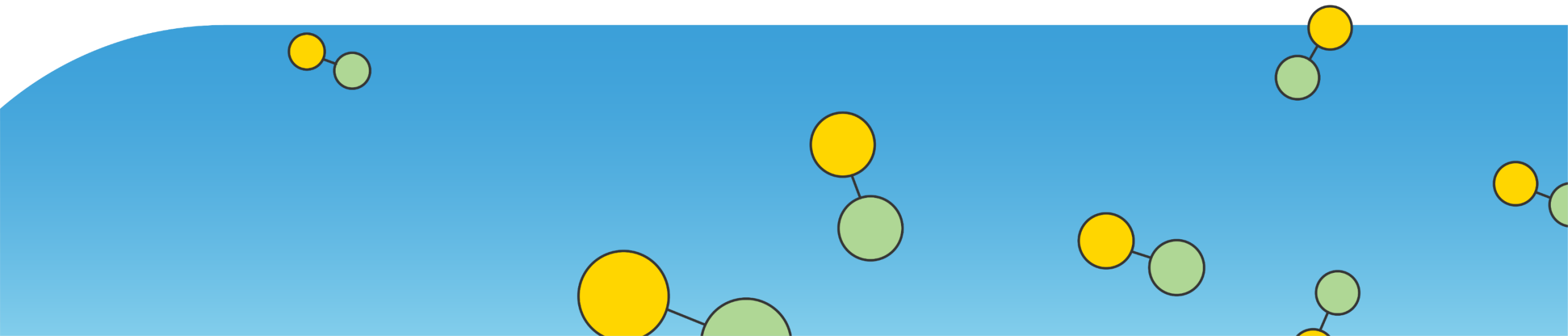


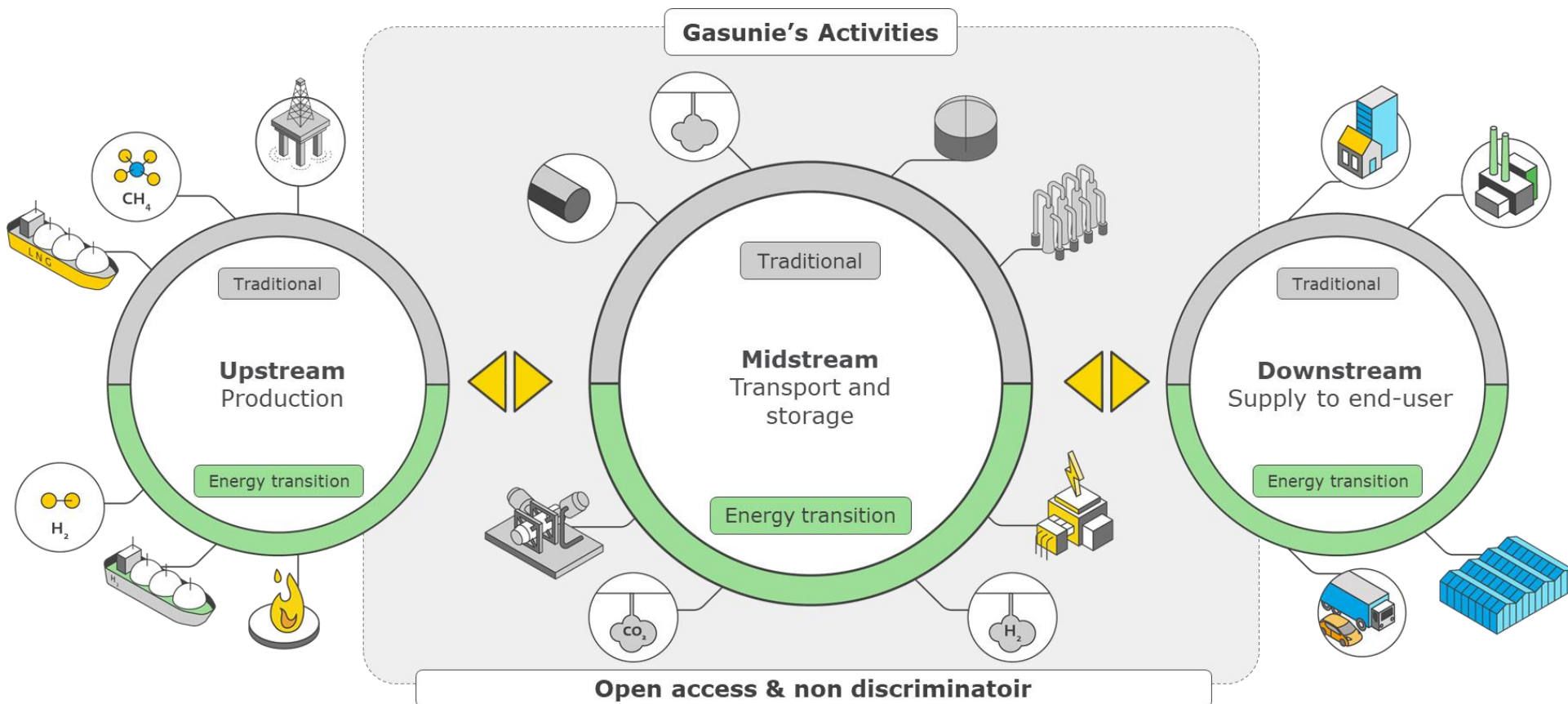
# Gasunie: Crossing borders in energy

