

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

Portugal



This study is part of the mapping of the legal and regulatory framework for residential prosumers in the 28 Member States, Iceland and Norway, within the project on Residential Prosumers in the European Energy Union EAH/2013/CP/04, and carried out by Milieu Ltd (Belgium), Chaussée de Charleroi, 112, B-1060 Brussels, tel: +32 (0)2 506 1000; web address: www.milieu.be

This study presents the legal and regulatory framework for residential prosumers in Portugal has been prepared by Marta Santos Silva as the author and reviewed by the project manager Marta Ballesteros (Marta.Ballesteros@milieu.be). The study has been completed in June 2017.

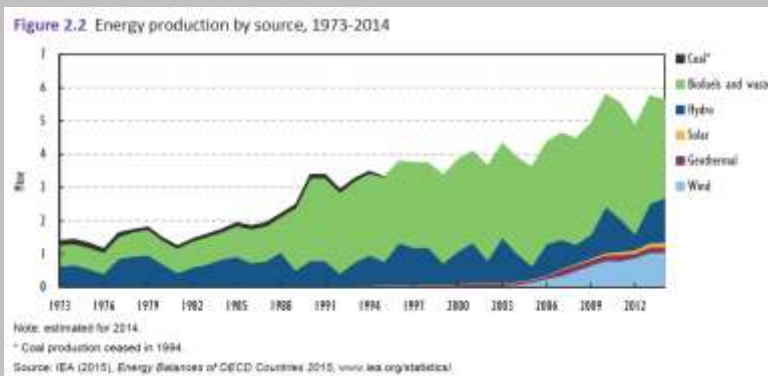
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National report on the regulatory framework for residential prosumers: Portugal

General Description of the national legal and regulatory framework

General

Historically, Portugal's energy mix relies largely on oil or natural gas resources¹. Even though, after a steady increase in the nineties², electricity consumption decreased from 2012 on, fossil fuel remains the main source of energy³. Portugal does not have any oil reserves of significance, which implies that this fuel dependence leads to a great deal of import (see graphic 1)⁴.



Graphic 1 – Primary energy supply in Portugal as compared to the remaining EU countries⁵

In order to reduce the country's dependence on imported energy sources⁶, a new National Energy Strategy was approved in 2010 (*ENE 2020*)⁷. This Strategy identified the promotion of renewable energy as a key policy, in line with Directives 2009/28/EC and 2009/73/EC. Major targets were defined for renewable energy sources, among which the target of 31% of share of renewable energies in the consumption of final energy and 60% of share of renewable energies in the produced electrical power. One measure of the Strategy *ENE 2020* consisted of creating conditions for increasing the decentralized production of energy.

It is in this context that relevant legislation in the field of prosumers was approved, namely, Decree 153/2014 of 20 October 2014⁸ that regulates the decentralized production of energy for personal consumption or for sale.

¹ IRENA, 'Global Wind report – Portugal', available at https://www.irena.org/DocumentDownloads/Publications/IRENA_GWEC_WindReport_Portugal.pdf (last accessed 5.12.2016), p. 107. See also 'Energy Market 2014 report' (updated in 2016), accessible at <http://ec.europa.eu/energy/en/data-analysis/country> (last accessed 5.12.2016).

² *ibid.*

³ European Commission, 'Country Report: Portugal', available at https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_portugal.pdf (last accessed 5.12.2016).

⁴ OECD/IEA, 'Energy Policies of IEA Countries. Portugal: 2016 Review', 2016, available at http://www.iea.org/publications/freepublications/publication/Energy_Policies_of_IEA_Countries_Portugal_2016_Review.pdf (last accessed 15.12.2016), p. 4.

⁵ OECD/IEA, 'Energy Policies of IEA Countries. Portugal: 2016 Review', 2016, available at http://www.iea.org/publications/freepublications/publication/Energy_Policies_of_IEA_Countries_Portugal_2016_Review.pdf (last accessed 15.12.2016), p. 133.

⁶ OECD/IEA, 'Energy Policies of IEA Countries. Portugal: 2016 Review', 2016, available at http://www.iea.org/publications/freepublications/publication/Energy_Policies_of_IEA_Countries_Portugal_2016_Review.pdf (last accessed 15.12.2016), p. 17. See also Energy import statistics of the World Bank, available at <http://data.worldbank.org/indicator/EG.IMP.CON.S.ZS> (last accessed 19.12.2016).

⁷ Resolution of the Council of Ministers 29/2010 of 15 April 2010, Official Gazette (DR) no 73, Series I.

⁸ DR no. 202/2014, Series I of 20 October 2014.

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

Residential prosumers in Portugal produce energy based upon different types of RES, namely: wind, water and sun (PV and thermal). The prevailing RES is, by far, solar power, namely PV⁹. Some power is generated through wind and water sources, but they are still not sufficiently representative and are thereby not yet regulated.

There are also no different types of residential prosumers on the basis of size of installation. Instead, the legal regime applicable to prosumers is different, depending on: 1. the *amount of power* generated, namely less than 200 wats (w), between 200 and 1.5kW, between 1500w and 1 MW (Megawats) or more than 1MW; 2. the *type of energy source* used, namely renewable or non-renewable; and on 3. whether the *production unit is or is not connected* to the grid.

