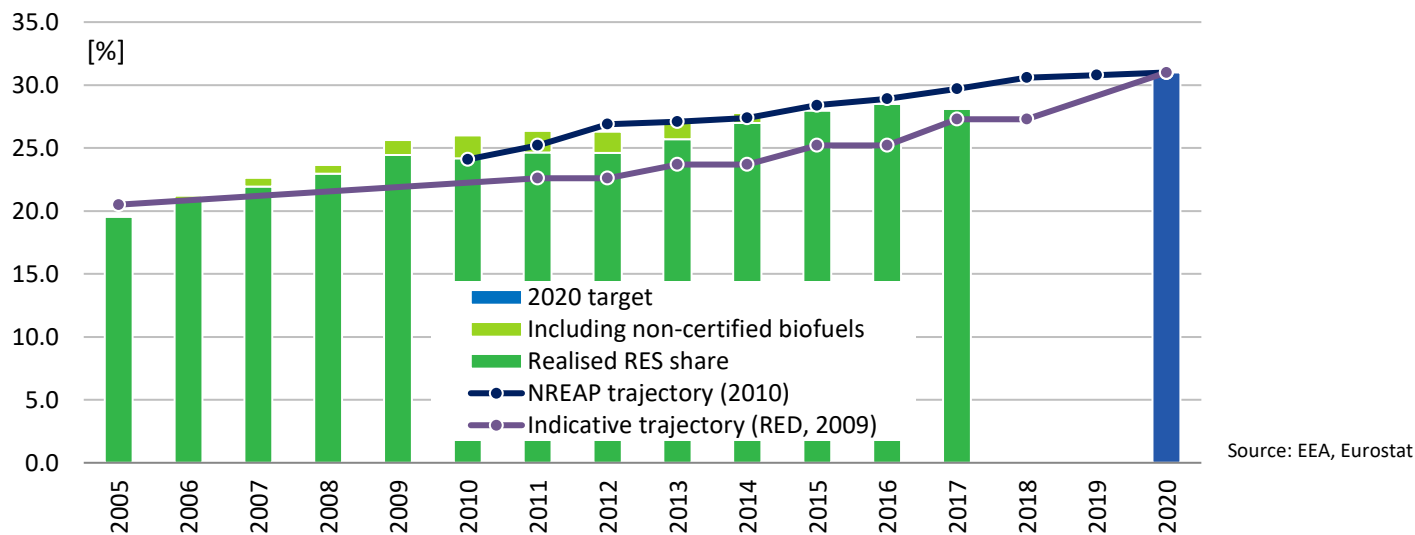


Summary

Electricity from renewable sources from plants commissioned before 8 November 2012 is mainly promoted through a feed-in tariff. Since then, in general new renewable power plants have to sell their electricity injected into the grid on the wholesale electricity market. They may potentially benefit from tender based guaranteed revenues. Yet so far, no such tenders have been conducted. On the other hand, a specific remuneration regime for electricity produced from small production (UPP) and self-consumption (UPAC) units, came into force in January 2015. It is based on a bidding model in which producers offer discounts to a reference tariff. Currently, no direct support mechanism or fiscal benefits are available for operators of installations producing heat from renewable sources. Two support instruments for renewable road transport fuel are a biofuel quota scheme and an exemption on a petroleum product tax to small producers of biofuels (PPDC).



