



# *Font Corporation*

## *Investments and Expansions in Europe*

### *Natural Hydrogen in the European Union*

Delivering Europe's first natural hydrogen project in Spain  
and building capacities in the field across the EU

Carmen Font, CEO Font Corporation



# 1. About Us



## Font Corporation Your Partner in Europe

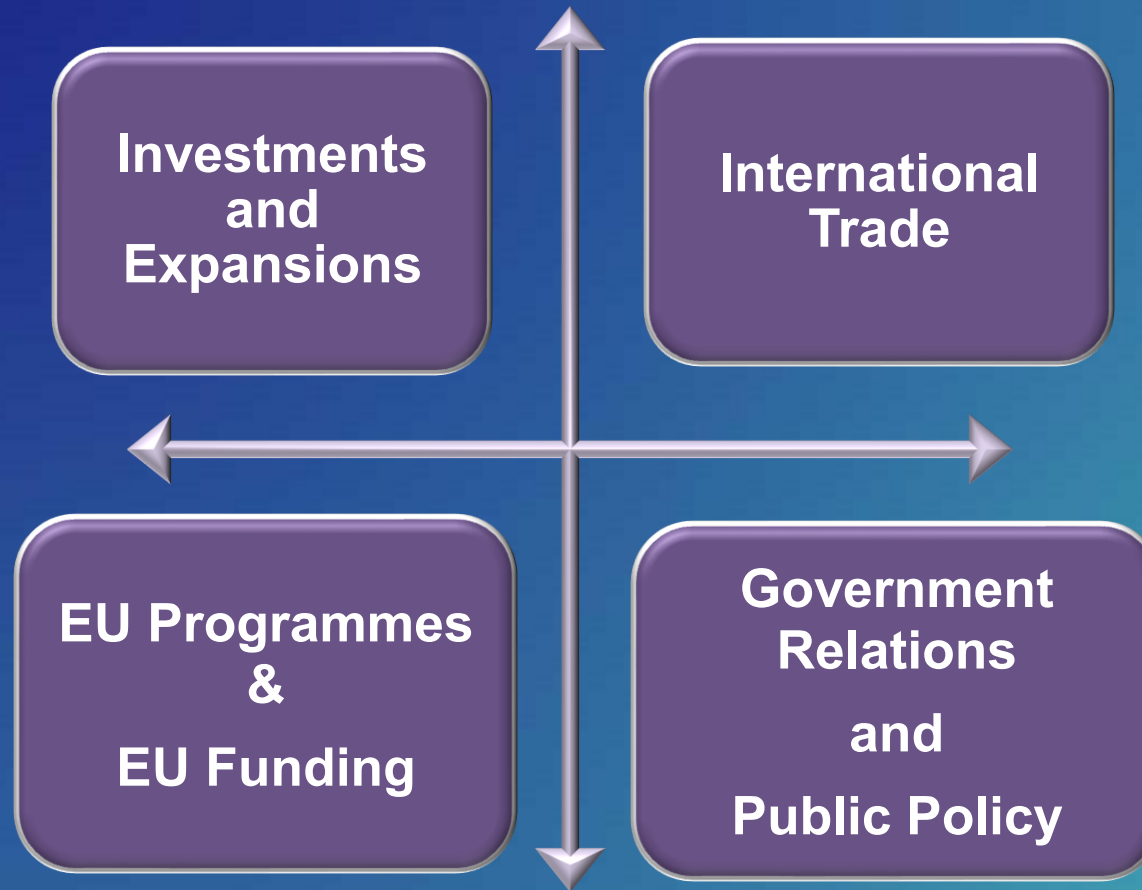


Font Corporation leads Investments and Expansions in Europe accelerating the implementation and scaling up of your business in the European Union.

