

Residential Prosumers in the European Energy Union

EAHC/2013/CP/04

Mapping the legal and regulatory framework in the 28 Member States, Iceland and Norway

Croatia



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This study presents the legal and regulatory framework for residential prosumers in Croatia has been prepared by Damir Petrovic as the author and reviewed by the managers of the project Marta Ballesteros (Marta.Ballesteros@milieu.be). The study has been completed in June 2017.

Disclaimer: The information and views set out in this study are those of the authors and do not necessarily represent the official views of the Commission.

National report on the regulatory framework for residential prosumers: Croatia

General Description of the national legal and regulatory framework

General

The national legal framework consists of an array of acts and implementing by-laws which show the complexity of the issue.

The national legal framework defines a prosumer, or, as the national legislation refers to it, an 'end consumer with its own production', as an 'end consumer of electricity with a facility for generation of electricity from renewable energy sources or high cogeneration meeting the needs of the end buyer and with a (technical) possibility to feed the excessive amounts of produced electricity into a transmission or distribution grid'. This term is not, however, limited only to residential prosumers. The term consumer includes both residential consumer and non-residential consumer (using the electricity for commercial and professional activities).

There are only a handful provisions that target exclusively prosumers. In addition to those provisions, other provisions of the legislation on electricity market targeting both producers and consumers are also relevant for prosumers.

Electricity market

The Croatian power system is one of the smallest in Europe. In 2012, total power generation in Croatia reached 10.5 TWh¹. The electricity market is well connected with neighbouring countries, especially the former Yugoslavian countries (e.g. Slovenia and Bosnia and Herzegovina). The electricity market is regulated by the Croatian Energy Regulatory Agency (*Hrvatska energetska regulatorna agencija*)² (Agency).

The power generation sector is dominated by HEP (*Hrvatska elektroprivreda*)³, a state-owned electricity company, engaged in electricity generation, transmission and distribution, supply and trade. It is the largest electricity producer covering 82% of the market in 2012⁴.

Market operator

In addition to generation, supply and trade, HEP operates both the transmission and the distribution grids. The transmission and distribution sections within HEP have independent accounting, legal and management systems⁵. Nevertheless, the unbundling process in Croatia had not yet been completed⁶.

State of play on RES

The legally binding Act on Renewable Energy Sources and High Efficiency Cogeneration⁷ (ARES) is the primary act encouraging production of electricity from RES. In 2012, almost half of the total power generation in Croatia came from hydro⁸. In 2013 large hydropower plants produced approximately 8,000 GWh of electricity. In the same year, the combined production of electricity from wind, small hydropower plants, biomass and solar in Croatia was 1/10 of the electricity produced by large hydropower plants reaching 500 GWh by wind, 110 GWh by

¹ https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_croatia.pdf, accessed on 15 December 2016.

² <https://www.hera.hr/en/html/index.html>

³ <http://www.hep.hr/about-hep-group/2502> and <https://www.hops.hr/wps/portal/en/web>

⁴ https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_croatia.pdf, accessed on 15 December 2016.

⁵ https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_croatia.pdf, accessed on 15 December 2016.

⁶ https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_croatia.pdf, accessed on 15 December 2016.

⁷ Act on Renewable Energy Sources and High Efficiency Cogeneration (*Zakon o obnovljivim izvorima energije i visokoučinkovitoj kogeneraciji*) ("O.G.", No. 100/15) - HR - <http://www.zakon.hr/z/827/Zakon-o-obnovljivim-izvorima-energije-i-visokou%C4%8Dinkovitoj-kogeneraciji>

⁸ https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_croatia.pdf, accessed on 15 December 2016.

biomass, 100 GWh by small hydro and 20 GWh by solar⁹.

1. What types of residential prosumers are there in your country on the basis of type of RES used and size of the installation?

Answer:

The general provisions concerning all installations producing electricity from RES are also applicable in the case of residential prosumers in Croatia. The national legislation differentiates between types of residential prosumers based on both the size of installation and type of RES, as described below.

Article 4 of the legally binding Ordinance on the Use of Renewable Energy Sources and Cogeneration¹⁰ (RESO) differentiates between two types of installations generating electricity from RES due to their size:

- Group 1 (installations with installation power of up to 1 MW) and
- Group 2 (installations with installation power of more than 1 MW).

These two types are further broken down into specific sub-types based on the type of RES used (solar, hydro, wind, biomass, geothermal, biogas, landfill gas and other RES).

The differentiation between types and sub-types is only relevant in respect to the content of the application for the energy permit (*energetsko odobrenje*). The energy permit is required for the construction of the electricity generating installations (Article 9 of the RESO). More specifically, in the case of certain types of installations, the application contains more stringent requirements (Article 11(1), item 7 of the RESO). It is also worth noting that simple constructions (*jednostavne građevine*), i.e. PV systems installed on existing buildings connected to the grid from which the produced electricity is also fed in the grid, do not require the energy permit (Articles 9 and 10 of the RESO and Article 5, item 10 of the legally binding Ordinance on Simple and Other Constructions and Works¹¹ (OSC).

2. What is the institutional framework & division of competences regarding residential prosumers in your country?

Answer:

The competent authorities for prosumers in Croatia are the national level authorities responsible for electricity generation, supply, distribution and transmission. These are, most notably, the Croatian Energy Market Operator (*Hrvatski operator tržišta energije*)¹² (HROTE), Ministry of Environmental Protection and Energy (*Ministarstvo zaštite okoliša i energetike*)¹³ (MEPE), the Agency and HEP.

