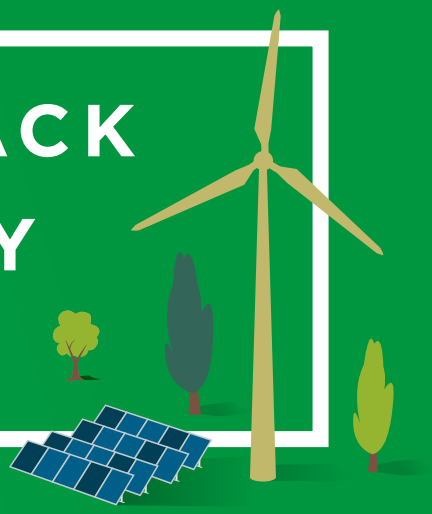
HOW CITIES CAN BACK RENEWABLE ENERGY COMMUNITIES



GUIDELINES FOR LOCAL AND REGIONAL POLICY MAKERS

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ENERGYCITIES

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ABOUT THIS DOCUMENT

Energy Cities is a member of the **Renewables Networking Platform (RNP)**, a multi-level governance discussion project funded by the European Commission. Its aim is to analyse and boost renewable energy policies by connecting relevant European, national, regional and local players.

Energy Cities, the European association of local authorities in energy transition, supports this project by connecting and guiding cities in scaling up renewable energy solutions on their territories, ultimately contributing to the target of a 32% share of renewable energy in the EU's gross final consumption by 2030.

Community energy is now backed by new "European rights", following the institutional agreement around the new legislative framework for energy in Europe (the Clean Energy for all Europeans Package).

According to the framework, citizens and energy communities across the EU will be able to easily invest in renewables and benefit from the energy transition. Their rights to produce, consume, sell and store energy are now clearly spelled out in EU legislation.

What better time than now for local authorities to be more involved in community energy projects? All over Europe, many cities have already been testing multiple ways to initiate, support and facilitate such projects. With this document, Energy Cities aims to showcase their actions, but also to identify existing models of cooperation.

We hope to inspire and provide guidance for local and regional policy makers willing to team up with their citizens, to move forward the energy transition of their communities.

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1. **WHY** COMMUNITY ENERGY?

THE CHANGING ROLE OF LOCAL AUTHORITIES

The critical contribution of local and regional authorities in moving towards a decarbonised and renewable-powered Europe is now a widely acknowledged fact. From the launch of the EU Covenant of Mayors in 2009 to the COP21 local leaders' summit in 2015, a lot of important milestones have been reached. This enthusiasm around local climate action has however mainly focused on local and regional authorities as technology enablers. To a large extent, cities have often been considered as laboratories to scale up the adoption of renewable energy services and infrastructures and the implementation of massive energy efficiency programmes. But much less attention has been devoted to the role they can play in changing the power dynamics of the energy market: influencing who plans, owns, controls and benefits from the new energy infrastructures and technologies. Yet over the last few decades, local governments have shown they can have a transformative effect in enabling new business models, changing the way the energy system is governed by encouraging a more direct participation of local communities.

Local and regional authorities can support "community energy" dynamics in various ways:

1. involving an entire district in changing its energy supply mode and consumption patterns
2. teaming up with individuals and cooperatives in identifying, financing or operating a series of heterogeneous green projects
3. engaging citizens in the local planning of energy infrastructure and policies

DEFINING COMMUNITY ENERGY

"Community energy" can indeed encompass a number of different aspects and activities. Attempts to define the concept have been made by various organisations, including the International Renewable Energy Agency (IRENA), the Coalition for Action which defines it as "the economic and operational participation and/or ownership by citizens or members of a defined community in a renewable energy project." According to the UK Community Energy Coalition, "the emphasis is very much on projects involving local engagement, leadership and control, and where there is a benefit to local communities." In this guidebook, the structure and examples proposed will reflect this broader definition, but with a strong focus on renewable energy.

SOCIO-ECONOMIC BENEFITS: "GENERATING MORE THAN RENEWABLE ENERGY"

In its 2018 "State of the Sector" report, the non-profit organisation Community Energy England sets the scene by saying that "Community energy continues to provide far more than the generation of renewable energy, with organisations working hard to deliver environmental, social and economic benefits for their local areas." Very true in the UK, this assumption has also been corroborated by various studies carried out across Europe. In 2016, two separate studies looking specifically at wind energy concluded that community-based wind power projects contributed about eight times more to local development than those implemented by traditional, investor-owned companies. One of the two studies analysed the income and employment effects of community projects in three groups of Scottish islands, and found that opportunities for local economic regeneration were much greater, with revenues being reinvested in local infrastructure and services and contributing to social cohesion and acceptance of renewable energy.[1] A few months later, a study conducted by the German Institute for Decentralised Technologies also concluded that community-based projects produced between 8 to 10 times more for local added-value than those carried out by external developers.[2]

In addition, community energy projects often include strong social imperatives linked to tackling energy poverty. In many cases, the revenues derived from the project are thus reinvested in measures to help vulnerable consumers become more active in managing their consumption and sometimes even take ownership in energy projects.

NEW EUROPEAN RIGHTS

In 2019, the EU institutions reached a political agreement on all the major pieces of legislation forming the "Clean Energy for All Europeans" package, which is set to dramatically influence the future of the energy landscape in the next decades.

One of the major breakthroughs comes from the legal recognition (with associated rights and responsibilities) granted to individual energy producers and communities. The Renewable Energy Directive indeed now provides the right to citizens and "renewable energy communities" to produce, store, consume and sell renewable energy without being subject to disproportionate burden and discriminatory procedures. The **renewable energy directive** defines a series of criteria based on which any legal entity can be considered a "renewable energy community":

1. **Autonomy & proximity principle**
   A renewable energy community " is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity";
2. **Local authorities as eligible shareholders**
   Its shareholders or members "are natural persons, SMEs or local authorities, including municipalities"
3. **Community benefits**
   The primary aim of a renewable energy community should be "to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits."

Selling excess production of electricity through **peer-to-peer energy trading** (directly or through an aggregator) is also a new right now enshrined in European law. Recognising that a large number of European citizens (about 40%) live in apartment buildings, the Commission also calls on member states to empower **"jointly-acting" self-consumers, also called collective self-consumption.**

In addition, the directive requires member states to assess the opportunities and barriers linked to the development of self-consumption and renewable energy communities and put in place enabling frameworks to ensure they have a fair chance to compete with other players in the market. Importantly, this notably means "providing information, providing technical and financial support, reducing administrative requirements, including community-focused bidding criteria, creating tailored bidding windows for renewable energy communities, or allowing renewable energy communities to be remunerated through direct support where they comply with requirements of small installations."

Likewise, a definition of **"citizen energy communities"** is also included in the **EU electricity market legislation** together with a requirement on member states to put in place legal framework to enable their activities and guarantee their right to engage in local energy generation, distribution, aggregation, storage, supply or energy efficiency services.

Lastly, the renewable energy directive also includes provisions requiring integration and deployment of renewables self-consumption and renewable energy communities in spatial planning and renovations of urban infrastructure.

For a more detailed analysis of all the new provisions of the directives please read the joint publication "Unleashing the power of community renewable energy".

Visit:
www.energy-cities.eu/IMG/pdf/community_energy_booklet_2018_en.pdf

2. WHAT MODELS FOR COOPERATION?

GAME CHANGING MODELS OF CITY-TO-CITIZENS PARTNERSHIPS

Cities and communities can cooperate through very innovative processes at various stages of the "energy value chain", from energy production to distribution and supply, through energy savings, balancing and storage. In the below examples, we give a non-exhaustive outline of existing models and new trends of city-to-citizen cooperation across the various functions and components of the energy system and through different organisational structures.

SMART GRID DEVELOPMENT PARTNERSHIP (see chapter 3.8 & 3.10)

A fair and smart grid project in **Ghent – Belgium**

How can people with no suitable roof invest in and benefit from solar energy? How can we make sure the financed panels reach the houses of vulnerable consumers with no means to invest, but also schools, businesses, and a maximum number of buildings? And how can all of this be done without overloading the already congested electricity grid? To address these questions, the city of Ghent initiated a very unique cooperation with a number of local partners and launched the "Buurzame Stroom" (neighbourhood power in Dutch) pilot scheme which started operation in 2018.

The partners include two energy cooperatives, the Ghent university, which acts as a trusted, neutral contributor, a social protection association that is notably tasked with reaching out to vulnerable households and the local distribution system operator. As explained above, the plan of this ambitious consortium is to maximize the potential for locally generated energy in the neighbourhood, "equally sharing the costs and benefits without having to expand the present electricity grid". The two cooperatives each have different missions and provide various engagement opportunities to citizens. Ecopower, which is the largest energy cooperative in Belgium, plays the role of aggregator, incentivizing and empowering households to better control their energy consumption through demand response management via smart meters and open data applications.