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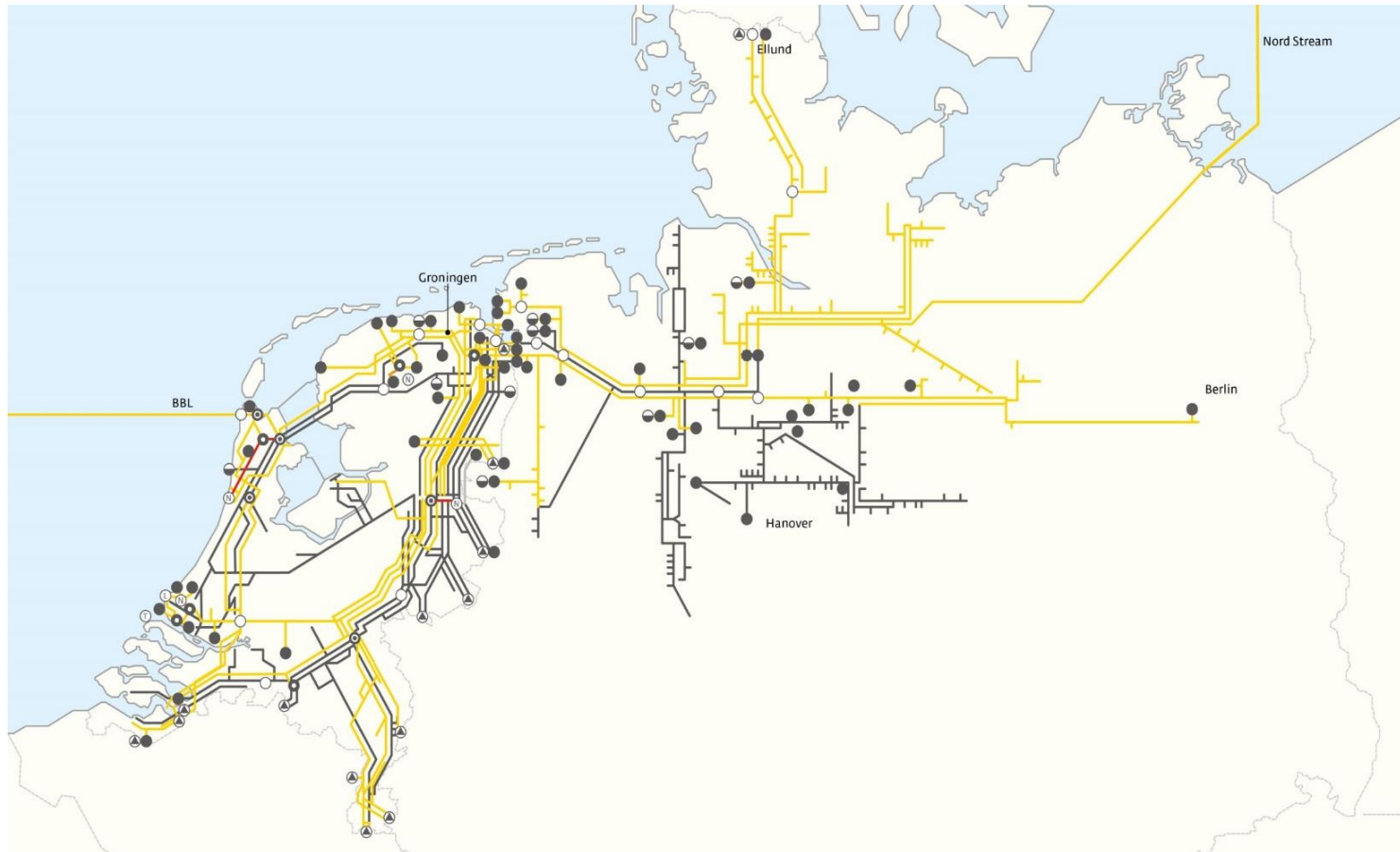
# A connecting factor in the energy value chain