The HROTE is responsible for proper functioning of the electricity market, which in Croatia is a public service. HROTE carries out a number of other responsibilities as set out in Article 5 of the ARES. Most notably, HROTE provides financial incentive for generation of electricity from RES

⁹ https://www.unece.org/fileadmin/DAM/energy/se/pp/gere/gere.2_Oct.2015/12.pm/3_Zeljko.JURIC_CRO.pdf, accessed on 15 December 2016.

¹⁰ Ordinance on the Use of Renewable Energy Sources and Cogeneration (*Pravilnik o korištenju obnovljivih izvora energije i kogeneracije*) ("O.G.", No. 88/12) - HR - http://narodne-novine.nn.hr/clanci/sluzbeni/2012_08_88_2015.html

¹¹ Ordinance on Simple and Other Constructions and Works (*Pravilnik o jednostavnim i drugim građevinama i radovima*) ("O.G.", No. 79/14, 41/15 and 75/15) - HR - <http://www.legalizacijagradnje.com/wp-content/uploads/2011/08/Pravilnik-o-jednostavnim-gra%C4%91evinama-i-radovima.pdf>

¹² <http://www.hrote.hr/en>

¹³ <http://www.mzoi.hr/en/>

by setting the price for feeding such energy into the grid.

The MEPE supervises estimates and payments of financial incentives for energy generated from RES (Article 38(3) of the ARES). Furthermore, MEPE issues energy permits. These permits are a prerequisite for construction of installations generating electricity from RES. The energy permits are, however, not required for simple constructions (*jednostavne građevine*) (Articles 9 and 10 of the RESO). Installing PV systems on existing buildings connected to the grid from which the produced electricity is also fed in the grid are considered simple constructions (Article 5, item 10 of the OSC).

The Agency is competent for awarding the status of priority electricity producer (*status povlaštenog proizvođača električne energije*). The award of this status is a prerequisite for attaining the status of a prosumer, as defined in the Croatian legislation (see the answer to question 3.3), and qualifying for financial incentives for generation of electricity from RES (see the answer to question 4.2, item 8) (Articles 21(1) and 44(1) of the ARES and Article 11 of the legally binding Electricity Market Act¹⁴ (EMA)). The Agency performs other activities as well, such as monitoring implementation of the legally binding **General Conditions for the Use of the Grid and Electricity Supply**¹⁵ (GCG) (Article 116) which play a significant importance for electricity producers, consumers and prosumers.

The grid itself is operated by HEP. The transmission and distribution sections within HEP have independent accounting, legal and management systems¹⁶. Nevertheless, the unbundling process in Croatia had not yet been completed as of 2014¹⁷. A reference to the grid in the case of Croatia, therefore, includes both distribution and transmission function.

The inspection of the compliance with the relevant legislation is carried out by relevant inspection authorities. More specifically, the inspection is carried out separately, or jointly in some cases, by economic, environment, construction and financial inspection as part of the Ministries of Economy (*gospodarstva*), Environmental Protection and Energy, Construction and Physical Planning (*graditeljstva i prostornog uređenja*) and Finance (*financija*) (Article 71 of the EMA).

Specific Questions on the regulatory framework for residential prosumers

3. What is the regulatory framework for residential prosumers in your country?

General

The relevant regulatory framework for residential prosumers in Croatia is made of rules and procedures concerning the following:

- generation of electricity from RES (including incentives)
- feeding and drawing electricity into and from the grid
- relationships between prosumers, grid operator and suppliers.

The most important legal act in Croatia for residential prosumers is Act on Renewable Energy Sources and High Efficiency Cogeneration¹⁸ (ARES). It contains provisions on:

- planning and incentivising generation and use of electricity from RES

¹⁴ Electricity Market Act (*Zakon o tržištu električne energije*) ("O.G.", No. 22/13, 95/15 and 102/15) - HR - <http://www.zakon.hr/z/377/Zakon-o-tr%20C5%BEi%20C5%A1tu-elektri%C4%8Dne-energije>

¹⁵ General Conditions for the Use of the Grid and Electricity Supply (*Opći uvjeti za korištenje mreže i opskrbu električnom energijom*) ("O.G.", No. 85/15) - HR - http://narodne-novine.nn.hr/clanci/sluzbeni/2015_08_85_1666.html

¹⁶ https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_croatia.pdf, accessed on 15 December 2016.

¹⁷ https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_croatia.pdf, accessed on 15 December 2016.

¹⁸ Act on Renewable Energy Sources and High Efficiency Cogeneration (*Zakon o obnovljivim izvorima energije i visokoučinkovitoj kogeneraciji*) ("O.G.", No. 100/15) - HR - <http://www.zakon.hr/z/827/Zakon-o-obnovljivim-izvorima-energije-i-visokou%C4%8Dinkovitoj-kogeneraciji>

- establishes the Register of Renewable Energy Sources, Cogeneration and Preferential Producers (*Registar obnovljivih izvora energije i kogeneracije te povlaštenih proizvođača*)¹⁹ and
- defines the relevant terms.

In addition, Electricity Market Act²⁰ (EMA) is also relevant for residential prosumers in Croatia. EMA regulates safe and reliable generation and supply of electricity.

Use of Renewable Energy Sources and Cogeneration²¹ (RESO) regulates installations using RES, including prosumers.

Prosumers generating electricity from RES may acquire the status of priority electricity producer and thereby have priority when feeding the generated electricity into the grid (Article 19(2) of the ARES) and for qualifying for financial incentives (Article 19(8) of the ARES). In addition to ARES, the legally binding Ordinance on Acquiring the Status of Priority Electricity²² (OPS), governing the award of the status, is also relevant.

