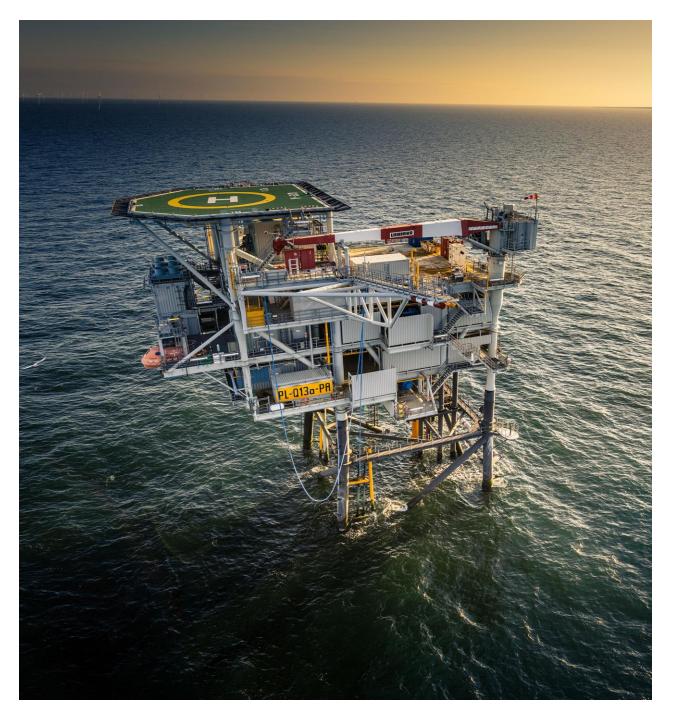
Netherlands

Strategy to transition to a low-carbon energy system: green hydrogen in the Netherlands





Paulina Chromik Embassy of the Kingdom of the Netherlands in India



Hydrogen and the Netherlands

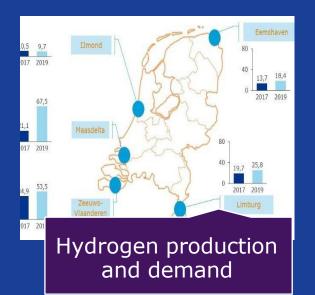
The Netherlands has recognised hydrogen as an essential energy carrier for fuel and feedstock, covering all sectors. Together with governments, business and knowledge institutes, we're partnering up for clean energy.

Why?

- Decarbonisation
- Energy security
- Energy hub-function
- Business opportunities



Drivers for hydrogen in NL



Large existing H2 market is basis for further decarbonization of industrial clusters & transport

Ambition: Electrolyzer capacity 3-4GW in 2030



Large Offshore wind potential

Synergies between offshore wind energy and hydrogen production

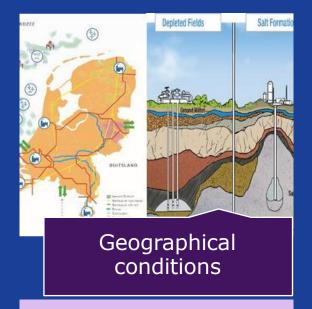
Up to 21 GW of offshore wind capacity by 2030



Existing gas & ports infrastructure

Repurposing of natural gas grid for hydrogen; already over 1000km of dedicated H2 pipeline (NL-BEL-FRA)

Ports as hydrogen- hubs for NW-Europe



Hydrogen for the underground storage of renewable energy in salt caverns



Overview of the H2 organisations in NL

Excelling in Hydrogen Dutch solutions for a climate-neutral world





Netherlands

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Overview of the H2 projects in NL

