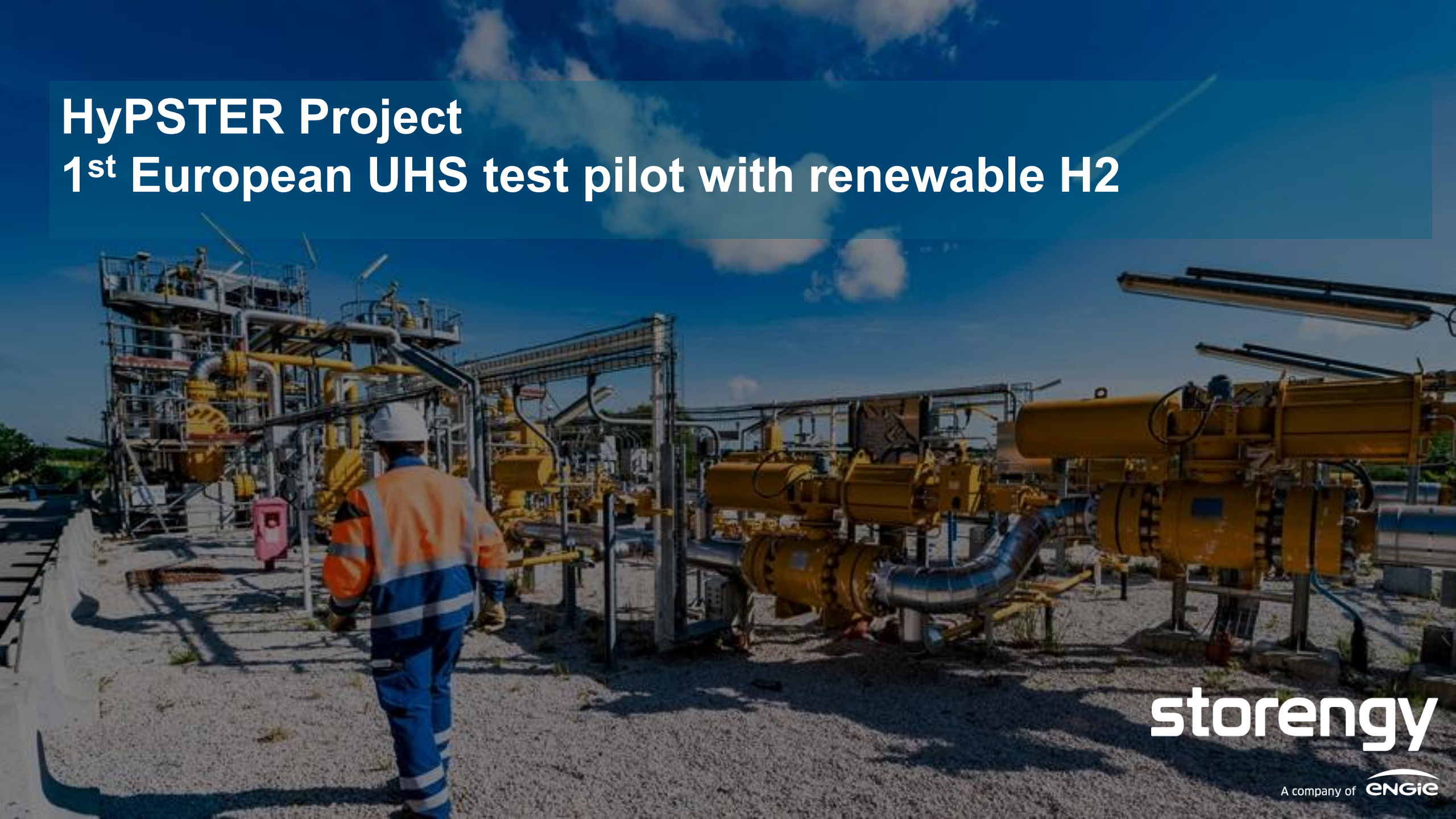
HyPSTER Project
1st European UHS test pilot with renewable H2



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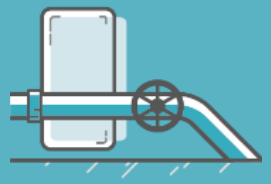
Storengy - Key figures

1st

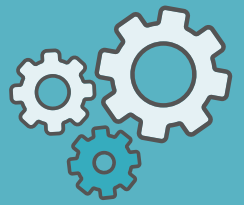
Gas storage operator in Europe

21



storage sites in Europe

70



years of expertise in the development of energy solutions

more than 1,000 employees

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HyPSTER project

1st European-supported large scale UHS demonstrator (°)

- Located in Etrez near Lyon, France
- Large scale renewable H2 storage in salt caverns
- Total budget: **15.5 M€** (o/w **5 M€ funding from the CHP** (°°))

Main objectives

- Reaching **operational readiness for fast-cycling UHS**
- Assessing **technical and economic feasibility of replicating** the hydrogen storage process at other European sites

