

## NEWSLETTER #6 - June 2025

After 4,5 years, HyPSTER has achieved a major milestone making green hydrogen storage in salt caverns a reality and paving the way for the energy transition.



### EDITO

by Charlotte Roule

The storage demonstrator phase of the HyPSTER project has been successfully completed in May 2025. This marks a major achievement of the HyPSTER consortium.

Since the start of the project in January 2021, the consortium partners have contributed to the enhancement of knowledge in the field of underground hydrogen storage. The various Work Packages have reached the goals which were assigned to them at the project onset:

- A model based on the role and required services of salt caverns for hydrogen storage has been developed and served as an input for the storage demonstrator's cyclic test profile.
- Modelling tools and methodologies used for natural gas have been adapted to hydrogen, thus enabling technical and commercial optimization of salt cavern operations and confirming their strong potential.
- Design, permitting, and construction of hydrogen production and underground storage infrastructure, including the installation of one 1MW electrolyser and the EZ53 salt cavern retrofit have been carried out. Key milestones included the first hydrogen injection in October 2024, the completion of 100+ cyclic tests in April 2025, and the final venting and hydrogen and brine sampling for analysis purposes in May 2025.
- An analysis was conducted to assess the cost of storing hydrogen in salt caverns for end users.
- Site selection methods for future European H<sub>2</sub> storage projects were refined.
- Industrial safety risks of hydrogen storage have been assessed and sector-wide recommendations were provided for future deployments.

- Dissemination of project results has been effective. The project achieved global recognition, was presented at a large number of events and conferences and was the subject of numerous publications.

All partners are proud to have led innovation in this field. This project helped to validate key parameters for safety, operability, and integration with electrolyzers. The success of the cyclic tests, designed to reproduce possible future commercial operations, opened the way for replication at other European sites, constituting a decisive step toward a large-scale hydrogen industrial sector.

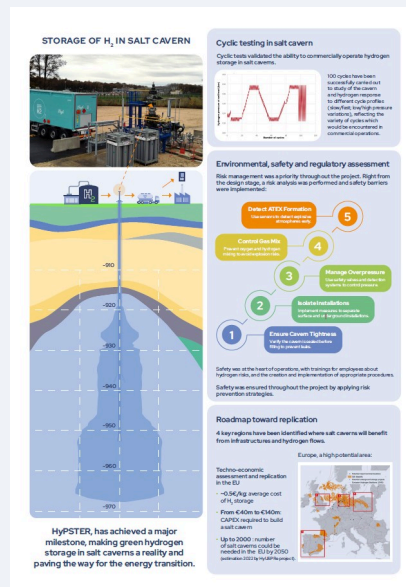
## HyPSTER reaches a new milestone with the successful completion of cycling tests

Launched at the end of 2024 for a period of four months, the cycling tests for the HyPSTER project have now been completed. They provided an assessment of the salt cavern and the stored hydrogen while facing different pressure cycles and validated the ability to commercially operate hydrogen storage in salt caverns.

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## BACK TO HyPSTER FINAL WORKSHOP !



On 6 December, over 120 people attended the 2nd workshop of the HyPSTER (Hydrogen Pilot Storage for large Ecosystem Replication) project, which presented the results of the various research projects carried out since 2021. At the workshop, a number of lessons and results were made public concerning the storage of hydrogen in a salt cavern.

Moreover, perspective was discussed during the workshop through 2 round tables. The first round table highlighted the key elements for bringing producers and consumers together, while addressing the regulatory framework that needs to be established at European and national levels. The second one provided an overview of the various European hydrogen storage projects, highlighting the learnings, the technical challenges, and the benefits for the ecosystems.

**Didn't get a chance to take part in the workshop? Would you like to see some of the sequences again?**

**Please find below the link to the video sequences of the workshop:**

Final workshop  
  
hypster   
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