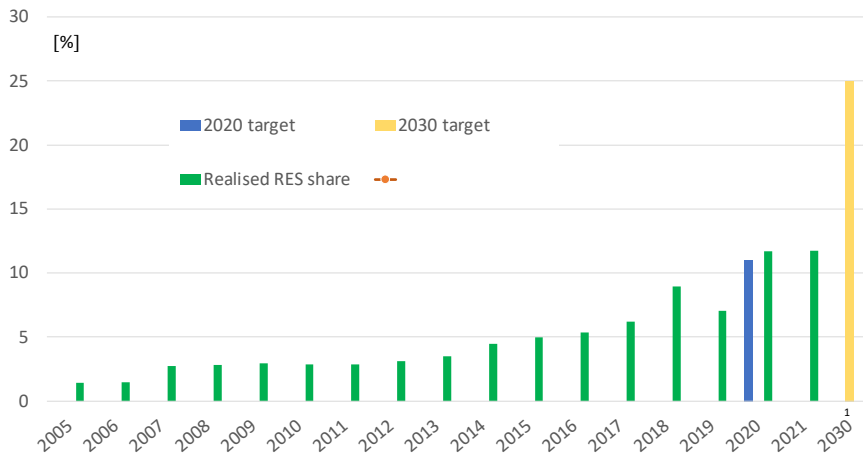


Luxembourg

Renewable energy status

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



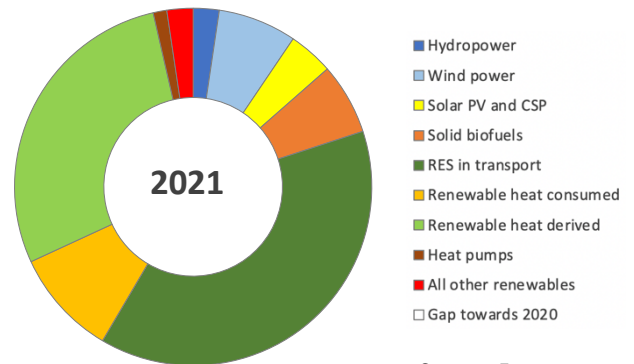
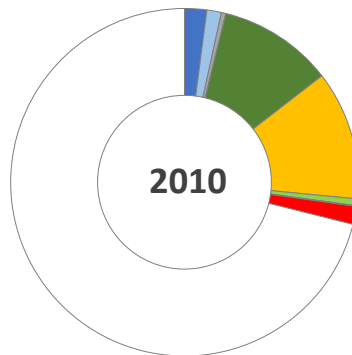
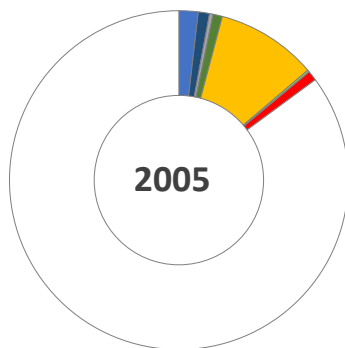
Source: Eurostat

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:	11.74%	Avoided fossil fuels:	0.3 [Mtoe]
Overall RES 2020 target:	11.0%	Avoided fuel expenses:	158 [MEUR]
Overall RES 2030 target:	25.0%	RES Turnover:	240 [MEUR]
Share RES-E in electricity:	14.22%	RES Employment:	1 700 [jobs]
Share RES-T in transport:	7.96%	RES imports ² :	50 [MEUR]
Share RES-H/C in heating:	12.92%	RES exports ² :	37 [MEUR]



Source: Eurostat

	2005	2010	2021		
	Energy in ktoe	Energy in ktoe	Energy in ktoe	Employment in FTE	Turnover in MEUR
Hydropower	7.9	8.9	8.9	200	30
Wind power	4.6	5.8	27.1	100	10
Solar PV, and CSP	1.5	1.8	15.5	500	70
Solid biomass	0.0	0.0	24.5	300	50
Ren. energy in transport ³	3.8	46.0	146.5	100	<10
Renew. heat consumed	41.5	51.8	36.7		
Renew. heat derived	0.9	2.7	107.7		
Heat pumps	0.0	0.3	4.0	100	<10
All other renewables	4.0	7.2	9.0	400	60
Gap towards 2020	366.5	306.2			

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 Luxembourg the main schemes for promoting electricity from renewable energy sources except geothermal are a feed-in tariff scheme and a floating feed-in premium scheme. Both schemes apply technology-specific rates. In general, beneficiaries can benefit from either one of these schemes for a 15-year period from the first day onward the installation concerned feeds electricity into the public grid. PV systems having a capacity in excess of 500 kW have to submit a successful tender bid in order to become eligible to a feed-in premium.