3.1. What is the existing legislative framework regulating Renewable Energy Projects in your country?

- The most important legal act in Croatia for Renewable Energy Projects is ARES. In addition to defining the term 'prosumer' (see the answer to question 3.3), ARES defines RES and Renewable Energy Projects. RES are defined as non-fossil fuels including solar, wind, biomass, biofuel, sea, geothermal, hydrothermal, landfill gas, waste water treatment plant gas (Article 4(2), item 11). Renewable Energy Projects are defined as projects concerning the construction of an installation registered in the OIEKPP (Article 4(2), item 18).
- In addition, EMA is also indirectly relevant for Renewable Energy Projects in Croatia.
- RESO regulates installations using RES, including conditions and possibilities for use of RES, as well as the content of the Register.
- Certain provisions set in the Ordinance on Acquiring the Priority Electricity Producer Status (*Pravilnik o stjecanju statusa povlaštenog proizvođača električne energije*) ("O.G.", No. 132/13, 81/14, 93/14, 24/15, 99/15 and 110/15)²³ (OPS), apply to producers of RES that have priority when feeding the generated electricity into the grid (Article 19(2) of the ARES) and for qualifying for financial incentives (Article 19(8) of the ARES).

3.2. Does the Renewables National Action Plan include any objectives for residential prosumers (if so, please specify)

Answer: No.

The Government of Croatia issued the National Action Plan for Renewable Energy Sources to 2020 (*Nacionalni akcijski plan za obnovljive izvore energije do 2020. godine*)²⁴ on 17 October 2013. The Plan does not set any objectives for residential prosumers.

¹⁹ <http://www.oie.mingorp.hr/default.aspx?id=24>, accessed on 28 November 2016.

²⁰ Electricity Market Act (*Zakon o tržištu električne energije*) ("O.G.", No. 22/13, 95/15 and 102/15) - HR - <http://www.zakon.hr/z/377/Zakon-o-tr%C5%BEi%C5%A1tu-elektri%C4%8Dne-energije>

²¹ Ordinance on the Use of Renewable Energy Sources and Cogeneration (*Pravilnik o korištenju obnovljivih izvora energije i kogeneracije*) ("O.G.", No. 88/12) - HR - http://narodne-novine.nn.hr/clanci/sluzbeni/2012_08_88_2015.html

²² Ordinance on Acquiring the Status of Priority Electricity Producer (*Pravilnik o stjecanju statusa povlaštenog proizvođača električne energije*) ("O.G.", No. 132/13, 81/14, 93/14, 24/15, 99/15 and 110/15) - HR - <http://www.propisi.hr/print.php?id=6520>

²⁴ HR - http://www.mingo.hr/userdocsimages/energetika/NAP_OIE.pdf; EN - <https://ec.europa.eu/energy/en/topics/renewable-energy/national-action-plans>

3.3. Is there a definition (legal or regulatory) of residential prosumers (or self-consumption) in your country? If so, state it and describe the elements of this definition?

The term ‘prosumer’ is not defined at the EU level. However, following the European Commission’s proposal for the Directive on common rules for the internal market in electricity²⁵ the current national report is structured assuming the following types of prosumers:

- prosumers generating electricity from RES, connected to the grid and with technical capacity to draw and feed the electricity from and into the grid
- prosumers generating electricity from RES, connected to the grid, but which do not have the technical capacity to feed the electricity into the grid and
- prosumers generating electricity from RES but which are not connected to the grid.

The national legislation defines the term ‘end consumer with its own production’ (*krajnji kupac s vlastitom proizvodnjom*). More specifically, ARES defines the term ‘end consumer with its own production’ as an ‘end consumer of electricity with a facility for generation of electricity from renewable energy sources or high cogeneration meeting the needs of the end buyer and with a (technical) possibility to feed the excessive amounts of produced electricity into a transmission or distribution grid’ (Article 4(2), item 6)). The technical possibility to feed in the energy presumes that there is connection to the grid. The cogeneration installations using renewable energy as the primary source of energy are renewable energy sources installations (Article 4(2), item 5 of the ARES). Similar and coherent definitions of the term are also contained in EMA (Article 3(2), item 25) and a number of other acts such GCG (Article 2(2), item 14).

This term is not, however, limited only to residential prosumers. The term consumer (‘*kupac*’) includes both residential consumer and non-residential consumers (using the electricity for commercial and professional activities) (Article 3(2), items 22 and 23 of the EMA).

The term is limited to electricity consumption and generation. Therefore, heating and cooling, often included under prosumers²⁶ are not included in the relevant definition in Croatia.

All the aspects of the above type of prosumer are also applicable to prosumers generating electricity from RES, connected to the grid, but which do not have the technical capacity to feed the electricity into the grid, albeit with three exceptions. Such prosumer does not have to acquire the operational permit (see the answer to question 4.1). Furthermore, the prosumer does not have to conclude a contract for feeding the electricity into the grid (see the answer for question 4.2). Also, the provisions on calculation of price for the difference between fed and drawn energy are not applicable to such prosumers (see the answer to question 4.2, item 8). All the other requirements, including energy permit and financial incentives, are applicable.

Prosumers generating electricity from RES but which are not connected to the grid do not require to obtain the energy permit (Article 11(1), item 5 of the RESO). Also, they are not eligible for financial incentives (Articles 19(8) and 20(1) and (2) of the ARES). Therefore, such prosumers are not impacted nor do they contribute to electricity market and therefore cannot be considered as prosumers.

²⁵ COM(2016) 864 final, p. 5 and 52.

²⁶ Section 5.6 of the Prosumer Energy and Prosumer Power Cooperatives: Opportunities and challenges in the EU countries, on-going, foreseen June 2016, European Economic and Social Committee, available at: <http://www.eesc.europa.eu/?i=portal.en.ten-opinions.38148>, accessed on 5 December 2016.

4. What are the permitting requirements for each type of residential prosumer?

General

The relevant framework requires two types of permits, energy permit to generate electricity from RES and operational permit to connect to the grid.

