

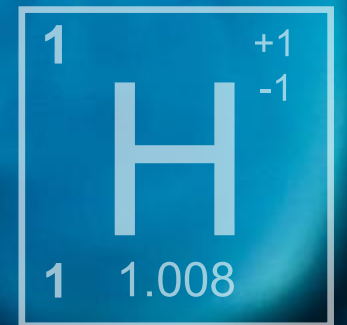
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Hydrogen Purchase Agreements: Data requirements from case study H2Global

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H2Global is a support mechanism offering 10-year “take or pay” HPA's to boost the PtX market at industrial scale

H2Global relies on the “Hydrogen Intermediary Network Company” (HINT.Co) which **unites supply and demand**



Source: H2Global. h2-global.de/wp-content/uploads/2021/09/Fact-Sheet-H2Global-Sep.-2021-EN.pdf

- HINT.Co is a market maker which will buy and sell PtX products: renewable H2-based ammonia, methanol and e-kerosene.

1

- **HINT.CO** offers PtX project developers a **10-year Hydrogen Purchase Agreement (HPA)** with a maximum budget of **300 MM EUR per project** (tender round 1 budget)

- HINT.CO acts as a **bankable off-taker**, guaranteed by a foundation **equipped with federal funds**.

2

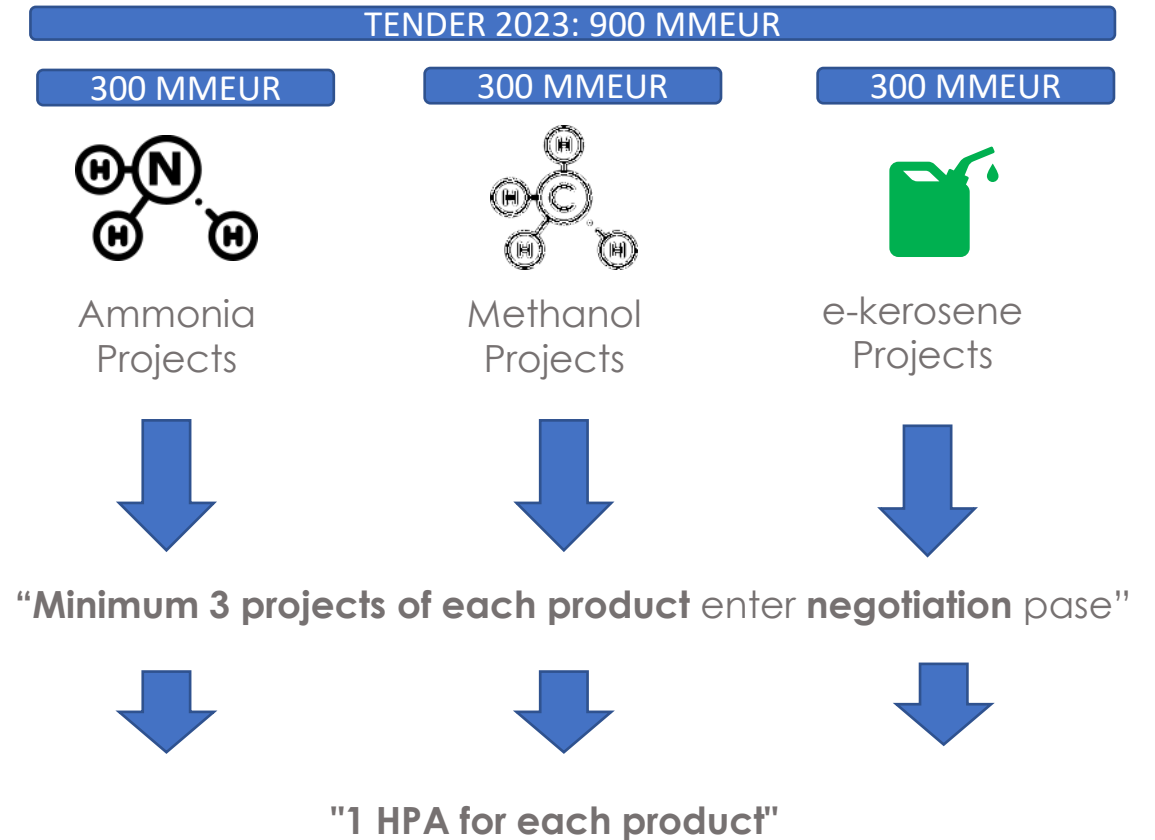
HINT.Co enters into **long-term HPAs** on the supply side and **short-term H2 sales agreements (HSAs)** on the demand side

Objectives of H2Global:

- promote and effectively increase the market for **sustainably produced** renewable H2, ammonia, methanol and e-kerosene in countries out of Europe to provide its availability in Germany and Europe
- contribute to environmental and climate protection.

