RESCOOP.EU

# REScoop.eu – Response to the EU's Smart Sector Integration Roadmap

## Introduction

REScoop.eu is the European Federation of Citizen Energy Cooperatives. Its members are now recognised as 'citizens energy communities' (CECs) and 'renewable energy communities' (RECs) by the Clean Energy for All Europeans (CEP) Package. REScoop.eu currently represent around 1,500 of these energy communities across 15 different Member States. These energy communities operate across the energy system, from generation and supply of renewable energy to performance of energy efficiency services, heat and electricity distribution, electric mobility, demand response, and other activities involving flexibility. Almost all of the members are small and medium enterprises (SMEs).

We welcome the Commission's ambition to establish a smart sector integration strategy as a way to achieve Europe's long-term decarbonization objectives. We believe that a citizen-centred approach, whereby individual citizens and communities can take ownership and participate, are necessary preconditions for a successful clean energy transition. As such, we would like to highlight the role that communities can play in sector integration, as well as identify some challenges and opportunities the Commission should consider addressing as it moves forward with developing a Smart Sector Integration Strategy.

## 1 Energy communities have a role in smart sector integration

Energy communities undertake a wide variety of activities that can contribute to smart sector integration.

### Heating and cooling

District heating is very prevalent in some Member States. Where this is the case, it can present an immense opportunity for community energy ownership. For instance, in Denmark, 64 percent of all Danish households are connected to district heating. There are 340 district heating cooperatives out of a total number of 400 district heating

suppliers. Many of the district heating cooperatives work as prosumers, producing and delivering heat to all members of the single cooperative. Many of these district heating networks have invested, or are interested in investing, in renewable electricity production (e.g. from wind and solar) along with storage capacity.

Other energy communities are installing rooftop solar photovoltaics (PV) and storage technologies such as heat pumps that can then be aggregated by the community and provided to the local distribution system operator to relieve congestion and other grid issues.

### Electric transport

A growing number of energy cooperatives focus on providing electrical vehicle (EV) sharing services for their members. Combined with supply activities by the cooperative, these EVs can be provided with 100 percent self-owned renewable electricity from individual members and collectively-owned installations. Furthermore, with the advancement of digital and metering technologies, these cooperatively-owned EVs can be aggregated to provide electricity and flexibility services to the grid, helping to relieve grid issues associated with local integration of renewables.

### Collective building renovation

By their very nature, cooperatives and other citizen-led collective action schemes are highly relevant for the renovation sector. Collective mechanisms involving cooperatives allow home owners to get better financing and technical conditions. Furthermore, citizen-led initiatives developed by cooperatives are built on mutual trust and rely on it as a key component for their activities. It is an approach that allows citizens to actively participate in renewable energy and energy efficiency projects, and thus foster a broader public support for the energy transition.

### New and emerging innovative activities

Along with existing activities, the Clean Energy for All Europeans Legislative Package (CEP) has provided a strong impetus for Member States to create legal and regulatory frameworks so that energy communities, along with other market actors, can develop activities around collective renewables self-consumption and energy sharing. Combined with the advancement of digital technologies and platforms that allow for peer-to-peer exchange of energy within and outside the community, energy communities will be increasing the uptake of distributed energy resources (DER) that can contribute towards an optimised and integrated energy system at the local and regional level.

## 2 Policy and legislative considerations for sector integration

In its European Green Deal Communication, the Commission stated the need to ensure a socially fair and inclusive energy transition, involving consumers. Given the relevance of energy communities to a successful and democratic energy transition, we would like the Commission to take the following into account as it further develops its smart sector integration strategy.

