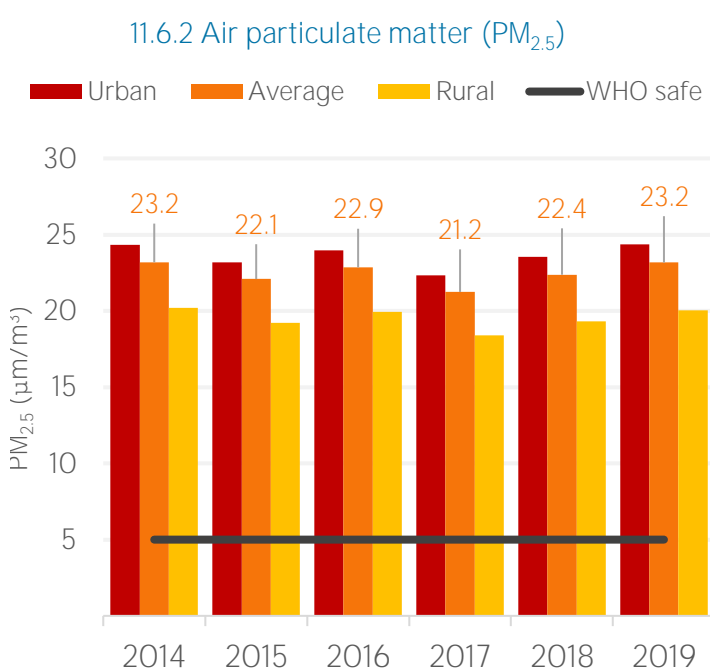
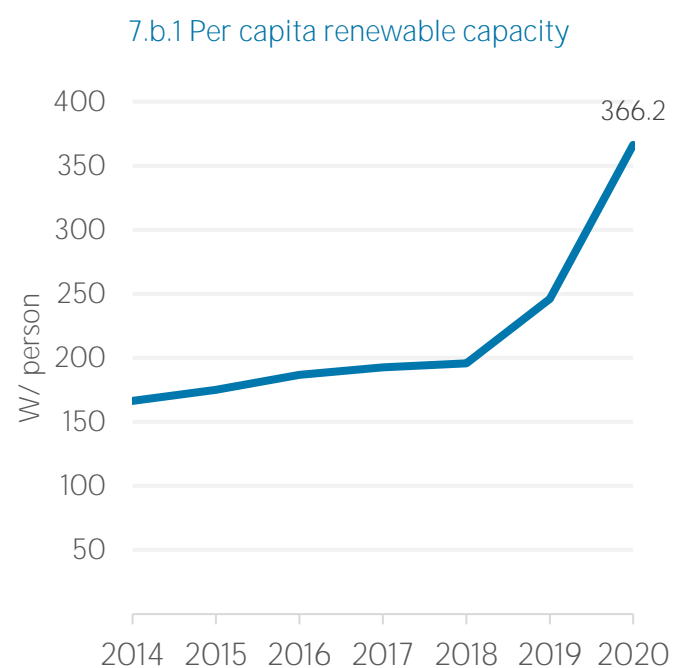
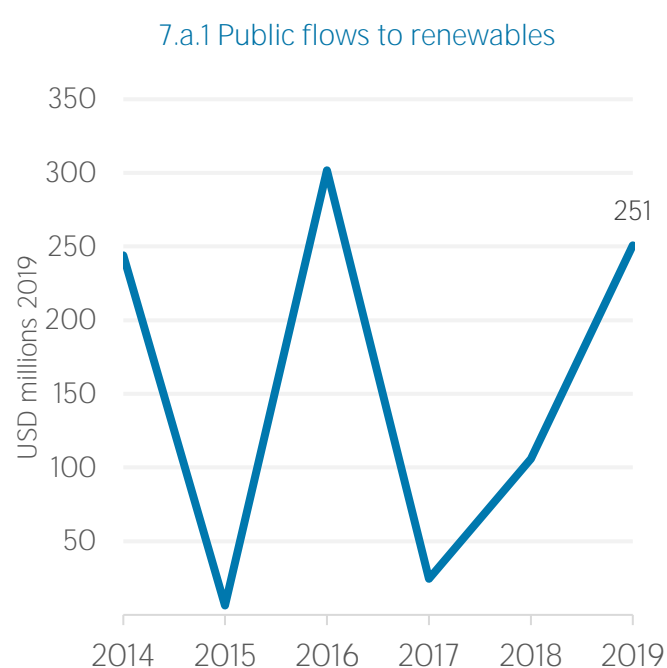
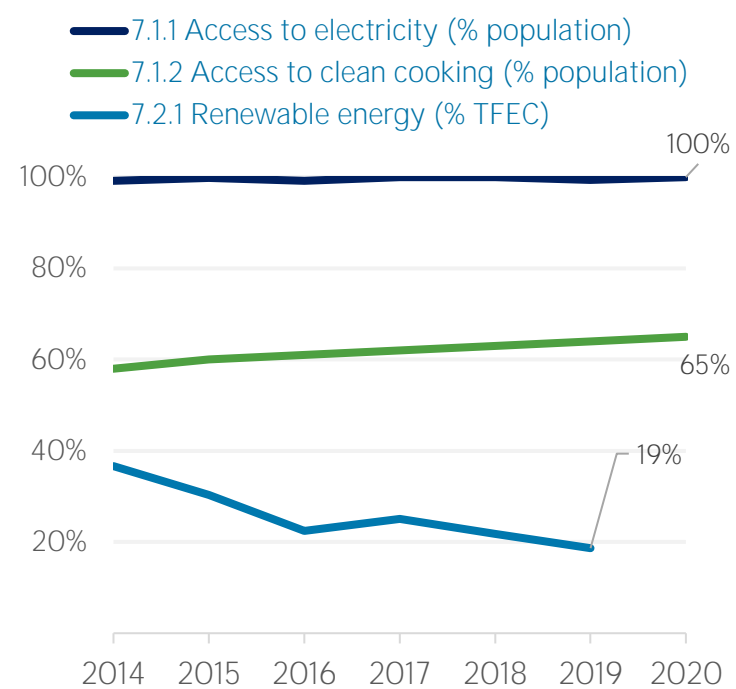
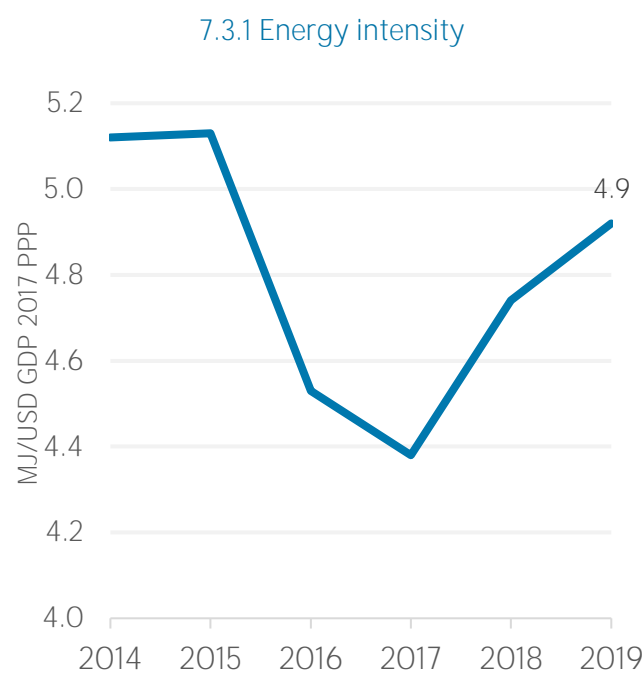
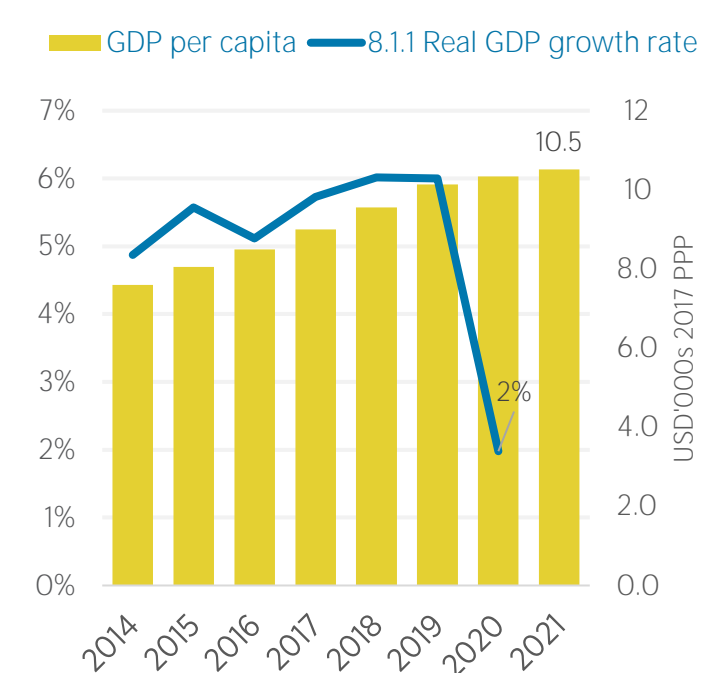