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

The institutional framework regarding residential prosumers in Portugal is composed of the 1) Directorate-General for Energy and Geology (DGEG¹⁰); 2) Energy Services Regulatory Entity (ERSE¹¹) and 3) the National Energy Networks (REN¹²).

The Directorate-General for Energy and Geology (1) rests within the Ministry of Economy and Innovation (MEI) and is responsible, among others, for the promotion and participation in the development of the legal and regulatory frameworks related to energy production and consumption. Its competencies are described in Decree-law 153/2014 of 20 October 2014, in Articles 10 ff.

The Energy Services Regulatory Entity (2) is the sectoral regulator for natural gas and electricity and its mission is to protect the rights and interests of consumers in relation to energy prices, quality of service, access to information, security of supply, among others.

Finally, the National Energy Networks (3) are, among others, responsible for the planning, construction, operation and maintenance of the National Electrical Energy Transmission Grid (RNT), for the global technical management of the National Electrical System (SEN) and for the management and trading of the remaining legacy power purchase agreements¹³.

Specific Questions on the regulatory framework for residential prosumers

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

General

The figure of prosumer (*produtor-consumidor*) was provided for the first time in Portugal by Decree-law no. 34/2011 of 8 March 2011, which regulated the then centralised activity of production of electrical energy including the regimes of micro and mini-production of electric power. In order to find new solutions of decentralised energy production and technological innovation, prosumers of electric power in low voltage were included in the Independent Electric

⁹ See 'Energia Solar Fotovoltaica atinge em Portugal os 2300 MG em regime de mercado', available at <http://www.portal-energia.com/energia-solar-fotovoltaica-atinge-portugal-os-2300-mw-regime-mercado/> (last accessed 15.12.2016).

¹⁰ Direção-Geral de Energia e Geologia, www.dgeg.pt

¹¹ Autoridade Reguladora dos Serviços Energéticos, www.erse.pt

¹² Redes Energéticas Nacionais, www.ren.pt

¹³ *ibid.*, pp. 20 and 21.

System. They were allowed to connect to the public network of distribution of electric power, in the triple perspective of self-consumption, of provision to third persons and delivery of surpluses to the network.

The legal regime did not have the attention which was initially forecasted. At the time, there were few self-consumption units. The lack of development of the technology unmotivated the implementation of large investments; their outcome consisted only of the cost which would be spared by no longer acquiring electric power from the grid. Therefore, the investment in this kind of technology had its support in the attribution of a bonus remuneration of the totality of the produced energy, which would allow to the promoters to recover the amounts that had been invested.

However, technological development allows today to develop projects with less investment which has justified the adequacy of the remuneration of energy arising out of these production units. Additionally, the government recognises the potential of the activity of production of electrical power as way of promoting a better understanding of their profile and assisting in the optimisation of the endogenous resources for the certain of technical benefits for the grid, namely through reduction of losses (from transport and distribution) therein, and thereby a greater energy efficiency.

In this context, and implementing the National Plan of Action for Renewable Energies¹⁴ the Decree-law 153/2014 provides for a new regime of distributed production of electricity. This new regime includes two kinds of PV installations: self-consumption (*autoconsumo*) and small production (*pequena produção*). The former consists of the legal regime applicable to residential prosumers in Portugal. The latter consists of a simplified and aggregated version of the former mini-production (*miniprodução*) and micro-production (*microprodução*) models, which involve the injection of all produced energy in the grid¹⁵ and are referred to as UPP (*‘unidades de pequena produção’*, units of small production).

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

The regulatory framework of renewables is very large¹⁶. However, the most relevant regulations are:

1. Decree-law no. 69/2016, DR no. 21/2016, Series I of 3 November 2016 which amended Decree-law 117/2010 of 25 October 2010, which provided for the criteria of sustainability of production and use of biofuel and bio liquid, as well as the mechanisms of promotion of biofuel in the terrestrial transports and defines the limits of compulsory incorporation of biofuel for 2011-2020 and transposed partially Directive no. 2009/28/CE of the Council and European Parliament of 23 April 2009 and annex IV of Directive no. 2009/30/EC of the European Parliament and the Council of 23 April 2009.
2. Decree-law no. 39/2013, DR no. 54 Series I 18 March 2013 amended Decree-law no. 141/2010 of 31 December 2010 which provided the national target plans of use of renewable energy in the final consumption and transposed Directive no. 2009/28/EC of the European Parliament and the Council of 23 April 2009.

¹⁴ Approved by the Resolution of the Council of Ministries no. 20/2013 of 10 April 2013.

¹⁵ Available at <http://www.energia.pt/fotovoltaiico> (last accessed 5.12.2016).

¹⁶ See http://energiasrenovaveis.com/BibliotecaListagem.asp?ID_BBconteudos=32&ID_area=21&ID_BBarea=3 (last accessed 15 December 2016).

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

The Resolution of the Council of Ministries no. 20/2013 of 10 April 2013 approved two national plans: the revised National Plan for Energetic Efficiency (**PNAEE 2016**) for the period 2013-2016 and the National Action Plan for Renewable Energies (PNAER¹⁷) for the period 2013-2020. The integrated revision of both plans was aimed at aligning the respective objectives along the consumption of primary energy and the necessary contribution of the energetic sector for the reduction of the greenhouse gas emissions.

