



# RHYn – a 100% hydrogen pipeline

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# GRTGAZ – GAS TRANSPORTER IN FRANCE AND IN GERMANY

## Key figures

- 3000 employees
- 32 500 km of transport pipelines
- 646 TWh/y transported
- 150 active shippers
- 742 industrial clients & 19 distribution companies connected

## Regulated activity

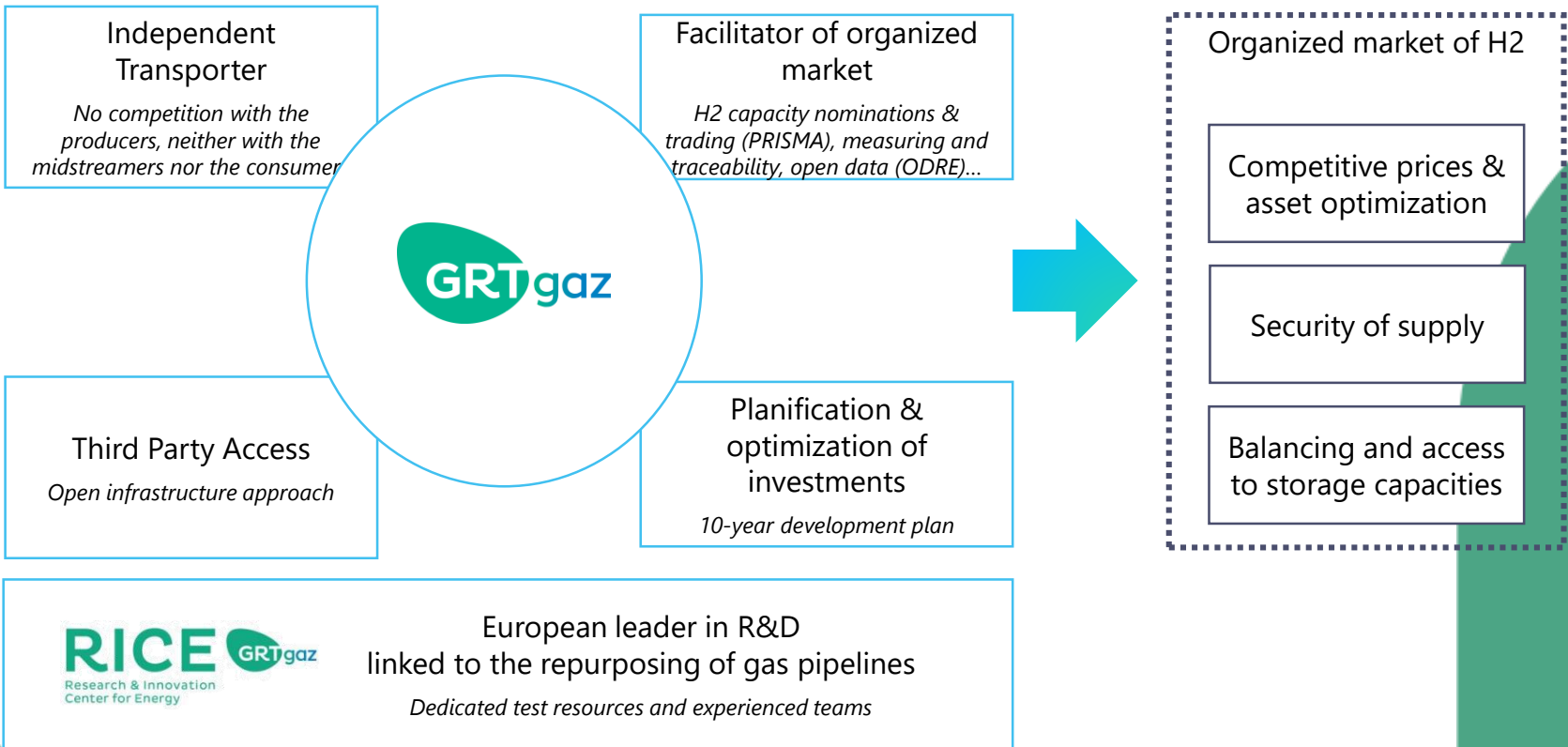
- Operator of vital interest
- Public service contract
- Certification « Independent Transmission Operator »
- Economic model regulated by the « Commission de Régulation de l'Énergie »

