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## **Saft demonstrates energy storage as a key enabling technology in the future development of photovoltaic power**

*Saft batteries provide efficient and reliable energy storage to support photovoltaic systems in both off-grid and grid-connected decentralised installations*

**Valencia, September 1, 2008** – Saft, the world specialist in the design and manufacture of high-tech industrial batteries, at the European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC) demonstrates the importance of energy storage as a key enabling technology for the continuous long term growth of photovoltaic (PV) power.

The need for efficient and reliable battery-based energy storage systems is already well established in a wide range of off-grid PV applications from remote signalling and telecommunications systems, through hybrid renewable systems, up to providing spinning reserve to support a large power grid. However, energy storage in combination with decentralised PV installations could add significant value by making grid-connected PV more attractive in the future to both customers and utilities.

### **Grid-connected energy storage on field testing**

In grid-connected decentralised applications, such as when a building is equipped with a PV system that supplements its main power supply, energy storage 'time-shifts' the excess power until it is needed. This both maximizes local consumption and enhances system efficiency. Energy storage also increases security of supply and relative grid autonomy, hence boosting the development of energy self-sufficient houses and buildings and easing the integration of PV systems within utility power grids. A further benefit for utilities is that local energy storage reduces the peak load on their grid while making PV predictable, dispatchable power.

This grid-connected approach is already being demonstrated on a two year project taking place on the Caribbean island of Guadeloupe to test the viability of using lithium ion (Li-ion) batteries in conjunction with PV systems. 14 PV systems have been deployed, each consisting of an array of solar panels and a 48V, 11 kWh Saft Li-ion battery system that provides buffer storage for the grid-connected PV units.

Saft, Conergy and Tenesol have also announced the launch of Solion, a Franco-German project dedicated to the development of a new concept in energy conversion and storage for grid connected photovoltaic (PV) systems. This project will introduce large Li-ion batteries into PV systems on the largest scale ever tested in Europe. Li-ion technology is required to meet the need for 20 years' battery life in demanding environmental conditions.

### **Off-grid energy storage**

PV ensures a reliable, cost-effective and environmentally-friendly source of electric power for professional equipment operating in remote and isolated locations. This includes signalling and radio/telecommunication services in coastal areas or on mountain tops, as well as oil and gas platforms and pipelines both offshore and in desert areas. PV is also an increasingly attractive option for the electrification of the developing world, especially in areas with a low and scattered population density.

All these off-grid, stand-alone PV systems have a common requirement - to become fully established as a viable and sustainable alternative to grid-based electrification schemes they need an effective method of energy storage. This will provide them with several days of total autonomy, with electricity available continuously over night and in long periods of no or low sunshine.

### **Energy storage for hybrid renewable systems**

Energy storage can play a vital buffer role in hybrid renewable energy systems that comprise several different methods of generation, such as PV, wind and diesel generators. This energy buffer provides backup power for a sufficient period of time to ensure complete continuity of supply in the case of heavy load variations, component failure and bridging between generation methods. It can be particularly valuable in minimising the need to use low-efficiency diesel generation when renewable power is unavailable.

### **Energy storage for grid stabilisation**

Energy storage systems can provide an alternative form of 'spinning reserve' that can be brought on-line almost instantly to help stabilise a power grid in the case of a sudden increase in demand or loss in generation. This enhances the efficiency of existing generation resources and will become an increasingly significant factor with the growing penetration of grid-connected renewable energy sources.

### **World-leading portfolio of battery technologies**

Saft has developed a world-leading portfolio of battery technologies that meet the specific demands of renewable energy applications for efficient, reliable and low-maintenance energy storage solutions. The advanced battery technologies on show at EU PVSEC include: nickel-cadmium (Sunica.plus and SRX ranges); nickel-metal-hydride (NHE range); lithium-ion (Intensium Flex). This complete range of technologies enables Saft to offer the ideal battery system tailor-made to meet the needs of standalone, hybrid and grid-connected renewable energy installations.

### **About Saft**

*Saft (Euronext: Saft) is a world specialist in the design and manufacture of high-tech batteries for industry. Saft batteries are used in high performance applications such as industrial infrastructure and processes, transportation, space and defence. Saft is the world's leading manufacturer of nickel-cadmium batteries for industrial applications and of primary lithium batteries for a wide range of end markets. The group is also the European leader for specialised advanced technologies for the defence and space industries. With approximately 3,900 employees worldwide, Saft is present in 18 countries. Its 15 manufacturing sites and extensive sales network enable the group to serve its customers worldwide. For more information, visit Saft at [www.saftbatteries.com](http://www.saftbatteries.com)*

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