We access European funding and support non-European companies with effective advocacy within the Quadruple Helix (Industry, Government, Academia, Society)



## 2. Business Areas



## 2.2 International Trade



Font Corporation execute investments and develops international partnerships to maximise the scalability of projects in Europe

**International  
Partnerships  
and Trade**

**European market entry and scale ups**

**European and International Partnerships**

**Business Expansions for Deep Tech**

**International Business Network**

**Brokerage**

**Advisory and Management**

-



## 3. Industry Expertise

### Energy



### Technology



### ICT



### Healthcare & Biotech



### Automotive



### Logistics



### Aerospace



## 4. Success Cases

Font Corporation achieved the milestone of €2.4 million European Funding for RAVEN SR Iberia

Implementation of the Steam/CO<sub>2</sub> Reforming technology producing hydrogen in Spain and scaling up in the European Union



Hydrogen  
Europe





## 5. Success Cases

### International Energy Agency – Technology Collaboration Programme

#### Task 49 - Natural Hydrogen

**The CEO, Carmen Font, is part of the Team of Experts designated by the International Energy Agency (IEA) working on Task 49, Natural Hydrogen**

Natural hydrogen is entering a new phase, it is now recognised as an important topic by the International Energy Agency's Hydrogen Technology Collaboration Program ([Hydrogen TCP - Research and Innovation in Hydrogen Technology by IEA \(ieahydrogen.org\)](#)). The IEA H2TCP 97th ExCo Meeting in Vienna validated the creation of a TASK named "Natural Hydrogen".

**The TASK 49 brings together 31 experts representing 16 countries to act jointly on research and monitoring actions, and on proposals in the fields of research, exploration/production methods, evaluation of economic reserves, public policy, public acculturation, financing, infrastructures and environmental impacts.**



## 4. Success Cases

### Font Corp leads the production of natural hydrogen in Europe Europe's first natural hydrogen production site



Appraisal well to be drilled in Q4 2024-Q1 2025 (€14m investment)

The production phase will start being implemented in 2026 involving €900m investment and it will be operational in 2029. The production of helium a resource considered as “critical raw material” in the EU is also expected.

The project was declared “**Investment of Regional Interest**” by the **Government of Aragón in May 2023**. Font Corporation is driving change in the Spanish legislation and shaping the future of clean energy in Europe. We are scaling up in Poland, Hungary and Germany.







# A CLEAN ENERGY REVOLUTION

## Natural hydrogen:

- **Generated continuously by the Earth and can form large accumulations**
  - *USGS forecasts provide for hundreds of years of human use*
- **Lowest CO<sub>2</sub> source of hydrogen**
  - *50 times lower than grey hydrogen*
- **Developed using existing technology**
  - *Drilling and processing facilities from geothermal and natural gas industries*
- **Lowest cost source of hydrogen**
  - *Break-even cost <€1/kg (green hydrogen €4-€10/kg)*
- **Produced 24/7 and requires no storage**
  - *No intermittency, utilises 100% of capacity (wind turbines use one-third)*
- **Lowest footprint of any source of hydrogen**
  - *One well provides energy equivalent of 150 wind turbines*
  - *No water required (green hydrogen uses 9 litres for every kg)*

iea

CLEAN ENERGY  
MINISTERIAL  
Advancing Clean Energy Together

HYDROGEN  
INITIATIVE  
International Energy Agency

## Global Hydrogen Review 2023

International  
Energy Agency


Table 3.1 Selected developments for natural hydrogen production

| Country       | Location        | Developers                             | Status   |
|---------------|-----------------|--|--|
| Australia     | Yorke peninsula | <a href="#">Gold Hydrogen</a>          | Drilling permit granted. Exploration from October 2023.        |
| Australia     | Eyre Peninsula  | <a href="#">H2EX</a>                   | Permit granted.  |
| Australia     | Amadeus Basin   | <a href="#">Santos</a>                 | Drilling wells to evaluate resource.                           |
| France        | Lorraine basin  | <a href="#">La Française d'Énergie</a> | Application for exclusive mining exploration permit submitted. |
| Mali          | Bourakebougou   | <a href="#">Hydroma</a>                | Operational since 2012, demonstration.                         |
| Spain         | Pyrenees        | <a href="#">Helios Aragon</a>          | Drilling permit granted. Exploration from 2024.                |
| United States | Arizona         | <a href="#">Desert Mountain Energy</a> | Application for exploration permit submitted*.                 |

