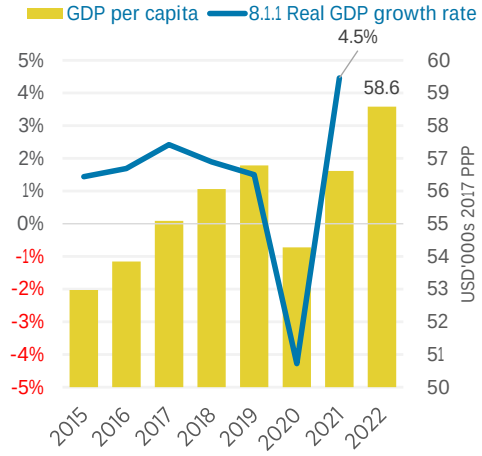
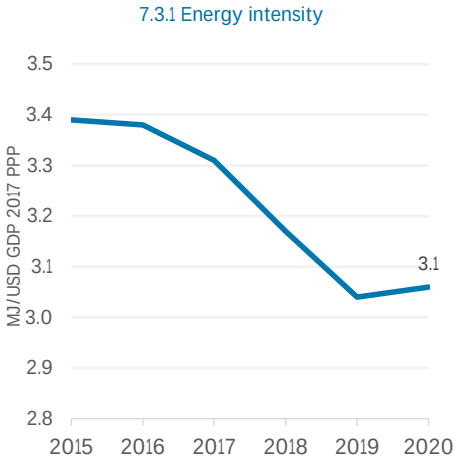
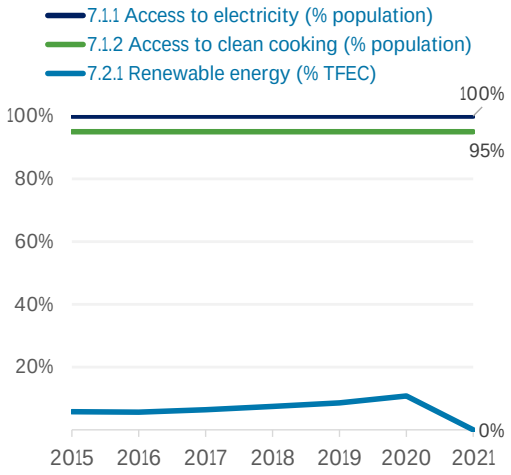
ENERGY PROFILE

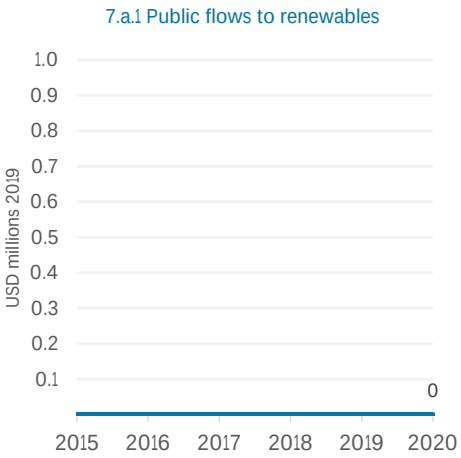
Netherlands

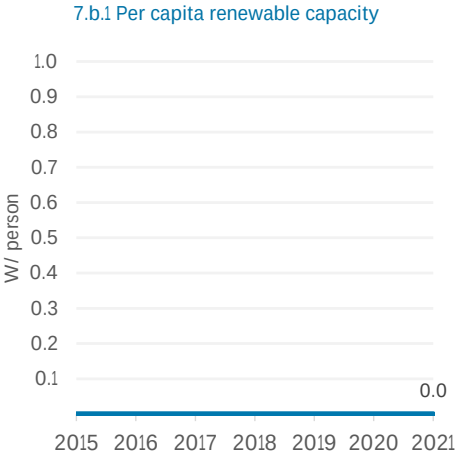
COUNTRY INDICATORS AND SDGS

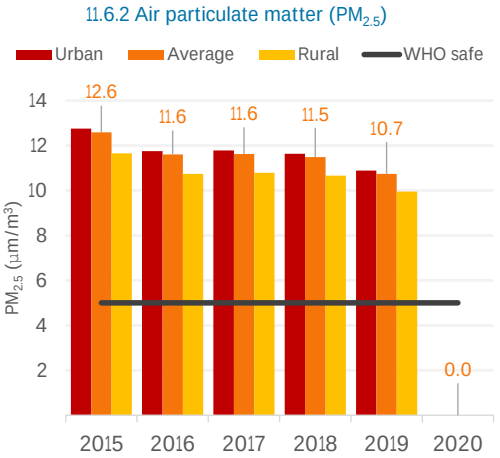












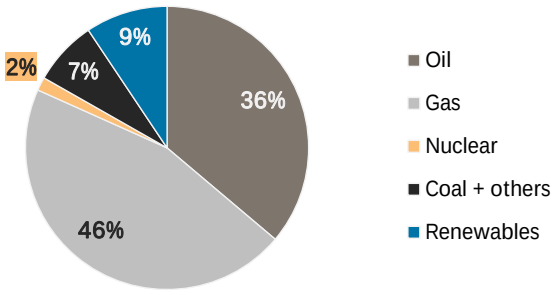
TOTAL ENERGY SUPPLY (TES)

