



## **POLICY GUIDELINES**

*by the Energy Community Secretariat*

### **on Integration of Renewables Self-Consumers**

PG 03/2020 / 28 September 2020



## 1 CONTEXT

The Policy Guidelines on the Grid Integration of Prosumers<sup>1</sup> published by the Energy Community Secretariat on 5 February 2018 provided recommendations on the regulatory and technical aspects of self-consumption schemes in the Energy Community Contracting Parties. A particular emphasis was given to small renewable installations owned by final customers and connected to the distribution network. Given the lack of a legal basis in the European Union at the time, the Policy Guidelines were based on European best practice, as well as on the findings and recommendations of a study on distributed generation for self-consumption<sup>2</sup> prepared under the cooperation platform of Energy Community Distribution System Operators.

After the adoption of the Policy Guideline of 2018, a legally binding framework for self-consumption was adopted in the European Union (EU) as part of the so-called Clean Energy for all Europeans Package (CEP). The CEP aims to facilitate decarbonisation of the energy sector and implement greenhouse gas emissions reduction commitments in line with the Paris Agreement. It sets 2030 targets for greenhouse gas emissions, renewable energy and energy efficiency, and establishes the necessary legal framework to underpin their implementation.

In the light of these objectives, the CEP promotes an important role of final customers in the energy transition through their active participation in the energy market. It essentially requires EU Member States to allow them to, individually or as a group, generate, consume, store and sell self-generated electricity. The new Electricity Directive<sup>3</sup> opens a possibility for final customers to participate in the market as active customers<sup>4</sup>. More specifically, the new Renewables Directive<sup>5</sup> provides the legal framework for final customers to engage in renewable self-consumption, as a renewable self-consumer<sup>6</sup> or as jointly acting renewable self-consumers<sup>7</sup>. The new Renewable Directive also obliges EU Member States to put in place an enabling framework to promote and facilitate the development of renewable self-consumption. The Governance Regulation<sup>8</sup>, finally, requires EU Member States to include a summary of the policies and measures envisaged as part of such an enabling framework and an assessment of their implementation in their National Energy and Climate Plans (NECPs) and progress reports.

The CEP is not yet a legal obligation in the Energy Community. However, the work on its incorporation has started, and its relevance and importance of its key messages are valid already now. Self-consumption can allow final customers to benefit from the development of renewable energy technology and the associated cost-reduction and reduce their energy bills. That is highly relevant in a social-economic environment where energy poverty matters, and where environmental and energy policies still lag behind many of the EU Member States.

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<sup>1</sup> [https://energy-community.org/dam/jcr:5e6fd995-f753-4fe2-b180-95df8a1bf19d/PG\\_01\\_2018\\_ECS\\_RE\\_grid.pdf](https://energy-community.org/dam/jcr:5e6fd995-f753-4fe2-b180-95df8a1bf19d/PG_01_2018_ECS_RE_grid.pdf)

<sup>2</sup> [https://www.energy-community.org/dam/jcr:78a1b5d0-9df7-41f4-9691-553d2c813437/WSEL052017\\_Muratovi%C4%87\\_Key\\_aspects.pdf](https://www.energy-community.org/dam/jcr:78a1b5d0-9df7-41f4-9691-553d2c813437/WSEL052017_Muratovi%C4%87_Key_aspects.pdf)

<sup>3</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0944&from=EN>

<sup>4</sup> 'active customer' means a final customer, or a group of jointly acting final customers, who consumes or stores electricity generated within its premises located within confined boundaries or, where permitted by a Member State, within other premises, or who sells self-generated electricity or participates in flexibility or energy efficiency schemes, provided that those activities do not constitute its primary commercial or professional activity;

<sup>5</sup> [https://ec.europa.eu/energy/topics/renewable-energy/renewable-energy-directive/overview\\_en](https://ec.europa.eu/energy/topics/renewable-energy/renewable-energy-directive/overview_en)

<sup>6</sup> 'renewables self-consumer' means a final customer operating within its premises located within confined boundaries or, where permitted by a Member State, within other premises, who generates renewable electricity for its own consumption, and who may store or sell self-generated renewable electricity, provided that, for a non-household renewables self-consumer, those activities do not constitute its primary commercial or professional activity;

<sup>7</sup> 'jointly acting renewables self-consumers' means a group of at least two jointly acting renewables self-consumers in accordance with point (14) who are located in the same building or multi-apartment block

<sup>8</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R1999&from=EN>

A recent Energy Community Regulatory Board report<sup>9</sup> assessed the legal and regulatory framework for prosumers in the Energy Community. It took into account provisions on self-consumption under the new Renewables Directive, identified a general lack of legislation in this field and pointed to a non-harmonised approach across the Energy Community. The report recommended that all Contracting Parties establish a comprehensive and harmonised legislative framework to promote self-consumption.

