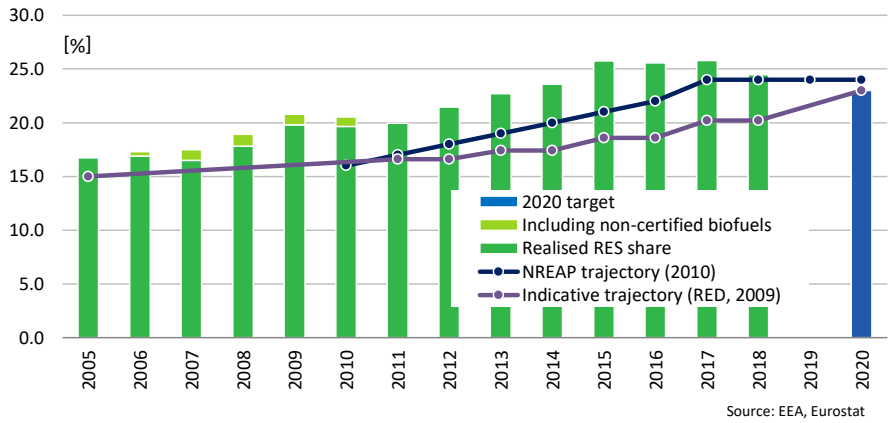
Lithuania

Renewable Energy Policy Factsheet

October 2020

Summary

The main support scheme to stimulate electricity from renewable energy sources is a floating feed-in premium scheme with a floating premium on top of the day-ahead electricity market price. RES-E project developers with installations > 10 kW have to acquire access to the floating feed-in premium scheme by submitting successful bids in tenders. Upcoming tenders are set to offer a fixed premium on a technology-neutral basis. Subsidies and loans can be applied for by RES-E project developers. Renewable electricity generation plants are exempted from excise duty. Producers of solar, wind, and biomass power benefit from net metering. Producers of heating and cooling from renewable energy sources are exempt from environmental pollution tax and are eligible for loans and grants from the Lithuanian Environmental Investment Fund (LEIF) under the Climate Change Special Programme. Moreover, heat suppliers are obliged to procure only heat produced from renewable energy sources. Biogas that is injected into the natural gas system is eligible for feed-in tariffs set by the National Commission for Energy Control and Prices (NCC). Biogenic transport fuels are promoted through reimbursement of raw materials for biofuel production, a biofuels quota (blending) scheme as well as exemption from excise tax and environmental pollution tax.



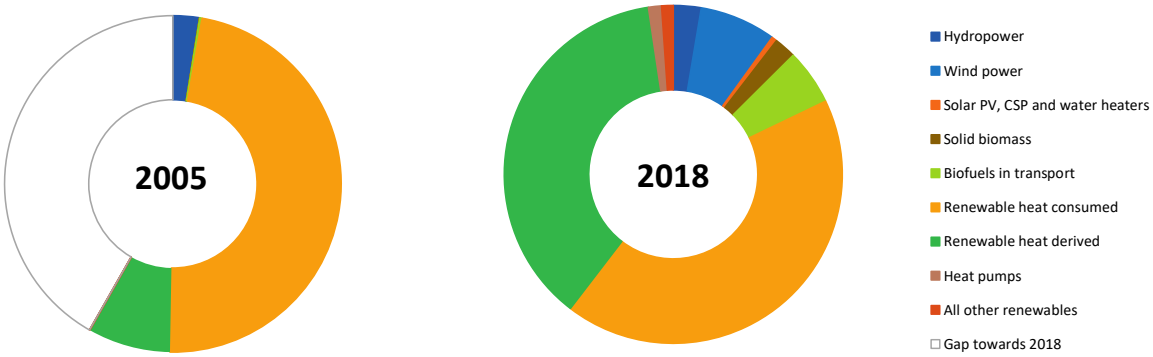
Source: EEA, Eurostat

Abbreviations used:

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

Data for 2018

Overall RES share:	24.4%	Avoided fossil fuels:	1.4 [Mtoe]
Overall RES 2020 target:	23.0%	Avoided fuel expenses:	0.4 [billion euro]
Share RES-E in electricity:	18.4%	RES Turnover:	520 [MEUR]
Share RES-T in transport:	4.3%	RES Employment:	10700 [jobs]
Share RES-H/C in heating:	45.6%		



Source: Eurostat, 2020.

