



Feedback on the creation of the French Single Gas Market

5th of November, 2019

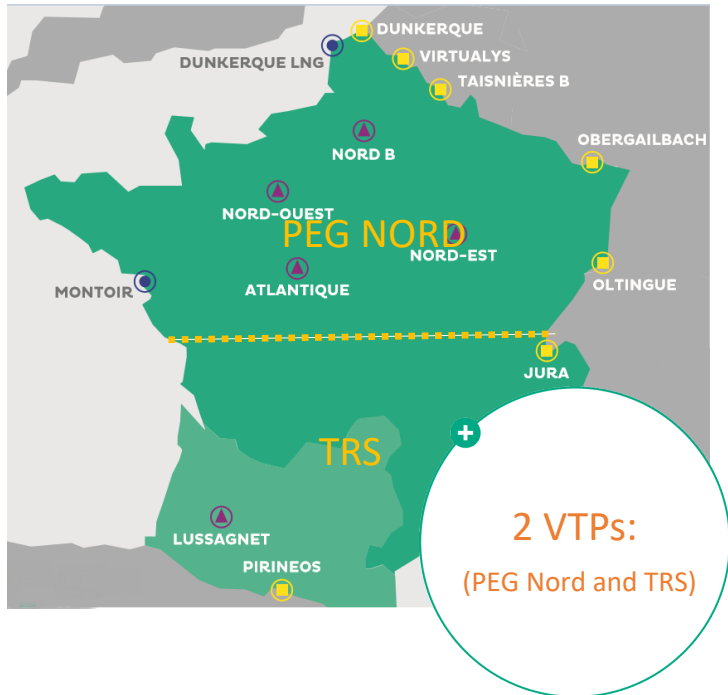
Agenda

- Reminder of the context of the merger
- How to design such a project
 - Customer listening process
 - Mechanisms chosen to manage the limits
 - Zoom on Locational Spread
 - Zoom on Mutualized restriction
- Managing the switchover
 - In TSOs system
 - On the market
- Feedback from TSOs
 - Congestion management indicators
 - Locational Spread

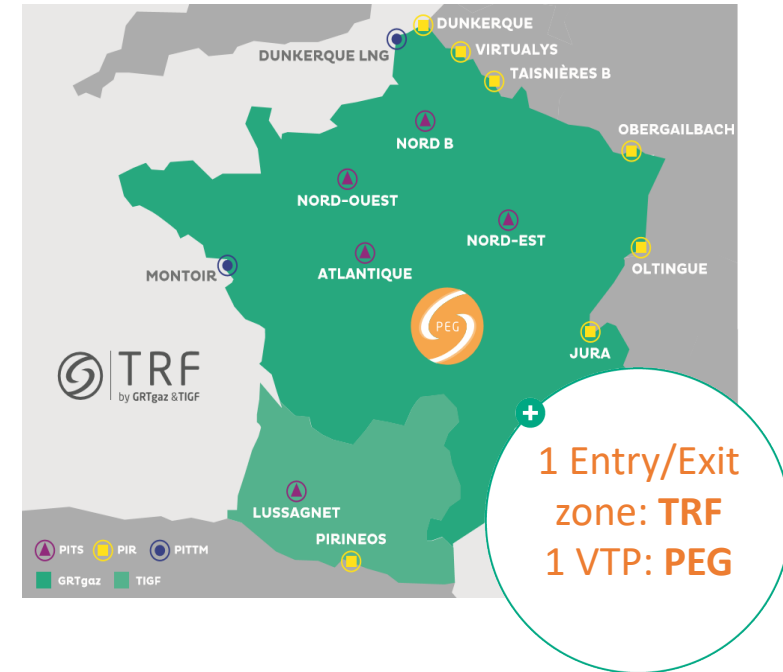
Reminder of the context of the merger

Creation of the TRF and the PEG

Before november 1st, 2018:



Since November 1st, 2018 :



Teréga and GRTgaz have decided to call the single trading area the **TRF**, an acronym standing for Trading Region France.

