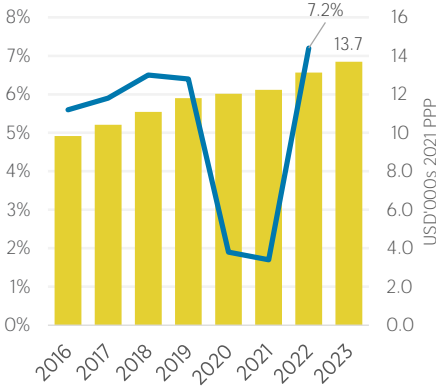
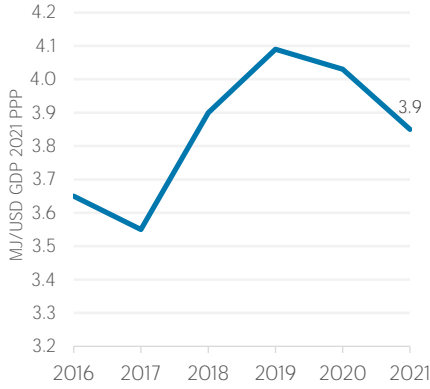


COUNTRY INDICATORS AND SDGS

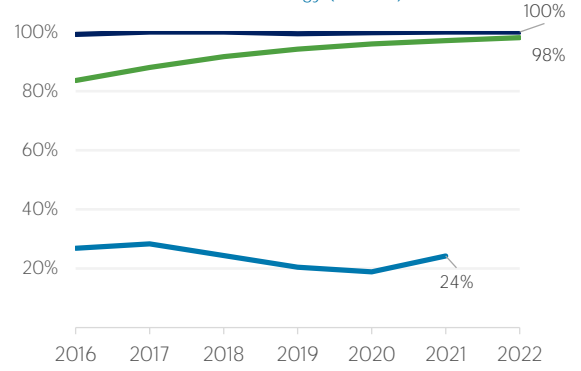
GDP per capita 8.1.1 Real GDP growth rate



7.3.1 Energy intensity



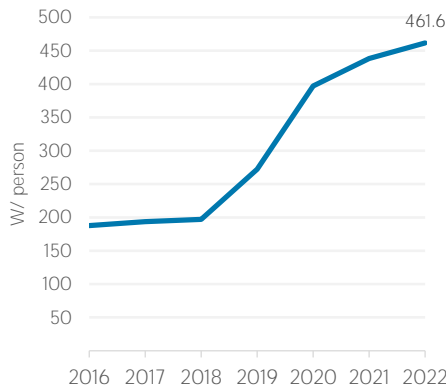
7.1.1 Access to electricity (% population)
7.1.2 Access to clean cooking (% population)
7.2.1 Renewable energy (% TFE)



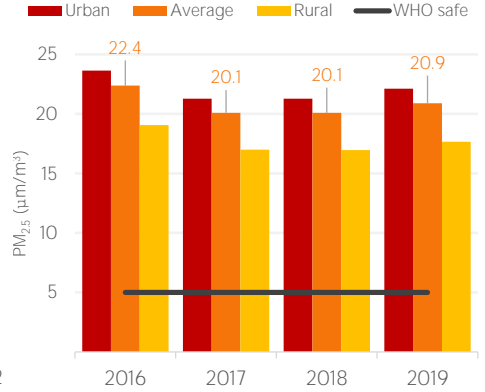
7.a.1 Public flows to renewables



7.b.1 Per capita renewable capacity



11.6.2 Air particulate matter (PM_{2.5})



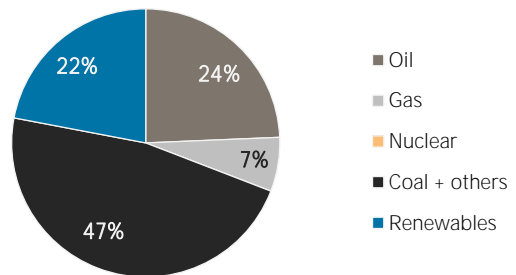
TOTAL ENERGY SUPPLY (TES)

Total Energy Supply (TES)	2016	2021
Non-renewable (TJ)	2 481 421	3 157 498
Renewable (TJ)	677 979	891 002
Total (TJ)	3 159 400	4 048 500
Renewable share (%)	21	22

