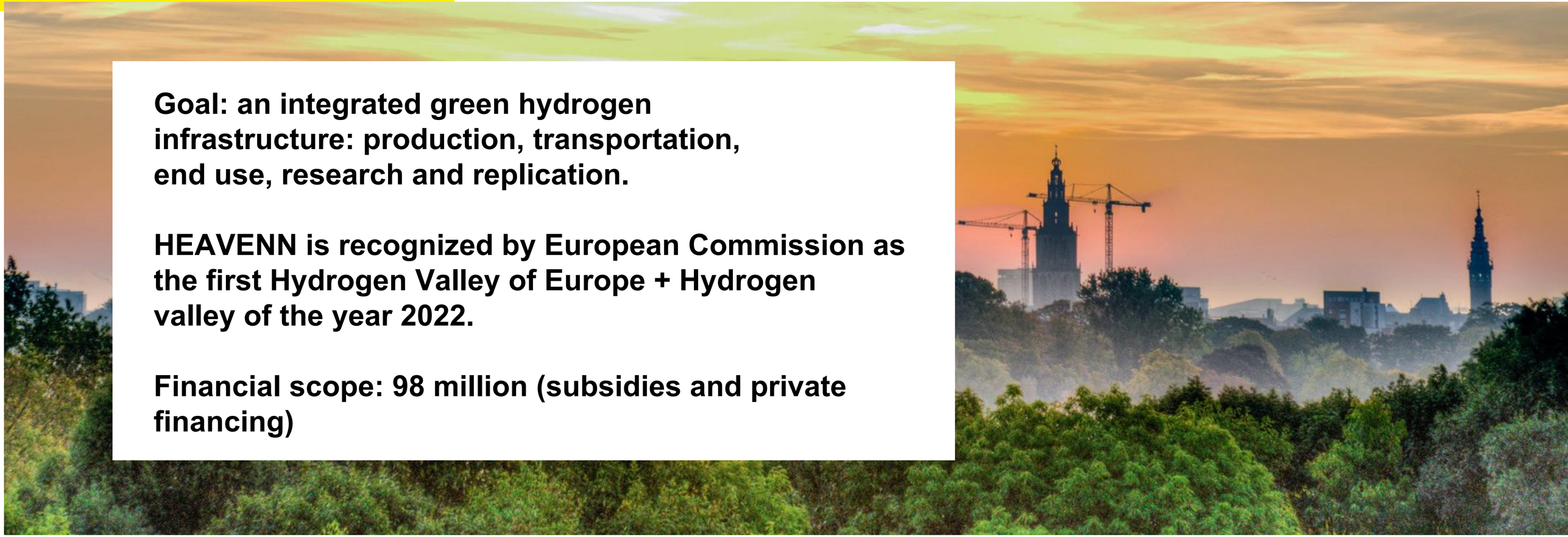
HEAVENN – H2 Energy Applications in a Valley Environment in the Northern Netherlands – 2020-2027



Goal: an integrated green hydrogen infrastructure: production, transportation, end use, research and replication.

HEAVENN is recognized by European Commission as the first Hydrogen Valley of Europe + Hydrogen valley of the year 2022.

Financial scope: 98 million (subsidies and private financing)

HEAVENN

- **Our Objectives**

• Establishing a H2 ecosystem in Northern Netherlands region, integrating H2 initiatives in a systemic approach, to demonstrate sector coupling and FCH uses cases at a regional level.

• 100% Green H2 production.