The PNAER does not contain any objectives for residential prosumers. It only referred to the measure – already put in place by the above-mentioned Decree-law no. 153/2014 –, of reformulating and funding the programs of microproduction and miniproduction (correspondent to the current ‘small production’, which involves production and no consumption), with the aim of ‘speeding up and harmonising administrative procedures, rationalising the provided supports¹⁸’.

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 Decree-law no. 153/2014, the legal regime on prosumers and small producers, contains no definition of residential prosumers but it includes relevant terminology.

The Preamble refers to ‘producer for self-consumption’ (*produtor em autoconsumo*) or to ‘producer-consumer of low voltage electric power’ (*produtor-consumidor de energia elétrica em baixa tensão*).

In Article 1(1), the Decree-law defines ‘Production units for self-consumption’ (*Unidades de Produção para Autoconsumo, UPAC*) as those with or without connection to the public grid and operating electricity based upon renewable or non-renewable technologies of production. Article 2(1), in its turn, defines ‘production of electricity for self-consumption’ as activity of production aimed at satisfying the needs of consumption from the producer.

Article 3, lit. s of Decree-law 153/2014 describes ‘producer’ as the person who is registered for producing electric power through a production unit within the terms of the Decree-law no. 153/2014.

Finally, the Regulation on Commercial Transactions¹⁹ (Article 3, 2, z, cc) provides a definition of “production of electric power to selfconsumption” (*produção de eletricidade para autoconsumo*). According to it, it consists of the “activity of production which is aimed at satisfying needs which are own to the sourcing of electric power of the producer, without prejudice to the energy surplus being injected in the public electric power network”.

¹⁷ Approved by the Resolution of the Council of Ministres no. 20/2013 of 10 April 2013, published at the Official Gazette (*Diário da República*), 1st Series, no. 70, also available at <https://dre.pt/application/dir/pdf1sdip/2013/04/07000/0202202091.pdf> (last accessed 5 December 2016).

¹⁸ *ibid.*, pp. 2073 and 2079.

¹⁹ Available at <http://www.erse.pt/pt/electricidade/regulamentos/relacoescomerciais/Documents/RRC%20DR.pdf> (last accessed 19.12.2016).

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

General

According to Article 4 of the Decree-law no. 153/2014, ‘the activity of production of electric power is free’ however, the production units for self-consumption (*unidades de produção para autoconsumo*, UPACs) are subject to a few requirements listed in Article 4, nos. 3 ff.

These requirements depend: 1) on the power of the production unit; 2) on whether the production unit is connected to the grid; and 3) on whether electric power is produced out of renewable sources²⁰.

Whenever the **power of the production unit** is above 1 MW, the installation of the production unit and its start of business require a production licence and an operating licence.

Every time the power of the production unit is above 200 W and up to 1.5 kW, or every time the electric installation used is **not connected to the grid** (*Rede Elétrica de Serviço Público, RESP*), the responsible for the production unit should communicate that the installation is set and that it is about to start activity of energy generation before such activity starts (Article 21, no. 2). The proof of presentation of this declaration is enough for start operating and no registry is necessary (Article 21, nos. 1 and 2).

Whenever the power of the production unit is below 200 W, the unit is exempted from previous control and the prosumer exploring it does not even have to communicate that he is about to start activity of energy generation.

If the power of the production unit is up to 1.5kW and the prosumer intends to feed energy which has **not been consumed into the grid**, he or she must obtain an operating certificate and register him- or herself, in order to be able to start operating (Article 4, no. 8). Holders of these units will also be subject to the rules applicable to small producers, i.e., those who feed all the energy they produce into the grid. These rules are provided for in the same Decree-law no. 153/2014 in Articles 29-36.

Finally, whenever the holder of an electric installation that has no connection to the grid and is associated with a unit that uses **renewable energy sources** and intends to commercialise certificates of origin of the energy generated in the unit of production for self-consumption (Article 7, no. 1, *lit e*), he or she must do a previous registry and obtain an operating licence.

The differences are represented graphically in Table 1 below:

	<200 W No connexion to grid	200 W – 1.5kW No connexion to grid	1.5kW – 1MW	>1MW
Formal requirements	None	Mere communication of operation	Production licence (prior check) Operating licence	Operating licence

Table 1: Requirements for access and operation of electric power production units, part 1²¹

No construction permit is needed in addition to the elements referred to above.

²⁰ For a thorough description, see answer to point 4 above.

²¹ Adapted from table available at <http://www.energia.pt> (last accessed 15.12.2016).

The Decree-law 153/2014 also provides for a dematerialisation of procedures, namely by having introduced 'SERUP'. The 'Electronic System of Registry of the UPAC and UPP' ('*Sistema Eletrónico de Registo da UPAC e da UPP*'), which consists of an electronic platform of interaction between the Public Administration, promoters, producers and remaining participants in the registry procedure and its procedural steps, accessible through the web portal made available for that regard (Article 3, *lit. u*). Prospective prosumers must use this platform in order to present and process requests of registry and operating licenses (Article 12, nos. 1 and 3). The registry procedure starts with the registration in SERUP and ends with the acceptance by this platform (Article 13, no. 1). As for the operation licence, it shall be attributed by SERUP following to the installation and inspection (Article 15) or re-inspection (Article 16). The instructions for payment of taxes are made available by SERUP and they should be paid through the Platform of Payments of Public Administration (Article 37, 3).