1. Acknowledge the role of energy communities in socially fair and citizen-centred approach to smart integration

The recast Renewable Energy Directive and recast Electricity Directive acknowledge energy communities as a social concept intended to allow citizens to organise themselves as market actors in the energy transition. Due to their organization, ownership, decision-making characteristics and non-commercial purpose, they represent a unique form of market participant in need of special protection to ensure they have a level playing field to participate across the energy sector. Due to the novelty of the energy community concept in EU energy policy, however, there are a number of misconceptions about what an energy community is. One of these misconceptions is that energy communities are organised around a particular activity, such as collective self-consumption or energy sharing. However, energy communities can engage in a number of different activities depending on the aims of their members. Existing legislation needs to be properly transposed and implemented so that energy communities are free to participate and engage in activities such as district heating (e.g. production, supply, distribution), aggregation, and supply on a level playing field with other market actors. Furthermore, energy communities, in particular, RECs need to be able to access all appropriate markets, including wholesale and flexibility markets. Moreover, the role of energy communities in furthering collective building renovations and energy efficiency – not just in the renewable energy field - for citizens needs to be acknowledged.

2. Proper economic incentives for investment in renewable heating and storage

Investments into renewable heating solutions, particularly infrastructure for district heating remains significantly high. Tools for accessing finance, for instance through grants and favorable loan assistance, for communities that want to build new infrastructure, or install storage technology, needs to be encouraged at national and EU level. Furthermore, it is important to support the aggregation of housing renovation projects, particularly those that integrate renewables production and heating and cooling. Therefore, the Strategy should assess and identify relevant instruments that can support aggregation and financing of renovation projects carried out by energy communities. This would suggest interlinkages, and a need to ensure coherence, with the Commission's Renovation Wave Initiative.

Currently, integration of excess local renewable electricity from wind and solar into district heating for storage and use is often discouraged, for instance through double taxation related to the storage of the electricity. For instance, in Denmark electricity taxes and grid tariffs make the economics of power to heat solutions from heat pumps for district heating systems worse than other alternatives (e.g. biomass boilers and solar collectors).[1] The strategy should therefore look at getting rid of economic disincentives, for instance through taxes and levies, which prevent local storage of excess renewable electricity production in district heating. In this regard, the transposition and implementation of the new provisions in Article 15(5) of Electricity Directive, which now prevent double charging of storage for active customers, should be monitored closely.

The forthcoming review and revision of the existing Guidelines on State Aid for Environment and Energy (EEAG) should also support investments that aim to integrate renewables production and storage into new and existing district heating and cooling infrastructure.

3. Ensure markets properly value DER provided by energy communities to the system

With storage, demand response, digitalization and advanced metering systems, active customers not only have the opportunity to export excess renewable electricity to the grid – they can now provide services that help the DSO operate the grid more cost-effectively in the long-term. As such, system charges, in particular network tariffs, need to account not just for costs but also benefits of the activities these actors perform. To the extent that such DER can help reduce or offset traditional grid reinforcements, they need to be properly incentivised through commensurate remuneration or reductions in system charges paid by the customer.

Article 16(2)(e) of the Electricity Directive and Article 22(4)(d) of the recast Renewable Energy Directive require cost-benefit analyses of distributed energy resources in determining system charges for energy communities. This requirement should be used as an opportunity to determine how to value DER provided by all market actors at the distribution grid level. While a cost-benefit analysis is a commonly-used economic tool, its application in evaluating the value of DER is somewhat new, and has not previously been a requirement in EU legislation. To date, no such cost-benefit analyses have been developed by any regulatory authorities in Europe, although there have been a few experimental pilot studies.[2] In the United States, regulators from different states are looking closely at how to identify and assess different distributed energy resources and

[1] Gorrono-Albizu, L (2020), The Benefits of Local Cross-Sector Consumer Ownership Models for the Transition to a Renewable Smart Energy System in Denmark. An Exploratory Study, Energies 2020, 13, 1508, p 14.
[2] *See* e.g. N Poize, Cost benefit analysis – Collective self-consumption project on the pilot area of Saint-Julien-en-Quint (Auverne-Rhone-Alpes Energie Environement July 2019); and D van der Vlies, P van Breevpoort and T Winkel, The Value of distributed Solar PV in Spain (Greenpeace EU 2018).

their potential costs/benefits.[3] Along with regulators and grid operators, the Commission should identify best practice in developing billing structures that incentivise active customers, including energy communities, to behave in a way that is optimal for the energy system.