*Providing open access and non-discriminatory infrastructure in The Netherlands and Germany*



## ***Gasunie: a European energy infrastructure company***

***15,500 km pipelines. Offices in The Netherlands, Belgium and Germany***



## Strategy Gasunie

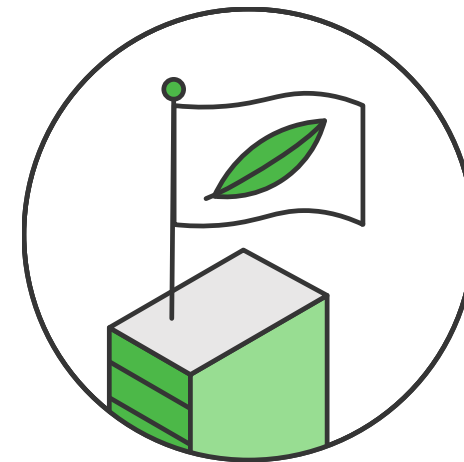
Ensuring a safe, reliable, affordable and sustainable gas infrastructure in our core area.



Contributing to an efficient gas infrastructure and services for a properly functioning European natural gas and LNG market.

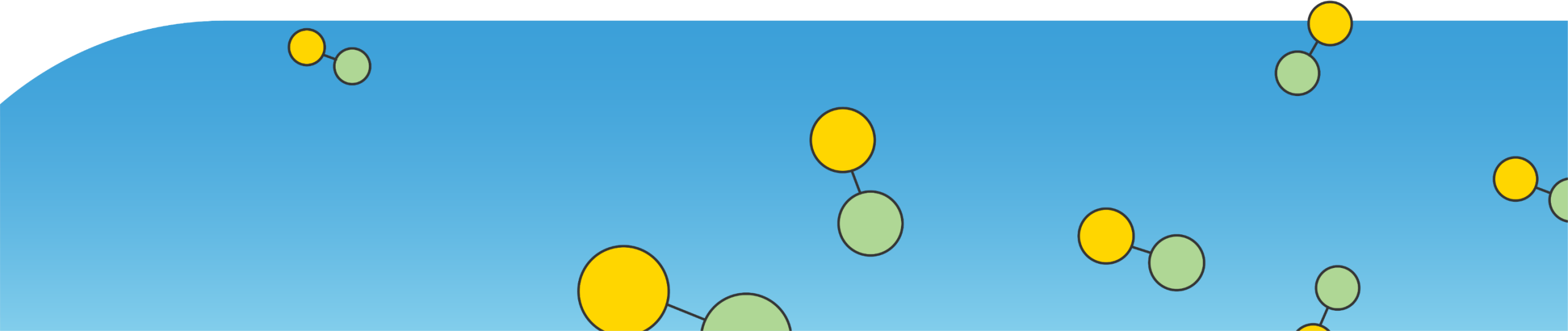


Accelerating the transition to a carbon-neutral energy supply.