- 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?**

The requirements for accessing self-consumption (namely, of electric power) in Portugal are described under the Section 4 'General' above.

As for the fees and costs that prosumers are submitted to they are provided for in Decree-law 153/2014.

- Article 8, *lit. a* reads that every prosumer must pay the costs of the required changes to the electric installation that are needed for connecting it to the grid. These costs are provided for in the Regulation of Commercial Transactions (*Regulamento de Relações Comerciais*²²) and the Technical and Quality Regulation in the Electric Production for Self-Consumption (*Regulamento Técnico e de Qualidade da Produção Elétrica para Autoconsumo*).
- Under *lit. b*, every prosumer must support the cost of the meters (namely, telemeters) which measure the totality of the electricity produced by the unit of production for self-consumption (UPAC), and the totality of the electricity injected in the grid, whenever the electric installation to which it is associated is connected to the grid and the power of the UPAC goes beyond 1.5 kW or when it intends to supply energy which has not been consumed into the grid.
- Under *lit. c*, prosumers must pay a fee ('*compensação*') for feeding power into the grid. This 'surplus fee' is regulated by Article 25 and which will be described with greater detail below²³. It must be paid always by production units which exceed 1.5kW.
- Finally, under *lit. h*, prosumers (except for those producing less than 200w) must support the cost of a civil liability insurance for repairing personal or material damage caused to thirds in result of the exercise of activities of production of electric power for self-consumption and small production. The prosumers which started their activity when the RLIE or Ordonnance 237/2013 of 24 July 2013 was in force must support the same four types of costs (Article 4, no. 2, *lits. a to d*).
- Additionally, the prosumers which produce up to 1.5kW of electric power or intend to

²² Regulation no. 561/2014 of 22 December 2014, DR no. 246/2014, Series II, accessible at <http://www.erse.pt/pt/electricidade/regulamentos/relacoescomerciais/Documents/RRC%20DR.pdf> (last accessed 5.12.2016).

²³ S. 'Does the law allocate to them a certain part of the cost to upgrade the grid to accommodate the extra generation they feed into the grid?'.

feed energy they did not consume into the grid and the prosumers which have no connection to the grid but produce energy based upon renewable sources must pay a tax that the registry involves (Article 37, no. 1, *lit. a*). The amount of the tax, which is charged by the General Direction of Energy and Geology (Article 37, no. 3), and its means of payment, as well as the stage of the procedure where it is due are defined in Ordinance of the member of the Government who is responsible for the area of energy (Article 37, no. 2). Units producing more than 1.5kW energy must also do regular inspections and pay the respective tax (Articles 39 and 37, no. 1, *lit. d*).

The costs are represented graphically in Table 2 below:

	<200 W No connexion to grid	200 W – 1.5kW No connexion to grid	1.5kW – 1MW	>1MW
Metering	NA	NA	Yes Telemetering	Yes Telemetering
Surplus pay	Only if the prosumer voluntarily registers the unit	Only if the prosumer voluntarily registers the unit	Yes	Yes (defined with counterparty)
Fee	Exempt	Exempt	Yes	Yes
Civil liability insurance	No	No	Yes	Yes

Table 2: Costs of prosumers depending from the power of the production unit

- 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?

The Decree-law 153/2014 provides for the regulation of the sale contract of electric power which has not been used by the prosumer to the supplier of last resource (*comercializador de último recurso, CUR*), which is **EDP distribuição**²⁴.

This sales contract is entered into whenever the producer requests it (Article 23, no. 2). The terms and conditions that the contract shall contain are listed in Article 23, no. 3: ‘a) The maximum deadline of 10 years, renewable by periods of five years, except opposition to renovation by any of the parties with 60 days in advance, to be exercised in written and under the following terms, as well as other causes of termination of the contract; b) the remuneration of the energy acquired by the CUR (...); c) The payment by the producer of the fee determined under Article 25; d) the periodicity of the invoicing by the CUR’.

Under Article 55 of the Decree-law 173/2006 of 23 of August 2006²⁵ (Acquisition of electric power by the CUR), the CUR must acquire electric power produced by prosumers within a special regime (no. 1, *lit. a*), must give preference to acquiring electric power produced by electro-producer centres in connection to which the current contracts of acquisition of energy power still produce effects (no. 1, *lit. b*); may acquire electric power to supply the respective

²⁴ Information provided by Ms Ana Capitão, from the department of self-consumption of the Directorate-General for Energy and Geology (12.12.2016).

²⁵ Published at DR no. 162/2006, Series I of 23 August 2006.

clients in organised markets (no. 1, *lit. c*); may acquire electric power as agreed in bilateral contracts, previously approved by the ERSE, under the terms provided for in the Regulation of Commercial Relationships (no. 1, *lit. d*). Under no. 7, ‘the CUR that acquires surplus of electric power must resell it in the organised market, in conditions to be defined within the scope of the Regulation of Commercial Transactions’.

