

EnergyBlock

The City of Copenhagen strives to become the first CO2 neutral capital in the world by 2025. Looking beyond the 2025-goal it is a political ambition for Copenhagen to be fossil-free by 2050 with a very low overall carbon footprint. To fulfil these ambitions endeavours to replace power plants etc. new solutions must be pursued.

The EnergyBlock project starts process of addressing the replacement of power plant produced energy by investigating the potential of 'the district' for local energy production. The EnergyBlock project combines a number of challenges that a large number of cities in Europe face: Districts where multiple social challenges collude with a large mass of highly consuming energy buildings; the lack of local employment creation for lower income and skills groups; challenges for cities to spur investments in the transition into renewable energy in these districts.

It is also the ambition to investigate the ability of Blockchain as an enabler for new energy production in a local perspective. We will set up a Blockchain prototype and invite all parties to join the investigation into the potential of microgrids and local organisation of energy production. Tools, processes and other insights of these efforts can be used in a wide variety of situations.

Project framework

Fuglekvarteret sits in a more challenged district, situated in the northwestern part of Copenhagen.

It is the policy of Copenhagen to raise the overall quality of life in the district to comparable living standards while maintaining the specific features and social fabric of the district.

A focus of the District Refurbishment Initiative is to establish the district as a SocioEconomic Zone for Growth and Innovation where initiatives are designed to strengthen competences and

capabilities of citizens in tandem with the development of the city structures so people do not leave the district when employment is secured.

A local Lighthouse

The intention is to combine local food production to energy production and social job creation in the form of running operations of the green-house and a restaurant, creating a local lighthouse and meeting point.

The EnergyBlock utilises the initiative of Procasa to build an intensive production green-house for difficult-to-transport berries and other vegetables. at the roof-top of the building located Glentevej 70, 2400 Copenhagen NV. An innovative implementation of the Sct. Petersburg principle with two-layered glass and solar panels in-between is set to produce more energy than consumed in the building, creating a positive energy block in the district.

Expected Outcomes

We expected this project to continue over several phases. In the first phase we anticipate:

- to establish a European standardised prototype for blockchain for energy transactions in a local setting,
- a well documented business case for intensive sustainable urban farming for the building
- new knowledge of how blockchain can establish new ways to organise neighbourhood exchanges and production

We will also work to support the nascent blockchain environment in Copenhagen to grow into a strong community and eco-system.

The EnergyBlock is a collaboration of Copenhagen Solutions Lab (the Smart City Lab of Municipality of Copenhagen), Technical University of Denmark, the District refurbishment initiative (Områdefornyelse) of Fuglekvarteret, Picodat, and EnergyDemocracy, funded by Climate KIC and generously hosted by Procasa.

Contact: Project Lead Rasmus Reeh, Copenhagen Solutions Lab, connect@cphsolutionslab.dk