



COMMUNITY ENERGY:

BROADENING THE OWNERSHIP
OF RENEWABLES

About

The IRENA Coalition for Action (Coalition) is an international network with a vision for its members to work together to advance renewable energy in order to drive the global energy transition in line with the Sustainable Development Goal on energy. Within the Coalition, the Community Energy Group - chaired by the World Wind Energy Association (WWEA) - is a sub-Group under the Coalition Business and Investors Working Group.

In 2017, the Coalition identified the scaling-up of renewable energy investment as one of the most urgent topics to address in order to accelerate the global energy transformation. This paper, identifying benefits, challenges and opportunities of broadening the ownership of renewables, has been developed in a joint effort by the members of the Community Energy Group. A second Coalition paper - developed by the broader Business and Investors Group chaired by the Global Wind Energy Council (GWEC) and the Global Solar Council (GSC) – is being published in parallel and focuses on the scaling-up of renewable energy investment.

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1. The community energy concept

Community energy is the economic and operational participation and/or ownership by citizens or members of a defined community in a renewable energy project. Community energy is not limited by size, taking place on both large and small scales. Since 2011, the World Wind Energy Association (WWEA) has used a definition developed by members of its Community Power Working Group (WWEA, 2016) and supported by the Community Energy Group of the Coalition for Action.

Community energy is any combination of at least two of the following elements:

- Local stakeholders own the majority or all of a renewable energy project.
- Voting control rests with a community-based organisation.
- The majority of social and economic benefits are distributed locally.

However, various definitions of community energy are found worldwide depending on a government's intent to steer investment and ownership in renewable energy generation in this direction. Requirements for communities to qualify as a community energy project may be more or less stringent depending on the respective policy's actual intent to democratise the energy assets and to create a distributed energy system. This makes global stocktaking of community energy projects difficult.

Community energy projects may differ in size and scope. They may include minority and partial ownership by a few members of a municipality in a project, the generation assets owned by a co-operative whose shareholders are solely recruited from the project-hosting community, or communities developing their own energy autarkic community centres or municipal and citizen partnerships, etc (WWEA, 2016).

2. Benefits of community energy

A community's economic and operational participation in renewable energy projects is a key factor for building community acceptance and support for the development of renewable energy projects (REN21, 2017; WWEA, 2016). Additional benefits of community energy can include:

- added value for the region through the establishment of a new economic sector, job creation and a local identity
- increase in actor diversity resulting in shared decision-making and increased transparency in planning and construction
- integration of citizens into sustainable economic processes
- lower energy prices
- acceleration of energy access and general renewable deployment rates
- technology and business model innovation

What's at stake

Community involvement in building the energy systems of the future, is important for an effective and inclusive energy transformation. Local governments have a unique responsibility in facilitating the energy revolution by providing communities with the framework and support to build local sustainable energy infrastructure. From improved building codes to district heating systems, more efficient low-carbon public transit and walkable neighbourhoods, municipalities could be the drivers of sustainable and affordable energy supply for their communities.

Communities could further play a pivotal role in the democratisation and decentralisation of energy systems around the world. Decentralised energy systems are in many cases more resilient to climate change and disaster and more reliable than centralised systems. They also sustain fewer network losses and could create pride of ownership that has far-reaching behavioural impacts on all sustainability activities.

Contrary to the general perception, community-owned companies have also been proven to have the capability not only to provide quality service to their customers, but also to do it at lower energy prices than commercial energy companies (WWEA, 2018). One example is Slagslunde Fjernvarme A.m.b.a., a consumer-owned district heating company located 30 km northwest of Copenhagen, Denmark. Local district heating consumers decided to buy the district heating system from the utility and operate it themselves. The cooperative started to run the system in 2013. Within the following years, energy prices went down considerably (Danish Energy Regulatory Authority, 2018).

3. Implementation challenges

Two general sets of challenges to the development of community energy are regulatory/policy challenges and financial challenges. In addition, a lack of clarity regarding the definition of community energy, as well as cultural challenges and challenges related to disparities within communities, can present obstacles.

Regulatory challenges

Aside from those affecting all investment in renewable energy, the key regulatory challenges mainly comprise lack of access to the energy market and discrimination against smaller investors. The global trend towards auction systems has become a serious obstacle for community-based investments, as well as for other small and medium investors. As a rule, auctions tend to favour larger investors because they increase the planning risk to a degree that only investors with a large project portfolio and a strong balance sheet can tackle (REN21, 2017; WWEA, 2016; IRENA and CEM, 2015). This is the case in particular with regard to financial risks. Larger companies and utilities normally have more diversified project portfolios, making it more acceptable for them not to succeed with one or more projects without immediately becoming bankrupt. In addition, they have more expertise in dealing with the rising complexity of planning and auction processes. Various examples show that even special incentives and detailed definitions for community investors do not necessarily result in strengthening community and smaller scale investment (WWEA, 2018).