The prosumer who does not enter into an agreement with the CUR, but establishes another kind of commercial relationship, such as the sale in organised markets or before bilateral contract of non-consumed electricity in the installation associated to the UPAC, is subject to the conditions to be fixated by the respective licencing entity, having as reference the discipline contained in the legal regime of commercial production of electricity (Article 28 of the Decree-law 153/2014).

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

General

According to Decree-law 153/2014, the electric power produced for self-consumption is aimed at consumption in the installation associated to the production unit. The prosumer has the possibility of connecting the unit of production to the grid for sale, at market price, of the electric power he or she did not consume.

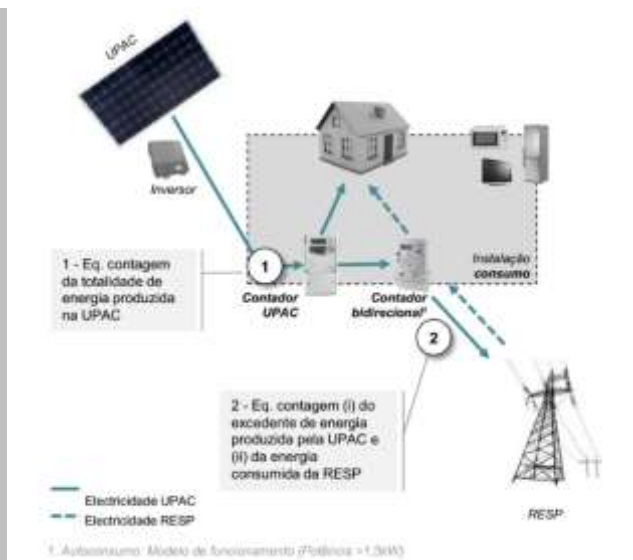
The Decree-law 153/2014 promotes the production of energy for self-consumption, but it does not promote the access to the grid by prosumers. The production of energy is only beneficial if the prosumer’s production unit is dimensioned according to the real needs of consumption of the installation and does not have a surplus of production²⁶. Feeding into the grid involves the payment of a fee to the public authorities for ‘the political costs of electricity’²⁷, and the revenues that arise from the sale of energy to the CUR (as well as the amounts saved with the self-generation of energy) usually do not compensate the investments necessary for producing energy at the residential level. The policy is benefiting the access to the grid, not by prosumers, but by small producers instead. That that be seen by the regulations on the Decree-law 153/2014, particularly the fact that small producers are not subject to the payment of the fee in Article 25.

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

The production unit for self-consumption (UPAC) produces preferentially to satisfy the needs of consumption of the producer. Therefore, the production unit is installed in the location of consumption and the electric power produced is instantaneously injected in the consumption unit. However, whenever there is a surplus, it can be injected in the grid, thereby avoiding waste. The scheme (Scheme 1) below describes the interconnection configuration for prosumers producing more than 1.5kW of electric power.

²⁶ Preamble of the Decree-law 153/2014.

²⁷ Critical Kinetics, ‘Governo promove legislação para autoconsumo’, available at <http://critical-kinetics.pt/legislacao-autoconsumo.html> (last accessed 15.12.2016).



Scheme 1

Interconnection configuration for prosumers feeding electric power into the grid (see correspondence table 1)

<i>Inversor</i>	Inverter
<i>Contador</i>	Meter
<i>Contador bidirecional</i>	Bidirectional meter
<i>Instalação de consumo</i>	Energy consumption installation
<i>eq. contagem da totalidade de energia produzida na UPAC</i>	Equipment for metering the totality of energy produced in the production unit for self-consumption
<i>RESP (Rede Elétrica de Serviço Público)</i>	Electric Power Public Grid
<i>eq. contagem (i) do excedente de energia produzida pela UPAC e (ii) da energia consumida da RESP</i>	Equipment for metering the excess of power produced by the UPAC and the energy consumed of the grid
<i>Electricidade</i>	Electric power

Correspondence table 1

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

The competence to determine the inter-connection configuration lies at state level. The General Direction of Energy and Geology (DGEG) is the entity responsible for the decision, coordination and monitoring of the activity of production of electric power (Article 10, no. 1 Decree-law no. 153/2014). Some of its powers consist of: creating a pool of certified equipments (*lit. h*) and approve the Technical and Quality Regulation (*Regulamento Técnico e de Qualidade*) and the Regulation on Inspection and Certification (*Regulamento de Inspeção e Certificação*) (*lit. l*). Some of the powers of the DGEG may be delegated into private entities, under Article 11, no. 1, but the above mentioned regulations cannot be delegated.

According to the DGEG website, the Technical Commission of Electrotechnical Normalisation CTE64 – Electric Installations in Buildings (*Comissão Técnica de Normalização Eletrotécnica CTE64 - Instalações Elétricas em Edifícios*) drafted the technical rules of the PV solar

installations based upon the document of harmonisation of CENELEC HD 30604-7-712. As a complement, such commission defined the most usual schemes-type that concern the production units for self-consumption, applying these technical rules. These documents are in the process of being approved and a stakeholder consultation is ongoing until the end of 2016²⁸.

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

There are no rules aimed at ensuring that prosumers are inter-connected to the distribution network or grid.