## COUNTRY INDICATORS AND SDGS



## TOTAL ENERGY SUPPLY (TES)

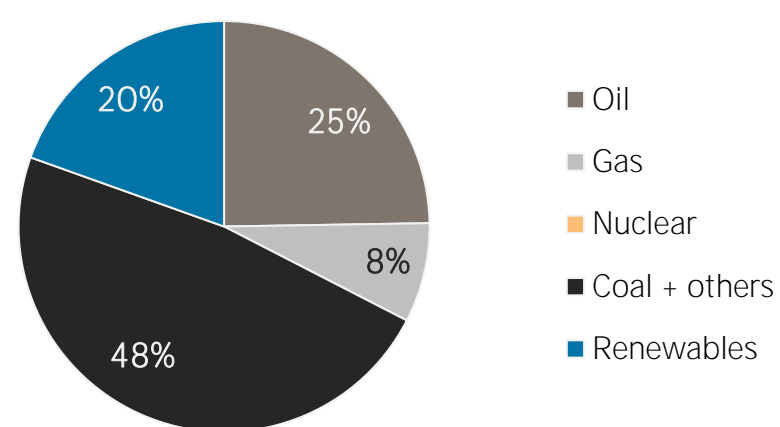
Total Energy Supply (TES)	2014	2019
Non-renewable (TJ)	2 011 898	3 559 546
Renewable (TJ)	865 920	864 357
Total (TJ)	2 877 819	4 423 904
Renewable share (%)	30	20

Growth in TES	2014-19	2018-19
Non-renewable (%)	+76.9	+24.0
Renewable (%)	-0.2	+16.7
Total (%)	+53.7	+22.5

