



Ministerie van Economische Zaken
en Klimaat

Hydrogen State of Play

Gasunie Webinar

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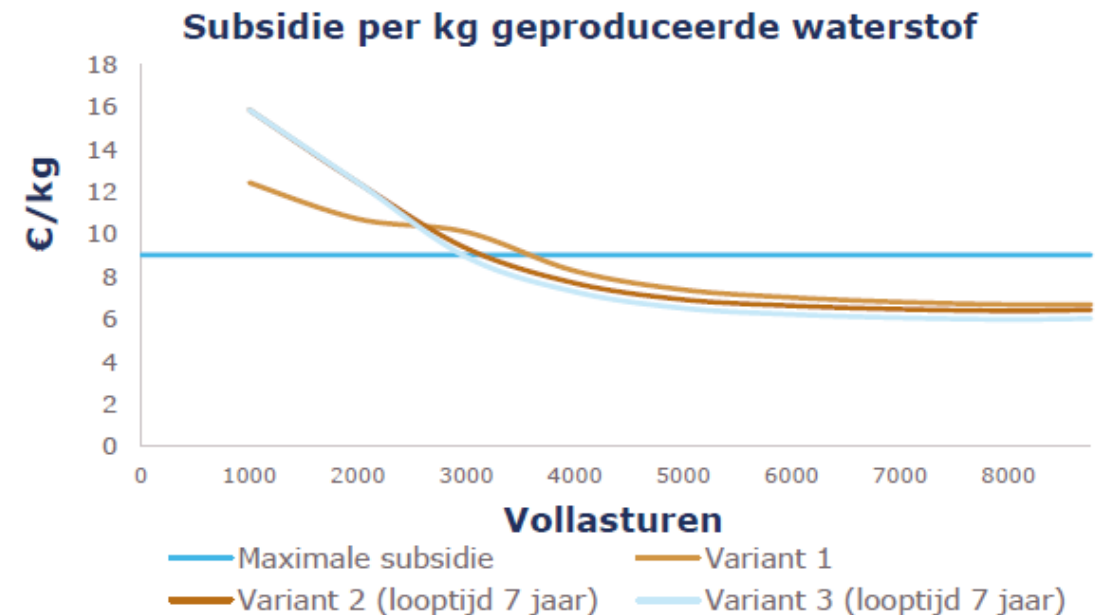
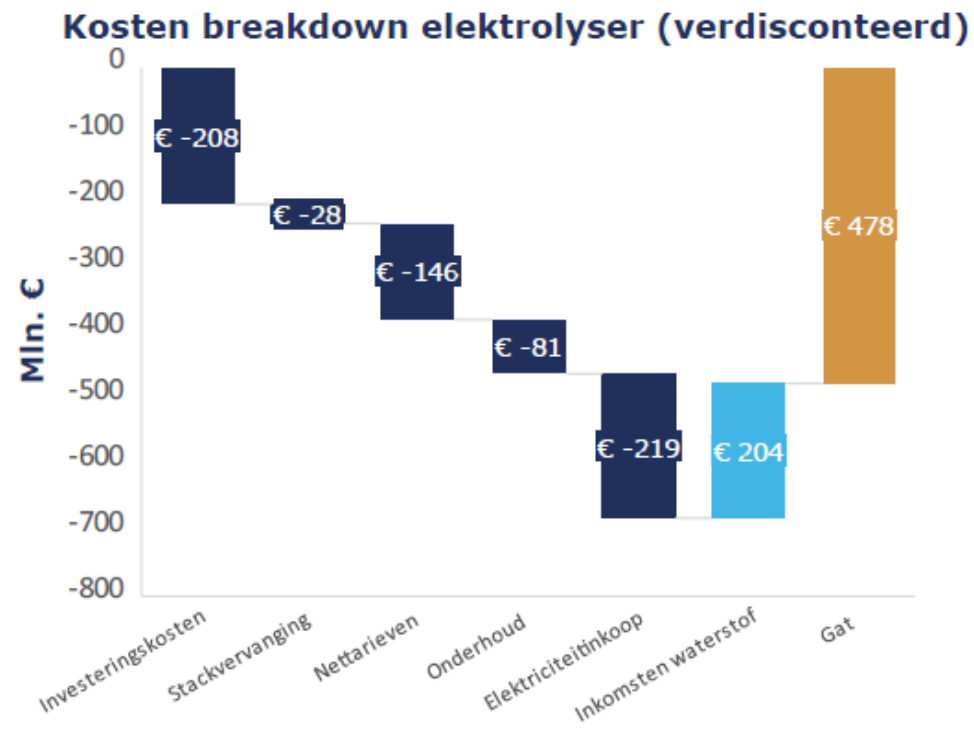
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Business case for renewable hydrogen production

