

Poland

Renewable energy status

Share of energy from renewable sources in total gross final energy consumption



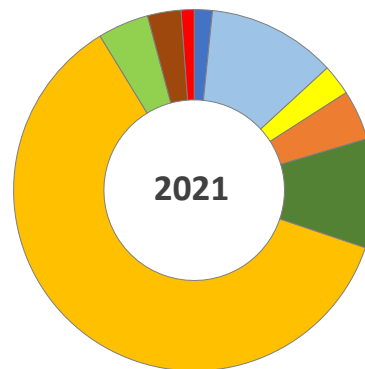
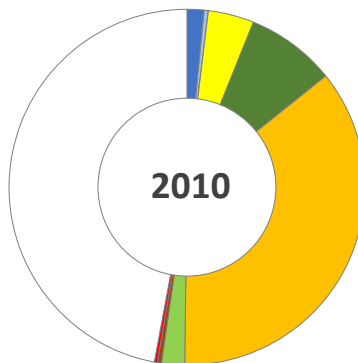
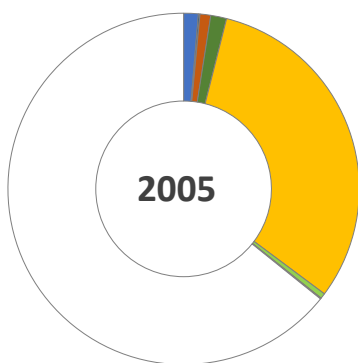
Source: Eurostat

Abbreviations used:

RES: renewable energy sources
 RES-E: renewable electricity
 RES-H/C: renewable heating/cooling
 RES-T: renewable transport fuels

Data for 2021

Overall RES share:	15.62%	Avoided fossil fuels:	12.1 [Mtoe]
Overall RES 2020 target:	15.0%	Avoided fuel expenses:	3 550 [MEUR]
Overall RES 2030 target:	22.0%	RES Turnover:	7 470 [MEUR]
Share RES-E in electricity:	17.17%	RES Employment:	1 29 300 [jobs]
Share RES-T in transport:	5.66%	RES imports ² :	1 420 [MEUR]
Share RES-H/C in heating:	21.03%	RES exports ² :	229 [MEUR]



- Hydropower
- Wind power
- Solar PV and CSP
- Solid biofuels
- RES in transport
- Renewable heat consumed
- Renewable heat derived
- Heat pumps
- All other renewables
- Gap towards 2020

Source: Eurostat

	2005	2010	2021		
	Energy in ktoe	Energy in ktoe	Energy in ktoe	Employment in FTE	Turnover in MEUR
Hydropower	164.0	188.7	199,9	500	40
Wind power	17.5	46.2	1 422,1	8 600	690
Solar PV, and CSP	0.0	0.0	338,3	35 200	2 470
Solid biomass	120.4	507.8	550,2	46 900	2 160
Ren. energy in transport ³	177.9	993.1	1 204,6	21 400	970
Renew. heat consumed	3 806.8	4 377.3	7 523,2		
Renew. heat derived	60.8	254.5	561,3		
Heat pumps	0.0	45.1	370,1	8 200	580
All other renewables	9.6	34.3	142,8	8 500	560
Gap towards 2020	7 820.5	5 730.5			

Source: Eurostat, EurObserv'ER

FTE = Full time equivalent, PV=Photovoltaics, CSP=Concentrated Solar Power. Biofuels in transport only covers compliant fuels (employment and turnover additionally cover the non-compliant biofuels). Derived heat includes heat produced in main activity producer plants and heat sold produced in auto-producer plants. Its counterpart is the final heat consumption in the final consumption sectors (such as households).

¹ From Integrated National Energy Climate Plan

² Referring to the International Trade chapter from the publication: EurObserv'ER - *The State of Renewable Energy in Europe, 2022 edition*

³ Employment and turnover are only referring to biofuels in transport.



CURRENT RENEWABLE ENERGY POLICY

RES-E

Poland has a range of measures in place to support renewable energy (RES-E) generation, the main ones being a tendering (= auctioning) system for feed-in tariff or feed-in premium support for different project sizes and baskets of technologies, a green certificate scheme, as well as dedicated support instruments for small and medium-scale RES-E installations, including those intended for self-consumption. The cost of the Polish support instruments is borne by electricity consumers via an add-on fee calculated each year.