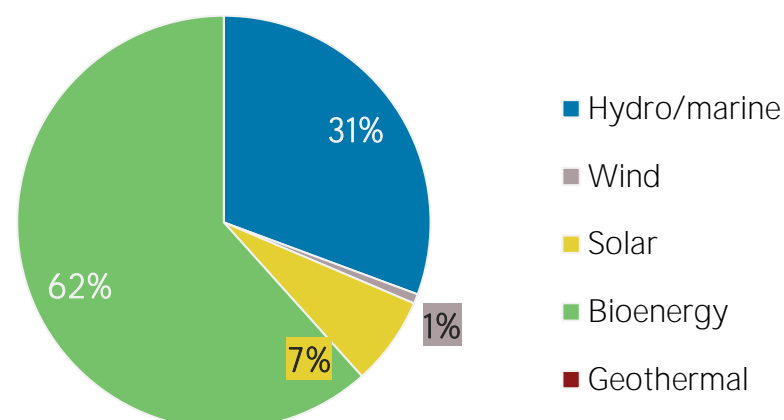
Primary energy trade	2014	2019
Imports (TJ)	661 941	2 002 652
Exports (TJ)	622 578	291 916
Net trade (TJ)	- 39 363	-1 710 736

Imports (% of supply)	23	45
Exports (% of production)	21	10
Energy self-sufficiency (%)	102	63