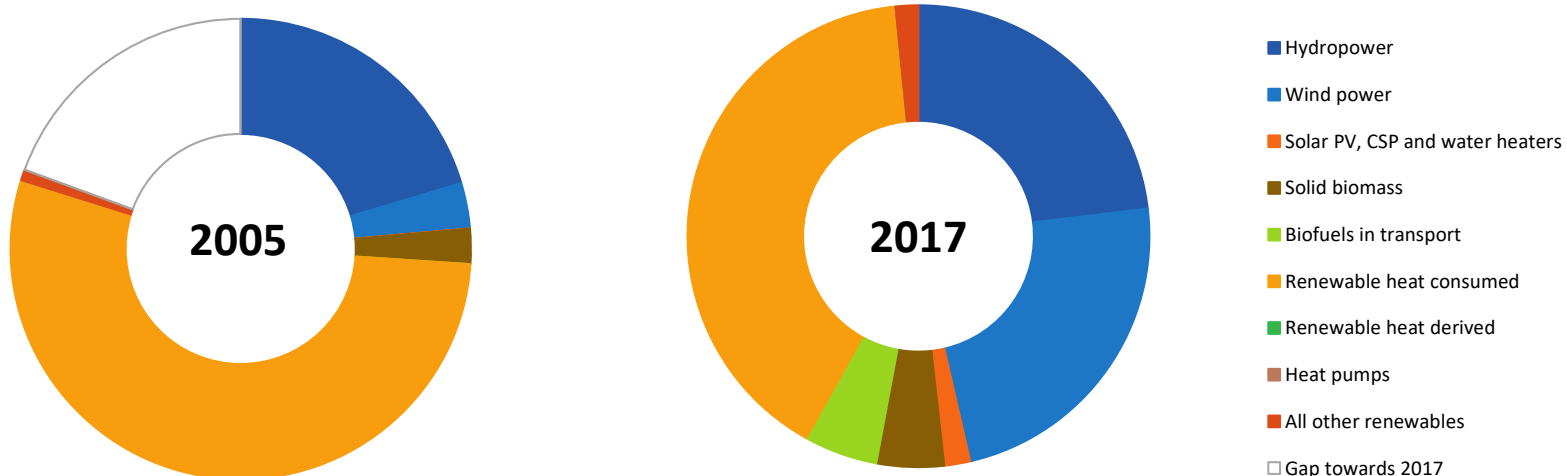
Source: EEA, Eurostat

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:	28.1%	Avoided fossil fuels:	7.4 [Mtoe]
Overall RES 2020 target:	31.0%	Avoided fuel expenses:	2.0 [billion euro]
Share RES-E in electricity:	54.2%	RES Turnover:	2380 [MEUR]
Share RES-T in transport:	7.9%	RES Employment:	33100 [jobs]
Share RES-H/C in heating:	34.4%		



Source: Eurostat, 2019.

	2005		2017		
	Energy		Energy	Employment	Turnover
Hydropower	957.9 ktoe		1085.2 ktoe	4200 Jobs	290 MEUR
Wind power	150.6 ktoe		1096.4 ktoe	3100 Jobs	320 MEUR
Solar PV, CSP and water heaters	0.3 ktoe		85.3 ktoe	2000 Jobs	120 MEUR
Solid biomass	116.1 ktoe		221.3 ktoe	8000 Jobs	670 MEUR
Biofuels in transport	0.0 ktoe		242.1 ktoe	400 Jobs	20 MEUR
Renewable heat consumed	2528.6 ktoe		1896.3 ktoe		
Renewable heat derived	0.0 ktoe		0.0 ktoe		
Heat pumps	0.0 ktoe		0.0 ktoe	13800 Jobs	860 MEUR
All other renewables	34.5 ktoe		74.2 ktoe		
Gap towards 2017	912.7 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

For *renewable electricity generation* installations commissioned before 8 November 2012 the main support instrument is a scheme of administratively determined, technology-specific, feed-in tariffs. Support contract periods are technology-specific ranging from 12 to 25 years. Grid operators will pass on the (additional) cost of feed-in tariffs to final electricity consumers. Installations installed at the premises of industrial companies continue to benefit from such (non-expired) contracts.

A new support scheme was introduced in January 2015 for small renewable electricity generation installations (UPPs; capacity up to 250 kW_e) and installations dedicated to self-consumption (UPACs; capacity ranging between 200 W_e and “more than” 1 MW_e). UPACs are allowed to be connected to the grid. This support scheme is based on a bidding model in which producers offer discounts to a technology-specific reference tariff which is also based on the “Z factor” reflecting the specific resource characteristics. The support contract period for the new scheme stretches out until the date that the technology-specific production cap will be reached or a technology-specific number of maximum support years, whichever is shorter. The maximum support period is e.g. the first 12, 15, 20, 25 operating years in the case of geothermal, wind power, solar PV, and biomass respectively. Beyond the support period, the plants are allowed to directly sell their production into the market. UPACs > 1 MW, which are assumed to produce for self-consumption, are not allowed to do so. UPACs with a capacity not higher than 1 MW are remunerated for electricity fed into the public grid to the tune of 90% of the electricity market price. Each support-eligible UPP and UPAC will have to enter into a supply contract with an electricity supplier. The latter will have to commit to procure the full fed-in production and to pay the remuneration due, which is to include the support remuneration due during the support contract period. For wind power and solar PV installations an support cap of 33 GWh and 34 GWh respectively obtains. Not more than 20 MW of new UPPs is allowed to be supported per year.

