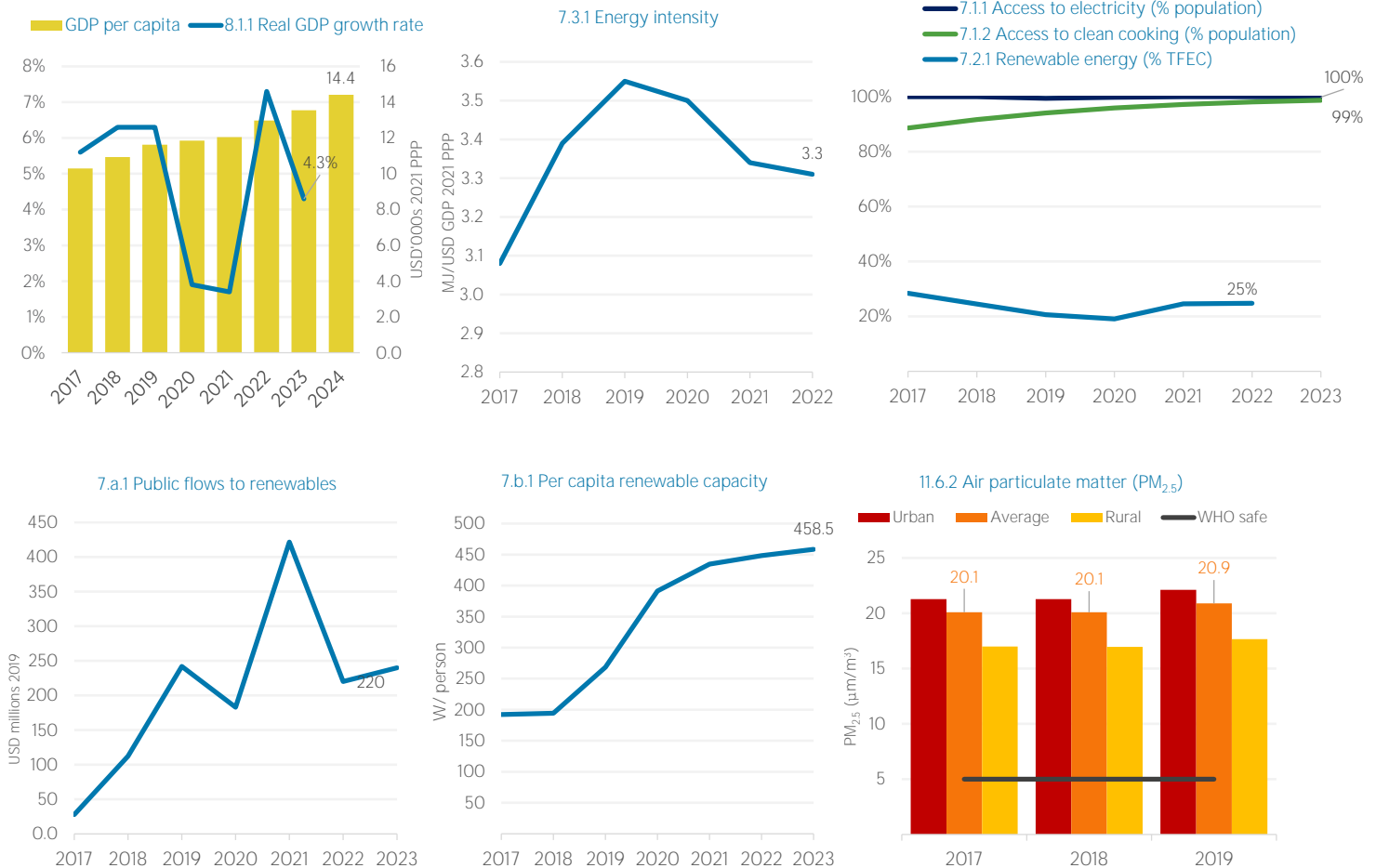


COUNTRY INDICATORS AND SDGS

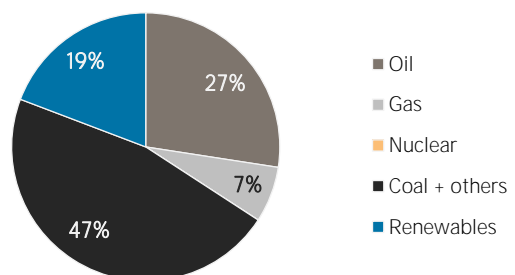


TOTAL ENERGY SUPPLY (TES)

