

Advances in the hydrogen infrastructures in Spain and Europe

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1. 2024, a year of major advances for hydrogen

2. PCI projects

3. Advances in the Hydrogen Backbone in Spain PCI

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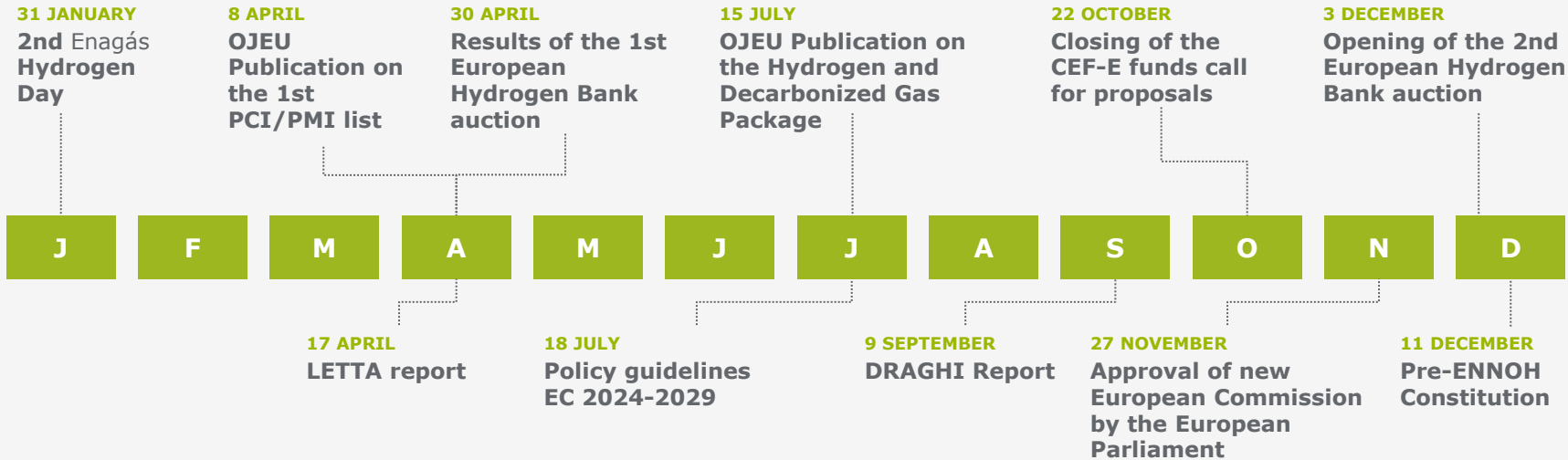
6. Conclusions

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**2024, a year of
major advances
in hydrogen**

Europe confirms its commitment to hydrogen

The **new European Commission** reinforces the commitment to green hydrogen and its infrastructure as essential requirements for the strategic autonomy, decarbonisation and competitiveness of the continent

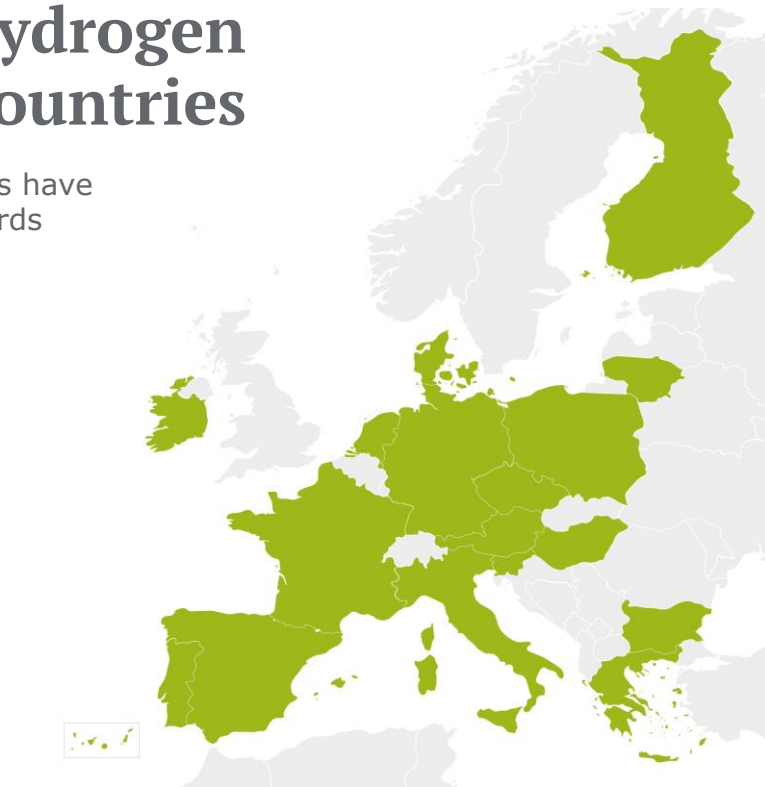


Advances in hydrogen in European countries

In 2024, most Member States have continued to take steps towards hydrogen development