H2Global starts “small” but is getting bigger with new German Funds, other MS Funds and European H2 Bank

- **The contract may be awarded at the lowest bid price and the highest sale price.** Therefore, HINT.Co seeks to keep the price difference between production and demand to be compensated as low as possible.
- The price of renewable ammonia, methanol and e-kerosene needs to include **production and logistic costs.**
- In tender round 1 (2023), there is **one tender for each product: ammonia, methanol and e-kerosene.**
- 1 project will be selected for each carrier: "1 HPA for each product" --> funding amount per carrier will be 300 MM€ over 10 years.

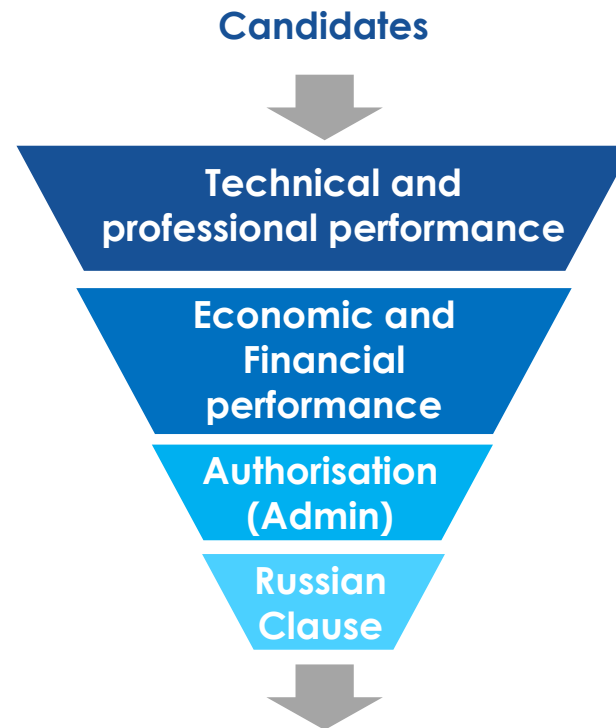


H2Global tender is a 2-stage process

Stage 1: pre-selection of projects mainly based on economic performance of bidding companies

4 categories with different minimum selection criteria

(Legal framework: Art 58 Directive 2014/24/EU ("Directive") / 45, 46
Vergabeverordnung ("VgV"))



Participants

"At least 3 and a maximum of 5-6 projects per carrier will be shortlisted"

Stage 2: projects will need to meet stringent sustainability criteria

in alignment with RED II Art. 25-30 RFNBO definitions and additional criteria for renewable hydrogen

1

Sustainability criteria

Electricity sourcing

GHG emissions

Carbon sources

Water

Site selection

Waste and pollutant management

Labour and social standards

2

In alignment with EU RFNBO definitions and criteria

Two 'Delegated Acts', define what the EU qualifies as *renewable* hydrogen. They address respectively: 1) the rules for the use of electricity from renewable sources for the production of renewable fuels of non-biological origin and 2) a methodology to calculate GHG emissions savings for these fuels, considering the full lifecycle of the fuels and requiring at least a 70%* emissions reductions compared to the fuels they replace.

*73% in the case of H2Global, assuming default transport emissions to defined EU ports (Germany, The Netherlands, or Belgium).

Declaration of min. 73% emission savings to be submitted via Los 2_22.