Certain wind power plants are eligible to opt for an alternative remuneration regime for an additional period of five or seven years after the end of the period of guaranteed remuneration. Their operators have to make an annual financial contribution to the sustainability of the national electricity system.

So far, no dedicated support scheme for *renewable heating* is currently in place. The Energy Efficiency Fund (FEE), co-funded by the EU, granted a subsidy to investments in solar water heaters in buildings in 2016, whilst another call for investment subsidy applications was open until 13 November 2018, for which among other “energy efficient” investments all renewable heating technologies in buildings were eligible

There are two support instruments for *the promotion of transport fuels from renewable energy sources*:

- a biofuels quota scheme for companies supplying transport fuels for consumption in the market. This scheme has specified annual minimum biofuel quotas for the period 2011-2020. Compliance is monitored by surrendered scheme certificates, called biofuel entitlements (TdB's) representing 1 toe (tonne of oil equivalent). A penalty of €2000 per incompliant TdB obtains. A request can be filed to surrender 1.5 extra TdB's in the next implementation year per incompliant TdB in the preceding implementation year.
- an tax exemption for small producers of biofuels (PPDs) from the Petrol Product Tax (ISP) with a cap of 40,000 tonnes per year

Electric vehicles are supported by:

- Purchase subsidies of €2500 for a battery electric vehicle (BEV), of €1250 for a plug-in hybrid electric vehicle (PHEVs)
- Reduction/exemption of registration tax and annual ownership tax
- For companies VAT is deductible (for acquisition costs < €50,000)
- Local incentives include free parking in Lisbon and 1 year discount on electricity price for BEV buyers

OVERVIEW OF MAIN SUPPORTING POLICIES

An overview of main supporting policies is provided in Table 1 and Table 2 below.

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

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

1) Operators of small scale and self-consumption renewable power installations (UPPs and UPACs) have to obtain guaranteed revenue benefits by competitive bidding in which they have to offer a discount to technology-specific reference tariffs. So far, no tenders have been conducted in which also other renewable power installations than UPPs or OPACs can participate.

Sources: RES Legal, EurObserv'ER

Table 2: Brief description of key policy instruments aimed at promoting renewables in Portugal

<i>Instrument</i>	<i>Description</i>
Feed-in-tariffs	Applicable to electricity from renewable sources generated in existing plants. In general, all technologies used in renewable electricity generation are eligible for support.
Remuneration system	Since 2015 applicable to new small RES power plants is based on a bidding model in which producers offer discounts to a reference tariff.
Tenders	Public tenders are to allocate support to all support-eligible renewable power installations. The regulations concerned remain to be implemented.
Obligation to use solar thermal collectors	There is the obligation to use solar thermal collectors for heating water in new buildings and buildings undergoing major refurbishments. Other forms of RES can be used as an alternative to solar thermal collectors, as well as for other purposes if they meet set efficiency criteria.
Biofuels quota scheme	Companies supplying fuels for consumption shall incorporate a certain percentage of biofuels in the fuels they supply to the market from 2011 to 2020 to be proved with TdB certificates.
Tax exemption	Small producers of biofuels benefit from a total exemption of the Petrol Product Tax.

For further information:

EEA 2017: Progress of renewable energy sources, European Environmental Agency (EEA), <https://www.eea.europa.eu/data-and-maps> (European Union), last accessed June 2017

EurObservER Annual Overview 2016, <https://www.eurobserv-er.org/category/all-annual-overview-barometers>

Eurostat, 2017. Energy from renewable sources. http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_from_renewable_sources

Global Status Report by REN21

http://www.ren21.net/wp-content/uploads/2016/10/REN21_GSR2016_FullReport_en_11.pdf

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/portugal>

https://ec.europa.eu/commission/sites/beta-political/files/energy-union-factsheet-portugal_en.pdf
(European Commission/ DG ENER, Energy Union Factsheet Portugal, November 2017)

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

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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Disclaimer

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