### Total energy supply in 2019

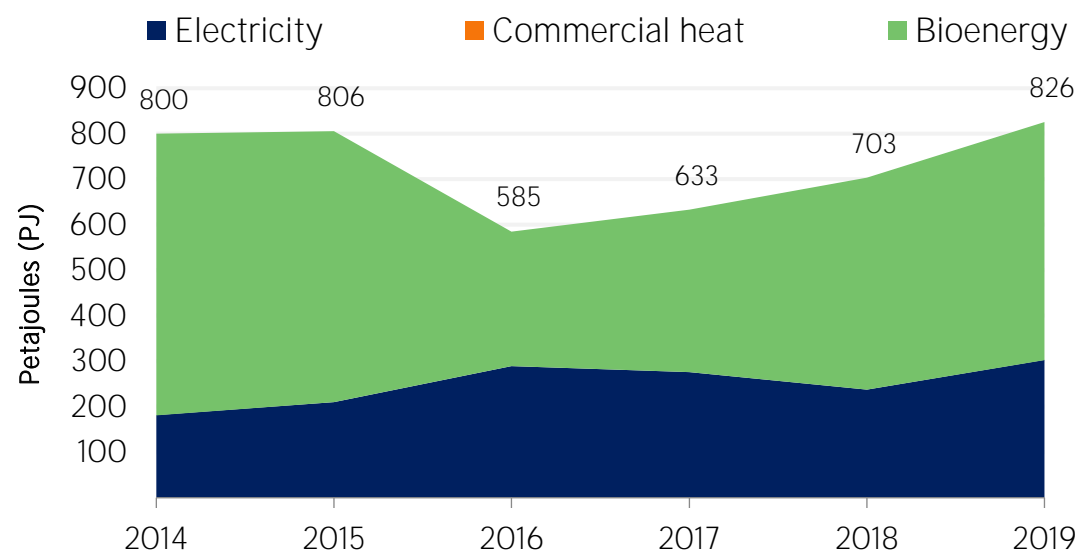


### Renewable energy supply in 2019

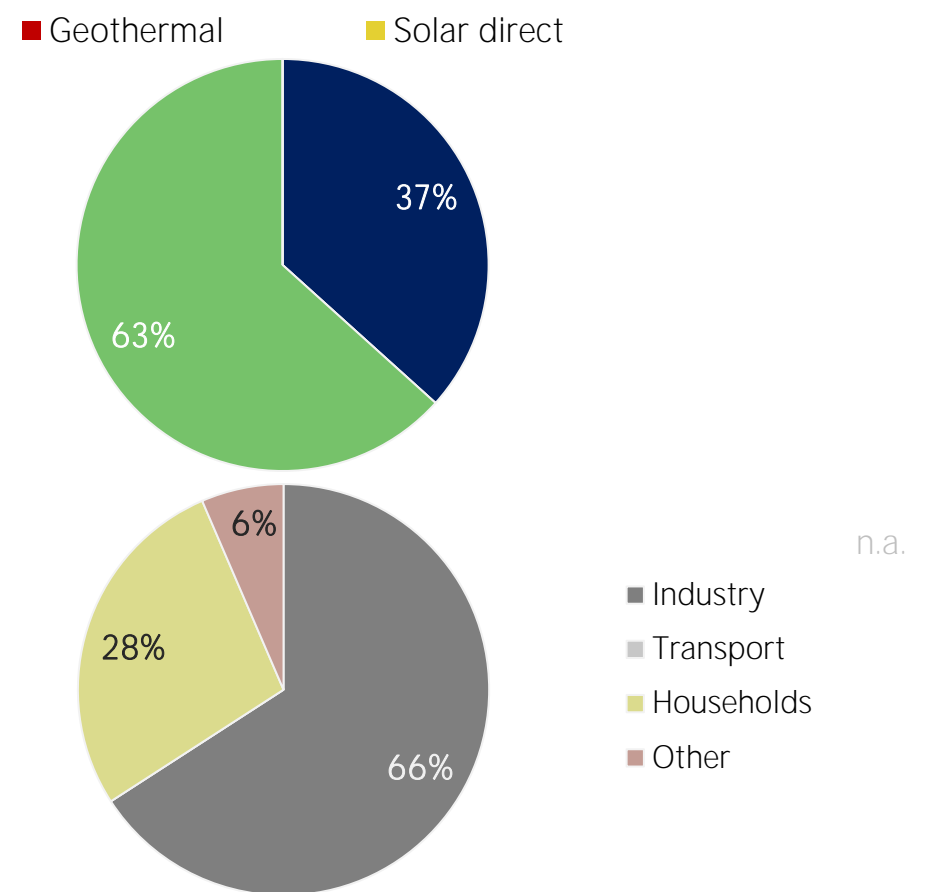


## RENEWABLE ENERGY CONSUMPTION (TFEC)

### Renewable TFEC trend



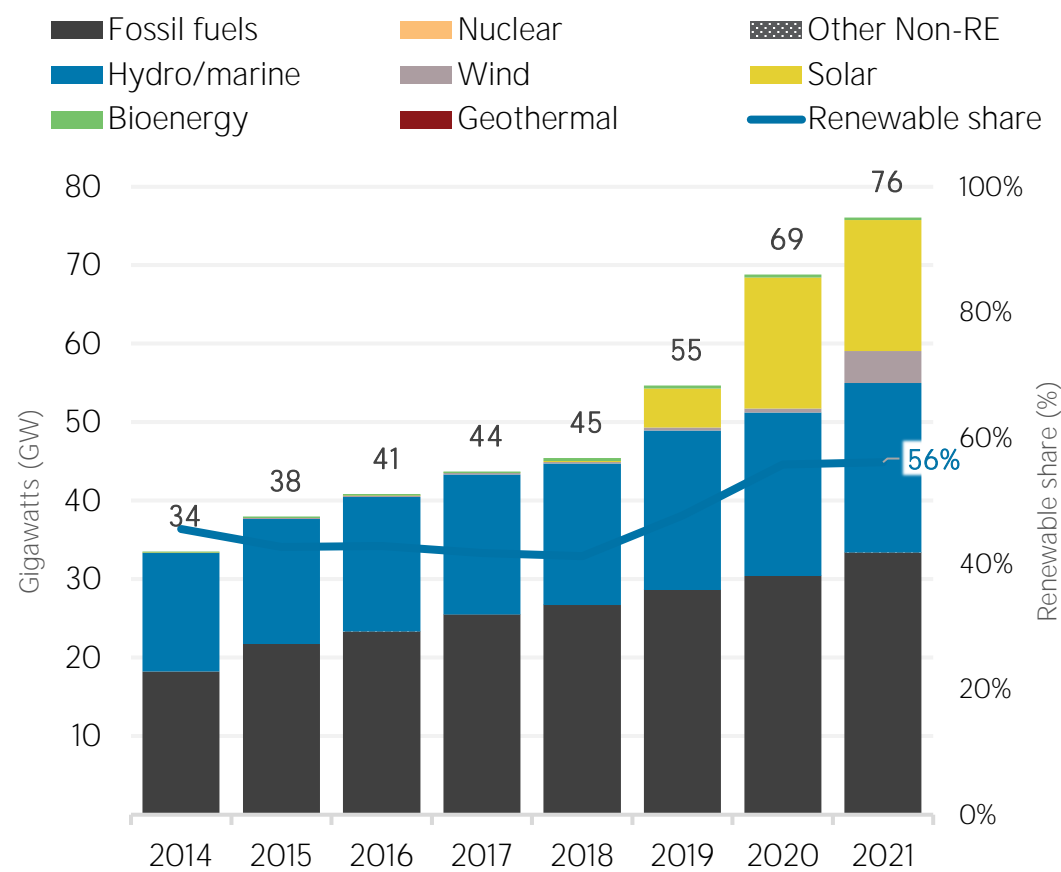
### Renewable energy consumption in 2019



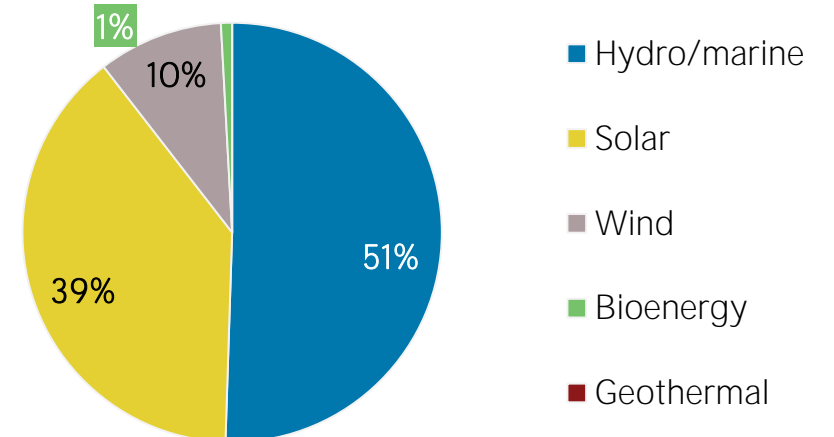
Consumption by sector	2014	2019
Industry (TJ)	273 079	543 919
Transport (TJ)	0	0
Households (TJ)	507 643	228 388
Other (TJ)	19 324	53 468