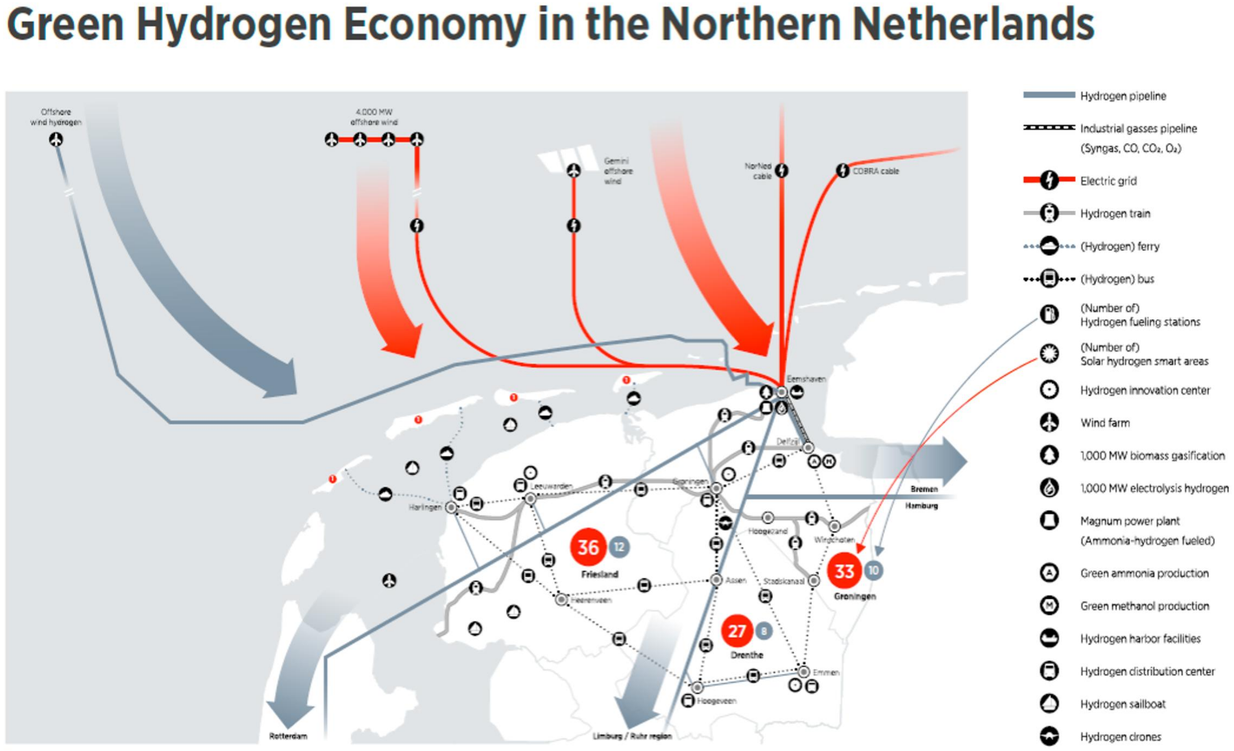
- Solve the chicken-egg problem in our region – develop together.

- Build a replicable model that can be used on other regions, and then connected to build a hydrogen economy.

HEAVENN

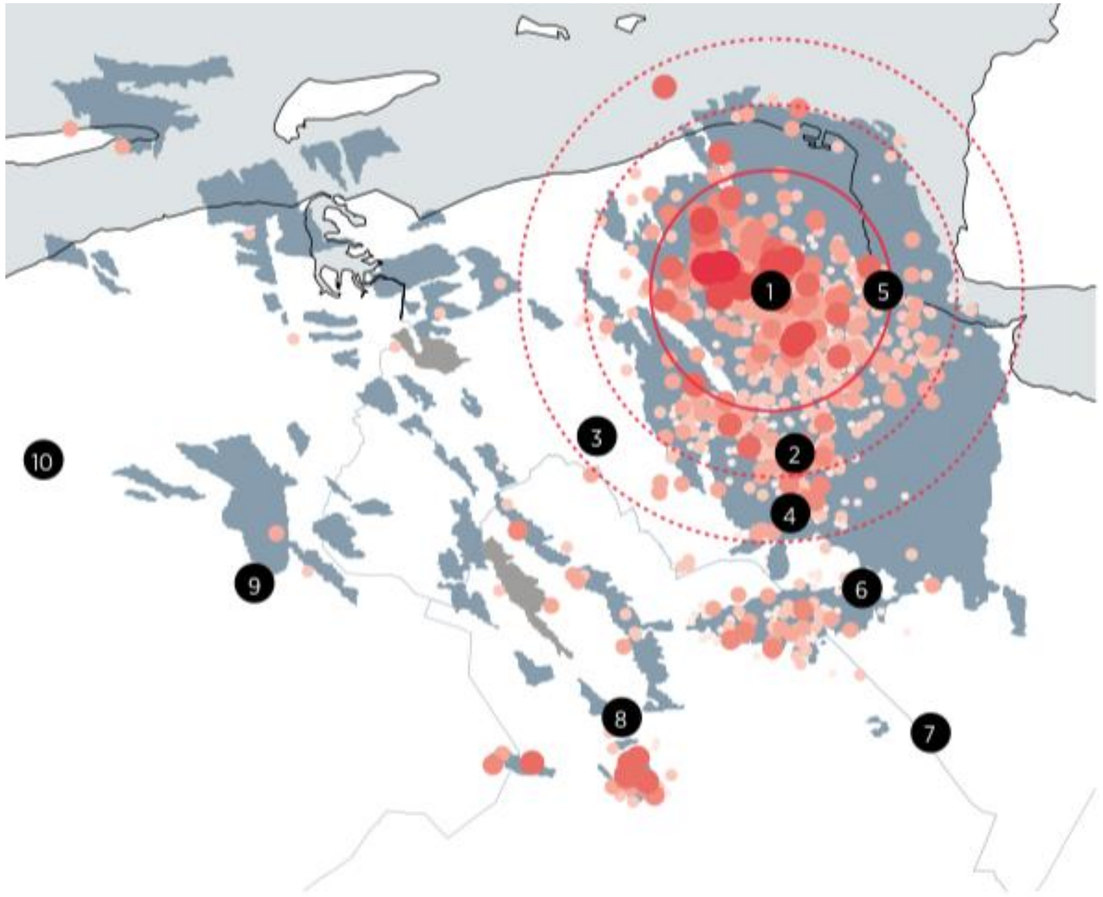
Northern Netherlands & Hydrogen: a Perfect Match