In addition to these two permits, the operator must also acquire the construction permit. The provisions on the construction permit are laid down in the Construction Act²⁷. The issuance of the construction permit is coordinated with the issuance of the energy and operational permits. The construction permit is not specific to the energy sector and, the Act therefore does not refer to generation of electricity and connection to the grid. Therefore, this section of the document focuses on the energy and operational permits which address those two functions.

4.1. Does your country recognize certain forms of self-consumption and subject prosumers to certain

- requirements,
- application fees and
- one-off costs

in order to give them a permit or licence to generate energy?

Prosumers must obtain a number of permits. However, the two most relevant are presented below.

In order to construct a facility producing electricity from RES, they must acquire the **energy permit** from the MEPE (Articles 11 and 13 of the EMA). There are some exceptions to this requirement (see the answer to question 1). The application for the permit is set in Annex II of the RESO. In addition to the application, the prosumer must provide a number of annexes such as the analysis of the cost effectiveness of the connection of the generating facility to the grid. Further information on the required documents for the construction permit are available on the website of the ministry competent for economy²⁸.

In addition to the energy permit, they must also acquire operational permit (*dozvola za trajni pogon*) from the grid operator, i.e. HEP. The steps for acquiring the operational permit are detailed below²⁹:

First step

- The prosumer submits the 'Request for issuance of the preliminary electro-energy approval' (*Zahtjev za izdavanje prethodne elektroenergetske suglasnosti*)³⁰
- HEP³¹ issues the Preliminary electro-energy approval and the connection contract setting out the conditions for connection including fees for the connection to the grid in accordance with the legally binding Ordinance on the Fees for Connection to the Electro-Energy Grid and for the Increase of Connection Power³² (OFC)
- The preliminary electro-energy approval is a precondition for the energy permit (Article

²⁷ Construction Act (*Zakon o gradnji*) ("O.G." No. 153/13) – HR - <http://www.zakon.hr/z/690/Zakon-o-gradnji>

²⁸ <http://oie.mingorp.hr/default.aspx?id=31>, accessed on 15 December 2016.

²⁹ <http://www.hep.hr/ods/kupci-154/kupac-s-vlastitom-proizvodnjom/29>, accessed on 5 December 2016.

³⁰

http://www.hep.hr/ods/UserDocsImages/dokumenti/Obrasci/Zahtjev_za_izdavanje_prethodne_elektroenergetske_suglasnosti_za_elektrane.pdf

³¹ Croatian energy company producing, distributing and supplying electricity - <http://www.hep.hr/about-hep-group/2502>, accessed on 29 November 2016.

³² Ordinance on the Fees for Connection to the Electro-Energy Grid and for the Increase of Connection Power (*Pravilnik o naknadi za priključenje na elektroenergetsku mrežu i za povećanje priključne snage*) ("O.G.", No. 28/06) - HR - http://narodne-novine.nn.hr/clanci/sluzbeni/2006_03_28_664.html

11(1), item 5 of the RESO).

Second step

- The prosumer submits the Request for issuance of the electro-energy approval and conclusion of the contract for the use of the grid' (*Zahtjev za izdavanje elektroenergetske suglasnosti i sklapanje ugovora o korištenju mreže*)³³
- HEP issues Electro-energy approval (*Elektroenergetska suglasnost*) and concludes with the investor the Contract on the use of the grid (*Ugovor o korištenju mreže*)
- The prosumer must conclude a contract with the supplier
- The prosumer may use the grid after submitting the 'Request for the use the grid' (*Zahtjev za korištenje mreže*)³⁴
- HEP carries out the test phase
- HEP issues 'Operational permit' (*Dozvola za trajni pogon*).

Prosumers generating electricity from RES, connected to the grid, but which do not feed the electricity into the grid are not required to acquire this permit. They must, however, follow a standard procedure for connection to the grid that any consumer in Croatia would follow.

Issuance of all the relevant permits, i.e. construction, energy and operational, is coordinated. Therefore, in principle, they should not lead to an administrative burden for the prosumers.

The **application fee** for the relevant permits is set in accordance with the Act on Administrative Fees³⁵. It is uncertain what the fee is in every specific case but the amounts set in the Act are not restrictive and in most cases around 200 HRK (app. 25 EUR). Therefore, these fees are not prohibitively expensive in practice.

One-off costs (fees) go towards financing of the construction of the connector and attaining required technical conditions in the grid (Article 6(1) of the OFC). The fee is calculated in each specific case using the calculation methods detailed in the OFC. The fee depends on the associated costs of connection to a low, medium and high voltage grids (Section 2 of the OFC). In case of prosumers that both draw and feed the electricity from and into the grid, they must pay either the fee for the consumer or the fee for the producer, depending on which one is higher (Article 3(3) of the OFC). These fees should not be prohibitively expensive in practice.

4.2. Does the national legal/regulatory framework determine the contractual conditions under which prosumers are allowed to feed or sell their surplus back into the grid or to other consumers?

Prosumers must conclude three contracts, contract on the use of the grid, contract on drawing of electricity from the grid and contract on feeding the electricity into the grid (not applicable to prosumers generating electricity from RES, connected to the grid, but which do not have technical capacities to feed the electricity into the grid). These contracts must be concluded in a written form (Article 3 of the GCG). The conditions of each of these contracts is further detailed in Articles 4 – 13 of the GCG.

The GCG sets the documents which must be provided prior to conclusion of the contracts, the content, duration and termination of contracts related to the **use of the grid** and contracts on the **drawing of electricity from the grid**.