The EnerGent cooperative provides citizens with the opportunity to invest in local solar power production by acquiring the photovoltaic panels. In addition, an electric car-sharing cooperative called Partago is making electric vehicles and charging stations available to allow for the excess power that is not directly consumed to be used in the charging stations or stored in the car batteries. And to complete the picture, the project will experiment with storing electricity in batteries on household level.

The project covers a specific neighbourhood, with plans to install some 5000m² of solar panels by the end of 2019, targeting residents with different profiles (families with migration background, transit inhabitants, elderly people, vulnerable social groups[3]) and various types of building ownership structures. This multi-stakeholder cooperation, with strong citizen involvement, is proving very successful.

The role of the city in the project is proving crucial as it supports the overall coordination, makes links with other initiatives in the city and interfaces between the various partners, including in case of potential conflicts on the role and responsibility of each player. Overall, this "fair and smart" grid project is helping make solar profitable and affordable to a large group of stakeholders, optimising energy production at local level by better matching supply and demand and creating a sense of community in the targeted neighbourhood thanks to a very collective and participative approach.

Finally, the initiative proves instrumental in helping the city experiment new partnerships, frameworks and regulations on how to make local green energy production and supply a fair and profitable business model.[4]

In figures

- **5,000 m²** of solar panels to be installed by the end of **2019**
- **13%** of vulnerable households targeted in the total number of participating families

JOINT INVESTMENT COOPERATIVE (see chapter 3.8 & 3.10)

A city-co-owned investment cooperative in **Mouscron – Belgium**

A growing number of local authorities are investing in cooperatives that support the deployment of renewable energy projects in their region. This is notably the case of the city of Mouscron, Belgium, which in 2017 launched the "Coopem" (Cooperative Energy of Mouscron) together with a group of citizens and two other partners. The city owns a 15% share in the cooperative, with the majority 55% stake belonging to the citizens of Mouscron and the remaining 30% to a green investment cooperative and company. On top of an expected yearly return on investment of up to 6%, the first members to join the Coopem were granted a favourable tax rebate on their investments.

The activities of the cooperative focus on helping households install solar PV on their roofs. The Coopem removes the barrier of high upfront costs by advancing the payment of regional solar subsidies, normally granted over a five-year period. It also handles the overall technical and administrative process from A to Z. This notably involves the joint purchase of equipment from local suppliers as well as the monitoring and validation of the installation process. In the end of 2017, the cooperative completed the joint purchase of 31 solar installations for Mouscron's households.

Additionally, local businesses are also a target group of the Coopem, which offers them a leasing plan for the installation of solar PV panels, financing 90% of the initial investments which is paid back over a ten-year period through the selling of green certificates.

Thanks to the "turnkey solution" provided by the cooperative, the households and businesses that benefited from the installations were able to get easier financial and technical access to solar energy investments and substantially reduce their energy bill. As regards members of the cooperative, they were able to receive positive returns on their investment, directly participate in the city's energy transition and support all the cooperatives' decisions through the one member – one vote principle.

This translated into a reduction of CO_2 emissions, contributing to the city's political commitment and also helped boost local jobs and economic activity in the city.

In figures

- Members of the cooperative were given dividends of up to **6%** as of the third year of operation
- The local authority owns **15%** of the shares in the cooperative with citizens having the majority stake with **55%**
- Households wishing to invest in solar energy were granted a **45%** prefinancing disbursement from the cooperative which provided advance payment of the regional subsidy

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JOINT ENERGY UTILITY (see chapter 3.11)

Citizen participation in the ownership and governance of the local utility, **Wolfhagen – Germany**

In certain countries, energy utilities are jointly owned and operated by local authorities and citizens. This is sometimes due to a strong tradition of cooperative ownership. In the case of Denmark for example, where district heating is the most common heat supply model, the heat networks are usually operated by non-profit companies jointly owned by cooperatives and municipalities. In other cases, community ownership is the result of socially and politically-motivated remunicipalisation campaigns, to bring privatised energy networks back into local control. In Germany the remunicipalisation movement has led cities to create fully-integrated energy companies (covering the whole value chain of production, distribution and supply)[5] where citizen cooperatives have sometimes been offered financial ownership and voting power.

In Wolfhagen, a city in Northern Hesse, the local "stadtwerke" supported the creation of a citizen cooperative which now owns 25% of its capital and contributes to the strategic orientations taken by the utility, with two representatives of the cooperative sitting in the nine-member supervisory board of the Stadtwerke. Interestingly, the 14, 000 inhabitant town was also one of the first German cities to remunicipalise its electricity grid. In 2003, the then Stadtwerke director convinced the local politicians to seize the opportunity of E.ON's expiring 20-year concession contract to take control over the distribution network. After three years of intense negotiations (due to E.ON's resistance and the need to clarify a lot of technical, commercial and legal issues), a deal was finally reached in 2006. Today, the Stadtwerke makes a profit every year, the number of employees has nearly doubled and it has won international prizes for its innovative projects on energy savings. Since 2005, some 284 municipalities[6] have followed Wolfhagen's lead, including Hamburg, the second largest city in Germany, in regaining power over the energy sector

In figures

- Citizens own a **25%** stake in the local utility, while the remaining **75%** is fully owned by the city itself
- The stadtwerke achieved its **100%** renewable energy target in **2014**, one year ahead of schedule

© Energieoffensive Wolfhagen, Facebook

JOINTLY OWNED ENERGY INFRASTRUCTURE (see chapter 3.12)

Wind blowing near the harbour directly profits the city and its community in **Copenhagen – Denmark**

The Middelgrunden wind farm in Denmark is a famous success story of a city and community co-owned large-scale energy project, and one of the largest offshore wind farms in the world. The story dates back to end of the nineties, when a newly set-up energy cooperative started to engage in planning and contractual discussions with the municipally-owned energy utility of Copenhagen on the construction of 20 wind turbines (2MW each) located a few kilometres outside the harbour of the city.

During the testing and construction phase of the wind farm, costs and revenues from the first turbines in operation were equally split between the local utility and the cooperative. After completion of the scheme in 2000, the two co-owners started functioning as two separate entities, with the 8,500 members of the cooperative owning and managing the 10 Southern turbines and the local utility the other 10 up North. The cooperative functions according to a democratic governance model, with each member having one vote independently of the number of shares owned. The project also has an educational component, with one of the turbines baptised the "childrens' wind turbine", giving youngsters the opportunity to vote on behalf of the cooperative members, thereby increasing their awareness and perceived contribution on energy issues. The cooperation between the two parties has proven a win-win partnership, and a very emblematic case of Denmark's leadership on community energy. While the local utility provided technical and legal expertise, the cooperative's involvement was crucial in securing local enthusiasm and community engagement.[7]

In 2003, the local utility sold its 50% share to a private Danish energy company, and bought it back in November 2018 in order to repower the park and extend the post-2025 lifetime of the wind farm by an additional 25 years.[8]

In figures

- According to the Copenhagen climate plan, local cooperatives will be able to invest in the additional **100** new wind turbines that the local utility plans to develop by **2025**
- The yearly power output of the farm is the equivalent to the consumption of **30,000** local households

LEASING ENERGY FROM COMMUNITIES (see chapter 3.12)

The 30 citizen power plants of **Vienna – Austria**

When cities are in charge of the deployment and operation of renewable energy infrastructure through their local utility, very creative methods for community involvement can be engineered. This is notably the case of Vienna, where the Stadtwerke WienEnergie started selling solar photovoltaic modules to citizens in 2012. The interest was immediate: for the first two solar power plants on which the city experienced this model, the panels were all reserved in one week. Once the third plant was built, it took just about 24 hours.
The innovative model functions as follows: the citizens buy the panels from power plants that are built and operated by Wien Energy and lease them back to the utility. WienEnergy pays them a yearly remuneration in the form of direct wire transfer on their accounts, or through yearly shopping (with the partnering supermarket chain Spar), electricity or gas vouchers. The yearly interests have ranged from 1,75% to 3,1% for a five-year contract duration. Once the lifetime of the panels has expired (after approximately 25 years), Wien Energy buys them back from citizens and the full amount is returned.

In 2017, 30 plants were installed based on this model, with a 19MW installed capacity, and 35 million EUR has been invested by the approximate 10 000 participating citizens. The panels have been installed on a very varied set of locations including train stations, shopping centres, public schools, cemeteries, social housing estates, etc.[9]

This solution enabled Viennese citizens, the majority of whom live in apartment buildings with complex ownership structures or no suitable roof, to nonetheless in invest in and benefit from solar energy.

In figures

- Over **35 million EUR** has been invested by the **10,000** participating citizens
- Some **30** citizen power plants installed, saving some **17,000** tonnes of carbon, equivalent to the yearly emissions of about **2,500** European citizens

3. HOW CAN CITIES SUPPORT RENEWABLE ENERGY COMMUNITIES?

AS REGULATORY AND POLICY ENABLER

Creating the right conditions for community energy to flourish

3.1 Including community ownership target in long term climate and energy strategies

In the framework of the COP21, hundreds of local authorities have committed to be 100% supplied by renewable energy at the latest by 2050. Achieving this ambitious goal will require mobilising large amounts of private capital – which is available in the form of citizens' savings – but also public support for new energy policies and infrastructures through a shared ownership and governance model. All of this calls for increased community involvement, not only through one-off projects but via a comprehensive and coordinated strategy backed by a long-term commitment.