The TRF include a virtual gas exchange point, the **PEG**

The expected benefits: a more attractive gas market

A **single gas price** in France (disappearance of “North-South spreads”), for the benefit of all consumers



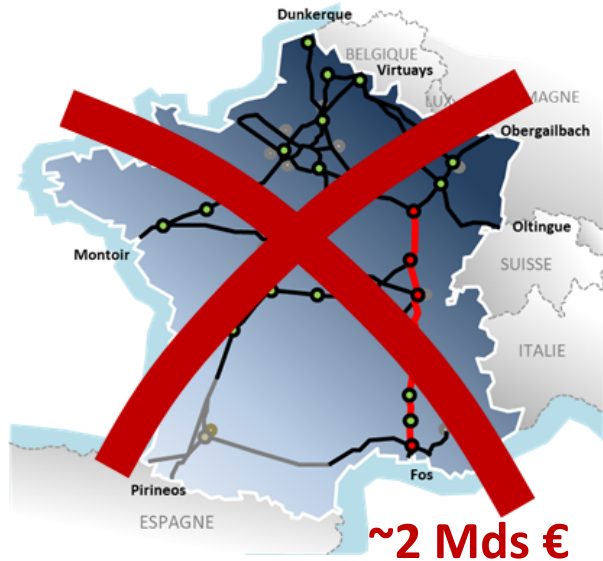
A French market **more fluid, less volatile, more competitive** that is **better integrated** into the European market

A **security of supply** of France strengthened by improving access to different gas sources and allowing a wider choice of sourcing patterns

For the benefit of a **competitive** market over the **long term**

A “mixed” solution agreed with the market

Merger 100% supported by infrastructure



■ Well thought out investments in infrastructures



The new structures increase the availability of the capacities and therefore allow more flows to transit from the North to the South

*Val de Saône: €671m in total
Gascogne/Midi: €152m in total*

■ Complementary mechanisms co-built with the market

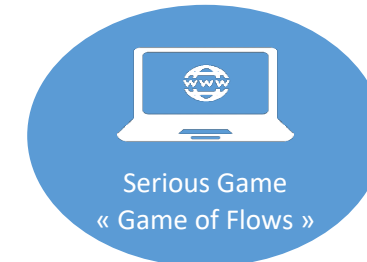
*The new structures cover a wide range of flow patterns but do not guarantee all situations. Some **residual limits of the network are remaining***

How to design such a project

A challenge solved thanks to a complete and innovative customer listening process

A new co-construction system with the market

Co-construct a new Offer with the market, our key partners and other infrastructure operators, then **cooperate** it