# Developing the hydrogen market

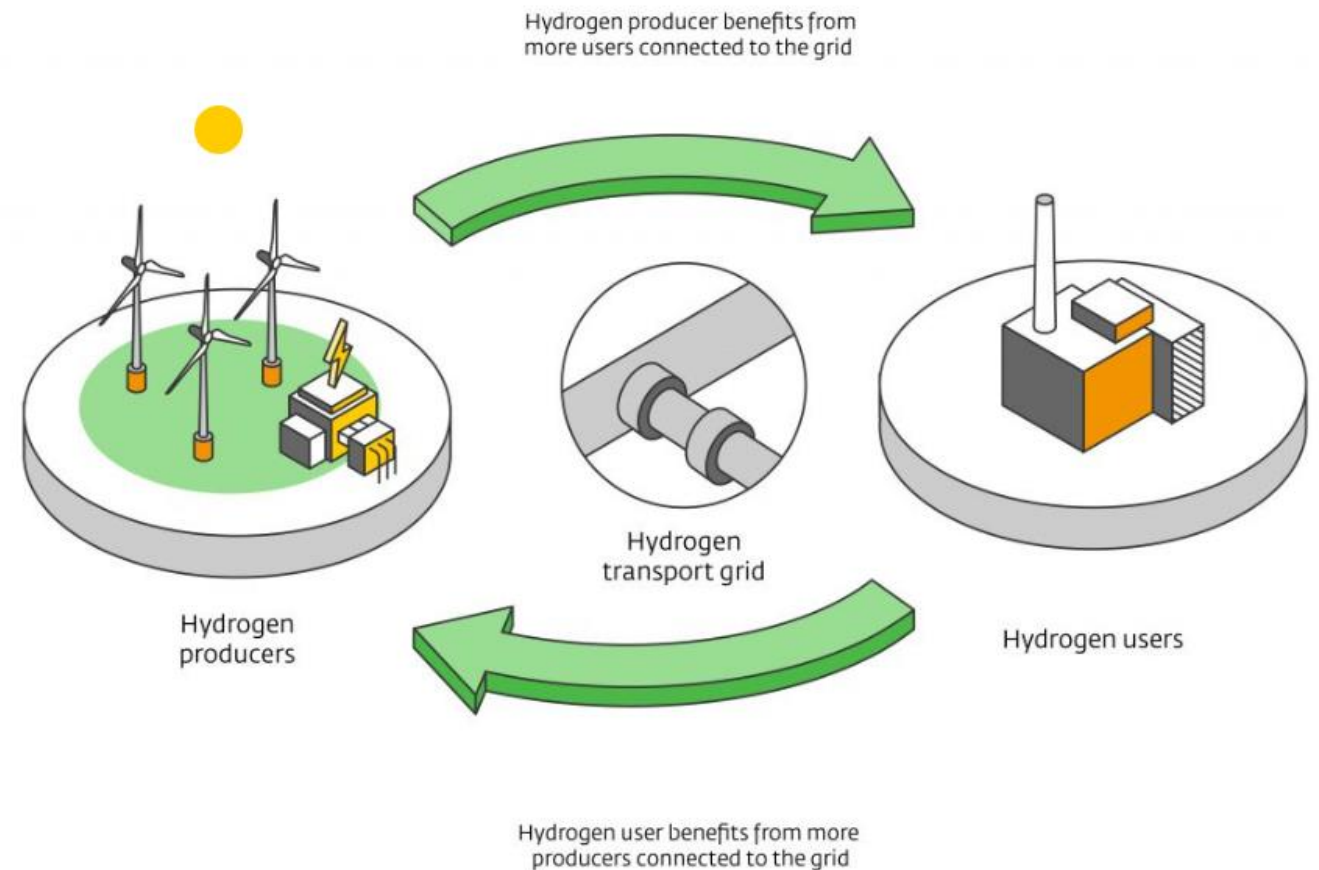
Serving customers with sustainable solutions across the whole value chain



## *Hydrogen: an essential component to achieve a CO2-neutral energy supply*

The time is now:

- Drastic changes in the energy system are needed to be climate neutral by 2050.
- The government and Gasunie are investing heavily in hydrogen infrastructure.