With a view to kick-start the development, remove obstacles and ensure that the design of policies and measures is in line with the framework defined by the CEP, the present Policy Guidelines replace the Secretariat's 2018 Policy Guidelines on the Grid Integration of Prosumers. The changes harmonise the Policy Guidelines with CEP terminology and the new provisions governing renewable self-consumption.

The overall purpose of the Policy Guidelines is to provide advice to policy-makers in the Contracting Parties on the development of national legal and regulatory frameworks conducive to renewable self-consumption and empowering final customers to actively participate in the self-consumption of renewable energy in line with the CEP.

## 2 POLICY FRAMEWORK

In 2018, the Energy Community Ministerial Council adopted General Policy Guidelines on 2030 Targets<sup>10</sup>, whereby the Contracting Parties expressed commitment to adopting the new Energy Efficiency Directive<sup>11</sup>, the new Renewable Energy Directive and the Governance Regulation introduced by the CEP. The European Commission is expected to propose the adoption of the relevant legislative package for the Energy Community alongside the 2030 targets in the first half of 2021.

The Governance Regulation defines a framework for the development of NECPs and reporting on the status of their implementation by means of progress reports. According to Article 20 of the Governance Regulation, integrated reporting on renewable energy should include information on the implementation of the trajectories and objectives, as well as on the implementation of the defined policies and measures, including those related to renewable self-consumption.

The process of developing NECPs in the Contracting Parties is already well underway following the Secretariat's non-binding Policy Guidelines<sup>12</sup>, which also set the timeline for their finalisation.

In developing NECPs and preparing for the forthcoming progress reporting on their implementation, the Contracting Parties should recognise the importance of renewable self-consumption in the decarbonisation process. To properly address self-consumption in NECPs, the Contracting Parties should consider the following recommendations:

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<sup>9</sup> [https://energy-community.org/dam/jcr:abacd12d-283c-492a-8aa4-6da5797d044a/ECRB\\_prosumers\\_regulatory\\_framework\\_032020.pdf](https://energy-community.org/dam/jcr:abacd12d-283c-492a-8aa4-6da5797d044a/ECRB_prosumers_regulatory_framework_032020.pdf)

<sup>10</sup> [https://energy-community.org/dam/jcr:a70ca2dc-6043-4dbd-8cca-84b755efc71d/PG\\_2030\\_Targets\\_112018.pdf](https://energy-community.org/dam/jcr:a70ca2dc-6043-4dbd-8cca-84b755efc71d/PG_2030_Targets_112018.pdf)

<sup>11</sup> [https://ec.europa.eu/energy/topics/energy-efficiency/targets-directive-and-rules/energy-efficiency-directive\\_en](https://ec.europa.eu/energy/topics/energy-efficiency/targets-directive-and-rules/energy-efficiency-directive_en)

<sup>12</sup> [https://www.energy-community.org/dam/jcr:c9886332-a1f5-43ee-b46c-31c637aedfa6/PG\\_03\\_2018\\_ECS\\_NECP.pdf](https://www.energy-community.org/dam/jcr:c9886332-a1f5-43ee-b46c-31c637aedfa6/PG_03_2018_ECS_NECP.pdf)

