



Market Consultation

Small recompression unit

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Version 1.0

N.V. Nederlandse Gasunie
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1 GENERAL INFORMATION

1.1 N.V. Nederlandse Gasunie

The N.V. Nederlandse Gasunie (hereafter Gasunie) manages and maintains the infrastructure for large-scale transport and storage of gas in the Netherlands and the northern part of Germany. The Gasunie network is one of the largest high-pressure pipeline networks in Europe and consist of more than 15.000 km of pipelines in The Netherlands and Northern Germany, installations and approximately 1.300 gas receiving stations. The annual throughput of gas is approximately 125 billion cubic meters.

Safety, reliability, sustainability and cost-effectiveness are central in everything we do. Our company was founded in 1963, four years after the discovery of natural gas in the northern Dutch province Groningen. We are a public limited company under Dutch law and fully owned by the State of the Netherlands. Gasunie has two subsidiaries that manage the gas transport network: Gasunie Deutschland in Germany and Gasunie Transport Services (GTS) in the Netherlands.

Gasunie is a leading European energy infrastructure company whose core activities are gas transport and gas storage. We serve the public interest and facilitate the energy transition by providing integrated infrastructure services. We focus on value creation for our shareholder(s) and other stakeholders and apply the highest safety and business standards used in the sector. We believe in a sustainable future with a balanced energy mix and a lasting role for diversified gas. We believe that we serve our customers best with innovative gas and related infrastructure solutions. For the time being, natural gas will remain a key component of the energy transition. Other carbon-neutral gases need to be added to the mix, so in the run-up to 2050, Gasunie will be concentrating on green gas, hydrogen, district heating grids and carbon capture and storage. We will also be working towards collaborative energy, i.e. closer collaboration between gas and electricity networks.

To contribute to efforts to combat climate change, we aspire to be carbon-neutral by 2050. One way in which we wish to do this is by reducing the footprint of our business activities. We are fully committed to reducing any greenhouse gases such as CO₂ and methane that we emit while carrying out our activities. Our goal for 2030 is: 50% fewer methane emissions and 82.5% fewer CO₂ emissions in comparison to 1990. We are well on our way: in 2018, our CO₂ emissions were 60% lower than the 1990 level. Our ambitions are in line with government targets for the reduction of emissions.

More information can be found on <https://www.gasunie.nl/en>.

1.2 Market consultation

Gasunie is looking for innovative solutions to comply with the new EU Methane Regulation, which prohibits the venting of natural gas in our gas grid. Traditionally, small volumes of gas have been vented during planned maintenance tasks. However, with the new regulatory requirements, we must implement alternative methods to capture and recompress this gas back into the network, ensuring both environmental compliance and operational efficiency.

Because of the stricter regulations and the anticipated increase in workload, we propose the deployment of multiple small recompression units strategically across the country. Our main goal is to increase the availability of recompression units for smaller maintenance tasks and to accelerate the reduction of methane emissions.

We are initiating a market consultation to buy a small recompression unit specifically designed for these scenarios. This unit will be used primarily during planned maintenance and will need to handle a range of gas volumes between 100 and 1000 m³.

We are open to the use of multiple compressors or alternative techniques and welcome solutions that can operate within different sub-ranges of this total volume. Several solutions may be provided each covering a part of the indicated scope. Your input is also highly appreciated if you only can offer a solution for a part of the scope.

We want to get a good impression of the current available possibilities and solutions regarding the above mentioned recompression units. In addition you are encouraged to share opportunities, considerations and conflicting design parameters.

Therefore, we set up several questions. In ANNEX 1 QUESTION FORM you can find our questions which form the basis of this consultation. Please share your response and answers with us. Your answers will be used for further studies, internal advice and for a possible (European) tender(s). If

needed, we can contact you for further information.

2 PROCEDURE

2.1 Schedule

Activity	Date / Period
Publication of the consultation by Gasunie	Friday 25 October 2024
Submission of answers from the suppliers to Gasunie	Friday 29 November 2024

2.2 Exchange of information

The exchange of information for this market consultation is carried out electronically via the Dutch government's online tendering system Tendered (<https://www.tendered.nl/cms/nl/english>). The use of Tendered is free of charge.