## *Gasunie has organized hydrogen development activities along four lines ('pillars')*

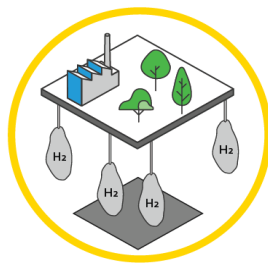
1

Transport



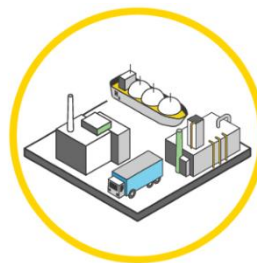
2

Storage



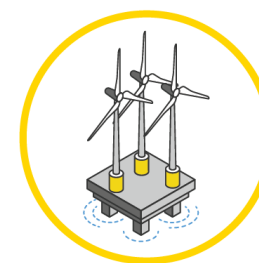
3

Import



4

Offshore





***Gasunie has organized hydrogen development activities along four lines ('pillars')***







## 1 Transport

- **Ambition**  
Develop and manage open access, non-discriminatory large-scale hydrogen networks in the Netherlands and Germany to facilitate the development of the hydrogen market.
- **Goals**  
The Netherlands: a national hydrogen network in operation by 2030, including cross-border connections and connections to storage facilities.  
Germany: a hydrogen network in northwest Germany in operation by 2030, including cross-border connections and connections to storage facilities.
- **Approach**  
The networks will be realized by converting the existing natural gas infrastructure to hydrogen and – only where necessary - building new sections. By repurposing assets, we can minimize both costs and environmental impact of required works.
- **The role of Gasunie**  
Gasunie subsidiary Hynetwork Services is the party responsible for developing the National Hydrogen Network in The Netherlands, including regional networks. In Germany Gasunie Deutschland is developing HyPerLink, a hydrogen network.

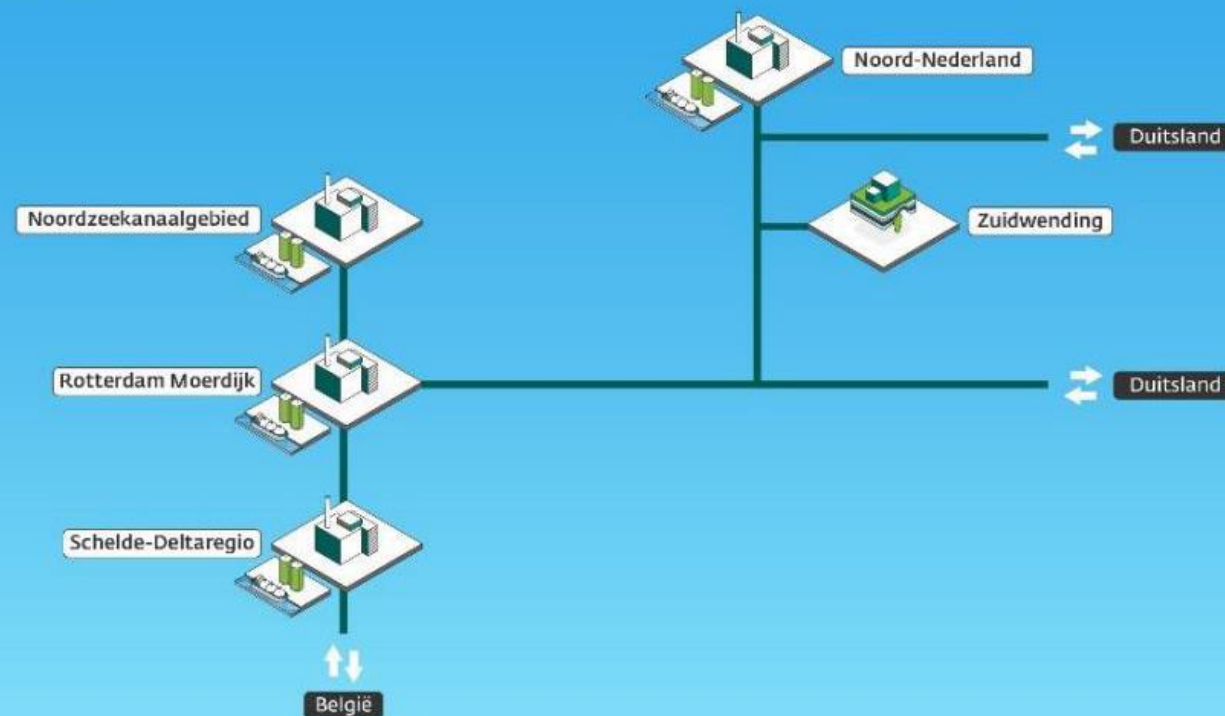




## The Netherlands - PHASE 1

### Waterstofnetwerk Nederland

Fase 1 (gereed 2025 — 2026)