	2005	2018		
	Energy	Energy	Employment	Turnover
Hydropower	36.9 ktoe	38.8 ktoe	600 Jobs	30 MEUR
Wind power	0.2 ktoe	106.7 ktoe	500 Jobs	30 MEUR
Solar PV, CSP and water heaters	0.0 ktoe	7.4 ktoe	200 Jobs	20 MEUR
Solid biomass	0.2 ktoe	30.5 ktoe	2700 Jobs	200 MEUR
Biofuels in transport	3.3 ktoe	77.8 ktoe	6100 Jobs	200 MEUR
Renewable heat consumed	694.8 ktoe	622.3 ktoe		
Renewable heat derived	116.3 ktoe	544.6 ktoe		
Heat pumps	0.0 ktoe	18.2 ktoe	<100 Jobs	<10 MEUR
All other renewables	0.3 ktoe	16.2 ktoe	500 Jobs	30 MEUR
Gap towards 2018	610.6 ktoe			

Source: Eurostat, EurObserv'ER, 2020.

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

Electricity from renewable sources is promoted mainly through a floating feed-in premium. RES-E plants with a capacity ≤ 10 kW are entitled to a pre-set technology-specific feed-in tariff for 50% of their electricity production. Geothermal RES-E installations are non-eligible. RES-E plants with the installed capacity > 10 kW can only acquire a floating feed-in premium through tenders. The last auction was held in September 2019. The National Energy Regulatory Council determined that following price rule prevailed for this auction (Government of Lithuania, 2020):

- Auction participants will be offering the preferred premiums to the market price and the producer with the lowest offer will be selected as an auction winner.
- The maximum possible premium which could be offered at the auction is calculated as a difference between maximum price and a reference price.
- The maximum price is set according to the levelized cost of energy of the economically most efficient technology in the market.
- The reference price is determined taking into account previous 3 year electricity price in the market and a predicted year ahead electricity price.
- Maximum price – 48,93 Eur/MWh and reference price – 45,07 Eur/MWh. According to these set prices the maximum premium at the upcoming auction cannot exceed 3,86 Eur/MWh.
- Full amount of premium won in the auction will be paid if the sum of the day-ahead electricity market price and the premium tariff is lower or equal to the set maximum price; part of the premium won in the auction, will be paid if the sum of the day-ahead electricity market price and the premium tariff will be higher than the set maximum price. That part of the premium will be calculated as a difference between the set maximum price and day-ahead electricity market price; the premium tariff will not be paid if day-ahead electricity market price will be equal or higher than the set maximum price.
- There will be no payments for electricity produced in the periods of negative hours (more than 6-hours).

Between 2020 and 2022, the government will procure 0.7TWh of renewable generation annually and including this year's 0.3TWh of generation, taking total generation procured over this period up to 2.4TWh (ICIS, 2019). The future auctions should enable the country to meet a target for a 38% renewable share in final consumption by 2025, equivalent to around 5TWh. Auctions are technology neutral, with onshore wind, solar, biogas and biomass all competing for a floating market premium.

Furthermore, the producers of renewable electricity may apply for subsidies and loans from the Lithuanian Environmental Investment Fund (LEIF, investment subsidies only) and the Climate Change Special Programme (both loans and subsidies). All operators of RES-E installations are exempt from excise duty. For solar, wind and biomass power installations operated by individuals (≤10kW) and legal persons (≤100kW) net-metering is in place. For the self-generated and consumed amount of electricity prosumers are exempt from paying a Public Service Obligation (PSO) levy. However, they have to pay a fee for the use of electricity grid, set by the National Commission for Energy Control and Prices (NCC). Renewable electricity is exempt from excise duty.