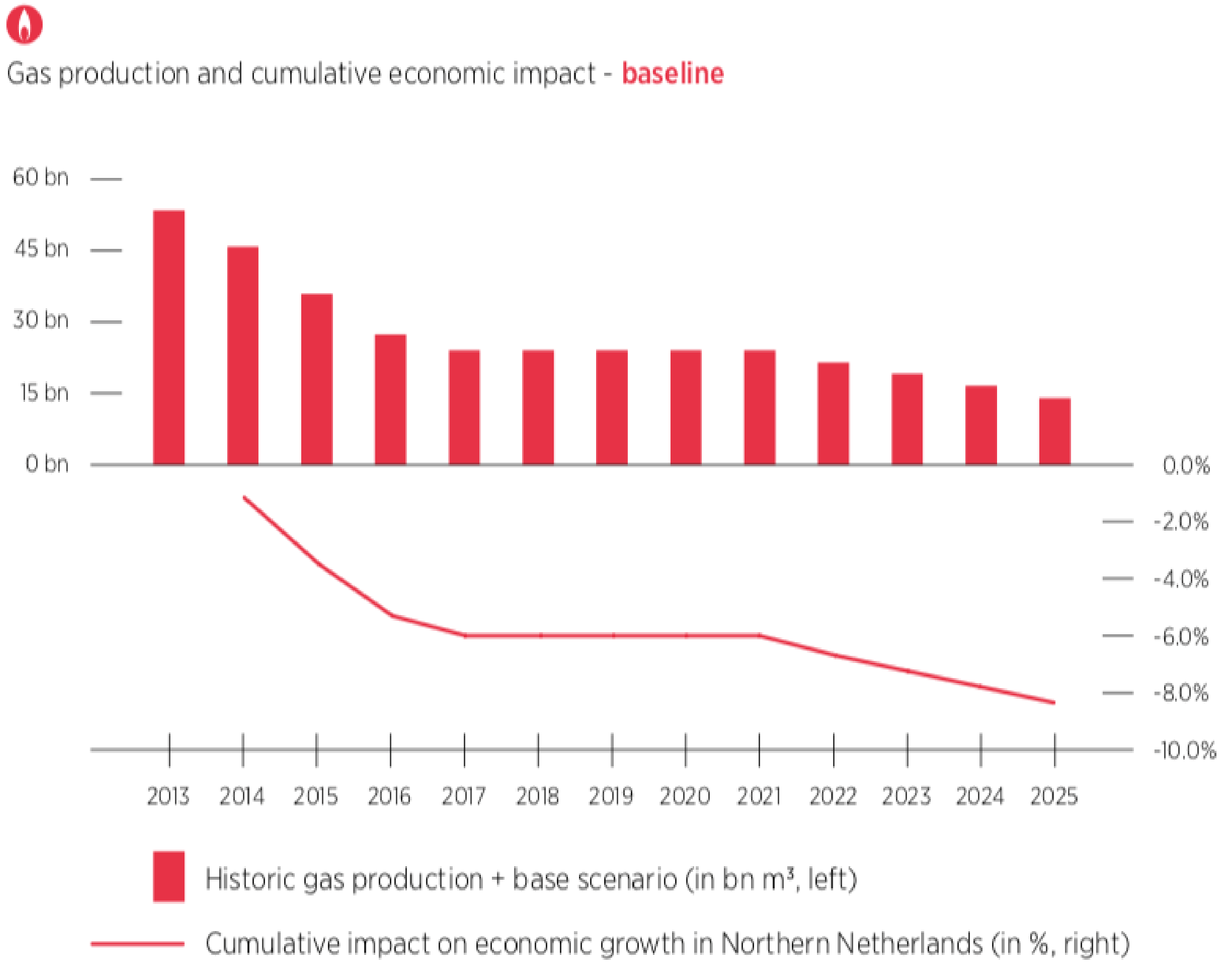
- Existing **gas** infrastructure
- Existing and growing offshore **wind** power potential
- Two large chemical **industrial** areas aiming to become more sustainable
- Decarbonisaton of urban **mobility**, partly driven by local emission reduction goals
- Regional **ambition** (business and political) to become an integrated hydrogen economy



