

# Call for Interest for the development of a renewable hydrogen network in Spain

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September 14<sup>th</sup>, 2023



**Call**  
**For** Red Troncal  
**Interest** Española de  
Hidrógeno



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**6** Launch process: September 22<sup>nd</sup>, 2023

# 1 Europe sets the path for H2 and decarbonization

## REPowerEU Plan and PNIEC draft update



Reduce Russian dependence



Diversify energy sources



Energy saving



Promote the energy transition

- Accelerate H2 consumption with 20 Mt in 2030

10 Mt domestic production

10 Mt imports



Smart investments

- Development of H2 corridors



Spain: 11 GW of electrolysis in 2030<sup>1</sup>

Notes: (1) 2023-2030 PNIEC draft update



# 2 Enagás, a key player in the new hydrogen scenario

## Catalyst for a hydrogen market



- **Experts in transmission networks** with more than 11,000 km of gas pipelines
- **Knowledge and necessary tools to promote the green hydrogen market**
- **Constitution of “Enagás Infraestructuras de Hidrógeno”** in line with the purpose as TSO and HNO
- **Role of Enagás GTS for the implementation of a Guarantees of Origin System**
- **Promoter of the projects presented to the call for a Project of Common Interest (PCI): H2Med and the Spanish Hydrogen Backbone**

### Enagás Infraestructuras de Hidrógeno: HNO



European TSO prepared to be **operator of the future hydrogen network**



More than **50 years of experience** as a developer, owner and operator of the gas network



A **network of infrastructures** that should be the starting point for the development of the future **Spanish Hydrogen Backbone**



The **proposed European legislation** confirms that TSO status is compatible with HNO status

# 3 Hydrogen Day: Vision of the future H2 network



- 2030 Spanish Hydrogen Backbone Axis
- ▲ 2030 Storage
- - - 2030 H2Med
- ▲ 2040 Storage
- 2040 Spanish Hydrogen Backbone Axis



## Theoretical prospective of the hydrogen market in Spain

- Potential **production and demand at national level**, as well as potential **import and export of H2**, with a **2030 and 2040 vision**
- **Preliminary network proposal, which 2030 definition matches the vision of the H2Med corridor**, promoted by the Governments of Spain, France and Portugal, and is in line with the **Enagás' Project of Common Interest (PCI) call submission**.



**Study subject to the real needs of the market**, the **future planning** defined by the Government as part of the energy policy and the **Directive and Regulation of Natural Gas, Renewable Gases and Hydrogen**



**Adaptable to regulatory development at European and national level**

# 3 Hydrogen Day: vision of the future H2 network

## Estimated maximum investments

		Segments	Technical specifications	Investment
Spanish Backbone	<b>Axis 1</b>	Cantabrian Coast Axis	Approx. length: <b>1,500 km</b>	≈ <b>€1,650 M</b>
		Valle del Ebro Axis		
		Levante Axis		
	<b>Axis 2 *</b>	Vía de la Plata Axis	Approx. length: <b>1,500 km</b>	≈ <b>€2,275 M</b>
		Galicia Connection		
		Puertollano Connection		
		Capacities under analysis	Technical specifications	Investment
<b>H2 storage North 1</b>	Under analysis	Potential capacity 2030: <b>335 GWh</b>	New salt dome in Cantabria	≈ <b>€580 M</b>
<b>H2 storage North 2</b>	Under analysis	Potential capacity 2030: <b>240 GWh</b>	New salt dome in the Basque Country	≈ <b>€590 M</b>

# 4 Call for Interest launch process

## Enagás' main objectives for the process



Contrast, in a non-binding process, the **needs of the H2 market** as well as those for ammonia, oxygen and CO2



Boost the **development of the needed hydrogen network to achieve Spain & Europe's goals**



Dynamize the H2 market by **connecting supply and demand, as a catalyst** and a **public utility-oriented** company