FOUR LOCAL AUTHORITIES WITH CONCRETE TARGETS FOR LOCAL AND COMMUNITY ENERGY DEVELOPMENT

In the county of Cornwall, UK, the 2016 – 2030 local plan's section on renewable and low-carbon energy states that "support will be given to renewable and low carbon energy generation developments that [...] are led by, or meet the needs of local communities".[10]

In Germany, the district of Steinfurt, which gathers 24 municipalities representing some 445,000 inhabitants, plans to become 100% self-sufficient in renewable energy by 2050, largely through community involvement. Studies commissioned by the local administration have concluded that self-sufficiency could only be achieved "by operating in a regionally decentralised manner" and that it "wouldn't work without the citizens", according to an interview with the officer in charge of climate protection.[11]

The city of Ghent, Belgium, has a target of 15% of residential energy consumption to be covered by locally produced renewable energy by 2019. In 2011, the city had already reached 7.5% and is well on track to reach the 15% milestone. Additionally, the city has a very ambitious methodology to account for what it considers "local production", ruling out for example the inclusion of a large 100% biomass power plant located in its constituency.

In addition, the 2014-2019 coalition agreement notes that at least 30% of the total energy consumption of city buildings must be covered by solar energy, with a minimum 50% participation from Ghent citizens.

THE SCOTTISH MODEL

Explicitly mentioning support for community energy in policy strategies makes a crucial difference.
At the national level, Scotland provides one of the most striking examples of such a target-setting policy for community energy scale-up. In 2011, the government pledged to reach 500 MW of "locally- and community-owned" installed renewable energy sources by 2020. Four years later in 2015, reports already indicated that the target had been exceeded, demonstrating the effectiveness of such a commitment, as it led the Scottish authorities to adopt a set of corresponding technical and financial support instruments. Building on this momentum, the government updated its 2020 target to 1 GW and pledged to reach a total to 2 GW of local and community energy installations by 2030. "Our ambition remains to ensure that, by 2020, at least half of newly consented renewable energy projects will have an element of shared ownership », says the government policy statement on the matter.[12]

Interestingly, this example inspired the government of Wales which also set a target for locally and community-owned renewable electricity by 2030.[13]

GROWING PRESSURE FROM FRENCH CIVIL SOCIETY

Following the Scottish footsteps, a rising number of advocacy groups are now starting to call on their national governments to adopt similar policies. It is notably the case of the "citizen energy" coalition in France, which in December 2017 formally appealed to the government to adopt a 15% target of citizen or local-authority-owned and controlled renewable energy capacities by 2030.

3.2 Requiring developers to open projects to citizen participation

INSPIRED BY THE DANES

Since 2009, the Renewable Energy Act imposes on all wind energy developers the obligation to offer a 20% ownership share to residents living near new installations. This community-centred approach to renewables is what helped the country unleash a genuine wind energy revolution, with huge impacts on the economy. As an indication, the sector now employs some 85 000 people and alone makes up as much as 3% of Denmark's GDP, according to the Danish Wind Industry Association.

THE CASE OF BELGIUM

In Belgium, most of the competences on energy are regionalised, except for large scale infrastructures which include nuclear energy, offshore wind and high tension lines.

In the Walloon region, local authorities and cooperatives have managed to push forward a regional recommendation specifically for wind projects, requiring that project developers should offer 50% community participation (25% by the citizens and 25% by the municipality).[14]

In Flanders energy cooperatives are advocating for the Flemish Parliament to adopt such a decree whereby exploitation permits given to renewable energy project developers would be conditional to their offering a minimum 50% ownership share to citizens. Although they do not have the competence to deliver permits, 2 provinces and over 20 municipalities in Flanders have already shown the way, by politically supporting such a target for renewable energy installations in their constituencies.

A NEW POLITICAL SIGNAL IN THE NETHERLANDS

In the Netherlands, within the framework of the 2030 national 2030 climate agreement, a decision was taken that solar and wind energy developers should open 50% of the capital of their projects to local communities. Each new development should be the subject of an agreement with the local community where the energy infrastructure will be deployed, following an extensive public engagement process. Although this local agreement process might be considered time consuming, it still is expected to prevent projects from being delayed by costly legal challenges that can take years to solve.

This principle should be enshrined in the soon-to-be adopted national climate and energy plan that the country has to submit to the European Commission by end of 2019.

3.3 Securing urban-rural partnerships

In high-density urban areas, while energy demand is high and there might be appetite to invest in green projects, options for deployment of large-scale renewable energy installations are very limited. As cities and metropolitan areas have a “structural energy resource deficit”, their plans to be supplied by 100% renewable energy will thus depend on the partnerships they will be able to strike with their rural hinterland to benefit from the surplus production of their plentiful wind, biomass, agricultural resources, etc.[15] But beyond this purely practical consideration, there is also the political challenge to ensure that energy generation projects also contribute to aspirations for a new solidarity economy, which have resonated a lot in municipal elections across Europe.* Local authorities are thus going beyond competition logics to create genuine territorial alliances of cooperation, sharing competences and resources to collaborate on concrete projects with citizens and stakeholders from neighbouring municipalities.

ENSURING BROAD OWNERSHIP

In parallel, the notion of a “just transition” also supposes citizen energy projects with heterogeneous ownership from a geographic and social point of view. This is to be factored in for example when community shares are raised for a new renewable energy project, to avoid situations where more deprived communities see new installations as an imposition on their landscape from well-off city dwellers. In France for example, a recent study has shown the greater financial weight of the Paris region in terms of project ownership located outside of its geographical perimeter. According to reports on investments via Lendosphere, a French crowdfunding website dedicated to sustainable development projects, 13% of all nationwide investments on the platform came from Paris citizens alone.[16] Local authorities can thus play an important role in ensuring that residents living in the immediate neighbourhood of installations are given a fair chance of becoming involved in the governance and financial ownership of the project through targeted communication campaigns and specific requirements on project developers.

PARIS’ 2020 OBJECTIVE: SUPPORTING COMMUNITY POWER IN COOPERATION WITH RURAL AREAS

In Paris, the local authority is planning to create a cooperative supplier of renewable energy by 2020 that would foster a win-win partnership between the city and its hinterland. More specifically, the city’s 2050 climate plan says the following: “Paris will study, along with other local authorities including the Greater Paris Metropolis, the opportunity to create a community operator of renewable energy supply between territories for local authorities promoting new forms of partnerships with rural areas, taking into account issues related to energy carriers.[17]

* In the 2015 Spanish municipal elections for example, a new constellation of political forces (including Ahora Madrid, Barcelona en Comú, and Cadiz Si Se Puede) for the first time challenged the well-established parties in Spain’s largest cities. At the heart of their programmes were calls to rebalance power towards underrepresented groups and guarantee new forms of social and economic justice.

3.4 Steering new neighbourhood developments towards community energy

As land use planners, local authorities can take advantage of urban development plans, such as new eco-friendly neighbourhoods, to lead project developers towards community energy solutions, including collective self-consumption. Plans to refurbish or create 100% renewable district heating networks can also be associated with objectives to improve citizen participation in the energy system. This is for example the case when concession contracts are awarded to citizen cooperatives, as in the below example of Eeklo, Belgium.

THE LYON CONFLUENCE PROJECT

As part of its Covenant of Mayors Sustainable Energy Action Plan, the Greater Lyon local authority has assigned a public redevelopment company (SPL Lyon Confluence) to carry out what is considered as one of the biggest urban renewal projects in France. The Lyon Confluence scheme will see the building of 1 000 000 m^2 of new dwellings, offices and shops in a former industrial area of 150 ha in the city centre. The project, which has already begun and is set to be completed by 2030, is to make all new and existing buildings in the area completely carbon-free.

Collective self-consumption is being tested as part of this neighbourhood development plan, notably thanks to a local building policy which obliged real estate developers to include onsite renewable energy installations in the new construction projects. Ambitious tendering specifications will thus lead the selected project developers to equip 12 000 m^2 of building units, including student dwellings, a crèche, commercial and office spaces, with a collective self-consumption PV facility. The national energy utility EDF is in charge of the overall management and contractual arrangements with the prosumers engaging in the collective self-consumption scheme. The model functions as follows: each person or company that buys a building unit is entitled to a share of the PV system corresponding to the surface of the purchased unit. When the PV system will be in operation, the electricity bill from that individual, public institution or company will be reduced by the amount of self-consumed energy that corresponds to the allocated share in the overall PV system.

It is expected that the new system should cover as much as 50% of the electricity demand, with the help of a local storage installation.

