

S3 EUROPEAN HYDROGEN VALLEYS PARTNERSHIP  
Plenary Meeting

Corredor  del Ebro

# Ebro Hydrogen Corridor

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June, 14<sup>th</sup> 2022

### WHY HYDROGEN IN ARAGON?

- 1986: First Wind Farm in Spain installed near Zaragoza (+4.000MW Today)
- 2003: Great energy change approaching
  - Reasons to support new hydrogen technologies:
    1. To take advantage of the renewable energy potential
    2. To take advantage of the region's strategic situation
    3. A consolidated industry with sectors that could apply and develop new products
    4. Existence of a high level of involvement in research groups
- 2003: Workshop organized jointly Government of Aragon, R&D and industrial and private sectors
  - Objective: To learn and to discuss about hydrogen as energy vector
  - Results: **To promote**
    - **Strategy to develop Hydrogen Technologies in Aragon**
    - **Foundation for the Development of New Hydrogen Technologies in Aragon**



# Ebro Hydrogen Corridor

## Aragon's Location



- Border with France to the North.
- Surface: 50,000 km<sup>2</sup> (almost double that of Belgium).
- Low population density: 1.3 M inhabitants, half of them in the capital City Zaragoza
- The center Area of Aragon is the most industrial area of Spain (NE) among MAD, BCN, BIO and VAL
- Zaragoza city is a crossroad between tow main corridors Bilbao-Valencia; Madrid Barcelona.
- Zaragoza is the center of the Ebro Valley
- Main sectors: Automotive, Logistics, Machinery, Agribusiness, Energy, Tourism.
- One of the main global logistics clusters, according to the World Economic Forum.
- One of the main Spanish automotive and other industrial sectors clusters.



- In 300 km:
  - 80% of the Spanish GDP and 25 million people connected by highways (MAD, BCN, BIO, VAL, TOU (FR))
  - 6 International Ports: 3 Mediterranean ports (BCN, CAS, VAL) + 3 Atlantic ports (Pasajes, Bilbao, Santander)
  - By Rail – Connections between Cantabrian and Mediterrean Seas
  - 5 international airports within 300 km. (Zaragoza as 2<sup>nd</sup> freight airport and with the highest growth in Spain)
- Freight railway line with the highest traffic and growth in Spain (Zaragoza-Barcelona) -Algeciras-Zaragoza railway highway (under development).
- Energy:
  - Powerful energy infrastructures.- Electricity, Gas pipelines, etc. with strategic storage points.
  - Existence of old (depleted) gas field / underground storage and presence of saline domes

### AIMS OF THE PLAN:

- GENERALS

- To have a tool for the identification of opportunities of the new hydrogen technology
- To identify strategic lines for the region and to establish a time scale and a

- SPECIFICS

- To review the state of technology and to define opportunities
- To identify specific projects for Aragon's SMEs.
- To set across-the-board and general sur
- To carry out a survey with long-term vision 2030, defining the continuity of the strategic lines drawn

**TO PREPARE SME'S AND PROFESSIONALS FOR THE FUTURE  
(PRESENT)**





The Foundation for the Development of New Hydrogen Technologies in Aragon is a private, not-for-profit entity, created to promote the use of hydrogen as an energy vector.



- Aims to foment research, technological development, cogeneration and industrial adaptation, contributing to industrial modernization and improved competitiveness.