Green Hydrogen Economy in the Northern Netherlands

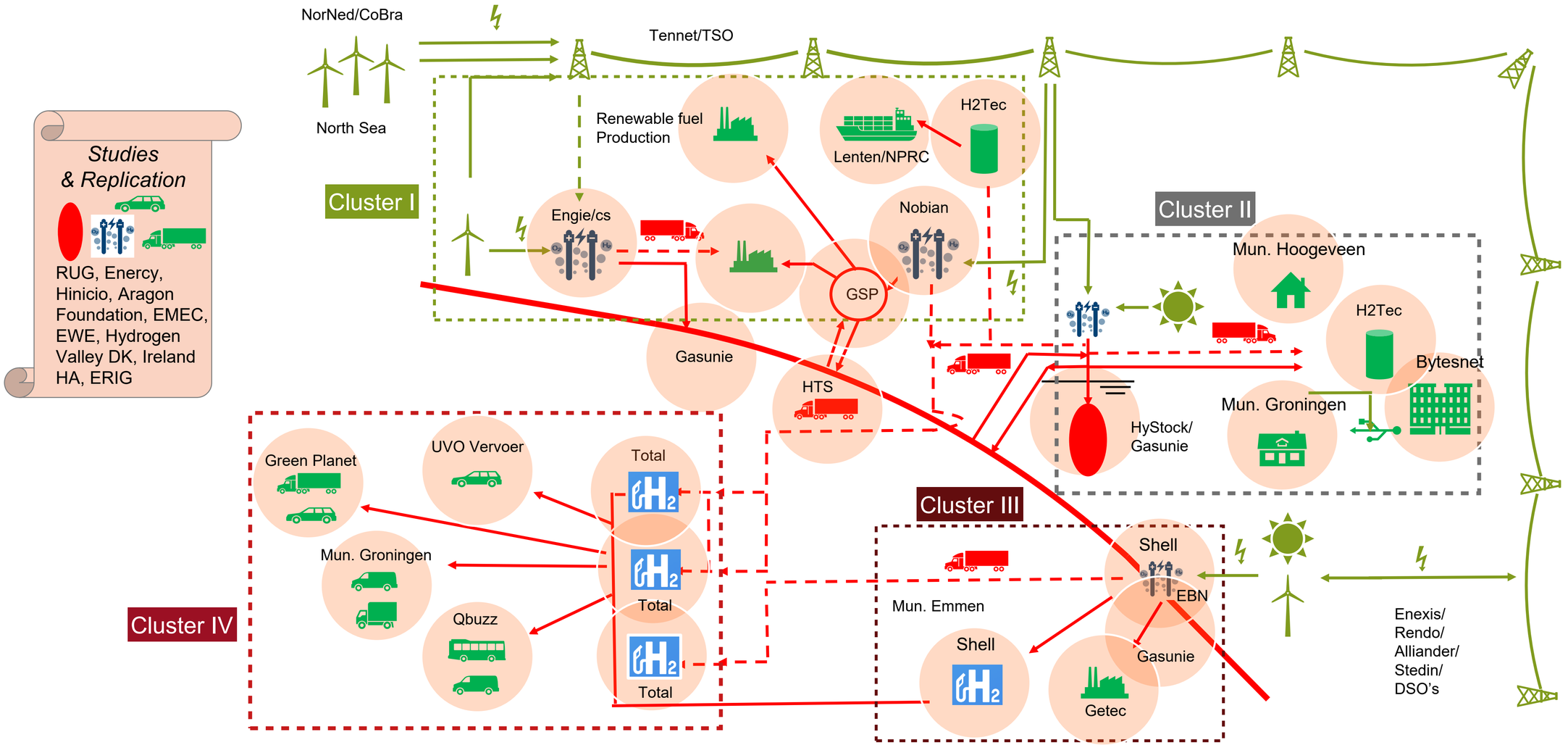
Situation in the Northern Netherlands: Slochteren gasfield