Total Energy Supply (TES)	2015	2020
Non-renewable (TJ)	2 847 108	2 619 428
Renewable (TJ)	146 105	271 111
Total (TJ)	2 993 212	2 890 540
Renewable share (%)	5	9

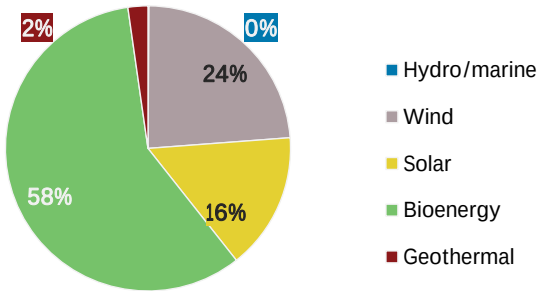
Growth in TES	2015-20	2019-20
Non-renewable (%)	-8.0	-5.0
Renewable (%)	+85.6	+18.2
Total (%)	-3.4	-3.2

Primary energy trade	2015	2020
Imports (TJ)	8 351 078	7 652 216
Exports (TJ)	6 578 532	5 278 605
Net trade (TJ)	-1 772 546	-2 373 611
Imports (% of supply)	279	265
Exports (% of production)	328	462
Energy self-sufficiency (%)	67	40

Total energy supply in 2020

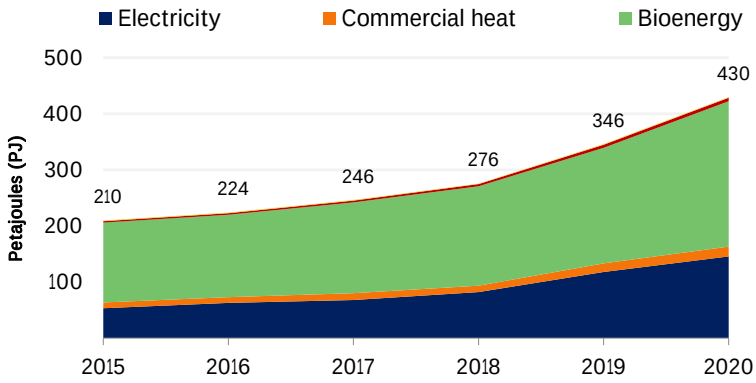


Renewable energy supply in 2020



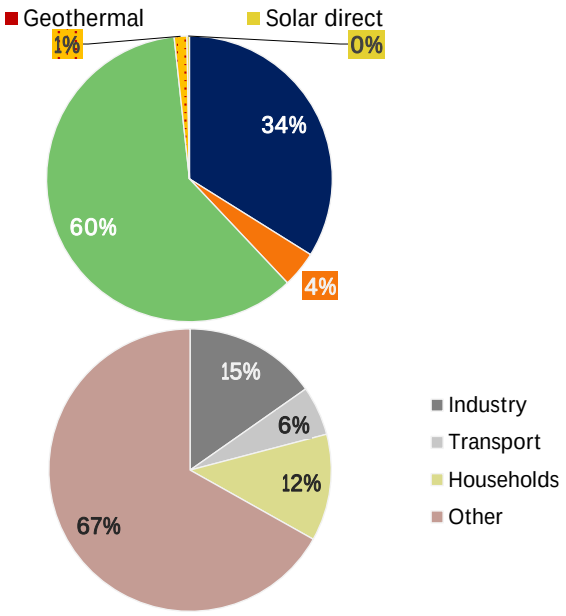
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend



