

Interreg
North Sea Region
Stronghouse
European Regional Development Fund



EUROPEAN UNION

provincie **D**renthe

 GRONINGEN AIRPORT EELDE

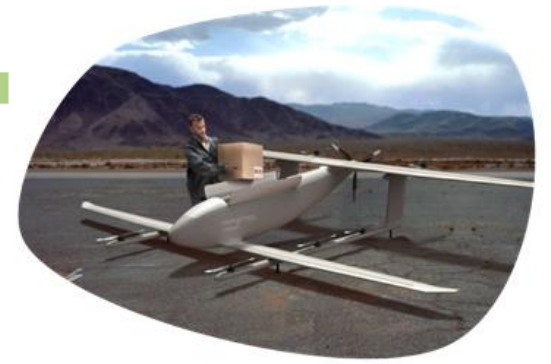
WELCOME!



What is NXT AIRPORT?

- GRQ Program aimed on **Innovation, Sustainability, Energy and Education**
- Knowledge institutions, businesses and governmental institutions cooperate under the NXT Airport umbrella
- NXT Airport connects = strong cooperation, sharing of knowledge and successful innovations
- Ecosystem; fieldlab and scaleable.
- Tuned with NVL, RHIA, Governments, Platform Sustainable Aviation, etc.
- Ambitions: NXT Airport is a physical location on at the airport in '22
 Becoming the most sustainable airport in 2030 in terms of Green Hydrogen
 Scheduled electrical aircraft services (19 seats, range 900 km)

Focus area NXT Airport 'Future of Aviation'



- **Theme Sustainability:** GRQ is '**Hydrogen Valley Airport**'.
Production, Storage, Distribution and (own) use. H2-Ecosystem
- **Theme Energy:** GRQ is an '**Energy Hub**'
- **Theme Education:** GRQ is a living lab & a learning community
- **Theme Innovation:** Focus on Electric Aviation: Hybrid and battery/H2 electric: Pen Em, Power Up, KLM Flight Academy. And Droning.



Future Proof Airports: Innovating the airport infrastructure of today

GRQ 'Hydrogen Valley Airport'

**HYDROGEN
VALLEY
AIRPORT**



GRONINGEN AIRPORT EELDE



Hydrogen airport ecosysteem. Scalable demonstrator at GRQ:

- **1MW Elektrolyser** – connection to 22MW solar park: green hydrogen production at airports
- **Storage** - trailer-fill initially
- **Multifuel-gas station** – serving both land- and airside; from trucks, busses, GSE to planes. H₂, LNG, synthetic kerosene, ...
- **Zero-emission ground handling 2030** – GSE: focus on electrification and H₂. Key element: H₂Multitool (Airstarter, GPU, Airco, mobile charger for remaining GSE)
- **Grid-connection** – H₂-pipeline integration airport - Hydrogen Valley region

1

Storage



Fase 1:

2

Storage



Fase 2:

3

Storage



Distribution

fuel station
local businesses
connection to international
pipeline network

Usage GAE

runway lighting
handling equipment
heating buildings

Usage third parties

sustainable aviation initiatives,
road transport, public transport,
passenger cars, sewage treatment

1MW electrolyser



1MW electrolyser

Output so

Output solar park

Fase 3:

- Storage by **tanks**
- Usage GAE (handling equipment en heating buildings)
- Usage third parties (road transport, public transport, passenger cars)
- Fuel station
- Runway lighting
- Connection to international pipeline network

H2-Ground Power Units (H2-GPUs)