In addition there is a tax exemption on the sale of electricity from small PV installations, with the maximum size increased to 10 kWp in 2021 (from a maximum of 4 kWp previously). Furthermore, installations generating renewable electricity are supported through four investment subsidies. Finally, there is an implicit requirement for the use of renewable energy in the regulation on energy efficiency of residential buildings (Government of Luxembourg, 2018).

RES H&C

Renewable heating and cooling is also supported by four investment subsidies, including support for heat pumps and CHPs. There is also an implicit requirement for the use of renewable energy for heating and cooling based on the regulation on energy efficiency of residential buildings.

RES-T

Renewable energy use in transport is supported through a biofuels quota scheme. Oil and gas companies importing or producing automotive petrol, gas or diesel for consumption by vehicle operators are obliged to fulfil a quota of biofuels per year. The blending rate was set at 7.7% in 2020.

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

<i>Instrument</i>	<i>Description</i>
Feed-in tariffs or premiums	A guaranteed sale of electricity at a pre-set technology-specific preferential price or a technology-specific floating premium on top of the market electricity price, during the support contract period of generally 15 years. New PV installations \geq 500 kW have to submit successful tender bids to become eligible for floating feed-in premiums. Website: https://guichet.public.lu/en/entreprises/sectoriel/energie/production-electricite-energies-renouvelables.html
Tax exemption for small photovoltaic installations	The income raised from the sale of the energy produced by small photovoltaic installations (under 10 kWp) is not taxed. Website: https://mea.gouvernement.lu/fr/actualites.gouvernement%2Bfr%2Bactualites%2Btoutes_actu_alites%2Bcommuniqués%2B2021%2B10-octobre%2B04-energie-solaire.html
Investment subsidies	Projects investing in installations for the generation of electricity from renewables (with the exception of geothermal installations) are eligible for an investment subsidy. Renewable heating and cooling projects are eligible for one or more of four different investment subsidies. Website: https://guichet.public.lu/en/citoyens/logement/renovation-transformation/performances-energie/aide-installations-techniques-regime-2017.html
Biofuels quota	Importers/suppliers of transport fuels are subject to a renewable quota scheme for biofuels. Compliance based on sample testing rather than certificates-based.

For further information:

CEER, 2021. Status Review of Renewable Support Schemes in Europe for 2018 and 2019. <https://www.ceer.eu/documents/104400/-/-/ffe624d4-8fbb-ff3b-7b4b-1f637f42070a>

European Alternative Fuels Observatory, <https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/Netherlands>

European Commission, 2020. Assessment of the final National Energy and Climate Plan of Luxembourg. SWD(2020) 915 final. Brussels, 14 October. https://energy.ec.europa.eu/system/files/2021-01/staff_working_document_assessment_necp_luxembourg_en_0.pdf

Eurostat, 2022. Renewable energy statistics; https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics

Government of Luxembourg, 2018. Integrated National Energy and Climate Plan 2021-2030; Luxembourg. Final version. 11 December 2018 https://energy.ec.europa.eu/system/files/2020-07/lu_final_necp_main_en_0.pdf

International Energy Agency (IEA) database on policies and measures. <https://www.iea.org/policies?topic=Renewable%20Energy>

International Energy Agency (IEA), 2020. Luxembourg 2020 Energy Policy Review. <https://mea.gouvernement.lu/dam-assets/energie/efficacite-energetique/FINAL-IDR-Luxembourg-reportWEB-23-03-2020.pdf>

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

REN21, 2021. Global Status Report 2021. https://www.ren21.net/wp-content/uploads/2019/05/GSR2021_Full_Report.pdf

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

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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