AquaVentus
NorthH2
North Sea Wind Power Hub
Djewels
Torrgas
Element Eins/Clean Hydrogen Coastline
HyStock
HyPerLink
GZI Next
SCW
Aramis
CO2nnect
Porthos
PosHydon
WarmtelinQ
Ammoniakterminal
Waterstofbackbone
Carbon Connect Delta
Waterstof
Groen gas
Warmte
CCS

HEAVENN


Studies
& Replication
RUG, Enercy, Hinicio, Aragon Foundation, EMEC, EWE, Hydrogen Valley DK, Ireland HA, ERIG
NorNed/CoBra
North Sea
Tennet/TSO
Renewable fuel Production
H2Tec
Lenten/NPRC
Cluster I
Engie/cs
Nobian
GSP
Gasunie
HTS
Cluster II
Mun. Hoogeveen
H2Tec
Bytesnet
Mun. Groningen
HyStock/ Gasunie
Cluster III
Shell
EBN
Mun. Emmen
Shell
Gasunie
Getec
Enexis/ Rendo/ Alliander/ Stedin/ DSO's
Cluster IV
Green Planet
UVO Vervoer
Total
Mun. Groningen
Total
Qbuzz
Total

HEAVENN

Partners in HEAVENN

Supported by

HEAVENN

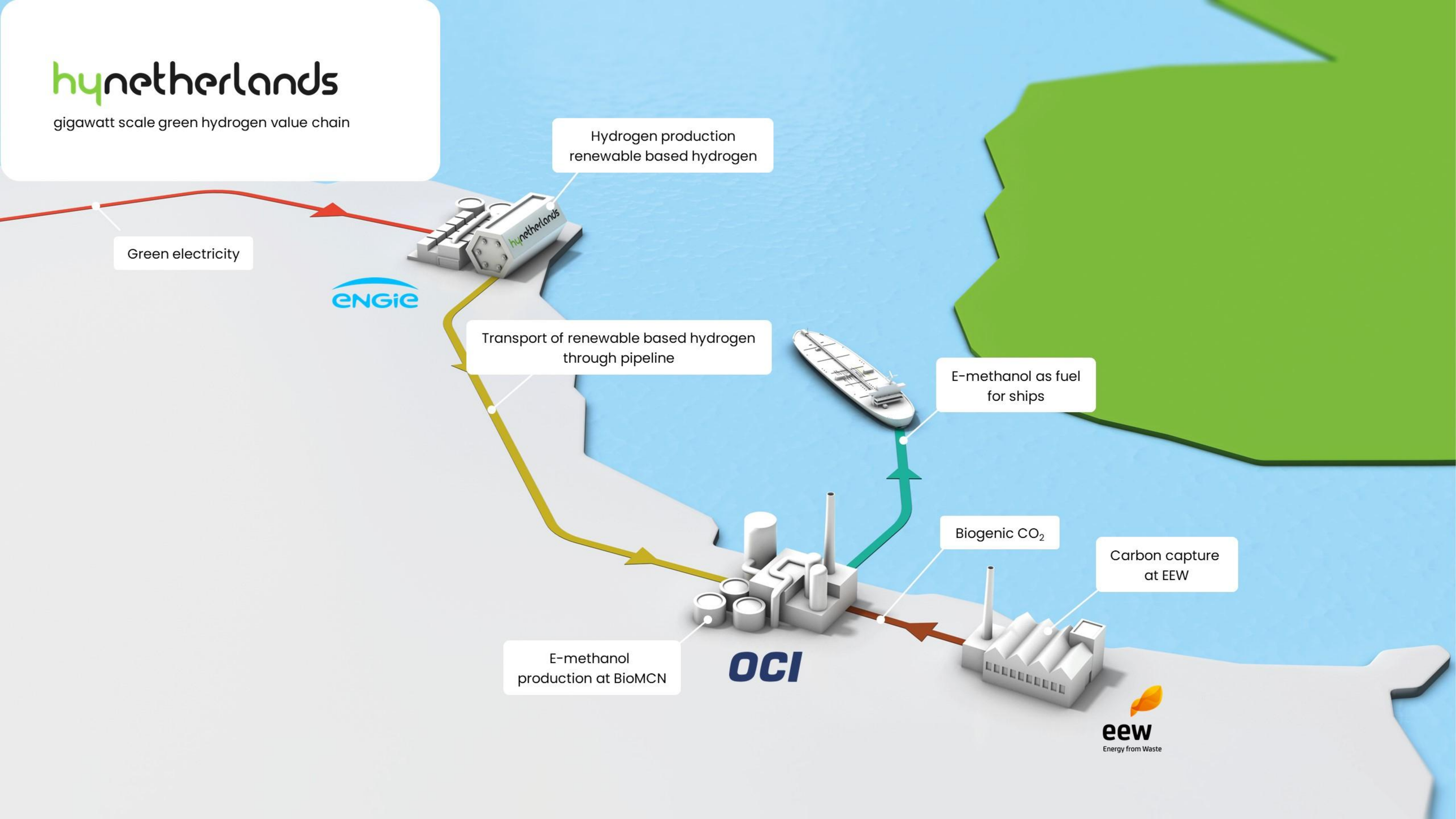
Cluster 1: Chem Park Delfzijl

Activities clustered around Chem Park Delfzijl + Eemshaven: A large port and industrial area.

HEAVENN

hynetherlands

gigawatt scale green hydrogen value chain




ANTONIE

Cluster 2: built environment

Housing and buildings heated by hydrogen. Hydrogen used as backup power source in buildings (tests with hydrogen uses). Storage of hydrogen.