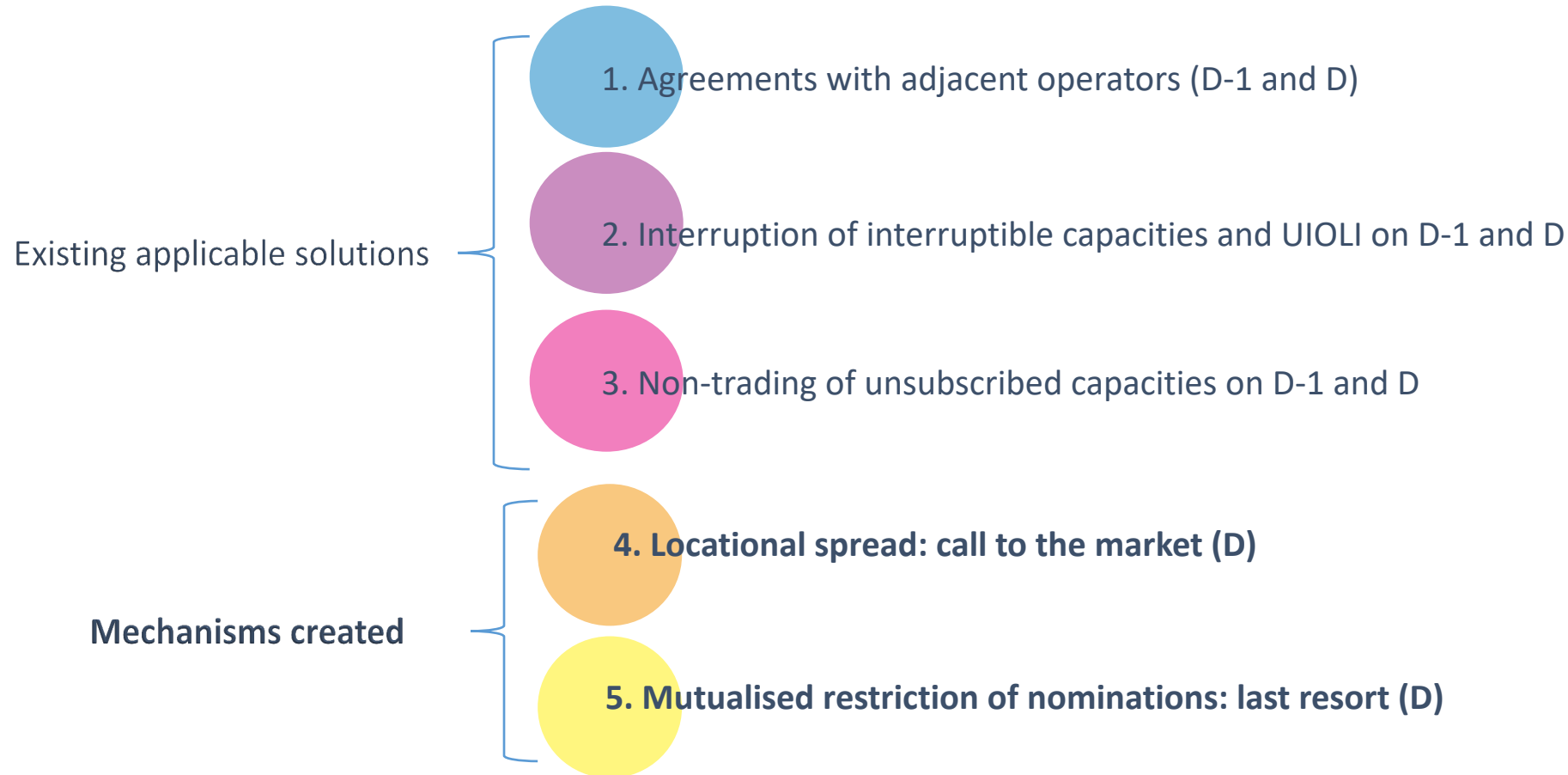


What benefits were sought in a co-construction with the market?

- Remind the market of the history of the TRF to make them **accept** the rules of the game: A merger with rational investments that requires contractual mechanisms.
- To allow them to test our ideas, to **create** new ones and thus to make them **co-responsible** in the choices while accustoming them to new ones.

Mechanisms selected for management of residual limits & merit order

The selected mechanisms are activated on a short-term basis, only if the limit is imminent, following this merit order:



