

Energy communities bring renewable power to the people

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One answer to the global energy challenge is being devised at the local and regional level through clean-energy communities. Credit: © Harry Beugelink, Shutterstock

Traditional energy production in advanced economies involves the importation of large amounts of oil and gas from a small number of suppliers. Renewable energy systems under new community ownership structures are being pioneered all over the Europe. The goal is to develop cheap, clean and secure energy by bringing power generation closer to the people who will use it.

Squeezed between the war in Ukraine, the pandemic and [climate change](#), the European energy system is experiencing an unprecedented crisis. Bill payers are coping with sharp increases in energy prices which show no signs of abating. In the second half of 2021, average prices for electricity (and gas) jumped by more than 11% in the EU, compared to the same period in 2020, according to [Eurostat electricity price statistics](#). That was before the geopolitical crisis arising from the invasion of Ukraine by Russia in late February prompted sanctions which further squeeze energy supply.

The [European Green Deal strategy](#) which plans to decarbonise [energy production](#) in the European Union has been strengthened by [the REPowerEU plan](#) to decrease dependency on Russian fossil fuels. This combination will accelerate the green transition. "In this respect, the Ukraine crisis can be seen as a catalyst in renewable energy transitions," said Nicolien van der Grijp of the [NEWCOMERS](#) project.

One answer to the global energy challenge is being devised at the local and regional level through clean-energy communities. These are groups of people that voluntarily pool their resources to produce, store or distribute energy together. The goal of NEWCOMERS was increase our understanding of novel energy community business models and their potential benefits for energy transitions in Europe. Van der Grijp, a senior researcher with the department of Environmental Policy Analysis (EPA) at VU Amsterdam and NEWCOMERS project co-coordinator, said energy communities "contribute to making citizens more aware of energy issues and give them a perspective to take action themselves."

Energy imports

Heating and cooling alone making up 30% of Europe's energy use. To satisfy this demand, about 60% of EU energy needs are met with imports and over 66% of the EU's energy imports in 2020 were petroleum products, followed by gas and coal. Instead of importing fossil fuels from far away, the growth of renewables makes it possible to produce energy closer to the location where it is consumed.

The main renewables produced in energy communities are solar, wind and hydro-power, but other sources such as hydrogen, geothermal and [district heating](#) are increasingly being tested and deployed. Members of the energy community usually consume the electricity produced and, depending on local conditions, they may also adopt

other activities such as car shares, communal gardens and green roofs.

After analyzing policy and regulatory environments as well as energy community case studies in six European countries, NEWCOMERS highlights the types of policy environments in which energy communities flourish, how the players are organized, the technologies used and how the business models work. It also analyzes the value the energy community creates for members and broader society as well as the effects membership has on energy-related behavior.

"Besides helping to tackle the climate crisis, energy communities also provide value in economic and social respects," van der Grijp said. "They may create local jobs and enhance social cohesion." The advantages of this approach go beyond independence from polluting sources, to include a tangible social transformation.

NEWCOMERS' research results show that awareness levels differ greatly between European countries. According to van der Grijp, this presents challenges around creating supportive policies and laws in EU Member States. It also complicates subsidy schemes that support a good business case, and services dedicated to helping people to set up and operate energy communities.

"We hope that our findings will contribute to several policy changes that are urgently needed," said van der Grijp, who formulated a series of policy recommendations and a [policy brief for European policy makers](#) together with similar projects.

Distributed energy

Dr. Maria Rosaria Di Nucci is coordinating the [COME RES](#) project which aims to facilitate the diffusion of renewable energy communities (RECs) in nine EU countries and to support the implementation of a regulatory framework for RECs. In doing so, the project will initiate learning processes and exchange between regions with advanced REC development and regions with expansion potential. Each country has a target and a learning region.

"Renewable energy communities are important vehicles for reducing greenhouse gas emissions and for providing positive social, environmental and [economic impacts](#)," said Di Nucci. "They also foster regional and rural development."

"The vision is the evolution from an energy system based on large centralized power plants to a citizen-led distributed energy production model based on renewable energy sources, which still represents a socio-political and regulatory challenge in most European countries," said Di Nucci.

The unique selling point of COME RES and the operative arm of the project are the nine so-called country desks. These can be regarded as informal dialogue fora involving the national project partners, community energy organizations, other key actors and market players from specific target regions and beyond. They organize thematic dialogs and policy roundtables to create solutions to overcome existing barriers for the growth of community energy.

COME RES also provides input to policy through policy labs, action plan proposals, policy recommendations and engagement with stakeholders. Some fundamental changes are needed "if the energy transition is to continue to be implemented locally and democratically." Di Nucci mentioned simplifying financing, reducing bureaucratic barriers, and reforming the auction model for renewables projects.

Most energy communities adopt the legal form of a cooperative, but they can also take the form of associations or foundations. Some have developed specific approaches to include marginalized groups and people living in energy poverty.

For the energy communities to be successful, civic engagement is key. [W4RES](#) is working to scale up the involvement of women in supporting and accelerating market uptake of renewable energy sources. A total of 50–60 renewable heating and cooling projects and initiatives across eight countries is expected to be supported by the end of the project.

Agents of change

"The W4RES perspective is that women as agents of change can make a difference in the energy transition," said W4RES coordinator, Ioannis Konstas. Energy communities should engage more women in their organizational structures and provide leadership.

"To be truly transformative, energy access and the energy sector must be linked with an agenda that challenges the stereotypes of women," said Konstas, "And that also advances their rights, dignity and visibility in their various roles as consumers, producers, investors, experts, and agents of change."

Although a relatively new innovation, renewable energy communities possess a huge potential. Their development will have a profound impact on the energy transition and the everyday lives of European citizens.

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