HEAVENN


Waterstof
de groene
motor
Rijden op
waterstof?
40 541


bürkert


HYdrONE
UPS

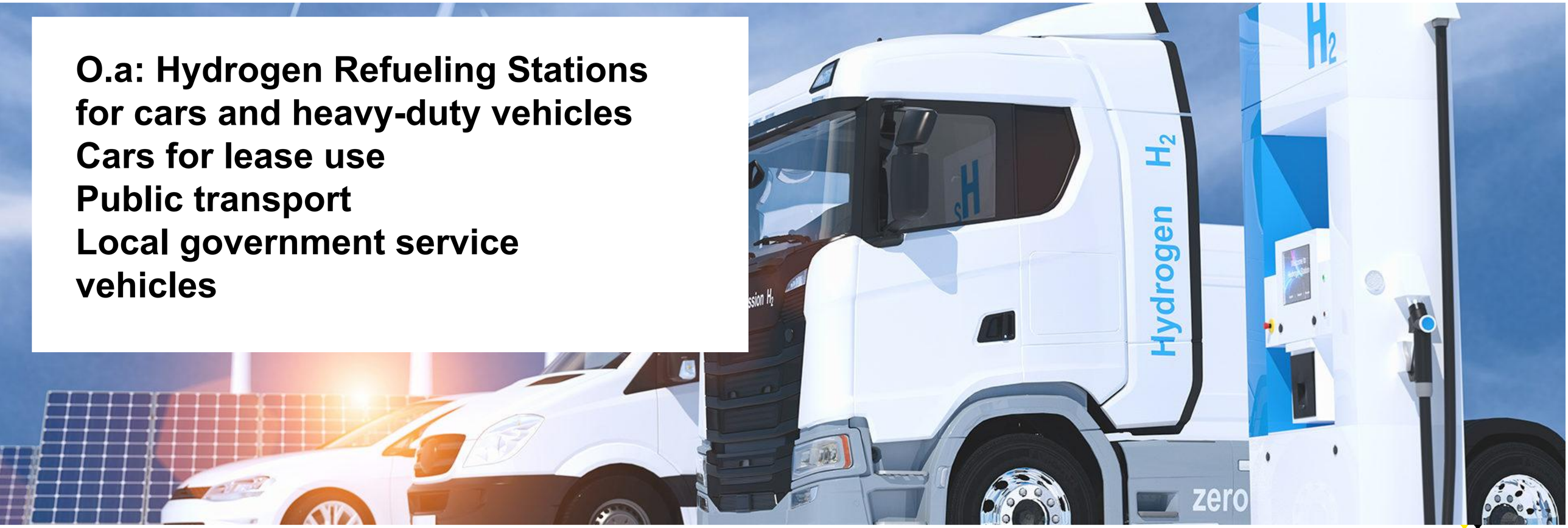

WELKOM IN HET WATERSTOF TINY HOUSE
VAN DORP
Alfa-college
ten kate
installatietechniek b.v.
www.ten-kate.nl

Cluster 3: Emmen - GETEC

GZI Next: former gas field turned into a green energy living lab

Cluster 4: Mobility

O.a: Hydrogen Refueling Stations for cars and heavy-duty vehicles
Cars for lease use
Public transport
Local government service vehicles