Vigilance outlook – monitoring the network

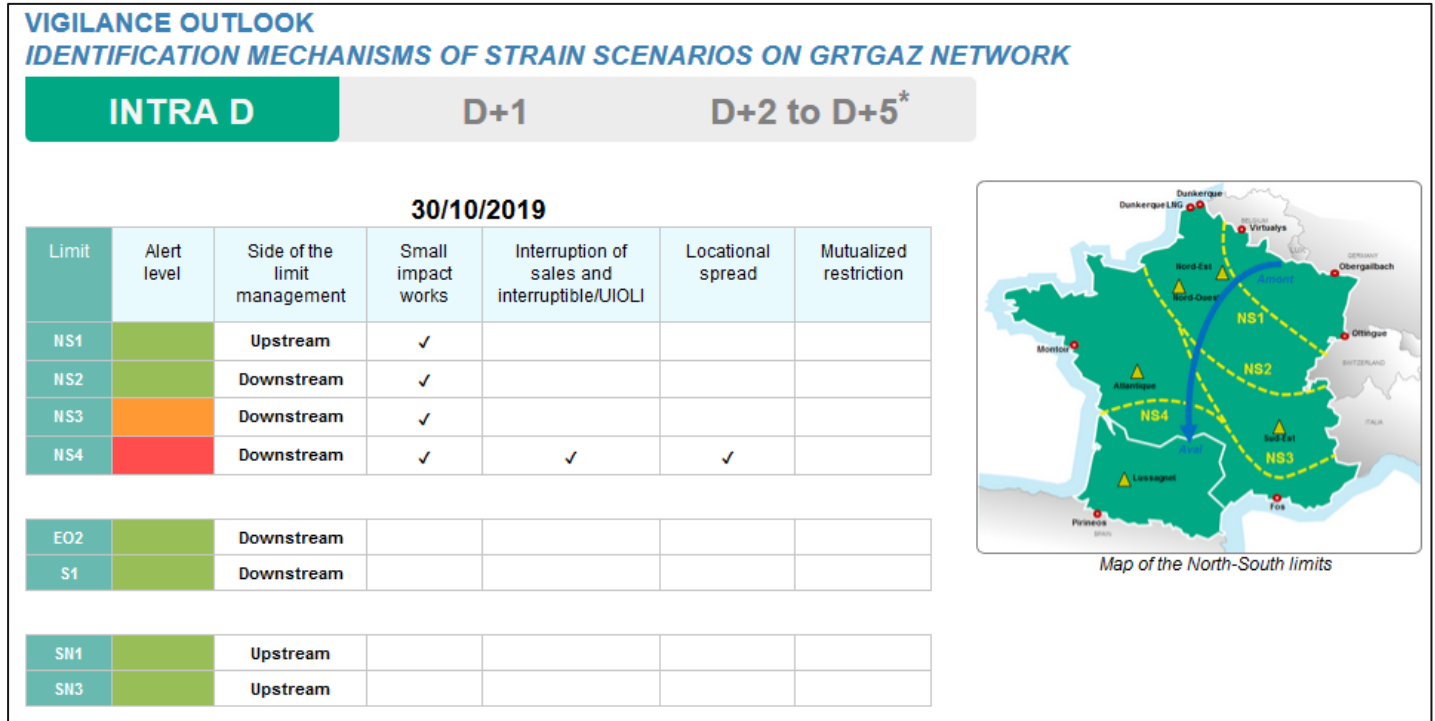
Transparency, towards client, of the network situation

Vigilance outlook, which is refresh at every nomination cycle, gives information to the market on the the network situation and the mechanisms already triggered:

→ The monitored limits, and the points upstream and downstream of each limit, are predetermined

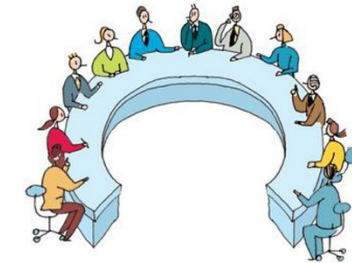
→ The merit order and conditions of mechanisms triggering are well known

➔ This stability and transparency maximises the participation of shippers on the market based mechanisms



Locational Spread history...

The locational spread arose from the works with shippers during the construction of TRF and PEG, within the Concertation Gaz working group.



