



ProSECco examines four user groups

Smart Grid Pilot Projects — Results as of September 2015

Innovation programme commissioned by the ministry of Economic Affairs

- Local electricity grid on DC voltage
- Electric transport and decentralised electricity generation
- Energy-neutral Heijlplaat
- Modular smart grid for business parks
- Smart grid and energy transition in Zeewolde
- **ProSECco examines four user groups**
- Smart grid in sustainable Lochem
- Smart heat grid on TU Delft campus
- Your Energy Moment
- Couperus Smart Grid
- Cloud Power Texel
- PowerMatching City II

Goal

- Develop and provide combinations of services and technologies to user groups comprising more than a thousand private and commercial energy consumers. Determine the economic feasibility and social acceptance of smart grids based on the experiences of these user groups.

Issues

- How can we get energy consumers to change their behaviour and which incentives are needed to this end?
- How could the services offered influence the behaviour of energy consumers?
- Which services or combinations of services do consumers prefer and how can the project partners generate new business using these services?
- In which situations do smart grids produce the most benefits and what business case is needed to this end?
- Which parties play which roles and how can they guarantee the exchange of information in the implementation phase?
- How can we develop standards for these products and services?
- What are the potential obstacles in legislation and regulations?

Duration

- April 2012 through May 2016.

Project partners

- Fourteen parties are collaborating in the Smart Energy Collective: ABB, Alliander, BAM, Delta, DNV GL, Eneco, Essent, GEN, Heijmans, IBM, ICT Automatisering, KPN, Stedin and the RWS housing corporation.

In the Smart Energy Collective & Co project (ProSECco), fourteen partners are studying how energy grids, services and technologies can be adapted to the continually increasing demand for electricity. The project focusses on four user groups: an office in Rotterdam, an all-electric district in Gorinchem (Hoog Dalem), a district with gas and electricity in Heerhugowaard and a district combining heat generation and storage in Goes. ProSECco is testing a single basic design of a new market model on all four user groups called the Universal Smart Energy Framework (USEF).

Results

All four user groups have been subject to rigorous testing since last spring. In the Eneco office pilot project – currently in the final phases of testing – the employees are using electric cars from the company's vehicle fleet. "The test was successful, so now Eneco is looking for ways to commercialise the system," says Martijn Maandag, head of the Advisory Services section of DNV GL. "This has potential benefits for all manner of organisations that have their own fleet of vehicles, such as businesses or municipalities." Maandag is happy that the investment in the pilot project has provided sufficient basis for commercialisation. "We are looking forward to the completion of the innovative *IJs van Columbus* project that is currently being developed in Goes. Here an *ice buffer* supplies the necessary heat: heat is extracted from a water tank under a home, causing the water to freeze. A heat pump

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heats the water to the required temperature for heating and hot water in the home. I predict that more of the concepts we are developing together with the project partners will be introduced to the market by the time the project has run its course.”

Lessons

The generic USEF model was an early spin-off of the ProSECco project. The future roles and processes for smart energy systems have been included in the universal framework. “The residents of the Heerhugowaard and Hoog Dalem districts were highly committed and cooperated intensively with the project group. The communication with these users was instructive and unique. The result is the current smart energy system, that aligns the users’ needs with the available solutions and links them to the energy market. We are now running tests in the user groups to find out how this model can be used to deploy flexibility to the best effect, for example to ease the load on the grid. The results will determine which technologies we will develop further.” Maandag says that the grant provided by the Smart Grid Innovation Programme (IPIN) helped convince the partners to participate, but a number left the project at a later stage anyway, because their priorities had changed due to the economic crisis. “The pilot projects were given less priority and so the original fifth user group – comprising the industrial partners – did not make the implementation phase.” The project also met with some delays in the other four user groups, among others due to postponed investment decisions and bankrupt suppliers.

“We had intended to complete the pilot by the spring of 2015, but the testing and measuring phase had only just gone live by then,” explains Maandag.

Plans for the future

ProSECco will continue the testing and measuring phase until May 2016. The collaboration in the pilot project may well be continued. “All the partners are currently considering what role they see themselves playing in the future,” continues Maandag. “They will continue without a grant, but with a wealth of new knowledge on technical systems, service concepts and user participation thanks to IPIN.” Maandag hopes that the pilot projects will produce new insights for the market. “Thanks to the user experiences gained in both office buildings and homes, we now have more knowledge on how to implement flexibility without sacrificing comfort. By improving the energy balance we can reduce the peak load, so that sustainable generation can be more effectively deployed and the system operator can save on investment costs.”

More information

Would you like to find out more about the ProSECco project? Visit www.smartenergycollective.com or contact Martijn Maandag of DNV GL at martijn.maandag@dnvgl.com or call +31 (0) 26 356 62 45.

Smart Grid Pilot Projects: energy innovations

The goal of the Smart Grid Innovation Programme (Innovatieprogramma Intelligente Netten – IPIN) is to accelerate the introduction of smart grids in the Netherlands. The Netherlands Enterprise Agency (RVO.nl) carried out the project for the ministry of Economic Affairs. Over the past years, twelve different pilot projects have gained learning experiences with new technologies, partnerships and methods. The pilot phase has now been completed, but most of the projects will be continued. Via RVO.nl they share their experiences, particularly concerning the five key themes involved in smart grids: legislation and regulations, user research and user engagement, vision, standardisation and new products and services. The goal is to achieve widespread roll-out via the path of experimentation. More information: www.rvo.nl/intelligentenetten

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