## ELECTRICITY CAPACITY

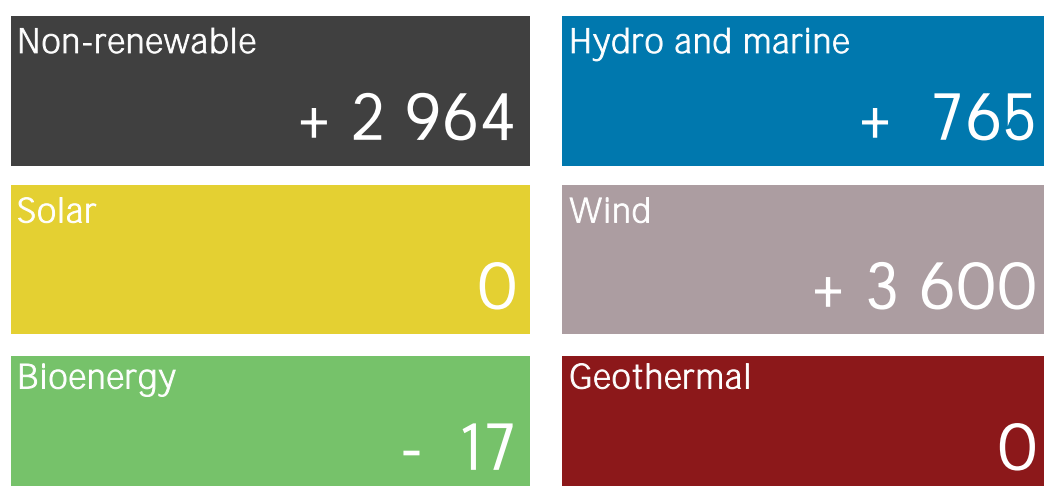
### Installed capacity trend



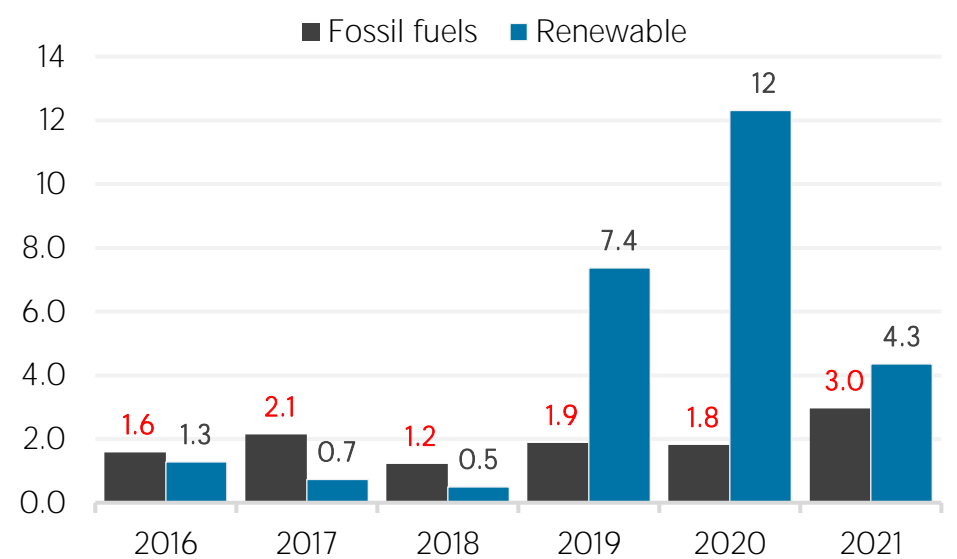
### Renewable capacity in 2021



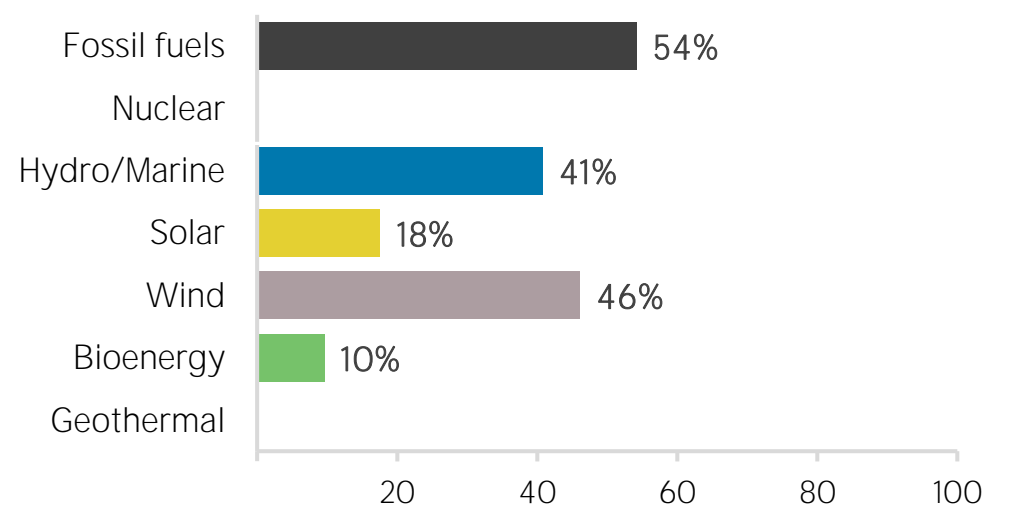
### Net capacity change in 2021 (MW)



### Net capacity change (GW)



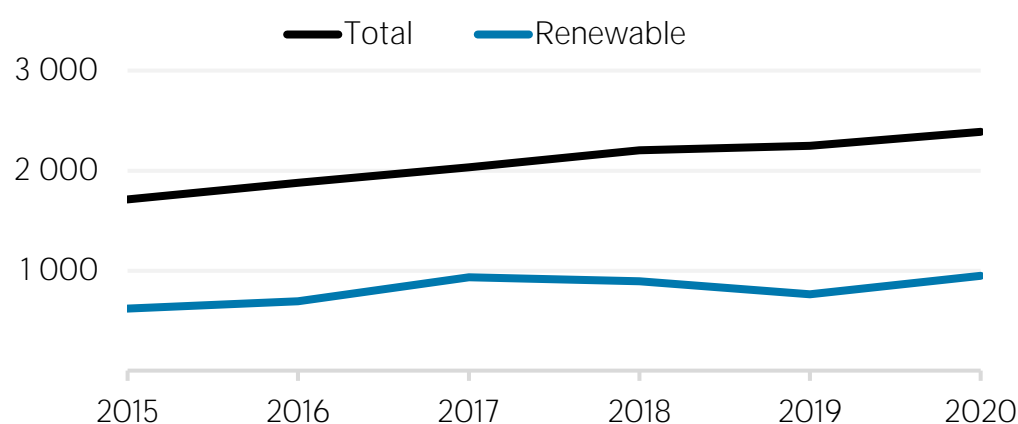
### Capacity utilisation in 2020 (%)



