



Open Season for a Hydrogen transport infrastructure – Haut-Rhin and Bas-Rhin

18th September 2023



Open Season for the construction of a hydrogen transport infrastructure on the territory of Haut-Rhin and Bas-Rhin

Information memorandum Haut-Rhin and Bas-Rhin

Disclaimer

This document (the "**Haut-Rhin and Bas-Rhin Information Memorandum**") presents certain information concerning hydrogen transport, which is seen as a solution for achieving decarbonization goals. The information contained in this document reflects the views of GRTgaz S.A. at this stage and is made public for information purposes only. It does not constitute any commitment on the part of GRTgaz S.A., and should not be considered as giving rise to any contractual relationship between GRTgaz S.A. and any interested party.

Context

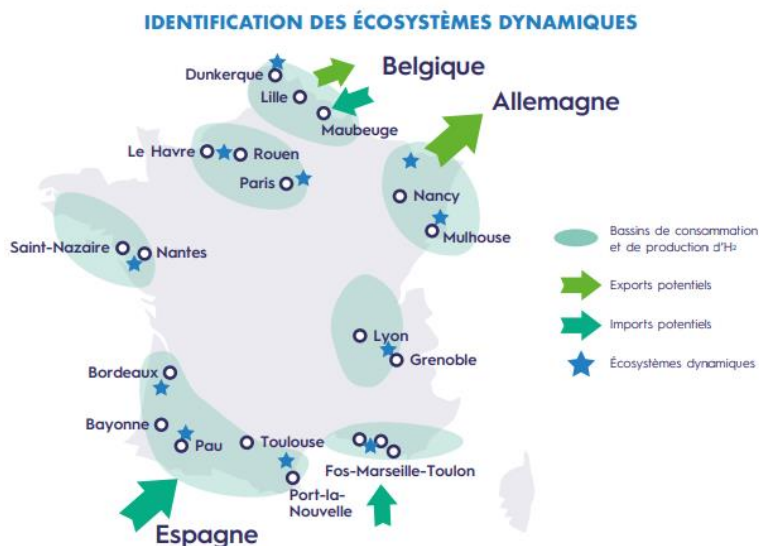
After conducting the first national consultation of the low-carbon and renewable hydrogen market in 2021-2022 to identify the needs of hydrogen market players in terms of transport and storage infrastructures, GRTgaz has identified the first ecosystems in which a development dynamic for decarbonized hydrogen is underway. These are mainly industrial basins facing major challenges to reduce CO2 emissions, where existing fossil hydrogen consumption needs to be decarbonized, or where industrials with high emissions are planning to implement decarbonization projects based on this new, decarbonized energy vector.

In these first basins, the majority of players stress the importance of a transmission network infrastructure to meet their challenges, i.e. to ensure security of supply and competitiveness of hydrogen for consumers, and to provide producers with an outlet serving a large catchment area.

Large industrial zones are of course at the forefront of these basins, where hydrogen transport logistics are expected to be supported by key hydrogen production or consumption projects.

On the basis of these lessons learned, GRTgaz has launched projects in the Fos-Marseille, Dunkirk, Valenciennes, Upper Rhine, Moselle and Rhine Valley basins to develop pipeline transport infrastructures for the benefit of emerging hydrogen ecosystems, as shown in the map below, taken from the consultation report, available at the following link:

<https://www.grtgaz.com/medias/actualites/consultation-acteurs-marche-hydrogene-restitution>



Extract from the FINAL RESULT REPORT OF THE NATIONAL CONSULTATION OF LOW-CARBON AND RENEWABLE HYDROGEN MARKET PARTICIPANTS

Regional context

In its "Stratégie du schéma régional d'aménagement, du développement durable et d'égalités des territoires" (SRADDET), the Grand Est region has set itself the goal of becoming a positive-energy, low-carbon region by 2050. It has set up the Grand Est Transformation "Environnement" program and, in collaboration with ADEME (The French Agency for Ecological Transition), the "Climaxion" program to help it achieve these ambitious goals. This objective presupposes a profound transformation of the region's economy, based among other things on the

development of a large-scale hydrogen ecosystem, the first production and consumption projects of which are currently under development.

