

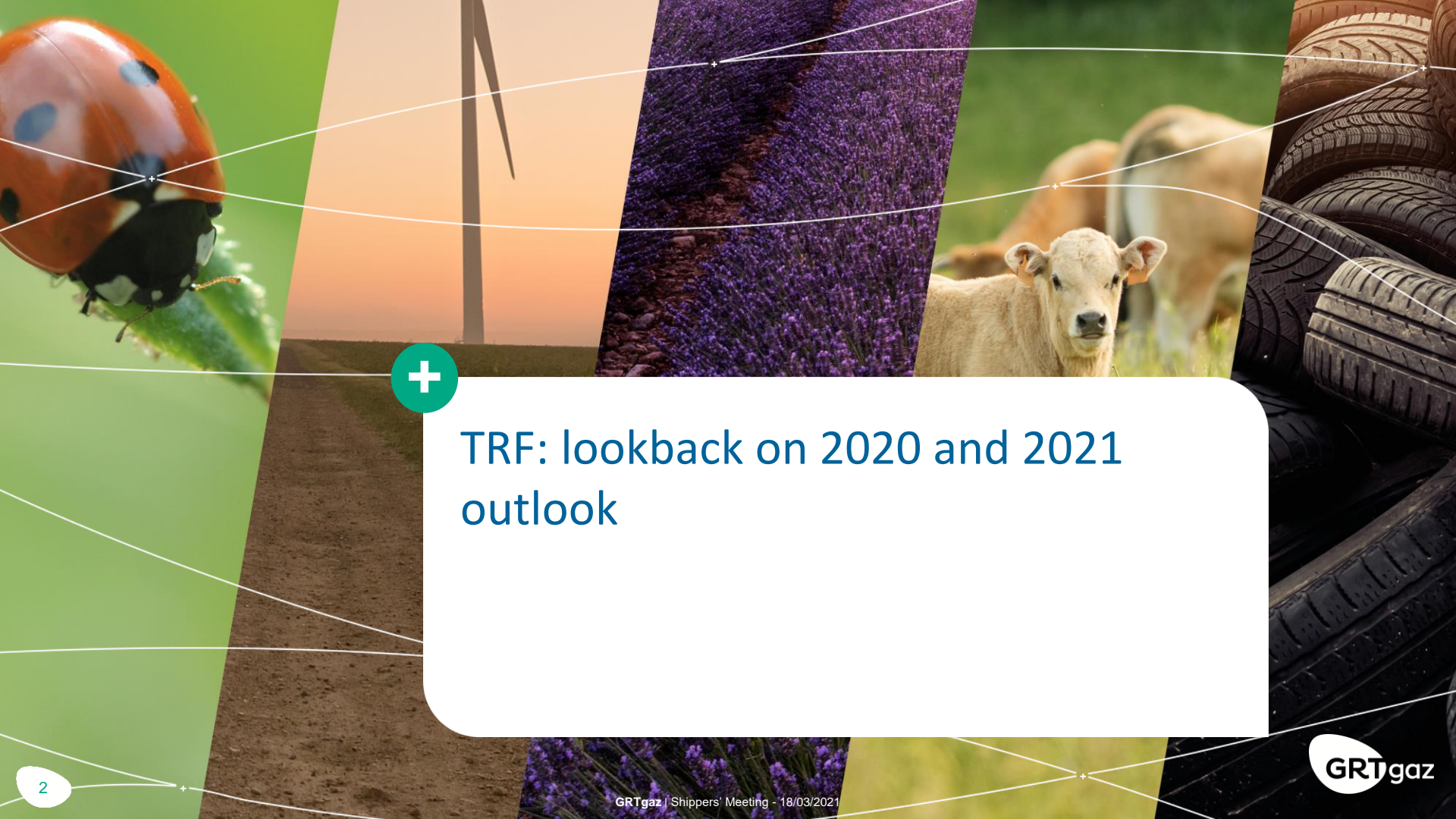


+ Shippers' meeting

Online

March, 18

9.30 – 12.00 am

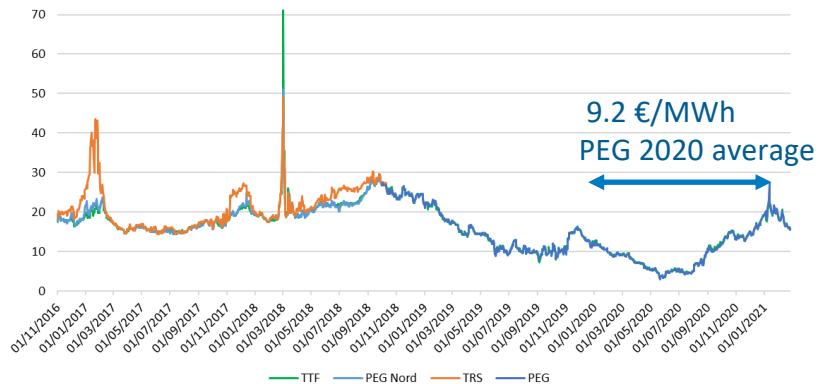


TRF: lookback on 2020 and 2021 outlook

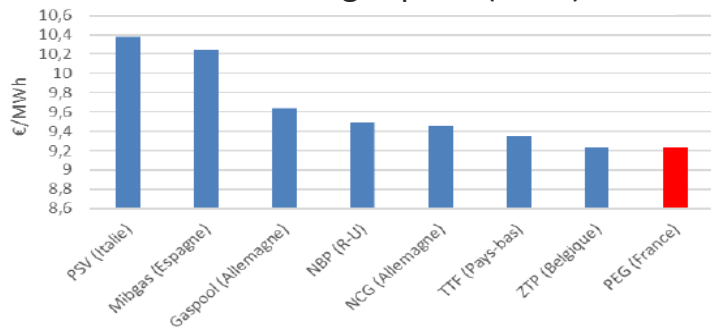
PEG: a responsive marketplace



French and Dutch gas market prices (day-ahead €/MWh)



Wholesale gas price (2020)

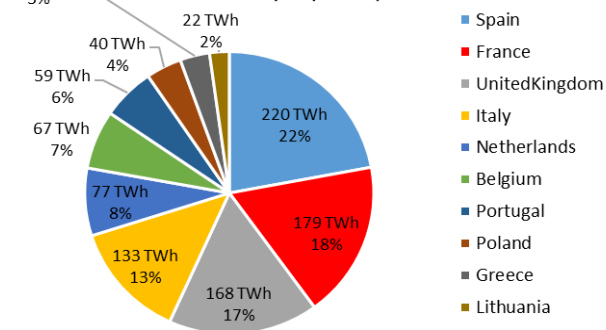


- Historically low price
- Strong Summer oversupply
 - Covid crisis (-20% consumption in April)
 - High LNG deliveries in Europe
- TRF was able to absorb the gas excess
- Limited price increase in the Winter despite the LNG drop
- Very well correlated with the other European liquid hubs
- With lower price, for the benefit of the French consumers

TRF: at the heart of the European gas system (1/2)

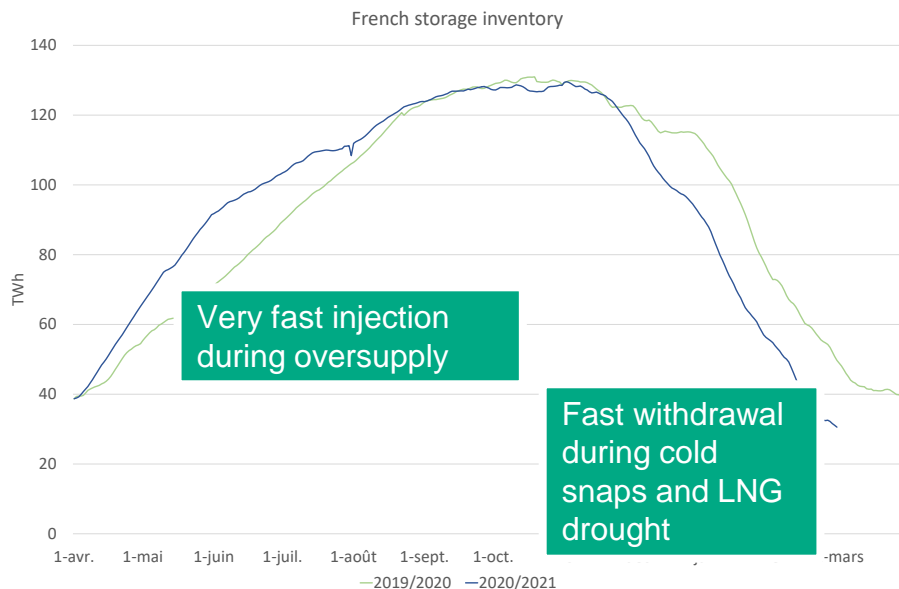


LNG in Europe (2020)



- Storage system played its amortizer role

- First LNG destination among the NWE liquid markets
- In particular in the early Summer when LNG oversupply was at its peak