## 6. Natural Hydrogen

### Hydrogen storage in natural hydrogen reservoirs

- A green hydrogen economy requires significant underground storage at multiple sites
- The natural gas economy in Spain has required a storage capacity (in depleted reservoirs) of 35TWh
- The Monzón Field can be part of the solution. Once the reservoir is depleted it can be used as a low-cost, proven storage site for green hydrogen at annual rates of c.55 million kg
- Storage solutions for green hydrogen are lagging well behind the progress which is being made on electrolyzers
- Legislation is required to promote investment. Australian States (South Australia and NSW) have recently included hydrogen storage and natural hydrogen production in their Hydrocarbon or Mining Acts



*“Widespread adoption of hydrogen in Australia as an energy carrier will require storage options to buffer the fluctuations in supply and demand, both for domestic use and for export. Once the scale of storage at a site exceeds tens of tonnes, underground hydrogen storage is the preferred option for reasons of both cost and safety”*



**Underground storage of  
Hydrogen:  
Mapping out the options  
for Australia**

Deliverable 5: Final Summary Report

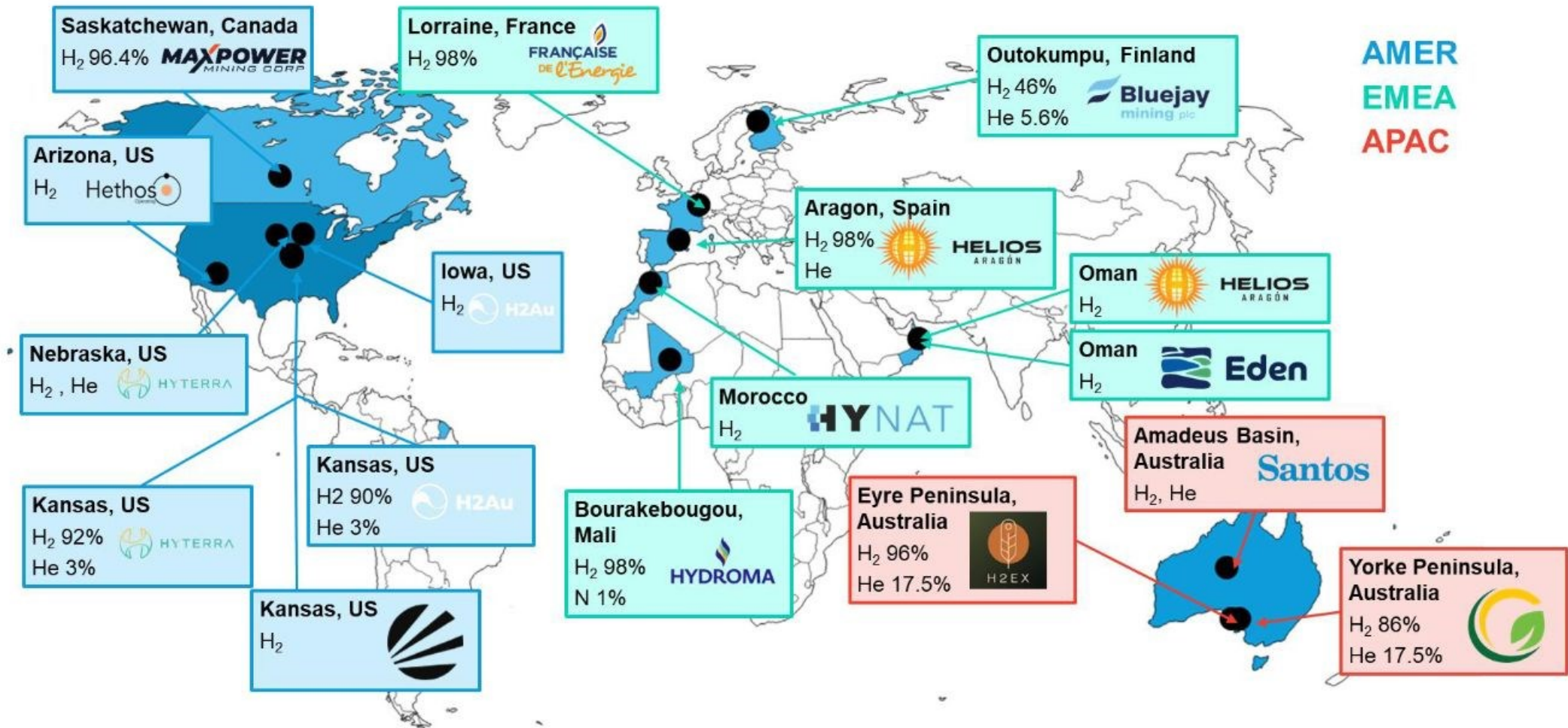
July 2021





# 7. Natural Hydrogen worldwide

Figure 7: Active geologic hydrogen exploration projects



AMER  
EMEA  
APAC

Source: BloombergNEF. Note: This is not an exhaustive list of projects.

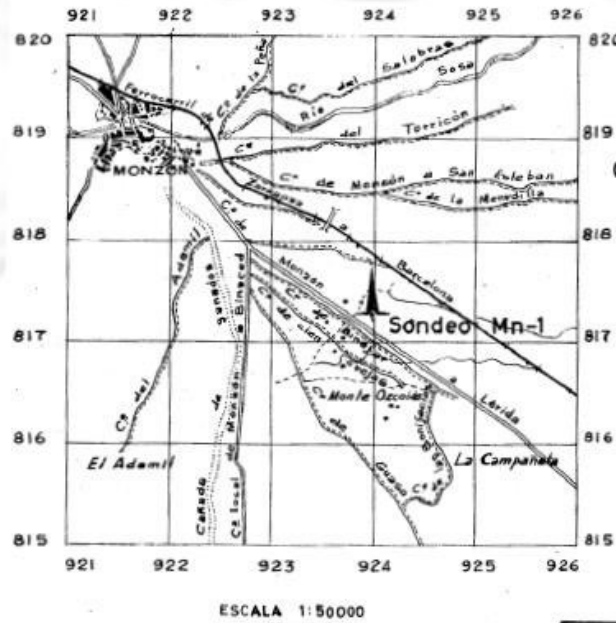




# 8. Natural Hydrogen in Aragón, Spain

The hydrogen in the Monzón Field was discovered in the 1960's in a well exploring for hydrocarbons. The high-quality sandstone reservoir, at a depth of 3,500m, was gas saturated and flowed naturally to surface where 100% hydrogen was recorded

The field was regarded as a geological curiosity until, almost 60 years later, it is the site of Europe's first natural hydrogen project



## Natural hydrogen in the Monzón-1 well, Ebro basin, northern Spain

Christopher Atkinson<sup>1</sup>, Christopher Matchette-Downes and Sandra García-Curiel.

