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Best practices for energy communities in Poland and Germany

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Publication on energy communities (ECs) in Germany and Poland



ANALYSIS

Best practices for energy communities in Poland and Germany



Available in English and Polish



Examples and best practices for ECs in Poland and Germany



Key aspects: business models, challenges, financing, membership and governance



Policy recommendations for ECs in both countries



<https://www.d-p-plattform.de/pl/aktualnosci/publikationsdetailansicht/pub/analysis-best-practices-for-energy-communities-in-poland-and-germany/>

Surveyed ECs

Germany

Poland



Poland: 4 energy clusters and 1 energy cooperative (not registered in KOWR)



Germany: 5 energy cooperatives, but still stakeholder diversity:

- members of the boards of associations working in the field of ECs: Netzwerk Energiewende Jetzt e.V. and Bündnis BürgerEnergie (BBEn)
- Green Planet Energy eG: tenant model (*Mieterstrom*) and district solutions (*Quartierlösungen*)
- founder of Bürgerwerke eG represented also one 'citizen energy company' (organised as LLC)
- EWS Schönau
 - subsidiaries organised as LLCs
 - pilot project to explore innovative EC models

Legal forms of ECs in Poland and Germany

Poland

- energy cooperatives
- energy clusters
- collective prosumers of renewable energy
- soon also: citizen energy communities



Germany

- community energy companies, new defined in the EEG of 2023:
 - energy cooperatives
 - limited liability companies (GmbH)

EC activities and business models

Class 2 energy communities Producer-consumer community

Prosumers supply themselves and other members of the energy community with electricity from their own systems using the public grid. Usually geographically close-by, though potentially also for specific purposes.

Business model: (P2P) – Energy sharing, regional electricity

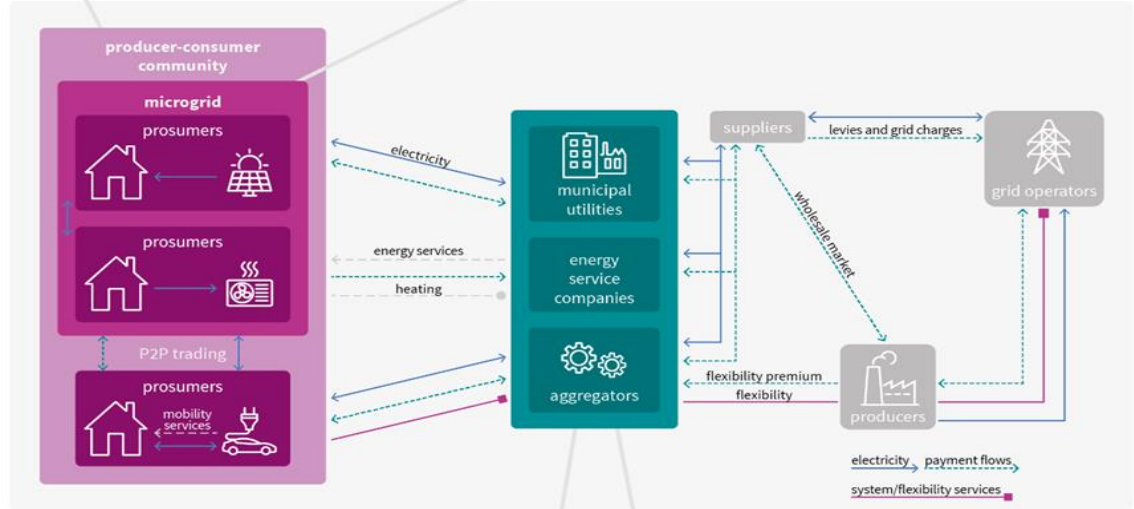
Status quo: In Germany, regional electricity via other direct selling, though costly and not really profitable.

Class 3, 4, 5 energy communities Microgrid community

Power generation from own systems via own grid (microgrid) of consumers in apartment buildings (landlord-to-tenant electricity model*), neighbourhoods or islands. A connection to the public grid is available.

Business model: Landlord-to-tenant electricity supply

Status quo: *Not possible in Germany, as system owners and consumers are not the same.



Class 1, 6 energy communities Virtual power generation community

Producer-side decentralised electricity community made up mostly of aggregators that offer electricity on the market bundled via direct selling. No geographical proximity necessary.

Business model: Virtual power plants, cooperative

Status quo: Virtual power plants, municipal utilities or cooperatives. In the case of cooperatives, members can jointly own generation facilities but not supply themselves directly.