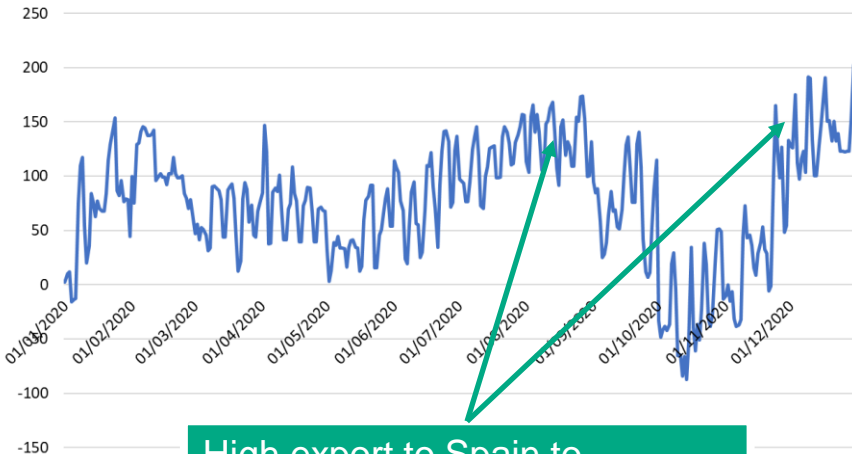
TRF: at the heart of the European gas system (2/2)



- Single-zone TRF allows a fluid supply of the Southern countries

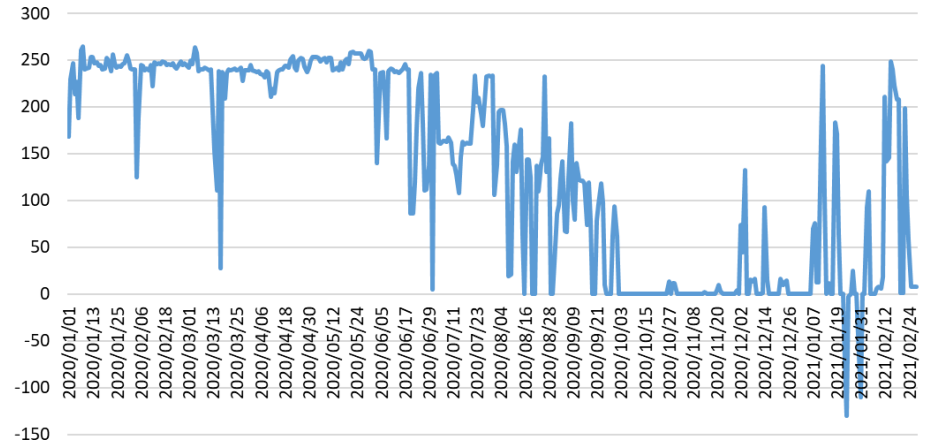
High export to Italy the first part of the year, and reverse flows observed at Oltingue in January 21

France to Spain transit (GWh)

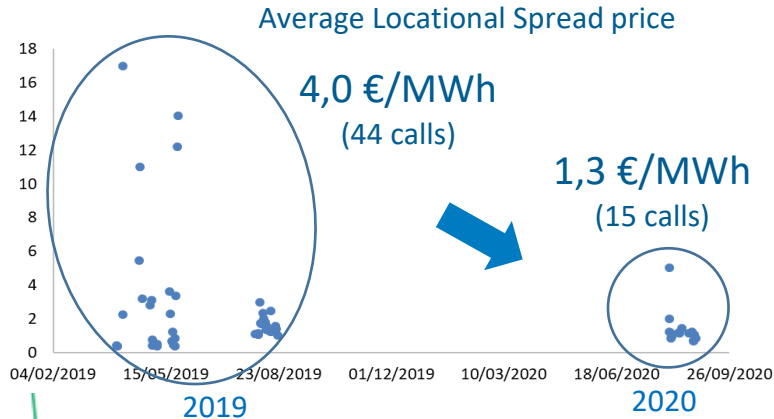


High export to Spain to compensate low LNG

Oltingue exit flow towards Italy (GWh/j)



Few congestions despite some tense periods



- Less locational spread needs due to an optimized management of the TRF, moderate exits towards Spain and reduced injection offer.
- Reduced price thanks to optimized trading strategy and better competition

- 18 days in red alert vs 58 in 2019
- No mutualized restriction (2 in 2019)
- Congestion management cost dropped from 7,2 M€ in 2019 to 0,85 M€ in 2020
- Two tense periods:

April-May:
Tense
network

- Low consumption (covid) and strong (LNG) supply
- Heavy storage injection

August
Congestions

- Strong injection
- Low LNG in the South of France
- High exports to Spain driven by low LNG in Spain as well

Summer maintenance outlook



Maintenance schedule 2021

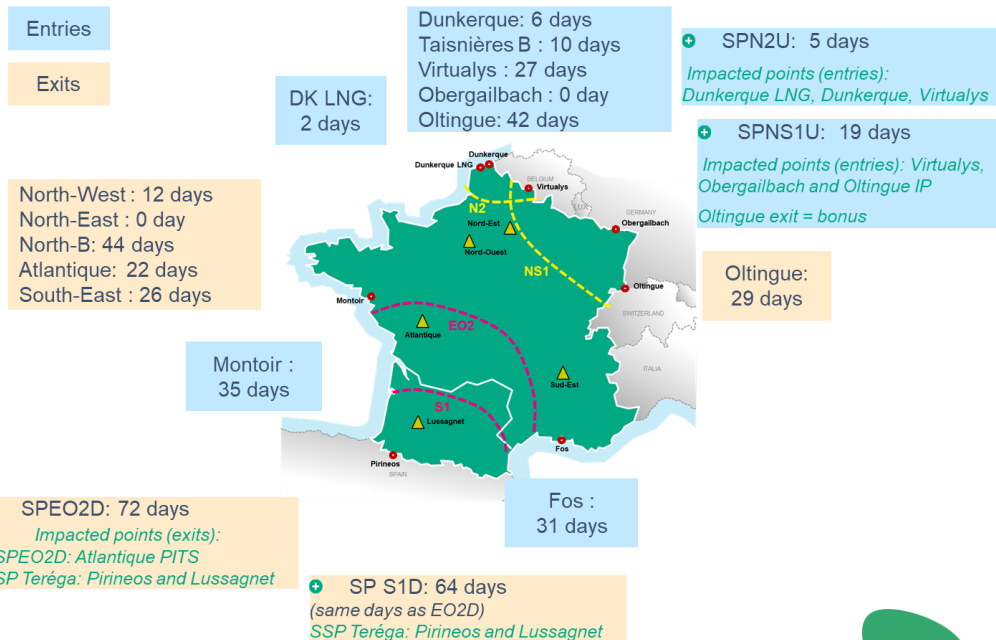


- To have all the information: please watch the rerun of the 4th of March [Webinar](#)

4 superpoints will be active, including 3 on GRTgaz network:

- SPN2U (New)
- SPNS1U
- SSPEO2D

No risk identified regarding storage filling

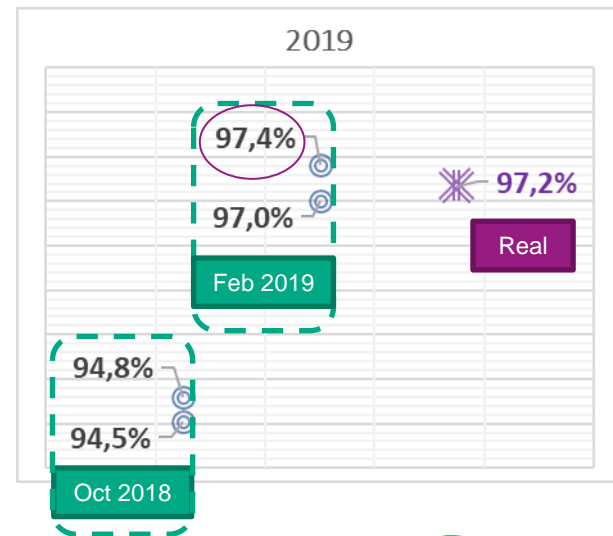
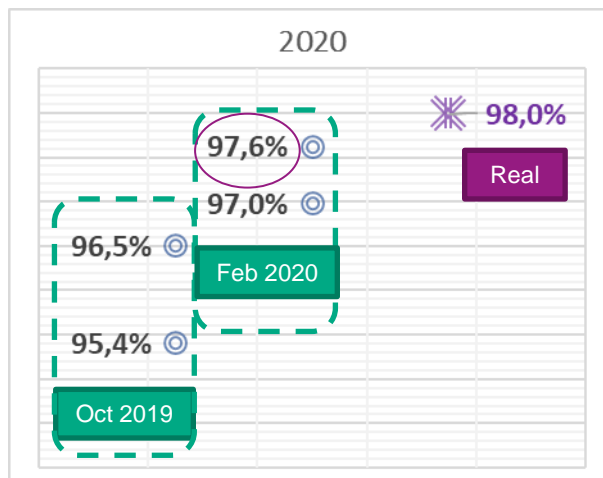
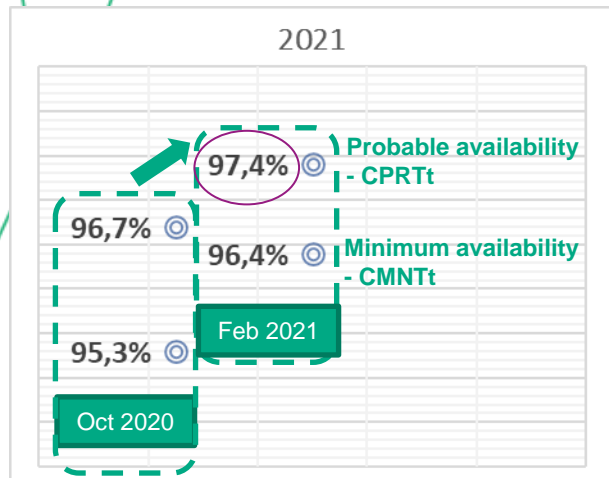


Maintenance indicators at a good level



Improvement compared with the October provisionnal program for Summer 2021.