COLLECTIVE SELF-CONSUMPTION: A NEW TREND ACROSS EUROPEAN CITIES

Citizens, businesses, schools and other public facilities sharing power with their neighbours is becoming a new trend in countries like Germany. In Heidelberg for example, a local energy citizen cooperative is active in a project where it acts as a "mini utility", cooperating with the local distribution system operator to allow the 116 residents of a cooperative housing block equipped with 7 PV systems, to collectively self-consume the onsite-produced energy at a cost efficient price and buy any residual power from the grid.[18]

In France, this is slowly becoming a new trend with an official legal backing in the French Energy Code which considers collective self-consumption as the supply of electricity from one or more producers to one or more consumers organised through a legal entity and located on the same medium/low voltage substation. With increasing energy retail prices and unfavourable conditions for the injection of excess power to the grid, collective self-consumption schemes at building or district scale are becoming an increasingly attractive business model in European cities.

In the 6000-inhabitants town of Malaunay in Normandy, France, local and citizen-led renewable energy projects have backed the city's strategy for economic revival, following an era of industrial decline in a city that was a former textile powerhouse. Now, the town is a national success story, reportedly the first local authority to experiment collective self-consumption following the installation of photovoltaic panels on the roofs of several public buildings, coupled with an energy storage solution. The "energy positive" roofs of the local church and school now provide power to other buildings and facilities in the neighbourhood. In addition, the solar panels of the Brassens school were co-financed by citizens through the Lendosphere crowdfunding platform, allowing the city to raise some 50 000 EUR while granting citizens a 2,25 % return on their investments, more than what savings account currently offer in France.

In Wallonia, the regional government adopted in November 2018 a decree proposal to provide a legal framework on the issue of collective consumption. The proposed legislation introduces a new player: the operator of collective self-consumption, a role which can be played by a cooperative, a neighbourhood association, local authorities, groups of companies, etc. The Brussels and Flanders regions are also in the process of adopting legislation on the issue.

A 100% RENEWABLE HEAT NETWORK WITH MINIMUM 30% CITIZEN PARTICIPATION – EEKLO – BELGIUM

In 2016, the city of Eeklo issued a concession contract for the construction of a district heating network (DH) supplied from residual heat (including from a local incinerator and hospital) and renewable energy sources with very ambitious criteria:

1. The contract for difference principle: the price of the renewable heat should not exceed that of individual heating with a gas boiler, including purchase, installation, consumption and maintenance
2. At least 30% of the grid should be owned by local citizens
3. The project developer must commit to take initiatives to tackle fuel poverty in the city

The contract was awarded to the Belgian citizen cooperative Ecopower in partnership with the French transnational company Veolia. The 30km-long DH network, set to be the biggest of Flanders, has the potential to provide all houses and businesses in Eeklo with heating and domestic hot water.

4. Switch to 100% renewable heat by 2036

3.5 Relying on community-planning and engagement

Local authorities have understood better than national governments that citizens ought to be considered as more than passive users of public services and infrastructures. While at national level, energy and climate planning has typically happened with virtually zero civil society involvement, cities have a long tradition of involving their communities in their long-term plans for sustainable development.

Local and regional authorities never lack creativity when it comes to designing new institutional methods, platforms, networks and instruments for increased community engagement. Such instruments usually provide a mechanism by which local authorities can target and support groups, nurture ideas, share knowledge, discuss challenges and opportunities linked to the policy, regulatory and funding environment around energy and climate projects.

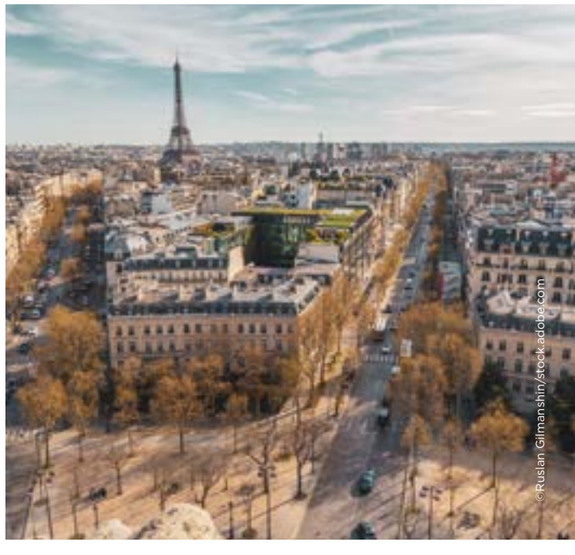
THE "DECIDIM" DIGITAL PARTICIPATION PLATFORM IN BARCELONA

Decidim is a collaborative project which encourages citizens of Barcelona to use a digital, open-source participatory platform to suggest, debate, comment and back new proposals for the city. The platform is a concrete output of the 2015-2019 municipal plan called "73 neighbourhoods, one Barcelona, Towards the city of rights and opportunities" and which gathered the input of some 40 000 people. Catalonia's first renewable energy cooperative, Som Energia, has used the Decidim platform to host its 2018 General Assembly and various debates with cooperative members and interested citizens, including some 3 500 participants and recording some 1 300 votes.

PARTICIPATORY BUDGET TO FINANCE THE PARIS CLIMATE PLAN

Through the participative budget mechanism, Parisians can propose investment projects for their district or the greater city area. Today, 5% of the investment budget of the city, representing about half a billion EUR until 2020, is earmarked for projects put forward by citizens.

In 2017, the participative budget envelope reached over 100 million EUR. To support climate-friendly initiatives from Parisians, the city has announced in its climate plan, published in November 2018, that 20% of the participatory budget envelope would be earmarked for climate-related actions.[19]



PROJECT-SPECIFIC COMMUNITY INVOLVEMENT

In this respect, the example of Lyon Confluence shows how this can happen in the framework of a very specific initiative. Indeed, besides being one of the biggest urban renewal projects in France, it is also very ambitious in terms of stakeholders' involvement. Since the early phase of the project, an "urban living lab" has been created to encourage citizens to participate in the dialogue and co-design of the smart and sustainable district.

The idea was to integrate the expertise and opinions of the local businesses, the neighbourhood communities, owners and real estate developers, journalists, opinion and policy makers along with all other relevant stakeholders. A participatory committee, made up of the socio-economic, cultural and governance players of the district, monitors the evolution of the project and is chaired by the Vice President of Greater Lyon in charge of participatory democracy. The "Maison de la Confluence" has also been created as a permanent dialogue platform to host exhibitions, debates, workshops and conferences on the project evolution.

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3.6 Procuring energy differently

Local and regional authorities can also have an impact on how and from whom energy is purchased, whether by adapting their own processes or by helping community groups make more informed decisions.

BULK BUYING SCHEMES

Municipalities can help renewable energy communities to better manage their energy choices in general through various mechanisms. An interesting model to drive down energy costs while supporting a more collective approach to energy procurement is the bulk purchasing of power from energy suppliers.

Tried and tested in the Netherlands, this approach has led municipalities to negotiate better deals from energy providers for groupings of citizens, drastically driving down costs and allowing for as much as 20% savings on household energy bills. This "aggregating and negotiating" model has resonated a lot in the UK where fuel poverty is high on the political agenda. In 2011, a UK consumer group launched a campaign called "The Big Switch" which led 300 000 people to register to the first collective switching initiative in the country, putting five energy suppliers in competition to deliver the cheapest electricity. Interestingly, the winner of the bid was Co-operative Energy, which seeks to establish an ethical alternative to the "Big Six" energy suppliers and now offers a 100% renewable energy supply to all its customers. As a result, it was estimated that households could save up to £183 on their yearly energy bills thanks to the switch. In a comment to the Guardian newspaper, the director of the campaign said that the fact that one of the smaller suppliers, Co-operative Energy, was able to win shows that "collective switching can help shake up the market for consumers and marks an important step on the road to energy market reform."

PUBLIC PROCUREMENT

Local authorities have a significant energy demand to meet, considering the energy they need to heat and power a various host of public buildings and facilities such as hospitals, schools, municipal swimming pools, community centres, street lighting, etc. Through their tendering policy, they can make sure the energy they purchase not only comes from renewable energy sources, but also that it is in line with their vision to scale-up community ownership.

THE CITY OF GHENT USES INTERNATIONAL COOPERATIVE ALLIANCE CRITERIA FOR PUBLIC TENDERS

When issuing tenders for new renewable energy capacity, the city of Ghent has already experimented a few times a system of award criteria where price competitiveness is far from being the only benchmark. While the price parameter weighted 60 points in the balance, the qualitative criterion of "participatory financing according to the International Cooperative Alliance principle" has a 40 point weighting.

In addition, to be qualified under this criterion, projects with a participative dimension must aim for a minimum 30% citizen participation. This minimum threshold was established as a reaction to big utilities taking market share away from cooperatives by adding very marginal elements of crowdlending to their projects.

