# Millions in support for smart grid of the future

 *Lyse Elnett has received NOK 15 million in support from Enova for a project to build and test a smart grid – the electricity network of the future. A total of 30 network stations in central parts of Stavanger and Sandnes will become fully automated using the new technology.*

‘We are very pleased that Enova has supported our initiative to start building the smart grid of the future in our region. This gives us an opportunity to test the utility value of smart grid technology in combination with new digital electricity meters among our customers in a wider area,’ says Åshild Helland, Department Manager at Lyse Elnett.

Smart grids are more intelligent than traditional electricity networks because they use technology from instrumentation and communication. This is the first time smart grid technology will be tested on such a large scale in Norway. The biggest test area is the centre of Stavanger, where there are 25 network stations. The network stations are the nodes of the distribution network. They ensure that electricity of the right voltage is delivered to the consumers. Lyse has 1,300 customers in the central Stavanger area. Many of them are commercial customers and about 120 have a consumption of more than 100,000 kWh. In addition, Sandnes will have a satellite area with five network stations.
**First major trial project**
‘It will be both exciting and interesting to see how this project develops. The solution is capable of reducing energy loss in the electricity network considerably. If we are to meet future energy demand, we need innovative pioneers who lead the way and contribute to making the electricity network more energy efficient. In the current phase of development, it is important to implement solutions on a larger scale to develop the methodology and demonstrate the benefits of smart grid technology. We are pleased that our investment aid can contribute to the realisation of such a demonstration project. The experience of Stavanger will be helpful in enabling network companies to make use of this type of technology sooner than they would otherwise have done,’ says Merete Knain, Senior Advisor at Enova.

The project will provide access to real-time data on consumption, peaks in demand and free capacity in the distribution network. In the event of a fault in the electricity network, technology for automatic switching in the network stations will ensure that customers are never without electricity. In connection with the project, it is also desirable to look at solutions for supplying ships with electricity from shore and how the increase in the number of electric cars and fast charging of such cars affect the electricity network. Another topic is own production of electricity from solar panels and how battery units in combination with fast charging can be used to deal with peaks in consumption. Thirty commercial customers will be invited to participate in the project.

‘Our goal and ambition is to realise energy savings, both directly in the electricity network, for example by reducing the energy loss, and indirectly by facilitating greater collaboration with customers and use of new technology for control of electricity consumption. Another important goal is to ensure an even more reliable electricity supply,’ says Åshild Helland.

**ABB technology**
Lyse Elnett has previously signed an agreement with ABB on industrial collaboration to promote the use of smart grid technology. ABB’s factory in Skien will deliver the new smart ring main units, and low-voltage switchboards and transformers for the network stations.

‘We look forward to collaborating with Lyse Elnett on the development of an efficient and flexible electricity network, which is a precondition for the realisation of a renewable society. Equipped with the latest smart grid technology, the network stations can be monitored and controlled from the remote control centre. This large-scale pilot project is a milestone for the power industry as a whole and a good example of how support from Enova triggers investments in energy-efficient infrastructure for renewable energy, while at the same time generating added value for Norwegian industry,’ says Stian Reite, who is in charge of smart grid technology in ABB.