Probably available capacity (CPRTt) = about the same level as february 2019 and 2020.

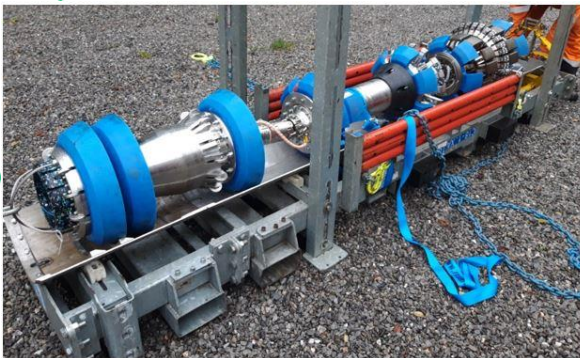


Subscribed capacity availability – calculated on all the points including the impact on Teréga's points

Our objective in the coming years: keep the same level despite the strengthening of the regulatory framework



AMF (Multi-fluides Decree): in 2020, the decision was made by French administration to increase the frequency of pipeline inspections (every 10 years in all cases instead of 15/20 years) *(following an accident on an oil pipeline)*



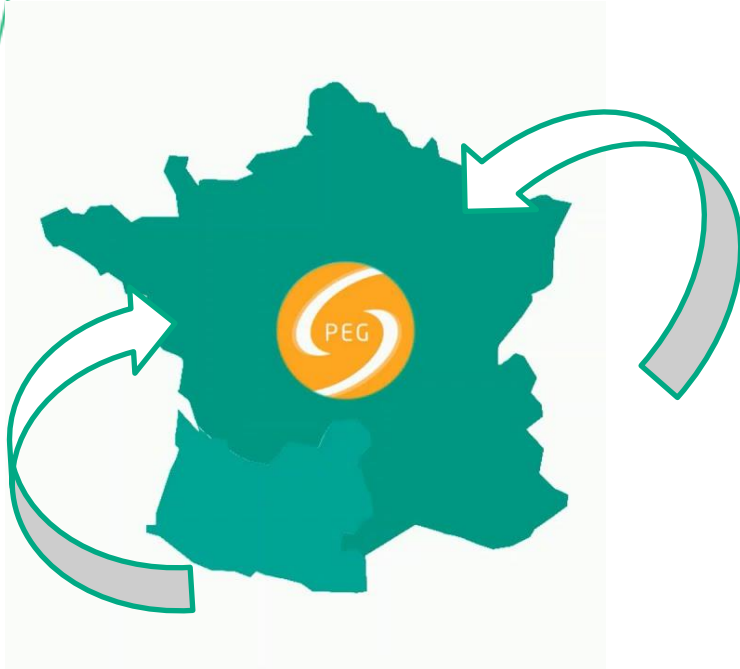
Consequence: the number of inspections and repairs should be multiplied by around 1.7.

Our objective: to keep the same level of availability of your capacities, which is very ambitious.
(Restrictions already divided by two between 2016 and 2020)

Conclusion



TRF is at the crossroads of European market



Challenging objective to maintain the availability of the capacities





Do you have any questions ?



GRTgaz upstream offer:

Feedback on 2020
Perspectives

2020 offer improvements



Simplification:
all the IPs on Prisma!

Dunkerque
Vitalys
Taisnières B
Obergailbach
Oltingue



TRF optimisation:

Fos and Montoir « upstream » for
more firm capacity, visibility and
simplicity

+ locational spread improvement

Increased flexibility for LNG



Simplified additional flows,
pooling

OPEN DATA / RÉSEAUX ÉNERGIES



Joint maintenance schedule
of French gas operators
with ODRé platform

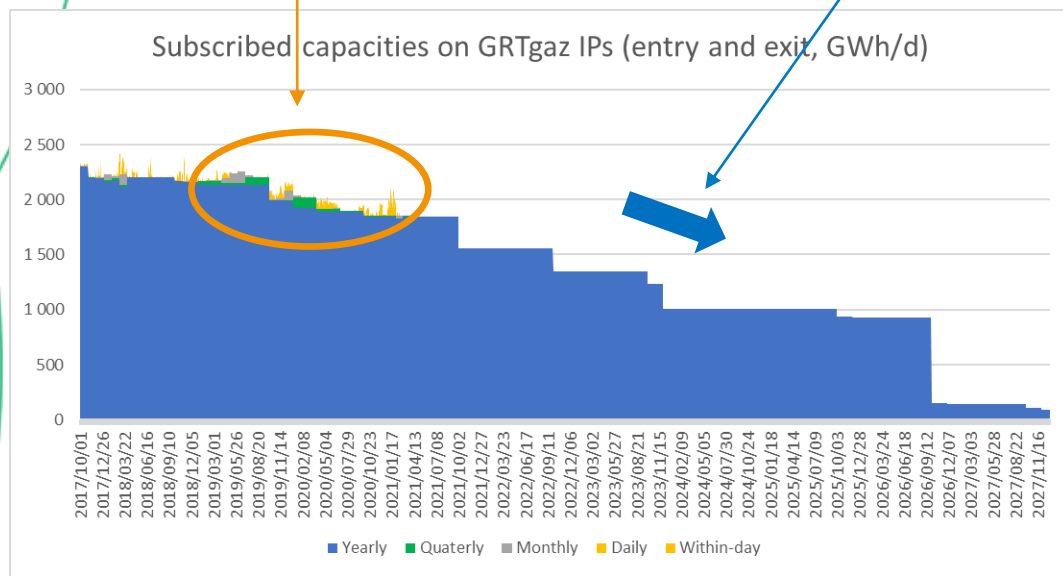


Perspectives: towards more short term on IPs



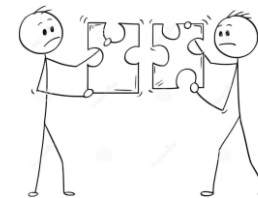
- More and more short term

- Decrease in long term subscriptions



2 main subjects to study:

- Greater flexibility to book firm capacities at CAM IPs
(*europaen consultation jan-feb 2021*)



- Change in multipliers
(monthly tariff is not incentive)



Subjects to study with Elengy

- Single sided nomination
- Adapt the offer to small scale LNG
- Elengy Open season at Fos Cavaou



Atlantique PITS injection offer

- Storengy wishes to increase the firm capacity from 340 to 371 GWh/d;
- GRTgaz and Teréga are studying the impact on the congestion cost



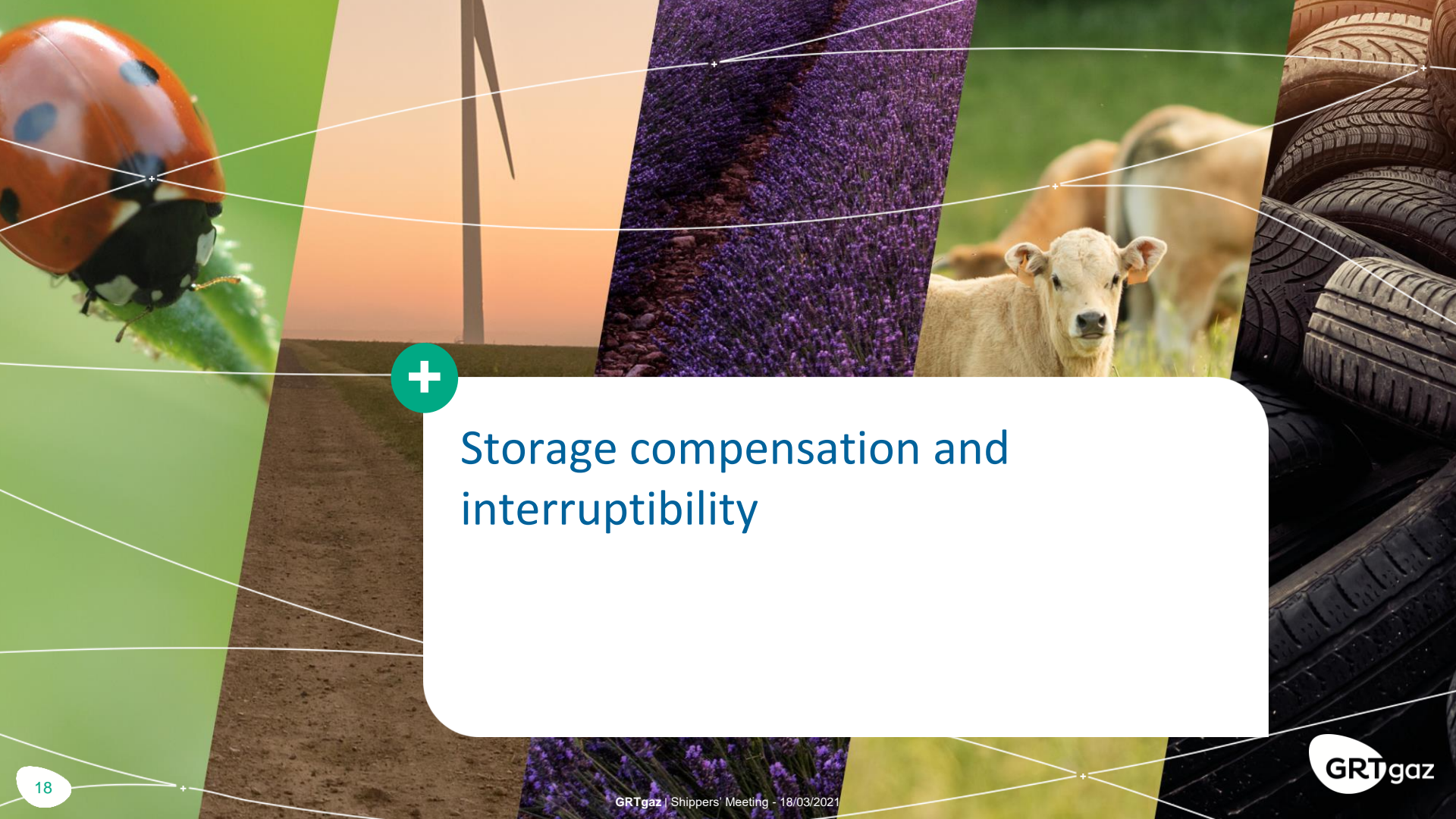
Prepare the arrival of large scale biométhane in our transmission offer:

