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Crash course | Energy market roles



This Crash Course discusses the diverse roles in the current and future electricity market and explains which roles can potentially be adopted by energy communities.

Energy market roles

Various market roles can be distinguished in the current and nearby future electricity market. Below the roles, as defined by [USEF](#), are presented.

Focus of this course is on the roles that are relevant and interesting for energy communities.

- **Prosumer:**
Consuming and producing of energy (end-user). Households that have PV panels on their roof consume as well as produce energy. Therefore, these households are prosumers.
- **Facilitator:**
Facilitate implementation of RES. For many energy communities one of the reasons to become an energy community is to facilitate the uptake of RES in their community by for example providing help with financing, informing and joint-purchasing.
- **Producer:**
Generation of energy and feeding this energy into the grid. If energy communities have decided to invest in a collective generation project, such as a collective PV roof or wind park, they are fulfilling the role of producer.
- **ESCo (Energy Service Company):**
Offering of energy profile optimization services. An energy community can offer technologies/ managements systems that can optimize energy profiles in response to external inputs such as energy or flexibility prices.

Energy market roles

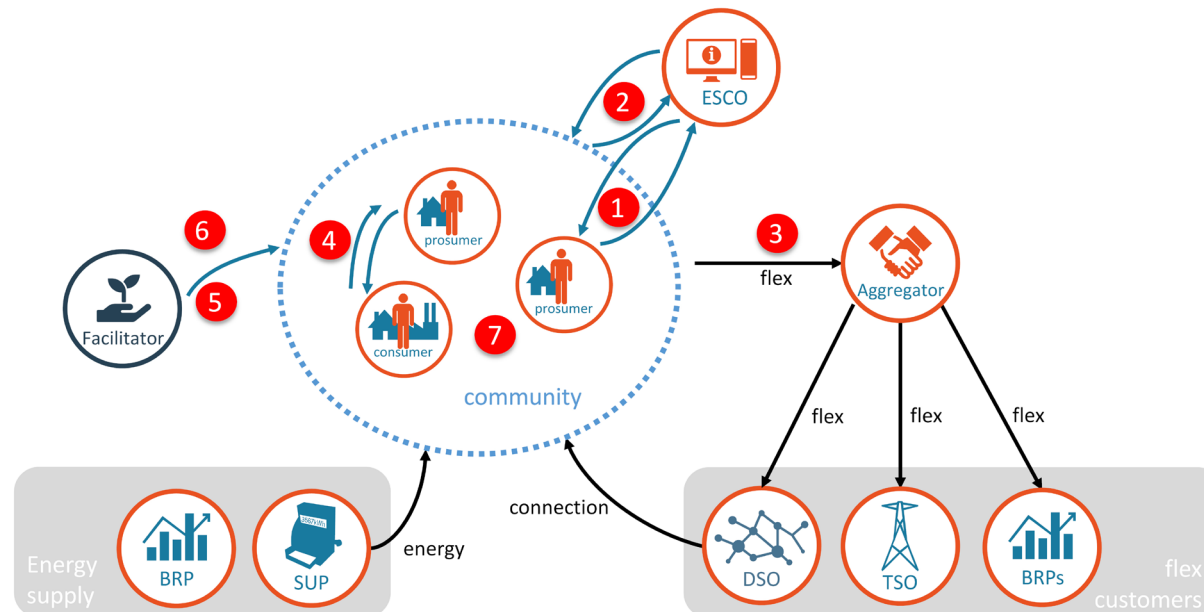
- **Aggregator:**
Accumulation and selling of flexibility. An energy community can combine the flexibility of multiple households and together as one 'package' bring this to the electricity market and sell this to a party that wants to buy flexibility.
- **Supplier:**
Buying and selling of energy. In case that a collective generation project has been established by an energy community, and it decides to supply this energy to its members, the role of supplier is being fulfilled.
- **DSO** (Distribution System Operator):
Active managing of the low- and medium-voltage distribution grid. Responsible for regional grid stability. In the future, energy communities may be allowed to operate their own, low-voltage distribution (micro) grid.
- **TSO** (Transmission System Operator):
Active managing of the high-voltage transmission grid. Responsible for system balance. Since the working field of a TSO often is large in geographical terms, practically always this role is out of scope for energy communities to fulfil. However, the TSO can still be an interesting partner, as they have an increasing demand for flexibility.
- **BRP** (Balance Responsible Party):
Actively managing of and responsible for the balance of supply and demand in its portfolio. This party is responsible for and manages a very large portfolio. Therefore, it can be interesting for communities to collaborate with.

