

Working towards a sustainable future

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Working towards a sustainable future

RECOMMENDATIONS TO THE POLICY MAKERS IN THE EU COUNTRIES

Eindhoven - December 17, 2020

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Working towards a sustainable future

Recommendations to the policy makers in the EU countries

The introduction of community-based Virtual Power Plant (cVPP) like initiatives in the energy system makes it possible to organise energy systems in an alternative way, by providing space for **new actors**, making use of **new technologies** and creating **new markets**. cVPP-like initiatives support the participation of energy communities and citizens in the energy system and enhance their impact on the energy transition. Their importance has been recognized by the European Commission. In the Clean Energy for all Europeans package of 2018, new legislation was proposed to facilitate citizens in energy communities to become actively engaged in energy management. This new European law creates a lot of opportunities for cVPP-like initiatives, but much depends on how the European directives will be translated into national laws by the Member States. Specifically, the operationalisation of the law will determine to what extent energy communities and cVPP-like initiatives will be empowered and become meaningful participants of the energy transition.

This document is based on the experiences of three communities that deploy cVPP as part of the Interreg NEW project number 588. First, the document describes the energy system state in terms of **current actors**, **technology** and **markets** and emerging trends. Second, it identifies problems that cVPP communities face, and the proposals by the European Commission in the directives and recommendations for policy makers to translate those, based on experience. The policy recommendations are structured along the three dimensions in Figure 1. Each dimension has its own role to fulfil in the system and is regulated by a set of policies.

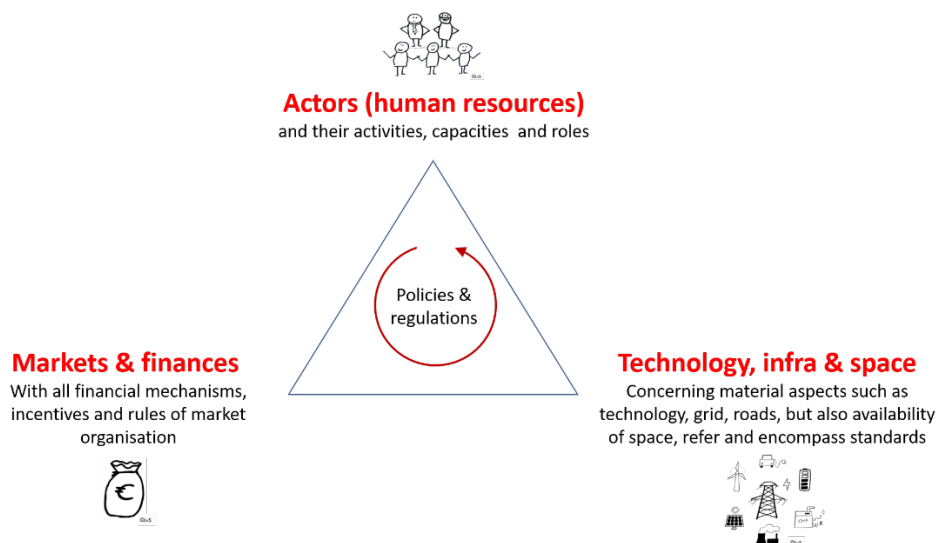


Figure 1: elements in the energy system

1. Current energy system and emerging trends

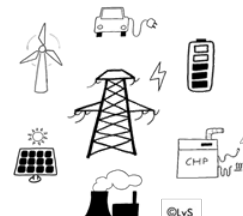
Actors

The current energy system has been built around some key actors such as transmission and distribution grid operators, suppliers, producers, consumers, balancing responsible parties, market operators and regulators. Yet, in a search to make the energy system more sustainable, new actors have been emerging like energy communities and aggregators.



Technology, infrastructure and space

In the traditional distribution infrastructure, electricity flows from large centralized power plants to the consumer via the transmission and medium to low distribution grid. Recently, the number of renewable energy sources has increased substantially due to climate change concerns. This increase has transformed the grid from a unidirectional to bidirectional infrastructure in which congestion and balancing issues could occur.



Markets and finances

The unbundling of the energy market in European countries since the late 1990's, has set the stage for liberalised, competitive market structures, and gave more power to consumers, for example, the freedom to choose their own supplier. Today, European countries aim to decarbonise their energy markets by focusing on energy efficiency, conservation and electrification through the use of renewable energy. New market arrangements are being set up to provide space for innovative initiatives in this decarbonisation process.



In the following sections we propose a set of generic recommendations to all EU countries to pay particular attention when transposing the EU directives in national context. The directives have also been included to show how European policy makers address the specific barriers.

2. Policy recommendations

2.1 Actors

What is my role in the system?



Which problem? New actors and roles emerge but they have not been clearly defined yet. Every actor in the system must be aware of his tasks and what is expected from him.

We recommend: It is recommended that the roles that actors play in a cVPP are clearly defined in every country in the EU.

IEMD Art 17(3b): Member States shall ensure that their regulatory framework contains at least the following elements; non-discriminatory and transparent rules that clearly assign roles and responsibilities to all electricity undertakings and customers.



2.2 Technology, infrastructure and space

Grid connection

Which problem? The current complexity of the grid connection process sets high requirements for medium and large size energy sources. This makes the application for grid connection time consuming and costly for small electricity generators. The grid connection is essential to sell surplus production and provide flexibility services.

We recommend: Measures should be introduced to standardize grid connection processes and reduce their complexity.

IEMD Art8(3): Ensure that specific, limited, streamlined authorization procedures exist for small decentralized and/or distributed generation, taking into account their limited size and potential impact.