At national level, the mainstreaming of auctioning mechanism to replace feed-in tariffs has had a very negative impact on the development of cooperatives in most EU member states. As a result, and following intensive advocacy activities from NGOs, city and cooperative umbrella associations, the European Commission has included provisions in the renewable energy directive that calls upon Member States take the specificities of renewable energy communities into account when designing support schemes. Such an approach already exists in France, where public tenders offer premiums to renewable energy projects co-financed by citizens or municipalities. The calls for tenders of the French Energy Regulatory Commission indeed foresee a "participatory bonus" that varies from 1 to 5 EUR per megawatt-hour, depending on the energy technology (5€/MWh for biomass projects and between 1 and 3 for wind and solar) and the level of local involvement. Following pressure from national advocacy groups, the French regulator even made a distinction between participatory financing projects co-funded through crowdfunding platforms (1€/MWh) and the ones owned by local and public players through actual capital investment (3€/MWh). This distinction was meant to reward projects that benefit from genuine territorial anchorage and involvement, inviting citizens to form part of the governance of the projects. "Projects that involve citizens in the governance are more complicated to set up and take more time, making them a little more expensive. Therefore, they probably require a higher bonus," said the energy director from the French ecological transition ministry. In the latest calls for tenders, 40% of the capital of projects had to be held by citizens or local authorities.[20]

COMMUNITY CHOICE AGGREGATION IN THE US

In the United States, collective switching schemes have been in place for a longer period than in Europe. More particularly, they have been developed through the use of an innovative process called "Community Choice Aggregation". Through this model, a locally-based, non-profit public agency is set up and tasked with aggregating the demand of the participating communities to source supply from alternative generation suppliers rather than from competing retail suppliers.[22] The municipally-controlled utilities then automatically supply "default customers" which are given a notification with the opportunity to opt out the scheme. This model, democratically-controlled by the municipalities usually involves cheaper, more environmentally progressive supply options, supporting the local economy.

Community choice aggregation is subject to various specific regulatory conditions. So far it has been implemented in seven state jurisdictions (covering 25% of the US annual electricity demand) with some 1 300 participating municipalities.[23]

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POWER PURCHASE AGREEMENTS (PPAS)

A Power Purchase Agreement is a long-term contract between an energy generator and a power purchaser, in this case the city, to buy all the electricity generated by the renewable energy installation. The formal agreement specifies the volume, price, and duration for which the electricity will be sold, and can span anything between 7 to 20 years. With the progressive phase out of subsidy mechanisms, types of long-term contracts are becoming more and more favoured by corporate consumers in the renewables market and are an opportunity for renewable producers to access funding and bring new projects online.

Local authorities could also consider PPAs to support the development of new renewable energy capacity while potentially including criteria specifically targeting local, community-led renewable energy projects. For the community project developers, local authorities bring very good credit ratings, long-term stability and access to cheap finance.

Popular in the United States, this direct marketing of green electricity should soon become more common in Europe, thanks to a requirement from the new renewable energy directive for EU governments to remove all administrative barriers hampering their deployment. In this context, a European alliance called **the RE-source Platform** has been formed to raise awareness of the various models of renewable energy sourcing in Europe.

BRISTOL ENERGY COMPANY SUPPORTING COMMUNITY PROJECTS THROUGH PPAS

In the UK, the Bristol Energy company, owned by the City Council, is committed to being a force for social good. As such, it pledges to support community energy projects and their investment in renewable energy generation. Its main method to do that, as advertised on the company's website, is to offer a range of Power Purchase Agreements that can best suit the needs of community projects.

3.7 Establishing a genuine partnership with European and national authorities

ENSURING A GOOD TRANSPOSITION OF THE RENEWABLE ENERGY DIRECTIVE IN NATIONAL LEGISLATION

Access to well-designed support schemes, cost of capital and overall investor certainty are all important elements that help smaller community groups with fewer resources than corporate utilities to make the leap for less-certain investments. In the last couple of years however, regulatory hurdles posed by member states and the move to more market-based support mechanisms, with fierce competition, has affected traditional business models.

To address this challenge, new definitions of community energy groups (in the renewable and electricity directives) have been adopted as part of the EU Clean Energy for All Europeans Package to provide official recognition and support to these emergent market players. As regards collective and individual prosumers, the right to produce, consume, store and sell electricity without being exposed to disproportionate charges is also being enshrined in European legislation.

Additionally, the renewable energy directive now calls upon Member States to prevent a further retreat of the citizen energy movement by creating an "enabling framework" for renewable energy communities. In this spirit, the legislation also requires the creation of national one-stop-shops to limit citizens' exposure to administrative burden. Last but not least, it also seeks to increase investors' certainty by prohibiting retroactive changes to the implementation of support schemes, which have harmed numerous community groups around Europe.

As these provisions will now have to be translated into national legislation, local authorities should act as watchdogs to monitor and influence development of national policy in this respect.

ECHOING THE LOCAL VOICE IN EU AND NATIONAL POLICY MAKING

Local authorities have to be very creative when it comes to supporting renewable energy communities with viable business plans, governance models and financial engineering. This means they require more in-house capacities and resources, including legal, technical and financial expertise to support cooperatives and other community groups in their concrete projects. Such expertise can be needed in cases where local authorities have to act as mediator between different parties, for example when agreements cannot be found between cooperatives and distribution system operators on specific smart grid projects, a problem encountered by a growing number of local governments across Europe.

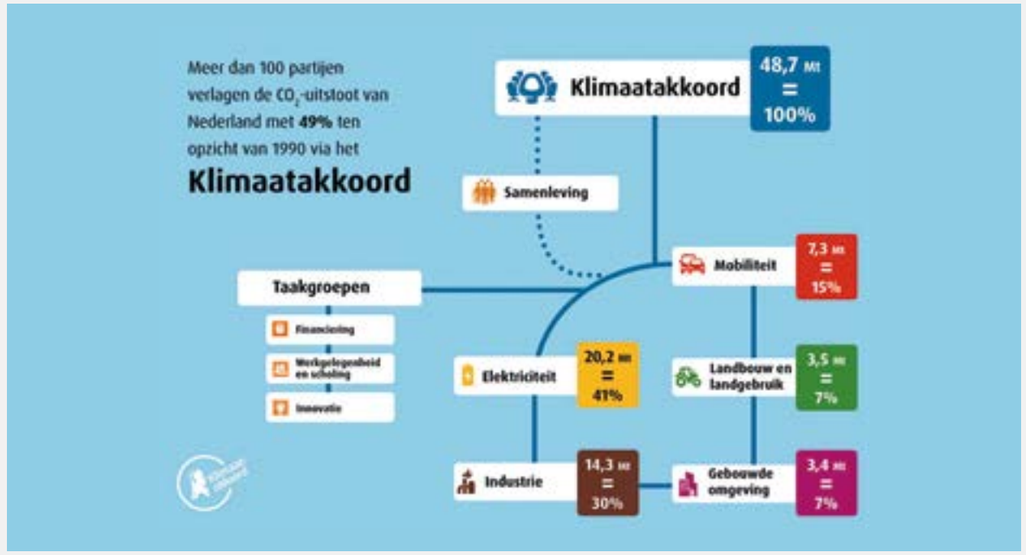
All in all, this calls for a greater voice for local authorities in European and national energy policy making as a way to make their needs and contribution heard and ensure the corresponding capacity-building and partnership framework are secured.

INFLUENCING NATIONAL ENERGY AND CLIMATE PLANS

The proposal for the regulation on the Governance of the Energy Union opens a window of opportunity in that direction. Indeed, article 10 on Multilevel Climate and Energy Dialogue Platforms provides that member states should "support active engagement of local authorities, civil society organisations, business community, investors, any other relevant stakeholders and the general public in managing the energy transition."

This means national governments should go beyond simple consultations and genuinely involve cities and civil society in the co-design of their plans. As the deadline for submission of the plans is approaching (end of 2019) local authorities should make sure their voices and needs are given due consideration to ensure this provision does not end up a toothless instrument.

THE "KLIMAATAKKOORD" – PARTICIPATIVE ENERGY AND CLIMATE PLANNING IN THE NETHERLANDS



A good example of such a participatory process exists in the Netherlands. In 2013, the Dutch government adopted its first ever integrated energy and climate plan following an extensive multi-stakeholder collaborative process. Under the guidance of the social and economic council, the agreement was the result of negotiations and debates among some 47 parties, including representatives from trade unions, local and regional governments, NGOs, energy suppliers and other interest groups. Very uniquely in Europe, this was the process the government chose to comply with EU requirements to submit a national roadmap on how to achieve the country's share of the EU objectives for renewable and energy efficiency targets. However ambitious, this first agreement was reported to have three caveats: the Parliament was not involved, the process was too top-down and responsibilities not clearly assigned. Following the 2017 national elections, a new process was put in place, inviting all the stakeholders to negotiate a new climate agreement (concrete per sector target, assignment of responsibilities, cost reduction elements) by splitting around five "tables": industry, agriculture, buildings, mobility and electricity.

