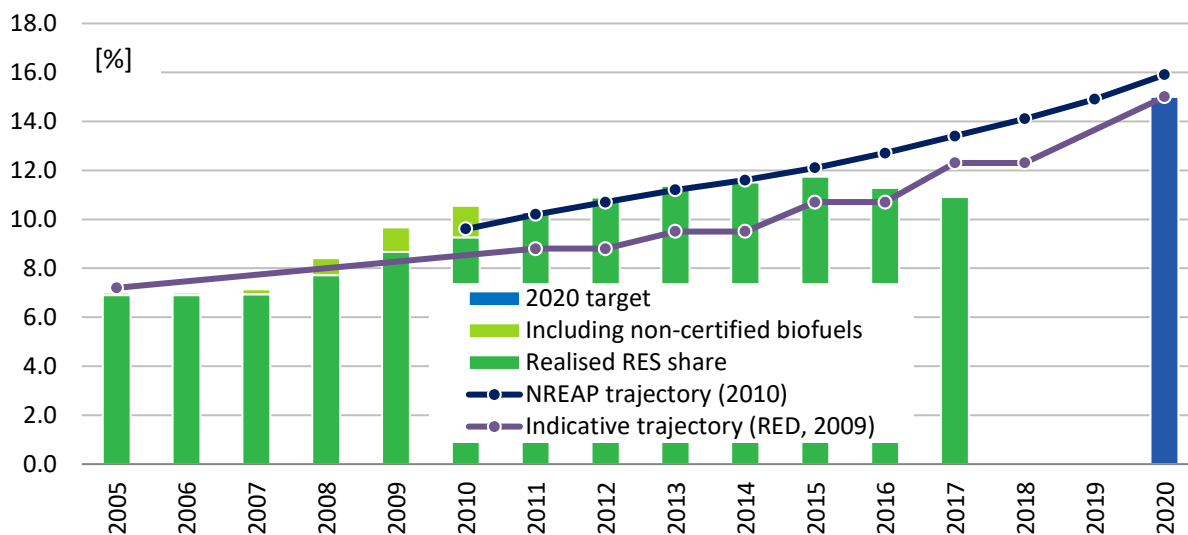


### Summary

To date, the main support scheme for the promotion of renewable electricity is encompassed by tender based feed-in tariffs or floating feed-in premiums. The main support scheme until mid-2016, a green certificates based renewable quota scheme, will be completely phased out by the end of 2021 at the earliest. Furthermore, renewable electricity and heat is fostered by a slate of fiscal instruments including tax exemptions, subsidies and concessional loans. Renewable transport fuels are promoted by way of a biofuels quota scheme.