Ensure an **open, transparent**, and non-discriminatory **process**



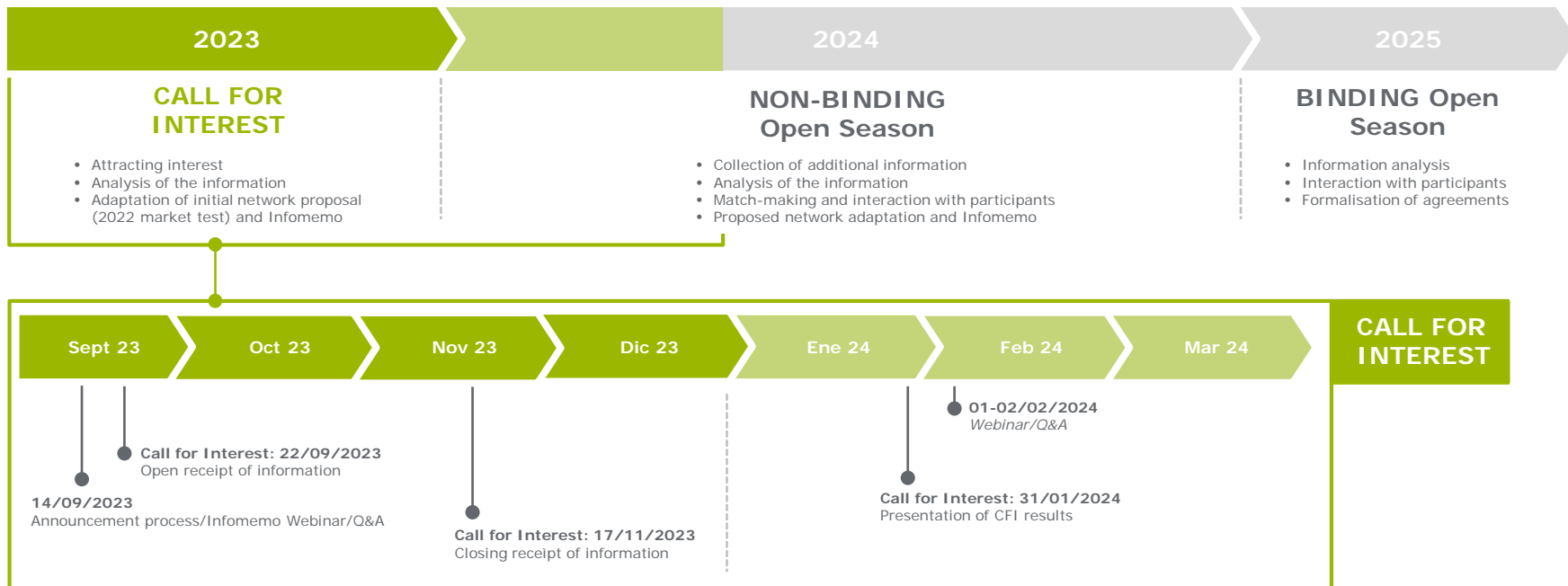
A process which is coordinated with the **key stakeholders** of the sector, to contextualize national and international hydrogen supply and demand...



... and adjust the **vision of the hydrogen network for 2030 and 2040** shared on Enagás Hydrogen Day

\* A specific consultation related to ammonia, CO<sub>2</sub> and oxygen will be included

# 5 An additional step for the deployment of a hydrogen infrastructure network

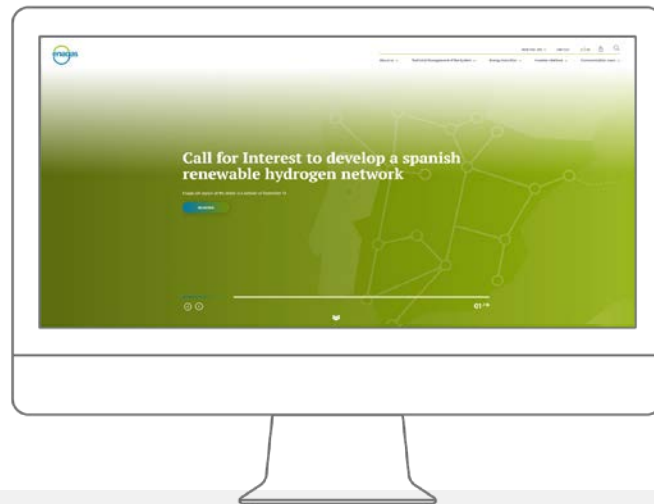




# 6 Launch process: September 22<sup>nd</sup>, 2023

## How to participate?

- Visit the Enagás **website** to access the web form:  
[www.enagas.es](http://www.enagas.es)
- If you have any questions about the process, please **contact us**:  
[callforinterestH2@enagas.es](mailto:callforinterestH2@enagas.es)









The web form will be available **from September 22nd until November 17th.**

We would appreciate if you could provide us the corresponding information regarding your needs or expectations for renewable hydrogen consumption, production and/or commercialization

\* Both the webinar and the presentation will be available for consultation on the Enagás website