The French departments of Haut-Rhin and Bas-Rhin are characterized by a strong presence of the chemical industry, which is a major consumer of fossil hydrogen. The potential for decarbonizing this industry lies in replacing it with renewable, low-carbon hydrogen. In the same region, the potential for decarbonizing mobility (road, air, river and rail) is also considerable.

Today, to support and catalyze the emergence of this hydrogen ecosystem, GRTgaz and its partners badenovaNETZE, a distribution network operator in southwest Baden-Württemberg, and terranets bw, a transmission network operator in Baden-Württemberg, are proposing to develop, build and operate the first hydrogen transport network in the Upper Rhine, which will connect future hydrogen production sites with future consumption sites, as well as those parts of the Upper Rhine where companies with hydrogen needs may set up in the future.

Depending on the development of the hydrogen market in France and Europe, this first network would distribute hydrogen within the ecosystem of the projects RHYn (led by GRTgaz) and RHYn Interco (led by terranets bw and badenovaNETZE), as indicated in the European Hydrogen Backbone indicative plan¹.

Launch of an Open Season

As a result, GRTgaz, terranets bw, and badenovaNETZE have decided to launch an *Open Season* to confirm the economic interest in a cross-border hydrogen pipeline infrastructure linking the French departments of Haut-Rhin and Bas-Rhin with the Southern Upper Rhine region of Germany.

This Open Season is a transparent and non-discriminatory call for interest, open to all players wishing to participate.

GRTgaz' Open Season Phases

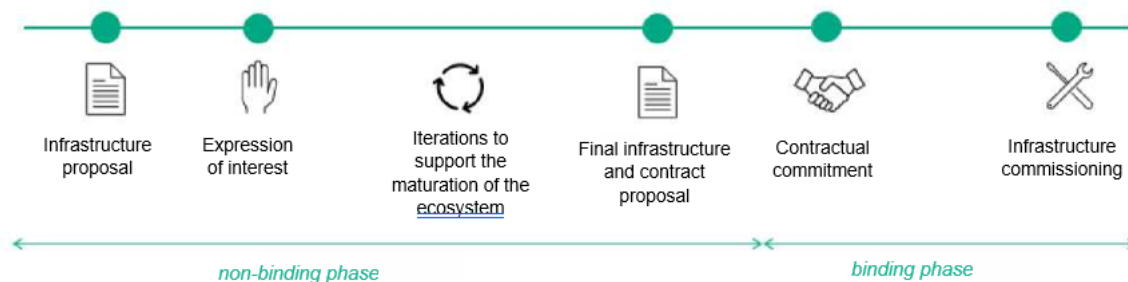
The Open Season will be conducted in two phases:

- (i) a non-binding phase to qualify needs and identify the appropriate infrastructure (including a feasibility study, if necessary), followed by
- (ii) a binding phase with capacity allocation and signature of the necessary contracts, and an iterative, progressive approach to validating the investment.

The main stages of the Open Season will be as follows:

¹ [EHB-A-European-hydrogen-infrastructure-vision-covering-28-countries.pdf \(gasforclimate2050.eu\)](#)

Main phases of the Open Season



Main phases of the Open Season

During the first non-binding phase, players are invited to **express their interest** on the basis of the elements communicated in this "**Information Memorandum Haut-Rhin and Bas-Rhin**", supplemented by the "**Infrastructure Proposal Haut-Rhin and Bas-Rhin** " and the "**Hydrogen Specifications Proposal Haut-Rhin and Bas-Rhin** ", available at the following link:

<https://www.grtgaz.com/en/our-actions/cei-rhyn>

This first phase is non-binding, in the sense that it commits neither GRTgaz to implementing the proposed infrastructure project (particularly if the economic conditions are not met), nor the players responding to the Open Season to reserving transmission capacity.

During this phase, players will be asked for an initial estimate of their transport needs (consumption or production). The confidentiality of the information exchanged will be guaranteed by the signing of a confidentiality agreement.

In the event of sufficient interest being expressed, and following the collection of requirements resulting from this first phase, GRTgaz proposes to carry out a feasibility study, which will enable the sizing of the infrastructure and an initial assessment of its cost to be established. **A feasibility study agreement** will be signed, guaranteeing the confidentiality of the data exchanged and specifying the parties' mutual contractual and financial commitments for carrying out the study.

