



Joint Press Release
August 8, 2023

Research project on hydrogen storage launched

- **Bierwang porous rock storage is being tested for its feasibility as a hydrogen storage facility**
- **Commissioning begins with first hydrogen storage**
- **Hydrogen storage essential for the decarbonization of the European energy market**

The HyStorage research project aims to investigate the influence of hydrogen on porous rock formations in order to determine the feasibility and integrity of pore storage facilities for the storage of hydrogen. For this purpose, a specialized gas-technical unit for the storage test was set up on a designated drilling site at Uniper Energy Storage's Bierwang site. Commissioning is currently in progress and first hydrogen will be injected from September onwards.

Uniper Energy Storage is the consortium leader, operator and responsible for the test under mining law. The consortium is further consisting of the companies OGE, RAG Austria, SEFE Securing Energy for Europe and NAFTA, which contribute their expertise, and is also supported by interdisciplinary partners from industry and science. The project has been approved by the Southern Bavarian Mining Authority.

The storage test intends to inject different methane-hydrogen gas mixtures with 5 per cent, 10 per cent and 25 per cent hydrogen content in the natural gas into a smaller former natural gas reservoir in three operating phases and to withdraw it again after a standstill period of about three months. The storage horizon is independent of the existing Bierwang natural gas storage facility.

“Hydrogen plays a crucial role in our new strategy and HyStorage is part of its execution. HyStorage is a promising project to test the existing natural gas infrastructure for the potential transition to green hydrogen. It will also help accelerate the energy transition while ensuring security of supply to our customers. The project will provide insights into how porous rock storage and technical gas facilities will perform when the hydrogen economy ramps up,” **says Doug Waters, Managing Director of Uniper Energy Storage.** “The demand for storage capacity will grow as renewables expand and real-life data is needed to make informed decisions. Porous rock storage not only holds tremendous potential to provide flexibility for the emerging hydrogen market, but also to connect to European hydrogen corridors.”

Hydrogen is becoming an essential element for the decarbonization of the European energy market. It can be assumed that in addition to the operation of pure hydrogen pipelines, the share of hydrogen in the natural gas grid will also increase and thus reach the underground gas storage facilities. Porous rock storage facilities have the great advantage that they can provide a large-volume conversion and storage solution for volatile renewable energies.

“The future hydrogen infrastructure must function safely and reliably. This also includes the interchange between hydrogen transport and hydrogen storage. Monitoring the gas quality during injection and withdrawal is our focus in this project. This will enable us to

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transport hydrogen or natural gas-hydrogen mixtures within the required quality as part of the energy mix of the future,” **says Dr. Thomas Hüwener, member of the OGE management board.**

“With our ‘Underground Sun Storage’ projects in Austria, we have been able to gain valuable experience in the production of hydrogen as well as storage in porous rock reservoirs. We see the sustainable use of our storage facilities and gas infrastructure for hydrogen as an essential contribution to enabling the renewable energy future and maintaining security of supply,” **says Markus Mitteregger, CEO of RAG Austria.**

“HyStorage makes a contribution to the decarbonization of our business. Through HyStorage, we want to better explore the storage of gas-hydrogen mixtures in underground storage, also with a view to potential investments in hydrogen infrastructure,” **says Egbert Laege, CEO of SEFE.**

“The NAFTA company is more than 110 years active in the gas industry. We believe that hydrogen is one of the promising energy carriers and therefore we actively support various projects focused on underground hydrogen storage. We perceive the HyStorage project as unique project, where the injection of hydrogen in various mixtures with natural gas into the underground storage will be tested. The results of the given project can have significant impact on the further direction of hydrogen infrastructure”, **says Martin Bartošovič, CEO of NAFTA.**

For hydrogen storage in porous rock reservoirs, an individual investigation of the sites is required. The expertise of the experienced project partners and the scientific support of the test ensure that the collected data is fully analyzed and evaluated so that reliable technical assessments for the storage of hydrogen in porous rock formations can be expected as early as 2024.

About Uniper

Düsseldorf-based Uniper is an international energy company with activities in more than 40 countries. The company and its roughly 7,000 employees make an important contribution to supply security in Europe, particularly in its core markets of Germany, the United Kingdom, Sweden, and the Netherlands. Uniper’s operations encompass power generation in Europe, global energy trading, and a broad gas portfolio. Uniper procures gas-including liquefied natural gas (LNG)-and other energy sources on global markets. The company owns and operates gas storage facilities with a total capacity of more than 7 billion cubic meters.

