Press release

Decarbonising industry and transport

Enagás and Navantia partner on three projects to deploy the potential of green hydrogen in Spain

- The companies are currently working together on three initiatives aimed at decarbonising the industrial and transport sectors in different parts of Spain
- These are strategic green hydrogen projects that aim to reduce emissions from sectors that are difficult to electrify
- The three initiatives would mean a reduction of CO_2 emissions by a total of more than one million tonnes per year

Madrid, 1 July 2021. Enagás and Navantia have signed a partnership agreement to promote green hydrogen development projects on a national scale. The two companies are currently working together on three projects, located in different parts of the country, aimed at reducing emissions in sectors that are difficult to electrify.

The rationale for these projects is to help to decarbonise industry and the transport sector (land and maritime), and to adopt a fair and inclusive approach to the Ecological Transition. The projects will also help create direct and indirect jobs throughout Spain.

Summary of projects

GIGAFACTORY, candidate for IPCEI

Enagás and Navantia, together with other Spanish industrial partners, are proposing to build a large-scale, high-power electrolyser design and manufacturing plant to generate green hydrogen. This would be the first facility of its kind in Spain, and it would have a total production capacity of more than 1GW/year.

This project, called 'GIGAFACTORY', is part of the global *Green Crane* initiative and has been submitted to the European Commission as a candidate for an Important Project of Common European Interest (IPCEI). The idea is for Spain to have its own electrolyser manufacturing plant to meet future demand, and to position itself as a producer of technology and green hydrogen, as well as a potential exporter of

this renewable energy to other countries. In this project, Navantia will be able to draw on its experience, and use its capabilities and facilities, such as those offered by its Turbine factory in Ferrol.

The 'GIGAFACTORY' will involve the development of a plant for the manufacture of high-capacity electrolysers (power equal to or greater than 20MW, from modules of 5MW each). Methods and production lines, combined with innovative technology and processes, will be applied in the design and manufacturing processes to maximise the plant's efficiency. This will optimise both the costs of production and acquisition of the green hydrogen produced.

It is estimated that the electrolysers manufactured at the plant will be able to avoid around 736,000 tonnes of CO_2 emissions.

Green hydrogen project in Murcia

Enagás and Navantia, together with other industrial partners, are also promoting a study to develop the largest renewable hydrogen project in the region of Murcia, taking advantage of the two companies' capabilities and operational presence in the city of Cartagena and the Escombreras Valley. At the end of 2020, the partners in the initiative submitted it to the expression of interest regarding renewable hydrogen of the Ministry for Energy Transition and the Demographic Challenge.

The green hydrogen produced can be used to decarbonise power generation, transport and industry in the area; more specifically, as a fuel for land and maritime mobility, in different applications within the Port of Cartagena, or to reduce emissions from the industries established in the Escombreras valley, such as petrochemicals. Navantia will motorise vessels for port use powered by hydrogen. To do so it will draw on its vast experience in the development of fuel cell propulsion systems used in submarines, as well as in the development of hydrogen engines at its Cartagena factory.

This project is expected to produce 25,000 tons of green hydrogen per year, which will avoid up to 272,000 tons of CO_2 emissions per year in the region.

Canary Islands Renewable Hydrogen Cluster-Hub

Navantia and Enagás are also taking part in the "Canary Islands Renewable Hydrogen Cluster-Hub" project, which is designed to help bring about the gradual decarbonisation of the Canary Islands. It currently has the backing of 20 public and private entities, including Navantia and Enagás, and aims to obtain public co-financing through the European *Next Generation* funds.

In this project, green hydrogen would be produced in two plants, in Tenerife and Gran Canaria. The proposed infrastructure —in the first phase— will have a production capacity of approximately 1,000 tons of green hydrogen per year. Ultimately, it will be available for use across the board to decarbonise various sectors of activity, such as energy, industry, mobility and the service sector. Overall, it is estimated that 10,400 tons of CO_2 emissions will be avoided.

The project will make considerable headway in improving air quality thanks to the gradually increasing use of green hydrogen in ships, with Navantia's participation in the motorisation of port vessels in the field of maritime transport.

A common strategy

In the words of Enagás Chairman Antonio Llardén, "Enagás is firmly committed to sustainability and decarbonisation. These green hydrogen projects with Navantia are an example of collaboration, job creation and promotion of a fair transition, which also covers the entire value chain, and as such they can become projects which other European countries seek to emulate".

"Navantia, as a public industrial company and a driver of economic activity and employment, wants to contribute to the development of a technology that will be key to sustainable growth. Green energies are a pivotal part of our Strategic Plan. In the area of green hydrogen, we are able to fully harness our R&D capabilities both for its generation and its use in naval propulsion", said Navantia's chairman, Ricardo Domínguez.

About Enagás

Enagás is a Transmission System Operator (TSO) with 50 years' experience in the development, operation and maintenance of energy infrastructure, and carries out its activities in eight countries: Spain, the United States, Mexico, Chile, Peru, Albania, Greece and Italy. The company has over 12,000 kilometres of gas pipelines, three strategic storage facilities and eight regasification plants. In Spain, it is the leading natural gas transmission company and the Technical Manager of the Gas System.

Enagás is firmly committed to the decarbonisation process and has pledged to be carbon neutral by 2040. The company is focused on the development of projects to promote renewable gases — green hydrogen and biomethane — sustainable mobility and energy efficiency, among other areas. The company is the world leader in its sector on the Dow Jones Sustainability Index (DJSI), according to the latest edition of this index, and has received the highest score to date in Spain from S&P Global Ratings in the ESG field (sustainability, social and governance criteria) in all sectors.

About Navantia

Navantia is a world leader in the design, construction and integration of high-tech military vessels. Its vessels are used by the Spanish Navy — for which it is considered to be a strategic company — and on the international market. Its lines of business include the design and manufacture of combat and command and control systems, integrated platform control systems, fire-control systems, and propulsion plants and life cycle support. Through its commitment to diversification and renewable energies, it has also become a major operator in the offshore wind energy sector. Navantia belongs to the SEPI Group, a corporate holding which includes a total of 15 state-owned companies in which it has direct and majority shareholdings, with more than 78,000 professionals.