- 2 TWh injected in 2020
- Objective: 12 TWh in 2024 and 40 TWh in 2030
- -> the operational offer (nominations, allocations, balancing) needs to be simple for the shippers

Reminder: the injection term is payed by the producer as of the 1st of April 2021



Do you have any questions ?



Storage compensation and interruptibility

Contents

- + Storage compensation : new formula and extension to transport by April 1st, 2021
- + New interruptibility



Storage compensation: new formula
and extension to transport as of April
1st 2021

New formula by 1st of April 2021 (1/2)

+ 1/ $Modulation_Y = \text{Max}(0 ; \frac{\text{winter consumption}}{151} - \frac{\text{yearly consumption}}{365})$

Winter consumption : November Y-1 to March Y

Yearly consumption : November Y-1 to October Y

+ 2/ $M_{fav} = \text{average of the lowest two } Modulation_Y \text{ within the last 4 years}$

+ 3/ $Modulation = \text{Max}(0 ; M_{fav} - Int)$

Int = sum of interruptibility booked by the Shipper and Secondary interruptibility booked by the Consumer, both booked at the 1st of April

New formula by 1st of April 2021 (2/2)

- + Calculation of the « Part hiver » for every Delivery point based on the method used by the DSO to determine the « Profile » of each consumer
(method available on www.gtq2007.com)
- + If the « Part Hiver » $\leq 50\%$, the « Modulation » of the Delivery Point is set to 0.
- + For each Delivery Point :
Storage compensation = Modulation \times Storage Term
- + Storage Term from April 1st 2021 = 185,11 €/ MWh/d/y (2021-52 CRE Deliberation)

Data exchanges



Consumer

- GRTgaz has sent to each consumer an estimation of his Modulation, the final value depending on the “Int” term



Shipper

- GRTgaz will complete the file sent to every Shipper each month, with the Modulation of each Delivery point on his portfolio, using the same format.



New interruptibility

Key elements

- + The product will be contracted directly by the consumer, but his provider will be informed of the subscribed amounts.
- + If at any time this interruptible capacity exceeds the firm subscribed capacity, the interruptible contract will be immediately denounced and ended by GRTgaz.
- + Secondary interruptibility
 - 40 MWh/d: minimum subscription by consumer
 - 2 interruptions maximum / year
 - 24 hours minimum / interruption
 - 240 hours maximum / yearly interruption
 - 200 € penalty for each MWh of overtaking i.e non respect of the rule
consumption < Firm capacity – Secondary capacity each day during the interruption

For more informations, see the replay of the webinar, the presentation or the Questions&Answers at <http://www.grtgaz.com/acces-direct/clients/clients.html>



Do you have any questions ?



ungrid

Better, Faster, Stronger

ingrid : the tip of the RIO iceberg

- + The new TRANS@ctions website
- + Designed and developed by RIO



ingrid

RIO : Already some achievements

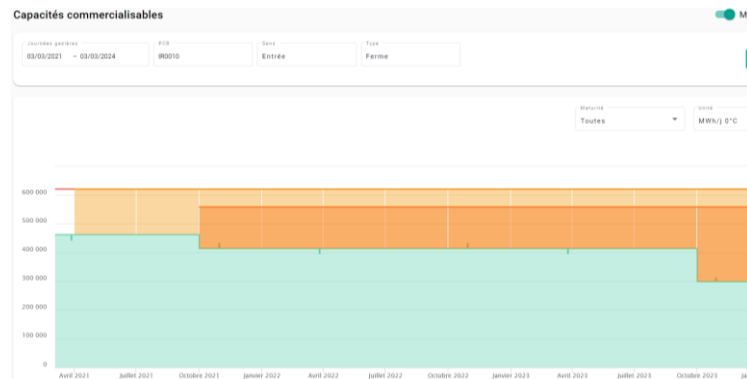
Highly Modulated Sites
profile declaration

Marketable capacity page
(upstream network)

<https://capa.offre.grtgaz.com/marketable-capacity>

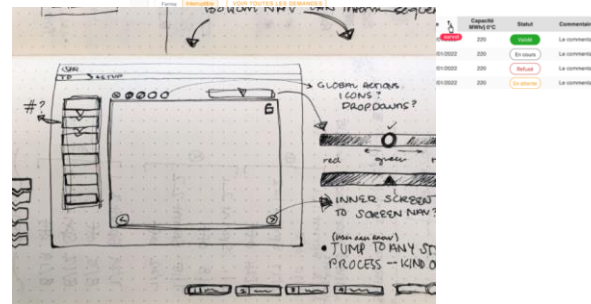
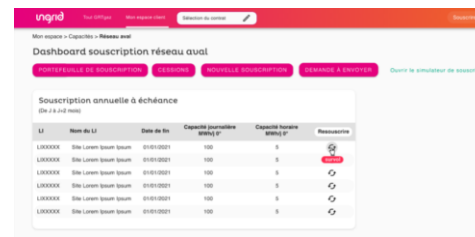
The screenshot shows the 'Interface Client SFM' with two main sections:

- Etat des indicateurs de flexibilité:** A table with columns for 'Site', 'D=0', 'D=1', and 'D=2'. Sites listed include DMS, Pont sur Sambre, Courbeles, Saint-Amand, Compiègne, Montceau, Brevet, Brevet, Montigny, Compiègne, Montceau, and Bouillon. Each site has three colored circles (green, yellow, red) indicating its status.
- Liste des programmes:** A table with columns: 'Nom du site', '@ déclarations', 'Date de début', 'Date de fin', 'Accès par...', 'Prix en charge', and 'Statut'. It lists several programs with their respective dates and statuses (e.g., 'Accepté', 'Refusé').

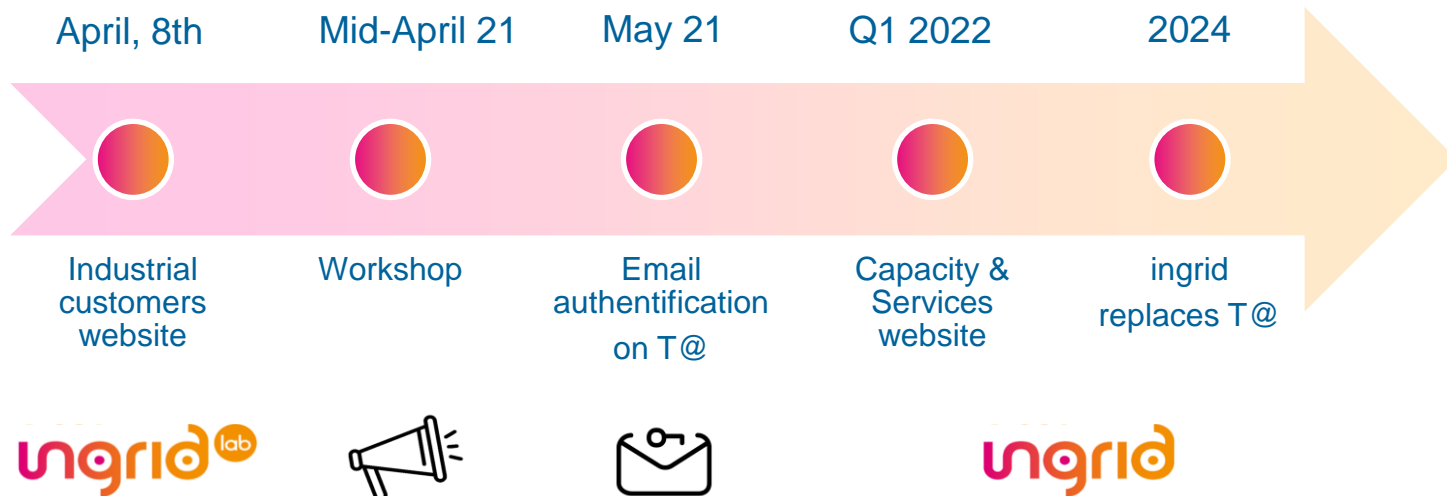


ingrid : Co-designed with you

- + Workshops
 - Change management
 - Collaboration
- + Appropriation tips
 - Webinars
 - Tutorials
- + Via your GRTgaz account manager



Next steps



QUIZZ



Do you have any questions ?



