

EDITO FROM THE CHAIRMAN

**Madam, Sir,
Dear Shareholders,**

FDE continues to develop as a leading independent player in the low-carbon energy sector, in France, Europe, and now Norway, focusing on using the resources available in these territories in short circuits.

We are proud to contribute to ever more environmentally friendly production, thus actively participating in the ecological transition. We can only congratulate ourselves on the key milestones reached over the past year, with the acceleration of our deployment in Norway, confirming our development strategy for 2030.

The discovery of natural hydrogen in Moselle and our project to produce hydrogen from the electrolysis of green electricity in Agder, Norway, will enable us to supply large volumes of low-carbon hydrogen in the coming years. The industrial standardization of Cryo Pur's technology and its forthcoming application on the liquefied biomethane production site in Stavanger will enable us to supply green gas and biogenic CO₂ under the most favorable economic conditions. The next 24 months will be marked by an intensive deployment

of cogeneration units in the Hauts-de-France region, although this deployment has been delayed. In short, FDE is moving forward to achieve its sales objectives of at least €175 million by 2030.

We would not be able to develop this industrial adventure without the individual shareholders and institutional investors who have placed their trust in us and their investments in a long-term approach, thus participating in the energy revolution and our development in France and abroad. Thank you to each and every one of you for your unfailing support.



Julien Moulin
FDE President



Construction begins on Kristiansand hydrogen plant

Hydrogen Hub Agder, 100% owned by Greenstat, has launched construction of the southern Norway's first large-scale hydrogen plant, in the Fiskå industrial park, located on the seafront near the port of Kristiansand. The Agder project has been awarded an ENOVA grant of up to NOK 148 million representing over 40% of the total investment.

The construction of the first phase, with a capacity of 20 MW, began August 2024, with commissioning scheduled for the second half of 2026. By then, 8 tons of hydrogen will be produced every day. Aragon has been engaged as an engineering partner and will assist Greenstat and FDE's internal project team to finalize the design of the hydrogen



Panoramic view of Agder, Kristiansand

plant and the selection of equipment and service suppliers.

A second phase is also planned in Fiskå, adding a further 40 MW of electrolyser capacity.

Hydrogen Hub Agder's main aim is to supply

green hydrogen as a renewable fuel for the maritime sector along the Norwegian coast and in the North Sea basin.

FDE is also planning several other low-carbon hydrogen production projects in Norway and Europe.



Greenstat's Norwegian team on site at Kristiansand's Agder hydrogen plant



Kristiansand mayor Mathias Bernander breaking the symbolic first shovel with an excavator at the Agder construction site



Focus: What is hydrogen, this key sustainable energy?

Hydrogen, also known as "H₂", is the lightest and most abundant element in the universe. Highly flammable, it is a colorless, odorless and non-toxic gas that plays a key role as a clean energy source. In nature, it is generally associated with other atoms, as in water (H₂O), petroleum (HC hydrocarbons) and natural gas (CH₄).

Used since the 19th century, hydrogen has been widely employed in industry for decades. It is mainly used as a raw material in the production of ammonia and methanol, as well as in the refining of petroleum products, fuels and biofuels.

In February 2023, the European Parliament set the threshold for low-carbon hydrogen

production at 3.38 kg of CO₂ equivalent per kilogram of hydrogen produced (kg CO₂ eq / kg H₂).

Historically, the different types of hydrogen were designated by colors indicating their production methods, rather than their carbon footprint.

Generated by water electrolysis, using electricity from **renewable energies**

Green hydrogen

The electrolysis of water is powered by **nuclear energy**

Pink hydrogen

Hydrogen in the **subsoil, in its natural form**

White hydrogen

Hydrogen produced from **hydrocarbon-rich raw materials** (methane, coal, etc.)

Black hydrogen

Yellow hydrogen

Blue hydrogen

Turquoise hydrogen

The energy for electrolysis comes from various sources, ranging from renewable energies to **fossil fuels**

Hydrogen produced from **natural gas** through steam reforming, resulting in CO₂ emissions

Hydrogen generated by the pyrolysis of metal from **natural gas**

Green H₂ This involves the production of H₂ by electrolysis, using water and electricity from renewable sources such as solar panels, wind power or hydroelectric plants.

FDE, with its subsidiary Greenstat in Norway, has positioned itself in renewable H₂ production, through two initial projects, Hydrogen Hub Agder and Glomfjord. Greenstat thus becomes a privileged and a key strategic player for the country.

Additionally, FDE is working on large-scale photovoltaic field projects, considering the option of converting the electricity into green H₂.

Turquoise H₂ This is the production of H₂ from natural gas via plasma pyrolysis. Plasma pyrolysis is a high-temperature thermal process that breaks down methane molecules to produce and solid carbon.