Renewable heat is fostered by a series of instruments. Heat suppliers are obliged to source their heat deliveries from renewable heat producers to the maximum extent possible, provided environmental and

quality requirements are met. Gas system operators are obliged to purchase biogas offered to them, which meets set environmental and quality requirements, at pre-set administrative feed-in tariffs. Project developers of renewable heat production installations can file applications for investment and subsidy support at Climate Change Special Programme. Consumers of heat from solid and liquid biomass or biogas are eligible to exemption from an Environmental Pollution Tax.

For the stimulation of *renewable transport fuels* several instruments are in place. Part of the procurement costs of agricultural raw materials for the production of dehydrated ethanol is reimbursed by an agency established by the Ministry of Agriculture. A biofuels (blending) quota scheme is in place prescribing minimum quota of biofuels blended in all gasoline and automotive diesel sold. Excise duty is due on transport fuels. As for biofuels the excise duty is reduced in proportion to the percentage of biomass per tonne of biofuel. The excise reduction is applicable to bioethanol, biodiesel, bio-ETBE and vegetable oil but not to bio-hydrogen. The purchase of battery electric vehicles (BEVs) is stimulated by a package of measures, including:

- From 21 april 2020, a subsidy for the individual purchase of a BEV: second-hand not older than 5 years EUR 2,000 and EUR 4,000 for a new one. Moreover, an additional 1000 EUR will be paid out to a BEV purchaser for surrendering her/his old polluting vehicle
- Reduced registration tax
- Hitherto, no annual ownership tax has been introduced in Lithuania
- Local incentives include reduced parking fees and permission to use bus lane in Vilnius.

So far, the assessment by the European Commission of *draft National Energy and Climate Plans* of the Member States is available. The Commission's assessment of the draft integrated National Energy and Climate Plan of Lithuania – regarding the targets for year 2030 for the share of renewable energy and gross final energy consumption only – is shown in Table 1 below.[1]

[1] The core renewables policy performance metric in the EU is the ratio of annual *gross final renewable energy consumption* and annual *gross final energy consumption*. Other factors remaining the same, gross final energy consumption reduction boosts the share of renewables as defined by the aforementioned metric.

Table 1: Overview of Lithuania's actual performance (2018), targets (2020), proposed contributions (2030) under the Governance Regulation, Regulation (EU) 2018/1999 and contribution ambition assessment by the European Commission, regarding the share of renewables and the level of gross final energy consumption

National targets and contributions	2018	2020	2030	Assessment of 2030 ambition level
Share of energy from renewable sources in gross final consumption of energy (%)	24.4	23.0	45.0	Above 34% (result of RES formula)
Final energy consumption (Mtoe)	5.5	4.3	8.0	Very low

Source: European Commission, (2019); Eurostat (2020a, 2020b)

Based on the formula contained in Annex II of the Governance Regulation, Croatia's renewables share would have to reach the level of **31%** in 2030 (European Commission, 2019) against the historical rate of 11.1% in 2018 (eurostat, 2020a). The European Commission (2019) found that the proposed share of 45 % of energy from renewable sources in gross final energy consumption in 2030 is a contribution to the EU renewable energy target for 2030 that is significantly above the share of 34 % in 2030 resulting from the formula in Annex II of the Governance Regulation. Furthermore, the Commission deemed that Lithuania had set a very low ambition level for energy efficiency in 2030 for final energy consumption and advised the government of Lithuania to review the methodology applied leading to the high projected level of final energy consumption in 2030.