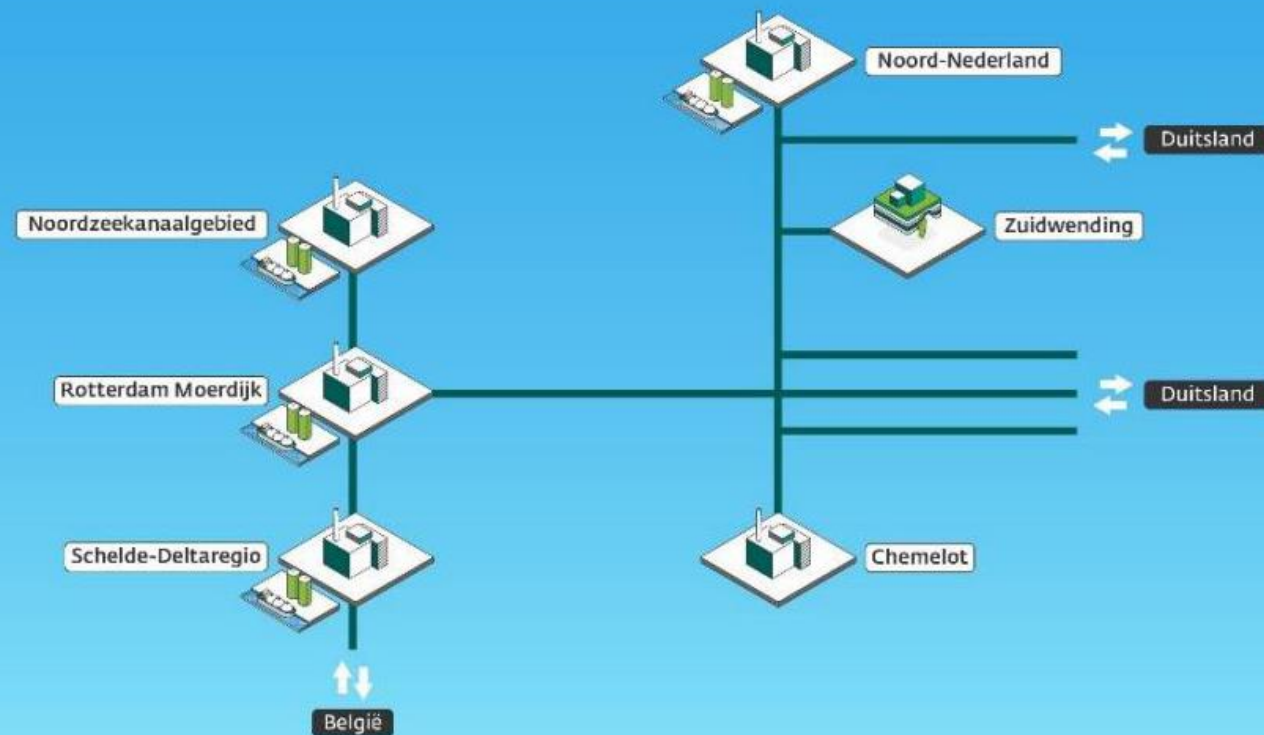




## The Netherlands - PHASE 2

### Waterstofnetwerk Nederland

Fase 2 (gereed 2027 — 2028)