HEAVENN


H2 GAS
VANHOOL
Qbuzz
qbuzz.nl/gd
streek
NL 71-BRJ-8
Shell Hydrogen

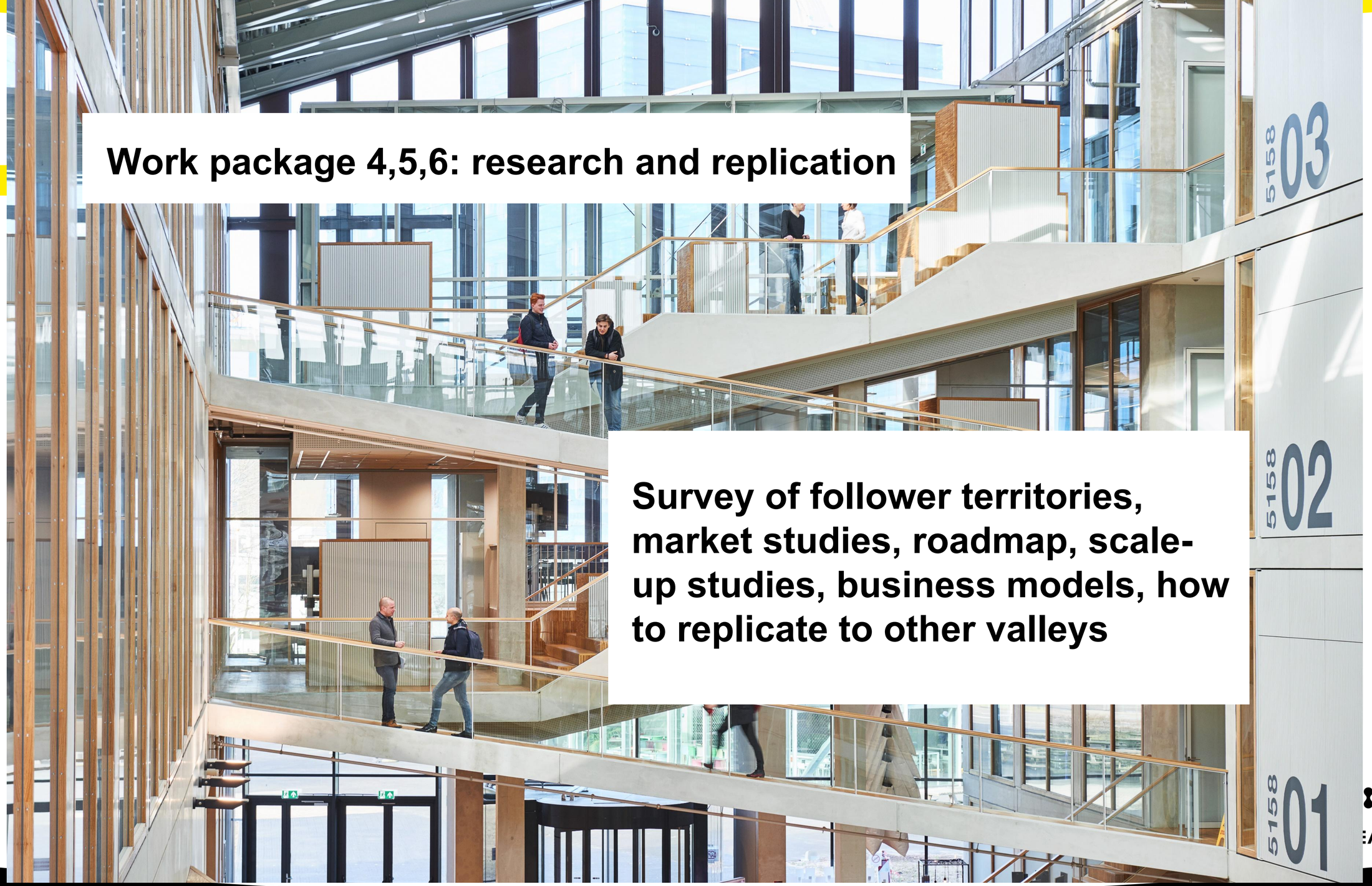
EAVENN

HEAVENN in RTL Transportwereld


Qbuzz
FUEL CELLS AND HYDROGEN
JOINT UNDERTAKING
streek
groene waterstof


hydrogen
This bus is green
Northern
Netherlands:
driving hub for the
future of mobility
in Europe
Qbuzz
Qbuzz
green hydrogen

Work package 4,5,6: research and replication



Survey of follower territories, market studies, roadmap, scale-up studies, business models, how to replicate to other valleys

International delegations & conferences – reach out and inspire new valleys in EU and beyond

HEAVENN
1 mnd •

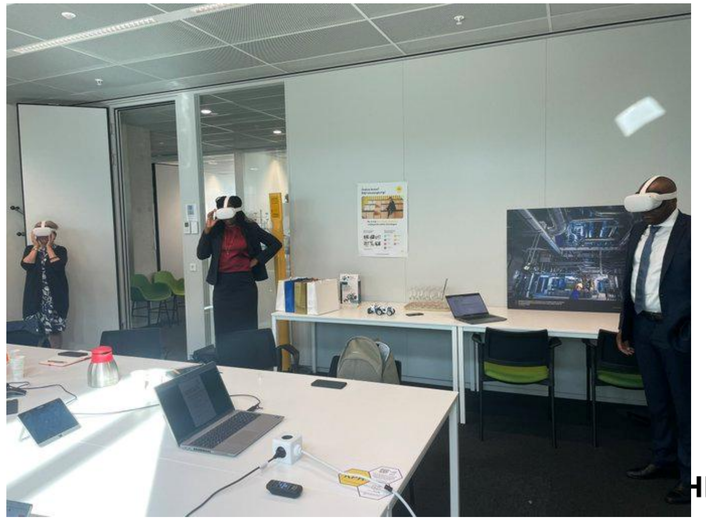
Honda meets HEAVENN - 天国
Today we welcomed our visitors from Honda to tell about our project and Europe's first hydrogen valley with presentations from Green Planet Pesse, Gasunie, HyNorth, EnTranCe | Centre of Expertise Energy and Bytesnet

Thank you for your visit!

Thank you René Schutte, Arjen van Wijk, Marcel Koenis, Edward Doorten, Hendré Sijbring, Werna Udding and Patrick Cnubben for your presence and contributions

Thomas Brachmann

Vertaling weergeven



HEAVENN

Best Practices and lessons learned from HEAVENN

A convincing project concept with a value chain coverage and technology choices that leverage local assets and address local needs – we need to build the entire value chain in one effort, and also take care of public acceptance and participation.

In Europe: offtake (affordable hydrogen), shortage of trained personnel and shortage of manufacturers are problems.

A combination of different partners helps the project: big partners provide stability and resources; small partners provide agility and inspiration. Each their own strength.

We are in HEAVENN to learn and teach, all hydrogen projects need to share more information to help each other along. Companies need to connect in a transparent way and help each other to excel.

HEAVENN

Thank you for your attention!

- Geerte de Jong
- heavenn@newenergycoalition.org
- https://heavenn.org

HEAVENN

Clean Hydrogen Partnership

Co-funded by the European Union

This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking (now Clean Hydrogen Partnership) under Grant Agreement No 875090. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme, Hydrogen Europe and Hydrogen Europe Research.