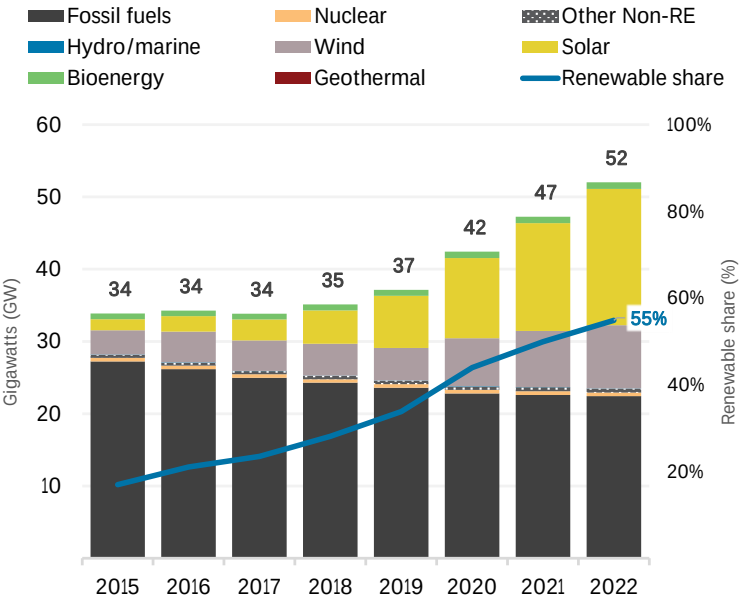
Consumption by sector	2015	2020
Industry (TJ)	31 373	65 605
Transport (TJ)	13 293	24 303
Households (TJ)	30 564	52 551
Other (TJ)	134 349	287 418

Renewable energy consumption in 2020

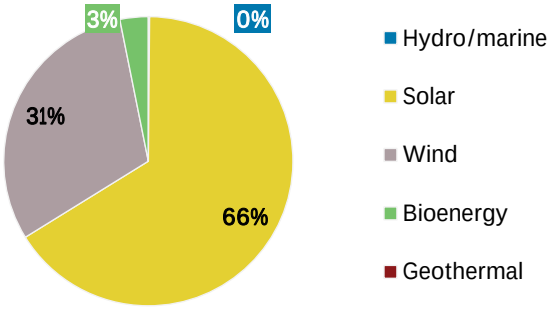


ELECTRICITY CAPACITY

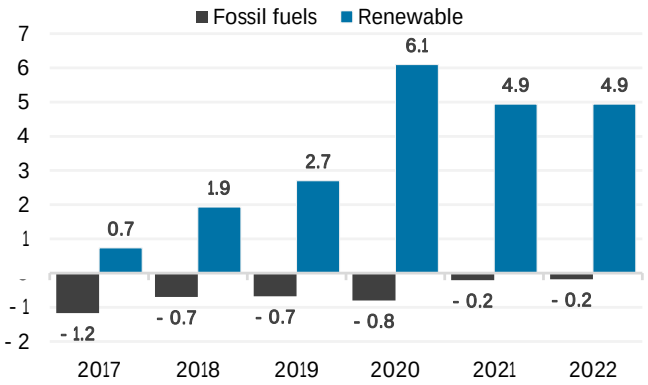
Installed capacity trend



Renewable capacity in 2022



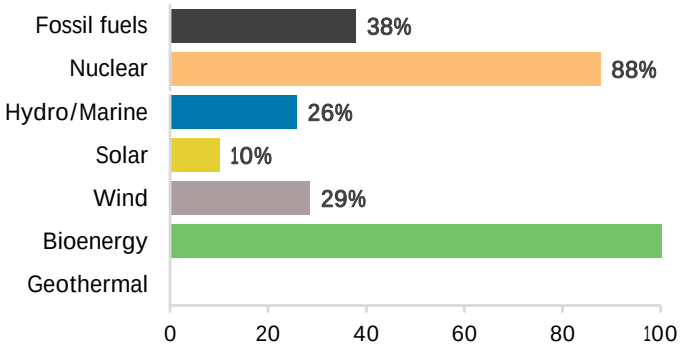
Net capacity change (GW)



Net capacity change in 2022 (MW)

Non-renewable: - 179	Hydro and marine: + 1
Solar: + 3 938	Wind: + 978
Bioenergy: + 23	Geothermal: 0

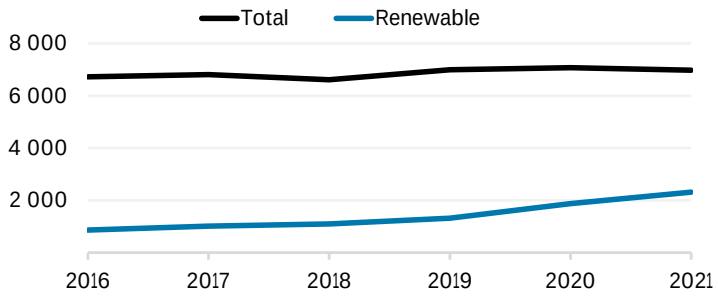
Capacity utilisation in 2021 (%)