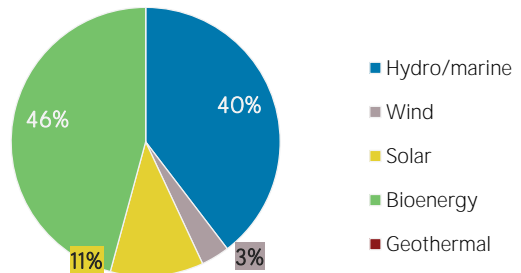
Growth in TES	2016-21	2020-21
Non-renewable (%)	+27.2	-15.2
Renewable (%)	+31.4	+0.8
Total (%)	+28.1	-12.1

Primary energy trade	2016	2021
Imports (TJ)	1 103 053	1 751 573
Exports (TJ)	452 344	281 201
Net trade (TJ)	- 650 709	-1 470 372
Imports (% of supply)	35	43
Exports (% of production)	17	10
Energy self-sufficiency (%)	83	66

Total energy supply in 2021

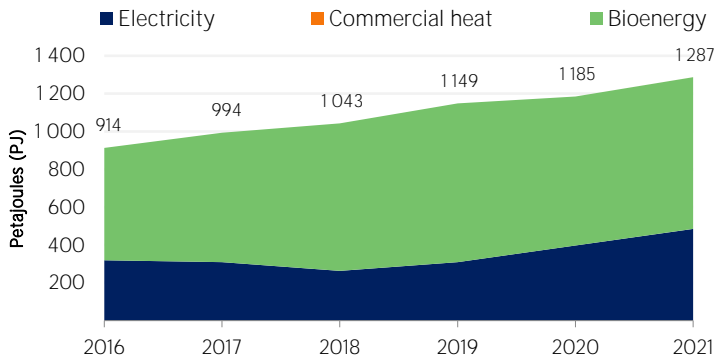


Renewable energy supply in 2021



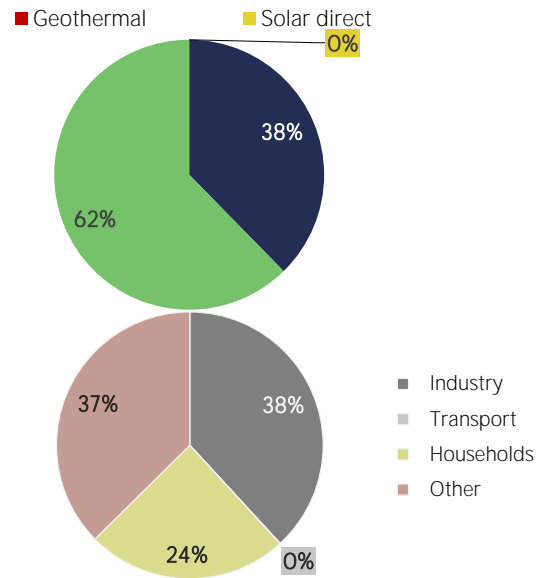
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend



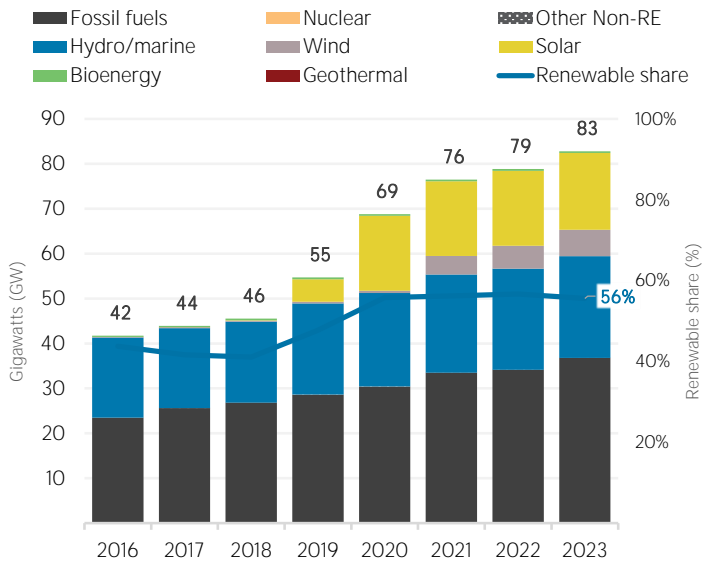
Consumption by sector	2016	2021
Industry (TJ)	316 296	490 960
Transport (TJ)	0	489
Households (TJ)	246 358	314 097
Other (TJ)	350 899	481 442

