



Market consultation Delivery of a chiller package

On behalf of N.V. Nederlandse Gasunie

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Version: Final

N.V. Nederlandse Gasunie
Groningen, October 2025

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1 GENERAL INFORMATION

1.1 Introduction

This document contains information regarding the market consultation for the delivery of a chiller package for HyStock on behalf of N.V. Nederlandse Gasunie (hereinafter: Gasunie).

Gasunie is currently exploring the possibility of a tender for the delivery of a chiller for HyStock. As part of this exploration, Gasunie is conducting this market consultation to gain insight into the extent of possibilities and interest in the market, as well as the best way to structure a potential tender. Your response will serve as one of the sources of information based on which a follow-up strategy will be determined.

1.2 N.V. Nederlandse Gasunie

Gasunie is an energy infrastructure company. In the Netherlands and Northern Germany, we manage the infrastructure for large-scale transport, storage, and conversion of gas. Currently, this mainly involves natural gas. With the energy transition, this is increasingly shifting towards green gas and hydrogen. In addition, we are working on the development and management of networks for heat and CO₂.

Our task is to provide safe, reliable, affordable, and sustainable energy infrastructure services, ensuring that energy is always available to everyone. Safety, reliability, sustainability, and cost awareness are our top priorities.

Gasunie's network is one of the largest high-pressure gas transport networks in Europe, consisting of more than 15,000 kilometers of pipelines, 1,000 gas receiving stations, and dozens of installations in the Netherlands and Northern Germany. Gasunie's infrastructure is part of Europe's 'gas roundabout'. Through this network, gas can be easily traded and transported. The annual throughput of gas is approximately 100 billion cubic meters.

Our Mission

Gasunie is a leading European energy infrastructure company. Gas transport and gas storage are our core activities. We serve the public interest and facilitate the energy transition by offering integrated infrastructure services. We focus on creating value for our shareholder(s) and other stakeholders, and we apply the highest safety and business standards used in the sector.

Our Vision

We believe in a sustainable future with a balanced energy mix and a continued role for gas from various sources. We believe we best serve our customers with innovative solutions in the field of (gas) infrastructure.

Our Three Pillars

- Ensuring a safe, reliable, affordable, and sustainable gas infrastructure in our core region.
- Contributing to efficient gas infrastructure and services for a well-functioning European natural gas and LNG market.
- Accelerating the transition to a CO₂-neutral energy supply.

Gasunie Suppliers Code of Conduct

Maintaining a strong reputation is of great importance to Gasunie in achieving its objectives.

Gasunie considers it its responsibility to ensure that its services are delivered within a value chain that complies with international standards. Collaboration with suppliers and partners must take place in a professional, careful, and ethical manner.

All Gasunie employees are subject to the Code of Conduct, including those working for companies within the Gasunie group and those seconded to or working on behalf of Gasunie. For suppliers, the Gasunie Suppliers Code of Conduct applies, which can be found on our website:

<https://www.gasunie.nl/leveranciers>. The Gasunie Suppliers Code of Conduct is applicable to this market consultation.

More information about Gasunie can be found at www.gasunie.nl.

1.3 HyStock

One of Gasunie's new projects is HyStock at Zuidwending, Gasunie is working on the hydrogen storage project HyStock. Gasunie plans to develop the first large-scale hydrogen storage facility in Northwest Europe at this site. Zuidwending is located above a salt dome, which is highly suitable for underground hydrogen storage. This makes it possible to store energy for several weeks or even months.

In 2030, the first cavern and an above ground installation will be commissioned. It is expected that in the following years, four hydrogen caverns will be required to meet demand. This will necessitate the expansion of the current above-ground installation. The hydrogen caverns will be connected to the still-developing H₂ Backbone project. With this connection to the national hydrogen transport network (H₂ Backbone project), companies throughout Northwest Europe will be able to supply and offtake hydrogen. In this way, HyStock facilitates the transition to a clean and sustainable society.

2 INFORMATION ABOUT THIS MARKET CONSULTATION

2.1 Purpose of this market consultation

Through this market consultation, Gasunie aims to obtain answers from market parties to several questions and/or to validate the draft scope, to ensure that the tender can be launched in the most suitable way for the market. Additionally, Gasunie seeks to reach potential market parties to engage and encourage them to contribute their ideas.

2.2 Scope

The scope of services and delivery broadly includes the ammonia coolant loop, including the exchanger that cools the chilled water. So everything inside the dotted line on the PFD.

2.3 Process conditions

1. Feed: Wet Gas (from cavern)

The process starts with high pressure wet gas coming from the cavern.

This gas consists mainly of H₂ (98%), with small fractions of N₂, CH₄, and a minor amount of H₂O.

2. Choke + H₂ Air Cooler

The gas first passes through a choke and then an air cooler (E-100).

Temperature is reduced from some 50-70 °C to 40 °C.

Pressure: approx. 70 bar.

