On the way to the hydrogen future – first pipeline-based delivery from Austria to Germany

In September 2024 the project partners have already succeeded in implementing the first hydrogen delivery from Austria to Germany under the current framework conditions and rules.

The green hydrogen, produced by RAG using water electrolysis and certified by TÜV Süd, was blended into the existing natural gas grid in Austria and transferred to the bayernets transport grid in Burghausen. With the support of Bayerngas and Shell Energy, the first hydrogen quantities were already delivered to the customer MEGGLE. This was the first cross-border and pipeline-based hydrogen transport from Austria to Germany. By registering RAG and MEGGLE in the guarantee of origin database implemented and operated by E-Control, the project partners have also succeeded in issuing the first guarantees of origin for hydrogen in Austria. As there is currently no compatible database in Germany - the implementation and operation of the gas guarantee of origin register is planned for 2026 - the cross-border transfer of

guarantees of origin is not yet possible.





RAG Austria AG – Seasonal storage of hydrogen provides security of supply

RAG Austria AG was the first company in the world to store hydrogen in existing underground porous reservoirs, thereby demonstrating that summer sun can be stored in the form of hydrogen and thus brought into the winter on a large scale. This means that production and consumption can be decoupled – an essential prerequisite for the functioning of a renewable energy system.

Since 2015, the facility in Pilsbach (Upper Austria) has also been operating a hydrogen production plant, which now produces certified green hydrogen. Since 2023, RAG has also been operating a much larger storage facility in Rubensdorf (also in Upper Austria) with around 1.6 million cubic metres of working gas volume of hydrogen.

www.rag-austria.at

Project Partners



Energy does not know any borders

cross 2 border



"H2 cross border" represents the entire value chain from production, storage and cross-border transport to the customer.

The energy partnership between bayernets GmbH, Bayerngas GmbH, MEGGLE GmbH & Co KG, RAG Austria AG and Shell Energy Deutschland GmbH has been implemented to promote the hydrogen ramp-up in Europe which needs real cross-border projects.

As part of a specific project, the processes for the entire value chain have been established across borders and implemented for the first time using the current framework conditions and rules.

Since mid-2021, the project partners have been examining the legal framework and technical requirements for cross-border hydrogen transport in order to identify existing (including regulatory) challenges, overcome them by proposing concrete solutions and thus make the supply chain from production to the end consumer a reality.

RAG Austria AG in Pilsbach (Upper Austria) has been producing hydrogen since 2015 also certified as green hydrogen by TÜV Süd. In a further step, RAG Austria has successfully registered its hydrogen production plant in the Austrian guarantee of origin database. The German project partners bayernets, Bayerngas and Shell have been working on making logistics and transport hydrogen-ready, as well as implementing the distribution of hydrogen and the documentation of proof of hydrogen quantities and qualities in a corresponding database in Germany.

To achieve climate targets or to diversify energy imports: Hydrogen is a key to a strong, sustainable and futureorientated energy supply and a crucial component in the future climate-neutral energy mix. This is the only way the cross-generation project of energy transition can succeed.



Project steps

- 1. **Production and storage of green hydrogen** using the water electrolysis plant in Pilsbach (Lehen, Upper Austria)
- 2. Utilisation of the existing TÜV SÜD CMS70 certification
- **3. Plant registration** in the Austrian guarantee of origin database
- 4. Injection into the grid as part of an admixture with natural gas in compliance with the gas quality requirements specified by the grid operator
- 5. Transport from Austria to Bavaria
- 6. Delivery to the customer
- 7. **Issuing guarantees of origin** for green hydrogen via the guarantee of origin database in Austria
- 8. Cross-border transfer of guarantees of origin from Austria to Germany*

The "H2 cross border" project and its project partners have the goal to accelerate the market ramp-up of green hydrogen in Central Europe.

Renewable electricity and hydrogen production is to be increased, storage volumes in Austria and Germany expanded and adaptations made in the gas transport to Central Europe. This will make it possible to make a significant contribution to reducing emissions by using hydrogen instead of fossil fuels in production processes.

* Cross-border transfer of guarantees of origin is currently not possible, as there is currently no compatible database in Germany.