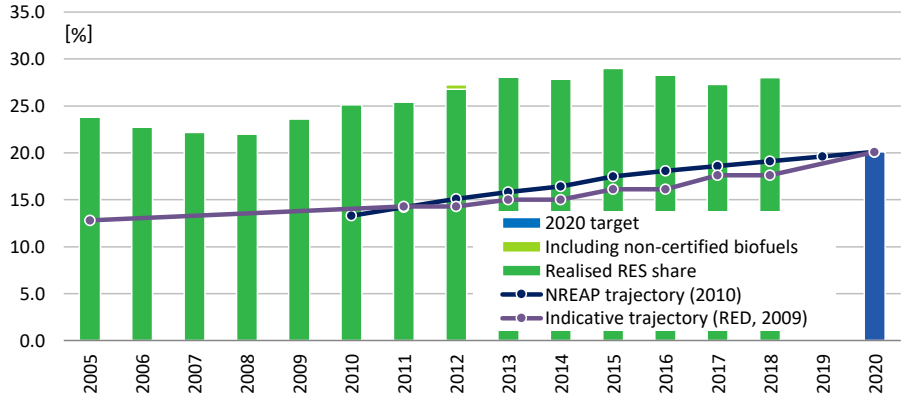
Croatia

Renewable Energy Policy Factsheet

October 2020

Summary

In Croatia, electricity from renewable sources is promoted through a premium tariff (and a guaranteed feed-in tariff for installations of less than 500 kW), allocated through tenders. In August 2020 a first RES-E energy tender has been launched. Soft loans and subsidies for renewable energy projects are also provided. Renewable energy sources for heating purposes only are not promoted through a national support scheme. The main promotion scheme in the field of renewable transport fuels is a biofuels quota scheme. Additionally, the state provides biofuels incentives taking the form of a tax credits mechanism.



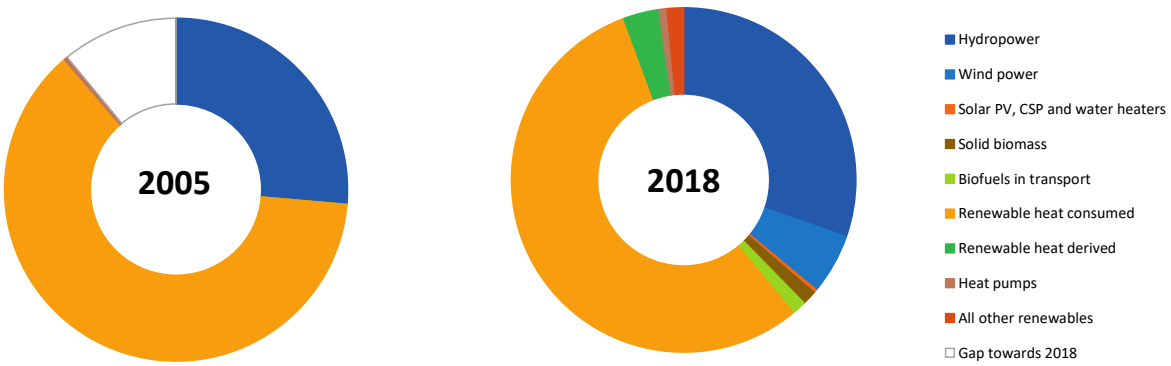
Source: EEA, Eurostat

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:	28.0%	Avoided fossil fuels:	3.6 [Mtoe]
Overall RES 2020 target:	20.0%	Avoided fuel expenses:	0.8 [billion euro]
Share RES-E in electricity:	48.1%	RES Turnover:	910 [MEUR]
Share RES-T in transport:	3.9%	RES Employment:	25500 [jobs]
Share RES-H/C in heating:	36.5%		



Source: Eurostat, 2020.

	2005	2018		
	Energy	Energy	Employment	Turnover
Hydropower	526.2 ktoe	606.2 ktoe	2100 Jobs	130 MEUR
Wind power	1.0 ktoe	113.5 ktoe	1100 Jobs	70 MEUR
Solar PV, CSP and water heaters	0.0 ktoe	6.4 ktoe	600 Jobs	30 MEUR
Solid biomass	0.3 ktoe	26.9 ktoe	16700 Jobs	410 MEUR
Biofuels in transport	0.0 ktoe	27.0 ktoe	2500 Jobs	130 MEUR
Renewable heat consumed	1245.4 ktoe	1105.5 ktoe		
Renewable heat derived	0.0 ktoe	67.1 ktoe		
Heat pumps	5.2 ktoe	15.1 ktoe	<100 Jobs	<10 MEUR
All other renewables	0.9 ktoe	30.7 ktoe	2400 Jobs	130 MEUR
Gap towards 2018	219.4 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

Renewable energy generation is set to be supported mainly through a tender-based feed-in premium scheme. For eligible installations of less than 500 kW a feed-in tariff is allocated through tenders. Additionally, the Croatian Bank for Development and Reconstruction (HBOR) and the Environmental Protection and Energy Efficiency Fund (FZOEU) provide financial incentives for RES-E projects.