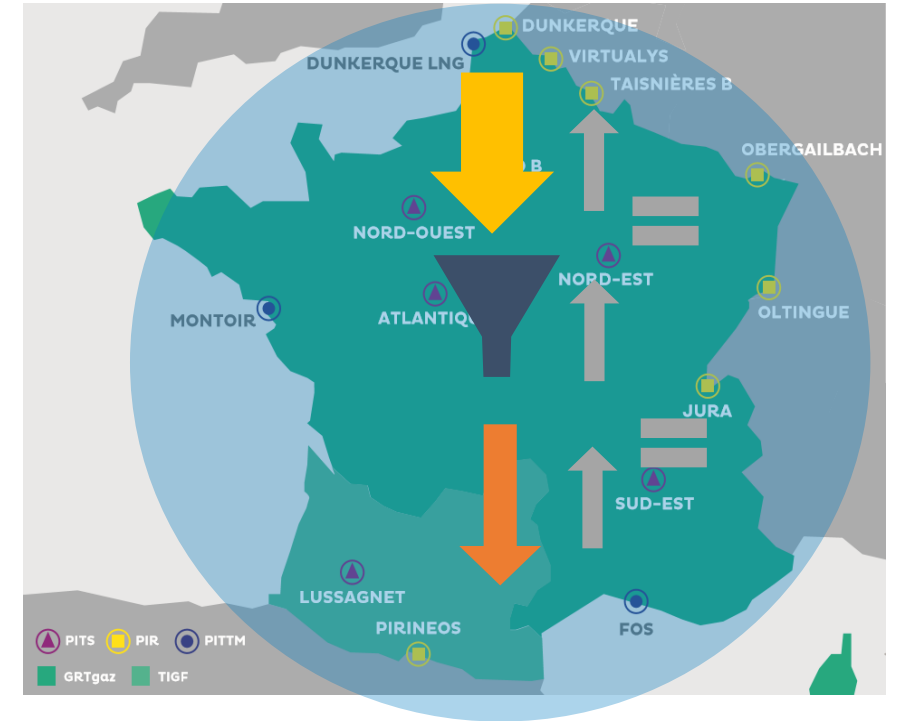
This mechanism was tested successfully, thanks to Powernext help and implementation on PEGAS platform, to solve the Southeast congestion, from 2017/2018 winter.

On November 1st 2018, the modalities of the locational spread had been adapted to manage the residual limits of the TRF.

Locational spread main principles

Market product, relying on the gas stock exchange, on a reference platform for customers (PEGAS), with a twofold within-day locational product:

- **Purchase** by TSOs downstream of the limit
- **And simultaneous sale** of the same quantity by the TSOs upstream of the limit
- > This amounts for the TSOs to buying a “spread”



Neutral impact of the locational spread on the balancing of the selected shipper (the PEG nomination balances the physical nomination)

A flexible mechanism : via a call for tenders for voluntary shippers, for the purchase, sale, or both, for the quantities that they choose

Optimised cost : activated within-day only when a proven limit is reached and only for the quantity necessary to resolve the limit

Call for tenders

Prerequisite at least :

- Signature of participation agreement with TSOs
- Accreditation with Powernext to access on CMP platform

- Only TSOs attack the offers
- No iceberg offers allowed
- It is recommended to submit bids before H + 30 (start time of selection)
- The qualified suppliers see the other offers in the book live and can therefore position themselves

For shippers, this will be the buy back in exchange of a diminution of their entries upstream of the limit

To post offers to purchase gas upstream of the limit called.

To post offers to purchase gas upstream of the limit and to sell the same quantity downstream.

To post offers to sell gas downstream of the limit called.

GRTgaz-TEREGA PEG				24/7 Trading	
Qty	Bid	Ask	Qty	Last	TQty

GRTgaz-TEREGA PEG Downstream / GRTgaz-TEREGA PEG				24/7 Trading	
Qty	Bid	Ask	Qty	Last	TQty