## Recommendations Set #1

Current status and potential for self-consumption deployment	The current status of deployment of renewable self-consumption should be identified in the process of NECP development. The deployment potential should be calculated and used as an indicator in the process of target setting.
Self-consumption targets	The contribution of self-consumption to national 2030 targets, taking into account the current status, potential, environmental and socio-economic aspects, technological development and the falling cost of investments into renewable energy sources, should be considered. The target should be clearly set, for instance as the share of roof-top PV capacity in the total national renewables target. Shares of self-consumption should count towards the calculation of the gross final consumption of electricity from renewable sources.
Barriers to self-consumption deployment	An assessment of the main barriers (legal, administrative, regulatory, financial, technical, customer awareness, social acceptance, etc.) to the deployment of self-consumption should be done as a basis for the development of a legal and financial framework addressing the barriers and enabling the attainment of the set targets.
Strategy for the development of self-consumption	A set of adequate policies and measures to remove the identified barriers, promote and facilitate the deployment of self-consumption in line with the objectives, including through financial support, should be defined and included into NECPs and promoted by other relevant strategies, i.e. strategies for long-term renovation and integration of renewable self-consumption in plans for the refurbishment of buildings into nearly zero-energy buildings.
Progress monitoring and reporting	In the context of reporting on NECP implementation, the Contracting Parties should monitor and report on the implementation of self-consumption targets, including key performance indicators which should be defined in a comprehensive manner.

## 3 LEGAL AND REGULATORY FRAMEWORK

A reliable, transparent and supportive legal and regulatory framework that allows all final customers to generate, store and sell self-generated electricity is crucial for the promotion and implementation of self-consumption.

At EU level, the new Electricity Directive in Article 15 defines an obligation for Member States to ensure that final customers are entitled to act as active customers, namely to - individually or as a group of jointly-acting final customers - consume, store or sell self-generated electricity or to participate in flexibility or energy efficiency schemes, provided that those activities do not constitute their primary commercial or professional activity. Active customers shall not be subject to disproportionate or discriminatory technical requirements, administrative requirements, procedures and charges, and to network charges that are not cost-reflective. More specifically, Article 21 of the new Renewables Directive defines an obligation for Member States to ensure that consumers are entitled to become renewables self-consumers. Renewable self-consumers are a subgroup of active customers, limited to the generation of renewable electricity for their own consumption, without being entitled to participate in flexibility or energy efficiency schemes.

The findings of the ECRB report on prosumers showed that the existing legal and regulatory framework in the majority of the Contracting Parties is addressing renewable self-consumption insufficiently. In some cases, it is completely missing, including the absence of a clear and comprehensive definition of a self-consumer.

This presents a major obstacle to the development of self-consumption in the Contracting Parties. The development of an adequate framework for self-consumption requires amending the primary legislation governing renewable energy and the development of secondary acts that define in detail the procedures, terms and conditions for issues such as grid connection and market integration of self-consumption. Existing primary and secondary legislation related to the electricity market, transmission and distribution system operation should also be amended.

Given that the adoption of the new Renewables Directive in the Energy Community is envisaged for mid-2021, the Contracting Parties are recommended to take due account of the CEP provisions governing renewable self-consumption already now. This will ensure that any amendments to the legal framework are harmonised with the CEP.

In developing an enabling legal and regulatory framework for self-consumption, the Contracting Parties should consider the following general recommendations:

### Recommendation Set #2

Renewable self-consumer activities, rights and obligations	<p>A legal framework should explicitly allow a final customer to generate renewable electricity for its own consumption, to store and sell self-generated renewable electricity, provided that it is not its primary commercial or professional activity.</p> <p>Renewable self-consumers should be explicitly entitled to keep their rights and obligations as final customers (e.g. supplier switching and protection measures).</p>
Non-discrimination	<p>The right to participate in renewable self-consumption schemes should be granted to all final customers, including through aggregators in a non-discriminatory and transparent manner. Any differentiation between different customer categories and between individual and jointly acting self-consumers has to be proportionate and duly justified.</p>
Criteria and organisation of self-consumers	<p>Precise definitions and criteria for self-consumers to benefit from support schemes should be defined, including technical requirements such as installed capacity, voltage level and metering system at the connection point of self-consumers.</p> <p>The legal framework should allow renewable self-consumers to act individually or collectively through aggregation or as jointly acting self-consumers when located in the same building, including multi-apartment blocks.</p>
Administrative procedures	<p>Authorisation procedures for self-consumption should be clear, simple, comprehensive, transparent, proportionate, streamlined across different administrative levels and competent authorities, including through the establishment of single points of contact in the administration.</p>
Support schemes	<p>Instruments, schemes and mechanism that could facilitate penetration and integration of self-consumption including through direct financial support to the investment, netting schemes, feed-in tariffs, reduction or exemption from taxes and levies, should be defined.</p> <p>Support schemes should be designed in a way that reflects long-term</p>