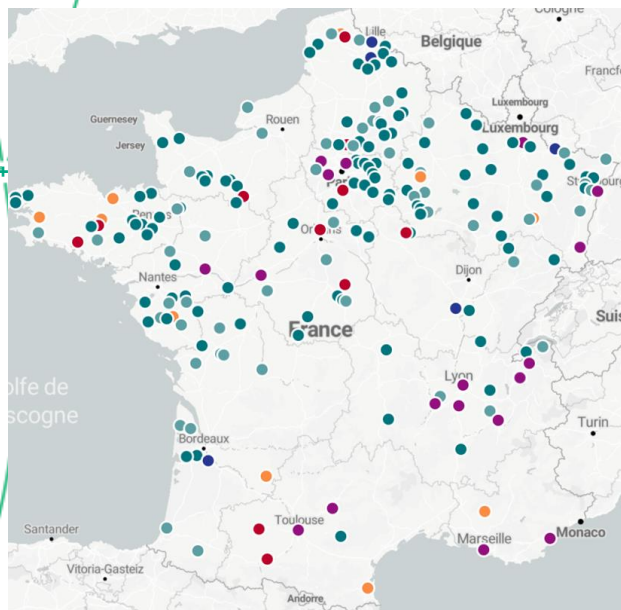
Biomethane

A booming sector

State of development at the end of 2020

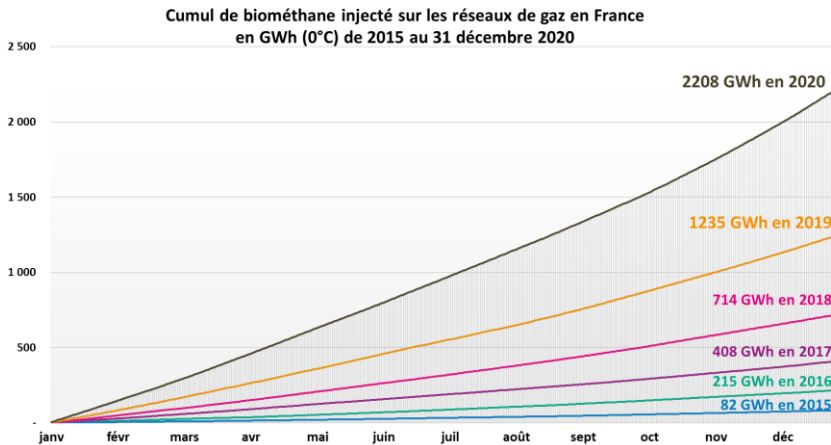


214 sites are operational and inject, representing nearly 4TWh/year of production capacity



- Agricole territorial
- Déchets ménagers
- Agricole autonome
- Industriel territorial
- ISDND
- Station d'épuration

2.2TWh of biomethane injected in 2020, i.e. +85% in 1 year (and + 300% in 2 years!)



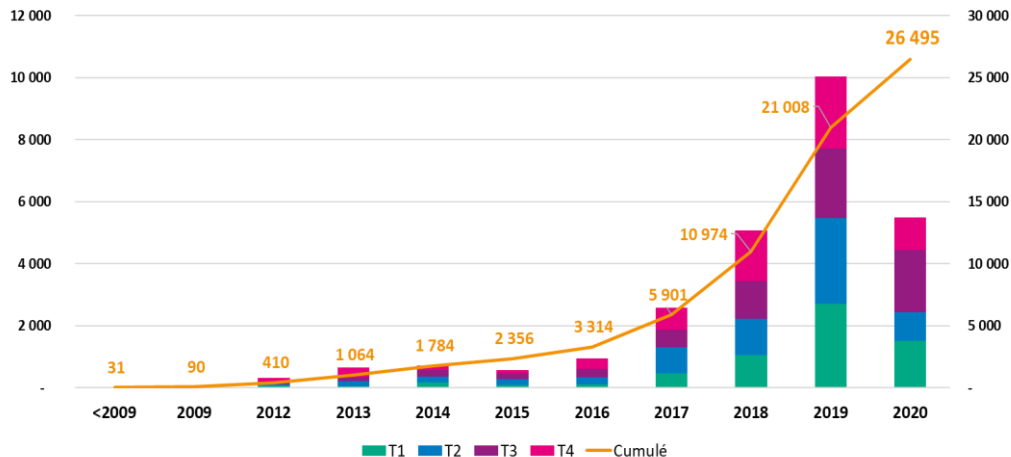


Status of the entire France project portfolio

Capacités déclarées au registre de gestion des capacités par trimestre d'entrée, exprimées en GWh/an

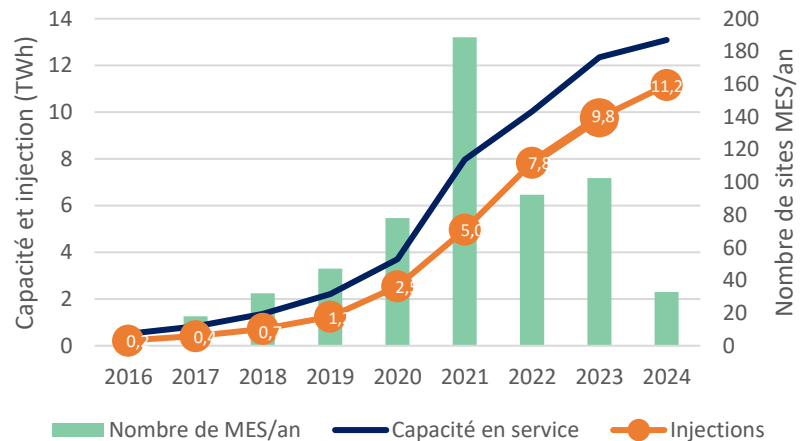
France entière - hors projets en attente, sortis, abandonnés. Incluant les demandes d'augmentation de capacité

Source : registre des capacités au 31.12.2020



Production forecasts for the period 2021-2024

Trajectoire biométhane 2024 filière, en nombre de mises en service, capacité et injections

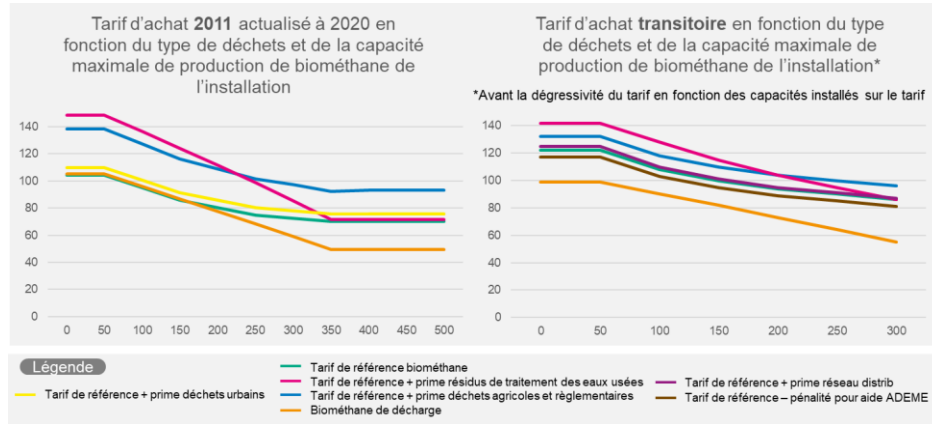


* Path updated in Q3 2020

A new purchase price



Publication on November 23rd 2020 of a "transitional" guaranteed purchase price (GPP)



- Transitional GPP applicable only up to 300Nm³/h
- End of premiums for urban waste and energy crops (CIVE)
- Reduction of the GPP in the case of aid Ademe (5 € / MWh)
- Decreasing rate according to the achievement of PPE objectives

Why "transitional"?