GRTgaz-TEREGA PEG Downstream				24/7 Trading	
Qty	Bid	Ask	Qty	Last	TQty

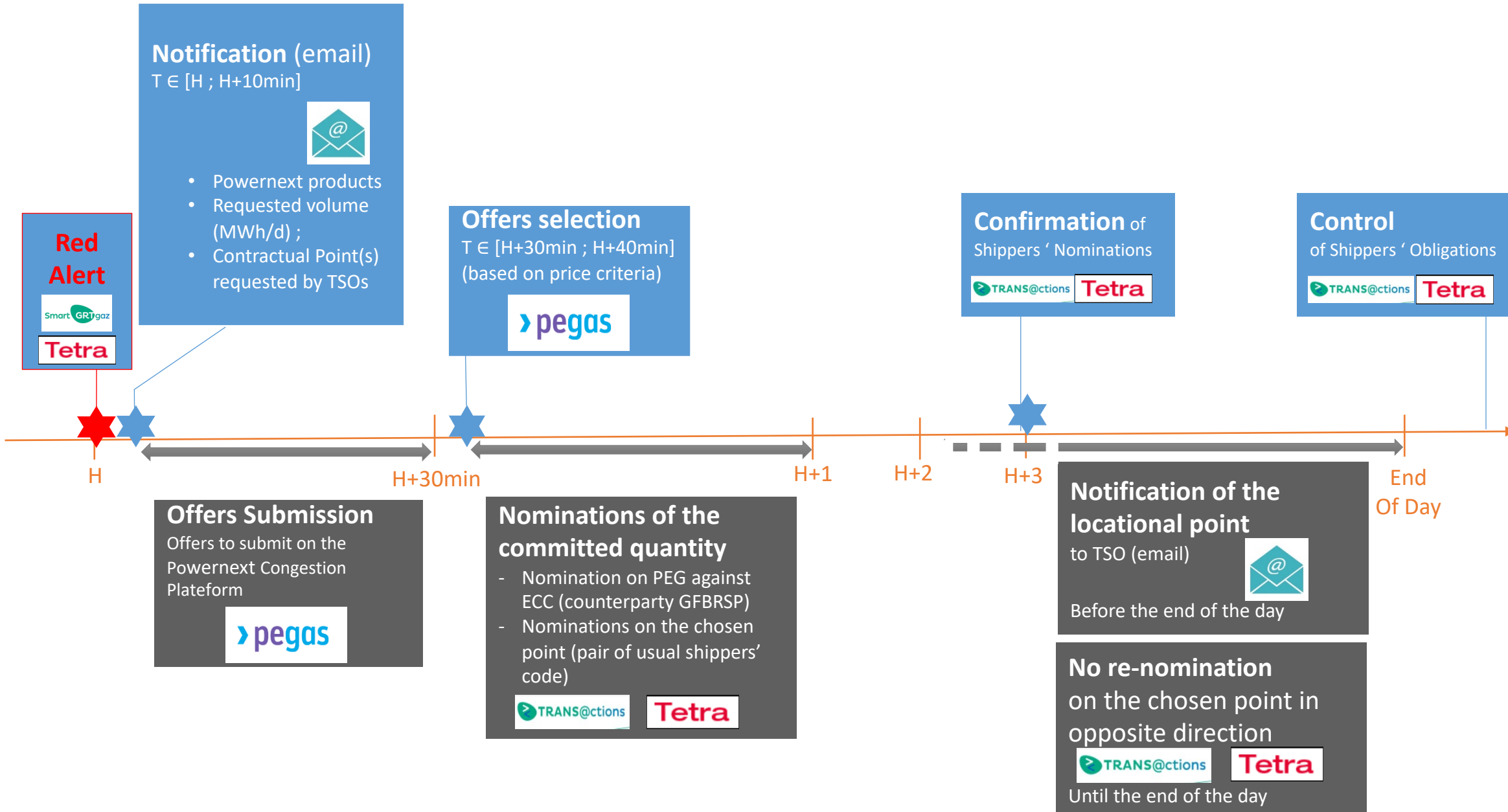
TSOs will select best prices, regardless of whether they are explicit or implied

Combination of best price explicit order to create a implied spread order

Timings

TSOs

Shippers



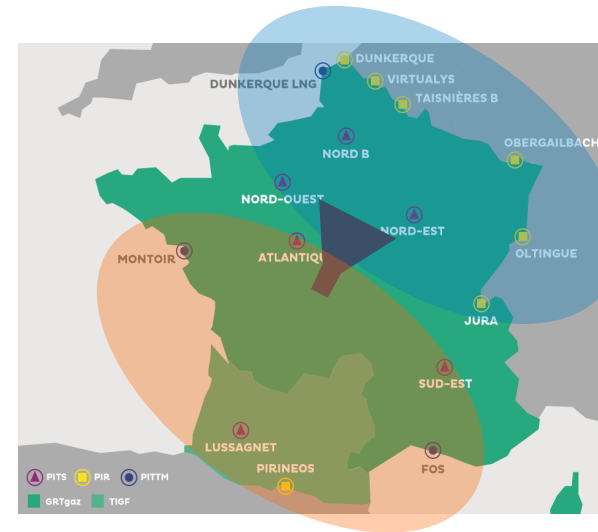
Mutualised restriction principles

As a last resort, within the day, if the call to the market via the locational spread is not effective