This non-binding phase may require **iterations**, depending on the maturity of projects in the hydrogen ecosystem: bilateral or group exchanges with participants in this phase will take place to progressively fine-tune the design of the infrastructure with a phasing that GRTgaz can achieve, and to propose an economic and contractual model associated with the transportation service.

If this non-binding phase confirms the interest of the market, GRTgaz will define the conditions of access to the facilities (capacity allocation, indicative tariff) and the decision conditions for the construction of the facility, in consultation with the interested parties, in order to launch the binding phase. The course of this binding phase will be defined according to the results of the non-binding one. It is this binding phase that will lead to the capacity booking and may trigger the construction of the infrastructure.

The implementation schedule of the various stages will depend on the pace at which the various players in the hydrogen ecosystem mature their projects, and on the ability of project owners to commit to transport capacity subscriptions.

Proposed infrastructure access principles

GRTgaz proposes to develop, invest in, build and operate an "open" hydrogen pipeline infrastructure as proposed in the document "**Infrastructure Proposal Haut-Rhin and Bas-Rhin**", with transparent and non-discriminatory access to the infrastructure.

Principle of separation of activities

First and foremost, GRTgaz will apply a principle of separation of activities between hydrogen production, use and transport, by being positioned exclusively on hydrogen transport activities. This principle of separation is key to guaranteeing a neutral position as a network operator, vis-à-vis other players in the hydrogen market (consumers, producers, etc.).

Third-party access to the non-discriminatory network

Thanks to this exclusive positioning in the transmission link of the value chain, GRTgaz will guarantee non-discriminatory access to the system for third parties, in order to promote the development of a growing market.

Transparent third-party access

In the same way, GRTgaz will guarantee transparent third-party access, with clear and public rules for participation in the Open Season and for access to infrastructure (allocation of capacity, pricing).

Proposed contractual and tariff principles

If the economic interest of the proposed infrastructure is confirmed, GRTgaz will implement a commercial and pricing model that draws on the core principles that have enabled the development and European integration of the existing natural gas networks, while taking a pragmatic, agile approach to the specific context of a nascent hydrogen market.

Entry/exit capacity subscriptions

GRTgaz' entry into the binding phase of the Open Season will be reflected in a commitment to subscribe entry transmission capacity at hydrogen injection points of the network and exit capacity at hydrogen delivery points. These capacities will be subscribed on an annual basis.

This principle of entry-exit capacities with independent subscriptions between injection and delivery points will facilitate the development of an integrated hydrogen ecosystem. The consumers will have the option of being supplied by several producers connected to the network, unlike a point-to-point model where the transport of hydrogen would be fixed from a specific production point to a specific consumption point.

This principle of capacity pricing is therefore independent of the network's actual flows.

Long-term commitment

The decision to invest in infrastructure will be based on customers' long-term capacity subscriptions of around 15 years.

Other contractual and pricing commitments

More detailed contractual and pricing terms will be defined in the next stages of the Open Season, prior to the launch of the binding phase, based on iterative exchanges with Open Season participants.

Transportation infrastructure proposal

The proposal is available in the document "**Infrastructure Proposal Haut-Rhin and Bas-Rhin**", available for download at the following link:

<https://www.grtgaz.com/sites/default/files/2023-09/infrastructure-proposal-ami-H2-rhyn.pdf>

Hydrogen specification proposal

The proposal is available in the document "**Hydrogen Specifications Proposal Haut-Rhin and Bas-Rhin**" available for download at the following link:

<https://www.grtgaz.com/sites/default/files/2023-09/specifications-proposal-ami-h2-rhyn.pdf>

Practical information for responding to the expression of interest phase

All players interested in connecting to this future infrastructure, either as hydrogen producers or consumers, are invited to respond to the Expression of interest the first phase of the Open Season.

Interested parties are invited to complete the expression of interest form at the following link:

<https://www.grtgaz.com/en/ami-h2-rhyn-form>

On this form, interested parties will be asked to specify certain information about their hydrogen production or consumption project.

This expression of interest phase opens on September 18, 2023 and closes on November 17, 2023.