ENERGY PROFILE

Poland

GDP per capita —8.1.1 Real GDP growth rate 50 8% 44.1 45 6% 40 35 ddd 1202 s000,0SN30 25 s000,0SN15 15 4% 2% 0% 10 -2% 5.0 -4% 0.0 2016 2011 2018 2019 2020 2021 2022 2023

Atter 7.3.1 Energy intensity 3.9 3.8 3.7 3.6 3.7 3.6 3.5 3.5 3.4 3.3 3.2 2016 2017 2018 2019 2020 2021

COUNTRY INDICATORS AND SDGS



International Renewable Energy Agency

7.a.1 Public flows to renewables 1.0 0.9 0.8 0.7 USD millions 2019 0.6 W/ person 0.5 0.4 0.3 0.2 0.1 • 0 2019 2020 2021 2016 2017 2018

7.b.1 Per capita renewable capacity 600 533.0 400 300 200 100



TOTAL ENERGY SUPPLY (TES)

2016 2017 2018 2019 2020 2021 2022

Total Energy Supply (TES)	2016	2021
Non-renewable (TJ)	3 817 894	4 013 058
Renewable (TJ)	382 031	563 482
Total (TJ)	4 199 925	4 576 539
Renewable share (%)	9	12
Growth in TES	2016-21	2020-21
Non-renewable (%)	+5.1	+7.2

Total energy supply in 2021



Renewable (%)	+47.5	+2.0
Total (%)	+9.0	+6.6

Primary energy trade	2016	2021
Imports (TJ)	2 177 340	2 501 006
Exports (TJ)	852 154	622 666
Net trade (TJ)	-1 325 186	-1 878 340
Imports (% of supply)	52	55
Exports (% of production)	30	25
Energy self-sufficiency (%)	67	55





RENEWABLE ENERGY CONSUMPTION (TFEC)





ELECTRICITY CAPACITY



Installed capacity trend

Net capacity change in 2023 (MW)

Non-renewable



Renewable capacity in 2023



Net capacity change (GW)



Renewable energy consumption in 2021



Capacity utilisation in 2022 (%)



ELECTRICITY GENERATION

Generation in 2022	GWh	%
Non-renewable	142 060	79
Renewable	37 723	21
Hydro and marine	1 968	1
Solar	8 310	5
Wind	19 780	11
Bioenergy	7 665	4
Geothermal	0	0
Total	179 782	100

Electricity generation trend



Per capita electricity generation (kWh)



LATEST POLICIES, PROGRAMMES AND LEGISLATION

1 2023 Clean Air Programme extension	2023
2 Electro Parks - electromobility in national parks	2023
3 Energy for the countryside programme	2023
4 Gas price cap for bakeries and pastry shops	2023
5 State aid for energy costs of energy intensive sectors	2023





Avoided emissions based on tossil tuel mix used for power

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

RENEWABLE RESOURCE 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

Distribution of wind potential

International Renewable Energy Agency

IRENA Headquarters Masdar City P.O. Box 236, Abu Dhabi United Arab Emirates www.irena.org 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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