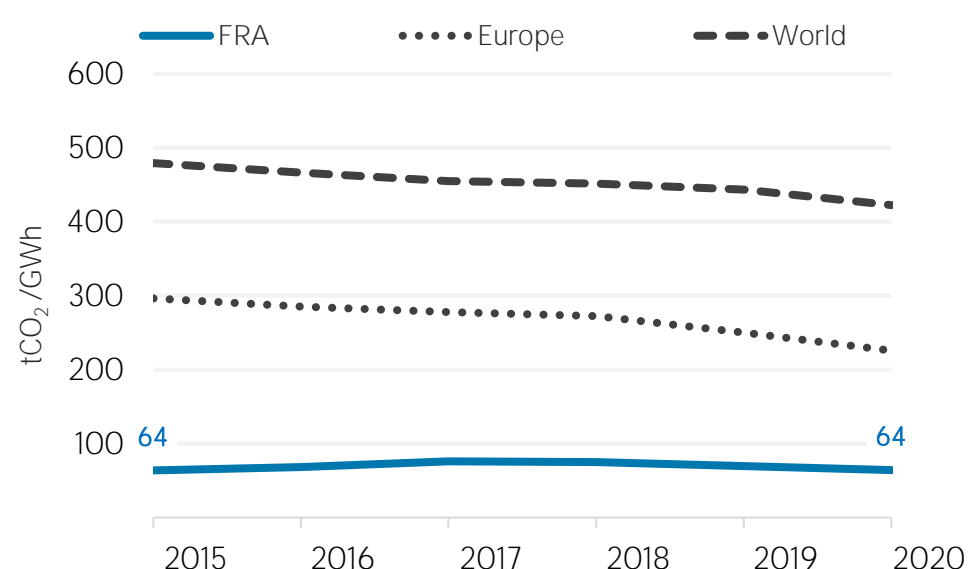


### Avoided emissions from renewable elec. & heat



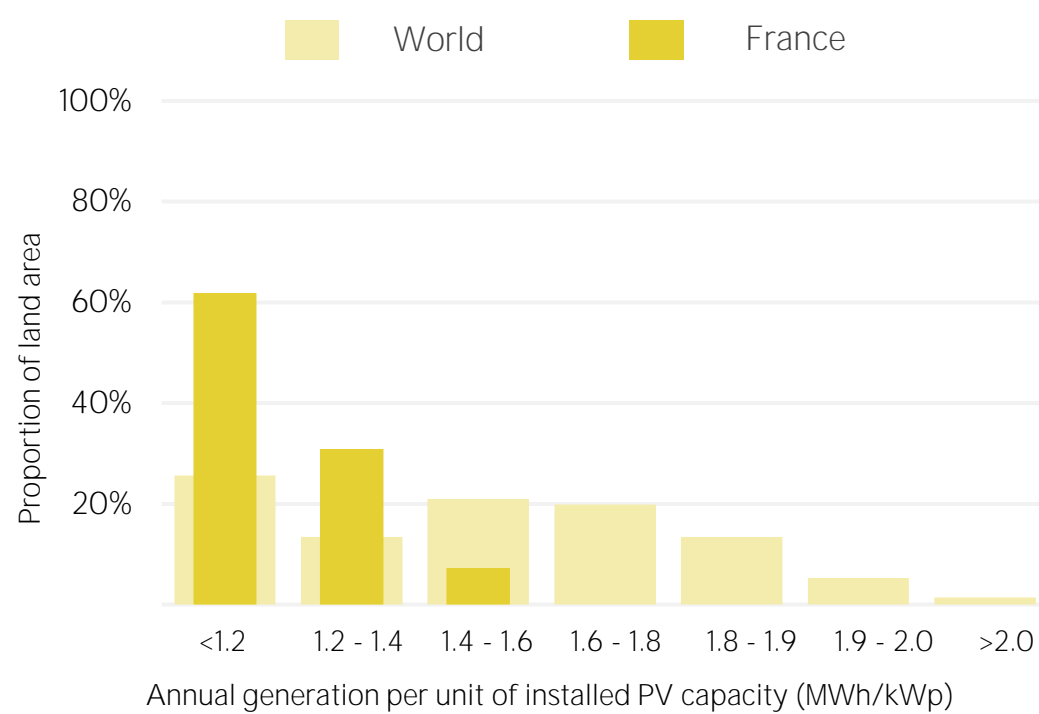
Avoided emissions based on fossil fuel mix used for power

