

Press release

DONG Energy and Energinet.dk receive several million euros in EU funding

DONG Energy and the Danish transmission system operator Energinet.dk have received funding of about EUR 8 million for a large project. The aim is to prepare further use of renewable energy in the power system.

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Denmark clearly takes the lead in Europe when it comes to the proportion of energy derived from renewable energy sources. Approximately 20% of our power consumption is covered by wind energy, and this share will continue to grow.

This is good for the climate, but production deriving from renewable energy sources varies strongly and is difficult to manage. This puts increasing pressure on the power system, production plants and markets, the principal reason being that energy is not necessarily produced at a time when demand and consumption are high.

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Preparing for more renewable energy

DONG Energy and Energinet.dk participate in a number of development and demonstration projects to explore the possibilities of large-scale integration of wind power in the power system. One of these projects is the TWENTIES project, which involves a number of European businesses, system operators and research institutions. Other Danish participants are Siemens Wind Power and the National Laboratory for Sustainable Energy at the Technical University of Denmark (Risø).

“The power system of the future must be efficient, flexible and intelligent. This is a requirement if we are to handle substantially larger volumes of renewable energy, especially wind energy, which varies strongly and may be difficult to manage. The power system will be the backbone of the future energy system, since it also allows for the use of renewable energy in the heating and transport sectors. As a result, fossil fuels will be replaced to the benefit of our climate,” said Dorthe Vinther, Head of Strategic Planning, Energinet.dk.

Energinet.dk has the primary responsibility for a demonstration project to show how we can manage imbalances during stormy weather with high wind speeds. It may be necessary to shut down wind turbines and, hence, production.

Mobilise and manage

DONG Energy has the primary responsibility for a project concerning flexible power consumption and is looking forward to a number of interesting tasks:

“We are already working on several fronts in this field. One of our specific projects centres on the mobilisation and management of small production and consumption units with a view to managing such units in alignment with needs

and prices in the power system,” said Klaus Baggesen Hilger of DONG Energy’s Innovation Centre.

Biogas engines, pumps used in the processing industries and treatment plants, back-up power units, heat pumps and electric cars are all examples of some of these production and consumption units.

“The idea is that when we have a large volume of wind energy in the power system, we will be able to switch on thousands of units at consumer level and then, when the grid balance changes, switch off selected units. This will of course also benefit customers, and the model holds a number of advantages for society in general,” Klaus Baggesen Hilger added.

The most important benefit is the ability to bring more green energy into the power system, but the operation of central power stations is also an important factor. The level of production readiness required will be reduced, and operations will become more efficient and environmentally friendly. Power overflows and forced shutdowns of wind farms due to excess production will also be limited. Finally, balancing costs will be reduced.

“In the next few years, the Danish energy system will be facing a paradigm shift. The energy system must be restructured and rethought with a view to efficiently integrating the large volumes of renewable energy. This is one of the reasons why the EU finds the TWENTIES project so interesting,” Dorthe Vinther concludes.

Facts about “TWENTIES”

The TWENTIES project is intended to lead to the development of new model tools and operational support tools for a power system with high penetration of power generated from wind farms and their joint operation with thermal plants. The project is partially funded by EU’s seventh framework programme for research. The budget is approximately EUR 60 million. EU’s funding of the entire project amounts to approximately EUR 30 million of which the budget of DONG Energy and Energinet.dk accounts for EUR 16 million in total.

The project will commence in the spring of 2010 and be finalised in 2013. Participants from other countries include transmission system operators (REE from Spain, RTE from France and Tennet from The Netherlands). Other participants are Iberdrola Renovables and Gamesa Innovation and Technology of Spain, AREVA, ABB, Siemens, 50 Hertz Transmission and several European universities.

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