Renewable energy consumption in 2021

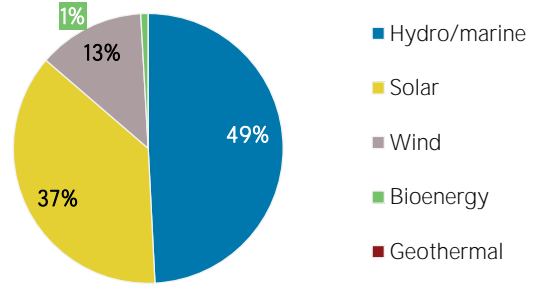


ELECTRICITY CAPACITY

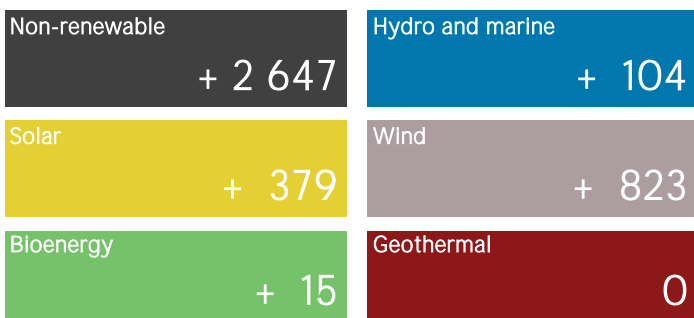
Installed capacity trend



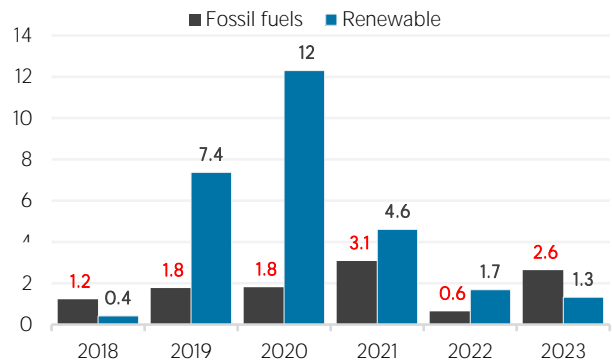
Renewable capacity in 2023



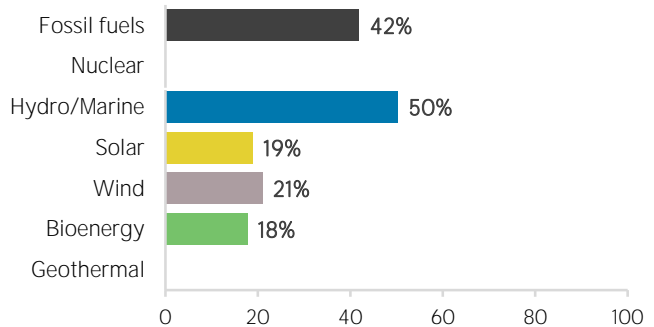
Net capacity change in 2023 (MW)



Net capacity change (GW)

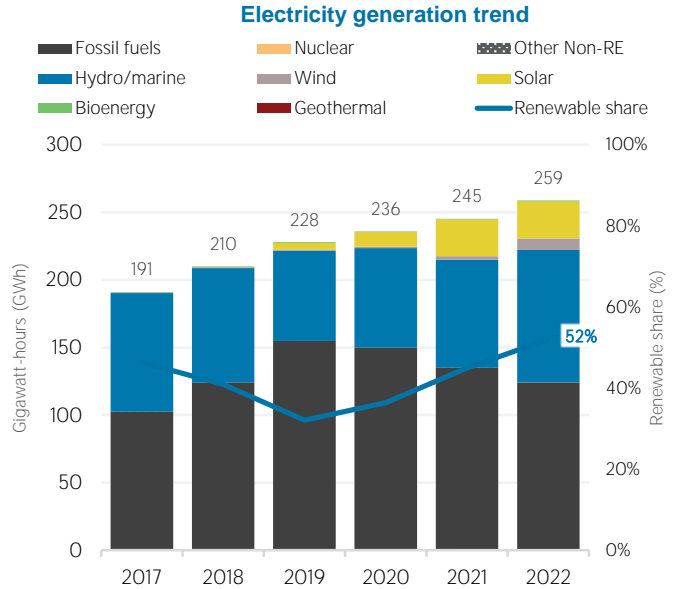


Capacity utilisation in 2022 (%)