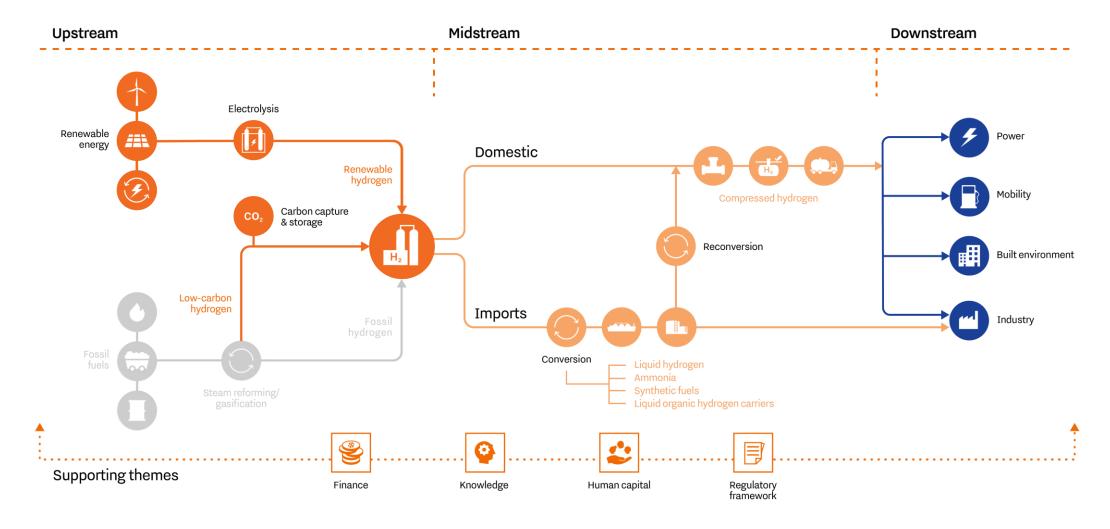
Interactive map with overview of over 200 hydrogen projects in NL and their status

Missie H2 & TKI Waterstofkaart



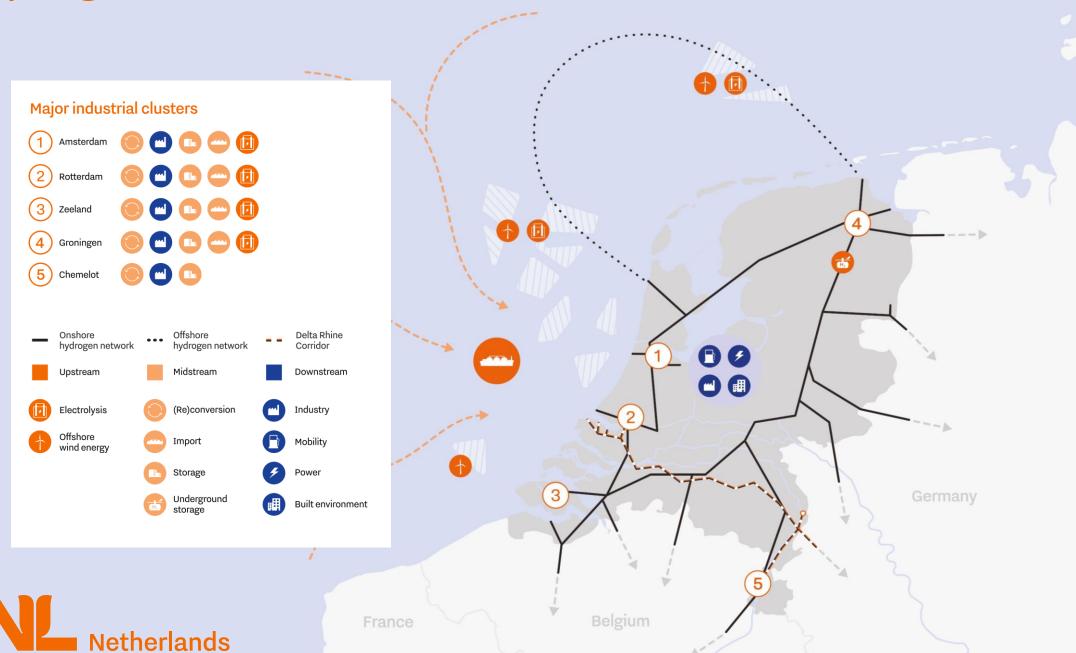


Hydrogen value chain





Hydrogen value chain



National Hydrogen Strategy 2020



30 March 2020 sent to the House of Representatives of the Dutch Parliament

https://www.government.nl/documents/publications/2020/04/06/government-strategy-on-hydrogen



Highlights

- Systemic role of clean hydrogen recognized in a zero-carbon energy supply.
- NL unique start position for clean hydrogen.
- Use strong momentum: adequate funding & regulation.
- Opportunities for companies and regions.
- International strategy: accelerate scaling-up.
- Policy agenda with 4 pillars.
- Joint public-private partnership: National H2 Program

www.nationaalwaterstofprogramma.nl

Dutch Policy Agenda: 4 pillars



Legislation & Regulation

Cost reduction & Scaling up H₂



- Use of existing gas grid.
- Market regulation and tasks for network operators.
- Guarantees of Origin's & certification.
- Safety.
- Regulations for e.g. location of electrolyzer.