³³

http://www.hep.hr/ods/UserDocsImages/dokumenti/Obrasci/Zahtjev_za_izdavanje_elektroenergetske_suglasnosti_i_sklapanje_ugovora_o_koristenju_mreze_za_elektrane.pdf

³⁴ http://www.hep.hr/ods/UserDocsImages/dokumenti/Obrasci/Zahtjev_za_pocetak_koristenja_mreze_za_elektrane.pdf

³⁵ Act on Administrative Fees (*Zakon o upravnim pristojbama*) (8/96, 77/96, 95/97, 131/97, 68/98, 145/99, 30/00, 116/00, 163/03, 17/04, 110/04, 141/04, 150/05, 153/05, 129/06, 117/07, 25/08, 60/08, 20/10, 69/10, 126/11, 112/12, 19/13, 80/13, 40/14, 69/14, 87/14 and 94/14) - HR - <http://www.zakon.hr/z/333/Zakon-o-upravnim-pristojbama>

Feeding of electricity into the grid by the prosumer is set in a contract between the prosumer and an electricity supplier (Article 44(2) of the ARES). In case any electricity is fed into the grid without such a contract, the prosumer is not entitled to a pay for the fed electricity (Article 8 of the GCG). The prosumer must provide the supplier with information about its production facility (Article 44(3) of the ARES).

The electricity suppliers are required to take over surplus electricity generated by prosumers subject to the following conditions:

- the prosumer has a status of priority electricity producer
- the production facilities have a permanent connection to the electricity grid
- total generation power in one metering point does not exceed 500 kW
- the prosumer feeds electricity into the grid through the same metering point as used to draw it
- connection power of the producer feeding electricity into the grid does not exceed his connection power for drawing electricity (Article 44(1) of the ARES).

5. What are the rules applicable to the access to the grid?

General

The relevant legislation does not contain specific provisions on access to the grid by prosumers for drawing the electricity. However, it does contain specific provisions on access to the grid in case of feeding the electricity into the grid. More specifically, in case of electricity from RES fed into the grid, such electricity is given priority.

5.1. What is the inter-connection configuration used for each type of residential prosumer?

The provisions of the legislation applicable in all the cases stipulate that the grid operator is responsible for construction of connections to the grid (Articles 39 and 40 of the EMA). The grid operators are responsible for the quality of electricity at the connection point (Article 14(2) of the GCG). The users may connect to low voltage, medium voltage and high voltage grids (Section 2 of the OFC).

The technical conditions for access to the network are set in Network Rules of Electro-Energy System³⁶. These Rules regulate in detail connections to the grid in electro-energy system as well as measuring rules for meters. They set the rights and obligations between energy subjects, i.e. electricity producers, the grid operator, suppliers, consumers, etc. The rules are not limited to prosumers and they do not refer to prosumers directly.

In case of electricity from RES fed into the grid, such electricity is given priority³⁷. More specifically, the grid operator is required to ensure and control take-over of produced energy from RES from priority electricity producers pursuant to the conditions set in the applicable legislation (Article 11(7) of the EMA). Article 19(2) and (3) of the ARES further this by requiring grid operators to give priority to generating installation using RES. However, giving priority does not mean guarantee to purchase such generated electricity (Article 19(4) of the ARES).

³⁶ Network Rules of Electro-Energy System (*Mrežna pravila elektroenergetskog sustava*) ("O.G.", No. 36/06) - HR - http://narodne-novine.nn.hr/clanci/sluzbeni/2006_03_36_907.html

³⁷ <http://www.res-legal.eu/search-by-country/croatia/summary/c/croatia/s/res-e/sum/358/lpid/359/>, accessed on 5 December 2016.

5.2. Does the competence to determine the inter-connection configuration lie at State level or at a regional/lander level?

Answer:

Such competence in Croatia lies at the State level.

5.3. Are there any rules to ensure that prosumers are inter-connected to the distribution network/the grid?

Answer:

See the answer to question 4.2, item 2.

5.4. What are the grid access and grid use principles and rules for the energy generated by each type of residential prosumer?

Answer:

General provisions on the access and use of the grid are also applicable to prosumers. For example, principles set in the Network Rules of Electro-Energy System also apply to prosumers. These principles include the following:

- equal application to all grid users
- safety of the electro-energy system has a priority
- the grid is centrally managed to ensure safety of supply and reliability of the electro-energy system (Section 2.1).

5.5. What are the network costs and charges for each type of residential prosumer?

Answer:

When feeding the energy, the prosumer does not have to pay for the costs related to the use of grid and other levies and taxes. In case they draw electricity from the grid, they have to pay the same costs and charges as any other customer. For example, in 2013 in the total electricity price for customers, 50% concerned costs for electricity and supply, 30% concerned costs of grid operation and 20% concerned levies and taxes³⁸.

6. What are the incentives (e.g through taxes or tariffs) for each type of residential prosumers?

General

Renewable energy sources for heating (or cooling) purposes are not promoted on the national level in Croatia³⁹. In respect to electricity from RES, the generation is supported mainly through:

- premium tariff
- tenders for certain producers (priority producers) and
- loan schemes for RES-E projects⁴⁰.

³⁸ https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_croatia.pdf, accessed on 15 December 2016.

³⁹ <http://www.res-legal.eu/search-by-country/croatia/>, accessed on 5 December 2016.

⁴⁰ <http://www.res-legal.eu/search-by-country/croatia/summary/c/croatia/s/res-e/sum/358/lpid/359/>, accessed on 5 December 2016.

6.1. Does your country apply specific tariffs to prosumers

- to charge them for the electricity they draw from the grid for consumption?
- or to compensate them for the electricity they feed back into the grid?

Answer:

Croatia applies specific tariffs to **prosumers for the electricity they feed into the grid**. Furthermore, Croatia introduced a special system of calculation of the price of electricity that **prosumers draw from the grid** in case they also feed the electricity into the grid.