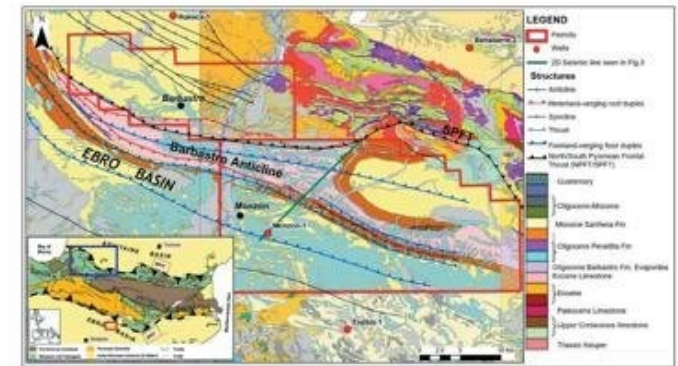
### Introduction

Sixty years ago, Spain was amid an energy crisis. Totally reliant upon imported oil and with limited in-country alternatives an aggressive campaign of hydrocarbon exploration drilling was initiated throughout the country. Between 1954 and 1964 the finances of its national oil company were bolstered; state of the art drilling equipment was purchased and together with several international partners multiple wells were drilled. One of the prospective areas chosen for exploration drilling was the Ebro Basin and the associated South Pyrenean foothills located in the northern part of the province of Aragón. It was here on March 7<sup>th</sup>, 1963, that Empresa Nacional de Petróleos de Aragón ["ENPASA"] spudded the Monzón-1 exploration well. The well drilled to a total depth ("TD") of 3715 metres below ground level ("mbGL") and encountered shows of methane in fractured Infra-Liassic carbonates which upon drill-stem testing failed to flow at commercial rates. Consequently, the well was plugged and abandoned as an exploration dry hole. Importantly, the well also encountered shows of hydrogen at two levels.

The deeper of the two, within the Triassic Bunter Sandstones, was significant enough to be specifically highlighted in the final well report. In 1963 hydrogen was of no interest but fast forward to today and this "dry hole" in Aragón could be a key component in the largest energy transition the world has ever seen.

### Location, geological and structural setting

The Monzón-1 well was drilled just a few kilometres southeast of the town of Monzón in Huesca province, Aragón, Spain (Fig. 1). Geologically, it is located at the juxtaposition of the Southern Pyrenean Thrust Belt and the Ebro Basin, to the south of the Pyrenean Mountains (Fig. 1 and Muñoz (1992)). It lies immediately south of a salt-cored «triangular» zone of deformation known as the Barbastró Anticline (Fig. 1). The southernmost thrust sheets of the South Pyrenean deformation belt lie a few kilometres to the northeast of the well along the northern flank of the Barbastró Anticline (Fig. 1). The well penetra-



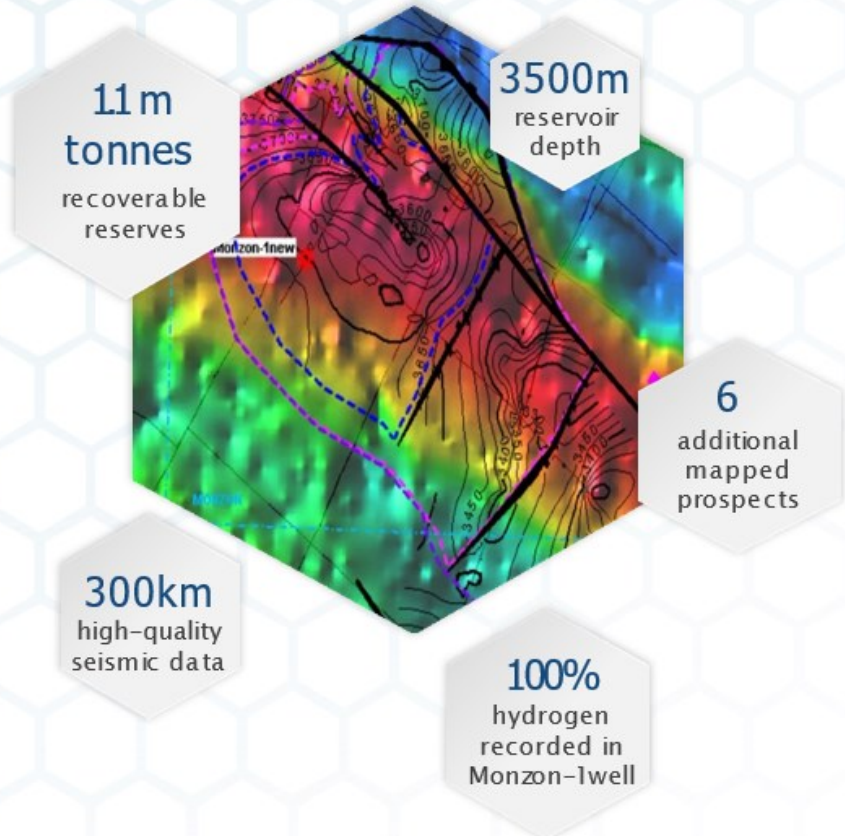
**96** Figure 1. Location and geological setting of Helios Aragón Exploración S.L. permits (red polygon) and the Monzón-1 well. Blue box in insert figure denotes location of area of natural hydrogen emanations studied in the North Pyrenees by Irizarretxe et al., 2021.

