atelier
Positive Energy Districts

PROJECT RESULT

Local Energy Cooperative - Governance Structure

PARTNERS

REPUBLICA

Republica Development

https://www.republica.amsterdam

PROJECT

EU Programme:
Horizon 2020 Innovation Action

Coordination:
City of Amsterdam

Partners:
29 partners, 10 countries

European grant:
19.6 M€

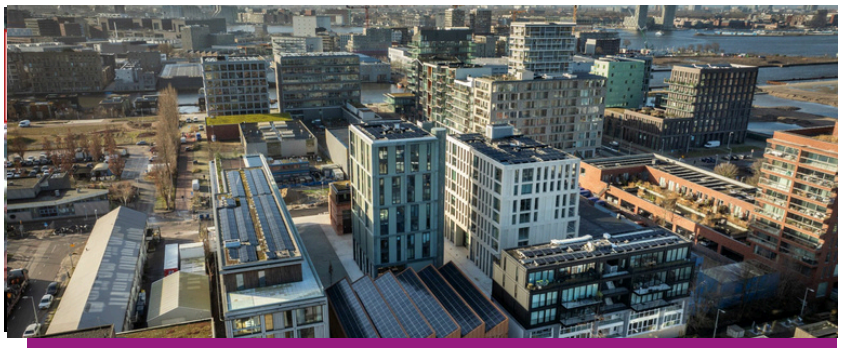
Get in touch:

info@smartcity-atelier.eu
www.smartcity-atelier.eu
AtelierH2020
@AtelierH2020
AtelierH2020

Result in a nutshell

- The Local Energy Cooperative (LEC) is the body representing an energy community, which is a collective of energy users (commercial, residential, owners, tenants) who will be plugged in to a private smart microgrid.
- The LEC owns, exploits and manages the microgrid, levelling the communities' electricity demand and supply by interacting with the wholesale energy market.
- The energy produced within the cooperative will be primarily sold to its members.

Demonstration site



- It is located in the district of Buiksloterham in the City of Amsterdam
- It encompassess 7 buildings comprising more than 20.000 square meters.

Detail on result

Some insights on its functioning:

- The LEC takes over the triple role of electricity provider, metering company and network operator.
  - The energy produced within the LEC will be primarily sold to its members.
  - If energy production doesn't cover the demand, the LEC buys electricity from the wholesale market.
  - If energy production exceeds the actual demand, it can be either stored in a battery, or sold on the wholesale market, depending on the current energy price.
- The LEC strives to ensure the delivery of electricity to its members at the most beneficial price.
- The LEC relies on an affordable organizational structure for its functioning.
  - Full-involvement of the cooperative's members is expected and encouraged by enabling them to command the destinies of the energy community.
- The LEC supports its members in making an efficient consumption of energy (automated assistance).

Advantages:

- The members of the LEC (energy community) will have the opportunity to purchase electricity at convenient rates as well as to sell their surplus of electricity on the wholesale market.
- The exact usage of any profit will be decided collectively and democratically by the vote of LEC members.
- The LEC enbodies a new concept in terms of energy services (active demand management, energy resources aggregation, shared self-consumption, local energy balancing, etc) and exploits new business opportunities (community owned smart microgrid, participation in energy markets including ancillary grid services, local energy trading, etc).

Challenges:

- The proper functioning of the LEC is heavily dependant on the proactive involvement of its members and requires very specific knowledge.
- The quality of governance depends on board members and availability of volunteers.
- Limited market power in negotiations with other -often larger- market parties. Therefore not able to negotiate advantageous contracts with suppliers.
- The LEC faces the difficulty of finding/replacing service providers because it is active in a niche market. In addition, the lack of economies of scale might pose a threat for its ability to offer cheaper prices.

Further development

Potential for further development:

- On site monitoring of key variables are taking place and will generate relevant insights that may suggest what aspect of the functioning of the LEC could be eventually improved or modified.

Potential areas of applicability:

- The current policies and regulatory trends do favor the growth of decentralized energy systems, positive energy districts and local energy communities. However, for this LEC to be implemented a regulatory sandbox was put in place. For the model behind this LEC to be replicated to other Positive Energy Districts in Europe, the legal framework needs to be modified.

atelier Positive Energy Districts

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 864374.