	policy objectives. They should be provided on the basis of a consistent and predictable framework in order to ensure stability and security of the investment. The legal framework should clearly define requirements which are to be met by the self-consumer's installation in order to benefit from an incentive. Support for the deployment of integrated renewables and energy storage equipment should be considered taking into account its long-term value to the grid, the environment/climate and society.
Cost reflectivity	The self-consumption regulatory framework should respect the principles of cost reflectivity, cost recovery and avoidance of cross-subsidization among network users. To the extent it applies to undertakings, it should comply with the relevant State aid rules.
Charges and fees	Renewable self-consumers should not be subject to discriminatory and disproportionate charges or fees.
Access to information on self-consumption	Single points of contact should be established and information published on the websites of national or local bodies responsible for promotion of renewables and energy efficiency, providing final customers with all the necessary information regarding their rights, obligations and potential benefits of becoming renewable self-consumers.
Subsequent legislative changes	Subsequent legislative changes should not have retroactive impact on existing self-consumption schemes, including support schemes. The unit price changes of excess energy, grid tariffs or other taxes and levies are not considered as a change of the legislative framework.
VAT legislation	VAT legislation should allow implementation of the self-consumption schemes, and in particular netting schemes recommended by these Policy Guidelines.

#### 4 TECHNOLOGIES AND TECHNICAL REQUIREMENTS

The existing legal framework in the Energy Community Contracting Parties does not generally impose any limits on the renewable generation technologies allowed to be used for self-consumption purposes. However, there are some restrictions on the voltage level at which self-consumption can be connected.

The ECRB report showed that most of the self-consumers in the Contracting Parties are connected to the low voltage level and that despite a slight increase in the last years, the number of self-consumers remains very modest. To facilitate the wider deployment of self-consumption and energy storage installations, the technical characteristics of renewable sources, in particular for small-scale self-consumption application, should be defined. Their technical requirements for grid connection and operation should be regulated. The connection rules for generators should be in line with the Network Code on Requirements for Grid Connection of Generators (RfG NC)<sup>13</sup> as adapted and adopted for the Energy Community in 2018, which the Contracting Parties are obliged to implement by 12 July 2021.

The implementation of smart metering systems is an important element in enabling self-consumption to be deployed in an efficient way. Based on the Third Energy Package, the Contracting Parties are already obliged to ensure the implementation of smart meters to assist the active participation of customers in the market. This may be subject to a cost-benefit assessment, based on which a timetable with a target of up to ten years for the implementation of smart metering systems shall be developed. Where the assessment was positive, at least 80% of customers were to be equipped with smart meters by 2020.

<sup>13</sup> [https://www.energy-community.org/dam/jcr:c456149c-65b5-4ea6-86ce-f48a0b22c2d3/Regulation\\_2016\\_631\\_EL.pdf](https://www.energy-community.org/dam/jcr:c456149c-65b5-4ea6-86ce-f48a0b22c2d3/Regulation_2016_631_EL.pdf)

The new Electricity Directive defines a detailed framework for smart metering systems aimed at promoting and supporting the active participation of customers in the market, including requirements for smart metering system functionalities, where the cost-benefit analysis was positive or where they are systematically deployed after 4 July 2019, are defined. Where the impact assessment for the deployment of smart metering systems was negative and they are not systematically deployed, it should be ensured that every final customer is entitled on request and at its cost to have a smart meter installed, or their existing meter upgraded under fair, reasonable and cost-effective conditions. Rules on the management and access to data of the final customer are also defined.

By now, the roll-out of smart metering has not yet been implemented in most of the Contracting Parties. Contracting Parties should step up their efforts in this respect. In their plans for the implementation of smart metering system, the Contracting Parties should assess an impact of the smart metering roll-out on the deployment of renewable self-consumption.

Even though it may not be explicitly forbidden, the use of energy storages for self-consumption purposes has not been specifically recognised in the Contracting Parties. Energy storage technology plays an important role in the energy transition in the European Union through the framework defined by the CEP<sup>14</sup>. The CEP supports the deployment of storage in a way to maximise integration of renewable energy sources and to bring benefits to the market, grid and customers, including renewable self-consumers who are entitled to install and operate energy storage systems in addition to their generation installations. The rights of active customers who own an energy storage facility<sup>15</sup> are also defined in the new Electricity Directive<sup>16</sup> and the new Renewables Directive<sup>17</sup>.