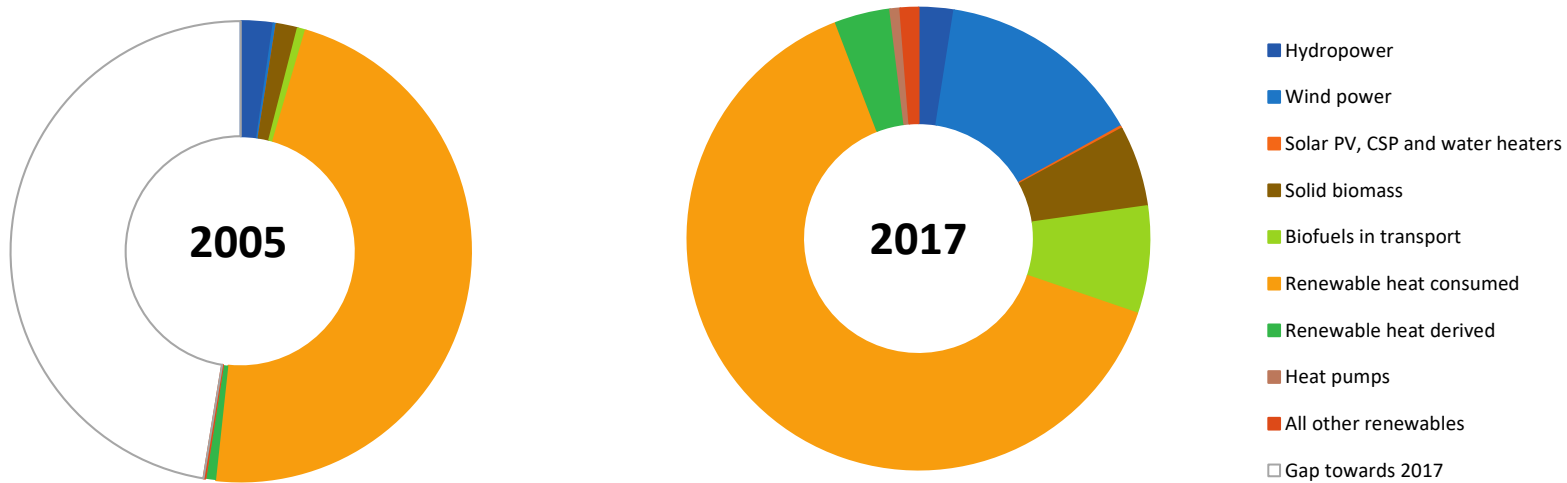
Source: EEA, Eurostat

### Abbreviations used:

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

### Data for 2017

Overall RES share:	10.9%	Avoided fossil fuels:	11.4 [Mtoe]
Overall RES 2020 target:	15.0%	Avoided fuel expenses:	2.8 [billion euro]
Share RES-E in electricity:	13.1%	RES Turnover:	3350 [MEUR]
Share RES-T in transport:	4.2%	RES Employment:	73900 [jobs]
Share RES-H/C in heating:	14.5%		



Source: Eurostat, 2019.

	2005		2017		
	Energy		Energy	Employment	Turnover
Hydropower	184.3 ktoe		200.1 ktoe	1100 Jobs	100 MEUR
Wind power	17.5 ktoe		1166.9 ktoe	8000 Jobs	660 MEUR
Solar PV, CSP and water heaters	0.0 ktoe		14.2 ktoe	1400 Jobs	100 MEUR
Solid biomass	120.4 ktoe		456.5 ktoe	25900 Jobs	1000 MEUR
Biofuels in transport	46.1 ktoe		604.9 ktoe	31400 Jobs	1110 MEUR
Renewable heat consumed	3806.8 ktoe		5161.8 ktoe		
Renewable heat derived	60.8 ktoe		311.4 ktoe		
Heat pumps	0.0 ktoe		56.5 ktoe	3000 Jobs	220 MEUR
All other renewables	9.6 ktoe		101.2 ktoe		
Gap towards 2017	3828.1 ktoe				

Source: Eurostat, EurObserv'ER, 2019.

Hydropower jobs & turnover only covers 'small hydropower'. 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 autoproducer plants. Its counterpart is the final heat consumption in the final consumption sectors (such as households).



## ***CURRENT RENEWABLE ENERGY POLICY***

The main support scheme for *electricity from renewable sources* is a tender based scheme for feed-in tariff or feed-in premium support contingent on the technology concerned. The support eligible installations commissioned before 1 July 2016 are allowed to opt for this tender scheme or to remain in the certificates based renewable electricity quota scheme. Other support schemes are a feed-in tariff and a feed-in premium scheme, both without tenders, for biogas and small hydro installations, an excise tax exemption instrument as well as loan and subsidy schemes from the National Fund for Environmental Protection and Water Management.

To date, the following *renewable electricity support instruments* are in place:

- A tender based scheme of guaranteed feed-in tariffs (FiT) or floating feed-in premiums (FiP) with allocation to beneficiaries on pay-as-bid basis. Operators of installations commissioned before July 2016 are allowed to opt for this scheme or to continue participating in the renewable quota scheme (set out under the next bullet). Operators of renewable power installations that started operations after June 2016 are not allowed to benefit from the alternative renewable quota scheme. Electricity suppliers are obliged to acquire a certain number of so-called "certificates of origin", which are issued to the producers of electricity from renewable sources. All renewable electricity generating technologies are eligible; for hydropower the capacity of eligible installations is restricted to the range between  $> 500$  kW and  $\leq 20$  MW. Separate tenders are organized for installations with a capacity below 1 MW and installations with a capacity of  $\geq 1$  MW, each for five different technology groupings. The support contract period is 15 years, but does not extend beyond year 2035.
- Biogas and hydropower based electricity from installations between 500 kW and 1 MW are eligible to a guaranteed feed-in premium, whilst such installations with a capacity up to 500 kW are eligible to a pre-specified inflation-adjusted guaranteed feed-in tariff with suppliers as obligated procurement actors. Again, the support contract period is 15 years, but does not extend beyond year 2035.
- A certificates based renewable electricity quota scheme. This scheme benefits those eligible operators of renewable power generation installations commissioned before mid-2016, which opted to hang on to this scheme in lieu of transitioning to the new auction based FiT/FiP scheme. In principle, this scheme is technology-neutral and it is open to all support-eligible renewable electricity technologies (with certain limitations for hydropower and biomass). So far, annual quota have been specified until year 2021. Certain actors on, or delivering to, the demand side of the electricity market, including retail electricity suppliers and companies with high electricity demand are subjected to a renewable electricity quota obligation. They need to procure a certain pre-set quota (percentage share) of their annual electricity deliveries (or electricity consumption in the case of obligated companies) from renewable energy sources. For every MWh produced by an eligible renewable power generator, the latter is issued a green certificate. Obligated actors by the renewable quota scheme have to buy and cancel (i.e. surrender to the

designated certificate system operator) a sufficient quantity of green certificates to comply with their annual renewable electricity quota obligation.