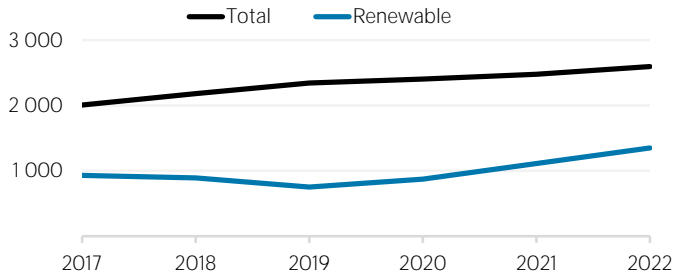


ELECTRICITY GENERATION

Generation in 2022	GWh	%
Non-renewable	124 183	48
Renewable	134 633	52
Hydro and marine	97 927	38
Solar	27 665	11
Wind	8 445	3
Bioenergy	595	0
Geothermal	0	0
Total	258 816	100



Per capita electricity generation (kWh)

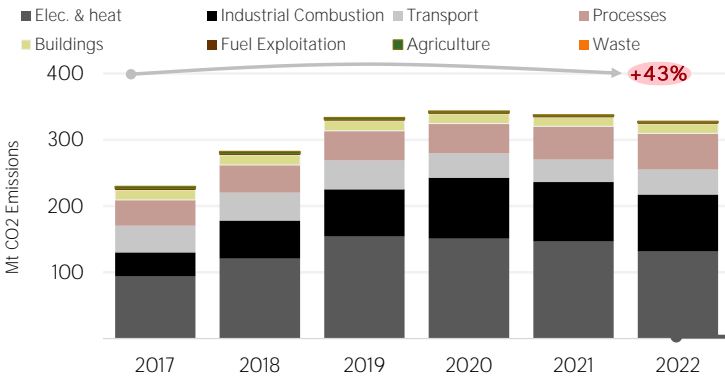


LATEST POLICIES, PROGRAMMES AND LEGISLATION

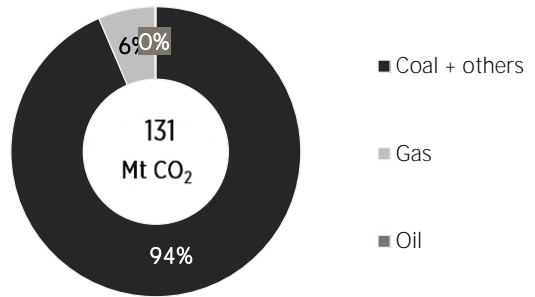
- 1 Viet Nam Environment Tax Reduction on Fuel 2023
- 2 Viet Nam Action Plan for Methane Emissions Reduction by 2030 2022
- 3 Nationally Determined Contribution (NDC) to the Paris Agreement (2022 Update): Viet Nam 2021
- 4 Law No. 72/2020/QH14 on Environmental Protection 2020
- 5 MEPS and Labelling for Compact fluorescent light bulbs TCVN 7896:2015 (applied by 24/2018/QD-TTg) 2020