FLEMISH MUNICIPALITIES ASK FOR DIRECT SAY IN REGIONAL ENERGY POLICY

In November 2017, 11 Flemish cities published an open call in Flanders' mainstream newspaper "De Morgen" calling on the regional government, which has devolved competences over energy issues, to make them "full partners of its climate policy". The text, which was accompanied with a direct letter to the minister in charge, makes reference to the EU-aligned Covenant of Mayors objective of reducing CO^2 emissions by 40% by 2030, to which the signatory cities have committed. "A 40% reduction, especially with a view to becoming climate neutral later, can no longer be realized by only focusing on low-hanging fruit. A big change is needed; a system change", says the article. To illustrate this, the cities explain how they are supporting citizens and businesses to save energy and develop renewable energy projects, but also how this forms part of a larger economic transition, including a transformation of the food and agricultural systems, which requires all government levels to reinforce each other.

AS PROJECT PARTNER OR FACILITATOR

Provide direct support to community energy initiatives

3.8 Creating or mandating a dedicated body

Once the political commitment to scale-up community energy has been taken, the logical next step is to allocate the corresponding resources and instruments to make it happen. Such platforms can either take the shape of information hubs, to guide renewable energy communities towards the relevant information and know-how, through the organisation of workshops and conferences and the provision of guidance materials. It can also take the shape of "one-stop-shops" to directly assist developers with concrete projects.

At national level, **Scotland** provides a very emblematic case of setting up supporting structures for community energy projects. A consortium made up of the national energy agency, an environmental charity and three social enterprises is in charge of managing the Scottish Government's Community and Renewable Energy Scheme. With all information centralised on a website called "Local Energy Scotland", the consortium provides loan finance, grant-to-loan funding assistance, and specialist advice to community groups.

In the district of **Steinfurt**, Germany, a task force consisting of the local mayors, representatives from public utilities and the agriculture industry was set up to establish "Guidelines for Citizens' Windparks" as a way to guide and increase the participation of local stakeholders in the financing and planning of these infrastructures, hence contributing to regional value creation. One year later, the "Wind Energy Service Station" was created to put the guidelines into practice and provide a single contact point to citizens, local public officers, businesses, farmers, nature protection advocates, etc. A "Wind Energy Roundtable" is also tasked with the mission of dealing with conflict management between people.[24] In parallel, the NLF Bürgerwind (Citizens' wind) was also launched to advise and accompany the community wind initiatives in the district of Steinfurt in the planning and implementation of their civic wind energy projects and bring the district closer to meeting its 2050 self-sufficiency goal.[25]

3.9 Mapping the potential and matchmaking the people

Charting the renewable energy potential of a city and its surrounding environment through dedicated mapping instruments can be instrumental in helping energy cooperatives maximize project opportunities.

In **Ghent**, the local authority has created a an online solar and a heat map to help residents and communities see whether certain roofs throughout the city were suitable for the installation of solar PV and find out about the heat demand and supply opportunities, also by providing an atlas of the geothermal potential across the city. Many other cities, such as **Freiburg** in Germany and **Vienna** in Austria have also developed such instruments.

Likewise, the 2018 version of the **Paris'** plan for climate neutrality says that in order for Parisians to take ownership of the carbon neutral approach and participate fully in achieving the goal, Paris will encourage citizen involvement in the production of renewable energy, by "supporting the launch of citizen cooperatives carrying solar projects, through the identification of suitable roofs to deploy their installations".

In a second step, once the potential has been assessed, local authorities often act as intermediaries and matchmakers to help put different stakeholders around one single table. In the above-mentioned case of the "Buurzame Stroom" project in Ghent, it was the city who identified

and convened the various project partners and also arbitrated between them. Because they have the overview of the various projects going in their territory and the appropriate channels to reach out to potential project developers, local authorities can make a crucial difference in getting projects or community groups off the ground.

In the city of **Plymouth** in the UK, it was the local council which brought together the founding members of a community benefit society called the "Plymouth Energy Community", with the initial aim to provide energy advice and efficiency solutions to vulnerable households in order to tackle fuel poverty in the city. After a very extensive public engagement campaign, the city thus provided a start-up loan, a grant and helped the society develop an appropriate business plan. In 2013, the cooperative was launched and the city transferred full control to a board of volunteer directors from the local community. From the original 100 founding members, the society has grown to include some 1 200 individuals and organisations. Initially focused on providing advice to help citizens switch energy suppliers and reduce their consumption, the services have now expanded to include affordable or free solutions to insulate houses and upgrade boilers. A home energy team has been set-up together with a volunteering and training programme. In 2014, a subsidiary society called "PEC Renewables" was also set up to "fund and build community-owned renewable energy installations in the city".[26]

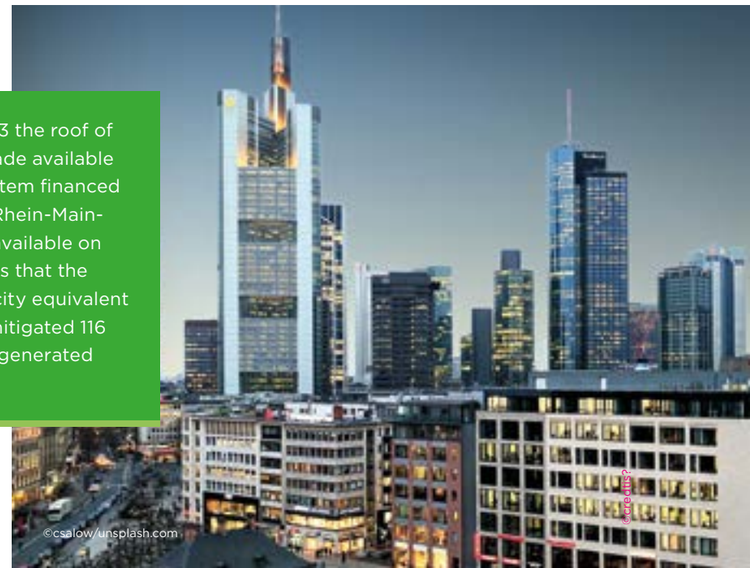
3.10 Providing access to public sites and infrastructures

When budget constraints do not allow for financial support, local authorities can provide support to community energy projects by providing access to public land, buildings and facilities. In some cases, this "in kind" support can even take the form of direct biomass feedstock through the provision of municipal waste.

In Germany, more than two-thirds of cooperatives use the roof spaces or real estate properties of municipalities to locate their installations. In the UK, the city of Plymouth has made 32 schools and community roofs available to the Plymouth Community Energy for the installation of their solar PV projects.

Municipal buildings such as schools, hospitals, council offices and community centres are often the first target of energy cooperatives for the location of their installations because there is an expectation that their use will remain unchanged over long time periods and the savings achieved will directly benefit the community. Savings on a school electricity bill can for example be re-directed to improved teaching activities, modernisation of educational materials and equipment, etc.[27]

In the city of **Frankfurt**, in 2013 the roof of the public sport arena was made available for the installation of a PV system financed by 20 local citizens from the Rhein-Main-Area. Yearly reporting made available on the cooperative website shows that the plant now delivers the electricity equivalent of 60 households. In 2017, it mitigated 116 tonnes of CO2 emissions and generated around EUR 44 000.



3.11 Securing finance and fundraising

Beyond finding adequate partners and location for their projects, securing funding is obviously the number one challenge faced by community groups. Before financing the infrastructure itself, they need to obtain **seed funding** to conduct feasibility studies, deal with project management and all the administrative requirements linked to making the project bankable. Here too, local authorities can provide the much needed impulse, as in the case of the "**Bristol** Community Energy Fund", a scheme set up by the city council that provides **grants and loans** to local community groups to cover the development costs of their renewable energy projects.

In some cases, local authorities can also provide **staffing resources** for technical support of specific projects. The city of **Gent** for example provided funding to the local EnerGent cooperative in order to hire an expert to support the development of a smart grid project in the area. Similarly, the city council of Plymouth hosts 8.5 staff of the Plymouth Energy Community in their office and provides an additional 3 staff as in-kind support to the cooperative. [10]

In other cases, the local authority can help communities face the high upfront costs of the renewable energy infrastructure itself. In 2017, the city of **Amsterdam** for example launched a rebate programme for community rooftop solar projects called "Dak voor de Stad" providing subsidies to help rooftop PV projects with at least 100 kW of capacity and "solar cooperatives" with a minimum of ten members to cover the costs of purchasing and installing the PV systems.

In addition, local authorities can become **direct investors** in citizen energy projects, taking equity shares jointly with energy cooperatives. The financial involvement of the city also helps make projects more trustworthy and credible to other partners. In Denmark, the municipally-owned local utility of **Copenhagen** has a 50% share in the "Middelgrundens Vindmøllelaug" offshore wind farm located outside the harbour, and the cooperative owns the other 50%.

When public finances do not allow for direct investments, local authorities also play an instrumental role in helping community energy projects to **secure funding from third parties.** Crowdfunding for example, is becoming an ever more popular way of financing renewable energy projects with some platforms accepting investments starting from as little as 5 EUR. In its 2050 climate neutral strategy, the city of **Paris** identifies crowdfunding, crowdlending and crowdequity as a key pillar of its 2020 objective to "make Paris citizens genuine shareholders of the city's Climate Plan".

WHAT EU FUNDING FOR RENEWABLE ENERGY COMMUNITIES?