The following measures and instruments are in place for *renewable electricity generators*:

- Since 1 January 2016 the designated main support scheme for renewable energy is a tender-based floating feed-in premium scheme for privileged installations with a capacity as from 500 kW. The support scheme is funded by a surcharge on the consumer electricity price. RES-E plant operators, who have obtained the status of privileged producer and have won a public tender carried out by the Croatian Energy Market Operator (HROTE), will receive a floating feed-in premium during a 12-year period. The premium level will be determined by the (positive) difference between the contractual support reference price, which is annually adjusted in line with the Croatian consumer price index, subtracted by the reference electricity market price. The latter is determined ex post annually by HROTE. In principle, HROTE issues a call for tenders at least once a year, if quotas for the support of certain technologies of renewable energies are available. It took a long time to get secondary legislation adopted about requirements for becoming a privileged producer, technology quota, etc., needed to organize the first annual tender. Meanwhile the first 88 MW RES-E tender has been reportedly launched in August 2020, encompassing 50 MW of solar PV, 15 MW of biogas, 14 MW of biomass and 9 MW of hydropower. (PV Magazine, 2020). Solar projects ranging in scale from 50-500 kW are eligible to participate, with a maximum price of €0.063/kW for the solar power generated. The price cap for the other renewables technologies is €0.10/kWh. The procurement round is part of a tender program announced by the Croatian government in May, 2020. The scheme aims to allocate 1,075 MW of solar capacity as part of an overall 2.26 GW of renewables projects, of which 1,075 MW solar PV and includes allocations for other energy sources such as hydropower, wind, biomass, biogas, and geothermal energy.
- Soft loans granted for the implementation of RES-E projects are part of the “environmental protection” loan scheme by the Croatian Bank for Reconstruction and Development (HBOR) in cooperation with commercial banks. In principle, all RES_E technologies are eligible. The costs are borne by state-funded HBOR.
- The Environmental Protection and Energy Efficiency Fund (FZOEU) offers grants and soft loans for the use of renewable energy sources. In principle, all RES_E technologies are eligible. The costs are covered by the state, voluntary national and international donations, and remaining sources of income.

There are currently no support schemes for *renewable heating and cooling*. However, the Energy Strategy adopted in 2009 obliges the Croatian State to encourage the future use of RES and to achieve a higher percentage of primary use of RES in the heating sector (cooling is not mentioned). For the promotion of renewable energy in heating and cooling, the main document is the Programme for usage of the potential for heating and cooling for period between 2016 and 2030 (*Program korištenja potencijala za učinkovitost u grijanju i hlađenju za razdoblje 2016. – 2030.*).

The main promotion scheme in the field of *renewable transport fuels* is a biofuels quota scheme. The quota obligations set an increasing annual %-share of biofuels in marketed transport fuels up to 10.05% the year 2020 as defined in the national goals. Obligated parties, transport fuel distributors, have to present by the end of February an annual report and analyses results of the previous year showing that they did comply with last year's biofuels quota scheme obligations. The costs of the scheme are ultimately borne by the final users of transport fuels. Additionally, biofuels are exempt from excise duty on transport fuels. The costs in terms of excise revenues forgone are borne by the state. Electric vehicles are subject to reduced - or are exempt from – the CO_2-based registration tax.

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 Finland – 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]

Table 1: Overview of Croatia'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 (%)	28.0	20.1	36.4	Above 32% (result of RES formula)
Final energy consumption (Mtoe)	6.9	7.0	6.9	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 **32%** in 2030 (European Commission, 2019) against the historical rate of 28.0% in 2018 (eurostat, 2020a). The European Commission (2019) considers this proposed target to be quite ambitious, exceeding by 4.4% the share of 32 % in 2030 that results from the formula in Annex II of the Governance Regulation. The Commission deemed the ambition level of the proposed **6.9 Mtoe** as contribution to the EU 2030 target for final energy consumption to be "seemingly low" considering the efforts needed to achieve the EU level 2030 energy efficiency target of 32.5 % and not fully exploiting opportunities for economic modernisation and job creation.