In addition and in general, community energy projects suffer more from regulatory changes such as changes in tariff structure because they cannot compensate for losses in one project

with gains from another project, and they are more vulnerable to regulatory risks (REN21, 2017; WWEA, 2016).

Financial challenges

Financial challenges are related to communities' capacity to raise equity and their lack of access to third-party finance. This challenge is of particular significance in developing countries. Although communities may be able to make regular payments for loans from the returns of the energy projects, providing the equity – which allows ownership and control of the projects – is a significant obstacle. So far, no established business models have been able to translate expected regular payments and economic welfare gains or even land rights into equity.

Unclear legal definition and lack of awareness

The lack of a clear and widely agreed legal definition of community energy and a low awareness together comprise a third challenge to the widespread adoption of this approach. Overly fluid definitions have sometimes resulted in business advantages for investments that in substance would not fall under the above-suggested definition of community energy (WWEA, 2018). Such projects risk undermining the power of the community energy concept, weakening its positive message and harming its reputation.

Cultural barriers

Cultural aspects can also hinder the development of community energy. Democratic decision-making and shared ownership are common practice in some countries. In others, these are challenging practices due to historical events and societal characteristics.

In addition, even the best-intentioned community energy projects do not automatically guarantee that benefits will be distributed equally within the hosting community. This can create tensions within communities and reduce the positive impact and wide acceptance that community energy projects could otherwise have (WWEA, 2017).

4. Actions to promote community energy

- Policies could seek to avoid discrimination against smaller, in particular community-based, investors, and could ideally create equal market access for all market participants. In this light, auctions are not the preferred instrument to stimulate community energy deployment (Fell, 2017). Governments could rather incentivise decentralised, integrated, community-based renewable energy systems and self-consumption and remove any kind of barrier for such approaches. Feed-in tariffs have proven to be more adjustable to the specific needs of smaller-scale investors and community ownership. They also carry a much smaller risk of discrimination against this type of investor (WWEA, 2016).
- Where governments wish to include community projects in tendering procedures, they should be aware that to date, community energy investors have not played a substantial role in renewable energy projects developed based on auctions. One way to achieve a higher level of community participation could be to set up specific targets and regulations for community projects, *e.g.*, by reserving a reasonably high capacity for community projects. However, this does not solve the basic problem that most communities cannot absorb the planning risk associated in general with participation in auctions.
- When setting up renewable energy support schemes, governments could not only consider the price per kilowatt hour, but also the overall macroeconomic costs and socio-economic benefits as highlighted above. Such an overall analysis could be part of any long-term energy and development plan.

- Should governments be willing to create special incentives for community energy investments, they must ensure that they target the right group; *i.e.*, the definition of community energy could follow a similar set of principles to the ones outlined above. Single indicators like voting rights alone are insufficient (WWEA, 2018).
- The establishment of community energy authorities with the sole purpose of supporting community energy projects by/through providing advisory services and funding opportunities, facilitating stakeholder engagement and increasing public awareness could significantly accelerate the development of community projects. Such authorities could be established on various levels (e.g. local, regional, national or international) and could be consolidated into existing institutions (REN21, 2017). Some countries or regions have already established organisations that focus on supporting community energy investment, often partly funded by public sources, e.g., Community Energy Scotland and the Community Power Agency in Australia (Community Energy Scotland, 2018; Community Power Agency, 2018).
- At the global level, international organisations, could include community energy as a priority in their work programmes.
- In order to overcome the equity gap, particularly in developing countries, governments could contribute to the development of alternative business models to encourage financial institutions to dispense loans. Public guarantees can play an important role in this area, especially when given by multilateral finance institutions.
- An appropriate international finance institution could establish a facility specifically dedicated to financing community energy projects in developing countries. Such a facility could not only provide loan guarantees, but could also help to overcome the equity gap.
- Learning among pioneers and new entrants is one of the keys for community energy's further development. Often, good practices in one country are replicated in other countries. Therefore, in order to foster open innovation, the creation of a regular space for networking or a meeting place for exchanging knowledge, experience and ideas is recommended. There are a number of existing networks that could be strengthened, including an increasing number of national community energy organisations and events. On an international level – in addition to the Community Energy Group of the Coalition group – networks such as the WWEA Community Power Working Group or the World Community Power Conference could also contribute to these efforts.

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Coalition for Action membership

The Coalition is facilitated by the International Renewable Energy Agency (IRENA).

ABB	ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)	International Network for Sustainable Energy	RE100/The Climate Group
Abengoa Solar		International Network on Gender and Sustainable Energy (ENERGIA)/Hivos	Regional Center for Renewable Energy and Energy Efficiency (RCREEE)
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Climate Action Network (CAN)	Iberdrola SA	Power for All	World Wind Energy Association (WWEA)
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How to join

The Coalition is open to any entity supporting the widespread adoption and sustainable use of all forms of renewable energy.

To become a member, contact the IRENA Coalition for Action team (coalition@irena.org) or download the application form via our web page: www.irena.org/coalition



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