- A net metering scheme for prosumers with an installation up to 50 kW. For installations up to 10 kW 1 kWh exported to the grid is allowed to be netted with 0.8 kWh absorbed from the grid, whilst for installation with a capacity ranging from 10 kW to 50 kW this ratio is 1 : 0.7 . Eligible are installations based on wind power, solar PV, biogas (not from agricultural origin), and biomass.
- 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.
- Soft loans and investment subsidies from the National Fund for Environmental Protection and Water Management to support RES-E project development in general and investment in micro RES-E installations in residential buildings. Eligible for loans at 1% interest rate are installations based on wind power (40 kW<sub>e</sub>- 2 MW<sub>e</sub>), solar PV (40 kW<sub>e</sub>- 1 MW<sub>e</sub>), hydro power (40 kW<sub>e</sub>- 5 MW<sub>e</sub>), biogas (40 kW<sub>e</sub>- 2 MW<sub>e</sub>) and biomass (40 kW<sub>e</sub>- 5 MW<sub>e</sub>). Eligible for investment subsidies are installations up to 40 kW<sub>e</sub> based on wind power, solar PV, biogas and biomass.

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

- Subsidy schemes. One scheme is run by the state development bank (Bank Gospodarstwa Krajowego), granting subsidies to managers and owners of buildings (all renewable heating technologies eligible). Another two schemes are for small-scale heating installations (≤ 300 kW<sub>t</sub>; aerothermic heat pumps, biogas and biomass only) run respectively by the National Fund for Environmental Protection and Water Management with local public agencies as targeted beneficiaries and by banks targeted at one-family and multi-family houses.
- Soft loan schemes run by the National Fund for Environmental Protection and Water Management to support investments in renewable heat installations. This authority grants low interest loans to support the purchase and installation of renewable heating installations by enterprises in general as well as utilities providing collective heating services and to enterprises through a second soft loan window.

*Renewable transport fuels* are promoted by a biofuels quota scheme, applicable to both biofuels and bio-based hydrogen. The producers, importers and suppliers of fuels are obliged to meet an annual quota of biofuels in the total amount of liquid fuels produced/supplied/imported. The obligation levels are determined every three years for a period of 6 years by the Council of Ministers. To date, no measures are being applied to stimulate the market uptake of electric vehicles.

## **OVERVIEW OF MAIN SUPPORTING POLICIES**

The main RES support measures applied in Poland are epitomized in Tables 1 and 2 below. See the previous section and the notes to Table 1 for more details.

Table 1: Overview of support schemes to promote renewable energy in Poland

	NON-FISCAL SUPPORT SCHEMES						FISCAL AND OTHER STATE FUNDED INCENTIVES		
	Feed-in tariffs 1)	Feed-in premium 1)	Tenders 1)	Quota obligation with Tradable Green certificates	Quota obligation without Tradable Green certificates	Net-metering/ net-billing	Investment subsidies 2)	Tax credits mechanism I 3)	Soft loans 4)
<b>RES-E</b>									
- Offshore wind	x	x	x	x			x	x	x
- Onshore wind	x	x	x	x		x	x	x	x
- Solar	x	x	x	x		x	x	x	x
- Hydro	x	x	x	x			x	x	x
- Geothermal	x	x	x	x			x	x	x
- Solid biomass	x	x	x	x		x	x	x	x
- Biogas	x	x	x	x		x	x	x	x
<b>RES-H/C</b>									
- Solar thermal							x		x
- Geothermal							x		x
- Biomass							x		x
- Biogas							x		x
- Small scale installations, e.g. solar thermal collectors, heat pumps, biomass boilers and pellet stoves							x		x
- Others, i.e. aerothermal, hydrothermal							x		x
<b>RES-T</b>									
- Bio gasoline					x				
- Biodiesel					x				

1) With certain limitations all technologies are eligible to participation in tenders for feed-in tariffs and feed-in premiums. Applications for administratively determined feed-in tariffs (installations within the capacity range up to 500 kW<sub>e</sub>) or feed-in premiums (installations within the capacity range 500-1000 kW<sub>e</sub>) can be applied for biogas and biomass and (feed-in premium applications only) for hydro power installations.