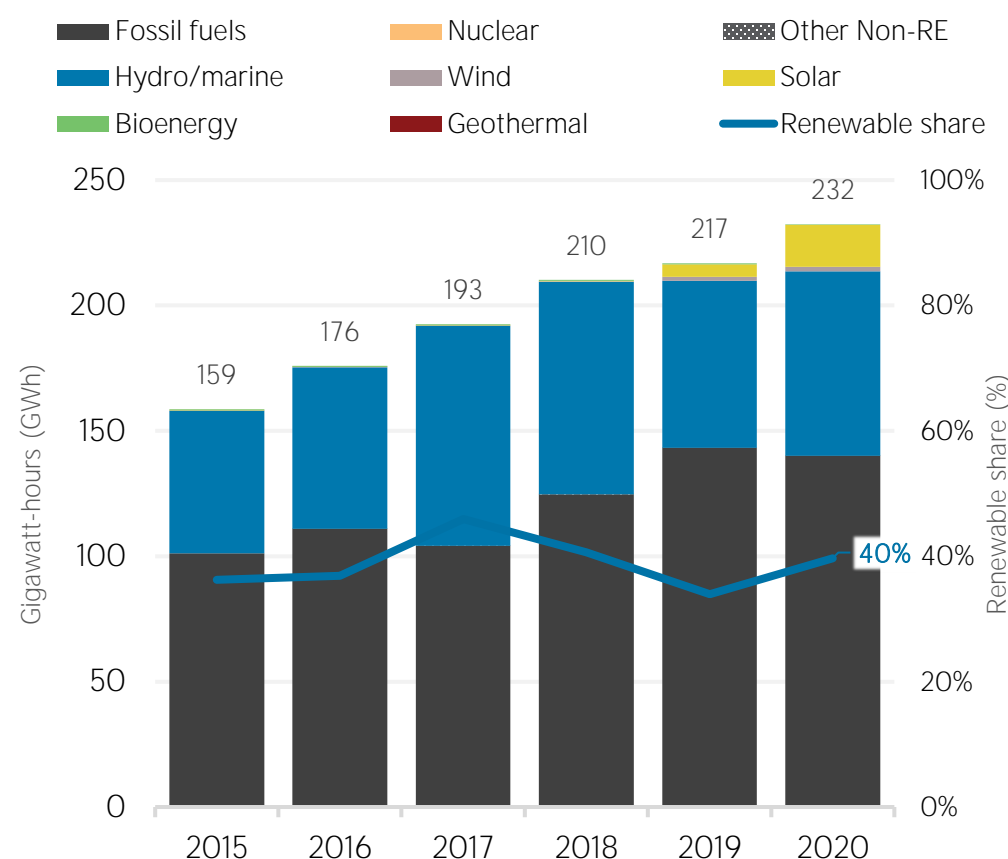
## ELECTRICITY GENERATION

Generation in 2020	GWh	%
<b>Non-renewable</b>	<b>140 108</b>	<b>60</b>
<b>Renewable</b>	<b>92 281</b>	<b>40</b>
Hydro and marine	73 495	32
Solar	16 660	7
Wind	1 803	1
Bioenergy	322	0
Geothermal	0	0
<b>Total</b>	<b>232 389</b>	<b>100</b>

Per capita electricity generation (kWh)



