

## **Power-to-gas - the key climate-friendly technology to ensure the electricity turnaround is an energy turnaround.**

**GP JOULE gives a live demonstration of hydrogen production and its reconversion into electric power at "Intersolar Europe" in Munich**

*Munich /Reußenköge, June 10th.* Power from regenerative resources at all times and without geographical limitations, thermal energy for heating and hydrogen for industrial applications or driving hydrogen-powered vehicles - power-to-gas technology makes all this possible. It is regarded as one of the key technologies of the energy turnaround. This is because it is able to compensate for increasing fluctuation in the power grid by storing surplus energy and feeding it back into the grid as required. In this way, power-to-gas can ensure the electricity turnaround becomes a genuine energy turnaround. Thus, electricity from renewable sources - now capable of being produced at low cost - can be efficiently and flexibly integrated in the mobility market, the heat market and of course the storage market or else put to a range of uses by industry.

### **Power-to-gas brings the energy turnaround to the mobility and heat markets and to industry**

"Up until now, all we've been talking about is how to make our power supply more climate-friendly," explain Heinrich Gärtner and Ove Petersen at Intersolar Europe; they are the founders and managing directors of GP JOULE, specialist for the planning, construction, operation and intelligent system integration of renewable energies. "In doing so, we've failed to tap into the huge potential for reducing CO<sub>2</sub> in the heat and mobility sector. Power-to-gas can make a key contribution here. Hydrogen derived from renewable energies is truly multi-talented. In future it will be able to replace gas for heating, while in transportation it is a climate-friendly alternative to petrol, diesel and liquefied petroleum gas. If we really want to take climate protection seriously, we have to make sure carbon largely stays in the ground and does not become deposited in the atmosphere as CO<sub>2</sub>. Power-to-gas technology offers the more intelligent alternative here using the medium of hydrogen."

### **Live demonstration of power-to-gas at Intersolar Europe**

GP JOULE and its subsidiary H-TEC Systems produce series-production power-to-gas technology and have recently set up a new research and development centre for this purpose in Buttenwiesen (district of Dillingen, Bavaria). The core of the technology is the series-production PEM

**Press release**

electrolysis stack, which is also used in the "power gap filler". The power gap filler is an intelligent concept that was put into operation at the beginning of May in Reußenköge, Schleswig-Holstein: using PEM electrolysis, excess power is converted into hydrogen, stored and fed back into the grid as required. Visitors to Intersolar Europe in Munich will be able to find out for themselves exactly how this works. Here GP JOULE presents a miniature power-to-gas system to demonstrate hydrogen production and reconversion to electric power.

"As we see it, this technology has enormous potential," says Heinrich Gärtner. "We've now put the first phase of our power gap filler project into operation. It has an output of 20 kW - i.e. one tenth of the total output on completion. But that's just the first step." The plan is to build a combined power plant made up of PEM electrolyzers on a megawatt scale. "We want to demonstrate that this technology has now developed out of its infancy and is able to make a genuine contribution to securing our energy supply and bringing about a comprehensive energy turnaround.

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**The company:**

GP JOULE is a universal, innovative and authentic partner for all areas of renewable energies. Under the motto "TRUST YOUR ENERGY", the company has developed, planned and realised projects for the future-oriented use of sun, wind, biomass and energy storage since 2009. Based on a sense of respect and responsibility for mankind and the environment, GP Joule develops intelligent energy concepts and integrated solutions, thereby ensuring that the power turnaround becomes a genuine energy turnaround. The guiding principles of company founders and agricultural engineers Ove Petersen and Heinrich Gärtner include authenticity, trust, fair play, innovation and quality as well as the aim to contribute to 100% of energy consumption being drawn from renewable sources in the future. GP JOULE is thus able to offer investors a highly promising and profitable investment option.

GP JOULE operates four sites in northern and southern Germany as well as two international sites in the USA and Canada.