3. TEG Contactor

The cooled gas enters the TEG contactor

Moisture is removed here:

Outlet gas is essentially water-free (dry H₂ gas) at 42 °C and 70 bar.

4. Heat Exchanger (E-100)

Here the dry hydrogen gas is cooled by a chilled water circuit (60% water/40% MEG) to 30 °C.

5. Pump (P-100)

The chilled water circulation from the heat exchanger (water + MEG) is driven by P-100.

Pump power: 7 kW.

6. Kettle type heat exchanger (E-101)

Here the chilled water from P-100 is cooled by evaporating ammonia from the ammonia chiller. The pressure on the ammonia side is such that the ammonia evaporates at 10 °C.

7. Compressor (K-100)

The evaporated ammonia vapor is sent to compressor K-100.

Pressure is increased from approx. 6 bar to 16 bar.

Compressor power: 340 kW.

8. Aftercooler (AC-101)

The compressed ammonia vapor is cooled and condensed in an air cooler (AC-101).

Inlet temperature: 104 °C, outlet temperature: 40 °C

Final condition: 15.4 bar / 40 °C / liquid ammonia.

9. JT-valve

Across the JT-valve, some of the ammonia evaporates, lowering the temperature to 12 °C.

Please note that the chiller scope consists of the kettle type heat exchanger E-101, the compressor K-100, the air cooler AC-101 and the JT-valve.

3 PROCEDURE

3.1 Structure and format

Publication of this market consultation has taken place on Tendered. The market consultation document is digitally available at www.tendered.nl.

Based on this document, market parties can gain an understanding of the potential assignment. To gain insight into the market, Gasunie has formulated a number of questions, which are included in Annex 1. This annex also serves as the response form on which market parties can provide their answers.

The market consultation will be conducted in written. This document is intended to provide you with (preliminary) background information and a high-level scope description of the project. In addition, Gasunie has formulated several questions. These questions are included as Annex 1. With this market consultation, Gasunie aims to obtain answers to several questions for which Gasunie currently lacks sufficient insight. Insights gained from the market consultation will be used by Gasunie (where relevant) in the preparation of a (potential) European tender. Gasunie reserves the right not to use, or not to fully use, these insights.

Questions or uncertainties regarding this market consultation

If you have any questions, you may use the form provided in Annex 2, "Template for submitting questions." The completed document can be sent by email to the contact person listed below. The deadline for submitting questions is specified in paragraph 3.2.

The Information Notice containing the answers to the submitted questions will be published on the date mentioned in paragraph 3.2 on Tendered. All submitted questions will be anonymized by Gasunie before being included in the Information Notice.

Submitting Responses to the market consultation

To respond to the market consultation, you are requested to answer the questions as outlined in Annex 1. We kindly ask you to provide well-reasoned and clearly explained answers. Once completed, the document can be sent via email to the contact person listed below.

We kindly request that your responses be submitted no later than the date and time specified in paragraph 3.2.

Clarification

The clarification is intended to give Gasunie and bidders the opportunity to discuss the responses to this market consultation based on the specifications of the assignment. The aim is to verify the assignment specifications. The clarification is optional. Gasunie provides the explanation when the answers to the questions are unclear.

Contact person

The contact person for this market consultation is Hilde Gels, Senior buyer. Can be reached at the e-mail address h.h.gels-veenstra@gasunie.nl.

Final Report Available to Participating Parties

The market consultation will be concluded by sending an (anonymized) report to all participating parties. In addition, the report will be published as an annex to any potential tender announcement. By participating, parties give their consent for the provided information and/or data to be used for this purpose, in accordance with the confidentiality provisions outlined in paragraph 4.2.

The content of the report will not be shared in draft form with participating parties prior to publication.

3.2 Planning

No rights can be derived from the planning below. The dates shown in bold are critical deadlines, unless Gasunie communicates otherwise. Gasunie reserves the right to modify the planning at any time.

Activities	Datum / Period
Publication op Tendered	13 October 2025
Deadline for submitting questions (for the purpose of the Notice of Information)	27 October 2025, 11.00 hour
Publication of the Notice of Information	31 October 2025
Deadline for submitting responses	10 November 2025, 11.00 hour
Evaluation of responses	13 November 2025
Clarifications - OPTIONAL	18 November 2025
Final report available	9 December 2025

3.3 Conditions

By participating in the market consultation, the market party agrees to the following conditions:

1. Communication will take place in English.
2. All communication must be directed exclusively to the contact person mentioned in paragraph 3.1.
3. Your responses are confidential and will only be shared within Gasunie.
4. The information provided will be used solely for further research and advisory purposes.
5. The scope and requirements may change based on the information provided.
6. Gasunie is not bound by the outcomes of the market consultation.
7. Participants cannot derive any rights from this market consultation.
8. If necessary, Gasunie may contact market parties to gather additional information.
9. Gasunie reserves the right to modify the planning if needed.