17 Member States

They have already published their final NIECPs with electrolysis power targets (~52 GW)



48 Infrastructure projects

recognised as hydrogen PCIs in all Member States

~ 21,000 km

hydrogen PCIs infrastructures

~ 60,000 €M

CAPEX and PCIs infrastructures*

* Enagás internal estimate based on publicly available information.

Spain, at the forefront of the energy transition in Europe

The final version of the INECP reinforces Spain's leadership, one of the first countries to begin the transposition of the European Hydrogen and Decarbonised Gases Directive



PCI projects

H2med and the first axes of the Spanish Hydrogen Backbone, included in the 1st list of Projects of Common Interest

Published in the Official Journal of the European Union on 8 April 2024

Spanish hydrogen infrastructure



2,600 km



2 Underground storage facilities

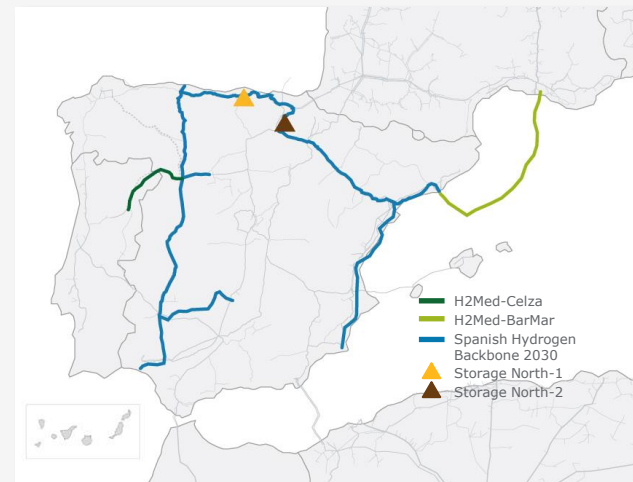
H2med



2 sections: Celza and BarMar



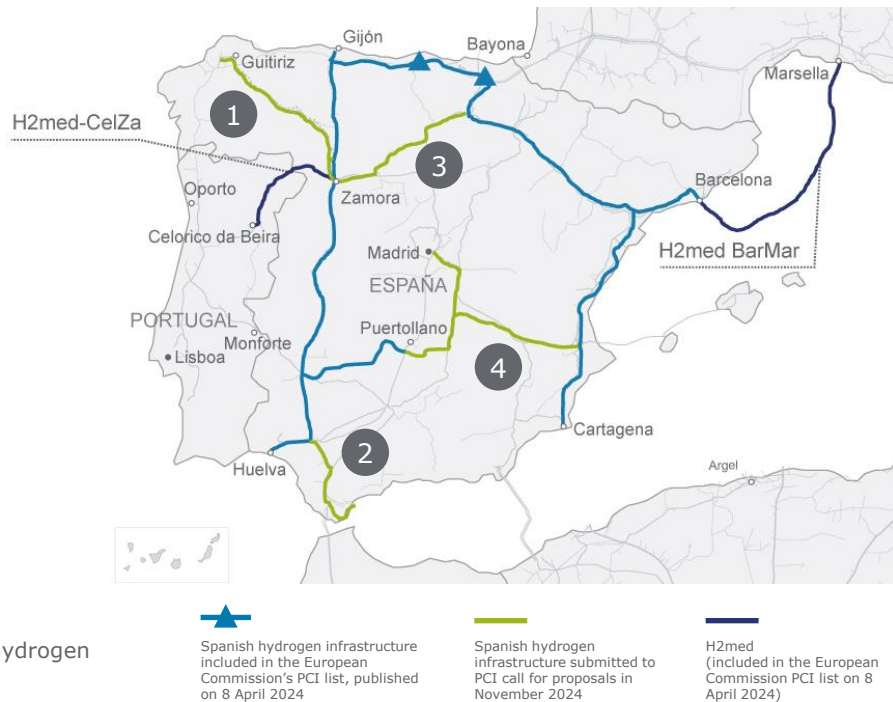
703 km



Proposal for new sections of the Spanish Hydrogen Backbone submitted to the 2nd PCI list

Based on the results of Enagás' Call for Interest, carried out in Q4 2023

It will bring the identified production and demand centres closer together and strengthen the role of the Iberian Peninsula as a European hub for green hydrogen.