9. GHG EMISSIONS SAVINGS (INCLUDING CONDITIONS FOR CO2 PROCUREMENT)

9.1 The GHG emissions savings that would result from using the Product at the Point of Delivery are at least 73 per cent. The GHG emissions savings are calculated in accordance with the methodology for assessing GHG emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuels as set out in Article 28(5) RED II in conjunction with DA-Art28(5)-REDII, with the following additional, deviating and clarifying conditions:

- 9.1.1 The fossil fuel comparator of the Product is set at 94 gCO₂eq/MJ⁵.
- 9.1.2 Emissions from transport and distribution that occur after the Product has been delivered to the Point of Delivery are not taken into account.
- 9.1.3 Electricity deriving from admissible renewable sources according to Section 4.2 of this Annex shall be attributed zero GHG emissions.

9.2 For the purpose of Initial Verification of Seller's compliance with the requirements set out in Section 9.1, Seller shall provide the following information to the Conformity Assessment Body selected according to the provisions under Annex 6.6:

- 9.2.1 GHG calculation based on data as built and forecasted production and delivery for the first calendar year of operation.
- 9.2.2 Evidence for electricity mix of the recent grid mix, including share of Renewable Electricity and grid GHG emission footprint.
- 9.2.3 Proof of carbon input sources including quantities (e.g. purchase contracts) and the respective carbon footprint of carbon input validated by third party verifier accredited under ISO 14065:2020⁸.
- 9.2.4 If applicable, the construction and operating permit of an installation that captures CO₂ from the air.
- 9.2.5 Documentation of the Energy Management System.

9.3 For the purpose of Periodic Verification of Seller's compliance with the requirements set out in Section 9.1, Seller shall provide the following information to the Conformity Assessment Body selected according to the provisions under Annex 6.6:

- 9.3.1 GHG calculation based on the actual production data for the entire verification period.
- 9.3.2 Evidence for electricity mix of the recent grid mix, including share of Renewable Electricity and grid GHG emission footprint.
- 9.3.3 Proof of carbon input sources including quantities (e.g. invoices) and the respective carbon footprint of carbon input validated by third party verifier accredited under ISO 14065:2020 and, if applicable, proof of transfer of these EU ETS allowances to an account at the Deutsche Emissionshandelsstelle (DEHSt-Handelkonto) specified by Hintco.
- 9.3.4 If applicable, the operating permit of an installation that captures CO₂ from the air.
- 9.3.5 Documentation of the Energy Management System.

Initial verification before delivery start by ISO 14065 accredited 3rd party verifier

Periodic verification once delivery starts by ISO 14065 accredited 3rd party verifier

Emissions scope until DE – BE – NL port.

ISO 14065: "principles and requirements for bodies validating and verifying environmental information"

▶ Section 6.2 of HPA, **Seller is obliged to meet Additional Sustainability Requirements (ASR)**. This Annex defines those ASR and specifies the information that must be submitted by Seller for the purpose of verification. The requirements are categorized in (numbers aligned with tender docs):

- 3. Protection of dry regions
- 4. Land use
- 5. Forced Resettlement
- 6. Biodiversity
- 7. Environmental Management System
- 8. Local value creation and gender
- 9. Labor Standards
- 10. Requirements specified in the procurement procedure
- 11. Miscellaneous

3. PROTECTION OF DRY REGIONS

3.1 Seller shall ensure that Fossil Water and Water Intended for Human Consumption is **not consumed** in a Value Chain Activity **within an area which qualified for a Dry Region** at the time of the conclusion of this Agreement.

For the purpose of Initial Verification of Seller's compliance with the requirements set out in Section 3.1, Seller shall provide the following information to the Conformity Assessment Body selected according to the provisions under Annex 6.6: **[such as**

- **List of all Value Chain Activities that will be carried out until first periodic verification and that will involve the consumption of water.**
- **List of all water procurements contracts that have already been concluded and that underly this consumption of water.**
- **List of water supply sources including their geographical location.**

3.2 For the purpose of **Periodic Verification** of Seller's compliance with the requirements set out in Section 3.1, Seller shall provide the following information to the Conformity Assessment Body selected according to the provisions under Annex 6.6: **[such as**

- **List of all Value Chain Activities that were carried out during the period which is subject to the respective periodical verification and that involved the consumption of water.**
- **List of all water procurement contracts that were effective during the period which is subject to the respective periodical verification.**
- **List of sources of water supply including their geographical location.**

Initial and Periodic Verification just before delivery start

YOUR CONTACT



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