If you want to participate in this consultation, then please share your answers and response on our scope by filling in ANNEX 1 QUESTION FORM. You can send the form to Sir B. Schoutsen via e-mail: b.schoutsen@gasunie.nl. For questions about this consultation you can also contact Sir B. Schoutsen.

2.3 Conditions

By taking part in this market consultation, you agree with the following conditions:

1. Communication is in the Dutch or English language;
2. All communication is exclusively with the contact person mentioned in paragraph 2.2;
3. Your answers are confidential and shall only be shared within Gasunie;
4. The provided information will be used for further studies, internal advice and for a possible European tender(s). If needed, we can contact you for further information;
5. The scope and requirements may change based on the provided information;
6. Gasunie is not bound by the results of the market consultation;
7. Participants cannot derive any rights based on this market consultation.

3 SCOPE

3.1 Natural gas evacuation of small volumes

For this application, Gasunie has the intention to invest in small trailer-based or trailer-transportable recompression units. If trailer based, The trailers will be transported on the Dutch road and shall comply to the Dutch regulation of road transport. This general specification describes the basic principles of the required recompression units.

Application

Pipeline evacuation volume: 50 to 1.000m³(n)

There is large variety of foreseen applications with a lot of variables. Supplier is challenged to find one or more solutions for the indicated scenarios. It is up to the supplier to indicate for which part or parts of the scope supplier can offer a solution. Multiple solutions to cover the whole range or only offering a part of the range is allowed if this contributes to providing the optimal solution.

This may include a split by capacity, suction or discharge pressure, evacuation time, or other.

Design criteria

- Capacity (m³(n)/h): as high as possible
- Evacuation time (hrs): as short as possible
- Suction pressure (start evacuation pressure): as high as possible, never >66 barg.
- Suction pressure (end evacuation pressure): as low as possible near atmospheric pressure, no vacuum allowed
- Discharge pressure: 66 bar
- Suction temperature: 10 deg C
- Discharge temperature: 50 deg C max.
- Ambient temperature: -15 to + 35 deg C
- Medium: natural gas¹
- Noise: as low as achievable
- Efficiency: as high as possible
- Zero emission design (only safety related emissions)

Scope of supply

The delivery of a complete mobile recompression unit with the following minimum requirements:

- Regulatory Compliance: EU directives (PED, ATEX, MD, etc), Dutch Law, RDW (road transport) if trailer based.
- Compressor: Compatible with natural gas as described above
- Driver: E-motor
- Weight: 1500 kg max. incl trailer
- Dimensions (L x B x H): 4m x 2,55m x 4m max.
- Compressor and control cabinet
- No utilities available at site, except electrical power.
- Control system: fully automatic unmanned operation + remote alarming
- Non-material scope of supply: engineering, assembly, testing, delivery and support
- Generator set is out of scope of this consultation
- Gas composition

¹ Figure 1

Component	Formula	mol %	Mw	Mw composition
Helium	He	0.05	4.00	0.00
Nitrogen	N ₂	13.87	28.01	3.88
Carbon Dioxide	CO ₂	0.95	44.01	0.42
Methane	CH ₄	80.53	16.04	12.92
Ethane	C ₂ H ₆	3.66	30.07	1.10
Propane	C ₃ H ₈	0.61	44.10	0.27
2-Methylpropane (Isobutane)	i-C ₄ H ₁₀	0.12	58.12	0.07
n-Butane	n-C ₄ H ₁₀	0.10	58.12	0.06
2-Methylbutane (Isopentane)	i-C ₅ H ₁₂	0.03	72.15	0.02
n-Pentane	n-C ₅ H ₁₂	0.02	72.15	0.01
2,2-Dimethylpropane	-	0.00	-	0.00
C ₆ + (estimated Mw)	-	0.06	85.00	0.05
Total	-	100.0	-	18.81

Figure 1 - Composition of natural gas