## 3 Best Practices

### WiseGRID Pilot Site – Ghent, Flanders, Belgium

Within the WiseGRID Project, which is an EU project under H2020, citizens and local cooperatives in Ghent, Belgium, worked together to create a virtual power plant making use of different technologies like electrical vehicles, stationary household batteries and solar photovoltaic (PV). Local households and small businesses that take part in the demand response programs were equipped with smart meters. Ecopower, as a cooperative producer and supplier of green energy, also took up the role of aggregator within this pilot site. By applying demand respond programs in this neighbourhood the aim was to test the provision of services that can contribute to the balancing of the grid, align local consumption with local produced green energy, and that can reduce participants' energy bills.

The main pilot site was situated in Sint-Amandsberg, a municipal district of the city of Ghent. This area is well known for its heterogeneous typology of inhabitants: transit inhabitants (young families moving after a couple of years), families with migration background, elderly people and vulnerable social groups with a limited income.

The WiseGRID project collaborated with an already existing citizen's initiatives called Buurzame Stroom, where Energent, another cooperative, invested in PV-installations on roofs that have the biggest potential for solar for people in the neighbourhood that do not have enough money to invest in solar themselves. An e-mobility cooperative, Partago, put its shared EV's in the area of Buurzame Stroom so they can help optimise consumption of locally produced energy. EnergieID, a third party linked to Ecopower within the WiseGRID project, provided technical support to Ecopower so it could achieve its role as an aggregator in the WiseGRID project.

[3] *See* National Association of Regulatory Utility Commissioners (NARUC) (2016). "Manual on Distributed Energy Resources Rate Design and Compensation." https://pubs.naruc.org/pub/19FDF48B-AA57-5160-DBA1-BE2E9C2F7EA0. iz

### "Climate Network" and mobile information Center (WATTMOBIEL – KYOTOMOBIEL) – Flanders, Belgium

Pajopower vzw, a not for profit association related to the renewable energy cooperative Pajopower cv participates in a Province level 'Climate Network' that provides households with information, renovation advice and coaching. The network also facilitates group purchasing to lower the price of insulating roofs, attic floors, walls, and windows. This group purchasing also includes the installation of PV solar panels or heat pumps. After the purchase, households are guided by a pool of local contractors that are selected to carry out energy renovations for families at best price-quality conditions. Outreach is carried out using mobile information trailers called 'Kyoto mobiel' and 'WattMobiel'. Sessions are organised in each municipality and in the neighbourhood themselves, allowing residents that walk by to start a discussion with an energy expert. The network aims for 2000 renovations per year. Since the start 2017, each year +/- 1000 audits were realised, whereby 200 renovations with at least one significant energy improvement was implemented. Part of the Climate Network's efforts also aim to mobilise and organise new citizen (cooperative) initiatives via LICHT – groups ('Local Initiatives Cooperative Renewable Transition').

### Hvide Sande District Heating – Hvide Sande, Denmark

Hvide Sande is a predominantly fishing community in Ringkøbing-Skjern municipality on the west coast of Denmark. For several years, private project developers worked to erect wind turbines in the area, but because of local protests they withdrew interest for developing the project. Subsequently, local businesses established a community foundation to develop three wind turbines with an installed capacity of 3 Megawatts (MW) each. The wind turbines were therefore locally owned by members of the community, with revenues from the production going towards the development of the harbour. With the market premiums coming to an end, in 2018 the local customer-owned district heating company, which is located next to the wind turbines, decided to purchase the wind turbines. The company did so after approval by a vote of the general assembly. Using an electric boiler, the district heating plant is able to store excess production in order to avoid potential curtailment. They self-consume the wind power in periods with low power electricity market prices and sell it in periods with high electricity market prices.[4] This allows for the local integration and optimization of locally owned wind production into the local heating system, all of which is owned by the customers themselves. This allows for local economic value optimization while also helping to promote local acceptance of renewable energy technologies.

[4] Gorrono-Albizu (n 1) p 11.