<sup>1</sup> Helios Aragón Pte Limited, Singapore/Helios Aragón Exploración S.L., Madrid, Spain.



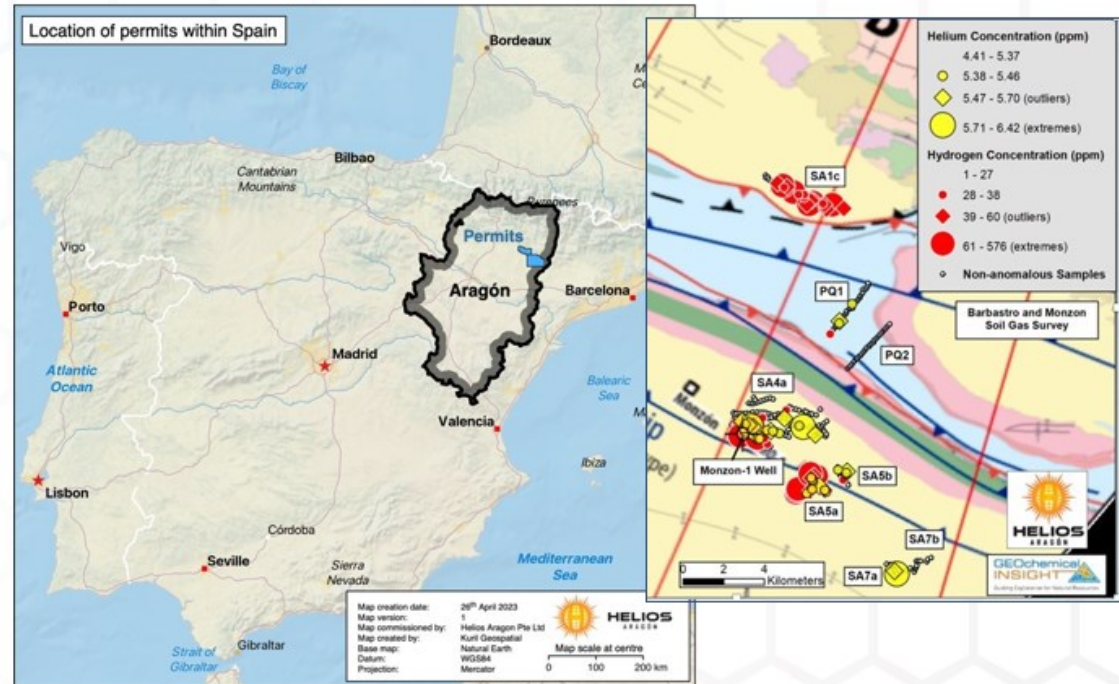
# 8. Natural Hydrogen in Aragón, Spain

## ASSET OVERVIEW



### Proven natural hydrogen discovery

- *Barbastro* and *Monzón* exploration permits (60,200 hectares)
- Natural hydrogen discovered in Monzón-1 well in 1963
- 100% hydrogen recorded at surface with no hydrocarbons
- Geochemical survey confirmed high levels of hydrogen and helium
- Monzón Field defined by modern seismic and thick salt provides seal
- 1.1million tonnes reserves with 5-10m tonnes additional prospectivity