The Contracting Parties should remove any technical barriers to non-discriminatory connection and access of self-consumer installations to the grid, including those with energy storages, and facilitate their active participation in the market through transparent and comprehensive rules for their connection, including metering requirements, which shall be based on the following general principles:

### Recommendation Set #3

Renewable technology	All types of renewable technologies should be allowed to be installed, owned and operated by renewable self-consumers.
Energy storage technology	Energy storage installations should be defined, including a more specific classification of their technical characteristics, including whether they are before or behind the meter.  Renewable self-consumers should be explicitly allowed to install, own and operate energy storage installations.
Voltage level	Renewable self-consumption, including with energy storages, should be explicitly allowed to be connected to all voltage levels in line with the connection rules.
Network planning	As part of network planning, system operators should analyse how and where self-consumption and storage could best support the network.
Installed capacity criteria	As a general rule, the installed capacity eligible for self-consumption support schemes should not exceed the requested connected and/or contracted capacity of the customer.
Capacity limitations for energy storages combined with self-	Capacity limitations (consumption/injection level) for energy storages used in renewable self-consumption installations should be defined in a non-discriminatory manner, including limits for energy storages for

<sup>14</sup> 'energy storage' means, in the electricity system, deferring the final use of electricity to a moment later than when it was generated, or the conversion of electrical energy into a form of energy which can be stored, the storing of such energy, and the subsequent reconversion of such energy into electrical energy or use as another energy carrier

<sup>15</sup> 'energy storage facility' means, in the electricity system, a facility where energy storage occurs

<sup>16</sup> Article 15 (5)

<sup>17</sup> Article 21

generation	small-scale applications.
Smart metering systems	<p>Minimum functional and technical requirements for smart metering systems to allow renewable self-consumers to act individually or collectively should be adopted and published by system operators.</p> <p>At the connection point of self-consumers that feed electricity into the grid, system operators should ensure a bi-directional meter which registers separately electricity fed into the grid and electricity consumed from the grid.</p> <p>Smart metering systems should allow renewable self-consumers to be metered and settled in line with the imbalance settlement period (ISP) at the wholesale electricity market, as well as with the ISP requirements of the Guidelines for Electricity Balancing<sup>18</sup>, to facilitate an optimal utilisation of self-consumption and energy storages in a way that ensures market efficiency and grid stability and to improve generation forecasts.</p>
Customer right to smart meters	Self-consumers should be entitled to smart meters in a non-discriminatory and transparent manner, either through a smart meter roll-out or on request. The self-consumer should bear the costs of installing or upgrading the smart meter, in accordance with transparent, non-discriminatory, cost reflective and published rules, which define the terms, conditions and costs of connection.
Connection procedure and DSO authorization	A streamlined and simplified connection procedure should be established to shorten connection time and decrease administrative costs. Nevertheless, all technical and safety requirements for self-consumption installations must be fulfilled and a self-consumer's installation and connection must be subject to the DSO's authorization.

## 5 SELF-CONSUMPTION AND ACCESS TO THE MARKET

The new Renewable Directive promotes the active participation of renewable self-consumption in the electricity market, including through renewable power purchase agreements<sup>19</sup>, energy suppliers and peer to peer trading<sup>20</sup>. Furthermore, self-consumers should be entitled to receive remuneration, including, where applicable, through support schemes, for the self-generated renewable electricity that they feed into the grid, which reflects the market value of that electricity and which may take into account its long-term value to the grid, the environment and society.

In its Article 15, the new Electricity Directive stipulates that schemes not accounting separately for the electricity fed into the grid and the electricity consumed from the grid shall be phased out by 31 December 2023. Balance responsibility is defined in Article 5 of the new Electricity Regulation. According to this Article, power-generation facilities using renewable energy sources with an installed capacity of less than 400 kW may be granted derogation from balance responsibility by Member States, whereas in the Energy Community the Guidelines on State aid for environmental protection and energy 2014-2020<sup>21</sup> still envisage a threshold of 500 kW. In

<sup>18</sup> Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2017.312.01.0006.01.ENG&toc=OJ:L:2017:312:TOC](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2017.312.01.0006.01.ENG&toc=OJ:L:2017:312:TOC)

<sup>19</sup> 'renewables power purchase agreement' means a contract under which a natural or legal person agrees to purchase renewable electricity directly from an electricity producer

