

Neighbourhood Power



The Neighbourhood Power project aims to create a collective solar panel (PV) project in one specific district of the city of Ghent. The aim is to integrate as much as renewable energy in that district by using the grid capacity in an efficient way. Next to installing as much as PV as we can, we will work on decreasing demand, demand response, looking into storage, etc..

The project is also about connecting inhabitants of that district owning suitable roofs for PV but having no investment appetite (or no financial means) with inhabitants searching for such roofs and wanting to invest.

The project also aims to ensure low income families can participate actively in the project.

Goals Neighbourhood Power



- **Ecological:**
Optimal use of the potential of renewable energy (houses, companies, city buildings)
- **Social:**
Stimulate participation – also for low income families
- **Technical:**
Avoid congestion of the net by matching production and consumption

The chosen area



- District Sint-Amandsberg-Dampoort
- Area contains 6 distribution- cabins
- Social mix
- Diverse types of buildings / usage of buildings (houses, companies, public)
- Presence of social dynamics
- Red area: area that will be monitored (partly by smart meters)

Partners



Who can participate?

EVERYONE living in the area or being owner of a building in that area.

A specific offer will be developed for the following target audiences:

- Tenants and house-owners
- Families / companies who want to invest in solar, but who don't own a suitable roof.
- Families / companies who are interested to have solar on their own roof, but don't have sufficient resources to invest.
- Low income families
- Families and companies who want to participate in the project by reducing their energy demand on the one hand and matching their energy demand to the energy production on the other hand

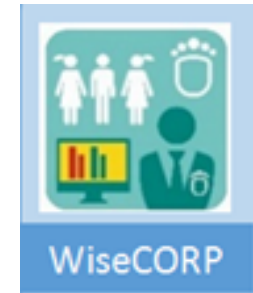
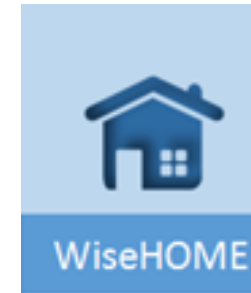
Technical



- **Solar panels > 750 kWp** on a diversity of roofs
- **CHP (cogeneration):** 200 kWth (=140 kWe)
- **Battery-storage:** ca. 50KWh
- **Demand Side Management and Demand Response Management** (with the help of digital meters EANDIS and WiseGRID)
- **Facilities for electric mobility** : charging stations for electric (sharing) cars (smart charging)

No congestion of the grid

- Tools WiseGRID (o.a. WiseCORP, WiseHOME):
 - real time monitoring consumption and production
 - visualisation production and consumption
 - Communication with neighbours and companies concerning their consumption and stimulans for adaptation of their behaviour
- University of Ghent:
Field tests smaller inverters in relation to a same amount PV
 - => reduction of power peaks
 - => payback period of the installation gets shorter
- Possible extra's (not sure yet):
 - Solar panels facing East-West: spreading production peaks
 - Field test smart inverters
 - Smart ruling strategies



Role of the city versus cooperative

PREPARATION OF THE PROJECT:

- Bringing together experts and organisations
- Facilitating meetings, providing practical support (secretariat, financial means for expert advice, etc)
- Giving advice and guidance in elaborating the structure of the final consortium of organisations implementing the project
- etc

Role of the city versus cooperative

DURING THE PROJECT:

- Financial input:

Business as usual → Predictable

Risky Part + Development → Unpredictable

- Connect the project with other projects in the neighbourhood (projects that can reinforce the Neighbourhood Energy project)
- Help with communication
- Practical support (renovation advice, premiums, low interest loans, etc)

And ... Action!

- September 2017 – September 2019
- At the end of the project:
 - Significant amount of renewable energy in the area,
 - New business models ensuring tenants and low income families can also benefit from solar energy. The models can also be implemented in other districts.
 - Policy recommendations

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