



Press Release 09/2013

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Power-to-gas: ZSW technology on road to success

6-megawatt plant realised with ZSW expertise

The inauguration of the world's first industrial-scale power-to-gas plant on 25 June in Werlte, Lower Saxony, represents not just a significant success for AUDI as the operator. The scientists and engineers at the Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (Centre for Solar Energy and Hydrogen Research Baden-Württemberg, ZSW) in Stuttgart also see this as confirmation of their work. This is because the impending commissioning of the 6 MW plant is a direct result of the many years spent researching, developing and demonstrating the power-to-gas process – known as P2G® – at ZSW. “The construction of the plant in Werlte marks a further step on route to industrialising P2G. The fact that a successful global corporation such as Audi is now banking on it provides testimony to our technology,” explains Dr Michael Specht from ZSW.

The Stuttgart team of researchers and technicians under ZSW department head Dr Michael Specht already successfully proved that the P2G® concept functions faultlessly back in 2009: on behalf of the ETOGAS industrial partner (formerly known as SolarFuel), which has now erected the P2G® plant in Werlte for Audi, Specht and his colleagues constructed and operated a container-integrated 25-kW P2G® test facility. Three years later, ZSW built a P2G® pilot plant in Stuttgart with ten times the capacity. The experience gained from the research operation there is now being incorporated into the Audi project.

With its expertise, ZSW already actively supported the automotive company during the construction of the Werlte plant. The car manufacturer from Ingolstadt was also able to count on ZSW during the inauguration event on 25 June: in order to refuel an Audi natural gas-powered vehicle for the purpose of demonstrating the technology, the institute provided synthetic methane that had been climate-neutrally generated in the P2G® plant in Stuttgart. Audi is looking to produce the so-called e-gas in Werlte and offer it to its customers from the middle of August.

P2G® is a type of storage process in which hydrogen is generated from surplus solar and wind energy using electrolysis before being mixed with carbon dioxide and turned into methane. The resulting methane or

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synthetic natural gas can be stored in the natural gas network for months without any losses and can be transformed back into electricity as required. However, it can also be used as e-gas for the CO₂-neutral operation of natural gas vehicles – an option that has convinced Audi AG.

The Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (Centre for Solar Energy and Hydrogen Research Baden-Württemberg, ZSW) is one of the leading institutes for applied research in the area of photovoltaics, renewable fuels, battery technology, fuel cells and energy system analysis. There are currently around 230 scientists, engineers and technicians employed at ZSW's three locations in Stuttgart, Ulm and Widderstall. In addition, there are 120 research and student assistants.

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You can obtain images and a factsheet about ZSW at:

Solar Consulting GmbH
or ZSW