<sup>20</sup> 'peer-to-peer trading' of renewable energy means the sale of renewable energy between market participants by means of a contract with pre-determined conditions governing the automated execution and settlement of the transaction, either directly between market participants or indirectly through a certified third-party market participant, such as an aggregator. The right to conduct peer-to-peer trading shall be without prejudice to the rights and obligations of the parties involved as final customers, producers, suppliers or aggregators;

<sup>21</sup> European Commission, Guidelines on State aid for environmental protection and energy 2014-2020, April 2014. Their duration has been extended to 2022, and the EEAG are under revision at the moment.

addition, the new Renewable Directive in Article 21 (3) allows an exemption from applying certain charges and levies to self-consumers for installations with a capacity of less than 30 kW<sup>22</sup>.

At present, net metering<sup>23</sup> is still prevailing in the Contracting Parties, while in a few cases net billing<sup>24</sup> has been introduced. In some Contracting Parties, the rules for remuneration of self-consumers for electricity fed into the grid are still unclear. The lack of a comprehensive regulatory framework for the remuneration of self-consumption, including through support schemes, represents a critical barrier for final customers to become self-consumers.

While net metering schemes, where applied, proved to have a positive effect on the deployment of self-consumption, they impacted negatively the transparency and cost reflectivity of network charges as well as the incentive for self-consumers to install energy storage installations, as further explained in Chapter 6. The usage of the electricity produced and the grid is not optimal under net metering schemes.

#### Recommendation Set #4

Remuneration schemes	<p>In general, remuneration should be based on separate accounting of electricity consumed from the grid and electricity fed into the grid. Prices should reflect at least the market value of electricity at the time when it is taken and injected into the grid.</p> <p>Support schemes, based on netting and feed-in tariffs, should be used to promote and facilitate the deployment of small-scale renewable self-consumption in line with its potential and expected contribution to the achievement of decarbonisation policy objectives and targets set by NECPs, taking into account their overall impact on the energy system and society. They should be approved by the domestic State aid authority in line with the Guidelines on State aid for environmental protection and energy 2014-2020. The decreasing costs of renewables and energy storage technologies should also be considered in support scheme design.</p>
Net metering scheme	<p>Net metering schemes should be available only as an incentive to boost small-scale renewable self-consumption during the initial phase of its deployment and for a limited period of time. Net metering could be limited to small installations up to a certain connected capacity (e.g. up to 30 kW). A certain level of total installed capacity from self-consumers after which net metering will not be granted should be defined. A deadline for self-consumers to switch from a net metering scheme to a scheme which accounts separately for the electricity fed into the grid should be defined by legislation. It is recommendable that, instead of net metering, support to small-scale renewable self-consumption is provided directly through feed-in tariffs, including for vulnerable and low-income customers.</p> <p>Terms and conditions, including the price of electricity, should be defined in the contract between a renewable self-consumer and the energy supplier.</p> <p>In case competition in the market is not yet developed, an obligation to conclude a power purchase agreement with a self-consumer under the net metering scheme might be imposed on one or more suppliers (e.g. universal supplier). This may include regulated terms and conditions.</p>

<sup>22</sup> Also, an exemption may apply until 1 December 2026 if the overall share of self-consumption installations does not exceed 8% in the total installed capacity of a Member State.

<sup>23</sup> Net-metering is a billing mechanism that allows a consumer to receive a kilowatt-hour (kWh) credit calculated based on the netting of electricity consumed from the grid and electricity fed into the grid within an accounting period. A credit rolls over in the next accounting period, within a certain compensation period.

<sup>24</sup> Net-billing is a billing mechanism that allows a consumer to receive a monetary credit calculated based on the netting of the value of electricity consumed from the grid and the value of electricity fed into the grid within an accounting period. A credit rolls over in the next accounting period, within a certain compensation period.