Producers of electricity from RES are encouraged to generate electricity from RES through (financial incentives):

- premium tariffs (*sustav poticanja tržišnom premijom*) and
- guaranteed price (*sustav poticanja zajamčenom otkupnom cijenom*) (applicable only to production facilities with installed capacities of 30 kW or less (Article 33(1) of the ARES).

These incentives are mutually excluding (Articles 30(8) and 33(6) of the ARES). Also, a prosumer must acquire the status of priority electricity producer to qualify for premium tariffs or tenders (Article 19(8) of the ARES). Prosumers may qualify as priority electricity producers provided they meet a number of conditions including registering at the Register, having a connection to the grid and having a meter enabling calculation of net fed electricity and meeting all the requirements set in the construction permit (Article 20(1) and (2) of the ARES). Additional provisions governing the award of the status are set in the OPS. Therefore, producers of electricity that are not connected to the grid are not eligible for premium tariffs and tenders.

The priority electricity producer can receive a premium (premium tariff). This tariff is set in the contract between the electricity producer and HROTE (Article 30(1) of the ARES). The contract is concluded following a public tender (Article 30(3) of the ARES). The tender is published once a year and the premium tariff may be granted to numerous electricity producers (Article 31(1) of the ARES). Further provisions on the premium tariff are set in Article 32 of the ARES).

The priority electricity producer with generation capacity of up to 30kW has the right to the guaranteed purchase price (Article 33(1) of the ARES). However, the right to the guaranteed price have only those that conclude a contract with HERA after being selected as best bidders in a public tender (Article 34 of the ARES). The tender is published once a year and the guaranteed price may be granted to numerous electricity producers.

HROTE is financing these incentives partially from the funds collected as part of the fee for incentivising production of electricity generated from RES (Article 11(5) of the EMA, Article 37 of the ARES and Regulation on the Fee for Incentivising Production of Electricity from Renewable Energy Sources and Cogeneration⁴¹ (RFE)). The RFE sets the fee at 0.035 kn/Kwh⁴²,

In addition to the two incentives, the Fund for Environmental Protection and Energy Efficiency (*Fond za zaštitu okoliša i energetske učinkovitost*)⁴³ and the Croatian Bank for Reconstruction and Development (*Hrvatska banka za obnovu i razvitak*)⁴⁴ award loans to renewable energy projects⁴⁵. These loans are not limited to producers of energy from RES connected to the grid.

⁴¹ Regulation on the Fee for Incentivising Production of Electricity from Renewable Energy Sources and Cogeneration (*Uredba o naknadi za poticanje proizvodnje električne energije iz obnovljivih izvora energije i kogeneracije*) ("O.G.", No. 128/13) - HR - http://narodne-novine.nn.hr/clanci/sluzbeni/2013_10_128_2778.html

⁴² 'kn' is an abbreviation for the Croatian currency Kunas.

⁴³ <http://www.fzoeu.hr/en/home/>

⁴⁴ <https://www.hbor.hr/en/>

⁴⁵ <http://www.res-legal.eu/search-by-country/croatia/single/s/res-e/t/promotion/aid/loan-environmental-fund/lastp/359/> and <http://www.res-legal.eu/search-by-country/croatia/single/s/res-e/t/promotion/aid/loan-in-the-hbor-bank-scheme/lastp/359/>, accessed on 5 December 2016.

The provided incentives take into account the provisions of the Act on State Aid⁴⁶ and the Commission Guidelines on State aid for environmental protection and energy 2014 – 2020 (2014/C 200/01)⁴⁷.

For **prosumers that draw the electricity from the grid with technical capacity to feed the electricity back in the grid**, the calculation is carried out pursuant to the provisions of ARES. The supplier is required to calculate, once a month, the bill for the prosumer by deducting electricity fed into the grid from the electricity drawn from the grid (Article 44(5), (6) and (7) of the ARES). The supplier does this by applying the following formulas:

1. $C_i = 0,9 * PKC_i$ in case $E_{pi} \geq E_{ii}$
2. $C_i = 0,9 * PKC_i * E_{pi} / E_{ii}$ in case $E_{pi} < E_{ii}$

where

- C_i is the bill for the prosumer
- E_{pi} is total electricity drawn from the grid by the prosumer and presented in kn/kWh
- E_{ii} is total electricity fed into the grid by the prosumer and presented in kn/kWh
- PKC_i average unit price of electricity paid by the consumer to the supplier for the delivered electricity which does not include: fee for the use of the grid and other levies and taxes, presented in kn/kWh (Article 44(5) of the ARES).

The supplier may give the prosumer more favourable conditions for purchase of electricity than the ones presented above (Article 44(8) of the ARES).

In any case, the overall price for the fed energy is always lower than the overall price of the drawn energy. However, when feeding the energy, the prosumer does not have to pay for the costs of fees to use the grid and other levies and taxes.

With the current costs of the equipment, investments in such equipment by prosumers can pay off long term (15 – 20 years)⁴⁸.

6.2. Does your country

- tax prosumers in a specific way?
- allocate to them a certain part of the cost to upgrade the grid to accommodate the extra generation they feed into the grid?

No. The carried-out research did not result in identification of any provisions or media articles on special taxation regime for prosumers or on allocation of a certain part of the cost to upgrade the grid.

7. A. What are the conditions that may encourage the take up of residential prosumers (to entry into activity or during functioning)?

General

The relevant framework in Croatia creates an environment of predictability and safety and as such creates legal certainty for prosumers.