Final price **being validated** to the European Commission (*current result summer 2021?*)

Willingness to "reduce" government spending on biomethane so as not to create a bubble

Provisional purchase price is dissuasive but preferable to a moratorium for the sector

Reform of guarantees of origin



Publication on December 24th, 2020 of 2 decrees relating to guarantees of origin (GO)

The principles :



The **producer** is responsible for the request for the creation of GOs, indicating whether he has benefited from **state aid**



GOs issued by facilities that have benefited from **state aid** will **be auctioned**

3 dates to remember:

12/24/2020

Application for contracts signed from this date

06/30/2021

Opening of the European GO market

04/01/2023

Opening of auctions for GOs produced in France

Reflection on the establishment of extra-budgetary mechanisms

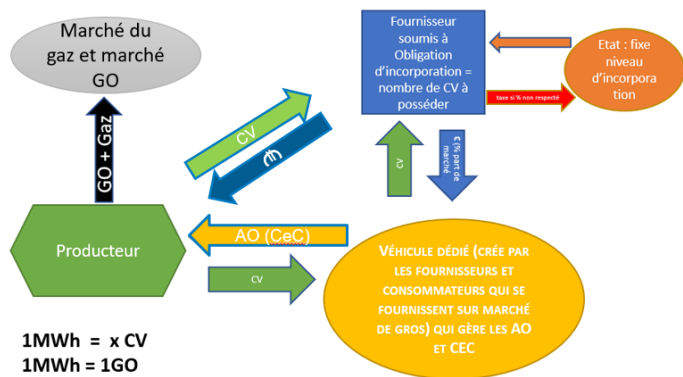


Why an extra-budgetary mechanism?

The PPE foresees € 9.7 billion for biomethane, which will not be enough to achieve the decarbonisation objectives

→ **extra-budgetary mechanisms to finance biomethane, via an obligation to incorporate Green Certificates (GC) for suppliers**

Proposition de convergence



CEC = différence entre prix garanti et prix de marché

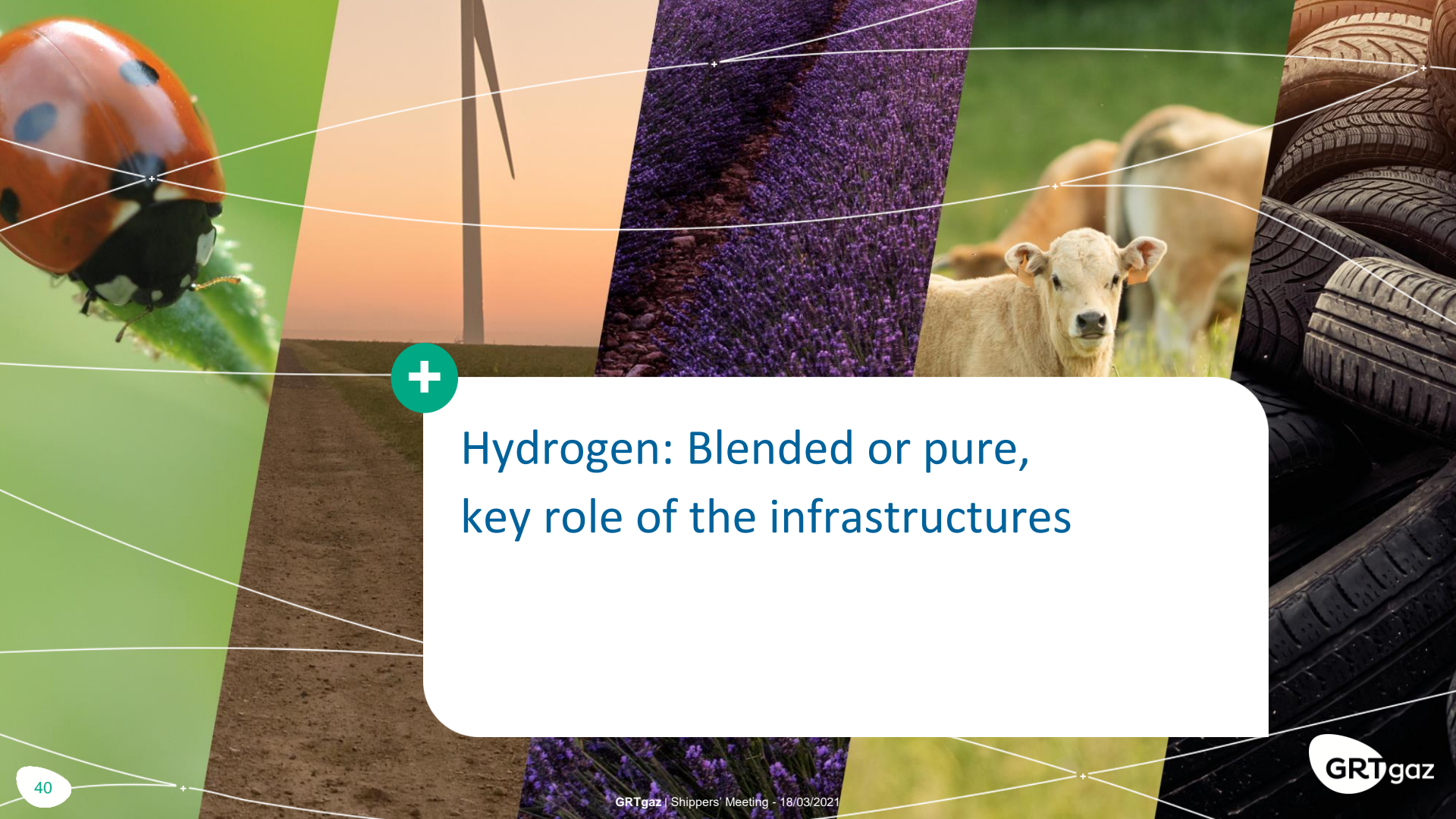
- Consultation of the DGEC in February 2021:
 - The producer issues GCs, which are sold to suppliers
 - Suppliers can group together in "purchasing centers"
 - GOs are sold independently of GCs
- ANODE proposed an alternative solution, placing the obligations of incorporation on the network operators rather than on the suppliers.
- The DGEC has announced that it is studying all the proposals

Challenge for the sector: obtain the necessary legislative provisions

The implementation of these mechanisms could nevertheless take a long time ...



Do you have any questions ?



Hydrogen: Blended or pure,
key role of the infrastructures



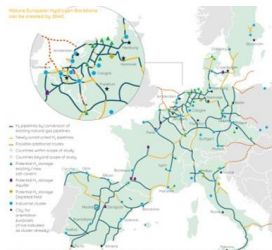
Hydrogen: Blended or pure,
key role of the infrastructures



European and



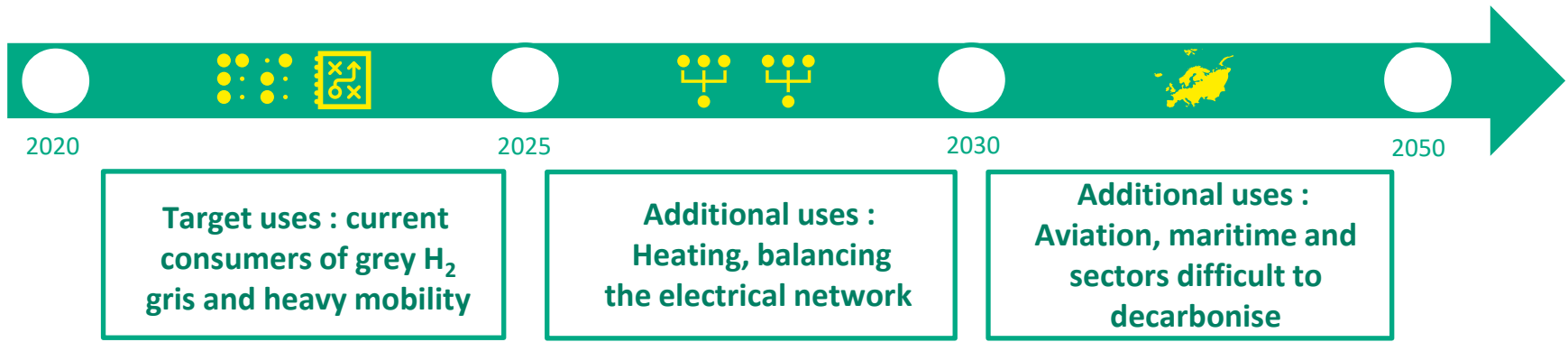
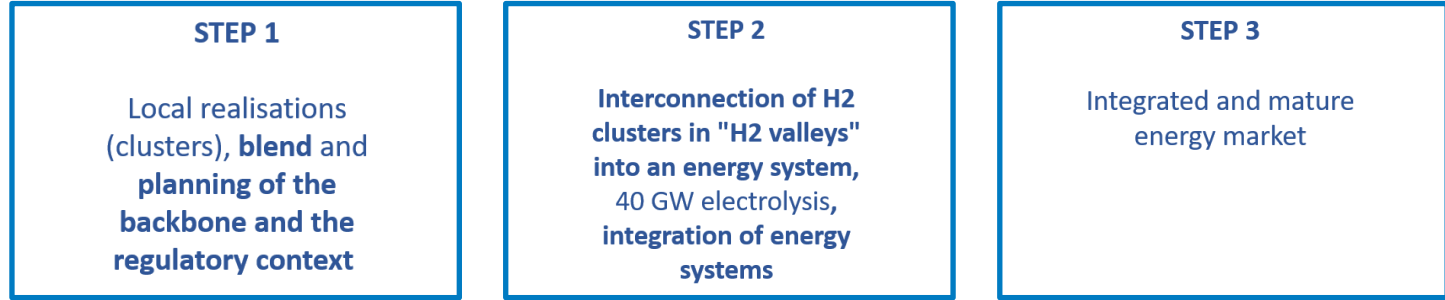
French context