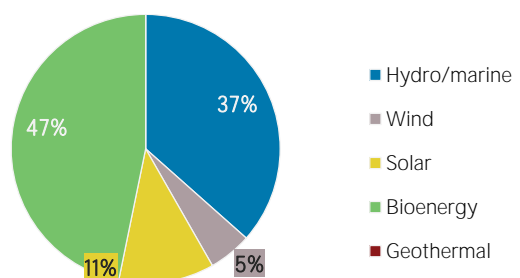
Total Energy Supply (TES)	2017	2022
Non-renewable (TJ)	2 432 221	3 400 771
Renewable (TJ)	671 493	809 303
Total (TJ)	3 103 714	4 210 075
Renewable share (%)	22	19

Growth in TES	2017-22	2021-22
Non-renewable (%)	+39.8	+7.7
Renewable (%)	+20.5	-9.2
Total (%)	+35.6	+4.0

Total energy supply in 2022



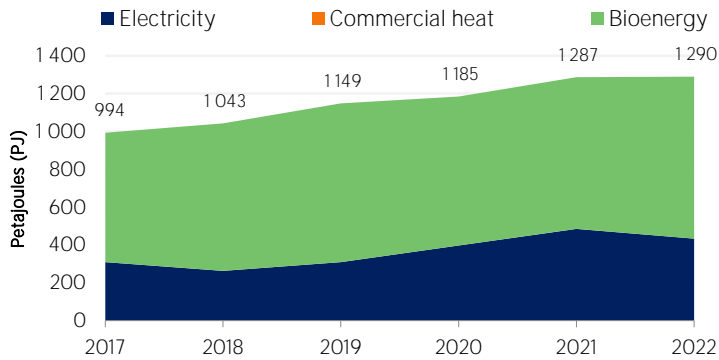
Renewable energy supply in 2022



Primary energy trade	2017	2022
Imports (TJ)	1 194 911	1 761 651
Exports (TJ)	435 496	212 584
Net trade (TJ)	- 759 415	-1 549 067
Imports (% of supply)	38	42
Exports (% of production)	18	8
Energy self-sufficiency (%)	80	63

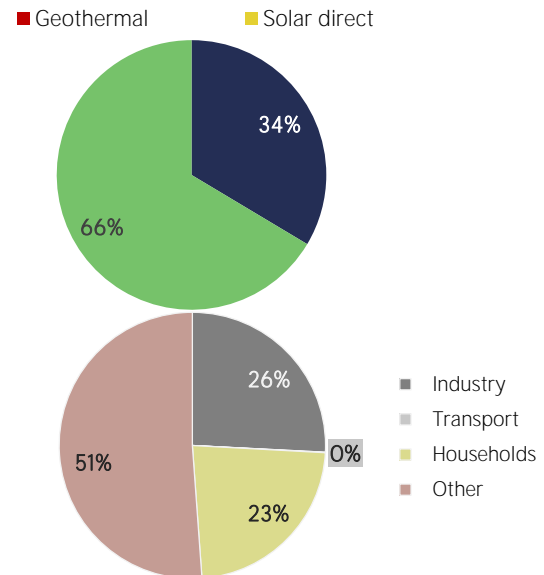
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend



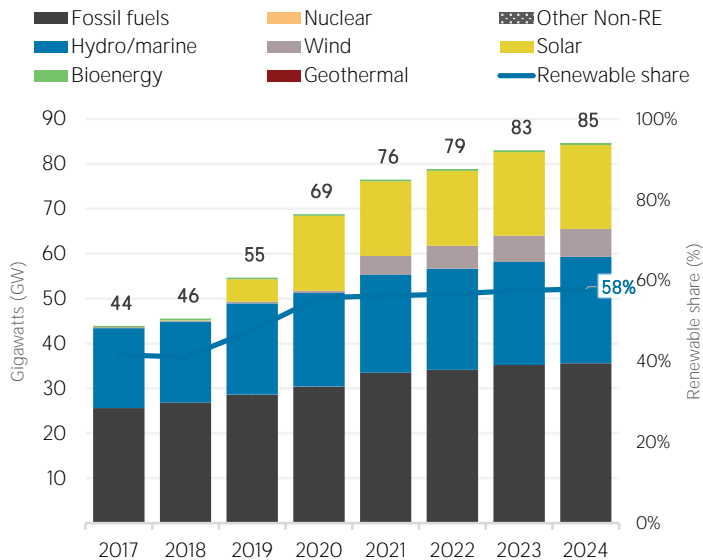
Consumption by sector	2017	2022
Industry (TJ)	378 146	332 819
Transport (TJ)	0	761
Households (TJ)	236 984	296 456
Other (TJ)	378 511	659 756