⁴⁶ Act on State Aid (*Zakon o državnim potporama*) ("O.G.", No. 47/14) - HR - <http://www.zakon.hr/z/464/zakon-o-dr%C5%BEavnim-potporama>

⁴⁷ EN - [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0628\(01\)&from=HR](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0628(01)&from=HR)

⁴⁸ Prof. Ranko Goić, Professor at the University of Split, Renewable Energy Sources in Croatia – today and tomorrow (*Obnovljivi izvori energije u Hrvatskoj – danas i sutra*), Zagreb, 1 March 2016.

7 B. What are the conditions that may act as barriers for residential prosumers (to entry into activity or during functioning)?

There are a number of identified issues that may act as barriers to residential prosumers, namely:

- limitations concerning metering
- calculation of the overall price of the energy fed into the grid
- lack of provisions on energy communities and cooperatives.

7.1. What are the metering systems for each type of residential prosumer? Do these systems provide adequate conditions for prosumers integration in the market?

Article 44(1) of the ARES sets a number of conditions concerning metering systems. For the electricity suppliers to take over surplus electricity generated by prosumers, total generation power in one metering point must not exceed 500 kW. Also, the prosumers are required to feed electricity into the grid through the same metering point used to draw it. Finally, the connection power of the producers feeding electricity into the grid must not exceed his connection power for drawing electricity.

Other requirements concerning meters, applicable to all producers and consumers, are set in the Distribution system grid rules (*Mrežna pravila distribucijskog sustava*) (Article 44 of the EMA). These include specific technical conditions for collection and processing of information collected at meters. The grid operator is required to maintain meters and to collect and process information collected at the meters (Article 40, item 24 of the EMA).

7.2. What are the billing conditions for each type of residential prosumer?

In case the prosumers only draw energy from the grid, they pay the same price as any other customer. In case they also feed the electricity into the grid, ARES sets a special system for calculating the price they pay. See the answer to question 4.2, item 8 in respect to prosumers that draw the electricity from the grid and that also feed the electricity back in the grid.

7.3. Are there measures to encourage the creation of energy communities at municipal level, or other schemes to encourage inclusive development of the market?

No. The carried-out research did not identify any such measures.

7.4. Are there rules facilitating the creation of energy cooperatives to provide a legal entity to energy communities? Are there measures facilitating other type of schemes and if so which ones?

The carried-out research did not result in identification of rules facilitating the creation of energy cooperatives. Possible explanation for this is that, as it is the case in many central and eastern European countries from the former socialist bloc, the socialist origins of the cooperative movement as well as the policy of that time of bringing cooperatives under the control of central and regional authorities are today acting as a hindrance to prosumer cooperatives and having a negative effect on attitudes towards them⁴⁹. Nevertheless, examples of energy cooperatives in Croatia exist (e.g. Krk Island Energy Cooperative)⁵⁰.

⁴⁹ Section 6.7 of the Prosumer Energy and Prosumer Power Cooperatives: Opportunities and challenges in the EU countries, on-going, foreseen June 2016, European Economic and Social Committee, available at: <http://www.eesc.europa.eu/?i=portal.en.ten-opinions.38148>, accessed on 5 December 2016.

⁵⁰ <http://www.communitypower.eu/images/Giorgia/krk-Island-Energy-Cooperative.pdf>, accessed on 28 November 2016.

- 7.5. What are the procedures/provisions for establishing cooperatives for prosumers? Are they more simple/less costly than those for other schemes?

The carried out research did not identify provisions for establishing cooperatives for prosumers.

8. Other questions on the regulatory framework

- 8.1. What are the procedures/provisions for establishing What are the complaint handling procedures for each type of residential prosumer?

The status, responsibilities and rights concerning prosumers are set in the relevant legislation in Croatia. The legislation also sets specific rules and procedures in case the requirements set therein are breached.

For example, Articles 95 and 96 of the GCG provides the grid operator with a power to prohibit use of the grid in case of breaches of general conditions for drawing and feeding electricity into the grid (e.g. the connection and installations do not comply with the set requirements, breach of the contract conditions). Article 97 of the GCG explicitly states that these provisions are also applicable in the case of prosumers.

Also, the competent inspection authorities can take appropriate action (e.g. request compliance with the relevant legislation, prohibit the activity/construction) if the energy subjects are not complying with the set requirements (Article 71 of the EMA). As another example, the Agency and the competent inspection authorities are competent to order compliance with the set rules in case persons awarded the status of priority electricity producer breach the requirements set in the legislation. They also have a right to revoke the status in case prosumers do not implement the required improvements (Article 22 of the ARES).

The relevant energy subjects, including prosumers, may face a fine in case they do not comply with the requirements of the set legislation (Article 73 of the EMA). ARES also sets out monetary fines in case of breaches of the provisions of the Act, including provisions on prosumers (Articles 48 and 49). The monetary fines range between 300 and 500,000 HRK⁵¹ depending on the person who committed the misdemeanour and circumstances.

- 8.2. Are there any specific redress procedures available only to residential prosumers?

The carried-out research did not identify any specific redress procedures available only for residential prosumers. However, the general rules on redress procedures for consumers are applicable.

The Act on Customer Protection⁵² is applicable to the services of electricity supply, distribution and transmission (Article 24(1) of the Act). Article 25 of the Act requires the providers of such services to ensure redress mechanisms to consumers. The consumer protection associations are also involved in the redress procedure (Article 25(3) of the Act). According to Article 25 of the Act, the customer may submit a written complaint to which it must receive an answer within 30 days.

⁵¹ app. 40 – 65,000 Euros.

⁵² Act on Customer Protection (Zakon o zaštiti potrošača) ("O.G.", No. 41/14 and 110/15) – HR - <http://www.zakon.hr/z/193/Zakon-o-za%C5%A1titi-potro%C5%A1a%C4%8Da>

Country fiche (Summary and ranking)

The **country fiche** below summarises the information from the report and ranks the **level of favourable impact** of measures in relation to its favourable impact to the take up of residential prosumers.