The future trajectory of the Polish energy policy is shaped by the Energy Policy of Poland until 2040, which was adopted in February 2021. In addition to that, several measures to increase the uptake of renewables and reinforce existing measures are foreseen under the "Green energy and reducing energy consumption" component of the Polish Recovery and Resilience Plan (RRP). The current instruments in place to support RES-generation are:

- **A tendering/auctioning system on a pay-as-bid basis:** Introduced in 2016, it is intended to gradually replace the green certificate scheme as operators of new installations (after July 2016) are not eligible to benefit from the green certificate scheme. Operators of older installations can voluntarily opt into the auctioning scheme. The auctioning schedule is published by the national Energy Regulatory Office *Urząd Regulacji Energetyki* (URE) and all bids have to be submitted via an online auction platform (*Internetowa Platforma aukcyjna*). A feed-in tariff is available for sold electricity from biogas, biomass and hydropower installations under 500 kW. The tariff amounts to 95% of a reference price set annually by the government for a given type of installation. A floating feed-in premium is available for projects with a capacity from 500 kW to 1 MW, which are compensated for the difference between the market price and 90% of the reference price. Specific auction baskets are reserved for plants with more than 1 MW capacity, including PV and wind, but also renewable technologies other than that. The support contract period is 15 years, but cannot extend beyond year 2035. Changes to the scheme are published regularly and were for example made in response to the outbreak of COVID-19.

Poland has developed an ambitious plan to develop offshore wind deployment. The Act for the Promotion of Electricity Production in Offshore Windfarms entered into force in 2021. At first, offshore windfarms will benefit from a feed-in premium, but later on they will also enter the competitive auctioning process and will be granted operational support.

- **A green certificate scheme (quota obligation system):** Until 2016, the green certificate system was the main support instrument for the production of RES-E, but has been complemented with auctions. Producers who started production before July 2016 are free to opt out of the green certificates scheme and opt into the auctioning system. In the system, power generators are allocated a certain amount of tradeable certificates of origin corresponding to the amount of renewable electricity (in MWh) fed into the grid. At the same time suppliers as well as high-emitting companies from certain

industries have the obligation to cover their sales using a predetermined share of RES-E. If a supplier purchases RES-E from a producer, it will be allocated the corresponding amount of green certificates. At the end of the year, it must hold a pre-determined minimum amount. If it fails to meet this so called quota obligation, a replacement fee has to be paid for the missing certificates. In principle, the scheme is technology-neutral and open to all support-eligible renewable electricity technologies (with certain limitations for hydropower and biomass).

- **A net billing scheme for prosumers:** as of 1 April 2022 the net billing system replaces the older net metering scheme (prosumers who connected their systems to the grid before that date continue to use the net metering system). In the new system, surplus generation is compensated at the average monthly wholesale market price.
- **Co-financing grants for residential solar PV systems:** As an additional incentive for prosumers, the Polish *My Electricity* programme provides co-financing grants for small-scale solar PV installations with a capacity between 2 and 10 kW. The programme covers up to 50% of the investment costs of new installations.
- **Soft loans and investment subsidies from the National Fund for Environmental Protection and Water Management:** The allocated funds shall support RES-E project development in general and investment in micro-RES-E installations in residential buildings.
- **Sales tax exception for RES-E generators:** On electricity sales to final electricity consumers a certain excise tax is imposed. Electricity from renewable sources is exempted from this tax.

RES H&C

For the promotion of renewable heat the following instruments are used:

- **Clean Air programme:** The *Clean Air* programme provides grants for owners of single-family residential buildings to replace inefficient heat sources with new ones (including renewable energy sources and heat pumps).
- **Stop Smog programme:** The programme generally targets municipalities. It is intended to support the decommissioning of high-emission heat sources and their replacement with low-emission heat sources. The co-financing rate depends on the size of the municipality with smaller ones (below 100,000 inhabitants) receiving up to 70% of co-financing.
- **Local District Heating Programme:** This programme provides funding in the form of grants and loans to district heating companies to increase the efficiency and/or the share of RES-E by modernising and expanding district heating networks and for the construction and replacement of heat production units. Additional funding was allocated to the programme under the Polish RRP.

RES-T

The main instruments to incentivise renewables in transport Poland concern increasing the use of biofuels and e-powered vehicles. There is a biofuel blending mandate in place, requiring fuel producers and importers to include a minimum share of biofuels by energy content in their annual sales of fuel. Equally, there are requirements in place concerning obligatory shares for advanced biofuels, i.e. not based on food or animal feed crops. EV adoption is supported by the *My Electric Vehicle* programme as main instrument, operated by the National Fund for Environmental Protection and Water Management. The programme provides co-financing in the form of grants or subsidies for the purchase or leasing of electric vehicles (the purchase or leasing of hybrid cars is not possible). A co-financing programme for EV charging stations and hydrogen refueling stations is equally foreseen.

