

# Hydrogen Research & Innovation Days

24-25 November 2025



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## Hydrogen Energy Applications For Valley Environments In The Northern Netherlands

Driving Europe's Competitiveness through Hydrogen Valleys Session

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Mobility Cluster & Communications Lead  
Senior Project Manager New Energy Coalition



## 5 Years pioneering the European Green Hydrogen Economy

The creation of HEAVENN

HEAVENN in a nutshell

Success pillars for innovation action

What's next for HEAVENN?



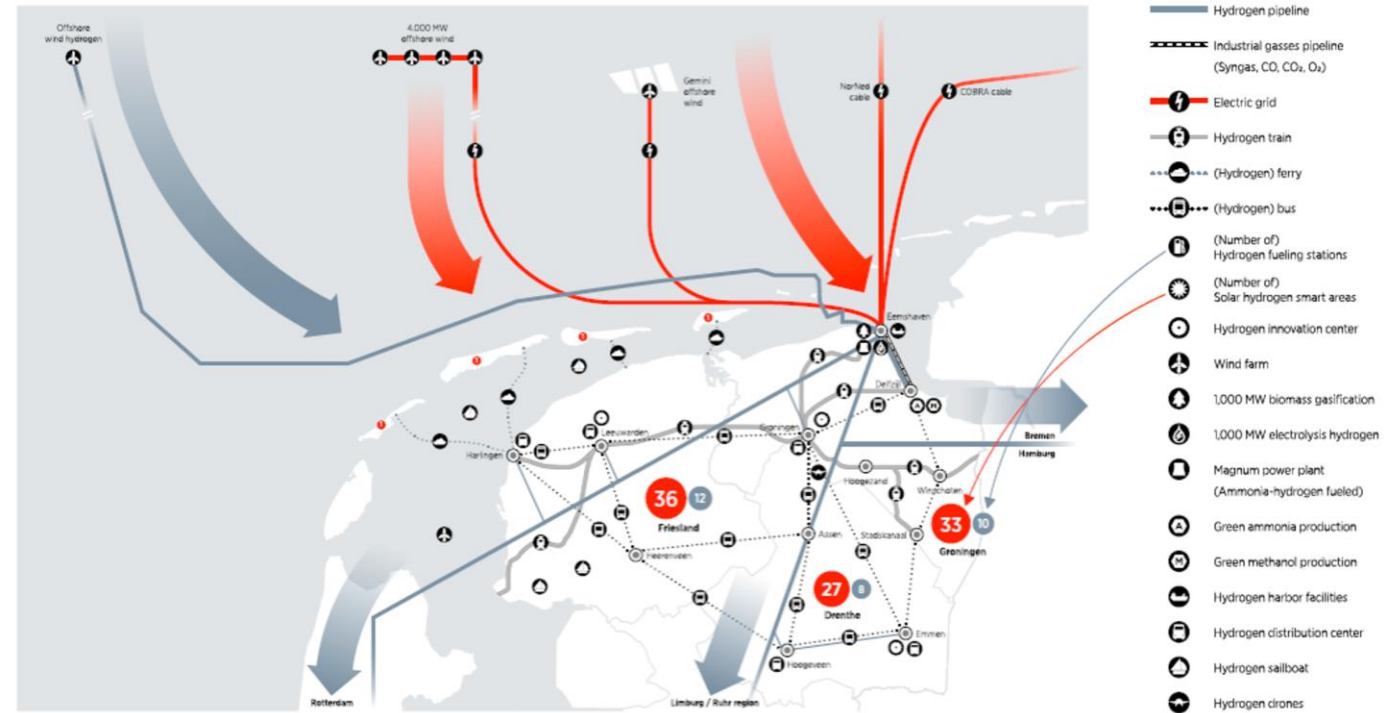
## Regional transformation from European Natural Gas Hub to the pioneering Green Hydrogen Valley



- Imminent cease of production from one of the largest European natural gas fields
- Existing natural **gas** infrastructure
- Existing and growing offshore **wind** power potential
- Two large chemical **industrial** areas aiming to become more sustainable
- Decarbonisation of urban **mobility**, partly driver by local emission reduction goals
- Regional **ambition** (business and political) to become an integrated hydrogen economy



### Green Hydrogen Economy in the Northern Netherlands



Green Hydrogen Economy In the Northern Netherlands

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## Location:

Provinces Groningen – Drenthe (Northern Netherlands)

## Objective:

- ✓ Sustainability: decarbonize local economy
- ✓ Boost local economy
- ✓ Skills & capacity building, innovation, jobs creation

