



Demonstration of smart energy storage technologies and -management systems on the German island of Borkum in the North Sea – The EU-project NETfficient enters its next phase

The lighthouse project NETfficient addresses a major challenge of the energy market, a more efficient use of the renewable energies available, thereby reducing the dependency on fossil fuels. It aims at the development and pilot demonstration of smart electric storage and sustainable energy management systems and its implementation into the electric grid on the German island of Borkum in the North Sea.

Following a successful first year, in 2016 the project NETfficient focuses on the start of the use case demonstrations and the development of an energy management system. So far 46 end users volunteered for the practical demonstration.

The NETfficient consortium consists of 13 renowned research organizations, large enterprises, SMEs and municipalities out of 7 European countries that work together on the realization of the project objectives. The particular focus is on the development and pilot demonstration of smart energy storage and sustainable energy management systems via its implementation into the electric energy grid on Borkum. Furthermore, NETfficient aims at the exploitation and dissemination of the pilot results in order to validate and transfer business cases to other “smart” cities and communities. The project thereby addresses the overarching goal of facilitated market entry for innovative storage technologies and energy management tools within the Societal Challenge of Low Carbon Energy in the EU-Horizon 2020 programme. The project receives EU-funding of 9 million €.

Local innovative storage technologies such as used car batteries, super capacitors, Li-ion batteries, hydrogen and hybrid home technologies are integrated into the energy grid on Borkum via multiple use cases, i.a. homes, public buildings and street lighting. These use cases involve the whole energy value chain – from energy producers to consumer – creating active “prosumers” (consumers that are also energy producers). The different scenarios of energy demand and consumption are analyzed and will lead to valuable data on economic feasibility, and will allow predictions towards the durability of these technologies.

In order to carefully prepare the implementation in 2016, the project work in the past year included the conception and specification of the use cases towards the end-





users requirements.

NETfficient already presented itself successfully at a number of professional and consumer oriented events, boosting the acquisition of end users and promoting the project's innovative technologies, Overall about 46 end users expressed interest for a voluntary participation in the use cases, thereof 40 for "homes" and 6 for "public buildings".

The project's website (<http://netfficient-project.eu>) also contributes to the overall project marketing and now serves as a suitable information tool. This is well supported by the publishing of print media such as the project brochure and the first project newsletter (download: <http://netfficient-project.eu/downloads/>) along with activities in the social media.

Ready to tackle the next steps for the implementation, the year 2016 started with the partner meeting at *Schneider Electric* in Wiehl (Germany). This meeting focused on the synchronization of the system components to be implemented 2016 on Borkum in the context of the various use cases.

The next project meeting will take place in June 2016 in Cagliari, the capital of Sardinia. The city is not only host of two of the project's research partners but, as a potential future adopter, also highly interested in the project's outcomes.

Representatives of the Cagliari city council are also members of the project's advisory board. The NETfficient consortium is very much looking forward to the cooperation!

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NETfficient is coordinated by Ayesa Advanced Technologies S.A. in cooperation with 12 partners: Williams Advanced Engineering, Fraunhofer Institute for Solar Energy Systems ISE; Win Inertia; Center for Advanced Studies, Research and Development in Sardinia (CRS4); Steinbeis-Europa-Zentrum; Department of Electrical and Electronic Engineering (DIEE) of the University of Cagliari; Ayuntamiento de Santander, City Council's Information and Communications Department; Swerea IVF; PowerTech Systems; Wirtschaftsbetriebe der Stadt NSHB Borkum GmbH; Schneider Electric GmbH and Vandenborre Energy Systems NV and is co-funded by the EU Horizon 2020 research and innovation programme, Project No. 646463.