## 6. Natural Hydrogen in Aragón, Spain

# OUR VISION

*Deliver Europe's first natural hydrogen project in Aragón and expand activities across the EU*  
**Produce the lowest cost and lowest emission hydrogen to supply local industry**



### COST

Produce natural hydrogen at **<€0.75/kg**



### EMISSIONS

GHG emissions  
**~30 gCO<sub>2</sub>e/kWh**



### INFRASTRUCTURE

**€300-800m** investment  
in Aragón



### JOB CREATION

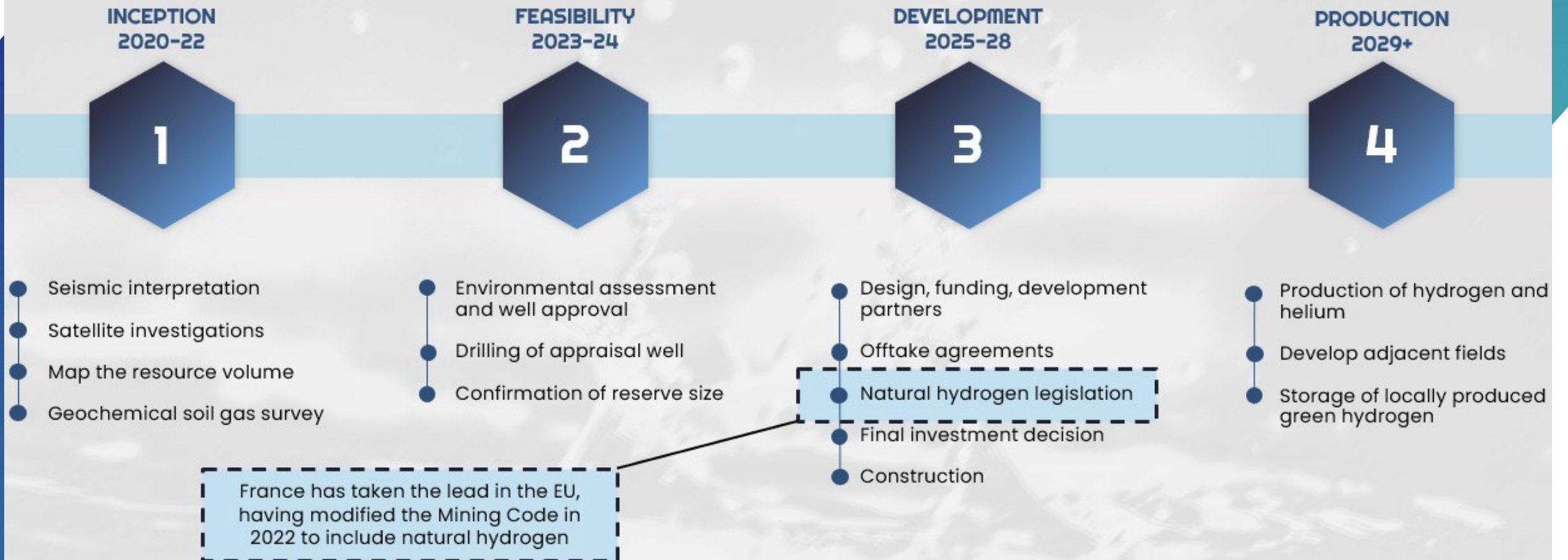
**300+** direct  
**1500+** indirect



## 8. Natural Hydrogen in Aragón, Spain

# FOUR PHASES OF COMMERCIALISATION

Elements in place for a successful project, with development legislation expected





## 9. Latest Investments in Natural H2 worldwide

**Hydrogeninsight** Subscribe

Production

### Japanese industrial giants invest in Bill Gates-backed natural hydrogen start-up

Osaka Gas and Mitsubishi Heavy Industries agree to take equity stakes in Koloma



**MITSUBISHI  
HEAVY INDUSTRIES**


Accelerating the Energy Transition to Meet  
Critical 2040 Decarbonization Targets

