



Press release
30 September 2022

Storengy and its partners in the HyPSTER project pursue their efforts in favor of the development of the hydrogen sector

On 29th September, more than 70 industrial, institutional and financial stakeholders-attended to the first HyPSTER (Hydrogen Pilot Storage for large Ecosystem Replication) 's workshop at Musée des Confluences in Lyon. As a reminder, HyPSTER is the first demonstrator of renewable hydrogen underground storage in salt caverns, supported by the Clean Hydrogen Partnership to accelerate the development of the sector in France and at the European level. This event aims to share lessons learned from the milestones reached since the start of the project in January 2021.

A day dedicated to reflections on the hydrogen sector

On this occasion, the consortium partners from all over Europe exchanged views during panel discussions and thematic technical sessions, which enabled participants to learn more about the regulations in force, safety challenges and case studies from two other similar projects.

Indeed, the ambitions of HyPSTER regarding the development of the hydrogen sector have transcended France's national borders.

More than ever, the climate issue and energy context are driving European experts to find an agreement on the essential role of massive and flexible hydrogen storage in the future energy mix. There is an urgent need to speed up its development to optimize system coupling. According to the lowest hypothesis, it will be necessary to have 78 TWh in hydrogen storage capacities available in Europe by 2030, which represents 10 % of the total hydrogen consumption.

Murielle Grange, HyPSTER Project Director: "Underground hydrogen storage is a major asset to strengthen the territories' energy independence and support national and territorial policies for carbon neutrality. The HyPSTER project is an important milestone in the development of the storage, an indispensable step for the hydrogen sector".

Zoom on the HyPSTER project, an essential link in the development of the renewable hydrogen sector

This **demonstrator** studying the **underground storage of renewable hydrogen** sets the stage for the **creation of an industrial-scale green hydrogen sector** and its **technical and commercial reproducibility** at other sites in Europe. It is a further step towards a **flexible and large-scale supply of renewable, low-carbon energy**. Furthermore, it reflects the government's wish to **further support the development of the hydrogen sector**, which has been granted an additional 1.9 billion euros under the France 2030 Investment Plan.

About the project:

<https://hypster-project.eu/>



Project timeline

Following the definition of the project's regulatory framework, the receipt of funding from the European Union (Clean Hydrogen Partnership, formerly FCH-JU), and the signature of the consortium by all partners in 2020, the engineering studies started in 2021. The next steps are:

- **2022:** Construction of the electrolysis unit for the production of renewable hydrogen on-site and modification of the cavern for storage.
- **2023:** Experimentation of hydrogen storage in a salt cavern, as well as hydrogen production.

About the partners

Storengy

This subsidiary of ENGIE is one of the world leaders in underground natural gas storage. Drawing on 70 years of experience, Storengy designs, develops and operates storage facilities and offers its customers innovative products. The company owns 21 natural gas storage sites with a total capacity of 136 TWh in France, Germany and the United Kingdom. Storengy is also a key player in renewable gases (biomethane, hydrogen, synthetic gas). In the hydrogen sector, Storengy is a member of France Hydrogen (formerly AFHYPAC), as well as the association Hydrogen Europe. www.storengy.com

Armines-École Polytechnique

Armines is the largest private contractual research structure in France. Under the supervision of the Ministry of Industry, it is supported by 48 research centres, including the École polytechnique, for which it is a federating operator. The École polytechnique is France's number-one institution associating research, education and innovation at the highest scientific and technological level. With its 23 laboratories, the École Polytechnique's Research Centre works at the frontiers of knowledge on major interdisciplinary scientific, technological and societal issues. www.armines.net www.polytechnique.edu

INOVYN

Founded on 1st July 2015 as a part of INEOS, INOVYN is one of the three world leaders in vinyl manufacturing. With a turnover of more than 3.5 billion euros, INOVYN has more than 4,300 employees with manufacturing, sales and marketing activities in ten European countries. INOVYN's portfolio includes a wide range of advanced products such as organic chlorine derivatives, chlor-alkali, general purpose vinyl, specialty vinyl, sulfur chemicals, salt, and electrochemical and vinyl technologies. The annual production volume amounts to more than 40 million tonnes. www.inovyn.com

ESK

ESK GmbH is a renowned engineering company for energy storage and systems services and has successfully completed national and international projects for many years. Its team of highly qualified engineers and geoscientists has extensive experience and know-how in the fields of aquifer and salt cavern storage technologies. In total, ESK has 80 employees in Holzwickede and Freiberg, as well as in its Leipzig and Stassfurt offices, in Germany. www.esk-projects.com

Element Energy



Element Energy is a consulting and engineering firm specializing in low-carbon energy, sustainability and consumer behavior. It provides strategic advice, computer models, software and engineering consultancy services for a wide range of clients in the building, transport and energy sectors.

The company has recently been bought by ERM, the world's largest sustainable development consulting firm specialising in energy and aiming to implement integrated low-carbon technology solutions which help them meet their decarbonization challenges. www.element-energy.co.uk

Ineris

Ineris (Institut national de l'environnement industriel et des risques) is a public industrial and commercial establishment under the supervision of the Ministry of Ecological Transition. This institute conducts research activities on behalf of public authorities, industrial operators and public bodies in the fields of assessment, prevention and control of risks linked to industrial activities, particularly in underground environments. Over the years, Ineris has developed solid expertise in the field of environmental risk assessment related to underground storage activities. The institute has large-scale laboratories for tests involving hydrogen. Their expertise is based on experimental skills (especially in situ) in the fields of digital modelling and risk assessment methods in health, safety and the environment. <https://www.ineris.fr/fr>

AXELERA Auvergne-Rhône-Alpes

AXELERA is the reference cluster of the chemical and environmental sectors in the French region Auvergne-Rhône-Alpes. In France and internationally, it supports the development and innovation of actors involved in the controlled management of environmental materials and resources, for a sustainable development of territories. The cluster is committed to developing chemical solutions for the industry and territories, competitive and eco-efficient processes, technologies to preserve and restore natural resources, circular management of different materials, water, air, soil and energy. www.axelera.org.

Brouard Consulting

Brouard Consulting is an engineering firm specialising in underground storage founded in 1999 and operating worldwide. This company is providing expertise to the HyPSTER project by performing digital calculations to accurately simulate the thermodynamic behaviour of salt caverns and control the mechanical stability of the surrounding rock.

<http://www.brouard-consulting.com>

Equinor

Equinor is a company from the energy sector developing new energy solutions for today and tomorrow, transforming natural resources into energy for people and progress for society.





Clean Hydrogen Partnership

Clean Hydrogen Partnership succeeds to the Fuel Cells and Hydrogen Joint Undertaking (FCH JU). Its aim is to strengthen and integrate the European Union's research and innovation capacities in order to accelerate the development and improvement of advanced clean hydrogen applications which are ready to be commercialised, especially in the energy, transport, building and final industrial usage sectors, while strengthening the competitiveness of the Union's decarbonised hydrogen value chain. This institution's three partners are the European Commission, the fuel cell and hydrogen industry (represented by Hydrogen Europe) and the community of researchers, which is represented by Hydrogen Europe Research.

<https://www.clean-hydrogen.europa.eu>

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