By the numbers

- **H2 stored** **3 tons** *(30 000 Nm³)*
- **Cycling rate** **100 cycles in 3 months**

The Consortium partners

By the numbers

9 partners

4 countries

(France, Germany, UK, Norway)

H2 & Subsurface expertise

BROUARD CONSULTING · ESK · ARMINES · ECOLE POLYTECHNIQUE · storengy

Regulation & Safety

INERIS

Storage replication potential

inovyn · storengy

Technical and economic assessments

ERM

Bacteriology Purification

equinor

Communication

axelera

Coordination

storengy · ERM

(°) under Grant Agreement No 101006751
(°°) CHP (Clean Hydrogen Partnership) (previously called FCHJU)

HyPSTER - Caverns in Etrez

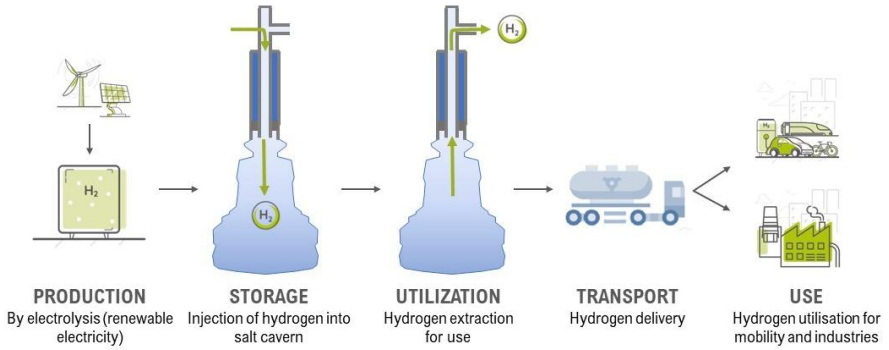
HyPSTER cavern EZ53

- Geometric volume — 7 400 m^3
- H2 storage capacity (WGV) — **44 tons (1,7 GWh)**

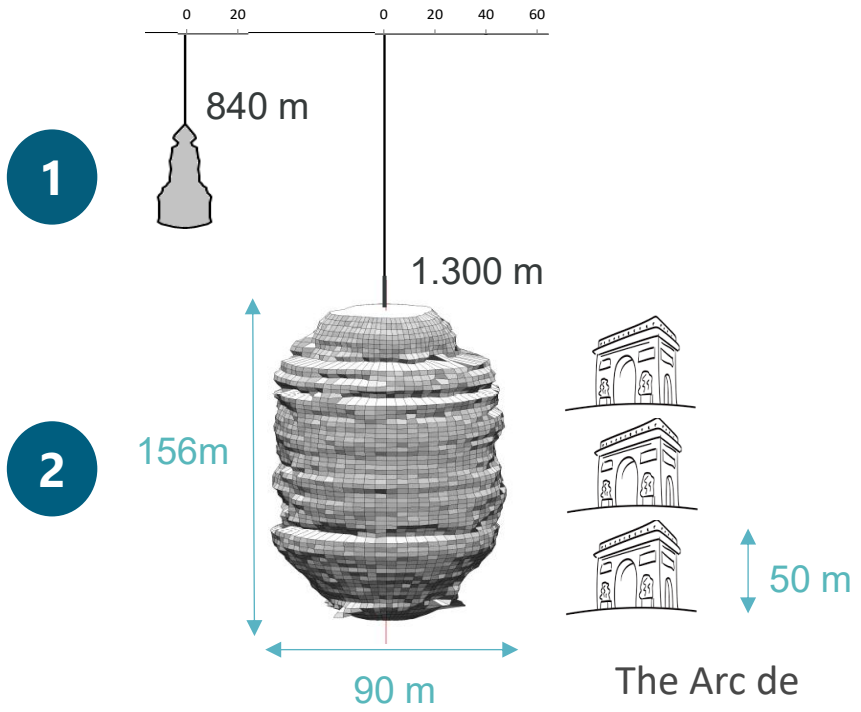
Typical cavern in Etrez

- Geometric volume — 570 000 m^3
- H2 storage capacity — **6 300 tons (252 GWh)**

Generic scheme for the storage of H2 in salt cavern



Etrez - H2 Storage sizing



The Arc de Triomphe in Paris

Hydrogen Pilot STorage for large Ecosystem Replication

HyPSTER project at a glance

Replacement with H2 compatible completion and wellhead

Wellhead & H2 injection panel

Key achievements of HyPSTER

Successful 4-month testing campaign completed

- First full-scale demonstration of H2 storage in a salt cavern in Europe
- 3 tonnes of renewable hydrogen injected
- Over 100 hydrogen pressure variation cycles

Why it matters

- Proves technical and operational feasibility of underground H2 storage
- Reinforces sector coupling – supporting renewables integration & system balancing
- Offers a scalable UHS model for replication in other Member States
- Supports industrial and mobility decarbonisation

« H2 Storage must be planned alongside production and use – HyPSTER shows how this can be done, safely and efficiently. »


To find out
more information
www.storengy.com
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