

Ecowijk La Gantoise – energy study

The client's ambition for Ecowijk La Gantoise is a carbon-neutral site, where both the building-related (regulated) and the non-building-related (unregulated) consumption is taken into account.

The district is the subject of BREEAM Communities certification, which means that the CO₂ emissions are calculated using a transparent calculation method, reduced and offset so that the net balance of CO₂ emissions for the district equals 0.

Optimisation occurs on the basis of the Quadras Energetica principles:

- Reduce the demand or need for energy (= energy-efficiency on the demand side).
- Recover residual heat.
- Integrate renewable energy.
- Reduce the use of fossil fuels (=energy-efficiency on the production side).

The last step towards a carbon-neutral district is taken by offsetting the resulting CO₂ emissions. Preferably, these are offset in the district itself, as long as it is the most logical alternative economically and ecologically speaking.

Ingenium has drawn up a calculation model to chart the energy demands and quantify them and has applied calculations to various structural and technical scenarios. To this end, a multicriteria analysis was first applied to reduce a longlist of possible solutions to a shortlist. The study was made up of various intermediary steps, each with consultation with the clients to eventually arrive at the preferred scenarios. The client has a clear idea of the investment costs, maintenance costs and energy costs for the end user, as well as CO₂ emissions, primary energy consumption, etc.

In the preferred scenario, a collective energy system is opted for in accordance with the 'all electric' principle. A central, collective BES field forms the power supply for a source power grid to which central heat pumps are connected. A large-scale photovoltaic installation will be installed on the roofs. Control of the heat pumps and the storage of heat and electricity offer flexibility in the smart, local energy system. The project will form a local energy community (LEC). Ingenium is currently conducting a study into Flux50 together with Enervalis to examine the feasibility of achieving a LEC in a zone with few regulations.

Reference: 15082.001

Developer

Bopro PM&QS nv

Location

Ghent

Surface

18.000 m²

Periode Study:

11/2015 - 01/2017

Sectors

XL residential & mixed use

Services

Feasibility studies & audits