Example of a 100 MW electrolyser. Reference is grey hydrogen selling price + ETS





A few electrolyser projects were already granted subsidy and we expect many more to come

Subsidies already granted

- › 783,5 million EUR in IPCEI hydrogen Hy2Use wave: 7 large scale electrolyse projects were granted subsidy in 2022. 1 FID taken so far
- › 250 million EUR in first round of OWE for smaller scale projects (0,5 - 50 MW): 7 projects were granted subsidy in 2024. No FID's taken yet.

Upcoming tenders: OWE

- › 1 billion EUR tender in October 2024
- › 2,9 billion expected budget for tender(s) in 2025

Design principles of OWE

- › For projects of 0,5 MW and up
- › Max 80% of Capex is eligible. In addition some opex support is eligible up to a total subsidy intensity of 9 EUR per kg hydrogen produced



Hydrogen backbone regulations

- › Decarbonisation Package will be published shortly.
- › Implementation into Energiewet within 2 years.
- › Regulated grid operations as of 2031.
- › Up to then: development and operation of hydrogen backbone is a Service of General Economic Interest.
- › Subsidy has been granted to HNS October last year (EUR 750 mln)
- › Negotiated Third Party Access. Ministry has set and will set a couple of conditions:
 - Tariffs (has been set in subsidy grant)
 - Hydrogen specifications: purity level and temperature (to be decided upon)
- › A subsidy has been given to National Metrology Institute VSL to investigate a primary measurement standard for high pressure hydrogen flows.



Tariffs (price level 2020)

CAPEX (a)	1545
Afschrijvingstermijn (b)	30
Afschrijvingskosten (a/b)	51,5
WACC (c)	4,04%
Vermogenskosten (a)*(c)	62,4
Operationele kosten	40
Totale kosten	153,9
Capaciteit (d)	4,0
Tarief entry + exit (totale kosten/(d))	38,48

- › 50 - 50 entry exit split
- › Price level 2023
 - Entry: € 21,13/kW/year
 - Exit: € 21,13/kW/year



Hydrogen Specifications - purity level

- › Decision on the quality specifications will be taken by the Minister of Climate and Green Growth.
- › Preference in NL for high purity level (>99.5%). Alignment with Germany and Belgium is important.
- › In neighbouring countries, there is increasing support for a minimum purity requirement of 99.5%.
- › Future HTNOs, including HNS, are working on a common specification based on a high purity level. European standardization process starts soon but will take three years.

Next steps:

- › Common specification expected by the end of this year/ beginning next year. We will consult market parties to verify that input of all stakeholders is taken into account.
- › Application of quality specifications will form part of obligations of HNS as provider of the Service of General Economic Interest.



Hydrogen Specifications - max feed-in temp

- › Maximum feed-in temperature for the natural gas network is 30C.
- › In a market consultation, various market parties have expressed that this temperature limit is too restrictive. It requires additional investments in cooling processes or limits the operational hours of the installation.
- › A higher feed-in temperature will have an impact on surrounding of the pipeline. The pipeline is not a concern as the design temperature is higher.

Next steps:

- › We have engaged a technical/environmental consultant to study the impact of a higher temperature.
- › Results will be available in autumn.
- › Feed-in temperature will be part of the hydrogen specifications that the minister will decide upon.



HyRegions

> **HyRegions traject objectives:**

- National network does not reach all hydrogen users/producers. Also important for these companies to get an outlook on connection possibilities. Therefore important to:
 - Explore regional infrastructure possibilities
 - Examine the market regulation aspects ('marktordening')

> **Initial research:**

- Conducted by Trinomics and Blueterra for EZK, RVO, Provinces and network operators
- Analysis of potential concentrated hydrogen demand outside the 5 industrial clusters
- HyRegions report is available online: [HyRegions report](#)

> **Next steps:**

- EZK to develop a market organisation model for regional transport services
- Further study of representative hydrogen areas and connection options (together with network operators)



Delta Rhine Corridor

- › Letter to Parliament has been sent on the delay of the multimodal Delta Rhine Corridor.
- › DRC contains the important East-West connection between the industrial clusters at the coast and the Eastern part of the Netherlands and Germany.
- › Cabinet has decided that given the spatial procedures have already begun, the procedures will be continued as a multimodal infrastructure corridor.
- › Delay of around 4 years is expected; DRC available for operations around 2032, with uncertainties remaining.