# 6 Launch process: September 22<sup>nd</sup>, 2023

## What information will be requested?

Categories	Information to be analysed
 <b>User characterisation</b>	<ul style="list-style-type: none"><li>Fundamental aspects such as <b>positioning in the hydrogen market value chain</b> (producer, consumer, marketer), <b>main shareholders of the entity and/or partners</b> for the development of H2 projects, etc. will be identified.</li></ul>
 <b>Producer characterisation</b>	<ul style="list-style-type: none"><li>The <b>volume and profile of production, location</b> of the plants, <b>the contractual period for the use of the infrastructure</b> and other aspects such as the <b>start date of operations</b> are some of the main points to consider when characterising the producer</li></ul>
 <b>Consumer characterisation</b>	<ul style="list-style-type: none"><li><b>The type of use</b> (input, heat, generation, etc.), <b>decarbonisation targets</b>, <b>consumption volume and profile, location of the plants</b> as well as the <b>start date or contractual period</b> of use of the infrastructure are some of the points to consider</li></ul>
 <b>Trader characterisation</b>	<ul style="list-style-type: none"><li>The type of <b>activity to be carried out</b> (domestic supply, non-domestic supply and/or sale/purchase), the <b>volume of agreements made</b> as well as the <b>contractual period</b> for the use of the infrastructure are some of the variables to be considered</li></ul>
 <b>Characterisation of technical requirements</b>	<ul style="list-style-type: none"><li>Aspects such as the <b>operating conditions</b> (pressure, temperature, etc.) <b>or the qualities and impurities of the H2</b> are some of the variables to be collected to guarantee homogeneity in the system</li></ul>
 <b>Characterisation of other needs</b>	<ul style="list-style-type: none"><li><b>Other possible related needs</b> will be identified such as the <b>use of O2</b> from the electrolysis process, <b>CO2 capture and transport, transport of H2O</b> for the electrolysis process or <b>NH3</b></li></ul>

# 6 Launch process: September 22<sup>nd</sup>, 2023

## How to participate?

- 1 Access the Enagás website

[www.enagas.es](http://www.enagas.es)

- 2 Click on “I want to participate”

The screenshot shows the Enagás website page for the 'Call for Interest for the development of a renewable hydrogen network in Spain'. The page features the Enagás logo, a navigation menu with options like 'About us', 'Technical Management of the System', 'Energy transition', 'Investor relations', and 'Communication room'. A breadcrumb trail indicates the path: Home > Energy transition > Gas network > Energy infrastructure > Hydrogen Transmission > Call for Interest Renewable Hydrogen Network in Spain. The main heading is 'Call for Interest for the development of a renewable hydrogen network in Spain'. Below this, there is introductory text about the non-binding Call for Interest process, its purpose, and the specific consultation topics (ammonia, CO<sub>2</sub>, and oxygen). A key message states: 'Enagás is committed to a Spanish Hydrogen Backbone to meet domestic demand and export to third countries'. At the bottom of the page, a blue button with the text 'I WANT TO PARTICIPATE' is highlighted with a yellow mouse cursor.

# 6 Launch process: September 22<sup>nd</sup>, 2023

3 Click on "Register"



The screenshot shows the enagas website interface. At the top, there is a green header with the enagas logo on the left and navigation links for 'Home', 'English', and 'Sign in' on the right. Below the header is a large green banner with the title 'Call for Interest for the first axes of the Spanish Hydrogen Backbone'. The main content area is white and contains the following text:

The objective of this non-binding process is to contrast the previously conducted theoretical analysis of the potential market for renewable hydrogen in Spain with real market information, in such a way that the presented preliminary network proposal could be adapted based on real needs.

To participate in the process, you must register and submit the following information:

1. Your company's general data.
2. Name the projects you want to include in this process and your role in each of them.
3. Sign and attach the confidentiality agreement you will find below, as well as a copy of the representative's powers of attorney.

Below the list, there is a document icon and the text 'Confidentiality Agreement'. A paragraph follows: 'Once these steps have been completed correctly, you will receive an email notification with your access keys, which are necessary to log in and provide all the detailed information required via a form.'

For more information related to this process, please refer to the following explanatory document:

Below this, there is another document icon and the text 'Process Infomemo'.

At the bottom right of the main content area, there is a green 'Register' button with a mouse cursor pointing to it. Below the button, there is a line of text: 'For more information related to this process, please contact us: callforinterestH2@enagas'.