Class 7–10 energy communities Services for energy communities

Individually outsourced services for energy communities, such as plant financing, energy efficiency services, demand response, supplier services, software/hardware solutions.


Business model: Contracting, cloud models, software-as-a-service, demand response (load plant), supplier services (forecasting, billing, etc.)

Status quo: Applied in the area of decentralised energy

Picture: dena 2022:
https://www.dena.de/fileadmin/dena/Publikationen/PDFs/2022/dena-ANALYSE_Energy_Communities_Beschleuniger_der_dezentralen_Energie_wende.pdf

Challenges in both countries

Poland

- Regulation and implementation of EU directives.
- Little financial support for emerging ECs, ove all funds for new investments.
- Weak tradition of cooperatives and their negative connotation created in the period of communism.

Germany

- Regulation and implementation of EU directives, e.g. "energy sharing".
- Lack of incentives for self-consumption.
- Insufficient digitalisation, e.g. smart meter rollout to develop business models other than energy production.
- Limited project capacity in support mechanisms and bureaucracy (e.g. funding procedures).

Selected recommendations for Poland



Poland

- Simplifying financing rules, reducing administrative obstacles, e.g. based on feed-in tariffs.
- Matching the conditions of financial support to the needs of different groups of recipients.
- Creating solutions tailored to the conditions of cities and urban areas.
- Identification and adoption of proven business models developed in other countries (e.g. cooperatives, *Mieterstrom*, VPPs, etc.).
- Creation of an official catalogue with best available RES technologies.

Lessons Learned from Germany

- Definition of ECs is rather general, which did not hamper the development of many different operating models.
- On the other hand: evolution of EC business models often followed changes to the proposed support schemes.
- Popularising the idea of cooperativeness based on best practices in Germany.
- High operational transparency of ECs: all actions are well described and documented, reports are available.
- Scalable solutions, based on proven solutions and documented best practices.
- Large-scale operations, esp. of cooperatives.
- Umbrella organisations, e.g.:



Selected recommendations for Germany

Germany

- Simplifying financing mechanisms, reducing administrative obstacles.
- Adjusting financial support to different groups of recipients.
- Supporting local energy production and consumption, energy sharing and retailing by ECs (simplified commissioning procedures, billing, energy labelling, etc.).
- Support for new innovative technologies and business models (e.g. storage, hydrogen technologies, VPPs).
- Facilitating the use of regulatory sandboxes for testing innovative technologies, products or services.

Lessons Learned from Poland

- Supporting engagement of local authorities in the development of ECs.
- Supporting cooperation between ECs and R&D units.
- Contribution of ECs to regional development through ideas and proposals, e.g.: Zklaster.

ZKLASTER **BILANSOWANIE – KOMPONENTY** 



1. Rozproszone magazyny energii zbudowane na bazie zużytych akumulatorów z samochodów elektrycznych
2. System rozproszonych komputerów połączonych w „superkomputer” pozwalający na wykierunkowy przepływ energii w tym oddawanie energii z powrotem do sieci. Zapewnia możliwość „transportu” energii odnawialnej w miejsca, gdzie jest ona potrzebna np. do strategicznych budynków w regionie
3. Pojazdy elektryczne wyposażone w system V2G – vehicle to grid, pozwalający na dwukierunkowy przepływ energii w tym oddawanie energii z powrotem do sieci. Zapewnia możliwość „transportu” energii odnawialnej w miejsca, gdzie jest ona potrzebna np. do strategicznych budynków w regionie
4. Źródła OZE – panele fotowoltaiczne i elektrownie wiatrowe zapewniające energię elektryczną dla systemu
5. Lokalne połączenia energetyczne sieci dystrybucyjnej niskich i średnich napięć

Recommendations for both countries

- Implementation of EU directives: introducing the concept of "collective renewable energy prosumer" (GER), clear distinction between renewable energy communities and citizens energy communities (PL + GER).
- Creating a tailor-made regulatory framework for ECs.
- Providing coordinated and comprehensive support: "one-stop shops".
- Setting parameterized goals for the development of ECs and monitoring the implementation of these goals.
- Creating a framework for cooperation between ECs and DSOs:
 - Establishing rules of cooperation.
 - Creating connecting points/"interface" (enabling information exchange, provision of flexibility services, etc.)
 - Simplification of permitting procedures/requirements for connecting RES to the grid.
 - Speeding up smart meter installations.



Thank you for your attention!

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