Renewable energy consumption in 2022

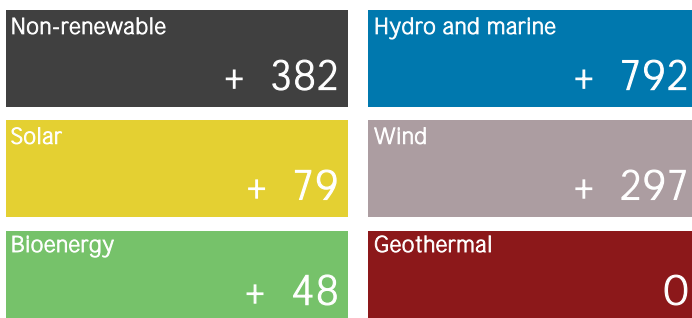


ELECTRICITY CAPACITY

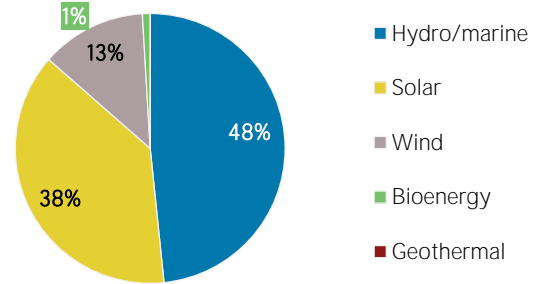
Installed capacity trend



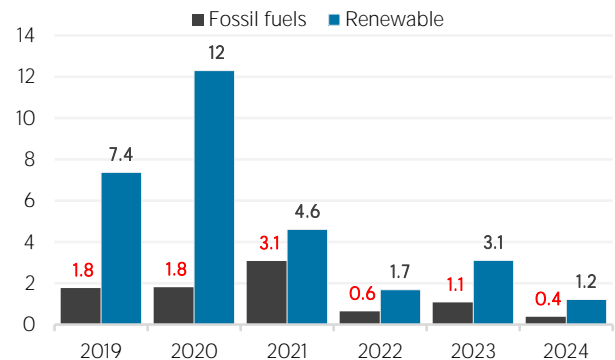
Net capacity change in 2024 (MW)



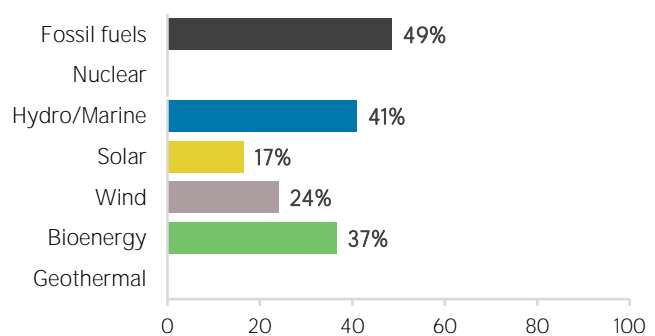
Renewable capacity in 2024



Net capacity change (GW)



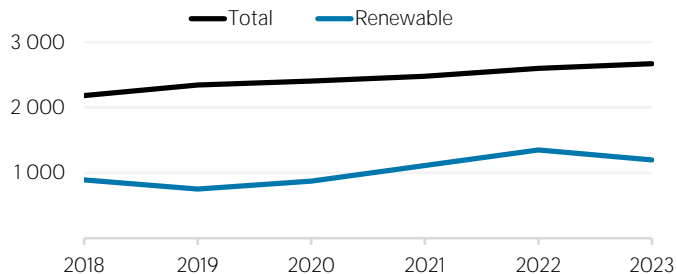
Capacity utilisation in 2023 (%)