## Strong European presence

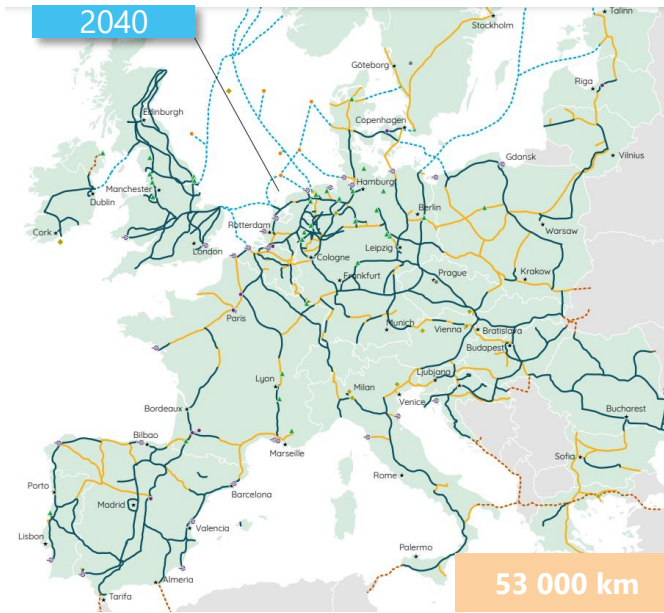
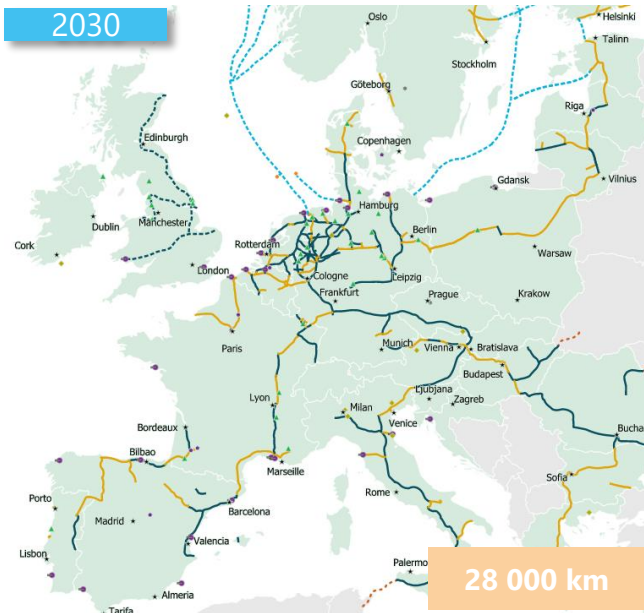
- ENTSOG : member of the board
- PRISMA – presidency
- H2 Europe – presidency of the WG “Energy”