Role of networks (blended & 100%)



The European Commission's hydrogen strategy

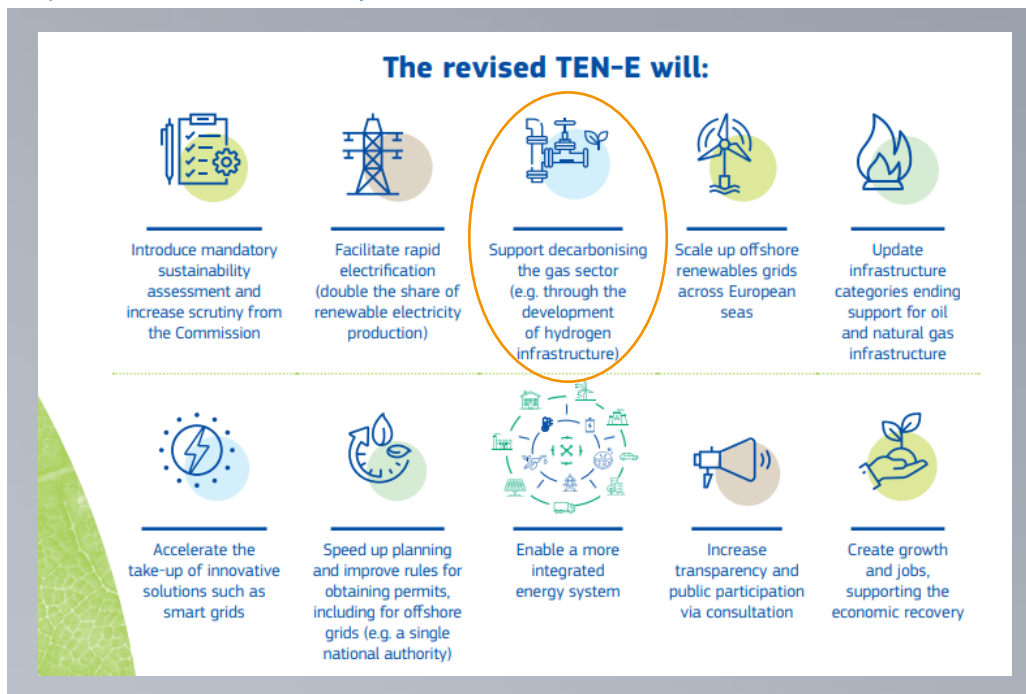


Revision of the TEN-E Regulation: the first guidelines



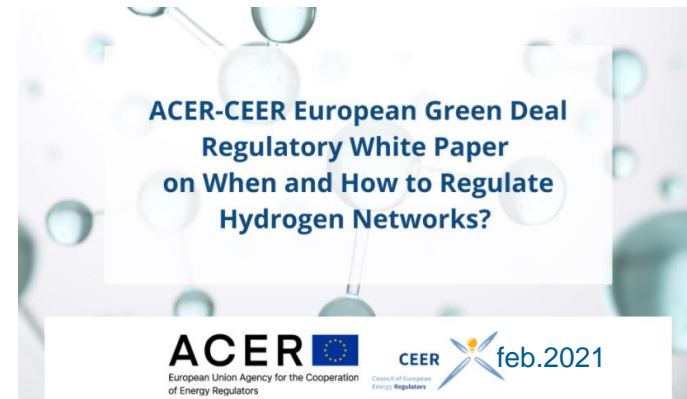
A Union-wide integrated network development plan including hydrogen networks:

- + Enable or increase existing cross-border hydrogen transport capacity
- + Market integration by connecting existing or emerging hydrogen networks
- + Competitive & transparent & non-discriminatory access basis.

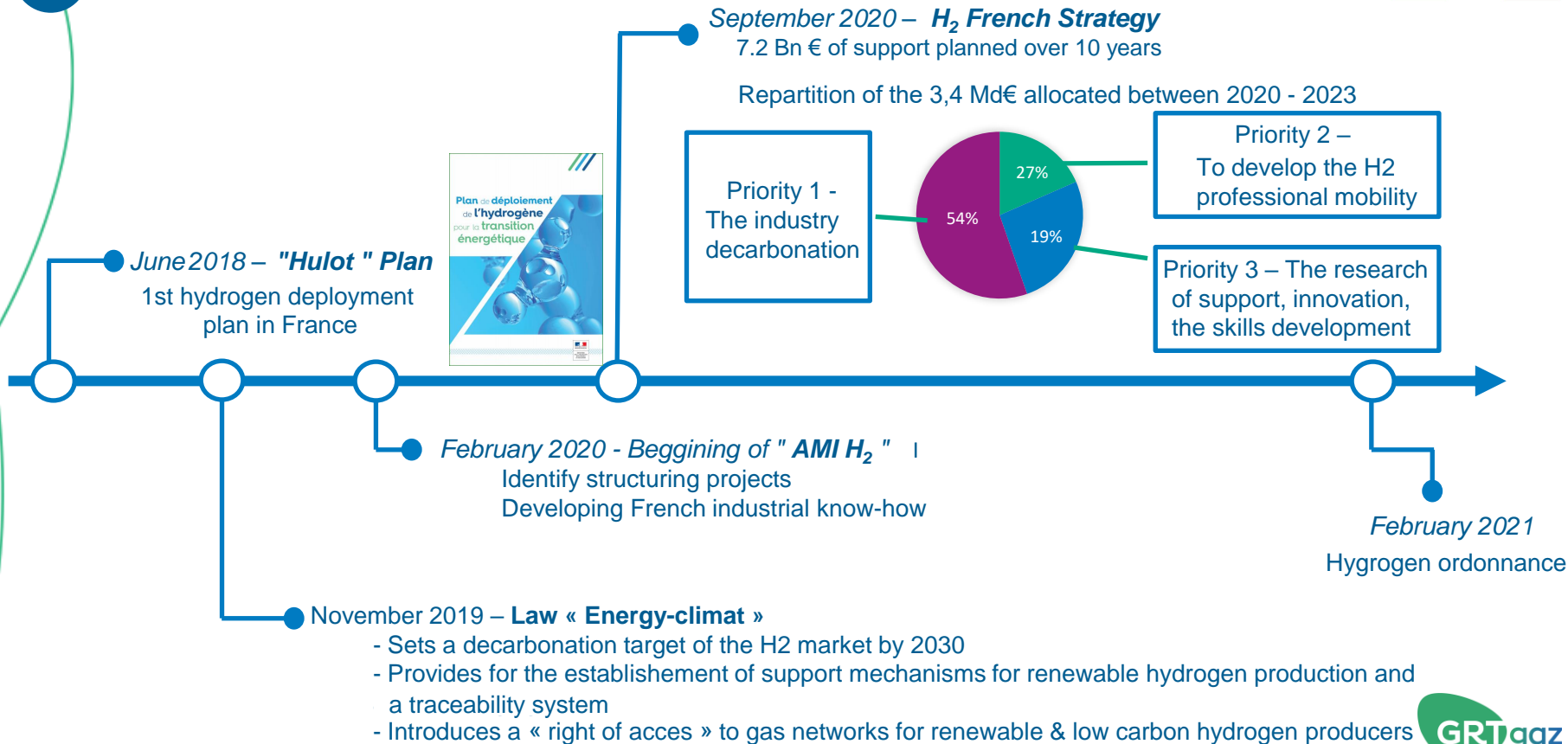


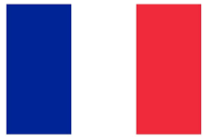


- + Consider a **gradual approach to the regulation of hydrogen networks** in line with market and infrastructure development for hydrogen
- + Apply a dynamic regulatory approach based on **periodic market monitoring**
- + Clarify the **regulatory principles** from the outset
- + Foresee **temporary regulatory exemptions** for existing and new hydrogen infrastructure developed as business-to-business networks
- + Value the benefits of **repurposing of gas assets for hydrogen transport**
- + Apply cost-reflectivity to **avoid cross-subsidisation** between the gas and hydrogen network users



The French regulatory framework is being clarified to facilitate the emergence of the sector.





