



Press Release

Wednesday, May 13th 2015

BELECTRIC constructs World's First Photovoltaic Rooftop with 1,500 Volt Architecture

Designed in partnership with GE and Kofler Energies, the hybrid power plant at GE's Berlin site uses next-generation solar technology developed by BELECTRIC

Berlin/Kolitzheim: The costs involved in generating solar electricity have fallen sharply over the past few years thanks to the constant progress being made toward higher and higher voltage levels. BELECTRIC has used efficient 1,500 Volt DC technology in its free-field solar power plants since 2012, with the higher system voltage enabling system costs to be cut. Now BELECTRIC's solar rooftop systems are also benefiting from this pioneering technology. First in line was the 621 kWp solar rooftop of an ultra-efficient hybrid power plant built in Berlin's Marienfelde district in partnership with General Electric and Kofler Energies.

The plant combines photovoltaics (PV) and flexible Combined Heat and Power (CHP) technology with an innovative energy storage solution. BELECTRIC PV-Dachsysteme GmbH was responsible for the development and construction of the pv system. The flat roof of the production hall houses 6,900 high-power First Solar thin-film solar modules as well as a GE ProSolar central inverter. Resistant to wind and uplift, the PLANTEC substructure is also lightweight and easy to install without roof penetrations, making it ideal for use on large industrial buildings. "The ground-breaking innovation is the high voltage level", stresses Michael Krause, CEO of BELECTRIC PV-Dachsysteme. "This is the first PV roof system anywhere in the world to operate at a voltage of 1,500 V." Having such a high voltage reduces the amount of material used for the cabling and power electronics, saving on costs. This new generation 1,500 V system also helps to prevent degradation effects such as PID (Potential Induced Degradation).

BELECTRIC's 1,500 V system technology can be regarded as marking the next generation in photovoltaics as the new technology exploits the full scope offered by the European Low Voltage Directive and thus cuts system costs. Putting this innovation into practice poses many challenges, particularly in terms of compliance with guidelines and regulations. Safe operation requires the DC distribution, the pv modules and the inverters all to be designed to handle the high DC voltage. This market launch of its 1,500 V version for rooftop PV applications is proof of BELECTRIC's innovative strength and its position at the forefront of new advances in PV system technology. "BELECTRIC's long-term development strategy is founded on our skill in reducing the costs of generating solar electricity using new technologies," underlines Bernhard Beck, Executive Chairman of the BELECTRIC Group. With the integration of the 1,500 V operating mode, BELECTRIC is providing its customers with yet another innovative solution promoting the sustainable and cost-effective generation of electricity.



Photo: Solar rooftop at hybrid power plant Berlin-Marienfelde is the first pv system worldwide which operates at 1,500 Volt

About BELECTRIC®: BELECTRIC is one of the most successful enterprises in the realization of free-field solar power plants and utility-grade energy storage systems. Through its joint venture partners and subsidiaries BELECTRIC operates worldwide. Its sophisticated system expertise is the result of the high degree of vertical integration in the development and manufacturing processes. The reconciliation of economic efficiency and ecology forms the basis for the company's sustainable success. With numerous patents and innovations, BELECTRIC has proven its technological leadership in the industry. Complementing its solar power generation capabilities BELECTRIC Drive® manufactures intelligent charging products for electric vehicles.

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