# OUR AMBITION: TO BE RECOGNIZED AS TRUSTED FACILITATOR ALLOWING THE EMERGENCE OF THE H2 MARKET IN FR & EU



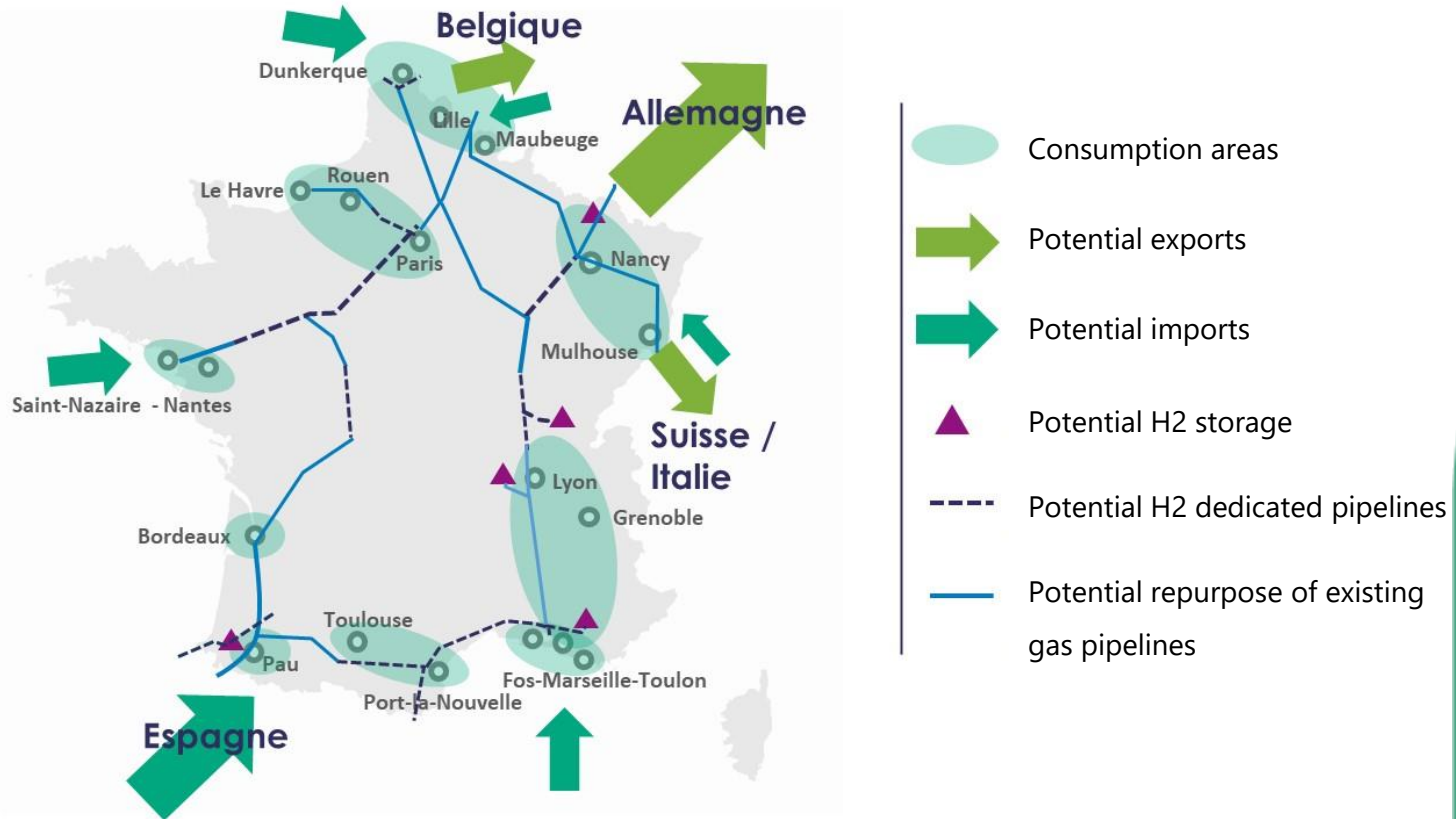
# « EUROPEAN HYDROGEN BACKBONE » VISION



- Hydrogen consumption still mostly local and concentrated in industrial zones (Dunkerque, Le Havre, Paris, Lyon, Marseille and Lacq)
- Development of local networks (~1000 km) in these first industrial clusters

- French hydrogen demand estimated to approx. 110 TWh/year at the horizon of 2040 in France Hydrogen study – Mc Kinsey
- More than 50% of repurposing of existing pipelines