Innovation

### Bill Gates-backed natural hydrogen explorer Koloma raises nearly a quarter of a billion dollars in private finance

Cash pours in after Denver firm awarded \$900,000 from US government to artificially stimulate deposits of natural H2

### Fortescue Invests \$21.9 Million to Acquire Strategic Interest in HyTerra



29 August 2024

"An investment by Fortescue is a testimony to the hard work and delivery performance of the HyTerra team, the diverse geological plays available within our Nemaha project leases and our global growth opportunities in the pipeline." – Executive Director, Benjamin Mee

Many media outlets including [Small Caps](#), [Fuel Cell Works](#), [Hydrogen insight](#), [Market Open](#) and [Just Stocks](#) have covered our announcement of a potential cornerstone investment to fund exploration at the Nemaha Project by Fortescue Future Industries Technologies (FFIT).

## 10. Capacity Building in Natural H2 in the EU

The overall objective of the I3 Strand 2b is to build capacity in less developed regions to develop and strengthen their regional innovation ecosystems and value chains through coordinated and interlinked investments in several regions.

### Capacity Building Strand 2b (I3-2023-Cap2b)

The **available call budget** for each of the two cut-off dates in 2024 is **€13 M**

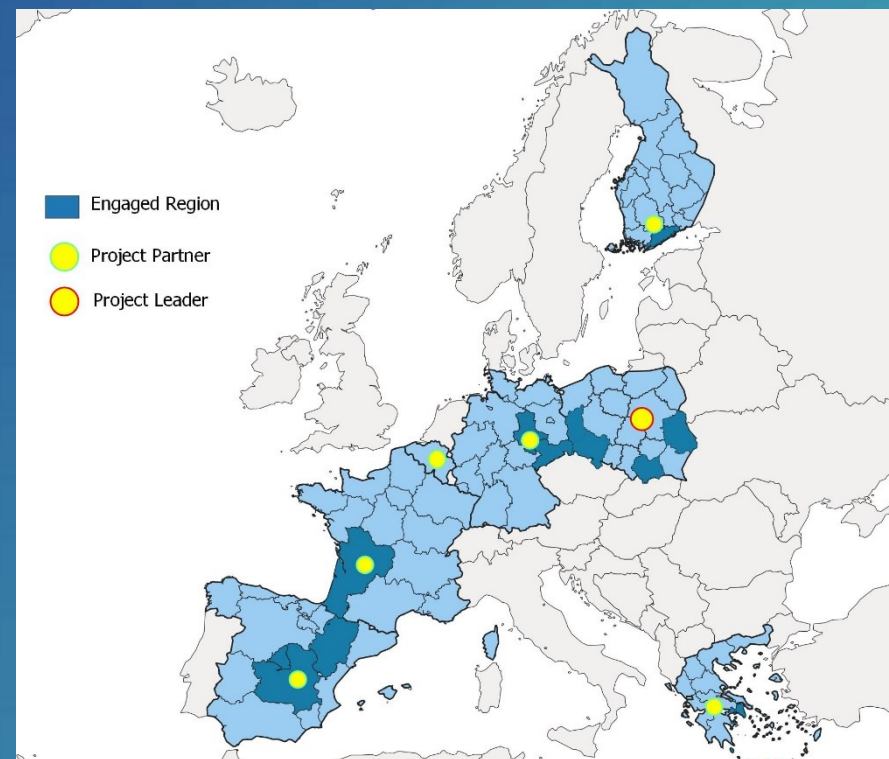
#### Deadline date

14 November 2024, 17:00 CET



#### Scope:

The Interregional Innovation Investments Instrument (I3) creates linkages for interregional collaboration bringing together actors from different EU regions investing in joint innovation projects along S3 priorities and close to the market.





# Thank you!

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