Energy market roles

There are a lot of organisations and companies active in the electricity market and they can play multiple different roles. However, some roles are (currently) not allowed to be combined in one organisation (e.g. the role of supplier and distribution system operator cannot be both played by one and the same organisation).

The roles, explained and elaborated by [USEF](#), reflect the current electricity system. Change is however underway and it is possible that new roles emerge or that current roles are changed, for instance in response to new EU policies. (see also **Crash course** EU Energy policy)

The figure below shows the roles that are most relevant for energy communities.



Changing energy market roles

The roles citizens play in the energy system are changing.

For a long time they acted as passive consumers who buy energy from energy suppliers. The rise of RE allows them to act as a prosumer who not only consume but also produce electricity. Acting collectively in energy communities enabled citizens to play the roles of producer and facilitator. A (c)VPP potentially enables energy communities to take up even larger roles, through which they can work towards their environmental, economic and social goals.

Next to changes also new roles emerge as a result of the ongoing energy transition.

An increasing number of RES are connected to the electricity system. In contrast to conventional power plants these RE installations are difficult to control in their generation and connected to the distribution network. To address the resulting challenges related to balancing demand and supply, demand-side flexibility can be a solution.

As demand-side flexibility can be provided by households and communities, new opportunities arise for these parties to collectively take up new roles: Aggregator and EScO.

See also the crash course **Energy Flexibility**

Changing energy market roles

In many cases, energy communities start by adopting the *facilitator* and/or *producer* role.

- As facilitators they are initiating projects related to energy conservation, energy efficiency and supporting the implementation of RE generation.
- As producers. When RE generation is on the scale of household, consumers become prosumers. Energy communities can however also develop collective RE generation projects to act collectively as a producer.

When energy communities grow and mature, they can expand the number of roles they play in the energy system, which often require and increase in scale, financial resources, knowledge, skills and technologies that offer flexibility (e.g. controllable appliances and storage systems).

Which roles an energy community is able and willing to adopt over the course of time depends on (changes over time in) the community's goals, abilities and also on external developments such as policies that state the requirements for- and possibilities to play and combine different roles.

What does this mean for energy communities?

In the future, individuals and communities can adopt roles that they could not take up before. This provides opportunities to participate in new activities that contribute towards achieving their environmental, social and economic goals.

Examples of such activities are (see also [tool](#) | **Value - Goal - Activity**):

- ❑ Install RE generation capacity at household and community level (e.g. solar panels) - (*Prosumer role*)
- ❑ Collectively develop an energy generation project on a single location or site (e.g. solar farm, collective solar roof, wind project) and sell the generated energy to a third-party supplier - (*Producer role*)
- ❑ Buying energy from the community and selling it back to community members and/or selling it on the energy market (as a licensed energy supplier) - (*Supplier role*)
- ❑ Enable households to respond to dynamic prices to maximise household financial benefit - (*ESCo role*)
- ❑ Actively collecting, aggregating and selling flexibility from RE, controllable appliances and storage (bundling this with flex from other communities, as an aggregator) (at distribution or transmission level) - (*Aggregator role*)

(An indepth academic paper on VPP and cVPP can be found [here](#) and additional background information on energy market roles can be found [here](#) and [here](#))