- 1 Guitiriz -Zamora hydrogen pipeline
- 2 Huelva - Algeciras hydrogen pipeline
- 3 Northern Plateau transversal hydrogen pipeline
- 4 Southern Plateau transversal hydrogen pipeline, connected to Madrid

 Spanish hydrogen infrastructure included in the European Commission's PCI list, published on 8 April 2024

 Spanish hydrogen infrastructure submitted to PCI call for proposals in November 2024




 H2med (included in the European Commission PCI list on 8 April 2024)

The capillarity of Spain's Hydrogen backbone will contribute to the competitiveness and decarbonisation of the country's and Europe's industry





Advances in the Hydrogen Backbone in Spain PCI

Advances in the Hydrogen Backbone in Spain PCI

The infrastructure processing is progressing according to the planned timetable:

-  **PCI acceptance request** by the Ministry for Ecological Transition and the Demographic Challenge (MITECO)
-  Presentation to MITECO of the **Initial Project Document**. This document, of an environmental nature, is prior to the completion of the Environmental Impact Study which will be the subject of public information.
-  Approval of the **Conceptual Public Participation Plan** (CPPP) which will start in March/April 2025

In the technical field:

-  **Conceptual engineering of the Backbone completed**
-  **Basic engineering is underway**
-  **Basic engineering for the first two compressor stations awarded**
-  **Selection of pipe and compressor suppliers** has begun.

Conceptual Plan for Public Participation of the Hydrogen Backbone PCI in Spain

Launching in March-April 2025

The largest public participation process of its kind ever carried out in Spain



2,600 km
of route



13
Autonomous
Communities



More than
1,000 stakeholders
(Town Councils, Regional
Authorities, Associations, etc.)



It will be carried out over 18 months, with a detailed deployment in each of the autonomous communities through which the Backbone will run.



It will facilitate and speed up obtaining administrative approvals that allow the final investment decision to be made, as provided for in November 2027, according to the schedule presented to CINEA



Ongoing dialogue with the territory and stakeholders. The aim is to involve civil society in a transparent manner and to consolidate the project's social legitimacy in partnership with all the autonomous communities.

H2med Corridor

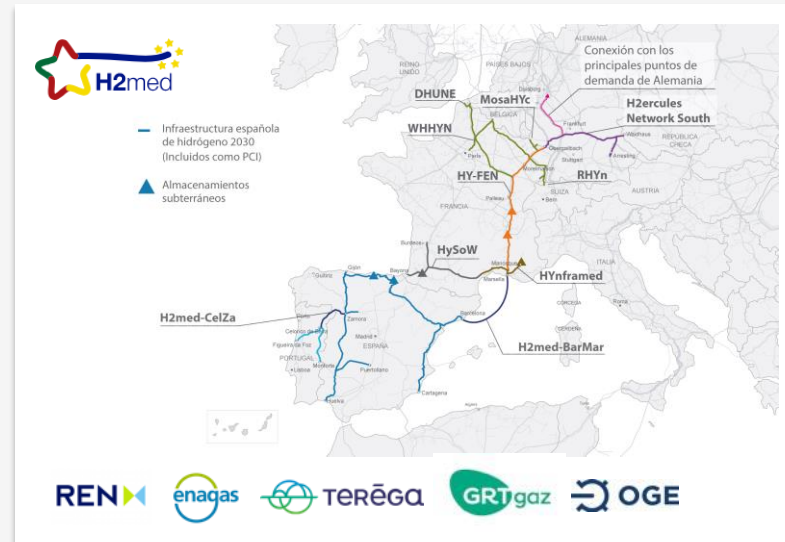
H2med advances as first European hydrogen corridor

Trans-European initiative which will allow the Iberian Peninsula to connect with northwestern Europe

First non-binding **call for interest** for a pan-European hydrogen infrastructure

■ **High participation** and support from the whole sector in different countries: **168** companies

■ Results endorse **Spain as Europe's hydrogen production hub** and the existence of **significant demand in Germany**