As part of the European investment and structural funds, a number of relevant financing sources can be harnessed by renewable energy communities including the instrument called "Community-led Local Development" which supports bottom-up territorial development strategies. In the same spirit than the new community energy provisions of the renewable energy directive, the community-led local development must include local action groups in the driving seat with an adequate representation of "public and private local socio-economic interests."- Capacity building projects and participatory processes to build community ownership can be supported via these grants. In addition, the European Covenant of Mayors also offers a useful interactive **funding guide** providing an overview of the various other financing opportunities. It provides information on initiatives managed by the European Union, the Member States and key financial institutions such as the European Investment Bank. The guide also includes information about support services and innovative financing schemes. In addition, the Covenant of Mayors Office regularly publishes information on innovative financing schemes implemented by its signatory cities and how they can be replicated.

AS INFRASTRUCTURE OPERATOR

Manage energy infrastructure with community involvement

3.12 Offering participation in the local utility

In certain countries, the institutional and economic framework make it possible for local authorities to directly operate energy projects and infrastructures, often through subsidiary utility companies. The most emblematic example is the German "Stadtwerke" model, which is raising the interest of an increasing number of other cities across Europe.

Several municipalities in Germany have taken this local empowerment process one step further by encouraging direct participation of citizens, often through cooperatives, in the capital of their Stadtwerke, giving citizens a direct say over how their utility is managed and benefitting the community at large.

Back in 2008, such a process was initiated in the university town of Jena, Germany, the second largest city in Thuringia. A member of the Stadtwerke supervisory board, who was also president of the Green Party in the city council, started collecting support for his idea of launching an energy cooperative to buy back third party shares in the municipal company.

Following intensive negotiations and as an outcome of the 2009 elections, a decision was adopted by the city council enabling citizens to buy up to 10% of shares in the municipal energy company. As a direct consequence of this decision, the BürgerEnergie Jena eG cooperative was founded in March 2011. An extensive communication campaign was launched among local citizens, promoting the chance not only to benefit financially from a stake in the local utility, but also to influence its commercial strategy by pushing for a more sustainable and socially responsible energy supply. In April 2014, a 2% share was obtained by some 1,000 Jena citizens, making a joint EUR 8.2 million local and traceable investment into the energy future of their city. The BürgerEnergie Jena Eg cooperative, which has been able to distribute a 4% dividend to its members over four consecutive years, has been invited since January 2017 to sit in the advisory board of the Stadtwerke (previously reserved to members with a minimum 5% stake), contributing to the strategic decisions of the utility.

3.13 Opening the capital of municipal energy projects

In Germany, about 40% of local utilities have offered the opportunity for direct participation of citizens and cooperatives in the projects that they operate. By way of example, the Stadtwerke Union Nordhessen, which gathers municipal utilities from the **Northern Hesse region**, opened up some 75% of its projects to participation of community entities and neighbouring local authorities, raising some 70 million euros in the process. Likewise, the **Augsbourg** Stadtwerke in Bavaria used this model to finance a hydropower project and two solar plants, raising 20 million euros in the span of just four weeks. A large majority of utilities in Germany see this participatory finance approach as a way to maintain trust and loyalty among citizens and increase overall project acceptance. [5]

In France, about 5% of the territory is supplied by incumbent municipal distribution companies which had the opportunity to remain independent after the 1946 law on the nationalisation of the electricity and gas sectors. Their local anchorage and proximity with customers is also pushing these entities towards more direct participation. In **Grenoble**, in the French Alps, the local utility's mission statement says it would like to "reconnect citizens with energy issues through open approaches bringing together the local stakeholders". In this spirit, the utility plans to provide other local authorities with the opportunity to enter the capital of projects and to promote citizen participatory financing.

MUNICIPAL "ENERGY BONDS" IN SWINDON, UK

The city of **Swindon** in the UK, plans to develop a low-carbon economy by 2030. The municipal energy company (wholly owned by the city council) partnered in 2016 with a green investment platform called Abundance to co-finance two solar wind farms.[28]

For the first 4.8 MW wind plant, called "Common Farm", the city was able to collect some £1.8 million from citizens in just two months (instead of the allocated three) and contributed the remaining £3 million. With adverts published in the local railway station and evening news, citizens were offered the opportunity to invest as little as £5. After the first year of operation, local residents were already receiving between 5 and 6% annual return of their investment. A few months later, the municipal company used the same mechanism to co-fund the 5MW "Chapel Farm" on a former landfill site owned by the local authority. This second project allowed citizens to receive a tax-free return on their investment of 6% for 20 years while helping their local authority to redirect part of the profits to other important local community projects.[29]

Such innovative fundraising schemes to leverage citizens' savings are increasingly seen as a solution by European local authorities facing austerity measures imposed by their national governments.

3.14 Joining efforts on remunicipalisation campaigns

A growing number of communities across Europe are wishing to team up with their local representatives to regain control over key local infrastructures and "commons". Transition movements across the continent increasingly call for a shared ownership and management of resources and facilities. These movements are sometimes linked to broader political objectives of local economic regeneration or reindustrialisation.

One of the most prominent cases of citizen-led remunicipalisation movements is probably that of **Hamburg** in Germany. Back in 2013, following the three-year campaign "Our Hamburg, our grid", a referendum saw 50.9% of citizens voting in favour of the remunicipalisation of the electricity, heat and gas networks. The takeover of the electricity grid was finalised in 2016 without any job losses as the entire staff was maintained, contrary to what trade unions had feared ahead of the process. The gas grid was transferred to full city ownership in 2018 and the heating network will be purchased by the city by 1 January 2019. Today, the municipal utility focuses on selling local, mostly green, energy and is driven by climate and socio-economic imperatives rather than profit maximisation. Unlike the above-mentioned cases, the Hamburg model does not include direct citizen participation as active decision makers in the utility. However, the local cooperative plays an important role in organising debates to encourage the municipality to identify renewable sources for the future operation of the district heating network. Called "Wärmedialogue", these exchanges have, for example, identified the opportunity to tap waste heat from a copper furnace in the South East of the city, to replace part of the current fossil fuel energy sources.

In the 12 000 inhabitant Black Forest city of **Titisee-Neustadt**, the remunicipalisation process was carried out in partnership with the citizens. In 2011, the city started collective financial support from the citizens via the creation of a new local cooperative which now owns a 10% stake in the project. The historical cooperative utility company EWS Schönau, which was born as part of the anti-nuclear movement and now supplies 170 000 customers, also provided 30% of the capital to buy the network as well as technical expertise in municipal takeovers and operational management. [5]

Similarly, **Haßfurt**, a city of around 13 000 inhabitants in the region of Bavaria, raised some 1.5 million EUR via a citizen cooperative to co-finance the partial takeover of the distribution network. It is interesting to note that before this remunicipalisation momentum, German citizens and cooperatives also heavily campaigned in some cities to stop attempts to privatise municipal assets. This is for example what happened in the city of Leipzig, where a large citizen mobilisation led to a local referendum to counter the project of the Social Democrat Mayor to sell shares of the municipal company to the French utility Engie (formerly Gaz de France).

"ENERGY FOR PEOPLE, NOT FOR PROFIT", LONDON MAYOR COMMITS TO CREATE LOCAL UTILITY FOLLOWING CITIZENS CAMPAIGN

Ahead of the 2016 local elections, the "Switched on London" campaign advocated actively for the launch of a 100% public energy company to be set-up in the capital. Following his election as Mayor, Sadiq Khan committed to create the not-for-profit "Energy for Londoners" company. Among the concrete recommendations of the campaigners was that of creating a governing board composed of one third London local government representatives, one third elected energy company employees and one third ordinary London residents, reserving half of these positions for women. Another proposal was to rely on advisory neighbourhood assemblies to guarantee widespread community involvement. In addition, on the campaign website, advocates call for a company that is "socially just and tackles energy poverty through a fair pricing system and household energy efficiency investment" and which is "ecologically sustainable through a commitment to selling 100% renewable energy as soon as is feasible, with partnerships with local community generation schemes."

CONCLUSION

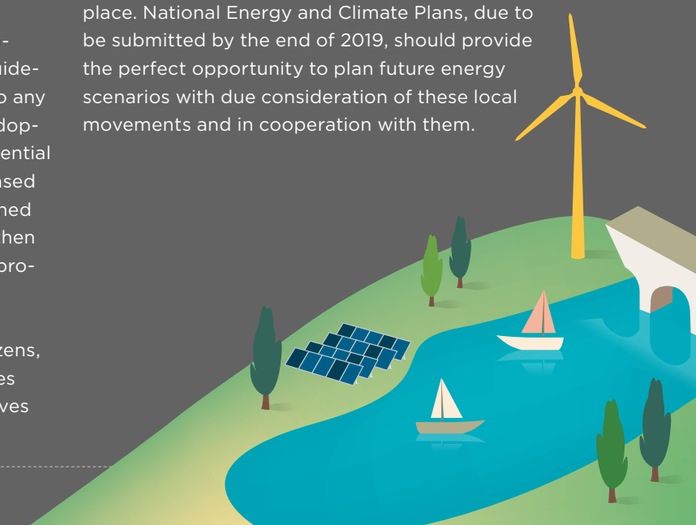
City to citizen partnerships are starting to form the backbone of the new governance models around the energy transition. It is clear that there is a need to further understand, nurture, and support such relationships – especially as they are so clearly mutually beneficial.