ENERGY AND EMISSIONS

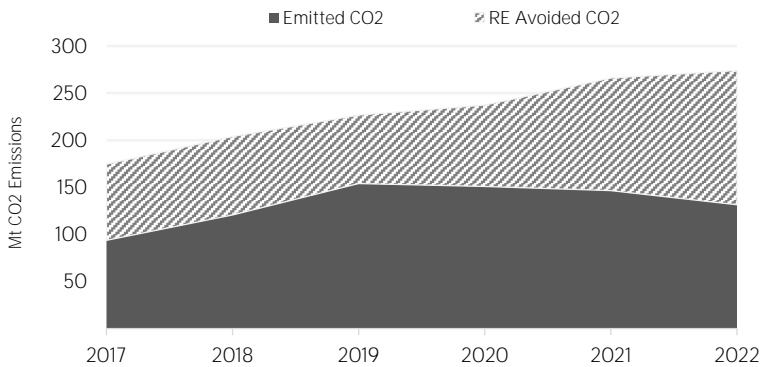
CO₂ emissions by sector



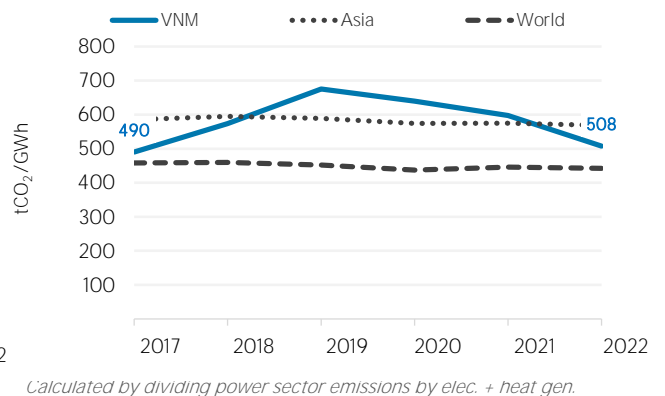
Elec. & heat generation CO₂ emissions in



Avoided emissions from renewable elec. & heat

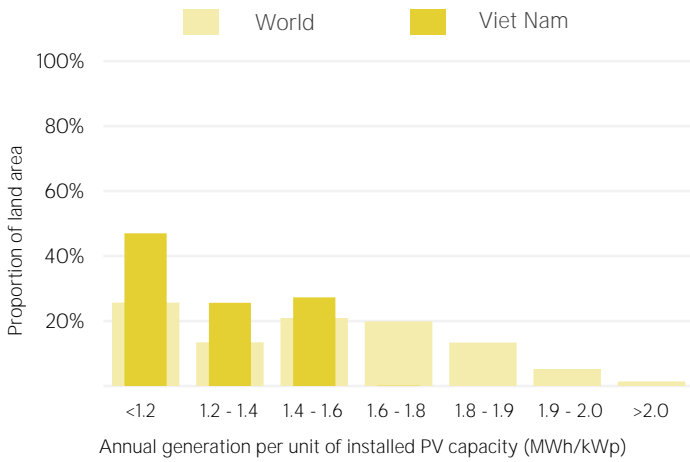


CO₂ emission factor for elec. & heat generation

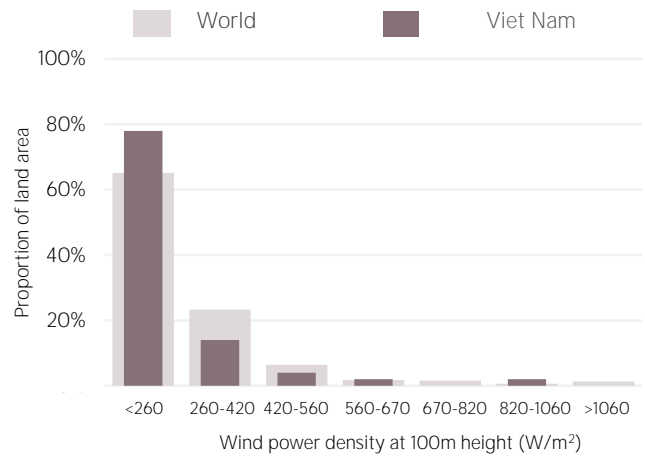


Avoided emissions based on fossil fuel mix used for power

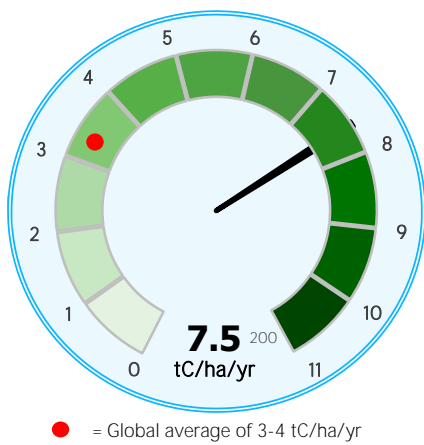
Distribution of solar potential



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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