<p>Net billing scheme</p>	<p>To provide support to households and small customers, an obligation for suppliers to offer a net billing scheme to these customer categories could be defined by legislation. Terms and conditions may be regulated where necessary.</p> <p>In the initial phase, net billing could be permitted only for installations at the same location, i.e. connected to the grid via the same bidirectional electricity meter. In the second phase, the regulatory framework might allow net billing schemes for installations at different locations.</p>
<p>Accounting and compensation in the case of netting schemes</p>	<p>In case of netting, one month has proved to be an optimal accounting period and one year could constitute an optimal credit compensation period. Any monetary credit surplus remaining after the annual compensation should be forfeited or subject to a special arrangement offered by the off-taker. In case of a decrease of energy consumption during the compensation period, whether due to force majeure or permanent (e.g. a factory is closed or capacity decreased, changes in household demand, etc.), self-consumers should have the right to switch from a netting scheme to another remuneration mechanism offered in the market.</p>
<p>Dynamic pricing schemes and demand response</p>	<p>Dynamic pricing schemes should be applied in order to incentive renewable self-consumers to optimally consume their renewable energy production and to provide maximum support to the grid, namely to discharge batteries during peak demand periods (as opposed to discharging as soon as the renewable generation drops below self-consumer demand). Feeding electricity into the grid at times of high wholesale electricity prices would allow self-consumers to maximise their revenue, while providing support to the system in periods of peak demand.</p> <p>Demand response should be supported to further increase system flexibility, facilitate the optimal and responsive integration of small renewable installations of self-consumers and lower the need for backup electricity generation capacity.</p>
<p>Jointly acting renewable self-consumers</p>	<p>The emergence of jointly acting renewable self-consumers should be facilitated and supported. It should be based on a standard agreement signed between the final customers involved. In a multi-apartment building, jointly acting renewable self-consumers could be established based on an agreement by the majority of final customers. Metering points of joint consumption (e.g. joint premises, elevators) could also be included into jointly acting renewable self-consumption.</p>
<p>Peer-to-peer trading</p>	<p>Peer-to-peer trading should be explicitly allowed by legislation. The development of pilot projects demonstrating the benefits for self-consumers and other involved market players, such as aggregators, should be supported.</p>
<p>Energy services business model</p>	<p>Energy services business model should be promoted for integrated renewable and energy efficiency investments (especially related to buildings sector) with an involvement of the renewable self-consumers.</p>
<p>Supplier switching</p>	<p>When supplier switching occurs under a netting scheme, the final settlement should include the value of the outstanding energy or the monetary credit or debit.</p>
<p>Balance responsibility</p>	<p>Self-consumers with installed capacity of less than 400 kW may be exempted from balance responsibility.</p> <p>Self-consumers with installed capacity of 400 kW and more should be balance responsible and have the right to delegate their responsibility</p>

	<p>to a balance responsible party of their choice.</p> <p>Renewable self-consumers that are subject to a netting scheme should be in the balance group of their supplier.</p>
Access to metering data	<p>System operators should provide the metering data necessary for the settlement of commercial arrangements under a self-consumption scheme to the renewable self-consumer and its supplier at no additional cost.</p>

## 6 SELF-CONSUMPTION AND ACCESS TO THE NETWORK

Challenges to the integration of self-consumption into the distribution system result from the fact that renewable self-generation, typically from photovoltaics, usually does not coincide with the peak demand in the system, and consequently does not help the system when it is needed. However, if optimally utilised, self-consumption, in particular if solar installation is accompanied with energy storage, can support the grid and reduce grid expansion costs. On the other hand, self-consumers tend to use the distribution network less, as the amount of consumed energy from the grid is reduced for the quantities of self-consumed energy. Consequently, self-consumers contribute less to the recovery of network costs, while the other system users will have to contribute more to the grid costs. When a net metering scheme is applied, this effect is aggravated, leading to cross-subsidisation due to the exemption of self-consumers from paying a volumetric part of grid tariffs for the self-consumed electricity.

In order to avoid cross-subsidisation and ensure that all system users contribute to network costs in a fair manner, the new Renewables Directive defines that all renewable self-consumers shall be subject to cost-reflective, non-discriminatory and proportionate network charges. Furthermore, it defines that the regulatory framework should ensure that renewable self-consumers adequately contribute to the overall cost sharing of the system when electricity is fed into the grid.