Lithuania's final Energy and Climate Plan (NECP) retains the **45%** target for the renewables share by year 2030 (Government of Lithuania, 2019) that was proposed in its draft NECP. A share of 45% in electricity and 90% in district heating is to come from renewable energy sources (RES). By 2030 at least 30% of consumers are expected to generate electricity for their own use. The share of domestic electricity production in Lithuania is set to increase from 35% to 70%, while the share of RES in transport is to increase to 15%. Key principles to achieve the 45% target for renewables in final energy consumption by 2030 are:

- *for the electricity sector*:
    - Gradual integration of renewable energy sources into the market: the most cost-effective technologies must be developed, taking into account technology maturity and considering the trends in their near future development.
    - Affordability and transparency: the renewable energy promotion scheme must be designed based on market principle, with a minimum market distortion and ensuring a minimum financial burden on energy users as well as clarity and a non-discriminatory competitive environment;

    - Active participation of energy consumers: with the increasing share of renewable energy sources in the total energy balance, it is necessary to promote decentralized electricity generation, enable consumers to use energy from renewable energy sources for their own needs and receive market-based compensation for the surplus energy supplied to the grid; it is also necessary to introduce solutions to manage consumer behaviour and energy demand and supply;
- *for heating and cooling*:
    - Transparency: to ensure that heat supply activities are managed in an efficient, transparent and non-discriminatory manner between the operators in the heat economy market and its users, including the purchase of energy resources in the most transparent and competitive manner, at the lowest cost to the final consumer;
    - Competitiveness: rational use of the investments needed to ensure the reliable supply of environment-friendly heat to consumers at an affordable price, ensuring the ability of district heating to compete with alternative means of heat supply;
    - Efficiency: establishment of regulatory principles to encourage the introduction of technical and management solutions in the systems of central heat supply undertakings to ensure reliable and least costly supply of heat to the final consumer;
    - Progress: adapting the system to different, environment- friendly and cost-competitive innovative technologies in the heat production, supply and consumption chains.

The 2030 energy efficiency target in final energy consumption in Ireland's final NECP with additional measures is **4.5 Mtoe** (Government of Lithuania: 12). This is a remarkably more ambitious energy efficiency target than the final energy consumption level of 8.0 Mtoe proposed in Lithuania's draft NECP. To date, the Lithuanian government foresees that the country's final energy consumption can be reduced by 1 Mtoe in 2030 compared to the level in 2018, notwithstanding expectations of a fast growing economy towards 2030.

OVERVIEW OF MAIN SUPPORTING POLICIES

The main RES support measures applied in Lithuania are epitomized in Tables 2 and 3 below. See the previous section and the notes to Table 2 for more details.

Table 2: Overview of support schemes to promote renewable energy in Lithuania

	NON-FISCAL SUPPORT SCHEMES						FISCAL AND OTHER STATE FUNDED INCENTIVES			
	Feed-in tariffs	Feed-in premium	Tenders	Quota obligation with Tradable Green certificates	Quota obligation without Tradable Green certificates 3)	Net-metering/ net-billing	Investment subsidies 1)	Tax credits mechanism I 2)	Tax credits mechanism II 4)	Soft loans 5)
RES-E										
- Offshore wind		x	X				x			x
- Onshore wind	x	x	X				x			x
- Solar	x	x	X			x	x			x
- Hydro	x	x	X				x			x
- Geothermal		x	X				x			x
- Solid biomass	x	x	X				x			x
- Biogas	x	x	X				x			x
RES-H/C										
- Solar thermal							x	x		
- Geothermal							x	x		
- Biomass					x		x	x		
- Biogas					x		x	x		
- Small scale installations, e.g. solar thermal collects, heat pumps, biomass boilers and pellet stoves							x	x		
- Others, i.e. aerothermal, hydrothermal							x	x		
RES-T										
- Bio gasoline					x				x	
- Biodiesel					x				x	

1) Granted by Climate Change Special Programme or Lithuanian Environmental Investment Fund (LEIF). Geothermal projects are not eligible for an investment subsidy by LEIF.

