

# USS 2030

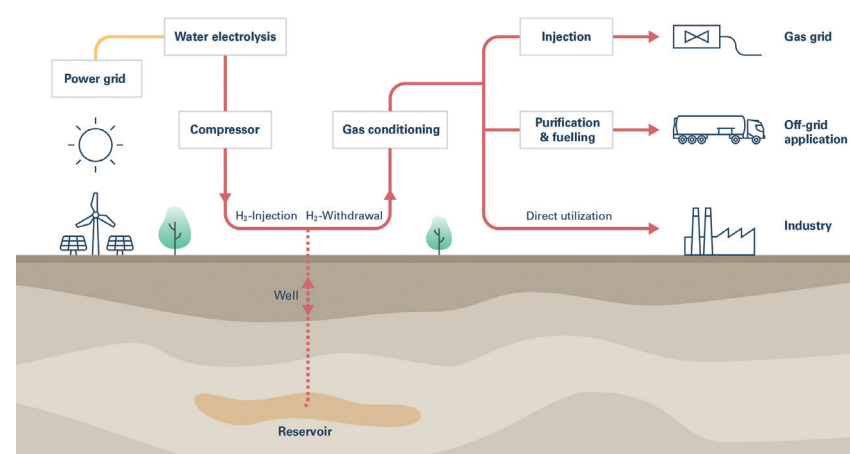


## UNDERGROUND SUN STORAGE 2030

In the 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 water electrolysis and stored in a pure form in former gas reservoirs. Until 2025, interdisciplinary technical scientific investigations for the energy future will be carried out under real conditions at a small former gas reservoir in the municipality of Gampern (Upper Austria) under the leadership of RAG Austria AG. A customised research facility will be built for this purpose. These investigations will be complemented by the development of suitable processing technologies, the modelling of future energy scenarios and techno-economic analyses.

## PROJECT INFORMATION

The predecessor projects „Underground Sun Storage“ and „Underground Sun Conversion“ have already demonstrated that a hydrogen content of up to 20% can be stored in gas reservoirs in a well tolerated manner. Laboratory tests suggest that the hydrogen content can also be increased to 100%. Building on this, the project „Underground Sun Storage 2030“ is now moving to the real scale and is investigating the storage of pure hydrogen, generated from solar and wind energy, in former gas reservoirs as part of a field trial. Together with renowned partners from industry and the Austrian research community, the project is also investigating other aspects related to stored hydrogen.



This includes, for example:

- **Hydrogen as a substitute for fossil natural gas**
- **Direct use in energy-intensive industry**
- **Processing and utilisation of hydrogen with high purity**

In order to be able to achieve the climate targets and a significant reduction in CO<sub>2</sub>, reductions are needed in the entire energy sector. In addition, affordability and security of supply must be maintained. Without gaseous energy carriers and the associated storage capacities, the energy transition is not possible. The project is part of the energy showcase region WIVA P&G and an important step for the development of a secure hydrogen economy.

„Hydrogen is the missing piece of the puzzle for a completely CO<sub>2</sub>-neutral energy system: it can be produced in a climate-neutral way, used directly in industry, produce environmentally friendly heat and electricity, and represent a fuel of the future. But the decisive factor is its large-scale storage and transportability in the existing almost invisible gas infrastructure. Only in this way will we have sufficient and, above all, demand-oriented green energy available even in times of low sun and low wind.“

**Project coordination:** RAG Austria AG

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**Duration:** 2021 - 2025



ONE STEP AHEAD.

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**ASSOCIATION WIVA P&G – HYDROGEN INITIATIVE FLAGSHIP REGION AUSTRIA POWER & GAS**

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