

## Info

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**An:** Info  
**Cc:** Smit H.J. (Harry); Lycklama a Nijeholt E.E. (Eddie); Noble G.W.M. (Gareth); Kiel A. (Anjo); Kiewiet B. (Bert); Schmücker, Christiane; Terhuerne, Christian; Raß, Nicolai  
**Betreff:** FW: Exchange capacities and Hydrogen qualities at German IP's

Dear all,

With respect to today's deadline for statements to the **German NDP 2022 – 2032: Consultation on Scenario Framework** we present an overview of the expected exchange capacities ranges at the IP's on the Dutch-German border (Vlieghuis, Zevenaar and Oude Statenzijl) for the years: 2025; 2032 an 2035. A capacity range is presented because the available IP capacity will depend on the location the Hydrogen is produced and the foreseen development/strengthening of the network in time. It is important to notice that the communicated exchange capacities are based on current insights into market development scenario's in the Netherlands and surrounding countries (Belgium and Germany). IP capacities are to a certain extent interchangeable between these different market area's. On the German IP's there is interchangeability between Zevenaar and Oude Statenzijl.

IP	2025	2032	2035
	GW (HHV)	GW (HHV)	GW (HHV)
		Without strengthening of the grid	With strengthening of the grid
Oude Statenzijl	0	1,2 - 2,2	2,5 – 3,0
Vlieghuis	0,5	0,5	0,5
Zevenaar	0	2,9 - 3,2	3,6 – 5,6

Furthermore we present the Gasunie proposal for Gas Quality for the H2-backbone. This proposal will be discussed with our Ministry of Economic affairs in short notice. The final quality specification will be established by the government over time in a Ministerial regulation.

**Table 1: Quality Specification Hydrogen Backbone**

Constituents	Unit	Minimum	M
Hydrogen (H <sub>2</sub> )	mol/mol	98	
Total sum of hydrocarbons including CH <sub>4</sub> (C <sub>x</sub> H <sub>y</sub> )	mol/mol		
Oxygen (O <sub>2</sub> )	μmol/mol (ppm)		
Total sum of inerts (N <sub>2</sub> , He, Ar)	mol/mol		
Carbon dioxide (CO <sub>2</sub> )	μmol/mol (ppm)		
Carbon monoxide (CO)	μmol/mol (ppm)		
Total sulphur including H <sub>2</sub> S (S)	μmol/mol (ppm)		
Formic acid (CH <sub>3</sub> OOH)	μmol/mol (ppm)		
Formaldehyde (CH <sub>2</sub> O)	μmol/mol (ppm)		
Ammonia (NH <sub>3</sub> )	μmol/mol (ppm)		
Halogenated compounds	μmol/mol (ppm)		
Water dewpoint (H <sub>2</sub> O)	°C @ 70 bara		
All other impurities	Shall not contain solid, liquid or gas material that might interfere with the integrity or operation of pipes or an appliance		

**Table 2: Additional Specification Hydrogen Backbone**

Property	Unit	Minimum	M
Gas temperature	°C	5	

Kind regards,

Anjo Kiel

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