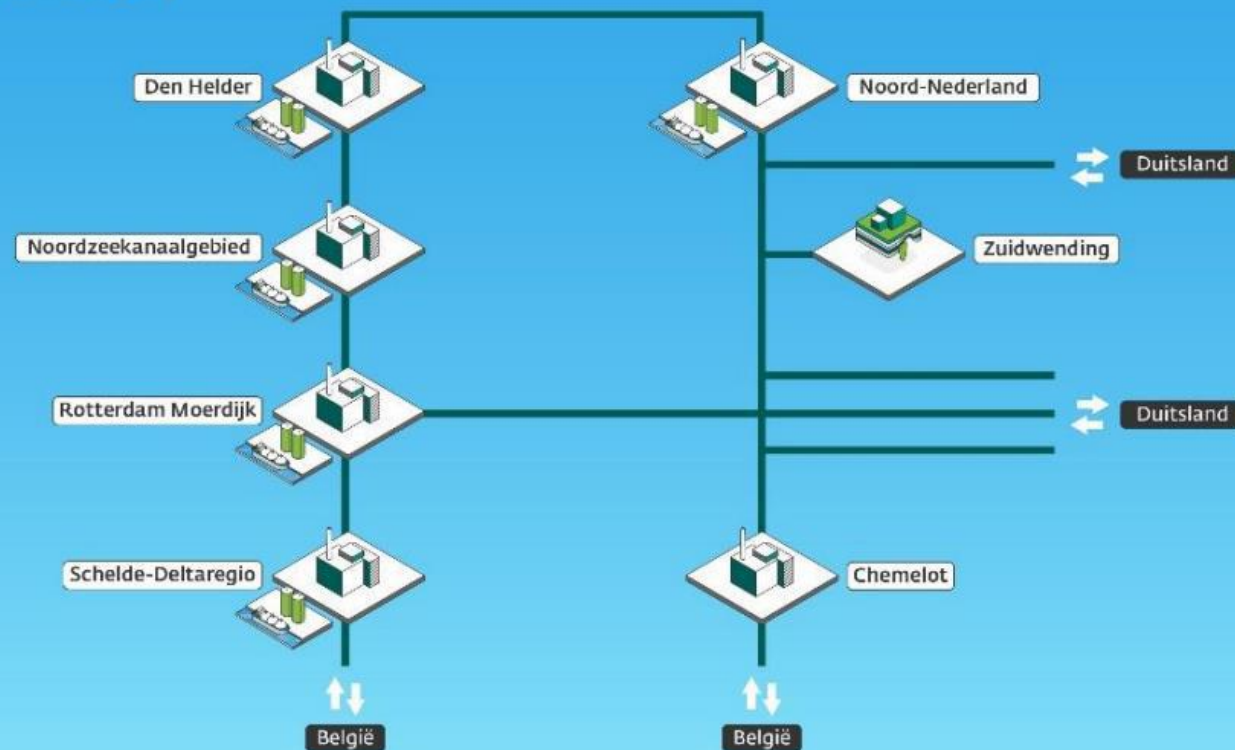




## The Netherlands - PHASE 3

### Waterstofnetwerk Nederland

Fase 3 (gereed uiterlijk in 2030)

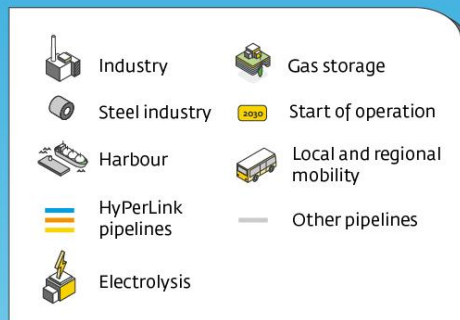


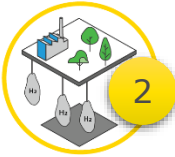


## Germany - PHASE 1, 2 and 3

### IPCEI Project HyPerLink

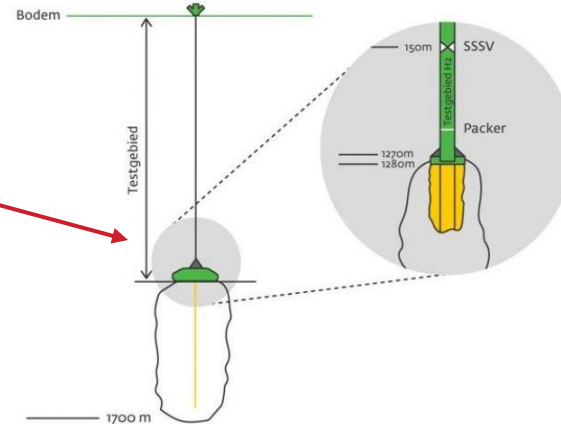
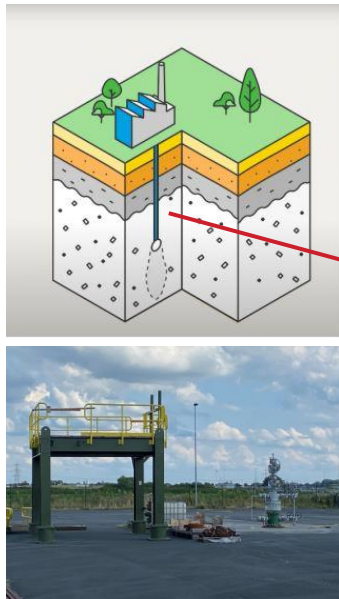
- a 660 km in total: integrated hydrogen pipeline grid.  
490 km: conversion of existing natural gas pipelines.  
170 km: construction of new pipelines.
- b Transport capacity up to 7.2 GW hydrogen.
- c Construction in three phases: start of operation in 2025, 2026-2028 and 2030.