BarMar

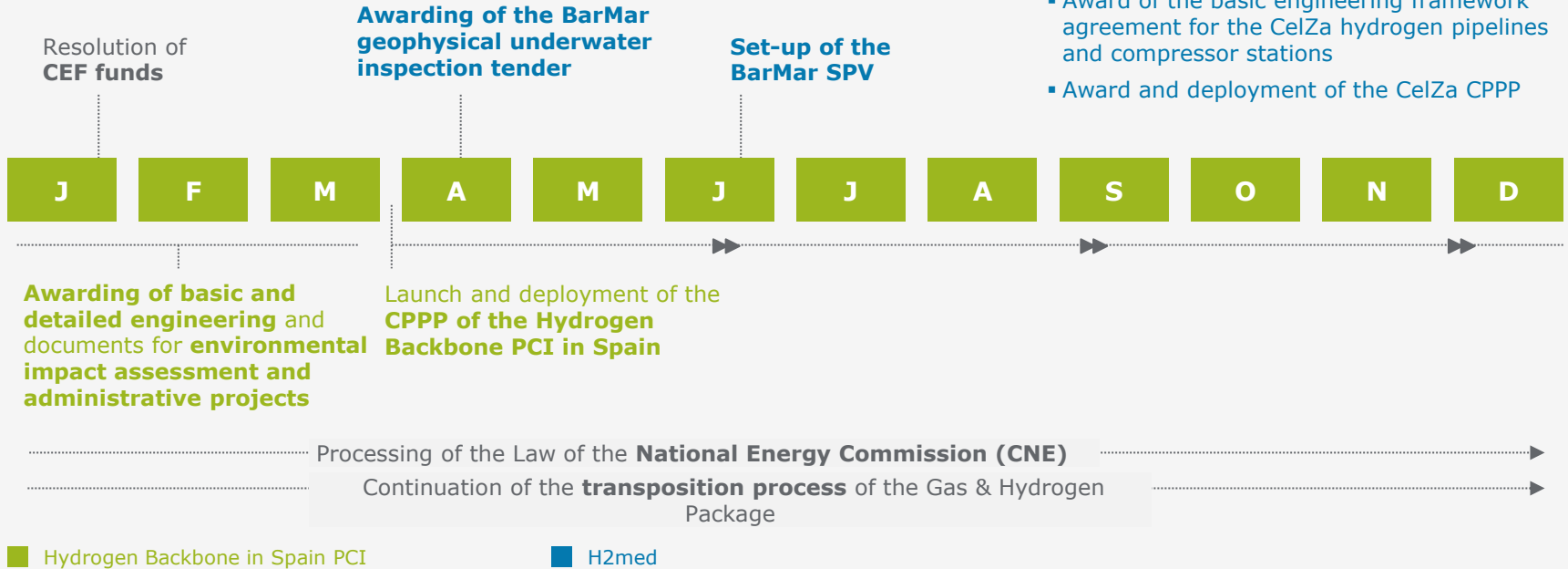
- In June 2024, Enagás, GRTgaz and Teréga, together with OGE, sign the **Joint Development Agreement (JDA)** for the BarMar interconnection.

CelZa

- In June 2024, **Enagás and REN** formalise a **side letter** which reinforces the joint Memorandum of Understanding to **develop the hydrogen interconnection** between Portugal and Spain (**CelZa**).

5 Upcoming milestones

Milestones expected in 2025



Other H2med milestones in 2025

- Award of the BarMar Environmental Impact Study
- Award of Pre-FEED Phase I of the BarMar Compressor Station
- Award of the basic engineering framework agreement for the CelZa hydrogen pipelines and compressor stations
- Award and deployment of the CelZa CPPP

6 Conclusions

- **The advances made in 2024 consolidate Spain's position as a leading country in the development of green hydrogen**, with all that this implies for the competitiveness of Spanish industry and its contribution to the **strategic autonomy and decarbonisation of Europe**.
- **The PCIs of hydrogen infrastructures proposed by Enagás and other TSOs are progressing according to schedule.**
- For the development of the Spanish Hydrogen Backbone, in 2025 Enagás will deploy in the territory the **largest Public Participation Plan carried out in Spain**.
- **H2med consolidates its position as the most advanced pan-European hydrogen corridor in Europe** after the **Call For Interest** carried out by Spain, Portugal, France and Germany.
- The giant step made in 2024 and the priorities established by the European Commission for the new stage that begins in 2025, as well as the steps taken by the different Member States, confirm that the **European hydrogen network is a priority on Europe's agenda**.

**Thank you
very much**