[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.

Croatia's final Integrated Energy and Climate Plan retained the **36.4%** target for the renewables share by year 2030 as proposed in its draft NECP, (Government of Croatia, 2019). To achieve this target a spate of policies and measures are being put in place. Some of these measures are:

- The Croatian energy market operator (CEMO) continues to pay incentives to generate electricity to RES-using power plants for the duration of the purchase agreement;
- CEMO prepares three-year RES plans and announces tenders for assigning market premiums;
- CEMO establishes the functioning of the premium system under the Renewable Energy Sources and High Efficiency Cogeneration Act with system modifications made possible by changing the market status of individual RES technologies and developing day-ahead and within the daily electricity market solely to mitigate the market risks of new RES projects; the premium system is implemented to a minimum extent as a transition measure to full market integration of RES
- The Environmental Protection and Energy Efficiency Fund (EPEEF) participates with financial incentives on the investment side for RES projects for the production of heat energy, and for smaller systems using RES;
- The EPEEF allocates part of the proceeds from the sale of emission units through EU ETS auctions for measures to stimulate RES on the investment side and to relieve end customers from increasing the RES incentive fee;
- The Ministry of Agriculture, through the Rural Development Programme, ensures the financing of investment grants for biomass and other RES projects.

The 2030 energy efficiency target in final energy consumption in Finland's final NECP is 286.91 PJ (Government of Croatia, 2019), corresponding to **6.9 Mtoe**. Hence, also the targeted energy efficiency ambition level the Croatian government with respect to final energy consumption has been retained in the final NECP.

OVERVIEW OF MAIN SUPPORTING POLICIES

Tables 2 and 3 provide an overview of support instruments used to promote the deployment of renewable energy in Croatia.

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

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

* Tender-based feed-in tariffs are available for installations of less than 500 kW and tender-based, floating feed-in premiums for installation of 500 kW and higher. First annual tenders imminent, awaiting adoption of secondary legislation with details on *inter alia* eligible technologies (technologies covered).

Sources: RES-Legal Europe (2019), EurObserv'ER

Table 3: Overview of instruments used in Croatia

Instrument	*Description*
Feed-in tariffs	Guaranteed sale of electricity at a pre-set preferential price during the support contract period. New applications open to small-scale projects (< 500 kW) through tenders.
Feed-in premiums	Floating premiums based on difference between guaranteed reference values and the average benchmark electricity price per reference period during the support contract period. New applications open to large-scale projects (≥ 500 kW) through tenders.
Tenders	Applicable to project developers seeking feed-in tariff or premium support benefits.
Investment subsidies	The Environmental Protection and Energy Efficiency Fund (FZOEU) offers grants and soft loans for the use of renewable energy sources.
Soft loans	Granted for the implementation of RES-E projects are part of the "environmental protection" loan scheme by the Croatian Bank for Reconstruction and Development (HBOR) in cooperation with commercial banks. The Environmental Protection and Energy Efficiency Fund (FZOEU) also offers soft loans for the use of renewable energy sources.
Biofuels quota scheme	Obliges importers and suppliers of transport fuels to deliver a minimum share of biofuels for each year up to the year 2020 as defined in national legislation.
Tax credits mechanism	Sets the excise duty for biofuels to zero.

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/croatia/1727/incentives

European Commission, 2019. Assessment of the draft National Energy and Climate Plan of Croatia. SWD(2019) 224. Brussels, 18 June https://ec.europa.eu/energy/sites/ener/files/documents/hr_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 Croatia, 2019. Integrated National Energy and Climate Plan for the Republic of Croatia. Zagreb, December https://ec.europa.eu/energy/sites/ener/files/documents/hr_final_necp_main_en.pdf

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

PV Magazine, 2020, Croatia tenders 50 MW of solar. On-line article. August 6 https://www.pv-magazine.com/2020/08/06/croatia-tenders-50-mw-of-pv/

REN21, Global Status Report 2020 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/croatia/

http://globalcompetitionreview.com/insight/the-european-middle-eastern-and-african-antitrust-review-2017/1067815/eu-energy (Croatian renewables support compatible with the EU internal market: DG COMP decision SA.38406 on 1 September 2015)

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

This project is funded
by the European Union under
contract n° ENER/C2/2016-487/SI2.742173

Disclaimer