Country fiche	Ranking Low/Medium/High
General Description of the national regulatory framework The Croatian power system is one of the smallest in Europe. Approximately half of the total power generation in Croatia comes from hydro. The combined production of electricity from wind, small hydropower plants, biomass and solar in Croatia is approximately 1/10 of the electricity produced by large hydropower plants. The power generation sector is dominated by HEP (<i>Hrvatska elektroprivreda</i>), a state-owned electricity company, engaged in electricity generation, transmission, distribution, supply and trade. In addition to HEP, other authorities responsible for electricity generation, transmission, distribution and supply, such as the Croatian Energy Market Operator, Ministry of Environmental Protection and Energy and the Croatian Energy Regulatory Agency, also hold competences for prosumers in Croatia. The most important legal act for residential prosumers in Croatia is the Act on Renewable Energy Sources and High Efficiency Cogeneration. It defines a prosumer as an ‘end consumer of electricity with a facility for generation of electricity from RES or high cogeneration meeting the needs of the end buyer and with a (technical) possibility to feed the excessive amounts of produced electricity into a transmission or distribution grid’. This term is not, however, limited only to residential prosumers. It includes both residential consumer and non-residential consumers (using the electricity for commercial and professional activities). The Act also contains other relevant provisions such as provisions on planning and incentivising generation and use of electricity from RES. National provisions targeting both producers and consumers, such as the ones set in the Electricity Market Act, are also applicable to prosumers. For example, general provisions on the access and use of the grid, as well as generation of electricity, are also applicable to prosumers.	Medium
Specific Questions on the regulatory framework for residential prosumers	
Permitting requirements for each type of residential prosumer In Croatia, the energy permit is required for the construction of the electricity generating installations. However, simple constructions, i.e. PV systems installed on existing buildings connected to the grid from which the produced electricity is also fed in the grid, do not require the energy permit. In addition to the energy permit, prosumers must also acquire operational permit from the grid operator. Prosumers generating electricity from RES, connected to the grid, but which do not feed the electricity into the grid are not required to acquire this permit. They must, however, follow a standard procedure for connection to the grid that any consumer in Croatia would follow. Issuance of all the relevant permits is coordinated and, in principle, they should not lead to an administrative burden for the prosumers. Moreover, the	Medium

application fees for the relevant permits are not prohibitively expensive.	
Rules applicable to the access to the grid The grid operator is responsible for construction of connections to the grid. Electricity from RES fed into the grid is given priority access. The prosumers in Croatia must conclude three contracts, contract on the use of the grid, contract on drawing of electricity from the grid and contract on feeding the electricity into the grid. The latter is not applicable to prosumers generating electricity from RES, connected to the grid, but which do not have technical capacities to feed the electricity into the grid. The prosumers generating electricity from RES may acquire the status of priority electricity producer and thereby have priority when feeding the generated electricity into the grid.	High
Incentives (e.g. taxes and tariffs) for each type of residential prosumers There are two mutually excluding incentive schemes available to prosumers. To qualify for these schemes, prosumers must first acquire the status of priority electricity producer. In addition, the loan schemes are available for RES-E projects regardless of the status of the producers. Croatia applies specific tariffs to prosumers for the electricity they feed into the grid. When feeding the energy, the prosumer does not have to pay for the costs related to the use of grid and other levies and taxes. Furthermore, Croatia introduced a special system of calculation of the price of electricity that prosumers draw from the grid in case they also feed the electricity into the grid.	Medium
Conditions encouraging or acting as barriers for residential prosumers The relevant framework in Croatia creates an environment of predictability and safety and as such creates legal certainty for prosumers. However, there are a number of identified issues that may act as barriers to residential prosumerism, namely: - limitations concerning metering - calculation of the overall price of the energy fed into the grid lack of legal provisions on energy communities and cooperatives.	Low
Other questions on the regulatory framework • The status, responsibilities and rights concerning prosumers are set in the relevant legislation in Croatia. Therefore, the legislation also sets specific rules and procedures in case the requirements set therein are breached. These are related to the relevant inspection powers. The general redress procedures set in the general consumer protection legislation are applicable in the case of prosumers.	High

Executive summary

The Croatian legislation defines a prosumer, i.e. an ‘**end consumer with its own production**’, as an ‘end consumer of electricity with a facility for generation of electricity from RES or high cogeneration meeting the needs of the end buyer and with a (technical) possibility to feed the excessive amounts of produced electricity into a transmission or distribution grid’. This term is not, however, limited only to residential prosumers.

In respect to **permitting**, prosumers are required to obtain the energy permit for the construction of the electricity generating installations. However, simple constructions, i.e. PV systems installed on existing buildings connected to the grid from which the produced electricity is also fed in the grid, are exempted from this requirement. In addition to the energy permit, prosumers must also acquire operational permit from the grid operator. Prosumers generating electricity from RES, connected to the grid, but which do not feed the electricity into the grid are not required to acquire this permit. They must, however, follow a standard procedure for connection to the grid that any consumer in Croatia would follow.

Further concerning the **connectivity**, the grid operator is responsible for construction of connections to the grid, on the basis of an appropriate contract. Electricity from RES fed into the grid is given priority access.

There are two mutually excluding **incentive schemes** available to prosumers. To qualify for these schemes, prosumers must first acquire the status of priority electricity producer. In addition, the loan schemes are available for RES-E projects regardless of the status of the producers. Croatia applies specific tariffs to prosumers for the electricity they feed into the grid.

There are no measures to encourage the **creation of energy communities** at municipal level. There are no special procedures available for **cooperatives** and no special **redress procedures** have been established for prosumers.