According to the Third Energy Package, the Contracting Parties already ensure that third party access is provided to all customers based on non-discriminatory and transparent methodologies and tariffs. In developing network methodologies and tariffs, the Contracting Parties should pay special attention to renewable self-consumers, taking into account the following recommendations:

### Recommendation Set #5

General	<p>Network charges for renewable self-consumption should be non-discriminatory, transparent, proportionate and cost-reflective. Renewable self-consumers should contribute in a balanced and adequate way to the sharing of overall costs of the system.</p> <p>The tariff system for access and use of the network should be designed in a way that incentivises self-consumers to optimally use the electricity, including through the usage of energy storage, and thus support the network.</p> <p>Full recovery of the network costs should be ensured even with the increasing number of self-consumers connected to the system.</p>
Network tariffs in the case of the net-metering scheme	<p>In the case of net-metering schemes, used to support the uptake of self-consumption in an initial phase of its development, network charges netting electricity consumed from the grid and fed into the grid, should reflect the inherent capacity costs.</p>
Network tariffs for self-consumers	<p>Specific tariffs for self-consumers, as a separate subclass(es) of network users, should be designed to incentivise self-consumption to maximise support to the grid on the one hand, and mitigate risks related to cost reflectivity and cost recovery on the other.</p> <p>The use of network tariffs for self-consumption should consist of a capacity component in addition to the energy component. The weight</p>

	of the tariff component based on capacity costs in the total grid costs should reflect fixed network and system costs to deliver the requested capacity at the self-consumer's connection point. The costs expressed in volumetric tariffs should be allocated over specific time intervals to reflect the contribution of the self-consumers to the peak demand.
Grid tariffs for self-consumers with storage systems	<p>Network tariffs for self-consumers with energy storage installations should factor in the long-term support that energy storage provides to the grid. To design grid tariffs for self-consumers with integrated storage systems in a cost reflective manner, demand analyses are needed to determine whether self-consumers have a different load profile and lower peak demand in comparison to self-consumers without storage systems and other non-producing consumers of the same category. A reasonable assumption is that the self-consumers with a storage system have lower peak demand and/or feed-in capacity as a result of enhanced demand side response.</p> <p>A self-consumer with an energy storage installation should not be subject to double charging, including network charges for stored electricity remaining within their premises.</p>
Self-consumption impact on the network	The system operator should analyse the impact of self-consumption on system operation and the revenue and report to the competent authorities (NRAs).

## 7 CHARGES, TAXES AND LEVIES

The impact of self-consumption on tax revenue differs over time and depends on which scheme is used. If netting schemes are allowed, VAT on electricity consumption is charged and paid on the net difference between the delivered and injected energy during a certain billing period. In the long-term perspective, the net billing scheme, in comparison to the net metering scheme, alleviates negative effects on VAT cash flow for the tax authority through the postponement of "VAT cash flow zero crossing", since the excess energy value is lower than the retail electricity price and the tax basis is accordingly higher.

If a netting scheme, either net billing or net metering, is not available, the self-consumer pays for the electricity taken from the grid and at the same time charge its counterparty for electricity fed into the grid. However, non-taxable persons are not entitled to issue invoices and charge VAT for the electricity fed into the grid, thus preventing numerous households from making the best use of their renewable generation and energy storage systems. The implementation of peer-to-peer trading systems could help remove this barrier.

According to the new Renewables Directive, renewable self-consumption should not be subject to discriminatory or disproportionate charges in relation to the electricity that they consume from or feed into the grid. In general, Member States may not apply charges to electricity produced and consumed within the same premises by renewables self-consumers except in cases defined in Article 21 (3) of the Directive.

In this light, the Contracting Parties should consider application of any charges, levies and taxes to self-consumers taking into account following recommendations:

### Recommendations Set #6

General	Renewable self-consumers should not be subject to discriminatory and disproportionate charges, taxes and levies, but also not be entirely exempted from payment.
Exemptions	Any exemption of renewable self-consumption from charges, taxes and levies should be subject to a consistent, in-depth assessment of the impact of self-consumption on public revenues and on the

	<p>contribution self-consumers make to specific policy objectives. For commercial self-consumers, exemptions should be in line with State aid rules.</p> <p>The impact assessment of the self-consumption schemes on public revenues should take into account different taxes: VAT on electricity consumption or similar consumption taxes, but also VAT on the CAPEX investment (non-taxable person's self-consumption systems) and OPEX costs, corporate income tax for the installation company, OPEX related taxes, insurance taxes etc.</p>
VAT	<p>VAT legislation should not be rigid in order to prevent invoicing based on the net difference between energy delivery and injection, thus allowing small customers and the whole system to exploit energy, environmental and social benefits accrued from properly designed self-consumption schemes.</p>

Vienna, 28 September 2020

A handwritten signature in blue ink, appearing to read "Janez Kopač".

Janez Kopač  
Director