**HYDROGEN
VALLEY
AIRPORT**

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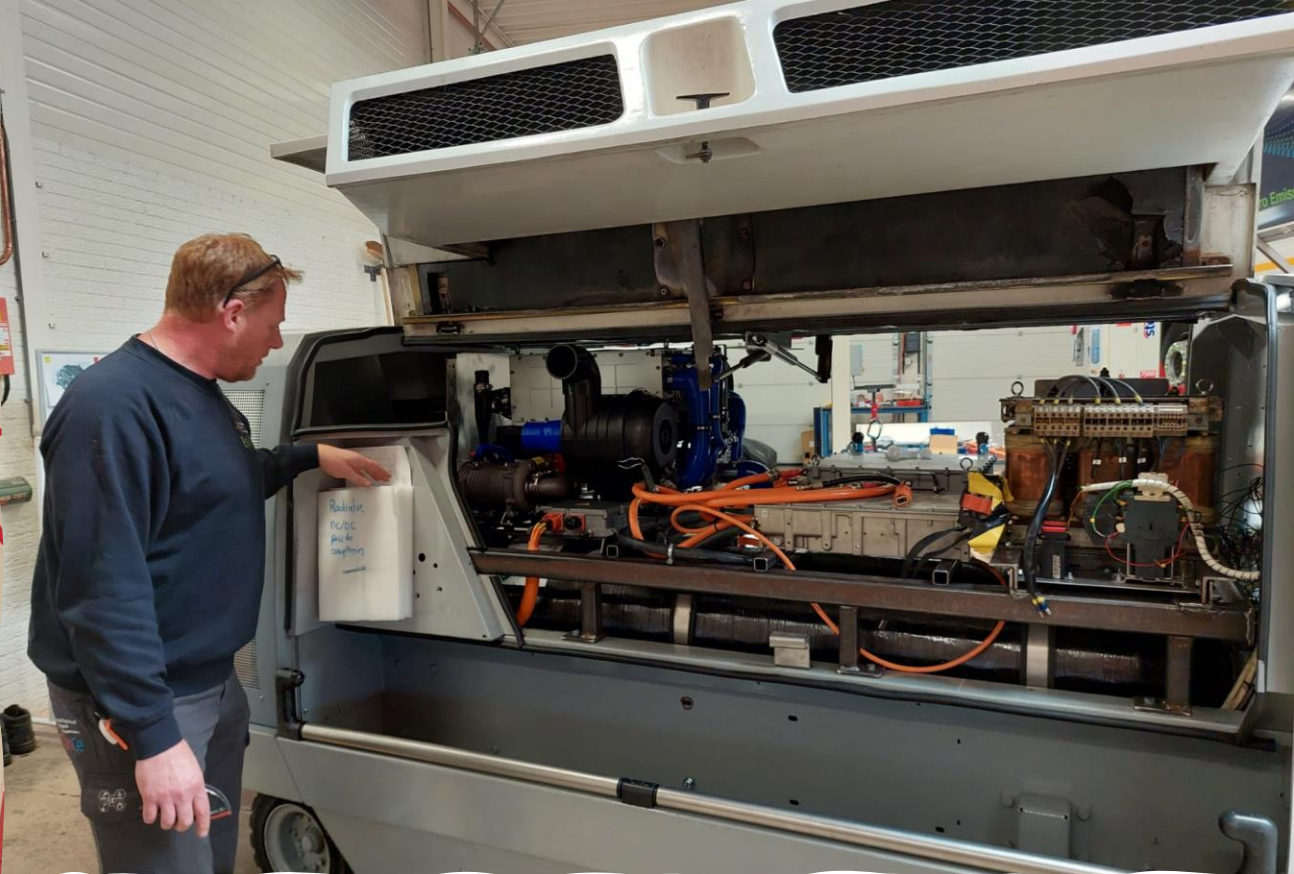



**university of
groningen**



 **KLM** Equipment Services

HyTrEc²
Hydrogen Transport Economy
for the North Sea Region



University of Applied Sciences and 2nd Vocational Education working together with SME's

Critical Success Factors

- Solar field (enabler)
- Front runner position
- Cooperation with (regional) partners
- SME's
- Offering the infrastructure as a (scaleable) testbed to partners
- Subsidies
- Sharing information





Contacts Groningen Airport Eelde



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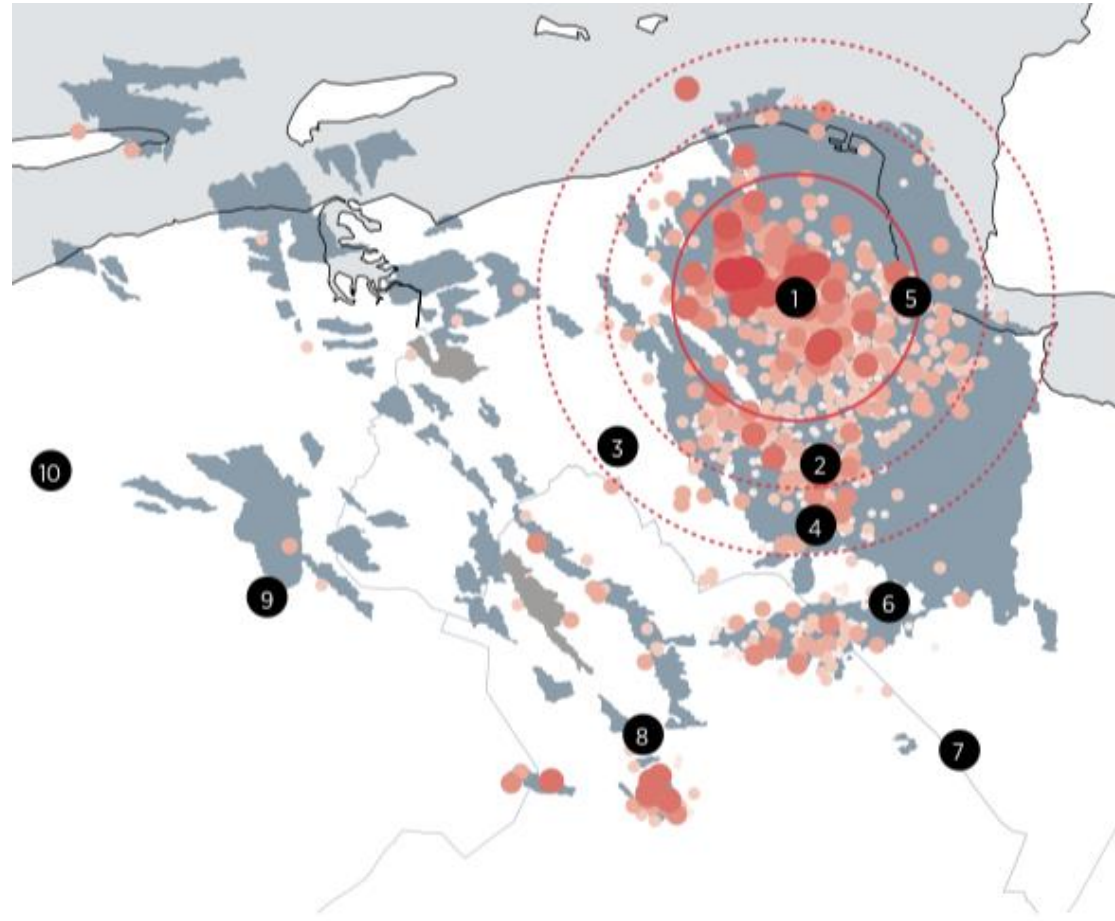
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Situation in the Northern Netherlands