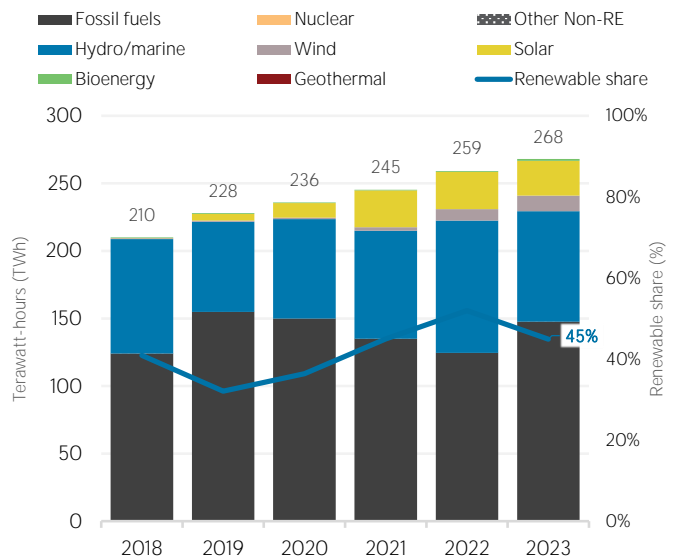
ELECTRICITY GENERATION

Generation in 2023	GWh	%
Non-renewable	147 681	55
Renewable	120 302	45
Hydro and marine	81 727	30
Solar	25 696	10
Wind	11 593	4
Bioenergy	1 286	0
Geothermal	0	0
Total	267 984	100

Per capita electricity generation (kWh)



Electricity generation trend

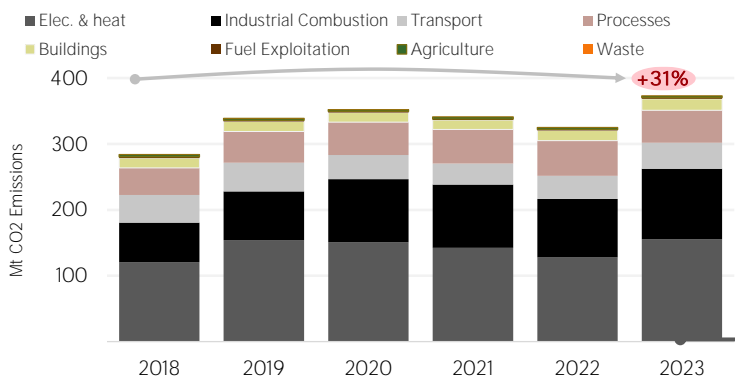


LATEST POLICIES, PROGRAMMES AND LEGISLATION

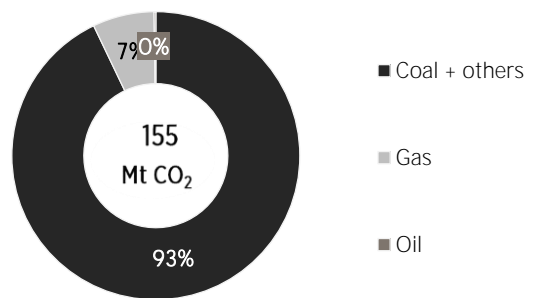
- | | |
|--|------|
| 1 Asia Zero Emission Community (AZEC) | 2023 |
| 2 Viet Nam Environment Tax Reduction on Fuel | 2023 |
| 3 Decree No. 08/2022/ND-CP | 2022 |
| 4 Regional Comprehensive Economic Partnership (RCEP) | 2022 |
| 5 Registration fee exemption/reduction for electric vehicles | 2022 |

