

FDE confirms exceptionally high natural hydrogen concentrations in the Lorraine region and accelerates the path towards the world's first industrial-scale natural hydrogen production project

Breakthrough validation of the SYSMOG™ technology at extreme depths

Resource certification targeted in 2027 and first production expected in late 2028 / early 2029

Pontpierre, France, 23rd of June 2026 – FDE, an independent low-carbon energy producer, today announces a major milestone in the development of natural hydrogen in France, with the first in-situ results from its PTH-2 well, currently the deepest well ever drilled in the world dedicated exclusively to natural hydrogen exploration.

Following its landmark Folschviller discovery, FDE successfully drilled the PTH-2 well to a depth of 3,655 meters as part of the REGALOR II research program, supported by the Grand Est Region and the European Union (Just Transition Fund).

The data collected during and after drilling provide compelling evidence that the Moselle Basin hosts a large-scale natural hydrogen system and significantly advance the understanding of the mechanisms responsible for hydrogen generation and accumulation at depth.

A world-first project progressively moving from scientific discovery to industrial development

Beyond the many hydrogen samples collected at surface during drilling operations, post-drilling analyses of dissolved gas samples taken at depth of more than 2,000 meters have now confirmed the presence of exceptionally high hydrogen concentrations.

Most importantly, these results reinforce a key observation initially made at Folschviller: natural hydrogen concentrations increase significantly with depth, supporting the existence of an active hydrogen production system with the potential for very widespread deployment across the Lorraine region.

Using FDE's proprietary measurement technologies, hydrogen concentrations reached:

- 36.1% at 2,242 meters
- 49.6% at 2,426 meters

These results represent some of the highest natural hydrogen concentrations ever measured in situ worldwide and further strengthen the economic attractiveness of the resource. They build upon the initial Folschviller measurements, which revealed 20% dissolved hydrogen concentrations at 1,200 metres, and provide critical inputs for refining the geological models developed under the REGALOR program.

A technological breakthrough: SYSMOG™ successfully validated at significant depths

FDE and its partner Solexperts have successfully deployed the proprietary SYSMOG™ membrane separation probe under the extreme physico-chemical conditions encountered at depths of up to 3,000 meters.

The successful operation of SYSMOG™ marks an important technological milestone for the emerging natural hydrogen industry, providing a robust methodology to accurately detect, quantify and sample dissolved hydrogen in deep geological environments.

This achievement further strengthens FDE's technological leadership position in a sector that is rapidly attracting worldwide attention.

Building Europe's first natural hydrogen value chain

FDE is now simultaneously advancing both the REGALOR II program and working on the "Trois Evêchés" Exclusive Exploration Permit (PER), which covers an area of 2,254 km² in Eastern France.

The Group is entering a new development phase focused on transforming a scientific discovery into an industrial energy project.

Over the coming months, FDE will pursue several key milestones:

- Infrastructure development: FDE has already launched, together with TERECA Solutions, a feasibility study to pre-design future natural hydrogen production facilities and their integration into local and regional energy infrastructures.
- In situ flow measurements: During the second half of 2026, FDE and Solexperts will deploy the patented SYSPROG™ technology to characterise dissolved hydrogen flows below 3,000 meters and evaluate future production performance.
- Resource certification: A first independent resource certification process is expected to commence in 2027.

In parallel, geoscience studies are underway across the Trois Evêchés permit to assess the extent of the hydrogen system, estimate its overall potential and determine recovery factors.

Towards first production by late 2028 or early 2029

With each successive milestone, FDE is reducing the geological, technological and industrial risks associated with natural hydrogen development.

The Group now targets the start of natural hydrogen production in Eastern France by late 2028 or early 2029, positioning itself at the forefront of a new strategic low-carbon energy industry in Europe.

Natural hydrogen could become a game-changing component of Europe's energy sovereignty, providing a local, low-carbon and competitive source of energy to support industrial decarbonisation and strengthen energy security.

Antoine Forcinal, CEO of FDE, commented: "PTH-2 marks a turning point, not only for FDE but for the entire natural hydrogen industry. We are no longer discussing a scientific hypothesis; we are progressively de-risking what could become one of Europe's first industrial-scale natural hydrogen projects. Every milestone achieved brings us closer to commercial production and strengthens our conviction that Eastern France could become a strategic hub for this new source of low-carbon energy. Our ambition is clear: turn a world-class discovery into a new pillar of Europe's energy sovereignty."

Next Announcement:

FY 2026 turnover to be published on 21 July 2026 after market close

Reuters code: FDE.PA

Press

contact@francaisedelenergie.fr

+ 33 3 87 04 34 51



Bloomberg code: FDE.FP

Investor Relations

ir@francaisedelenergie.fr

+ 33 3 87 04 34 51

About La Française de l'Énergie

FDE is an independent multi-energy producer dedicated to making Net Zero happen.

As a specialist in local energy systems and the circular economy, FDE capitalizes on its industrial know-how ranging from engineering, energy production to CO₂ storage to provide energy solutions that combine carbon footprint reduction with better resilience of the associated eco-systems.

For more information, visit <https://www.francaisedelenergie.fr/>

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