Electricity generation trend

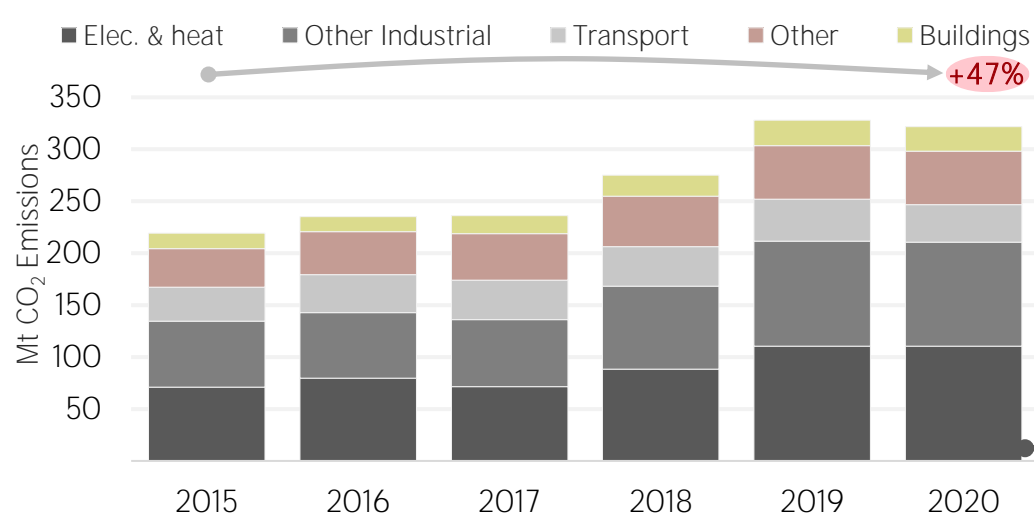


## LATEST POLICIES, PROGRAMMES AND LEGISLATION

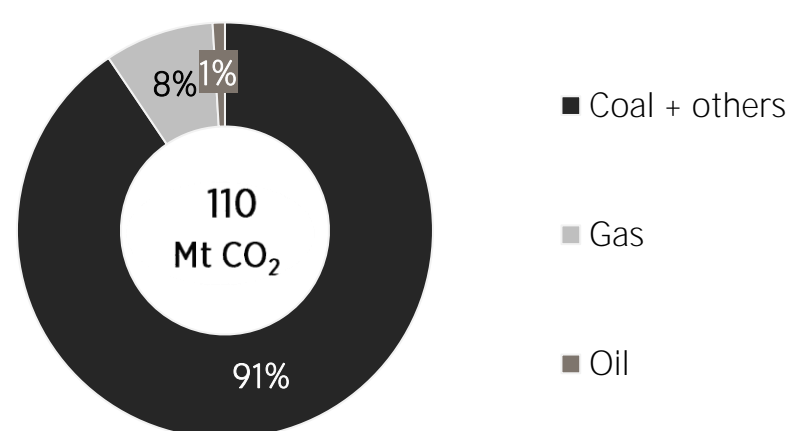
- 1 MEPS and Labelling for Compact fluorescent light bulbs TCVN 7896:2015 (applied by 24/2018/QD-TTg) 2020
- 2 MEPS and Labelling for Computer screen: TCVN 9508: 2012 (applied by 24/2018/QD-TTg) 2020
- 3 MEPS and Labelling for Electric fans: TCVN 7826:2015 (applied by 24/2018/QD-TTg) 2020
- 4 MEPS and Labelling for Electric rice cookers: TCVN 8252:2015 (applied by 24/2018/QD-TTg) 2020
- 5 MEPS and Labelling for Electromagnetic ballasts for fluorescent lamps: TCVN 8248:2013 (applied by 24/2018/QD-TTg) 2020

## ENERGY AND EMISSIONS

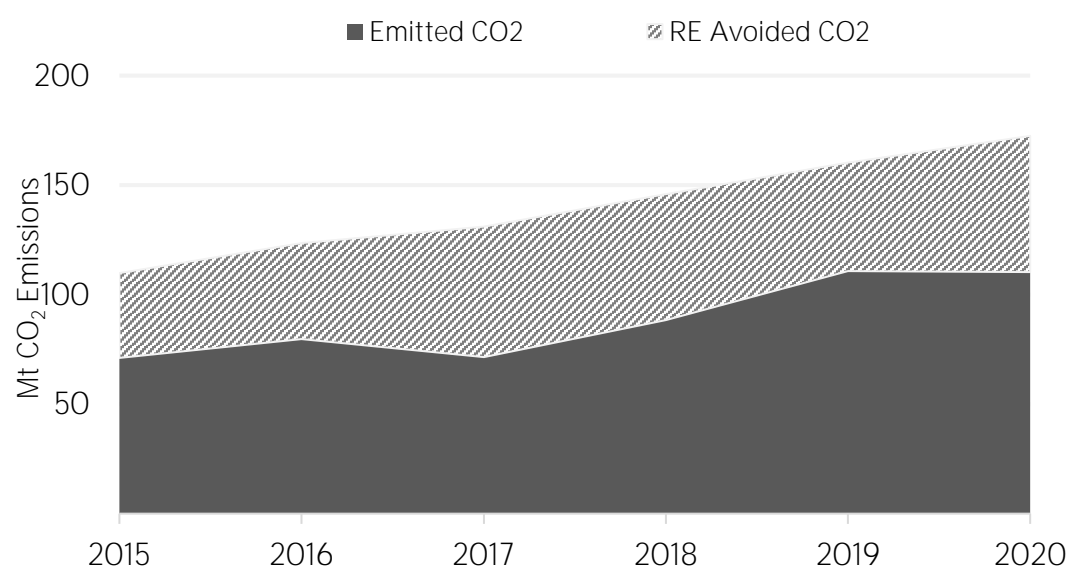
Energy-related CO<sub>2</sub> emissions by sector



