PRESS RELEASE

SGL GROUP
THE CARBON COMPANY

SGL Group supplies solutions for Germany's largest battery

- Fraunhofer Institute commissions wind-energy battery based on redox flow
- SGL Group supplies two major components for the energy store with carbon battery felts and bipolar plates

Wiesbaden, December 14, 2017. Innovative and powerful energy stores are a crucial component in the energy supply of tomorrow. With its delivery of 3,500 m^2 SIGRACELL® battery felts and 1,750 m^2 SIGRACELL® bipolar plates made of specialty graphite, SGL Group has made a major contribution to the setup and commissioning of the currently largest battery in Germany, a redox flow wind battery in Pfinztal, Baden-Württemberg. As part of the "RedoxWind" research project at the Fraunhofer Institute for Chemical Technologies (ICT), the battery will store energy generated by wind power and feed it to the network on demand.

The carbon fiber felts and bipolar plates supplied by SGL Group assume the function of positive and negative electrodes. By March 2018, the last parts will be delivered to customer J. Schmalz GmbH, an automation specialist responsible for assembling the so-called redox flow stack.

Upon completion, the redox flow battery that occupies a whole building should be able to store 20 MWh of electricity – enough to supply an average town in Germany with power for ten hours. The project aims to prove that this type of energy system both makes economic sense and can also reliably provide power at all times. The State of Baden-Württemberg and the Federal Ministry of Education and research support the project with a total of 19 million euros.

Burkhard Straube, Head of Graphite Materials & Systems (GMS) at SGL Group, says, "We are proud to be part of this milestone in energy storage in Germany. This order shows that we consistently enable and support new technological innovations with our material solutions. In the future, our products and applications will play an ever-greater role on the battery market."

The major advantage of a flow battery over other energy store options is that the amount of energy and the performance of the battery can be scaled independently by changing the size of the tanks or changing the number of stacks. This makes the technology ideal for stationary storage of energy in the MWh range. In addition, redox flow batteries feature a much longer service life compared to other battery systems – currently measured at around 20 years.

Beside components and expertise in redox flow batteries, when it comes to the megatrend of energy, SGL Group is also active as one of the world's largest and only major manufacturer of synthetic graphite anode material for lithium-ion batteries, which are used in many growing markets, such as mobile end user devices and electric vehicles, but in stationary energy store systems as well. Furthermore, SGL group strongly supports the advancement of battery

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technologies and is a member of various networks and research co-operations.

About the SGL Group – The Carbon Company

The SGL Group is a leading manufacturer worldwide of products and materials made from carbon. The extensive product portfolio ranges from carbon and graphite products, carbon fibers all the way through to composites. The SGL Group's core expertise comprises the control of high-temperature technologies as well as the deployment of many years' application and engineering know-how. This is used to exploit the company's wide materials base. These carbon-based materials combine a number of unique material properties such as very good conductivity of electricity and heat, resistance to heat and corrosion as well as lightweight construction coupled with high firmness. The level of demand for the SGL Group's high-performance materials and products is increasing due to the industrialization of the growth regions of Asia and Latin America and the ongoing substitution of traditional construction materials by new materials. The SGL Group's products are deployed in the automotive and chemicals industries as well as in the semiconductor, solar, LED industry segments and in the field of lithium-ion batteries. Carbon-based materials and products are also used in wind energy, aviation and space travel as well as in the defense industry.

With 34 production locations in Europe, North America and Asia as well as a service network in over 100 countries, the SGL Group is an enterprise with a global orientation. In the 2016 financial year, approx. 4,000 employees generated 769.8 million euros in sales revenue. Its Head Office is based in Wiesbaden / Germany.

Further particulars on the SGL Group can be found in the Newsroom of the SGL Group at www.sglgroup.com/press and at www.sglgroup.com.

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