Nevertheless, the Decree-law 153/2014 includes provisions which are apparently aimed at ensuring that the connection is efficient and made with quality. Indeed, according to Article 9, no. 1, 'the installation of the production unit is necessary executed by the entity installing electrical installations of particular service or responsible technicians by the execution of electrical installations, under the terms of the applicable legislation, which approves the requirements of access and exercise of the activity of entities and professionals responsible by the electric installations'. The installing entity must 'ensure that the equipments are to be installed and certified' according to the Portuguese, European and international rules applicable (Article 9, no. 2; Article 20 nos. 2 and 3, no. 4 and no. 5, respectively) and that the 'production unit is duly registered' (Article 9, no. 3).

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

In principle, the production unit for self-consumption (UPAC) produces preferentially to satisfy the needs of consumption of the producer. This means that the surplus which feeds into the grid should be reduced in as much as possible.

Whenever there is a surplus, the current legal regime allows the prosumer to feed the surplus into the grid. In such case two rules must be observed: the connected load (*potência de ligação*) of the production unit must be below the load contracted in the consumption unit. The load of the production unit (*potência da unidade de produção*) must not be above twice the load of the installation (*potência da instalação*).

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

Production units for self-consumption that produce more than 1.5kw and the electric installation of which is connected to the grid must pay a fee (*'compensação'*). It consists of a fix monthly sum for each kW of installed power, and it is aimed at recovering part of the costs arising from measures of energy policy, sustainability or general economic interest (*CIEG*) in the tariff of global use of the system, concerning the regime of production of electricity for self-consumption.

This fee is due in the first ten years following to the obtainment of the operation certificate. The formula which is used for the calculation of such fee is provided for in Article 25 of the Decree-law 153/2014, and it involves the multiplication of the value of the installed power by the value which allows to recover the *CIEG* of the production unit (measured by euro for kw) by the weighting ponderation which attends to the representativeness of the total power in the national electric system in the year of emission of the operation licence (Article 25, no. 1, *lit. a to e*).

²⁸ For details, see <http://www.dgeg.pt/>.

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

General

In a previous edition of the Portuguese Code of Personal Income Tax, Article 85-A, no. 1, *lit. a* ('Environmental deductions') provided that up to once in every four years prosumers could deduct to the sum paid 30% of the amounts spent (up to the limit of 803 euros) with the acquisition of new equipments for use of renewable energies and equipments for the production of electric (...) energy. These equipments would have to be affected to personal use. This article was repealed by Article 97 of Law no. 55-A/2010 of 31 December 2010.

The National Action Plan for Energetic Efficiency (*Plano Nacional de Ação para a Eficiência Energética*, PNAEE 2016), approved by together with the National Action Plan for Renewable Energies (PNAER 2020) contains a measure which relates to prosumers. Measure RSp3m1 (Residential Termic Solar) aims at the revisatilisatation of the pre-existent equipments through specific support directed at the area of energy efficiency, including the negotiation of credit lines directed to the residential sector.

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?

Portugal does not apply specific tariffs to prosumers to charge them from the electricity they draw from the grid for consumption.

Prosumers are remunerated for the electricity they feed back into the grid.

According to Article 24 ('Remuneration of the energy arising out of the production units for self-consumption'), the [r]emuneration that prosumers receive per month in euros due to the electricity provided to the grid corresponds to the energy provided in that month in Kwh multiplied by the value resulting from the simple arithmetic average of the prices of closure of the Operator of the Iberian Energy Market (OMIE) for Portugal in that month in euros by kw, multiplied by 0.9.

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?

As has been previously referred, prosumers were entitled to tax benefits under the former tax regulations, but these were amended in 2010 and the respective Article was repealed.

As described above²⁹, Article 25 provides for a fee due by the production units for self-consumption, which is aimed at recovering a part of the costs which arise from 'measures of energy policy, sustainability or general economic interest' (no. 1, *lit. a*).

²⁹ S. 'What are the network costs and charges for each type of residential prosumer?'.

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

General

From the perspective of the consumer, the activity of production of electric power presents some benefits both at the stage of entry into activity and during functioning. Indeed, the benefits in access to credit that the new Plan for Energy Efficiency envisages for promoting the investment in equipment necessary to produce energy at the residential level are a factor which may be decisive in the decision of consumers of energy becoming prosumers. One relevant factor which encourages consumers to continue their activity of producing energy at the residential level, is the fact that in the past years the price of electricity per kwh has increased exponentially³⁰.

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

General

In spite of the benefits that the production of electric power represents for consumers, the lack of tax benefits and the costs that being a prosumer involves (at the level of insurance, metering, administrative taxes, etc.) may be discouraging for consumers when considering producing their own energy. The fact that the monthly fee which is due for the costs supported by the grid lasts for the period of ten years, and that regular inspections (which involve taxes) are also needed, may also be discouraging already after the prosumers started their activity of residential production of energy.

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?

As referred to above³¹, the metering systems have only recently been regulated but are still being discussed at stakeholder level and have not yet been approved.

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

Under Article 55, no. 4 of the Decree-law 172/2006 of 23 of August 2006 the Regulating Entity of Energy Services (ERSE) sets, in the beginning of each year, the estimated cost for the acquisition of electric power to be applied in the definition of the tariffs of the CUR. Under no. 5 of the same article, '[t]he difference between the real costs of acquisition of energy, which include the fees of production in special regime and the updated reference value, calculated in the terms of the preceding number, affects the fee of global use of the system under the terms to be established in the billing regulation'³².

