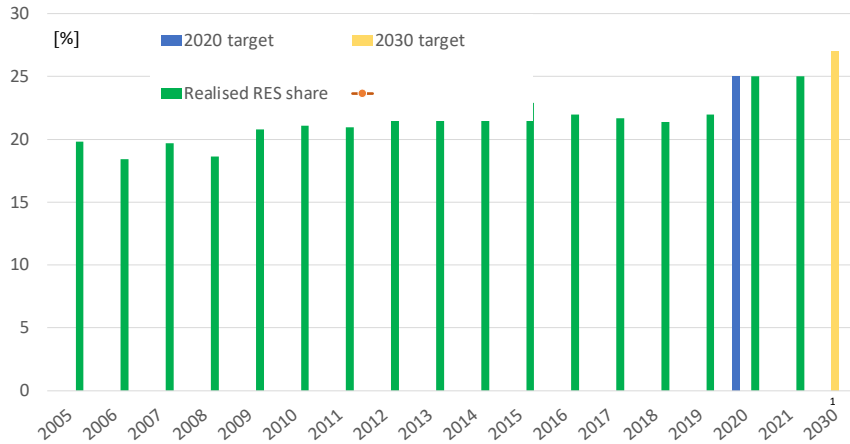


Slovenia

Renewable energy status

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



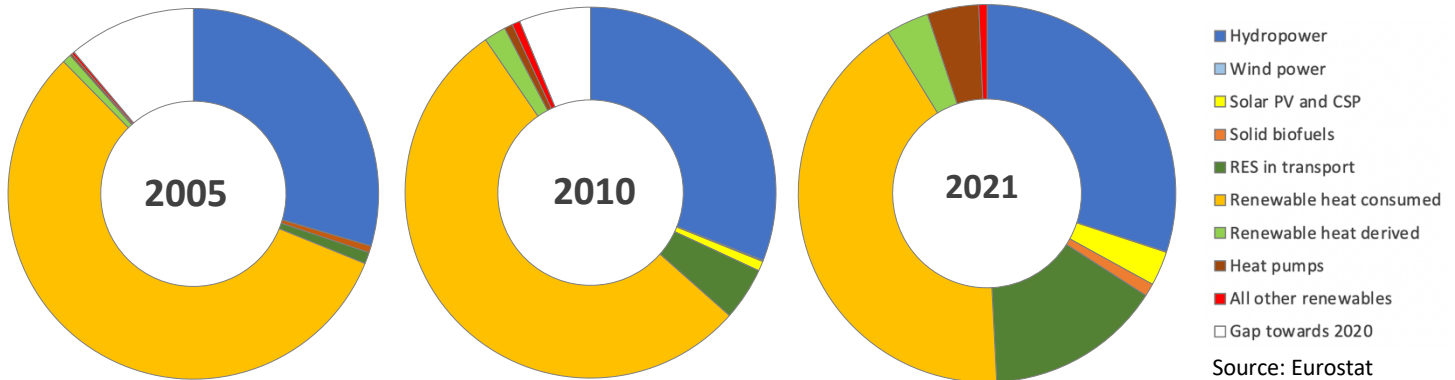
Source: Eurostat

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:	25%	Avoided fossil fuels:	0.2 [Mtoe]
Overall RES 2020 target:	25%	Avoided fuel expenses:	50 [MEUR]
Overall RES 2030 target:	27%	RES Turnover:	420[MEUR]
Share RES-E in electricity:	34.98%	RES Employment:	5 000 [jobs]
Share RES-T in transport:	10.64%	RES imports ² :	93 [MEUR]
Share RES-H/C in heating:	35.22%	RES exports ² :	73 [MEUR]



Source: Eurostat

	2005	2010	2021		
	Energy in ktoe	Energy in ktoe	Energy in ktoe	Employment in FTE	Turnover in MEUR
Hydropower	354.7	371.6	397.4	400	30
Wind power	0.0	0.0	0.5	<100	<10
Solar PV, and CSP	0.0	1.1	39.0	<100	10
Solid biomass	7.0	10.3	14.6	1 100	90
Ren. energy in transport ³	12.0	55.4	199.8	<100	<10
Renew. heat consumed	678.0	646.6	556.8		
Renew. heat derived	9.4	23.0	48.4		
Heat pumps	2.4	8.7	58.3	2 800	230
All other renewables	2.8	8.4	9.3	400	40
Gap towards 2020	133.6	74.8			

