



Smart grid in sustainable Lochem

Proeftuinen Intelligente Netten (Smart Grid Pilot Projects) - Progress July 2013

- Decentralised electricity grid on direct voltage
- Electric transport and decentralised electricity generation
- Energy neutral Heijlplaat
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- Smart grid and energy transition in Zeewolde
- ProSECco examines five user groups
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- Smart heat grid on TU Delft campus
- Your Energy Moment (Jouw Energie Moment)
- Couperus Smart Grid
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- PowerMatching City II

Goal

Gain practical experience in fitting decentralised renewable generated energy into an existing grid.

Issues

- How do we fit decentralised energy generation into an existing grid?
- How do we involve and stimulate residents to use less energy, and to use renewable energy, so that supply and demand can be better aligned?
- Are changes in laws and regulations needed for a successful smart grid?
- What are the options for Open Platform Network Management and an open data system?
- Can we validate grid models and simulations, and use it to predict energy generation and consumption?

Duration

3 years, from 1 January 2012

Project partners

- LochemEnergie - initiator, focuses on direct feedback from prosumers and energy consumption behaviour of households.
- Locamation - prepares and supplies measurement, control and safety equipment, main contractor.
- University of Twente - test models that help in the construction and installation, researches the behavioural side.
- Eaton industries - supplies systems and components for control and distribution of electric energy, UPS systems and products for industrial automation.
- Alliander - grid operator, connects households to the smart grid, develops Home System for communication within the grid and integrates electric transport.

Lochem experiments with smart grids in an existing built-up environment. The project group originates from a citizens' initiative and stimulates residents to use less energy, to generate their own energy locally with solar panels, and to exchange the energy mutually. The experiment should demonstrate what it means for the load, availability and controllability of the grid. In this regard, the project group searches how it can be achieved safely and efficiently, without malfunctions.

What is the actual situation?

The pilot project is halfway through the planning phase, and is hard at work with preparations for installation. Bas Mooijman, Sales Manager at Locamation: 'Currently we are working hard on the construction of a setup in Enschede for the first tests; we will naturally not conduct these tests at the residents' homes, right off the bat. We are, however, in the process of setting up a pilot project: the first components have been installed. In this phase we are still finalising many things, and we are looking at how we can give practical interpretation to our plans.'

The pilot project is occupied, in particular, with the necessary preparations for implementation in Lochem. 'We are, in addition to preparations on a technical level, also coordinating things with the participants, the residents of Lochem: what is the demand and how can we interpret it? These residents are central in the pilot project in Lochem.'

>> *Focus on sustainability,
innovation and international*



Concerns

The pilot project had to overcome several bumps in the road. Mooijman: 'Partner Trianel went bankrupt, so we had to look for a new green energy supplier. One has since been found: Eneco.' As indicated, the interaction with residents is central. 'Many companies are rather technical in their approach, and that is somewhat awkward for residents. We must adjust to their tempo, because they are, after all, the users. LochemEnergie is the first consultation point.' The great thing about this project, in Mooijman's opinion, is that it involves a built-up area. 'With new construction, everything can be taken into account, but we are working with a framework that is already in place. A great challenge, because our findings are usable for 95 per cent of existing buildings. That is where the opportunities are.'

Towards up-scaling

'That our pilot project is established in existing built-up areas, offers decent perspectives for up-scaling in the Netherlands and abroad. We also view the results of other pilot projects appropriately, so that we can integrate them in our project, if necessary.' At IPIN, the pilot project voices its opinions on the themes: vision and user study. 'How can we automate the process relating to renewable energy, and solve the energy issue permanently? We are still building on an infrastructure which was developed by people in 1950. Their knowledge is now literally retiring.'

More information

Would you like to know more about the application of smart grids in Lochem? Contact Bas Mooijman from Locamation: bas.mooijman@locamation.nl or call +31 (0)74 255 21 90.

Proeftuinen Intelligente Netten (Smart Grid Pilot Projects): energy innovations

The goal of the Innovatieprogramma Intelligente Netten (IPIN) (Smart Grid Innovation Programme) is to accelerate the introduction of smart grids in the Netherlands. We gain learning experiences with new technologies, partnerships and approaches, in twelve pilot projects in residential areas, city centres, office complexes, industrial sites or agrarian areas. The results help to solve the five themes in connection with smart grids, together with the pilot projects: laws and regulations, user study and user approach, vision, standardisation and new products and services. We therefore work from an experimental basis towards large-scale implementation.

More information: www.agentschapnl.nl/intelligentenetten

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