

Summary for publication

Summary of the context and overall objectives of the project (For the final period, include the conclusions of the action)

NEWCOMERS (New Clean Energy Communities in a Changing European Energy System) is a multi-country H2020 project that studies new forms of energy communities that favour the uptake of renewable energy and energy-efficient behaviour in order to accelerate energy transitions in Europe. These new clean energy communities can be characterised by the use of new technologies, the creation of new values, as well as new collaborations between stakeholders such as citizens, municipalities and commercial parties. NEWCOMERS' final aim is to deliver policy recommendations on how to support these new clean energy communities to unfold their potential benefits for European citizens and the Energy Union. To achieve its goals, NEWCOMERS explores different types of new clean energy communities and assesses them along dimensions such as citizen engagement, value creation, and learning. It also identifies sustainable business models that are attractive and accessible for a broader group of EU citizens. At the national and local level, the project assesses the conditions that support the emergence and operation of new clean energy communities as well as their potential for upscaling. Furthermore, NEWCOMERS investigates how new clean energy communities meet the needs of citizens and consumers better than more traditional energy businesses and whether they have the potential to increase the affordability of energy, energy awareness and more efficient use of energy. The project is carried out by six research institutes as well as one energy company in six European countries (NL,SE,UK,DE,IT,SI). These countries have been selected to differ in their share of renewable energies in total energy generation, their regulatory environment, the degree to which community energy models are embedded in society, as well as their economic and social structures. The NEWCOMERS team links academic research with observations from 10 local energy communities in all six partner countries. They represent the spectrum from local, citizen-driven initiatives to commercially-driven initiatives and virtual energy communities.

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far (For the final period please include an overview of the results and their exploitation and dissemination)

In this first reporting period, the NEWCOMERS team developed an overarching theoretical framework based on polycentric governance theory, which assumes that decentralised forms of governance at different locations may contribute to effective governance in a specific issue-area. To operationalise this theoretical framework, we developed a set of 12 research hypotheses to be tested in the project. We further proposed a typology of business models used by new clean energy communities, distinguishing: local renewable energy generation and supply; innovative contracting and community-based products (including e- mobility); community energy storage; peer-to-peer energy trading platforms, and community energy aggregator business models. As a next step, we assessed the regulatory and other national conditions under which new types of energy communities emerge and operate, and compared them across the six partner countries. We also started to work with the 10 new clean energy communities that volunteered to serve as case studies. In early 2020, the local partners invited these case study communities for a first dialogue to establish a good working relationship and to collect the first data. Regarding the case study communities, a framework was designed to give a 'thick' picture of each, set in its local and national context, and this was subsequently

filled in. While Covid restrictions made site visits impossible, it has been possible to interview stakeholders in each community online and to gather information on actors, technologies, processes and business models. Related work demonstrated that pre-existing technical skills are necessary but not sufficient for a well-functioning energy community, and that several vital non-technical skills typically had to be acquired in the process of setting up each community. ‘Learning by doing’ was found to be the most-used strategy for learning in the new communities. To study impact on energy-related behaviour, we made preparations for testing whether the provision of real-time feedback on shower behaviour has more pronounced energy conservation effects among community members compared to non-community members. This included the setting up of the GEN-I energy saving community. Online interviews were held with selected members of the 10 energy communities in order to get insights about motives for joining energy communities. Our analysis made clear that the most common motives are related to environmental concern and cost reduction and/or saving money, but that after joining the social aspects of membership also played important roles. Furthermore, a major survey was prepared among the members of the 10 communities to be launched in early February 2021. With this survey, we aim to collect information about the potential of energy communities to increase energy literacy and support for energy transitions. A cross-country survey among the wider public will be organised in spring 2021. In late 2020, the consortium launched the Our-Energy.eu platform in order to raise EU citizens’ knowledge and awareness. It has been specifically designed to provide expert information in short interactive presentations.

Progress beyond the state of the art, expected results until the end of the project and potential impacts (including the socio-economic impact and the wider societal implications of the project so far)

Progress beyond the state of the art inter alia lies in the application of polycentric governance theory while focusing on processes of citizen engagement, learning and value creation. Our ultimate aim is to explore under what conditions this theory can provide a narrative to help explain the important role of energy communities in energy transitions. The novelty of the institutional analysis consists of the systematic comparison of the six NEWCOMERS countries in terms of socio-economic conditions, technical systems and institutional settings. The first results suggest that there is a complex combination of national characteristics that enable the establishment and operation of energy communities. The novel approach chosen in the work on the case study communities is to break down each community into its social, technical and institutional components and to analyse the connections between each. This has facilitated an understanding of how energy communities are assembled - how they emerged - and facilitates the understanding of their potential for adaptation or replication. Our research about impact on energy-related behaviour aims to go beyond the state of the art by investigating whether being part of an energy community influences energy use behaviour, observing actual rather than stated behaviour through field experiments. The study of motives and perceptions of community members is innovative as it explores how members perceive the benefits of energy communities as well as the impact membership has on awareness of energy issues and eventually change of everyday practices. Our communication activities are focused on the concept of open education, meaning our content, when possible, is easily and freely available to all in an open manner and to re-use as users see fit. In addition, we invested in collaborations and synergies with other H2020 projects, to avoid duplication and repetition of content, as well as to reach a wider public and have greater impact.

Address (URL) of the project's public website
<https://www.newcomersh2020.eu/>