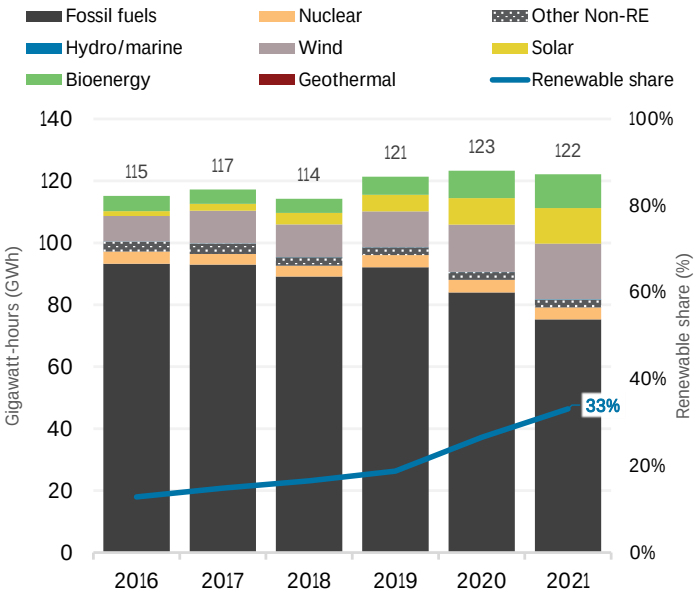
ELECTRICITY GENERATION

Generation in 2021	GWh	%
Non-renewable	**81 660**	**67**
Renewable	**40 471**	**33**
Hydro and marine	88	0
Solar	11 495	9
Wind	18 005	15
Bioenergy	10 883	9
Geothermal	0	0
Total	**122 132**	**100**

Per capita electricity generation (kWh)



Electricity generation trend

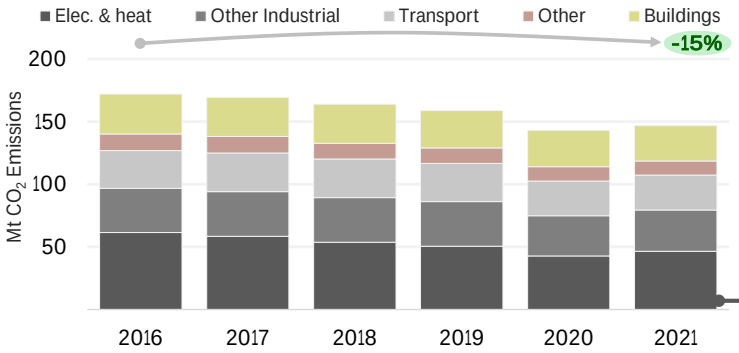


LATEST POLICIES, PROGRAMMES AND LEGISLATION

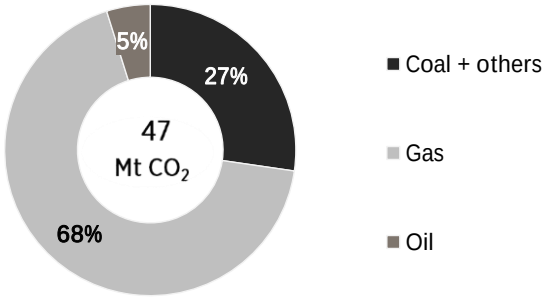
1	Hydrogen Guarantee of Origin scheme	2022
2	Increase to subsidy for renewable energy and energy savings 2022 (ISDE)	2022
3	Levy on VAT for energy bills [November - December 2022]	2022
4	SME Green Credit Guarantee (BMKB)	2022
5	Supplementary fiscal purchasing power measures Act 2022	2022