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?

According to the program of the XXIth Portuguese government³³, it planned to launch, together with the State and local authorities, a program of microgeneration in public establishments

³⁰ According to Eurostat, in the last ten years the price per kWh increased 61% for domestic consumers. Enerwise, 'Autoconsumo', available at <http://www.autoconsumo.pt/servicos/auto-consumo> (last accessed 5.12.2016).

³¹ S. 'Does the competence to determine the inter-connection configuration lie at State level or at a regional/lander level?'

³² Original version: 'A diferença entre os custos reais de aquisição de energia, que incluem as tarifas de produção em regime especial e o valor de referência atualizado, calculado nos termos do número anterior, é repercutida na tarifa de uso global do sistema nos termos a estabelecer no Regulamento Tarifário'.

³³ Available at <http://www.portugal.gov.pt/media/18268168/programa-do-xxi-governo.pdf> (last accessed 10 December 2016).

(schools, hospitals, sports facilities, police stations, markets) from solar power. The starting investment will be, up to a great extent, upon charge of energy power businesses (*ESE*), which will be paid during several years, based upon the revenues obtained with the sale of the produced electric power. Under the same program, credit support programs will be negotiated with banks; they will have special conditions to which energy power businesses may apply to finance the installation of the microgeneration equipments.

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?

There are no known no rules nor measures to facilitates collective type of schemes, to facilitate the creation of energy cooperatives or similar.

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

Decree-law no. 522/99 of 10 December 1999 regulates the consumption cooperatives (*cooperativas de consumo*) and the Portuguese Constitution affirms, in its Article 60, the respective right of being supported by the State during their activity. However, in neither instrument a reference to the establishment of cooperatives for prosumers is made.

8. Other questions on the regulatory framework

8.1. What are the complaint handling procedures for each type of residential prosumer?

The National Centre for Information and Mediation of Consumption conflicts (*CNIACC*) is the entity responsible for mediating consumption conflicts. As consumption conflicts are those which result from a legal relationship of consumption, having always, as parties, a consumer and a professional, this entity will only be competent whenever the consumer feeds unused power into the grid, and the conflict is towards the grid authorities. Whenever the prosumer feeds no power into the grid, they are, simultaneously, producer and consumer and thereby no mechanisms for consumer protection apply³⁴.

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

There are no known specific redress procedures available only to residential prosumers. There is one collective redress mechanism that may provide a damages remedy for prosumers, but it is a fully judicial group action set out in statute and in general, no specifically to prosumers not even to consumers. '*Acção popular*' has constitutional protection but used little in practise. The landscape of Portuguese consumer law is dominated by the non-judicial and conciliatory mechanisms and bodies³⁵. Prosumers disputes or claims are most likely to be solved through alternative dispute, mediating mechanisms, on a case-by-case basis.

³⁴ For further details see <http://arbitragemdeconsumo.org/resolucaoconflitosconsumo.php> (last accessed 10 December 2016).

³⁵ For further details see Civil Consulting, 'Evaluation of the effectiveness and efficiency of collective redress mechanisms in the European Union - Country report Portugal', available at http://www.civic-consulting.de/reports/collective%20redress_study.pdf (last accessed 15.12.2016), p. 2.

Country fiche

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
<i>General Description of the national regulatory framework</i> - Types of residential prosumers The most representative type of residential prosumers, and the only one which is object of specific regulation are those which produce electricity through solar panels. There are prosumers producing energy from wind and water power, but the energy generated and their quantitative representative are residual. - Institutional framework The institutional framework is composed of the Directorate-General for Energy and Geology, the Energy Services Regulatory Entity and the National Energy Networks. - Applicable legislation, plans and objectives The current plan in the field of renewable energies is the National Energy Strategy <i>ENE 2020</i> has been approved by the Resolution of the Council of Ministers 29/2010 of 15 April 2010. The applicable legislation to prosumers is essentially Decree-law 153/2014 of 20 October 2014. - Definition of residential prosumers There is no statutory definition of ‘residential prosumers’, but for the concept of ‘<i>produtores-consumidores</i>’ or ‘<i>autoconsumidores</i>’ has been used for referring to the persons who produce energy - namely through renewable sources - for self-consumption.	Medium Medium High Medium
<i>Specific Questions on the regulatory framework for residential prosumers</i>	
Permitting requirements for each type of residential prosumer The legal regime applicable to prosumers is different depends on: 1. the <i>amount of power</i> generated, namely :a) less than 200w ; b) between 200 and 1.5kW ; c) between 1500w and 1 MW ; d) or more than 1MW; 2. the <i>type of energy source</i> used, namely renewable or non-renewable; and on 3. whether the <i>production unit is or is not connected</i> to the grid. Whenever prosumers wish to produce more than 1500 kw they must get : a production licence ; an operating licence and a civil liability insurance. They must also pay metering costs. If prosumers wish to produce up to 1500 kw, they must only do a mere communication of operation. If prosumers wish to produce less than 200 w there is no fee due nor even previous communication.	Low

