Hydrogen energy storage austria

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In the lead project "Underground Sun Storage 2030" (USS 2030), the safe, seasonal and large-scale storage of renewable energy in the form of hydrogen in underground gas reservoirs is being developed. In addition, all partners involved in the project will jointly gain valuable technical and economic knowledge for the development of a secure hydrogen supply.

In this research project, the only one of its kind in the world, renewable solar energy is converted into green hydrogen in a climate-neutral way by means of electrolysis and stored in a pure form in former natural gas reservoirs. Until 2025, interdisciplinary technical-scientific investigations for the energy future will be carried out under real conditions at a small former natural gas reservoir in the municipality of Gampern (Upper Austria) under the leadership of RAG Austria AG together with the project partners. A customised research facility will be built for this purpose.

After successful completion of the "Underground Sun Storage" projectthe final report is also available in English now.

The findings of the report provide the basis for further research project "Underground Sun Conversion". The final report gives an overview about the essential findings in all 10 working packages.

The project ,,Underground Sun Storage" as well as the further research project "Underground Sun Conversion" receive funding from Austrian Climate and Energy Fund established by the Ministry for Transport, Innovation and Technology, as part of its energy research program.

A press conference for the Underground Sun Conversion project - the only research project of its kind anywhere in the world - was held on 2 March 2017. In attendance were J?rg Leichtfried, Austrian Minister for Transport, Innovation and Technology, Theresia Vogel, Managing Director of the Austrian Climate and Energy Fund, RAG CEO Markus Mitteregger, and Professor Andreas Loibner of the University of Natural Resources and Applied Life Sciences, Vienna.

Press information 2nd March 2017

The successful Underground Sun Storage project, which focused on the storage of wind and solar energy in naturally formed gas reservoirs, is to be taken to the next stage. Building on the research conducted so far, for the first time the Underground Sun Conversion project will enable production of natural gas directly within a gas reservoir using a microbiological process initiated specifically for this purpose by RAG, and to store it in the same reservoir.

Federal Minister of Transport, Innovation and Technology Alois St?ger, Managing Director of the Austrian

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Climate and Energy Fund Theresia Vogel and RAG Chief Executive Officer Markus Mitteregger open the Underground Sun Storage test facility in Pilsbach, Upper Austria.

For the first time, a research project will investigate the possibility of storing wind and solar power at a former gas field. The storage project is based on power to gas technology, which converts electricity generated in this way into a mixture of methane and hydrogen.

Video: Underground Sun Storage

Due to a constantly rising amount of energy from renewable sources in our energy system, especially from wind and solar, the demand for storage capacity in order to cover for seasonal fluctuations rises accordingly. A widely adopted approach to solve this issue is a promising new technology called "power to gas". This technology aims to convert surpluses from the production of renewable energy systems into hydrogen via electrolysis and subsequently uses the existing gas network for storage purposes. In various studies the impact of hydrogen on the existing gas network has been analyzed and evaluated, but not its impact on existing underground gas storage systems.