ENERGY AND EMISSIONS

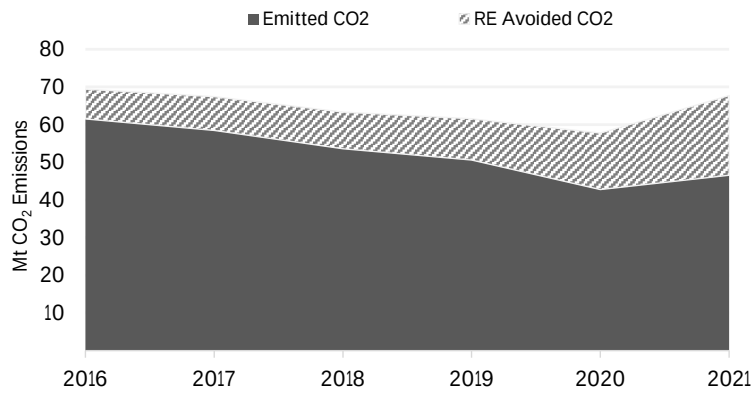
Energy-related CO_2 emissions by sector



Elec. & heat generation CO_2 emissions in

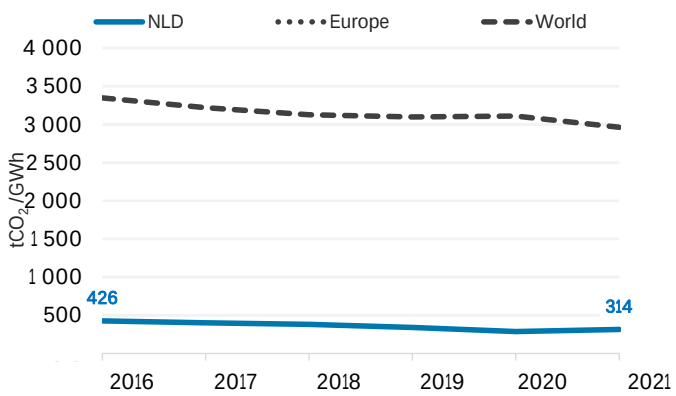


Avoided emissions from renewable elec. & heat



Avoided emissions based on fossil fuel mix used for power

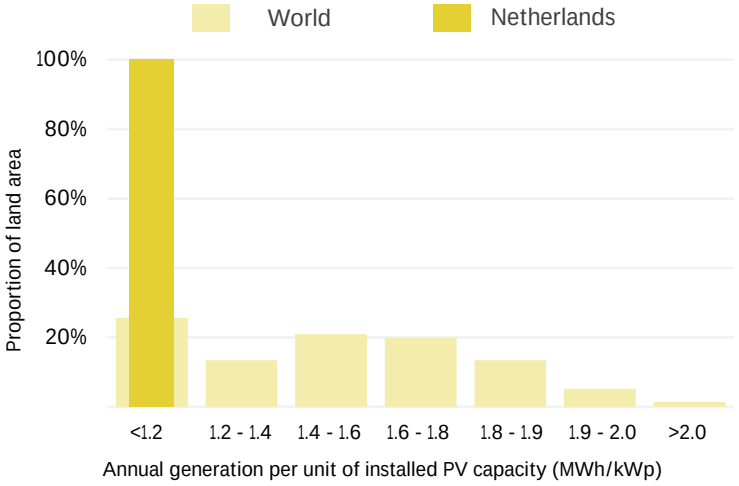
CO_2 emission factor for elec. & heat generation



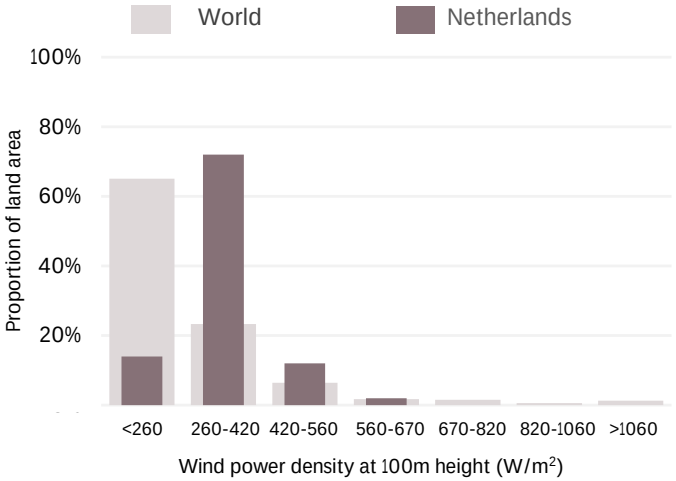
Calculated by dividing power sector emissions by elec. + heat gen.

RENEWABLE RESOURCE POTENTIAL

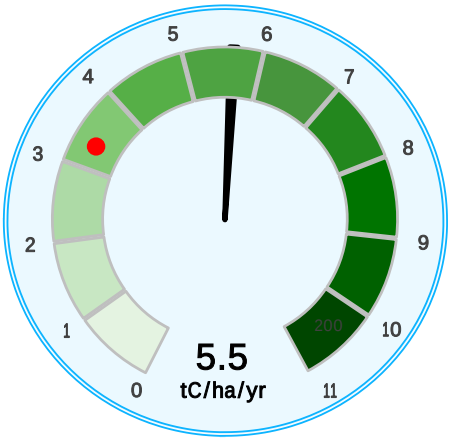
Distribution of solar potential



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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