2) Granted by the State Development Bank to enterprises (all renewable heating technologies) and by the National Fund for Environmental Protection and Water Management to prosumers for small-scale renewable heating systems (up to 300 kW<sub>t</sub>; biogas, biomass and aerothermic heat pumps only)

3) Exemption from an excise tax on electricity sales to final consumers

4) Granted by the National Fund for Environmental Protection and Water Management for both renewable electricity and renewable heat support

Sources: RES Legal, EurObserv'ER, GSR/REN21

Table 2: Overview of main instruments used at present in Poland

<b>Instrument</b>	<b>Description</b>
Feed-in tariffs or premiums	Guaranteed electricity price or premium on top of the revenues from electricity sold, during the support contract period. The level is determined (pay-as-bid) by way of tenders. Open to operators of pre-existing RES-E installations (before 1 July 2016, when this scheme entered into force) opting for this scheme and to operators of new RES-E installations
Renewable quota scheme, certificates-based	Obligation upon electricity suppliers to surrender on the settlement day of the current year a number of certificates corresponding to a pre-set minimum share of their annual sales volume last year. Open to operators of pre-existing RES-E installations (that started production before 1 July 2016), opting to remain a beneficiary of this “old” scheme, that will be gradually phased out completely.
Investment subsidies	Available for successful applicants among project developers of RES-E and renewable heat production projects
Tax credits	RES-E producers are exempt from sales tax.
Net metering	Prosumers with micro RES-E installations can sell electricity supplied to the grid up to a certain maximum at pre-specified, favourable terms.
Soft loans	Granted by the National Fund for Environmental Protection and Water Management

**For further information:**

CEER, 2017. Status Review of Renewable Support Schemes in Europe.

[http://www.ceer.eu/portal/page/portal/EER\\_HOME/EER\\_PUBLICATIONS/CEER\\_PAPERS/Electricity/2017/C16-SDE-56-03%20Status%20Review%20RES%20Support%20Schemes.pdf](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Electricity/2017/C16-SDE-56-03%20Status%20Review%20RES%20Support%20Schemes.pdf)

EEA, 2017 <http://www.eea.europa.eu/data-and-maps/daviz/actual-res-progress-indicative-trajectory-2>

Eurostat, 2017. Energy from renewable sources. [http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy\\_from\\_renewable\\_sources](http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_from_renewable_sources)

REN21, Global Status Report 2017 [http://www.ren21.net/wp-content/uploads/2017/06/170607\\_GSR\\_2017\\_Full\\_Report.pdf](http://www.ren21.net/wp-content/uploads/2017/06/170607_GSR_2017_Full_Report.pdf)

IEA/IRENA Joint Policies and Measures database

<https://www.iea.org/policiesandmeasures/renewableenergy/?country=Poland>

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

RES Legal database, <http://www.res-legal.eu/search-by-country/poland/>

[https://ec.europa.eu/commission/sites/beta-political/files/energy-union-factsheet-poland\\_en.pdf](https://ec.europa.eu/commission/sites/beta-political/files/energy-union-factsheet-poland_en.pdf)

(European Commission/ DG ENER, Energy Union Factsheet Poland, November 2017)

European Alternative Fuels Observatory, <http://www.eafo.eu/content/poland> ; <http://www.eafo.eu/eu>

## **What is meant by ...?**

<b>Auctions for granting renewable energy support</b>	An auction is a process of granting production or investment support to renewable energy projects based on the lowest bids by eligible project developers.
<b>Feed-in tariff (FiT)</b>	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 degeneration", a mechanism according to which the price (or tariff) ratchets down over time.
<b>Feed-in premium (FiP)</b>	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.
<b>Grants</b>	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)
<b>Green public procurement</b>	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)
<b>Renewable quota scheme (RQS)</b>	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.
<b>Sliding feed-in-tariff</b>	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 degeneration rate is used indicating the %/annum decrease in the rate level.
<b>Soft loans</b>	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.
<b>Tax credits</b>	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.

## **Disclaimer**

This document was prepared by the EurObserv'ER consortium, which groups together Observ'ER (FR), the Energy research Centre of the Netherlands (ECN, NL), the Renewables Academy (RENAC, DE), Frankfurt School of Finance and Management (DE), Fraunhofer-ISI (DE) and Statistics Netherlands (CBS, NL). The information and views set out in this publication are those of the author(s) and do not necessarily reflect the official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this study. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein.



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