## Project HyStock – Zuidwending (NL)

- First storage facility available in 2027; HyStock will be connected to the Hydrogen Network Netherlands
- Full facility and 4 caverns with total of 22-25 kton of hydrogen storage volume available in 2030
- Demonstration project in existing borehole to demonstrate safety and testing of materials, expected to be complete Q4 2022



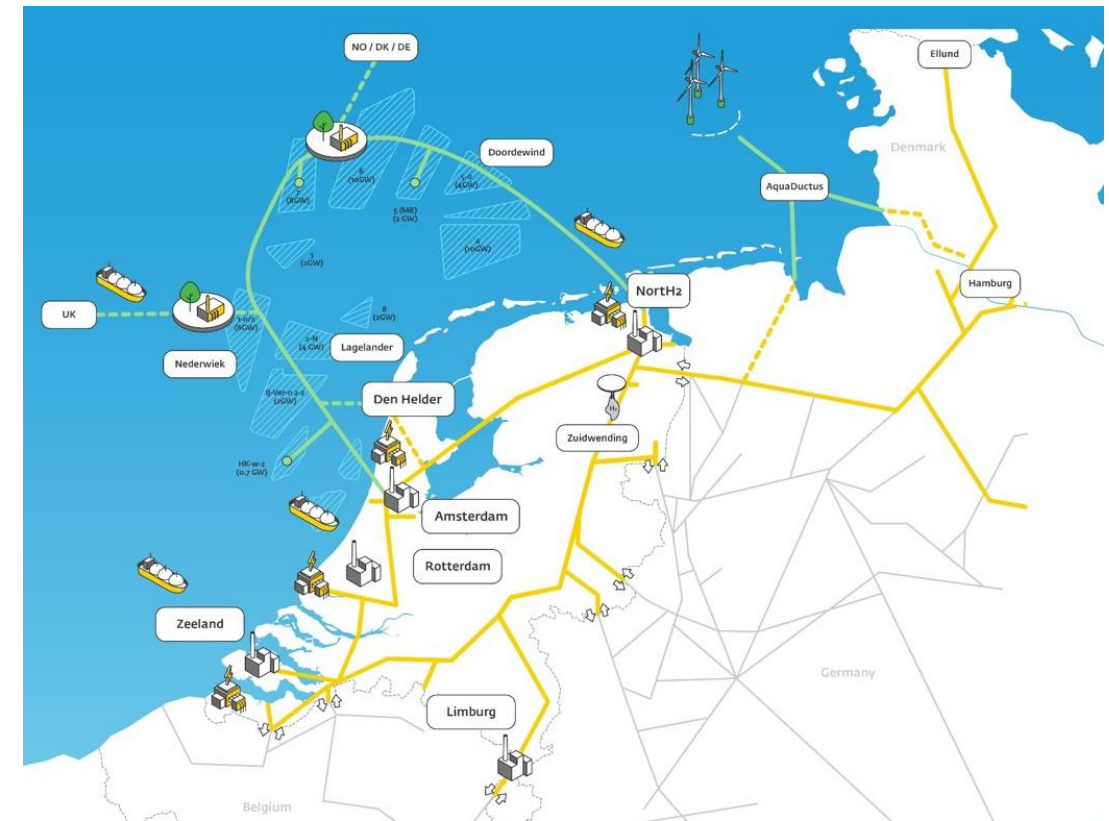
Category:	Storage
Capacity:	22-25 kton; 80 t/h send-in & send-out
Process phase:	FEED-study
Project period:	2018-2030
Contact:	Taco Hiemstra t.hiemstra@gasunie.nl





## 4 Offshore

- **Ambition and goal**  
Offshore hydrogen transport is required due to hydrogen production at sea, import and export requirements and transport limitations on land.
- **Approach**  
Gasunie aims to build open access offshore hydrogen transport systems. Therefore it is involved in offshore hydrogen supply chain and (knowledge)development projects: NorthH2, AquaVentus/-ductus, North Sea Windpower Hub, PosHydon.
- **The role of Gasunie**  
Gasunie can develop offshore transmission networks and can provide services for assembling, compression, storage, etc in the Netherlands and Germany.





## Websites:

<https://www.hynetwork.nl/>

<https://www.gasunie.nl/expertise/waterstof>

<https://www.hystock.nl/>

<https://www.gasunie.de/unternehmen/gasunie-deutschland/projekt-hyperlink>

<https://www.vertogas.nl/>

<https://www.hyway27.nl/>

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Senior Advisor Energy system

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