- Support for research, scaling up and rolling out.
- Linking hydrogen to offshore wind energy.
- Evaluation of blending requirements.



Sustainable end use

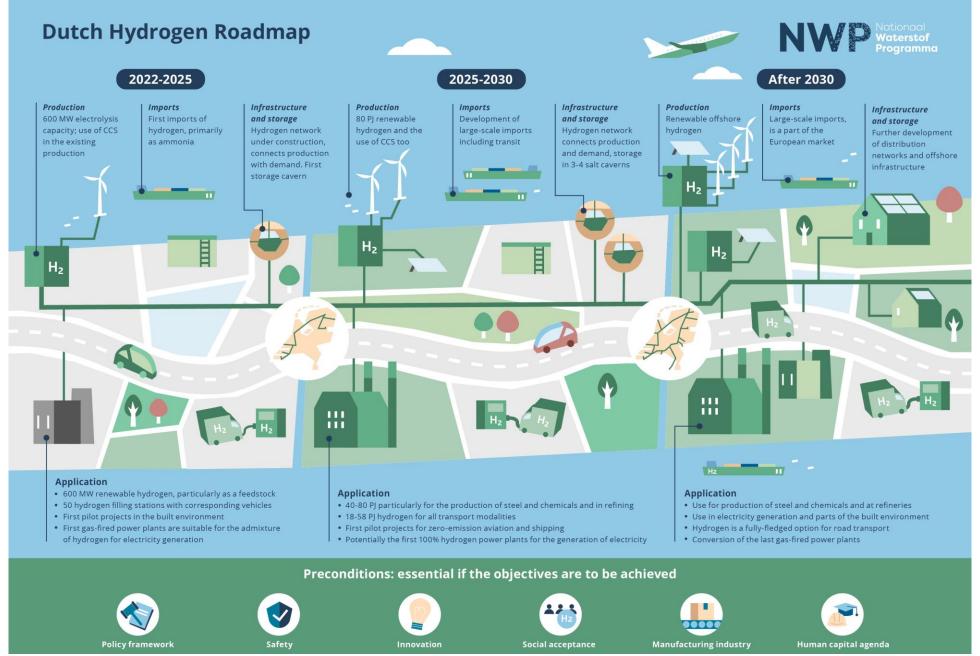
- Ports and industry clusters.
- Transport.
- Built environment.
- Electricity sector.
- Agricultural sector.

Supporting policy



- International Strategy (IPCEI, Penta-lateral Forum, North Sea cooperation, bilateral cooperation, EC).
- Regional policy (RES).
- Research and Innovation.







Policy letters sent to the Parlament – June '23

1. Overview of Policy Instruments to Stimulate Hydrogen

- €9 billion reserved for H2 from the Climate Fund
 - <u>In 2024 €1 billion for electrolysis and €300 million for import</u> via H2 Global
- Announcement of **quota obligation** in industry and mobility in line with RED (42% RFNBO in industry and 1% RFNBO in mobility in industry)
- **Enabling environment:** preferred location assignment for large electrolysers, faster permitting, etc
- New ambition: 8GW electrolysis in 2032.

2. Energy Diplomacy and Hydrogen Imports

- NL is preparing to import hydrogen (derivatives) on a large scale with certifications, infrastructure, safety protocols, etc.
- Development of corridors with EU countries: Spain, Portugal and Scandinavian countries.
 Outside EU: Us, Canada, Middle East, Africa, South America and Australia
- Cooperation with neighbor countries: Germany and Belgium (infrastructure interconnections, H2 Global)



Draft National Plan Energy System – July 2023



- 15-20 GW electrolysis in 2040
- >2035, large scale
 offshore electrolysis
- Large potential

 offshore wind at the

 North Sea. Target: 20

 GW by 2030 & 70 GW

 by 2050







Netherlands

I would love to continue the conversation.

- Paulina Chromik
- paulina.chromik@minbuza.nl
- +919711617306

Thank you!