## Deployment solution:

Regional energy system based on Green Hydrogen :  
4 Clusters & multi-project integrated approach

## Budget:

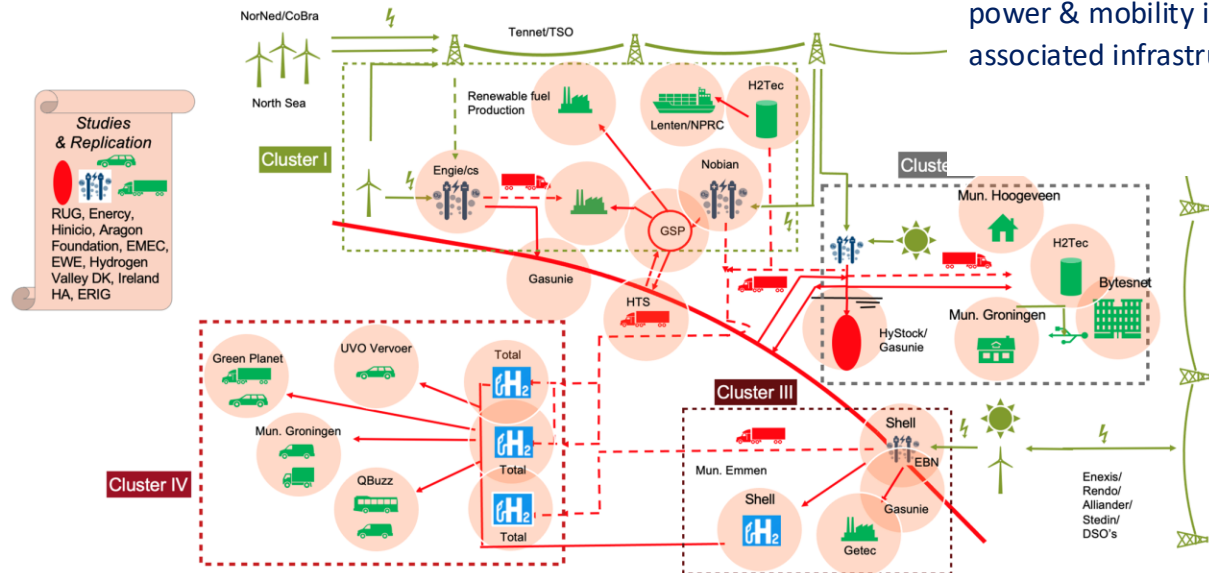
 circa 97 mlnEUR

Co funding structure  
20 mln EUR CHP contribution

## Timeline:

 2020-2027

Cluster I-Integration of RES resource with **supply of green H2 for the decarbonization of industry in Delfzijl**



Cluster II – **Green H2 supply & underground storage** for the decarbonization of heat, power & mobility including associated infrastructure

Cluster III  
Emmen Industry for the **Decarbonization of industry & mobility** and associated infrastructure in Emmen

Cluster IV – **Green Mobility** and associated infrastructure Drenthe/Groningen

Creates economies of scale - **Multi sectoral integration**



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**HEAVENN**

**The Consortium  
Public - Private Partnership**

- 30 Partners
- 7 European countries (NL, ES, DE, DK, BE, UK, IE)

- 11 SMEs (3 countries)
- 7 Replication partners



*Supported by* **provincie Drenthe**



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## Success pillars for innovation action

### PPP Collaboration

Large companies make significant investments and motivates SMEs

SMEs bring flexibility and innovation

Public sector enables through regional economic incentives and streamlining of permitting and regulatory processes in collaboration with partners



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## Success pillars for innovation action

### Eemshaven & Delfzijl:

- H2 HUB in Delfzijl – HRS for buses and refuelling for Vessels
- Hydrogen use as feedstock in industrial processes

## Investments in shared Infrastructure for regional logistics

Interconnection between renewable H2 production hubs (Eemshaven) and local industrial (Delfzijl)

Support for the creation of hydrogen refueling stations and logistics networks that integrate local suppliers

Pilot programs for transformation of industrial processes using locally manufactured green hydrogen – for Heat generation



### Emmen:

- Mixing H2 in natural gas turbine for steam generation for industrial park
- Infrastructure – pipelines – connect to H2 backbone
- HRS Refueling station



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## Pillars for success of Innovation Action

### Create Local Demand and Public Procurement of services

Public and industrial transport projects that use buses or vehicles powered by hydrogen



Hydrogen garbage collector truck . Municipality of Groningen

Sustainable public procurement initiatives that prioritize hydrogen technologies developed by local SMEs

