



Press Release  
February 7, 2024

## Uniper to develop hydrogen storage capacities by 2030

- **Uniper Energy Storage will develop salt caverns for the underground storage of hydrogen with a planned working capacity of 250 to 600 GWh by 2030.**
- **Investigation of existing and new sites along the hydrogen core network in Lower Saxony and North Rhine-Westphalia**
- **Krummhörn storage site to be expanded in future**
- **Market consultation to be conducted in February and March 2024**

Uniper Energy Storage intends to develop salt caverns for the large-volume storage of hydrogen in north-west Germany. The initially envisaged storage capacity will be 250 to 600 GWh, which should be available to the market before the end of 2030. To this end, existing sites and potential new sites along the planned hydrogen core network are currently being analyzed in detail.

"Investments in the development of hydrogen storage facilities require a regulatory and funding framework in order to achieve workable business models," says **Uniper's COO, Holger Kreetz**. "By planning the development of hydrogen storage facilities in the order of up to 600 GWh by 2030, we as Uniper are making advanced investments. Whether and how the storage projects can be realized will depend largely on the framework conditions and economic viability. However, we have concrete proposals that ensure a balance between the necessary hedging of investment risks and a competitive market model on the one hand, and security of supply through storage on the other. The principles of contracts for difference should be applied to achieve the aims in a cost-efficient and effective manner."

"In future, we want to play an even greater role in accelerating the energy transition in Europe while ensuring security of supply," says **Doug Waters, Managing Director of Uniper Energy Storage**. "We have a total of more than 80 TWh of underground gas storage capacity for natural gas in Germany, Austria and the UK. This makes Uniper one of the largest storage operators in Europe. As part of the hydrogen ramp-up, we want to repurpose some of our storage capacities and build new storage facilities. This will enable us to store renewable energy in the form of hydrogen for industries that are difficult to electrify and potentially later on for long duration energy storage, allowing for better management of volatile renewable energies."

Hydrogen as a chemical and energy vector could play a decisive role in the energy transition. However, the planned stable and reliable supply of hydrogen to the market with fluctuating production from 2030 will only be possible through the construction and operation of large-volume hydrogen storage facilities. The transformation of the energy system requires existing underground facilities to be quickly converted to meet demand and new facilities to be built. At the same time, natural gas storage facilities must continue to maintain security of supply over the coming years.

The hydrogen storage projects Hydrogen Pilot Cavern (HPC) in Krummhörn and HyStorage in Bierwang are already part of the implementation of Uniper's "Greener Gases" strategy and serve to prepare commercial storage projects.

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The HPC Krummhörn pilot project will deliver valuable results for the realization of commercial hydrogen storage systems by 2025. The Krummhörn site will then be further developed commercially in order to make a storage capacity of 250 GWh available to the market in a first step. The commissioning of the first commercial hydrogen storage facility in Krummhörn is planned for the third quarter of 2029. Over the next five years, an additional investment volume of around € 200 million will be available for the construction of the above-ground and adaptation of the underground facilities. Also, there will be the option to expand the site to further increase storage capacities after 2030.

Uniper plans to provide additional working gas storage capacities for hydrogen by developing existing and new sites in Lower Saxony and North Rhine-Westphalia. Hydrogen storage facilities with a total capacity of up to 600 GWh are intended to be built and put into operation by the end of 2030.

In order to better forecast the demand for the required hydrogen storage capacities, Uniper Energy Storage will carry out a comprehensive [market consultation](#) from today on until end of March 2024. The results will serve as a further basis for the concrete expansion plans for hydrogen storage sites and for the demand-driven provision of hydrogen storage products in the future.

In comparison to other methods for large-scale storage of hydrogen, the storage of pure hydrogen in cavern storage facilities has already reached industrial maturity. Cavern storage systems can compensate for short-, mid- and long-term fluctuations in production and demand, and are very efficient due to their rapid injection and withdrawal capabilities and provide required security of supply. Porous rock storage facilities, mainly found in southern Germany, offer further potential for seasonal storage of large volumes with high injection and withdrawal rates. Uniper Energy Storage is currently conducting the HyStorage research project as part of consortium which includes OGE, RAG Austria, SEFE Securing Energy for Europe and NAFTA as well as other interdisciplinary partners from industry and science. It aims to investigate the influence of hydrogen on porous rock formations in order to determine the suitability and integrity of pore storage systems for storing hydrogen. In general, however, porous rock storage facilities require individual consideration to determine their suitability for storing hydrogen due to their different characteristics.

For more information, please visit our website:

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

You can find the market consultation here:

<https://www.uniper.energy/energy-storage-uniper/market-survey>

### **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.

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