Lack of open EU market standard

Which problem? Today, few brands offer energy management systems but there is no standard for reading out control devices, their control parameters and the underlying communication processes between devices. This makes energy management systems expensive and limits their adoption and use due to incompatibility. An open standard would allow communities interested in collective, smart energy management, to avoid being locked up in industry proprietary smart systems.

We recommend: An open market standard for communication processes between energy management systems and other devices should be created.

IEMD Art 19(3): Member States that proceed with the deployment of smart metering systems shall adopt and publish the minimum functional and technical requirements for the smart metering systems to be deployed in their territories. Member States shall ensure the interoperability of those smart metering systems, as well as their ability to provide output for consumer energy management systems. In that respect, Member States shall have due regard to the use of the relevant available standards, including those enabling interoperability, to best practices and to the importance of the development of smart grids and the development of the internal market for electricity.

Planning permission

Which problem? Obtaining a planning permission for renewable energy construction projects is a difficult and time consuming process, which raises a barrier for energy communities that wish to install renewable energy technology. The barrier hinders energy source diversity, which is an important factor in the provision of grid flexibility as it enhances diversified electricity production patterns.

We recommend: Procedures and requirements to obtain a planning permission should be standardised and simplified.

RED Art 16(1): Set up or designate one or more contact points, which shall guide through and facilitate the entire administrative permit application and granting process. The permit-granting process shall cover the relevant administrative permits to build, repower and operate plants to produce energy from renewable sources and assets necessary for connection to the grid.



2.3 Finances and markets

Lack of professionalism

Which problem? The application process for a supplier license and conformance to all technical, financial and administrative requirements and obligations of a supplier, hinders community energy supply within and beyond their boundaries. Moreover, communities need to operate on a large scale to meet all these requirements and cover high costs. Without any reduction in established obligations or redefinition of the regulatory framework for energy supply, communities won't have any space to operate as suppliers.

We recommend: EU member states could level the playing field for energy communities by distinguishing between energy supply within their boundaries and beyond them. Electricity production and consumption within an energy community could be treated as collective self-consumption to avoid the need for supplier licenses. Outside the community, fewer requirements could be set for example, in terms of invoicing, or the balancing responsibility could be reduced for small producing entities.

IEMD Art 3(4): Ensure a level playing field where electricity undertakings are subject to transparent, proportionate and non-discriminatory rules, fees and treatment, in particular with respect to balancing responsibility, access to wholesale markets, access to data, switching processes and billing regimes and, where applicable, licensing.

P2P

Which problem? Peer to peer trading within a cVPP enables its citizens to share their produced energy with each other. If peer to peer trading is not allowed, prosumers have less control in what happens with the energy they produce. Furthermore, it limits possibilities of collective energy management.

We recommend: It is important to create a proper P2P framework with clear rules and conditions.

RED Art 21(2a): Ensure that renewables self-consumers, either individually or through aggregators, are entitled to generate renewable energy, including for their own consumption, store and sell their excess production of renewable electricity through power purchase agreements, electricity suppliers and peer-to-peer trading arrangements without being subject to discriminatory or disproportionate procedures and charges

Self-consumption

Which problem? A high degree of self-consumption offers energy bill savings to the community, and also prevents congestion in the electricity grid. Currently, there is a lack of incentives and regulatory framework for collective self-consumption in single buildings, like apartments and co-housing buildings, but also in communities with multiple buildings. For example, to increase self-consumption, apartments or flats should be considered as a single producer and consumer and work with a single technical installation that generates electricity for the communal parts as well as for the individual units.

We recommend: Local production and self-consumption of energy should be incentivized, whether it is organised collectively or individually. This will reduce the need

for additional infrastructure capacity and reduce citizen energy bills at the same time.

RED Art 21(6): Put in place an enabling framework to promote and facilitate the development of renewables self-consumption, based on an assessment of the existing unjustified barriers to renewable self-consumption in their territories and energy networks.

High requirements for subsidy schemes

Which problem? It is difficult for energy communities to apply for subsidy schemes because of a lack of professionalism and support. In general, the application for subsidies, generation schemes and bank loans is difficult for small market players.

We recommend: An easy application process could be made to support energy community applications for funding of single and relatively small projects which take into account their specific context.

RED Art 15(2): Clearly define technical specifications to be met by renewable energy equipment and systems in order to benefit from support schemes

RED Art 22(7): Take into account specificities of renewable energy communities when designing support schemes in order to allow them to compete for support on an equal footing with other market participants

A community fund

Which problem? Current renewable electricity support schemes do not have a separate fund for clean energy projects, run by communities. When applying for support schemes, communities must compete with other clean energy initiatives, which often results in no funding for communities.

We recommend: Create an individual fund for communities such that there is still funding left for smaller initiatives when they need it.

RED Art 4(2): Support schemes for electricity from renewable sources shall provide incentives for the integration of electricity from renewable sources in the electricity market in a market based and market-responsive way, while avoiding necessary distortions of electricity markets, as well as taking into account possible system integration costs and grid stability

Risky investments

Which problem? The lack of funding schemes for community-led investments in renewable energy generation makes it risky for communities to invest in cVPP equipment and infrastructure. The application risk in the initial phase should be lowered and grid connection and permission costs should be subsidised.

We recommend: It is therefore recommended that funding and finance opportunities are introduced for cVPP projects. A revolving fund could help to ensure investments.

RED Art 4(2): Support schemes for electricity from renewable sources shall provide incentives for the integration of electricity from renewable sources in the electricity market in a market based and market-responsive way, while avoiding necessary distortions of electricity markets, as well as taking into account possible system integration costs and grid stability

RED Art 22(7): Take into account specificities of renewable energy communities when designing support schemes in order to allow them to compete for support on an equal footing with other market participants