ENERGY AND EMISSIONS

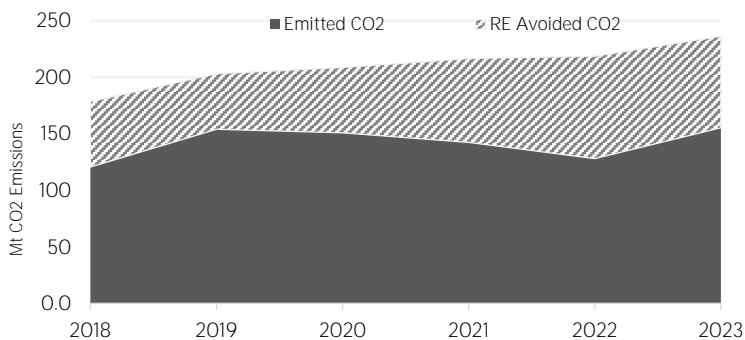
CO₂ emissions by sector



Elec. & heat generation CO₂ emissions in

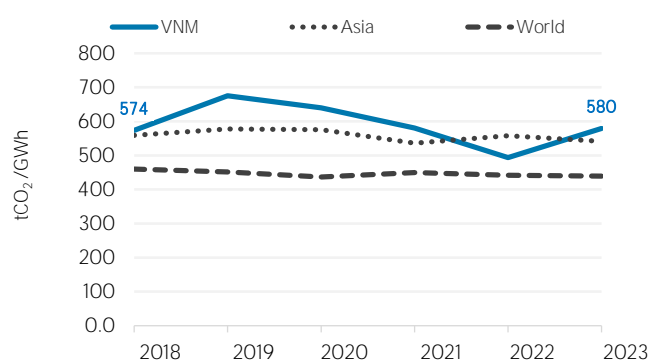


Avoided emissions from renewable elec. & heat



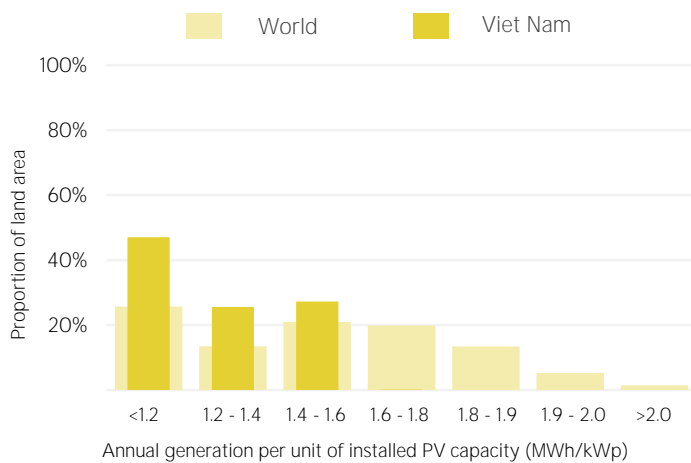
Avoided emissions based on fossil fuel mix used for power

CO₂ emission factor for elec. & heat generation

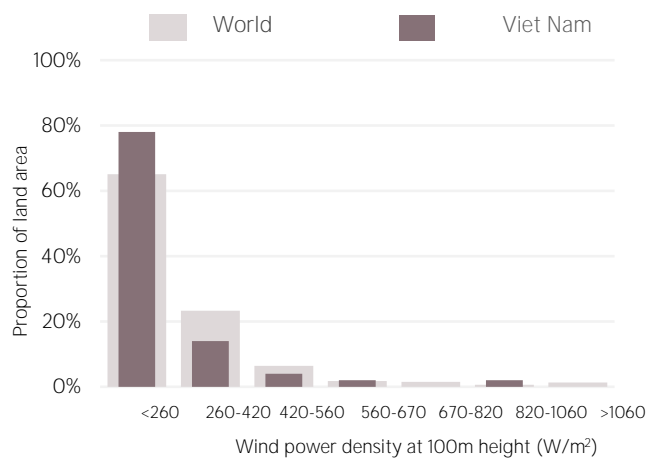


Calculated by dividing power sector emissions by elec. + heat gen.

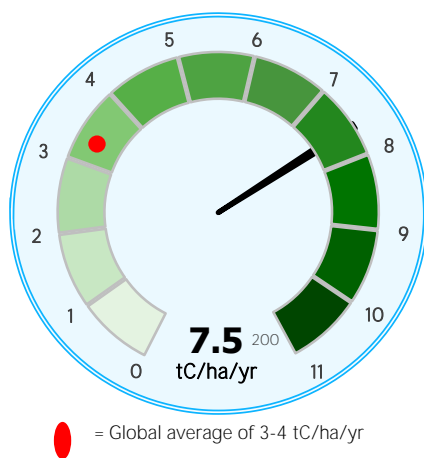
Distribution of solar potential



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/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.

Last updated on: 22 September, 2025