As part of the "HeCO₂" consortium in Belgium, FDE and its subsidiary Gazonor Benelux are working on an industrial demonstrator using abandoned mine gas from the Anderlues capture site. The gas will be compressed, transported by canister to the demonstrator (MateriaNova) where it will be transformed into H₂ and black carbon.

Black carbon, also known as graphite or graphene, is solid and is mainly used in the manufacture of tires, electrodes and batteries.

Its value often exceeds that of hydrogen. This trapping of carbon in solid form means that turquoise H₂ can be considered low-carbon hydrogen.



Example of a black carbon extract

Turquoise H₂ is also of interest for decarbonizing Lorraine's coal gas: as part of the HeCO₂ consortium, FDE is exploring the feasibility of establishing an industrial unit in Lorraine.

Blue H₂ Similar to turquoise H₂, this is produced from natural gas but uses steam-reforming technology. What distinguishes this process is the integration of CO₂ capture, known as CCS (Carbon Capture Storage). This involves permanently burying the CO₂ underground, in salt caverns or former oil or coal reservoirs. In this way, the hydrogen produced can be considered decarbonized.

Priority will be given to CO₂ capture at major industrial emitters such as steelworks, cement plants, heat producers and

glassworks, in areas such as the port of Dunkirk, Le Havre, Fos-sur-Mer, Zeebrugge and Ghent.

With its Cryo Pur technology, FDE is currently collaborating with these partners to develop a solution for capturing CO₂ at stack level. This technology, based on the principle of antisublimation (the transformation of a gas into a solid), makes it possible to achieve the most stringent CCS quality standards.

As with turquoise H₂, FDE is also exploring the possibility of producing blue H₂ from Lorraine coal gas. This plan includes CO₂ storage through CCS, benefiting from the Lorraine basin's ability to trap CO₂ effectively.

White H₂ This is H₂ found in natural form underground.

During tests at the Folschviller site (SYSMOG probe test), the Regalor research team measured white H₂ dissolved in water.

This discovery is exciting researchers worldwide: while discoveries of white H₂ are generally made in conventional reservoirs. In the case of FDE, this is more like the discovery of a "hydrogen production plant", capable of continuously regenerating itself. In addition, this discovery was made in a vast basin covering 2000 km² and reaching a depth of 8 km which reinforce its attractiveness, especially considering the potentially large volumes that can be produced.



Eduin Le Nain

Portrait

“My name is Eduin Le Nain, I am 31 years old and I joined FDE a year ago. I am in charge of the Askjenergy biogas plant project in south-west Norway near Stavanger, developed with our local subsidiary Biogy Solutions. A Cryo Pur purification and liquefaction unit that will convert the biogas produced into Bio-GNL (Renewable Natural Gas) and Bio-CO₂ is currently being manufactured for this project. The project aims to produce around 105 GWh/year of energy by the end of 2025.

As project manager, I am responsible for ensuring that this key project meets its objectives in terms of time, quality, budget and performance. This involves coordinating our partners, suppliers

and subsidiaries, and mitigating bottlenecks until the project is completed.

It also means taking a step back to reinforce FDE's industrial and project strategy, standardizing project management so that it can be replicated for all our biogas plants in the pipeline. This touches on all aspects of projects, including business plans, subsidies, specifications, selected partners and tenders, construction, and approaching the necessary permits and authorizations.

To carry out these activities, I divide my time between the Île-de-France region, where Cryo Pur is based, Norway, where Biogy Solutions is based, and Europe in general, with

our industrial partners, in particular Italy, Germany and of course France, where our main equipment suppliers have their factories.

I joined FDE at a key moment in the development of liquefied biogas, enabling me to implement a mature industrial vision that serves the Group's increasingly ambitious developments, while retaining the audacity, agility and transversality that are FDE's strengths.”

Key figure: €67 million

Represents the cumulative amount related to the **€7 million “Pact Trajectoire ESG” impact loan** raised from Arkéa in July 2024 and from the **third €60 million green bond** granted by Edmond de Rothschild Asset Management (EDRAM) in May 2024.

Focused on achieving carbon neutrality, FDE supplies economically and ecologically competitive energy to residents, local authorities and manufacturers in the territories where the Group operates,

confirming its leading role in the ecological transition of the countries where FDE operates.

FDE has a solid financial base to support its development strategy and achieve all its objectives for 2030.



Shareholder contact

✉ ir@francaisedelenergie.fr ☎ 03 87 04 34 51
By mail : Avenue du District - 57 380 PONTPIERRE
FRANCE



Find all the news
of our Group on our page
Linked In Française de l'Énergie



Receive by email

all FDE financial information by registering
on our site www.francaisedelenergie.fr/contact-fr