A registry is necessary whenever prosumers want to inject energy into the grid and use renewable sources of energy. Rules applicable to the access to the grid Residential production of energy is aimed at self-consumption as a principle. Prosumers may access the grid for injecting unused power. They will be entitled to a varied remuneration and will have to pay a fee for injecting in the grid. Incentives (e.g. taxes and tariffs) for each type of residential prosumers Law no. 55-A/2010 of 31 December 2010 repealed tax benefits that the Portuguese Code of Personal Income Tax, Article 85-A ('Environmental deductions') provided for. There are no known tax benefits today. However, the Measure RSp3m1 (Residential Termic Solar) of the National Action Plan for Energetic Efficiency (<i>Plano Nacional de Ação para a Eficiência Energética, PNAEE</i> 2016) concerns prosumers: it aims at the revisatilisatation of the pre-existent equipments through specific support directed at the area of energy efficiency, including the negotiation of credit lines directed to the residential sector. Conditions encouraging or acting as barriers for residential prosumers What are the metering systems for each type of residential prosumer? The metering systems have not yet entered in force in Portugal: they are still being discussed at stakeholder level and have not yet been approved.	Low Medium Low
What are the billing conditions for each type of residential prosumer? Under Article 55, no. 4 of the Decree-law 172/2006 of 23 of August 2006 the Regulating Entity of Energy Services (<i>ERSE</i>) sets, in the beginning of each year, the estimated cost for the acquisition of electric power to be applied in the definition of the tariffs of the CUR. Under no. 5 of the same article, '[t]he difference between the real costs of acquisition of energy, which include the fees of production in special regime and the updated reference value, calculated in the terms of the preceding number, affects the fee of global use of the system under the terms to be established in the billing regulation.	Low
- What are the measures to encourage the creation of energy communities at municipal level? There are no known measures to encourage the creation of energy communities at municipal level. - What are the rules facilitating the creation of energy cooperatives? Are they more simple/less costly than those for other schemes? Are cooperatives the most common legal status for energy communities? There are no known measures to encourage the creation of energy communities at municipal level. Other questions on the regulatory framework	Low Low

Complaint handling procedures for residential prosumer? The National Center for Information and Mediation of Consumption conflicts (CNIACC) is the entity responsible for mediating consumption conflicts. As consumption conflicts are those which result from a legal relationship of consumption, having always, as parties, a consumer and a professional, this entity will only be competent whenever the consumer feeds unused power into the grid, and the conflict is towards the grid authorities. Whenever the prosumer feeds no power into the grid, they are, simultaneously, producer and consumer and thereby no mechanisms for consumer protection to apply.	Low
Redress procedures available only to residential prosumers? There are no known redress procedures available only to residential prosumers. ‘<i>Ação popular</i>’ is a collective redress mechanism but it is not particular of prosumers, not even consumers in particular. Prosumers disputes or claims are most likely to be solved through alternative dispute, mediating mechanisms, on a case-by-case basis.	Low

Executive summary

Self-consumption in Portugal relates essentially to the production of electricity through PV systems. The activity of residential prosumers (traditionally referred to as ‘*produtores-consumidores*’ or ‘*autoconsumidores*’) is regulated by a Decree-law from October 2014 and the Portuguese Energy Strategy 2020.

The figure of prosumer (*produtor-consumidor*) was provided for the first time in Portugal by Decree-law no. 34/2011 of 8 March 2011, which regulated the activity of production of electrical energy including the regimes of micro and mini-production of electric power. The Decree-law 153/2014 provides for a new regime of distributed production of electricity which includes two kinds of PV installations: self-consumption (*autoconsumo*) and small production (*pequena produção*). The former consists of the legal regime applicable to residential prosumers in Portugal. The latter consists of a simplified and aggregated version of the former mini-production (*miniprodução*) and micro-production (*microprodução*) models, which involve the injection of all produced energy in the grid³⁶ and are referred to as UPP (‘*unidades de pequena produção*’, units of small production). The **legal regime** applicable to prosumers depends on the amount of power generated, the type of energy source used and, finally, on whether the production unit is connected to the grid. Whenever prosumers wish to produce more than 1500 kw they must get a production licence, an operating licence and a civil liability insurance. They must also pay metering costs. If prosumers wish to produce up to 1500 kw, they must only do a mere communication of operation. If prosumers wish to produce less than 200 kw there is no fee due nor even previous communication.

Prosumers may access the grid for injecting unused power. They will be entitled to a varied remuneration and will have to pay a fee for injecting in the grid. Other than easiness in access to credit lines, since 2010 prosumers have no more incentives. However, under the billing regulation ‘[t]he difference between the real costs of acquisition of energy, which include the fees of production in special regime and the updated reference value, calculated in the terms of the preceding number, affects the fee of global use of the system. Certain areas are still under development, such as the case of metering systems, which still do not exist in Portugal as well as energy communities and cooperatives. Likewise, there are no specific complaint handling procedures put in place for prosumers only, and complaints are dealt with by the national entity responsible for mediating consumption conflicts in general. As for redress procedures, most prosumers’ disputes or claims are solved by alternative dispute mediating mechanisms.

³⁶ Available at <http://www.energia.pt/fotovoltaico> (last accessed 5.12.2016).