**MARKET ORIENTED!!!!!!**



First meeting of Board: May 25<sup>th</sup>, 2004



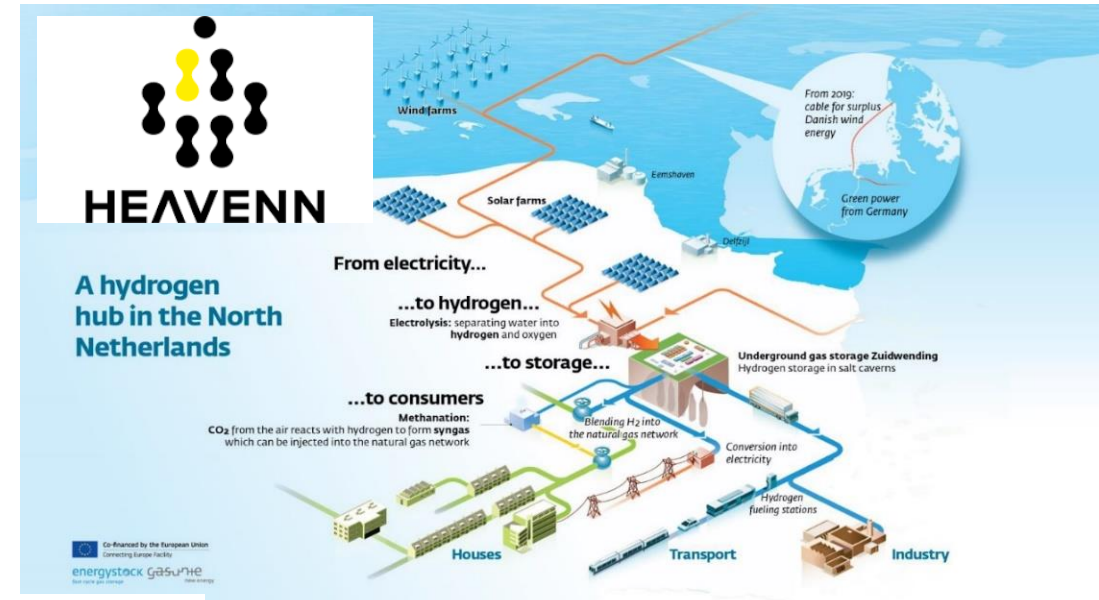
# Ebro Hydrogen Corridor

## Background – Aragon Hydrogen Foundation

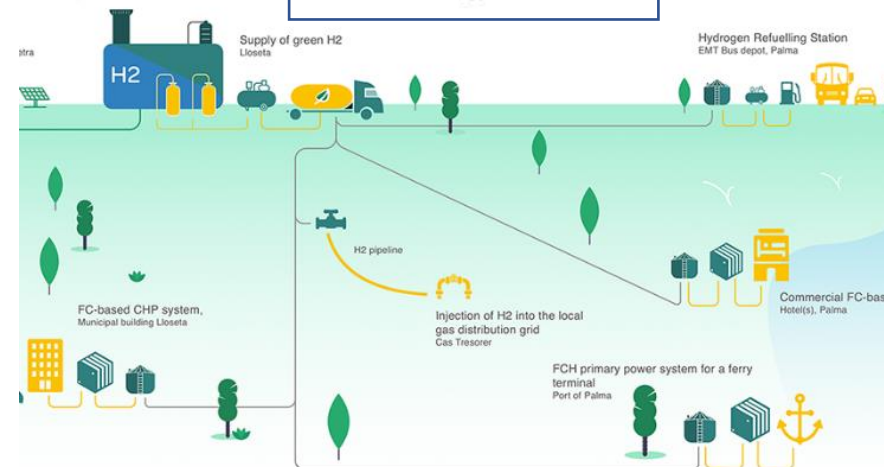


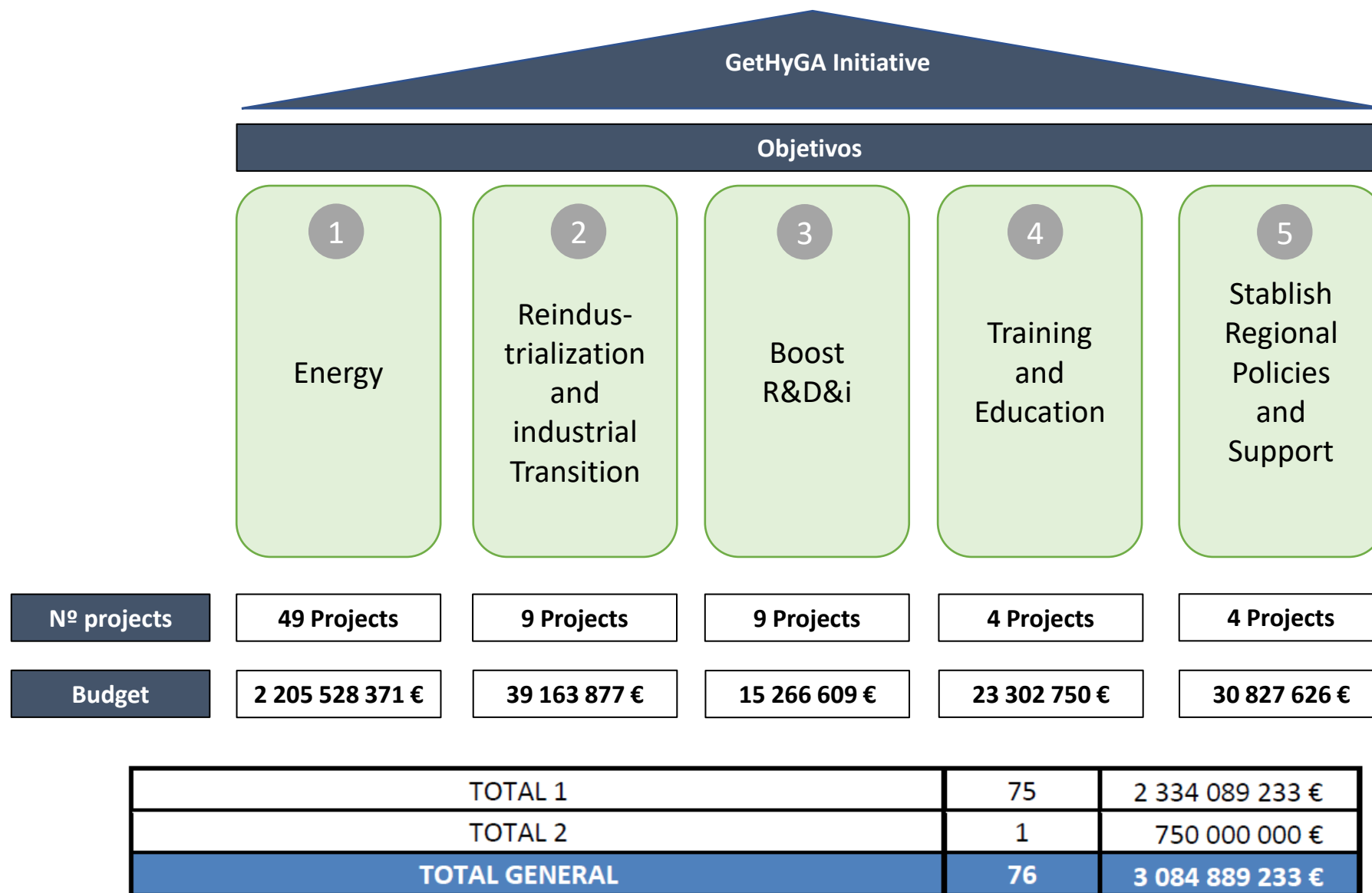


## Hydrogen Valleys



**BIGHIT**







# Ebro Hydrogen Corridor

Cluster for the sustainable development and innovation based on the Hydrogen Economy



## COMMON OBJECTIVE

*Sustainable development of the territories*

## COMMON VISION

*Willingness to collaborate Interregional and Multisectoral to undertake the coordinated development of renewable hydrogen with actions throughout the value chain*

Supported by the **Synergies and Complementarities** of these Regional initiatives and the SHYNE Project

- ✓ Renewable Resource Availability
- ✓ Industrial Capabilities
- ✓ Technological Capabilities

## COMMON GOAL

*Lead the deployment of hydrogen in southern Europe, achieve sustainable results that produce social, economic and environmental benefits, favoring the technological and industrial positioning of Spain and the European Union in this future sector.*

*The Ebro Hydrogen Corridor is the most suitable area to lead the deployment of hydrogen in Southern Europe*

## Interregional Cooperation Protocol for the promotion of green hydrogen

Signed April, 4<sup>th</sup>

### WORKING LINES and Objective

#### 1<sup>a</sup> Promotion of **Hydrogen Production and Uses**

##### Renewable H<sub>2</sub>

400 MW – 2025  
1,5 GW – 2030

##### Renewable Energy

1,5 GW – 2025  
6 GW – 2030

##### H<sub>2</sub> - Based Fuels

250.000 t/año 2030

#### 2<sup>a</sup> Promotion of **Hydrogen Storage and Transport**

Backbone with Infrastructures developing cross-border corridors

20 HRs 2025  
100 HRs 2030