Hydrogen regulation

2021 - 167 of February 2021

+ Pure hydrogen

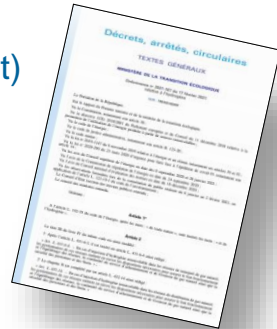
- Renewable H2 : Produced exclusively from renewable sources (GHG limit to be set by decree)
- Low carbone H2 : < GHG limit identical to H2 renewable but which cannot be qualified as renewable.
- Carbonated H2 : Neither renewable nor low carbon (therefore > GHG limit)

+ Tracability

- Separate guarantees issued for renewable or low carbon H2

+ Support

- Support mechanisms for the production of renewable H2 and low-carbon H2 by electrolysis

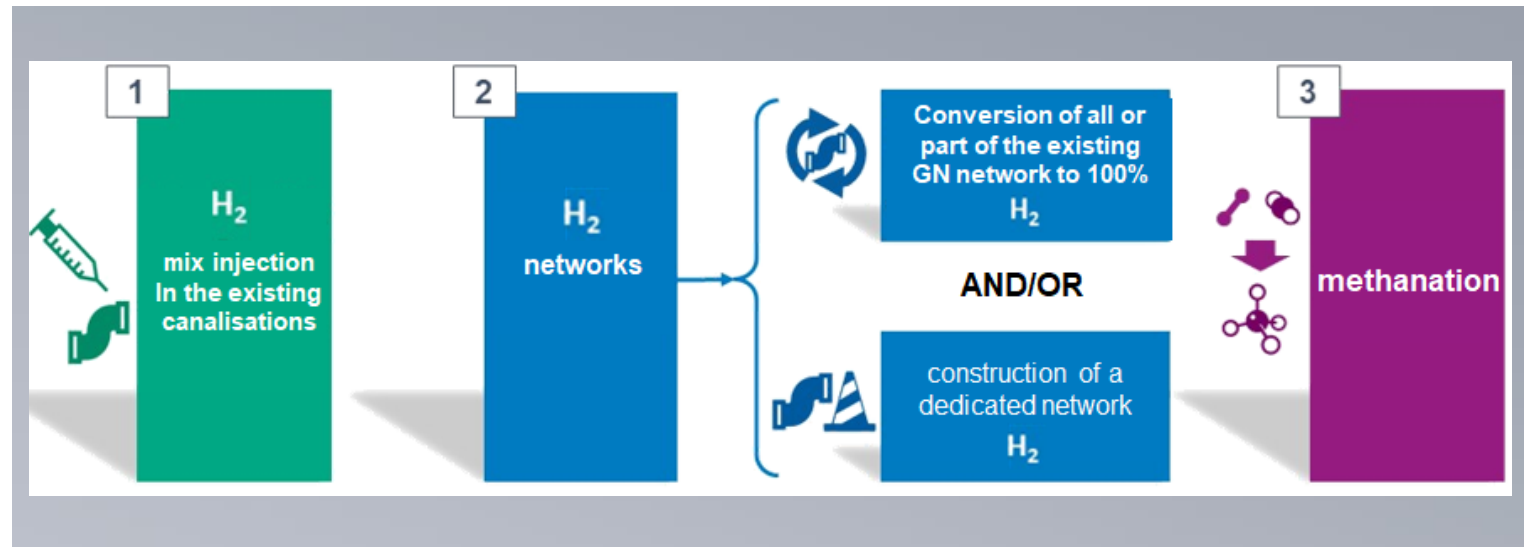


3 complementary ways of integrating the H2



A differentiated hydrogen development in the territories dependent in particular :

- + the production mode: centralised/decentralised, fixed/variable, diffuse/massive.
- + of the area concerned: network characteristics, gas flows, etc.
- + the temporality of projects: gradual adaptations, "jumps" towards 100% H2 clusters



"Measure 7" report of the Hydrogen Plan



- + Ways of hydrogen integration
- + Current technical locks, envisaged solutions, axes of identified R&D
- + Technico-economic study of injection scenarios



June 2018



Coordinated answer



Pilote du GT de rédaction



June 2019






Main observations of the "measure 7" report

- + Existing and robust gas infrastructure can contribute to the emergence of the sector:
 - 6% hydrogen in a mixture that can be reached in most of the networks (excluding the presence of sensitive structures or uses).
 - target of 10% by 2030 achievable with limited infrastructure adaptations
 - 3 relevant ways of injections
 - integration of hydrogen into the networks in a progressive and localised basis.
 - Preparing now to protect gas infrastructure works and/or sensitive end uses

Growing acceptance of hydrogen production and of synthesis gas in France



Legend

-  Desired hydrogen injection
-  Desired injection of synthesis methane
-  Desired injection : mix of H₂/CH₄

Highlights of 2020

- + 30 requests of connection accumulated at the end of 2020 of projects of all kinds for the injection of synthesis gas and hydrogen.
- + Jupiter 1000* : The beginning of injections of hydrogen in February 2020.

Project coordinated by GRTgaz, supported by the South Région, Ademe :
(Programme d'Investissements d'Avenir) & European Union (FEDER).

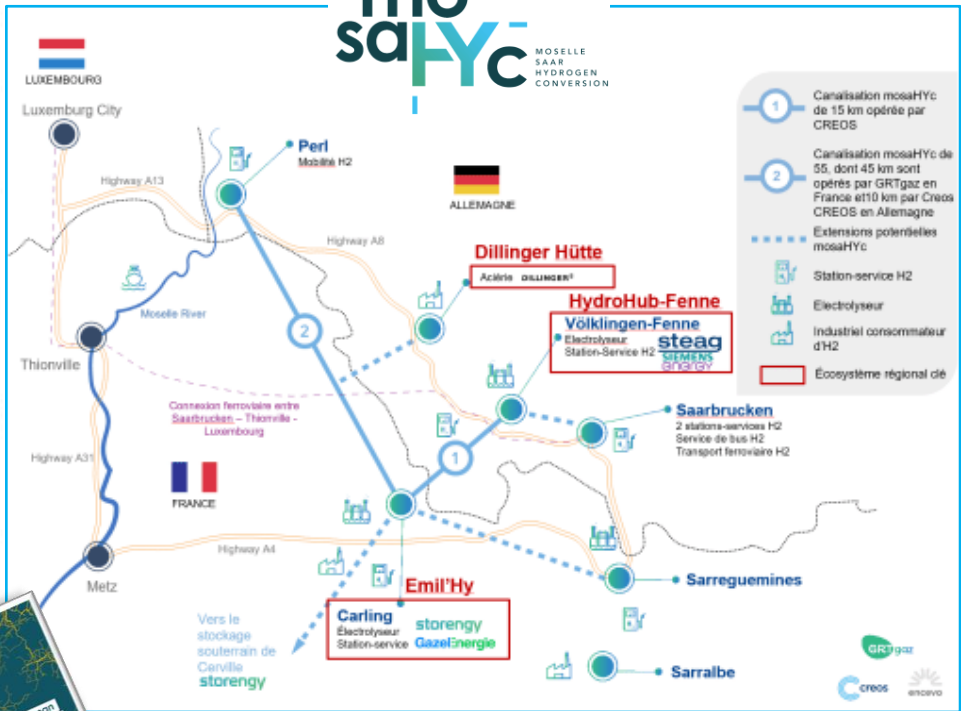
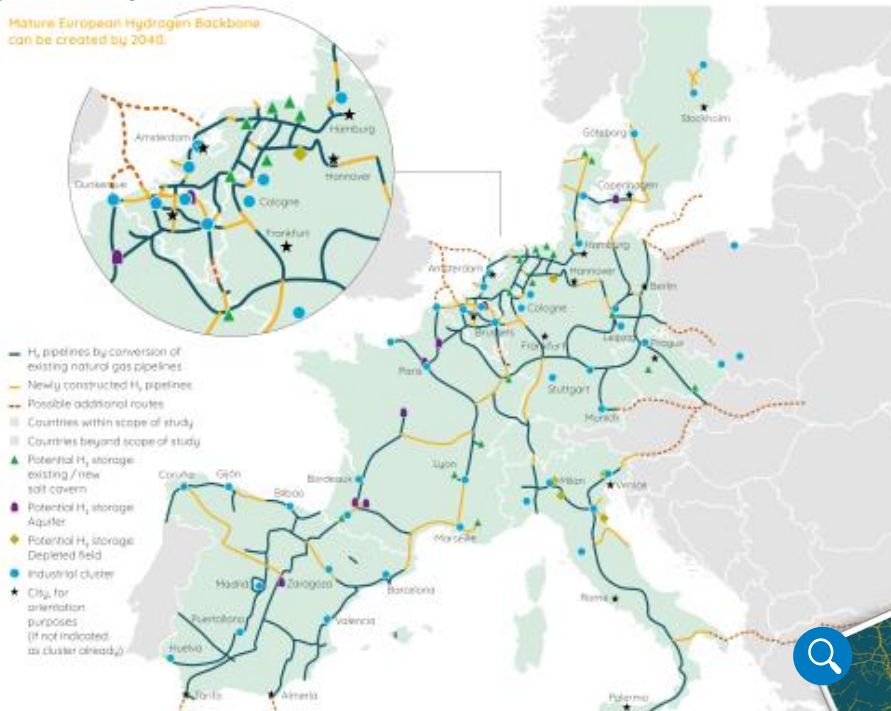


Towards a 100% hydrogen transport network. Launching studies and projects to prepare for the future.



European Hydrogen Backbone In 2040 by Gas for Climate

Mature European Hydrogen Backbone can be created by 2040.



- + The report publication of July 2020
- + 3300kms of hydrogen canalisation in France forecast 2040

- + Hydrogen valley between Germany, Luxembourg and France
- + 70kms of 100% hydrogen canalisation in service before 2025





Do you have any questions ?



Connecter les énergies d'avenir

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