Table 1: Brief description of key policy instruments aimed at promoting RES in Poland

<i>Instrument</i>	<i>Description</i>
RES-E Auctions <i>Aukcje OZE</i>	Poland is transitioning to auctions as the main support instrument for RES-E. After meeting the necessary pre-qualification criteria, projects of different sizes and technologies can submit bids, including the volume of electricity in MWh and the price in PLN per 1 MWh. Support is awarded to the lowest bidders. Installations below 500 kW receive a fixed feed-in-tariff. Website: https://www.ure.gov.pl/pl/oze/aukcje-oze
Quota obligation system	All Polish energy companies that sell electricity to final consumers and are connected to the Polish grid must comply with quota requirements Website: https://www.ure.gov.pl/
My Electricity Programme <i>Czyste Powietrze</i>	The programme provides grants to small-scale solar PV projects with an installed capacity of 2 to 10 kW, serving the needs of existing residential buildings. Co-financing in the form of a grant can be up to 50% of the eligible costs of a micro-installation, but not more than 3,000 PLN per project. The scope of the programme might be extended in 2022 to also include energy storage. Website: https://mojprad.gov.pl/
Clean Air Programme <i>Czyste Powietrze</i>	The programme is intended to provide support to owners and co-owners of single-family houses and multi-family apartment buildings to replace old, inefficient heating systems. Website: https://czystepowietrze.gov.pl/
My Electric Vehicle Programme <i>Mój elektryk</i>	The programme's aim is to avoid GHG and pollutants' emissions by co-financing the purchase or leasing of zero-emission vehicles. Website: https://www.gov.pl/web/nfosigw/moj-elektryk

For further information:

Information on installed E-RES capacity in Poland, <https://www.ure.gov.pl/pl/oze/potencjal-krajowy-oze/5753,Moc-zainstalowana-MW.html>

Energy Policy of Poland until 2040, <https://www.gov.pl/web/climate/energy-policy-of-poland-until-2040-epp2040>

Polish RES-E auction scheme <https://www.ure.gov.pl/pl/oze/aukcje-oze>

Polish green certificates trading scheme,

Details of the My Electricity Programme, <https://mojprad.gov.pl/>

Details of the Clean Air Programme, <https://czystepowietrze.gov.pl/>

Details of the Stop Smog Programme, <https://czystepowietrze.gov.pl/stop-smog/>

Details of the My Electric Vehicle Programme, <https://www.gov.pl/web/elektromobilnosc/o-programie>

Priority programmes of the Polish National Fund for Environmental Protection and Water Management, <https://www.gov.pl/web/nfosigw-en/current-priority-programmes>

Member State Progress Report, available at the Renewable Energy pages of the European Commission, <http://ec.europa.eu/energy/en/topics/renewable-energy>

National Energy and Climate Plans (NECPs), <https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/governance-energy-union/national-energy-climate-plans>

What is meant by ...?

Auctions for granting renewable energy support	An auction is a process of granting production or investment support to renewable energy projects based on the lowest bids by eligible project developers.
Feed-in tariff (FiT)	A support scheme which provides for a technology-specific remuneration per unit of renewable energy payable to eligible renewable energy producers. A proper, periodic review of FiT rates is often undertaken with the aim to prevent both too high FiTs so as to minimise regulatory rents, i.e. supra-normal returns and too low FiTs to preclude below-target market uptake because of FiT levels that are perceived by market participants to be less attractive. In addition, feed-in tariffs often include "tariff degression", a mechanism according to which the price (or tariff) ratchets down over time.
Feed-in premium (FiP)	A scheme which provides for a support level per unit of renewable energy to eligible renewable energy producers, typically for a period of 10-20 years, at a pre-set fixed or floating rate. The premium is typically adjusted periodically to exactly offset change in the average energy wholesale market price, based on a pre-specified benchmark market price. A floating FiP may move freely or may only be allowed to move within a pre-set interval.
Grants	Grants are non-repayable funds disbursed by one party (grant makers), often a government department, corporation, foundation or trust, to a recipient, often (but not always) a non-profit entity, educational institution, business or an individual. (Source: Wikipedia.org)
Green public procurement	In Green public procurement contracting authorities take environmental issues into account when tendering for goods or services. The goal is to reduce the impact of the procurement on human health and the environment. (Source: Wikipedia.org)
Renewable quota scheme (RQS)	A RQS mandates certain market actors (typically retail suppliers or large energy end-users) to respect a pre-set minimum share or amount of their total energy procurements from renewable sources of energy. Typically a tradable green certificate (TGC) scheme is operated to enable the obligated parties to prove their compliance with the prevailing renewable quota target by means of TGCs.
Sliding feed-in-tariff	A FiT scheme which pre-sets technology-specific declining feed-in tariffs for certain prospective vintages in line with the technology-specific learning curve, as projected by the National Regulatory Agency (NRA). Often a degression rate is used indicating the %/annum decrease in the rate level.
Soft loans	Loans at concessional (below market-based) terms, for example at sub-market-conform interest rates, made available in several Member States to stimulate certain renewable energy technologies.
Tax credits	These are amounts a tax paying entity is allowed to deduct when declaring payable taxes, for example company tax or income tax, to the tax authorities, for example the producer tax credits (PTCs) used in the United States to stimulate among others wind energy deployment.



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