Projects to stimulate end-uses in Industry and Mobility Sectors

Operational development

#### 3<sup>a</sup> Promotion of **Cross- Cutting Activities**

Support to Application Projects

Knowledge Management

R&D&i activities



### How??

#### Mixed Comission

- two representatives from each Valley
- two representatives of SHYNE

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## Corredor H<sub>2</sub> del Ebro



### Valle del Hidrógeno de Catalunya (H2ValleyCAT)

158 organizaciones forman parte del Valle (septiembre 2021)

98

EMPRESAS

41

ENTES PÚBLICOS

11

ASOCIACIONES  
Y CLÚSTERES

8

CENTROS DE  
CONOCIMIENTO E INVESTIGACIÓN



### Agenda Navarra del Hidrógeno Verde

50 Companies and Navarrese Actors



### Asociación del Corredor Vasco del Hidrógeno (BH2C)

61 Members 15 Members In Process 12 Research Centres



### Iniciativa GetHyGA” .Valle del Hidrogeno de Aragón

83 Entities

### SHYNE “Spanish Hydrogen Network”

9 Promoters + 75 Entities

ACCIÓ

Generalitat  
de Catalunya

ain Asociación  
de la Industria  
Navarra  
SODENA  
DESARROLLO DE NAVARRA  
NAVARROOAKO GARAPENA

BH<sub>2</sub>C  
BASQUE HYDROGEN CORRIDOR

H<sub>2</sub>  
Iniciativa GetHyGA

SHYNE  
Spanish Hydrogen Network

## Private Public - Partnership



GOBIERNO  
DE ARAGON

Generalitat  
de Catalunya

EUSKO JAURLARITZA  
GOBIERNO VASCO

Gobierno  
de Navarra Nafarroako  
Gobernua

Letter of public expression of cooperation and support from the governments of Aragón, Basque Country, Catalonia and Navarra for the promotion and consolidation



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9/06/2022 - Bilbao

10/05/2022 - Pamplona





# Corredor del Ebro

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Thank you very much

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3rd June 2022