# 6 Launch process: September 22<sup>nd</sup>, 2023

- 4 Fill in the required fields (\*) and click "Next"

1 Key facts 2 Projects 3 Attachments

Entity / Company name: \*

CIF \*

NACE (National Classification of Economic Activities): \*

Name of contact person \*

Surname of contact person \*

Position within the organization \*

Email \*

Phone number \*

Identify the name of your entity's main shareholders and/or main partners for the development of hydrogen projects

Next



## 6 Launch process: September 22<sup>nd</sup>, 2023

5 Click on "Add project" and add all the projects you want to participate in.

*(Indicate your name and role in each of them: producer, consumer, trader or a combination of them)*

1 Key facts ✓ 2 Projects 3 Attachments

Name ↑	Role in the project
There are no records to display.	

Add Project Previous Next

Add Project

Name \*

Role in the project (You can select more than one role per project) \*

Select or search options

Select all 3 items

Producer

Consumer

Trader

## 6 Launch process: September 22<sup>nd</sup>, 2023

6

Attach a signed copy of the Confidentiality & Non-Disclosure Agreement and the Signatory Power of Attorney and click on "Submit"

1 Key facts ✓ 2 Projects ✓ 3 Attachments

**Digitally signed confidentiality agreement \***  
[Choose File](#) No file selected

**Powers of representation of the signatory \***  
[Choose File](#) No file selected

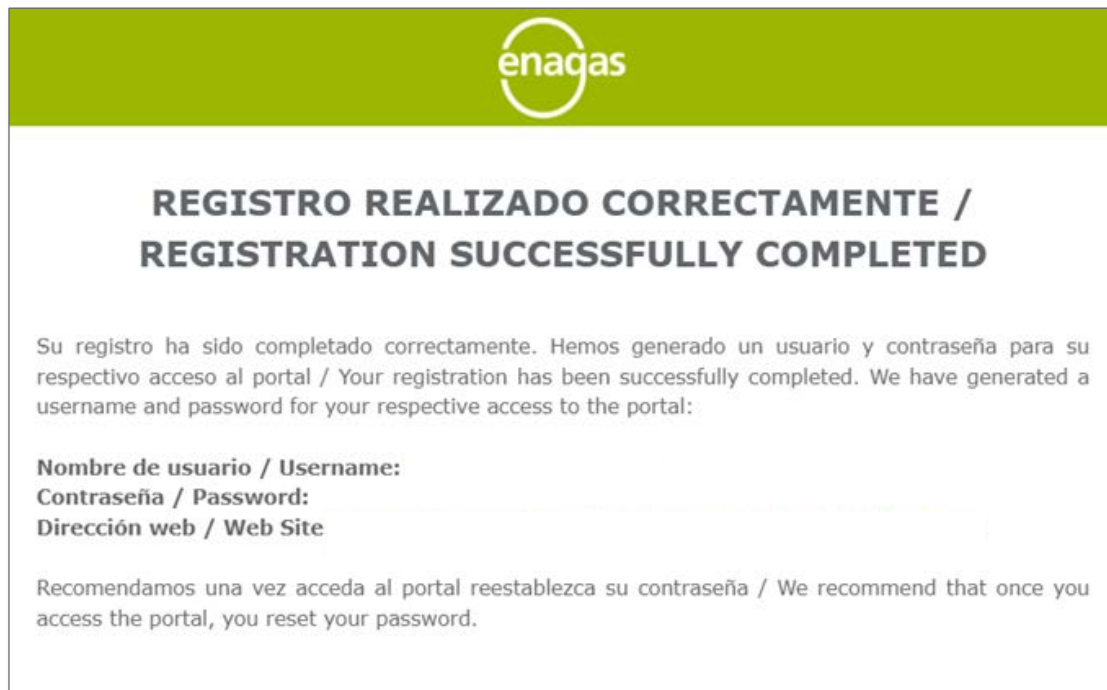
[Previous](#) [Submit](#)

*Note: The draft confidentiality agreement will be available on the home page*

## 6 Launch process: September 22<sup>nd</sup>, 2023

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You will receive an email with your username and password to participate in the Call for Interest process



The screenshot shows an email header with the enagas logo on a green background. The main content is in Spanish and English, stating that registration was successful. It provides fields for Username, Password, and Web Site, and includes a recommendation to reset the password upon first access.

**enagas**

**REGISTRO REALIZADO CORRECTAMENTE /  
REGISTRATION SUCCESSFULLY COMPLETED**

Su registro ha sido completado correctamente. Hemos generado un usuario y contraseña para su respectivo acceso al portal / Your registration has been successfully completed. We have generated a username and password for your respective access to the portal:

**Nombre de usuario / Username:**  
**Contraseña / Password:**  
**Dirección web / Web Site**

Recomendamos una vez acceda al portal reestablezca su contraseña / We recommend that once you access the portal, you reset your password.