### CO<sub>2</sub> emission factor for elec. & heat generation

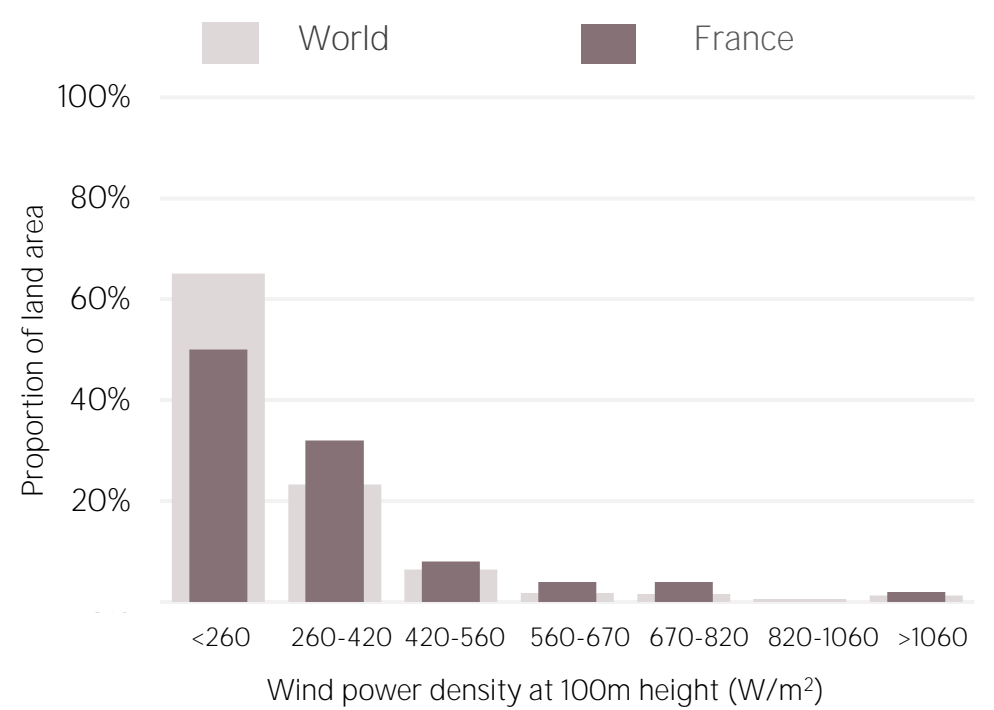


Calculated by dividing power sector emissions by elec. + heat gen.

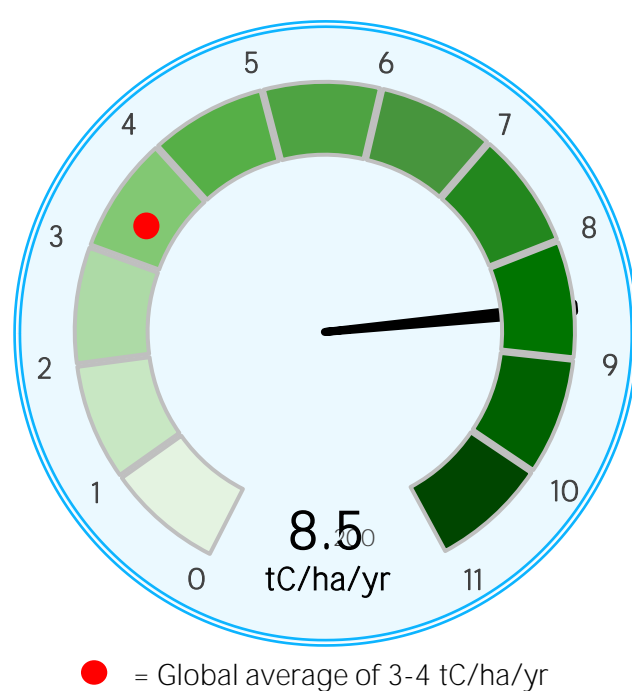
Distribution of solar potential



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/m<sup>2</sup>) 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](mailto:statistics@irena.org).

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