

Case study 6: Renewable Energy Communities

Description of the policy instrument

The EU is highly committed to increasing the number of energy communities and the share of electricity they produce. From a legal perspective, the European Commission defines these as Citizen Energy Communities (CEC) and Renewable Energy Communities (REC), and there are several similarities between them. Both are legal entities where the emphasis is on voluntary and open participation. Citizens, local authorities and smaller enterprises not active in the energy sector have effective control.

The primary purpose of both types of energy communities is to deliver environmental, economic or social benefits, with financial profit not being among the main goals. The main difference between the CEC and REC is that CECs focus on the energy sector in general, while RECs only use renewable energy sources. Furthermore, RECs need to be autonomous in internal decision-making processes, with larger enterprises not being eligible to participate in them.^{190,191}

Energy communities are strongly citizen-driven and create local job opportunities.¹⁹² Their existence represents a democratisation of energy supply and increased levels of interest in renewable energy sources.¹⁹³ Moreover, these communities often promote energy efficiency measures and flexible demand practices. Optimal use of household devices, such as running household appliances (washing machines, dishwashers and dryers) when the supply is high or the demand is low, can improve grid resilience, reduce energy prices and make it possible to charge EVs from the community grid.¹⁹⁴ Extended energy storage capacities, such as batteries, can further enhance wellbeing and reduce energy dependency on the grid by lowering energy expenses and the inconvenience caused by minimising energy use during peak hours.^{195,196}

The first energy communities were established in the 1960s and 1970s as a result of anti-nuclear and environmental movements. There are currently several energy communities across the EU. By 2019, Germany had the most, followed by Denmark, the Netherlands and the UK. However, their number varies across Member States, with larger numbers being found in the northern than the southern and eastern parts of the continent.¹⁹⁷

Why did it work or not work?

Caramizaru and Uihlein¹⁹⁸ analysed 24 energy communities across the EU and identified some factors which have helped or hindered their development.



One of the key factors driving successful development of energy communities is wealth. Households with higher disposable incomes are more willing to invest in energy-related capital and create these communities. This may, at least partially, explain the uneven geographical distribution of energy communities: countries with overall higher median incomes are located predominantly in the northern part of Europe. These are also regions where heating is essential for long parts of the year and most homes have central heating systems, increasing the financial benefit that can be derived from participation in an energy community. However, in Spain, from around 2012, high energy prices contributed to an increase in the number of these communities.

A supportive policy environment is crucial to the success of energy communities. In 1991, Germany was one of the first countries in the world to introduce feed-in tariffs, which have helped create a stable policy environment for energy communities. However, other tools, such as tax incentives and grants, as found in the UK, can also incentivise their formation.



The removal of financial incentives, on the other hand, tends to reduce the appeal of energy communities, as evidenced in Denmark following changes to the feed-in tariff scheme and in Germany after the implementation of financial restrictions on newly established co-operatives.

Other enabling conditions for energy communities include social capital and interpersonal trust. An abundance of both has enabled these communities to thrive, especially in Germany and the Benelux countries, which have strong traditions of social co-operation and demand for local ownership. However, they have proven much less popular in post-socialist countries.

Reasons that incentivise individuals and households to join an energy community include environmental concerns and consciousness. Moreover, participation in community-owned projects helps foster the acceptance of renewable energy projects, particularly at a local level.

Key learnings

Energy communities can play an important role in increasing the acceptance of renewable energy sources at a local level. They can also generate green electricity and help regulate energy supply and demand imbalances through flexible consumption and storage capacity. Even though their primary focus is on creating environmental and social synergies, they can help reduce energy expenses and create local job opportunities.

Based on examples across the EU, the main enabling conditions for the successful formation of energy communities are wealth, supportive and clear policy frameworks, financial incentives, social capital, environmental concerns and consciousness.