The Hydrogen District by the Municipality of Hoogeveen





## Success pillars for innovation action

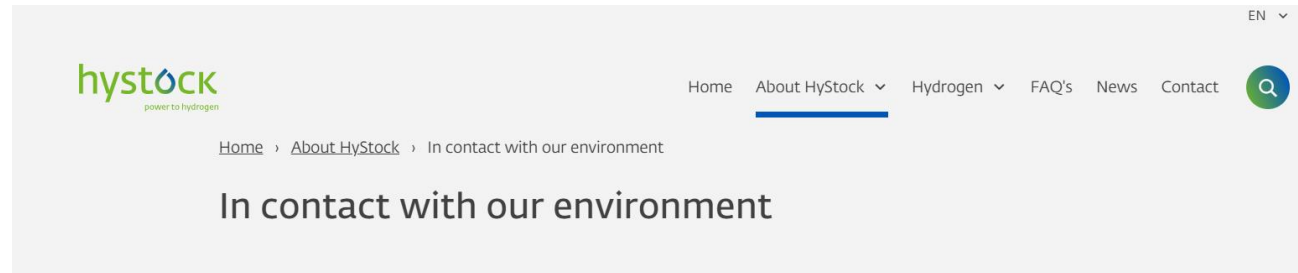
### Participation and organization of activities with the Communities

Partners share their work through communication activities in communities to accept new technologies and their participation in the deployment process



Hoogeveen Municipality (H2 tiny House) & Hystock project (UHS) in salt caverns

Upcoming Webinar on Public Participation  
26 Nov 14:00 CET  
Register here:



Of course we are and will continue to talk to our environment. Residents and companies in the vicinity of HyStock are regularly informed about our activities. For example via this website, the village newspaper 't Tonckeltje and website [www.energiebufferzuidwending.nl](http://www.energiebufferzuidwending.nl). The chance of nuisance from our activities is small, but cannot be ruled out. Still nuisance? Don't wait, but [report it to us](#).





### Pillars for success for Innovation Action

## Knowledge transfer (internally and externally)

Training of local workers and entrepreneurs in safety, maintenance and operation of hydrogen technologies.

Workshops in permitting and sharing lessons learnt in conferences, EU events, international delegation's visits

HEAVENN's Public Deliverables shared in online platforms



### Safety testing in wells for the injection of hydrogen into underground storage (salt caverns)



#### Replication

Partners involved: FHA, EMEC, EWE, ERIG, IHA, HVDK

[Read more](#)

#### Complementary Studies

Partners involved: University of Groningen, Gasunie, Groningen Seaports, EBN, Hyenergy Consultancy, Energy

[Read more](#)



#### Business Models and Impact Analysis

Partners involved: University of Groningen, Energy, FHA

[Read more](#)



#### Certification

Green H2 through certification

[Read more](#)

#### Study: Heavy Duty Mobility Applications in the Northern Netherlands

Partners involved: Green Planet, University of Groningen

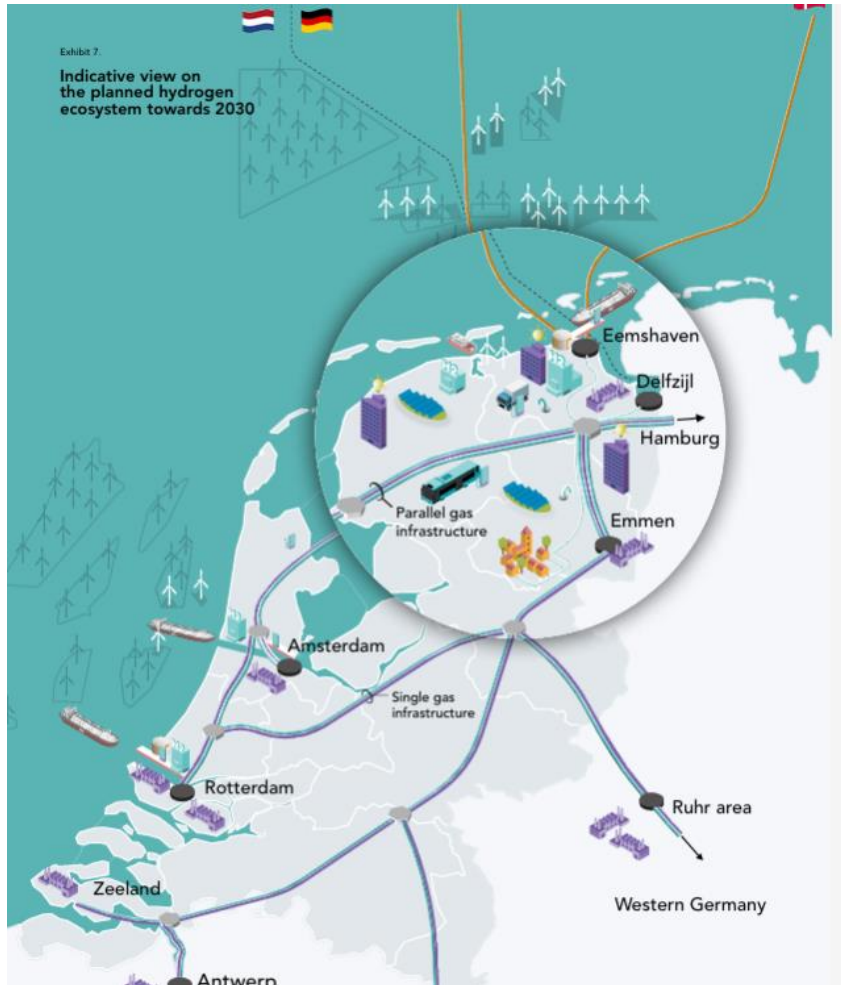
[Read more](#)