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

In Slovenia, electricity from renewable sources (RES-E) is supported via support schemes for electricity production and high-efficiency cogeneration (CHP) in the form of feed-in tariffs and premiums. Other important measures take the form of investment grants, mostly financed by cohesion policy measures, as well as loans. Self-consumption of RES-E is increasingly becoming a topic in Slovenia, especially for solar energy, and dedicated support schemes have been put in place. The main legislative basis for RES-E in Slovenia is the national Energy Act (EZ-1) as well as the law on the promotion of the use of renewable energy sources.

Main support scheme

In Slovenia, RES-E is primarily promoted through a feed-in tariff scheme since 2009. Support is available for production of RES-E with all technologies (wind, solar, hydro, geothermal, solid biofuels, biogases and other) as well as CHP being eligible. The scheme falls within the responsibility of the Slovene Ministry of Infrastructure and is administered by the Slovenian Energy Agency and the power market operator *Borzen*. The Energy Agency publishes an annual open call for tenders for new and refurbished plants producing RES-E and for CHP facilities with a capacity not exceeding 10 MW_e (this capacity limit is set at 20 MW_e for renewable CHP plants that deliver the required primary energy savings, and at 50 MW_e for wind energy). Through the annual tender, project developers bid their cost of energy (in EUR/MWh) for access to a floating feed-in premium. Ahead of the tender call the reference cost of the variable part of the cost of electricity is published. Successful bidders in turn sign a feed-in tariff support contract with the power market operator. In principle, producers can choose between two types of support: guaranteed purchase (=classic feed-in) and operational support (=feed-in premium). However, producers with power plants of installed capacity exceeding 500 kW_e can only receive the operational support. In the 10th public call, closed in December 2021, 38 projects were selected. For facilities producing RES-E support can be granted for 15 years, for CHP this limit is 10 years. Ultimately the costs of the feed-in support at preferential prices have to be borne by the final electricity consumers with monthly add-on charges on the network fee bills depending among other factors on voltage connection and electricity consumption levels.

Other types of support

- The Ministry of Infrastructure also publishes calls and tenders for investment subsidies for facilities using RES-E, specifically for the co-financing of the construction of new small-scale installations using solar and wind energy. The specific tender sets out the targeted technologies, the tendering process and any conditions to be met. Tenders are launched on a regular basis.
- Support for small-scale installations serving the purpose of RES-E self-consumption is equally provided by the Slovenian public Environmental Fund *Eko Sklad* which regularly invites applications for tenders to obtain (non-repayable) “de minimis”¹ investment

¹ “De minimis” aid amounts per application fall below the threshold for which prior notification to the European Commission is required.

subsidies for small-scale solar PV for households, small business and renewable energy communities.

- Renewable energy projects might also qualify for soft loans provided by the Environmental Fund (loans are approved as a share of the total value of investment costs). Public calls for tenders and applications are published on a regular basis and in principle all technologies are eligible.
- In April 2021, Slovenia approved its national Recovery and Resilience Plan (RRP) which contributes to achieving the objectives of the National Energy and Climate Plan (NECP). The RRP earmarks more than 1,000 million EUR for green transition objectives, including renewable energy, energy efficiency and sustainable transport. The below table summarises the earmarked amounts in million EUR for RES-E.

Project / Measure	Total (million EUR)	Grants (million EUR)	Loans (million EUR)
Energy efficient restructuring of RES-powered district energy systems using new technologies	11.00	11.00	0.00
Production of electricity from renewable energy sources	50.00	0.00	50.00
Total	61.00	11.00	50.00

RES H&C

- The Ministry of Infrastructure administers tenders to co-finance the construction of new as well as the expansion of existing district heating systems using RES-E. The funds are available for use in 2021, 2022 and 2023.
- The Environmental Fund provides support to RES H&C in the form of low-interest loans as well as investment grants. Support is provided for single-family and two-family houses as well as multi-apartment buildings, and for projects by companies and local communities. An envelope of different measures is supported, including the optimisation of individual heating systems, the cogeneration of H&C and electricity from renewable sources as well as wood biomass combustion plants. Calls are regularly opened and details communicated on the website of the Environmental Fund. Support is also available for the public sector (municipalities).
- Heating oil in new constructions has been banned in 2021 and a ban on the purchase and installation of new oil-fired boilers is supposed to come into effect in 2023.

