NETWORK EFFECTS

Network effects are vital for energy communities to reach full operational capacity and thrive in the long-term. By explicitly defining the central network effects that substantiate the business model, strategies to unlock their potential can be developed.

PEER AND COMMUNITY EFFECTS

DESCRIPTION

The network effect pattern "peer and community effect" highlights the fact that innovations not only spread through their pure functionality and cost benefits. Social processes play an important role in the innovation diffusion too. People tend to get inspired by their peers, seeing what they do and only for this reason evaluate a product differently. Belonging to a community can be a powerful feeling.

An energy community can create a community feeling that awakens the desire to join this group of people. Network effects can cause a lock-in effect, where people enjoy the social benefits of the energy community and are reluctant to change to new/other solutions.

IMPLEMENTATION REFERENCE

- Socially influence citizens to invest in RES (Som Energia, Ecopower, Vandebron)
- Take care of planet with community (Comunidades Energeticas)
- Create a community feeling (Sonnen community)
- Peer effects through driving innovative EVs (Tesla)

ECONOMIES OF SCALE AND SCOPE

DESCRIPTION

By adopting the pattern "economies of scale and scope" energy communities focus on profiting from increasing scale (the volume) and scope (the diversity). Economies of scale emerge when fixed costs can be spread over a larger basis of users. In energy communities increasing returns to scale can lead to lower costs per community member, increasing the attractiveness to join and remain with the community. Economies of scope materialise by increased differentiation of products. In energy communities increasing returns to scope can come from offering more energy services with the same community infrastructure/ system (e.g., offering self-consumption and peak shaving services).

On the supply side, through a larger scale, energy communities are more likely to access new revenue streams (e.g., accessing National balancing power markets in addition to existing peak shaving services), as for many uses of energy/flexibility a minimum size is required.

IMPLEMENTATION REFERENCE

- Scaling up and providing customers to electricity retailers (FlecoPower, Cut Energy)
- Gaining the ability to bid on National balancing power markets as additional revenue stream (Sonnen, Tiko, Equigy)
- Increasing the bidding capacity to improve the market power (Sonnen, Tiko, Equigy)

LEARNING EFFECTS

DESCRIPTION

The network effect pattern "learning effects" can play out in different forms. Institutional learning effects can emerge from increasing and managing the complexity of the community due to the number of participants. Learning effects can also result from increasing production and adoption of the energy community solutions, practical experience and potentially also technology learning effects in terms of costs and quality. Furthermore, the increasing availability of data can foster the learning effects.

To effectively make use of learning effects for having an adaptive capacity as a community is vital.

IMPLEMENTATION REFERENCE

- Active knowledge exchange between experts to facilitate learning (REScoop, Green Energy Cooperative)
- Pilot projects that enhance learning about decentral energy systems and allow for testing the most forefront inventions (Nest; EUREF Campus)

EXPLOITING CO-BENEFITS

DESCRIPTION

The pattern "exploiting co-benefits" makes use of the power of complementary goods (also known as indirect network effects). Multi-vector energy communities combine various technologies into one system. For community members, through the combination of their existing infrastructure with new technologies and services, co-benefits emerge from expanding the usage area. The co-benefits can also result in a co-amortization of investments.

The same effect can result from bundling offers that sell two interlinked products in combination. Prominent examples are PV + batteries, or PV + EV.

IMPLEMENTATION REFERENCE

- Planning & investing in energy coop (Green Energy Cooperative)
- Additional revenues for prosumers from multiple usage of the device (Tiko, Sonnen community)
- EON solar cloud with extension to EVs (EON Solar cloud)