Local authorities' support to and involvement in community energy movements contribute to local economic development as well as social justice and cohesion. They help create new democratic spaces for citizen engagement in public life, improve the city's resilience by reducing its import dependency and ultimately also create new expertise among local administrations.

Cities can use several levers and strategies to mainstream citizen energy projects. As shown in this guidebook, there are some structuring building blocks to any sound community energy strategy including the adoption of long-term targets, the mapping of local potential and the networking of all relevant stakeholders. Based on their local room for manoeuvre – often determined by the national context – the local authorities can then take over various roles, from strategic advisors to project partners, infrastructure operators, etc.

New models of joint energy management with citizens, including via the creation of local energy companies or through social enterprises and citizen cooperatives are thus taking shape across Europe. The Clean Energy Package for all Europeans is meant to provide a boost to the emergence and scale-up of these "energy communities" and it is now up to each city, region and nation to give flesh and blood to these new definitions.

EU member states should thus make sure their cities have the right human resources, legal competences, technical expertise and financial leverage to usher in new forms of governance models in the energy system. Setting a high level target for local and community energy ownership of renewable energy capacity, as was done in Scotland, is an efficient way of ensuring the corresponding enabling framework is put in place. National Energy and Climate Plans, due to be submitted by the end of 2019, should provide the perfect opportunity to plan future energy scenarios with due consideration of these local movements and in cooperation with them.



REFERENCES

1 Nikola Sahovic, Patricia Pereira da Silva, « Community Renewable Energy - Research Perspectives », Energy Economics Iberian Conference 2016. URL : **https://ac.els-cdn.com/S1876610216316629/1-s2.0-S1876610216316629-main.pdf?_tid=7b451e33-04a9-416e-bc63-5e6db3c4ec90&acdnat=1547457422_f760dd9a85f872dd18429315b33d14b9#page=1&zoom=auto,-18,744**

2 Institut dezentrale Energietechnologien, Universität Kassel, « Regionale Wertschöpfung in der Windindustrie am Beispiel Nordhessen », Mai 2016. URL : **https://www.uni-kassel.de/fb07/fileadmin/datas/fb07/5-Institute/IVWL/Wetzel/Regionale_Wertsch%C3%B6pfung_in_der_Windindustrie.pdf**

3 WiseGRID project, « Wide scale demonstration of Integrated Solutions for European SmartGrid », 2017. URL : **https://cdn.nimbu.io/s/76bdjzc/channelentries/oan2oj6/files/D2.1_WiseGRID_requirements_Use_cases_and_pilot_sites_analysis.pdf?gej0qha**

4 Gent Klimaatstad, « Ghent climate city working overtime – Ghent climate plan 2014-2019 ». URL : **https://www.stepupsmartcities.eu/Portals/51/Tools%20and%20Resources/Enhanced%20SEAPs/Annex%20A_Ghent%27s%20enhanced%20SEAP_Climate%20Plan%202014-2019.pdf**

5 Andreas Rüdinger, « Local energy ownership in Europe – an exploratory study of local public initiatives in France, Germany and the United Kingdom », Energy Cities, June 2017. URL : **http://www.energy-cities.eu/IMG/pdf/local_energy_ownership_study-energycities-en.pdf**

6 Satoko Kishimoto, Olivier Petitjean, « Reclaiming Public Services : How cities and citizens are turning back privatisation », TNI, June 2017. URL : **https://www.tni.org/files/publication-downloads/reclaiming_public_services.pdf**

7 Ann Vikkelso, Jens H M Larsen, Hans Chr. Sorensen, « The Middelgrunden Offshore Wind Farm, a popular initiative », CEEO, March 2003. URL : **https://stateofgreen.com/files/download/1087**

8 « Danes take back the Middelgrunden », Renews.biz, November 2018. URL : **https://renews.biz/50044/danes-take-back-the-middelgrunden/**

9 Energy Cities, « Citizens'Solar Power Plant in Vienna », RNP project, 2018. **https://www.renewables-networking.eu/documents/AT-Vienna.pdf**

10 Luke Wilson, « Community Energy : A Local Authority Perspective – State of The Sector Report Addendum », Community Energy England, 2017. URL : **https://communityenergyengland.org/files/document/70/1501767092_CommunityEnergyALocalAuthorityPerspective.pdf**

11 Uli Ahlke's interview, « We need a citizen-oriented energy supply », World Future Council, September 2018. URL : **https://www.worldfuturecouncil.org/interview-energy-transition-in-germany/**

12 Scottish Governement, « Scottish Governement Good Practice Principles for Shared Ownership of Renewable Energy Developments », November 2018. URL : **https://www.gov.scot/publications/consultation-scottish-government-good-practice-principles-shared-ownership-renewable-energy-developments/**

13 « Le CESE préconise un objectif de 15% des énergies renouvelables entre les mains des collectivités et des citoyens d'ici 2030 », le collectif pour les énergies citoyennes, Février 2018. URL : **https://www.enercoop.fr/content/le-cese-preconise-un-objectif-de-15-des-energies-renouvelables-entre-les-mains-des**

14 Gouvernement wallon, « Cadre de référence pour l'implantation d'éoliennes en région Wallonne », Février 2013. URL : **https://energie.wallonie.be/servlet/Repository/cdr.pdf?ID=28134**

15 Anne Bringault, Miriam Eisermann, Sylvie Lacassagne, « Cities heading towards 100% renewable energy by controlling their consumption – food for thought and action », CLER, Energy Cities, RAC France, November 2016. URL : **http://www.energy-cities.eu/IMG/pdf/publi_100pourcent_final-web_en.pdf**

16 Esther Bailleul, « Nouvelles solidarités urbain-rural, une condition de la transition énergétique nationale – des bénéfices mutuels pour les territoires », CLER, November 2018. URL : **https://cler.org/wp-content/uploads/2018/11/Etude-nouvelles-solidarites-urbain-rural.pdf**

17 Mairie de Paris, « Plan climat de Paris, vers une ville neutre en carbone et 100% énergies renouvelables », Mai 2018. URL : **https://api-site-cdn.paris.fr/images/102678**

18 Smarter Together project, « Report on collective self-consumption of Photovoltaic », October 2016. URL : **https://www.smarter-together.eu/file-download/download/public/429**

19 Mairie de Paris, « Vers une ville neutre en carbone et 100% énergies renouvelables » March 2018. URL : **https://www.apc-paris.com/system/files/file_fields/2018/04/20/nouveauplanclimat.pdf**

20 Energie Partagée, « Entre participatif et citoyen, la CRE balance… », July 2018. URL : **https://energie-partagee.org/participatif-et-citoyen-la-cre-balance/**

21 David Deller, Paul Bernal, Morten Hviid and Catherine Waddams Price, « Collective Switching and Possible Uses of a Disengaged Consumer Database », Centre for Competition Policy and the University of East Anglia, August 2017. URL : **http://competitionpolicy.ac.uk/documents/8158338/19064125/Collective+Switching+Report+-+August+2017.pdf/127c78b6-faad-4496-b198-f56862230896**

22 Laura Brinker, « Ofgem Call for Evidence on the future of supply market arrangements - UK Energy Research Centre response », UK Energy Research Centre, March 2018. URL : **http://www.ukerc.ac.uk/asset/1403B377-6A62-4554-985420E7BDE3A61F/**

23 « Community Choice Aggregation », Local Power. URL : **http://www.localpower.com/CommunityChoiceAggregation.html**

24 Press release, « Future Policy Award 2018 crowns best policies on agroecology and sustainable food systems » World Future Council, 2018. URL : **https://www.worldfuturecouncil.org/page/2/?lang=1**

25 NLF Bürgerwind GmbH. URL : **http://www.nlf-buergerwind.de**

26 Plymouth Energy Community. URL : **http://www.plymouthenergycommunity.com/about/story**

27 Dr Giovanna Speciale, « Community Energy in London : Realising the Potential », Community Energy London, June 2018. URL : **http://communityenergy.london/wp-content/uploads/2018/06/Community-Energy-in-London-Realising-the-potential.pdf**

28 Emily Creamer, Will Eadson, Bregje van Veelen, Annabel Pinker, Margaret Tingey, Tim Braunholtz-Speight, Marianna Markantoni, Mike Foden, Max Lacey-Barnacle, « Community energy : Entanglements of community, state, state and private sector », The UK Energy Research Centre, May 2018. URL : **https://onlinelibrary.wiley.com/doi/full/10.1111/gec3.12378**

29 Public Power Solutions, « Chapel Farm Solar Park ». URL : **https://www.publicpowersolutions.co.uk/resources/case-studies/chapel-farm-solar-park/**

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