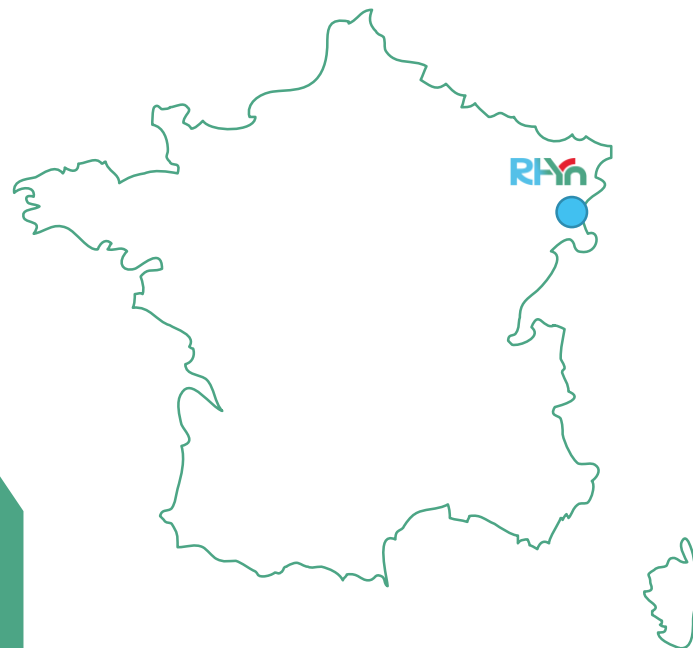
# VISION OF POTENTIAL CONSUMPTION & PRODUCTION ZONES



# RHYn PROJECT: THE FIRST HYDROGEN PIPELINE PROJECT IN ALSACE

**RHYn is a project of 100% hydrogen pipeline in the tri-national metropolitan region of the Upper Rhine.**

It aims to connect the consumption to the production of renewable and low carbon hydrogen to ensure security of supply for all the market players of the territory.



# POTENTIEL DE DEMANDE INDUSTRIELLE

The Chalampé - Ottmarsheim industrial zone is today the 2nd largest hydrogen hub in France. Its production of 2.4 TWh of fossil hydrogen per year is equivalent to 15% of the French production by SMR.

The companies in the area have major decarbonization ambitions that can be achieved by replacing, in the long term, old hydrogen sources with electrolysis and by developing new uses.

**High potential sectors include chemicals, glass manufacturing, semiconductors, transport equipment and machinery as well as the food industry.**



**40** companies using H2  
or possible users in the  
future

**Several potential  
producers of green  
H2**

# MOBILITY ECOSYSTEM

**The Upper Rhine is an important crossroad, thanks to its position on the border with Germany and Switzerland.**

Road transport weighs heavily in the balance sheet of the area crossed by two highways: 13,000 heavy vehicles travel through Mulhouse every day, 7,000 are registered in the Upper Rhine.

The majority of this fleet will have to be replaced in the next 5-10 years, which opens the way to hydrogen mobility.











The decarbonization of river transport on the Rhine, several non-electric railroad lines as well as the airports in the area also represent an important potential for hydrogen use.



Source :  
<https://www.aurm.org/uploads/media/6124b2f9011eb.pdf>



# RHYn MAP

-  RHYn project
-  Potential extensions of RHYn
-  H<sub>2</sub> station
-  Power-to-Gas unit
-  Industrial consuming H<sub>2</sub>
-  Nuclear plant
-  Partially electrified railways
-  Waterways
-  Freight port
-  Fessenheim Territory project  
(perimeter n° 2)



## KEY FIGURES

**RHYn project are, in total, 100 km of hydrogen network.**

Approximately two thirds of this network will be a result of repurposing existing natural gas pipelines.

**The pipeline's capacity will be of 125 000 t of hydrogen/year, the equivalent of approx. 900 MW of electrolysis.**

By 2028, the first phase of RHYn project will contribute to relaunch the Fessenheim region and a new phase of local industry decarbonation, paving a way also to the green mobility such as envisaged in the Hydrogen Strategy of the Grand Est region.