2) RES-E producers are exempt from excise duty.

3) Heat suppliers are obliged to source all their heat deliveries from renewable heat producers. Gas system operators are obliged to purchase biogas offered to them at pre-set administered prices. A biofuels (blending) quota scheme is in place prescribing minimum quota of biofuels blended in all gasoline and automotive diesel sold.

4) Except for bio-hydrogen, for biofuels the excise duty is reduced in proportion to the percentage of biomass per tonne of biofuel. All consumers using biofuels in vehicles are exempted from environmental pollution tax.

5) Granted by the Climate Change Special Programme.

Sources: RES Legal 2019, EurObserv'ER

Table 3: Overview of main instruments used at present to stimulate the uptake of renewables in Lithuania

Instrument	*Description*
Feed-in premiums	Guaranteed 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.
Investment subsidies	Granted upon successful application by Lithuanian Environmental Investment Fund (LEIF) or Climate Change Special Programme (the latter for RES-E projects only)
Tax credits	RES-E producers are exempt from excise duty. Except for bio-hydrogen, for biofuels the excise duty is reduced in proportion to the percentage of biomass per tonne of biofuel.
Tax credits	Consumers of heat from biomass or biogas are eligible for exemption from an Environmental Pollution Tax. All consumers using biofuels in vehicles are exempted from environmental pollution tax.
Quota schemes	Heat suppliers are obliged to source all their heat deliveries from renewable heat producers. Gas system operators are obliged to purchase biogas offered to them at pre-set administered prices. Importers/suppliers of transport fuels are subject to a renewable quota scheme for biofuels. Compliance based on sample testing rather than certificates-based.
Net metering	Solar power producers using all or part of the electricity produced for their own needs are totally or partly exempt from paying Public Service Obligation on this electricity.

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

European Alternative Fuels Observatory, https://www.eafo.eu/countries/lithuania/1742/incentives

European Commission, 2019. Assessment of the draft National Energy and Climate Plan of Lithuania. SWD(2019) 228. Brussels, 18 June https://ec.europa.eu/energy/sites/ener/files/documents/lt_swd_en.pdf

EEA, 2019. Progress towards renewable energy source targets at member State and EU-28 levels. Copenhagen, 19 December https://www.eea.europa.eu/data-and-maps/daviz/actual-res-progress-indicative-trajectory-9#tab-chart_3

European Union, 2018. Regulation (EU) 2018/1999 on the Governance of the European Union and Climate Action, OJEU L328/1, Brussels, 21 December https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R1999&from=EN

Eurostat, 2020a. Renewable energy statistics; Share of renewable energy almost doubled between 2004 and 2018. Luxembourg, January https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics

Eurostat, 2020b. Energy consumption in 2018. Primary and final energy consumption still 5% and 3% away from 2020 targets. Luxembourg, 4 February https://ec.europa.eu/eurostat/documents/2995521/10341545/8-04022020-BP-EN.pdf/39dcc365-bdaa-e6f6-046d-1b4d241392ad

Government of Lithuania, 2019. National Energy and Climate Plan for the Republic of Lithuania 2021-2030. Vilnius, December https://ec.europa.eu/energy/sites/ener/files/lt_final_necp_main_en.pdf

Government of Lithuania, 2020. Auctions. Ministry of Energy. Vilnius, 19 April https://enmin.lrv.lt/en/sectoral-policy/renewable-energy-sources/auctions

ICIS, 2019. "Lithuania announces further renewable energy auctions". On-line news article. London, 10 September https://www.icis.com/explore/resources/news/2019/09/10/10415949/lithuania-announces-further-renewable-energy-auctions

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

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

REN21, 2020. Global Status Report 2020. Paris, 16 June https://www.ren21.net/wp-content/uploads/2019/05/gsr_2020_full_report_en.pdf

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

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

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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