#### Study: H2 Production Scale Up for HyNL

The 100 MWe ENGIE H2 plant has the objective to be a demonstration project to trigger the H2 market in the Northern Netherlands

[Read more](#)



- Our main goal is to keep HEAVENN relevant and in line with the Drenthe – Groningen regional plans, national and European goals:



- **Maintain a shared vision** with the Partners, despite the changes from original plan everyone needs to be on board and feel ownership of their expected results, championing communication within the consortium and stakeholders



- **Strengthen cross-border collaboration** on large-scale infrastructure development plan to support renewable energy-based hydrogen production and develop a nationally aligned system in line with the European Hydrogen Backbone and North Sea integration goals. To be reflected in our roadmap towards 2050.



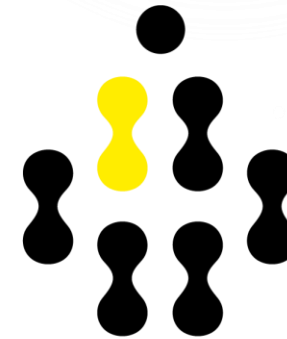
- Being the first large scale H2 valleys has helped us spread the message creating great international interest. To **increase impact** we are boosting communication and knowledge-sharing activities
- **to continue inspiring new Hydrogen Valleys in EU and beyond** .



## More information? Contact us!



- [T.Block@newenergycoalition.org](mailto:T.Block@newenergycoalition.org)
- [HEAVENN@newenergycoalition.org](mailto:HEAVENN@newenergycoalition.org)
- <https://heavenn.org>



# HEAVENN

**Awarded EU Hydrogen  
Valley of the year 2022**

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## Lessons Learned from HEAVENN:

- Major challenge: large ambitious project designed in 2019 in a fairly “new” industry (green H2 for decarbonization) means a lot of changes, insights, new knowledge. Some goals are no longer as relevant.
- In Europe: offtake (affordable hydrogen), shortage of trained personnel and shortage of manufacturers are main barriers
- Due to time frame: Many unforeseen circumstances such as Covid and geopolitical situation in Europe lead to great unrest in energy markets, scarce and expensive materials.
- Co-financing must be arranged prior to project starting.
- Change management throughout a regular communication with partners and CHP- Project officer help minimize impact in project execution, reduce financial risks – deliver main targets in environmental, social and technical impact

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## 24-25 November 2025

### How to share our lessons and build on each others' successes?

- Replication tasks: Development tools and mentoring follower territories
- Field Trips/ Working visits
- Keep deliverables public as much as possible
- Participate in Brussels events to connect to other valleys
- Participation in Dissemination Events
- International Delegations visiting NL
- Webinars
- Keeping in touch!

### Replication partners



<https://h2territory.eu/>

### Board Members

#### Entities



#### Projects



funded by European Union



## Guidelines for Project Presentations

- Each presentation should last **10 minutes**. Strict timekeeping is essential!
- Limit your presentation to a maximum of 10 slides
- Emphasise the **concrete impact** of your project
- focus on measurable results, outcomes, or innovations
- Use the **Arial** font to maintain a consistent style
- You may use **any slide layout** from the existing template that best supports your content

## File Naming Convention

- Please name your presentation file as follows to assist the audiovisual team:  
Adjust "*Day1\_Session\_1\_H2Production\_NameSurname*" to reflect your specific session

## Submission Deadline

- Wednesday, 19 November 2025 (end of business)

# Icons Set

