Joint press release from Siemens and RWE

Siemens and RWE to expand virtual power plant with additional energy sources
Tenfold increase in power output to 200 MW by 2015 – marketing of the electricity on the Leipzig Energy Exchange EEX

The virtual power plant operated by Siemens and RWE, which went on line in October 2008 as a pilot project, is to be expanded. At the beginning of February 2012, RWE Energiedienstleistungen GmbH, Germany, began marketing the product “virtual power plant” on the EEX energy exchange in Leipzig. This is the first centralized direct marketing of electricity from a large number of EEG-compliant (Renewable Energy Sources Act) energy sources in Germany. At the same time RWE and Siemens are starting on the further expansion of the virtual power plant, for which purpose RWE Deutschland AG and Siemens Infrastructure & Cities have signed an outline agreement. The merging of approximately 20 megawatts (MW) of electrical generating capacity is planned for the first year of operation in 2012, which is to be increased tenfold to about 200 MW by the year 2015. The objective is to integrate different distributed energy sources such as biomass plants, biogas block heating plants, wind turbines, and hydroelectric plants throughout the whole of Germany.

Some of RWE’s own generating facilities are to be combined into the virtual power plant. Essentially, though, RWE customers will be offered the option of taking part in this networked system. Through participation in the virtual power plant, individual plant operators will benefit from scale effects on the cost side resulting from combining energy volumes. “Virtual power plants open up new possibilities for taking part in the energy market. Equally important, though, is the role they play in successfully integrating renewable energy forms. Particularly in view of the imminent change in energy policy, virtual power plants will become increasingly important in a smart power supply grid,” commented Jan Mrosik, CEO of the Smart Grid division of the Siemens Infrastructure & Cities sector.
Virtual power plants are not only used for the marketing of energy from distributed energy sources, but perform important functions for electricity grids. They can also play a role in organizing the provision of system services in the transmission network, for example to provide the controlling power in the minute reserve range. The virtual power plant combines electric power from a large number of generating plants and makes this capacity available to the transmission network operator. In case of need, the virtual power plant then controls the immediate deployment of the connected systems to help maintain network stability.

Siemens developed and supplied the necessary technology for this in the form of the DEMS energy management system, which is the core element of the virtual power plant. DEMS runs on a server sited at an RWE location in Dortmund. From there the virtual power plant is controlled by RWE. This system as well as the infrastructure for linking and integrating customers’ generating plants in the virtual network will be operated by the network service company of RWE Deutschland AG.

The basis for combining a number of distributed energy sources into a virtual power plant and the marketing of the pooled power outputs from these plants was created by the amendment of the Renewable Energy Sources Act (EEG) in Germany. The market premium model laid down in this legislation since January 1, 2012, provides an incentive to sell electricity from EEG plants directly on the energy markets. The virtual power plant that RWE and Siemens are now further expanding will be marketed by RWE Vertrieb AG as part of the standardized energy procurement.

Energy-efficient, eco-friendly solutions for setting up intelligent power supply networks (Smart Grids) are part of Siemens’ Environmental Portfolio. In fiscal 2011, revenue from the portfolio totalled nearly EUR30 billion, making Siemens one of the world’s largest suppliers of eco-friendly technologies. In the same period, the company’s products and solutions enabled customers to reduce their carbon dioxide (CO₂) emissions by nearly 320 million tons, an amount equal to the total annual CO₂ emissions of Berlin, Delhi, Hong Kong, Istanbul, London, New York, Singapore and Tokyo.

The Siemens Infrastructure & Cities Sector (Munich, Germany), with approximately 87,000 employees, offers sustainable technologies for metropolitan areas and their infrastructures. Its offerings include integrated mobility solutions, building and security technology, power distribution, smart grid applications, and low- and medium-voltage products. The Sector comprises the Divisions Rail Systems, Mobility and Logistics, Low and Medium Voltage, Smart Grid, Building Technologies, and Osram AG. For more information, visit http://www.siemens.com/infrastructure-cities

The Siemens Smart Grid Division (Nuremberg, Germany) supplies power providers and network operators, industrial enterprises, infrastructure elements and cities with products and solutions for intelligent and flexible network
infrastructures. To meet growing energy needs, the networks of today and tomorrow must integrate more and more renewable energy sources and ensure bi-directional energy and communication flows. Smart Grids help make it possible to generate and use power efficiently and on demand. For more information, visit [http://www.siemens.com/smartgrid](http://www.siemens.com/smartgrid)

**RWE Energiedienstleistungen GmbH** (RWE ED), Germany, is a company in the RWE Vertrieb AG Group dedicated to providing energy-related services. With around 250 employees, it offers its 3000 contracting partners flexible complete solutions for everything from energy consulting and energy controlling to contracting and district heating. RWE ED operates 60 district heating power plants Germany-wide in 11 federal states, providing heat to some 80,000 customers. The company's focus is on developing decentralized power generation through combined heat and power and delivery of heat generated from renewable sources. With sales of approximately EUR200 million, RWE ED is one of the major energy service companies in Germany. For more information, visit [http://www.rwe-energiedienstleistungen.de](http://www.rwe-energiedienstleistungen.de)

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