RES-T

- Slovenia's main support measure for RES-T is a biofuel quota. Fuel suppliers are obliged to incorporate a certain percentage of biofuels in their total fuel sales. The biofuel share was set to 10% for petrol and 7% for diesel. Fuel suppliers have to annually report on their fulfillment of the obligation.
- Furthermore, the Eko Fund also applies to RES-T, providing low-interest rates as well as investment grants for RES-T projects, such as investments in environment-friendly vehicles for road transport and electric vehicle charging stations. Legal entities, sole proprietors and other natural persons performing registered activities in the national business registry might apply for a repayable investment credit for the purchase of a new or second-hand electric vehicle or a hybrid one.
- The Ministry of Infrastructure also grants financial support to municipalities to co-finance the purchase and installation of smart charging stations for electric vehicles, under state aid rules.

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

<i>Instrument</i>	<i>Description</i>
Feed-in tariff	In the form of state aid, support is provided to RES-E and CHP installations of all technologies. Support can be paid in the form of a guaranteed premium (only applicable for installations smaller than 500 kW _e) or operational support. Tenders are organised by the Energy Agency and published annually. The financial administration and payment of support is handled by the national power market operator <i>Borzen</i> . Website: https://www.borzen.si/sl/Domov/menu2/Center-za-podpore-proizvodnji-zelene-energije/Sistem-podpor/Sistem-podpor
RES-E subsidy schemes	The Ministry of Infrastructure provides subsidies, state aid and “de minimis” aid for investment projects through tendering. Website: https://www.energetika-portal.si/javne-objave/
Co-financing scheme for district heating systems using renewable resources	The Ministry of Infrastructure administers tenders to co-finance district heating systems using RES-E, covering both the expansion of existing systems as well as the construction of new ones. Website: https://www.gov.si/novice/2021-03-05-objavljen-javni-razpis-za-sofinanciranje-daljinskega-ogrevanja-na-obnovljive-vire-energije/
RES-E and RES-H&C low interest loans and subsidies	The Environmental Fund awards low-interest loans to small-scale renewable energy projects, including those intended for self-consumption, through regular tendering. Tenders are in principle open for all technologies. Equally, support is provided to H&C from renewable sources. Website: https://ekosklad.si/gospodarstvo/pridobite-spodbudo/seznam-spodbud?ukrep%5B%5D=elektricna-samooskrba https://ekosklad.si/gospodarstvo/pridobite-spodbudo/seznam-spodbud?ukrep%5B%5D=ogrevanje-in-prezracevanje
RES-T soft loans	The Environmental Fund also provides support in the form of soft loans for mobility and transport measures, including the purchase of new and second-hand electric vehicles as well as hybrid ones. Charging stations are also supported. Website: https://ekosklad.si/gospodarstvo/pridobite-spodbudo/seznam-spodbud?ukrep%5B%5D=vozila-in-infrastruktura-trajne-mobilnosti
Biofuel quota	The act on energy transition of 2015 sets a target of 10% renewable energies in the total energy consumption of the transport sector by 2020 and of at least 15% by 2030. Fuel producers are obliged to reduce their life cycle greenhouse gas emissions per unit of energy from fuels used in transport by at least 6% from 2021 onwards and a quota of biofuels to be blended within conventional fuels is defined for each fuel type. Fuel suppliers have to annually report on their fulfillment of this obligation. Website: https://www.gov.si/teme/kakovost-goriv/

For further information:

List of current and upcoming tenders published by the Slovenian Ministry of Infrastructure
<https://www.energetika-portal.si/javne-objave/>

Information on the feed-in tariff scheme provided by the Center for the support of green energy production (Center za podpore proizvodnji zelene energije)
<https://www.borzen.si/sl/Domov/menu2/Center-za-podpore-proizvodnji-zelene-energije/Predstavitev-centra-za-podpore>

Slovenian Energy Agency <https://www.agen-rs.si/domov>

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>

Slovenian Recovery and Resilience Plan (Summary in English), https://www.eu-skladi.si/sl/dokumenti/po-2020/dokumenti-po-2020/povzetek-noo_angl.pdf

Slovenian Energy Act, <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO6665>

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.



Disclaimer

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