Uniper intends to be completely carbon-neutral by 2040. Uniper aims for its installed power generating capacity to be more than 80% zero-carbon by 2030. To achieve this, the company is transforming its power plants and facilities and investing in flexible, dispatchable power generating units. Uniper is already one of Europe’s largest operators of hydropower plants and is helping further expand solar and wind power, which are essential for a more sustainable and secure future. The company is progressively expanding its gas portfolio to include green gases like hydrogen and biomethane and aims to convert to these gases over the long term.

Uniper is a reliable partner for communities, municipal utilities, and industrial enterprises for planning and implementing innovative, lower-carbon solutions on their decarbonization journey. Uniper is a hydrogen pioneer, is active worldwide along the



entire hydrogen value chain, and is conducting projects to make hydrogen a mainstay of the energy supply.

Within the Uniper Group, all competences for underground gas storage are bundled throughout Europe in Uniper Energy Storage GmbH. Uniper Energy Storage operates natural gas storage facilities in Germany, Austria and the UK with a working gas capacity of over 80 GWh and thus makes a decisive contribution to security of supply.

For more information, please visit our website:

<https://www.uniper.energy/storage/>

<https://www.uniper.energy/hystorage>

About OGE

Shaping energy supply in Germany, today and in the energy mix of the future - this can only be done with OGE. We have the infrastructure to transport natural gas today and green gases in the future. With our approximately 12,000 km long pipeline network, we are one of the leading European transmission system operators. For decades we have been there for our customers with the highest reliability. We know the big questions about the energy transition. And we have the answers.

You can find more information about the company at www.oge.net.

About RAG Austria

RAG Austria AG is the largest energy storage company in Austria and one of the leading technical storage operators in Europe. The central focus of the company is the storage, conversion and demand-based conditioning of energy in the form of gaseous energy carriers. With storage capacities of around 6.3 billion cubic metres of natural gas, the company operates around 6% of all EU European gas storage capacities. A large part of the underground natural gas storage facilities developed by RAG has already been converted into energy storage facilities that can provide the stored energy at any time and at high performance. In this way, RAG lives the vision of "sustainable energy mining" and thus decisively strengthens the security of supply of Austria and Central Europe.

RAG developed and operates a total of eleven energy storage facilities ("pore storage facilities"). These include the Puchkirchen/Haag, Haidach, Haidach 5, Aigelsbrunn and 7Fields storage facilities as well as the hydrogen storage facilities in Pilsbach and Rubensdorf.

RAG has been working with hydrogen as an energy carrier for more than ten years in order to store renewable energy on a large scale and seasonally. As a partner of renewable energies, the company develops innovative and future-oriented energy technologies around green gas and hydrogen. In this way, RAG makes an indispensable contribution to achieving Austria's ambitious climate targets and to the sustainable supply of resources and energy. The goal is to provide our customers with safe, efficient, environmentally friendly and affordable energy and gas storage services in a long-term and responsible manner.

www.rag-austria.at

About SEFE Securing Energy for Europe

SEFE Securing Energy for Europe GmbH (SEFE) is an integrated energy company owned by the Federal Republic of Germany that is active in various stages along the value chain. Headquartered in Berlin, Germany, the company with more than 1,500 employees has its strongest presence in Germany, supplying industrial customers and

municipal utilities. SEFE is a midstream company focusing on trading & portfolio management, sales, storage and pipeline infrastructure. SEFE plays a pivotal role in providing energy supply stability for Germany and Europe.

www.sefe-group.com

About NAFTA

NAFTA is an international company with extensive experience in natural gas storage and underground facility development in Slovakia. It is also Slovakia's leader in exploration and production of hydrocarbons. In Europe, the company actively operates gas storage facilities, explores and produces hydrocarbons and participates in renewable energy storage projects. In addition to Slovakia, the company is present in the Czech Republic, Germany, Great Britain, Austria, and Ukraine.

<https://www.nafta.sk/en>



Looking at the BW B6 drilling site at the Bierwang storage site. The HyStorage research project is carried out here. (Source: Uniper Energy Storage)



The HyStorage research project is being carried out at the BW B6 drilling site at the Bierwang storage facility. (Source: Uniper Energy Storage)

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