# 6 Launch process: September 22<sup>nd</sup>, 2023

## Access to the platform

The image shows two screenshots of the enagas website. The top screenshot is the 'Local login' page, featuring the enagas logo in the top left, navigation links for 'Home', 'English', and 'Sign in' in the top right, and a login form with fields for 'Username' and 'Password', a 'Remember me' checkbox, and 'Sign in' and 'Forgot your password?' buttons. A mouse cursor is pointing at the 'Sign in' button. The bottom screenshot is the 'Call For Interest' registration page, with the enagas logo and navigation links at the top, and a main heading 'Call For Interest Ejes de la Red Troncal Española de Hidrógeno'. It includes a welcome message and instructions for completing the customer profile characterization form.

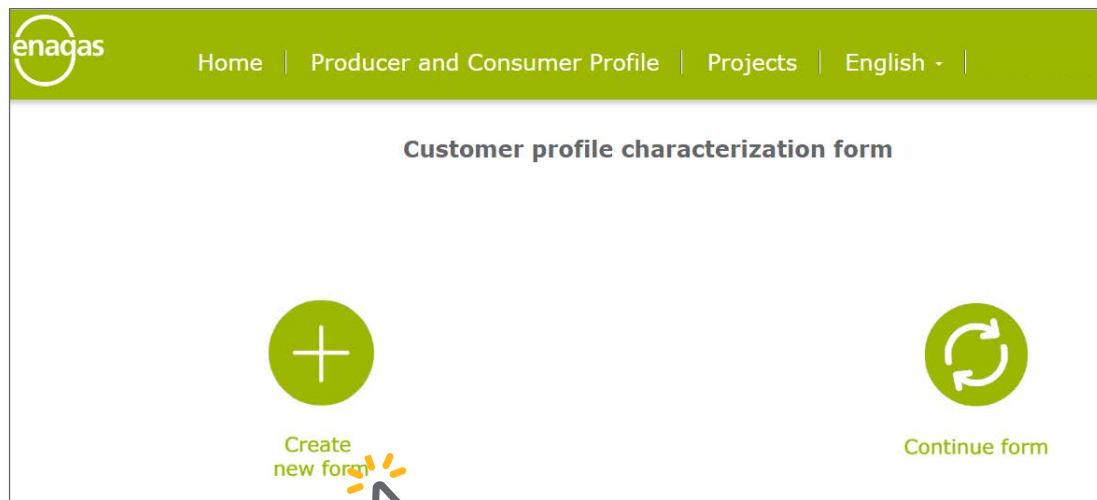
8

Register with your **username and password** to provide, through the questionnaires, the information on your associated profile (producer, consumer, trader or a combination of them), as well as the information related to the projects you had registered for.

# 6 Launch process: September 22<sup>nd</sup>, 2023

## Customer profile characterization form

9 Create a new form for your characterization



# 6 Launch process: September 22<sup>nd</sup>, 2023


## Project information form

10 Click on each of the projects you have registered for to fill in the associated information.

**enagas** Home | Producer and Consumer Profile | Projects | English -

### Project information form

To submit your Call for Interest, remember that you must have completed all the forms for your projects. For any issues or clarifications, please contact us through the email [callforInterestH2@enagas.es](mailto:callforInterestH2@enagas.es)

Name ↑	Role in the project	Project status
<a href="#">Project 1</a>	Producer; Consumer	Completed 

# 6 Launch process: September 22<sup>nd</sup>, 2023

## Project information form

- 11 Once the information for each project has been filled out, click on **“Close and send Call for Interest”**.

The screenshot shows the 'Project information form' on the enagas website. The page has a green header with the enagas logo and navigation links: Home, Producer and Consumer Profile, Projects, and English. Below the header, the title 'Project information form' is centered. A message states: 'To submit your Call for Interest, remember that you must have completed all the forms for your projects. For any issues or clarifications, please contact us through the email callforinterestH2@enagas.es'. Below this is a table with three columns: 'Name', 'Role in the project', and 'Project status'. The table contains one row with the following data: 'Project 1', 'Producer; Consumer', and 'Completed'. To the right of the 'Completed' status is a dropdown arrow icon. At the bottom of the form, there is a green circular button with a white paper plane icon and the text 'Close and Send Call for Interest'. A mouse cursor is pointing at this button.

Name ↑	Role in the project	Project status
Project 1	Producer; Consumer	Completed

Thank you



**Call**  
**For** Red Troncal  
**Interest** Española de  
Hidrógeno