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

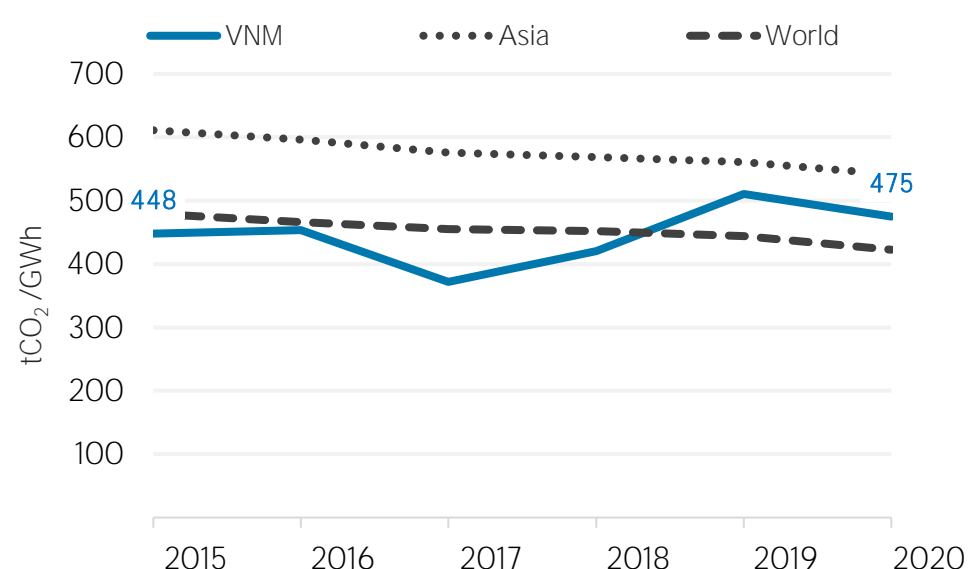


Avoided emissions from renewable elec. & heat



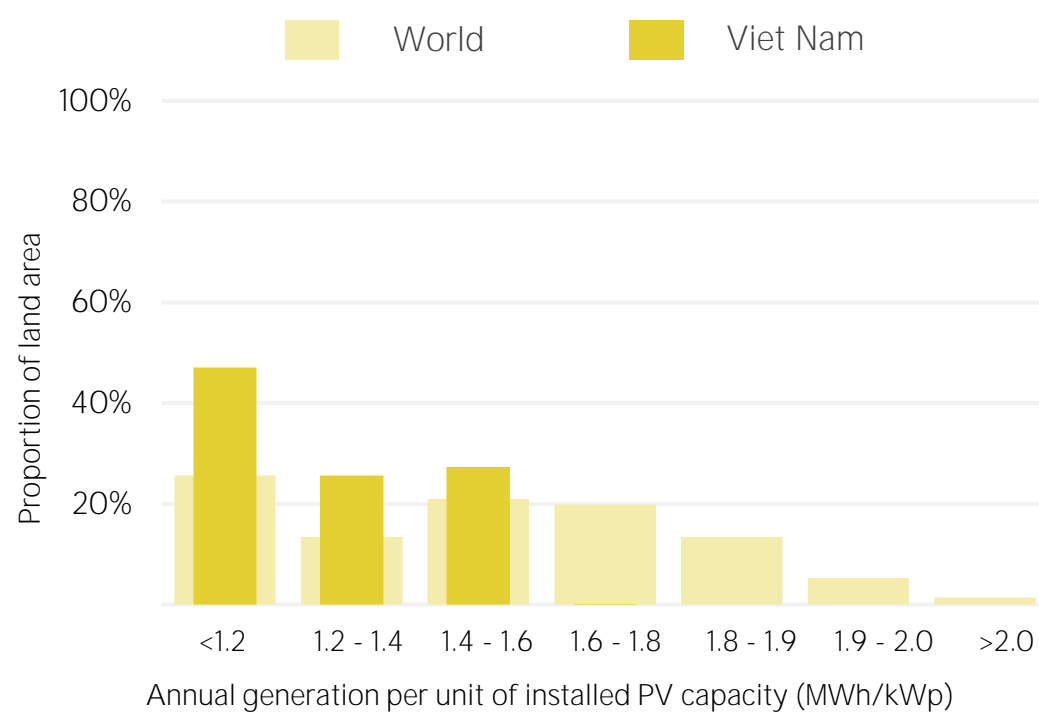
Avoided emissions based on fossil fuel mix used for power

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

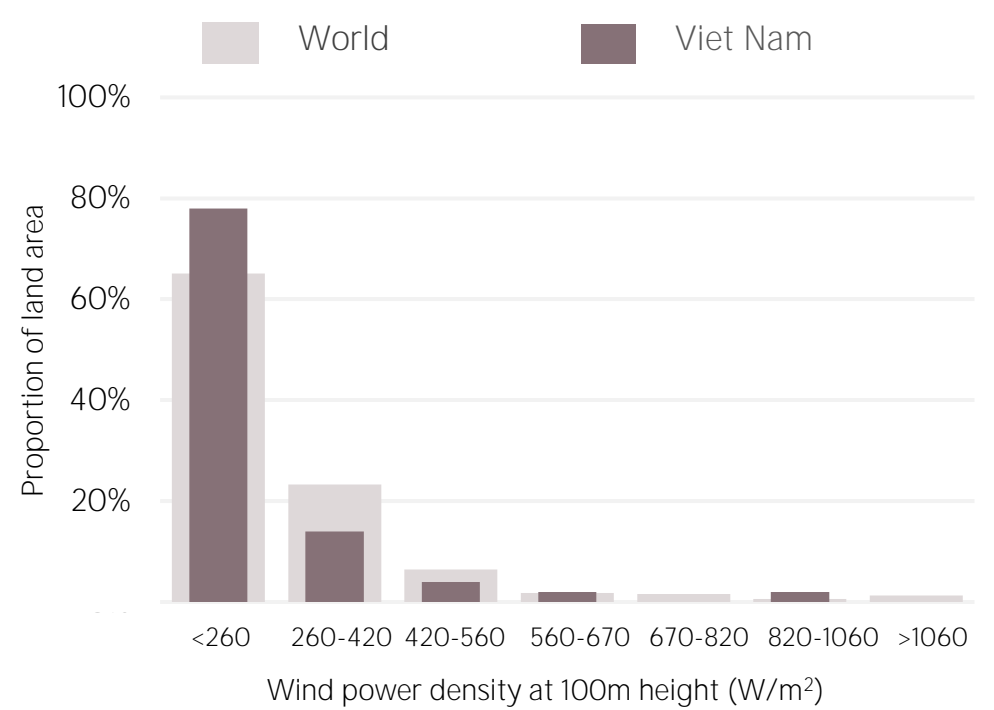


Calculated by dividing power sector emissions by elec. + heat gen.

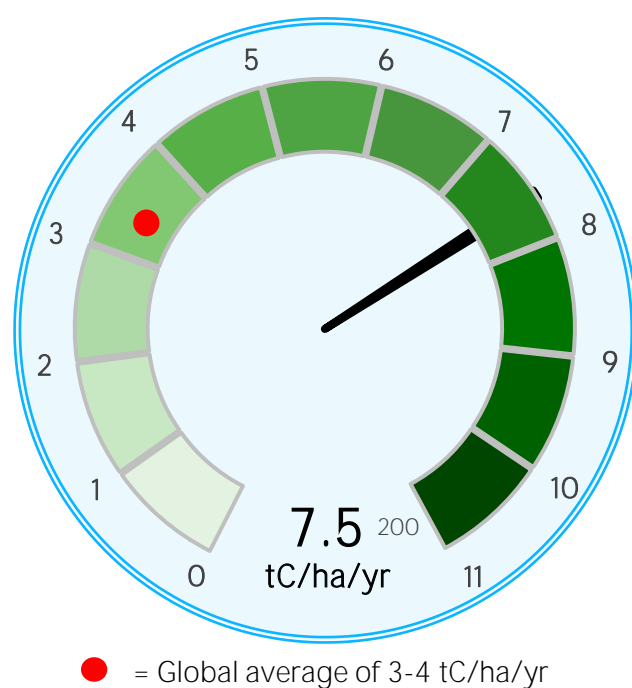
Distribution of solar potential



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).

Last updated on: 24th August, 2022