**100** km

de canalisations  
hydrogène au  
total dont

**60** km  
reconvertis



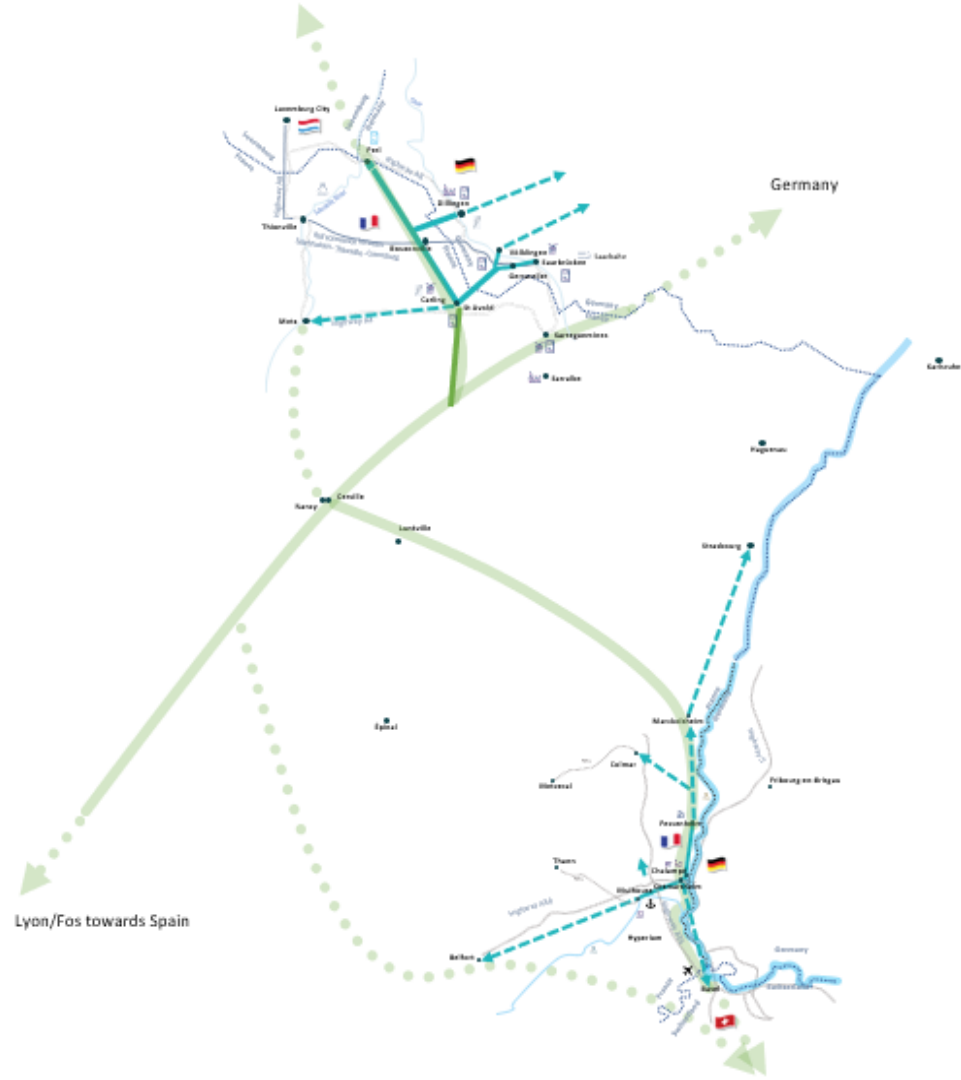
**160 000**  
m<sup>3</sup>/h

# CROSS-BORDER PROJECT

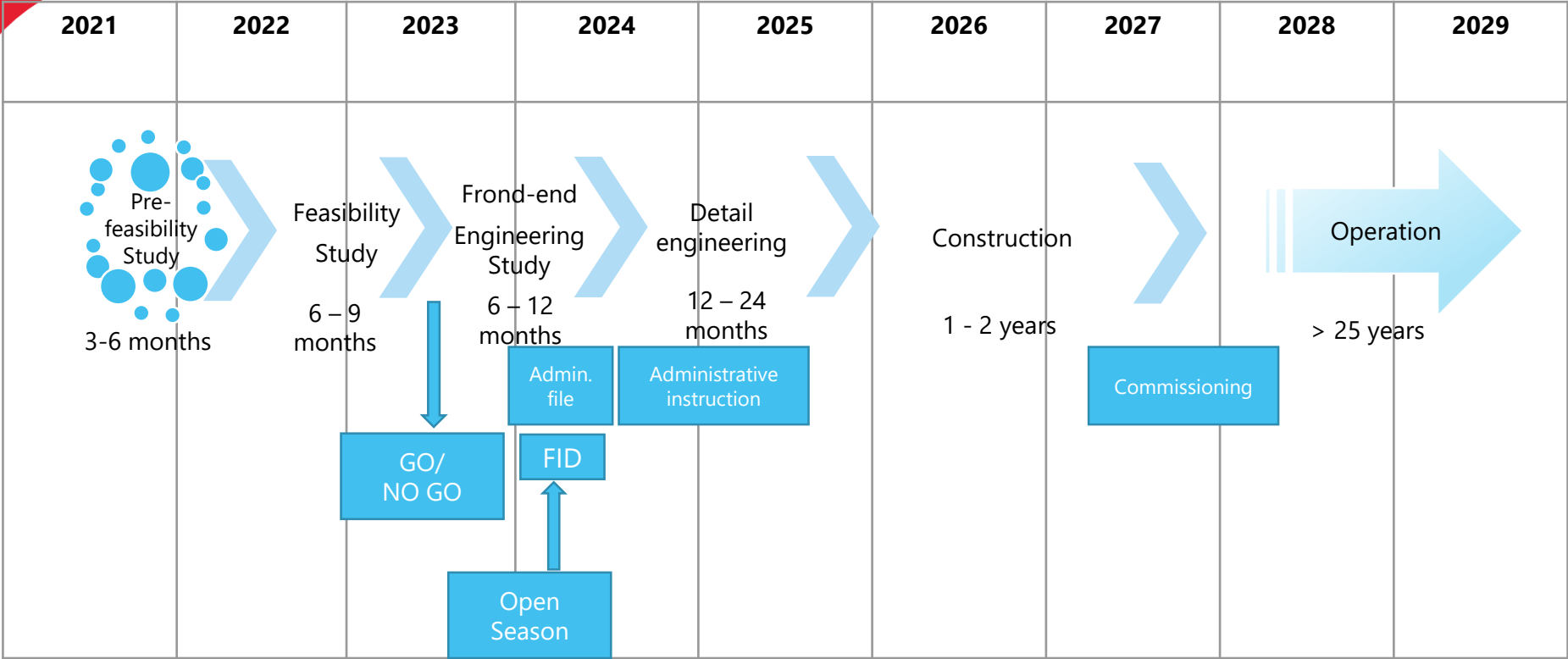
## International dimension

Together with the mosaHYc project, RHYn is part of the vision of the European Hydrogen Backbone, the European backbone for the creation of a European hydrogen transport network to ensure security of supply for all hydrogen consumers and the creation of a common market.

