Abstract Beyond crisis, beyond normal
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Title: **Local and flexible; three case studies of innovative community energy services**

Author: Tineke van der Schoor
Affiliation: Hanze University of Applied Sciences, Groningen

In the past years, energy communities and prosumers have received growing recognition on the EU-level, as is demonstrated in the Clean Energy Package, which recognizes Citizen Energy Communities (CECs) and Renewable Energy Communities (RECs). In several EU-countries the community energy movement has grown considerably. For example, in the Netherlands, the Local Energy Monitor 2020 counted 623 local energy cooperatives in the Netherlands, which are spread over all provinces, all regions and 85% of municipalities. Many of these cooperatives have concrete plans to invest in energy projects, such as solar fields and wind turbines. Unfortunately, because of growing problems of net congestion in the Netherlands, room for such projects is increasingly limited. In their quest to help solve this predicament, citizen energy communities are developing new and innovative energy services, for example delivering grid services to distribution system operators (DSOs). However, there are numerous legal, technical as well as economic obstacles for such innovative energy services.

There has been little attention in the literature to the possible roles of the more advanced energy communities. These organizations employ a broad variety of activities; for example, they own and manage energy production assets, such as solar parks or windmills; they give energy advice to building owners; and they engage in innovative experiments such as smart grids. So, citizen energy communities aim to take up roles in the full energy chain: as energy producer, distributor, energy trader and prosumer.

Our contribution draws on a current research project on innovative community energy services in the Netherlands. We carried out three case studies, in which we supported citizen energy communities to develop concrete plans for their local situation. For these cases, we carried out interviews and technical studies. For a larger network of energy communities, we organized a series of workshops and webinars.

During the project, we identified new types of actor constellations managed by CECs. These constellations can be interpreted as elements of a decentralized energy system with variable energy clusters, managed by CECs. Drawing on Social Movement Theory, we argue that these activities indicate that energy communities engage in ‘prefigurative’ activities; they create in their own environment the decentralized and democratic energy system that they strive for. Such prefigurative practices are different from ‘activist practices’ in the climate movement because they take place as part of an envisaged new energy system. New organizational forms emerge, in which CECs cooperate with other societal partners to be able to develop large projects for wind and sun power.

We conclude that the community energy movement has come a long way from the early days of organizing individual prosumer actions. However, developing and managing these new functions takes a heavy toll in the form of knowledge acquisition, negotiation skills, organisation strength, and finally the capacity to take financial risks. The community energy movement therefore needs new organisation models to be able to take up these challenges. In our paper, we aim to identify sociotechnical modules for a system design that accounts for these expanded roles and new situations.