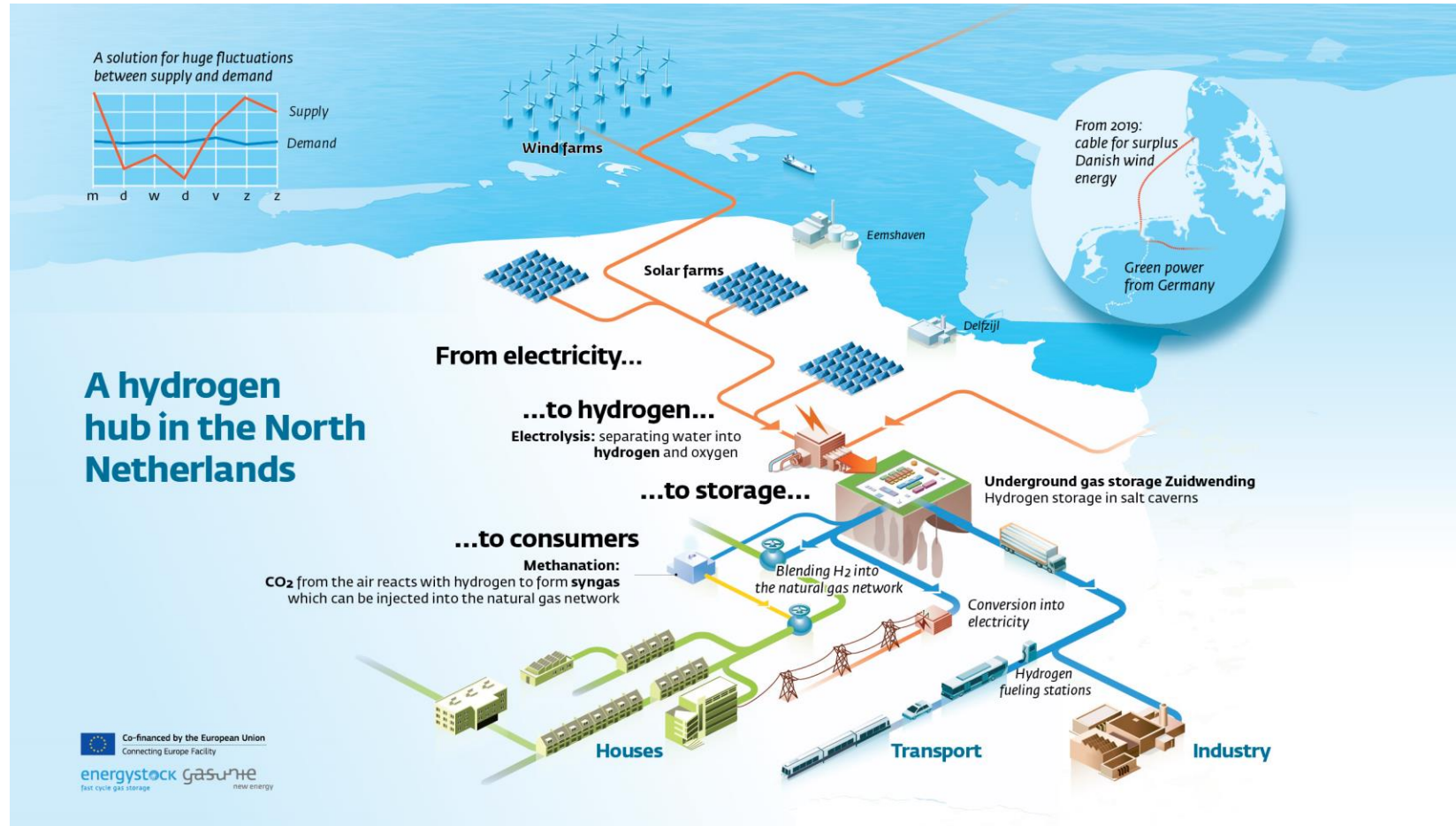
New
Energy
Coalition



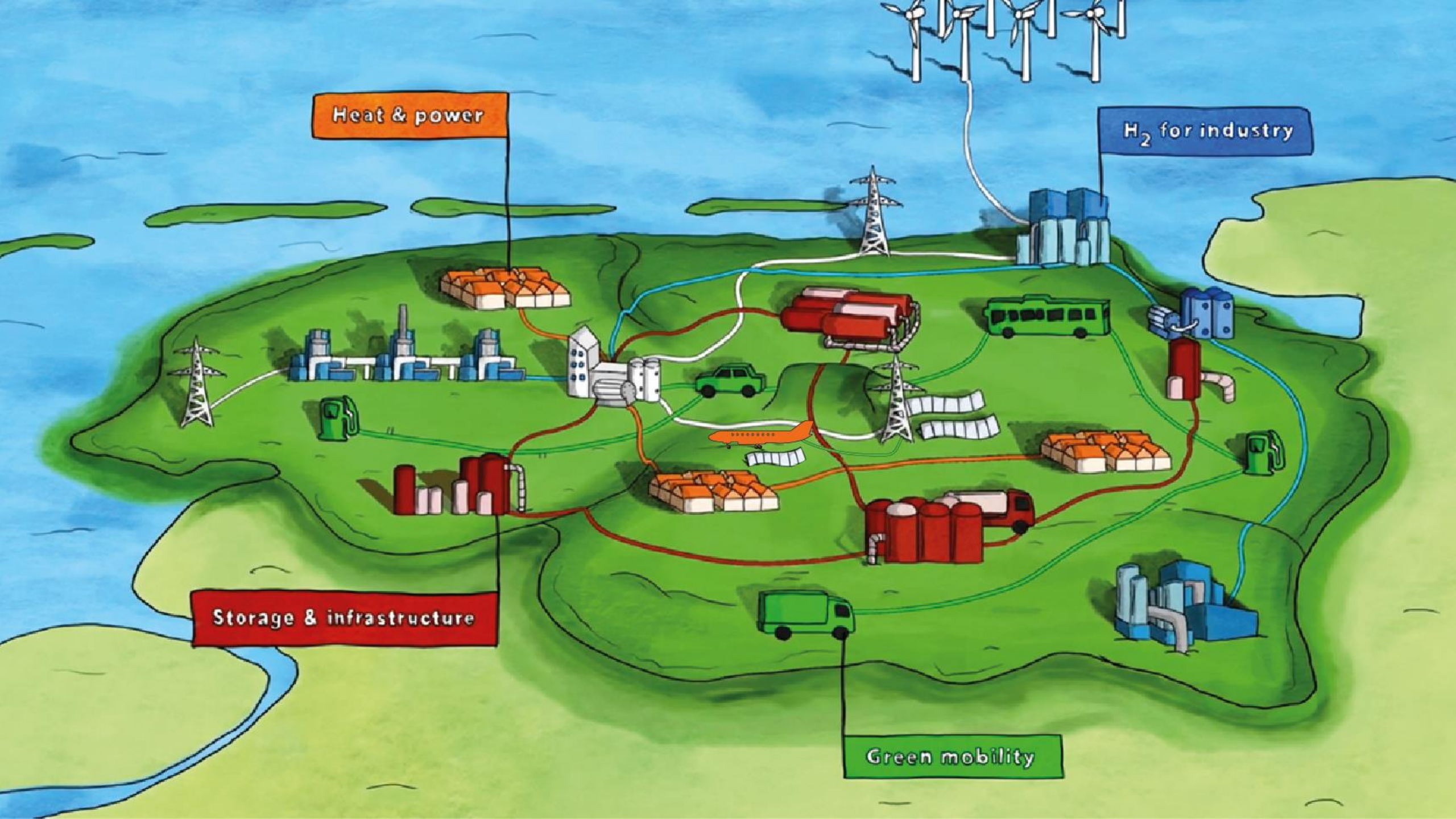
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**HYDROGEN
VALLEY
AIRPORT**

The Region as Green Hydrogen Hub



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Connect Hydrogen Valley's

New
Energy
Coalition