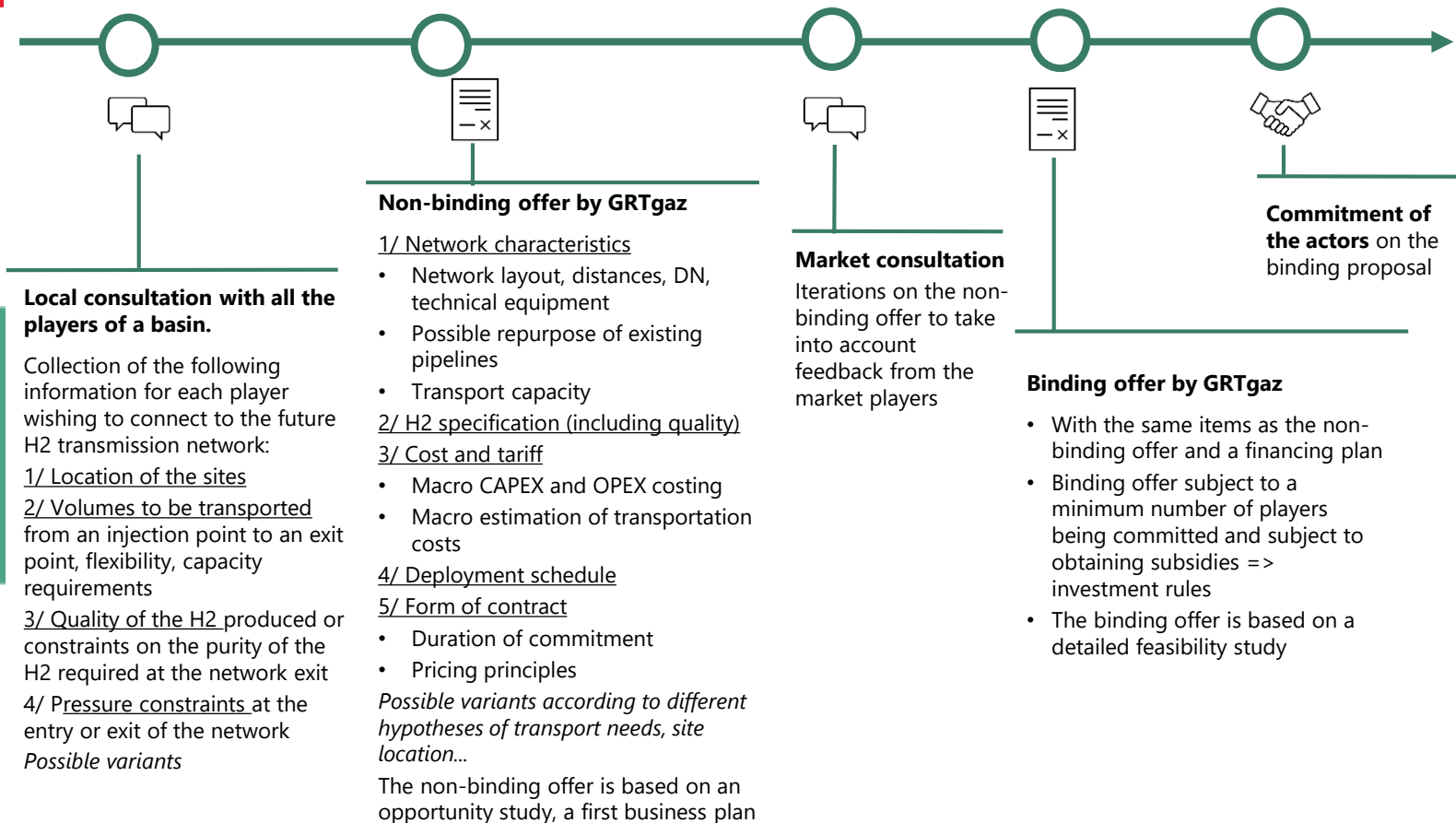
**If commercial interests are confirmed, RHYn will ensure the interconnections of GRTgaz's hydrogen network with the Baden-Württemberg region in Germany and the Basel region in Switzerland.**



# SCHEDULE



# COMMITMENT PROCESS (OPEN SEASON)

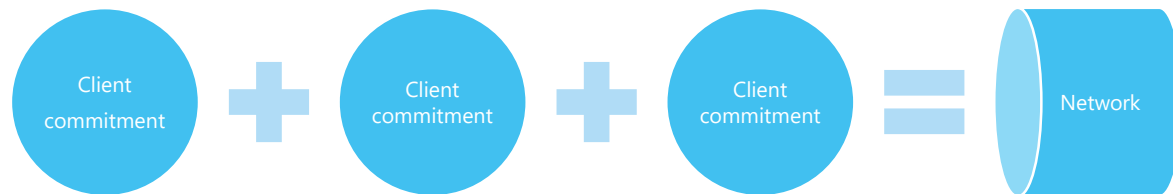


## NEXT STEPS

**A structuration of a local ecosystem is a necessary condition for the progress of the project.**

Expressing the interest by the clients helps to identify potential synergies and to plan an optimal network, in required deadlines.

**The commitment of a certain number of players will be essential to trigger the investment decision and build a new infrastructure.**





Thank you!

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