Partial interruption of firm capacities :

- pro rata to the subscribed capacities
- mutualised on a group of points called **superpoint**, in order to give flexibility to the shippers

No financial compensation in the event of use of this mechanism



Either the entry flow is reduced by restricting the entries upstream of the limit

Or the exit flow is reduced by restricting exits downstream of the limit

→ The shipper is then imbalanced and must re-balance in the next cycle on the other side of the limit

How we managed the switchover

Operation of the single marketplace : The switchover in TSOs system

A new and unique balancing zone on November 1st, 2018

- Disappearance of North-South link capacities
- Disappearance of GRTgaz North and TRS zones
- Creation of the “TRF”

Creation of the PEG on November 1st, 2018

- Disappearance of North-South link products (JTS, Coupling..)
- Disappearance of North PEG and TRS
- Creation of an unique “PEG”

Switchover strategy

- A switchover the 1st of November to limit the cohabitation of the two systems over the same month
- An up-to-date management allowing shippers to prepare their portfolio 5 working day before the merger
- An automatic access for customers present on the North PEG or the TRS on the new PEG with :
 - Operational and contractual provisions identical as today
 - Only one access to PEG fee instead of two

Operation of the single marketplace :

The switchover of the market place

A transition designed by the exchange

- Switch to PEG Futures a month before the merger
- Switch to PEG spot a day before the merger, to allow DA product to be traded
 - *In parallel, nominations on the PEG were already possible, allowing shippers to test their processes*
- On D day, PEG fully operational on all products

Brokers followed the same 3-step transition

- This decision has ensured coherence and simplicity for the stakeholders.

Adaptation of locational products platform

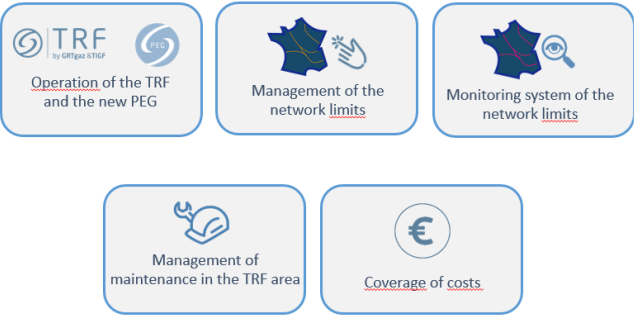
- Creation of an downstream and spread order book
- Adaptation of existing order book :
 - In the case of Locational for balancing it is still the only order book in both buying and selling situation
 - In the case of Location spread it is considered as the upstream order book (where TSOs seek to sell gas)

Feedback of TSOs

A successful implementation

Commercial offer ready on 1st November

The 5 main themes of « 26 october 2017 » and « 27 July 2018 » CRE deliberations :



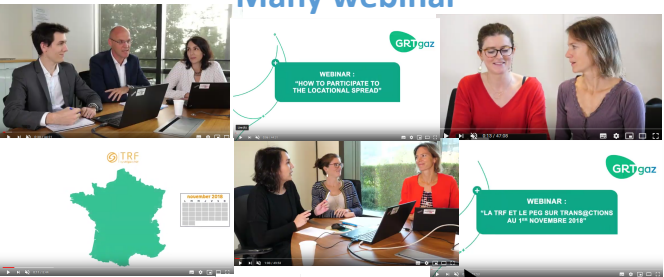
Works finished by 1st November

The 2 main infrastructures works :



An intense change management

Many webinar



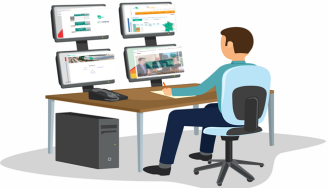
A lot of IT test



Training quizz



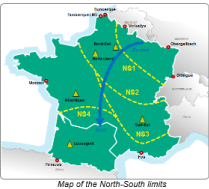
A full scale test open to all shippers



A painless switchover

VIGILANCE OUTLOOK
IDENTIFICATION MECHANISMS OF STRAIN SCENARIOS ON GRTGAZ NETWORK

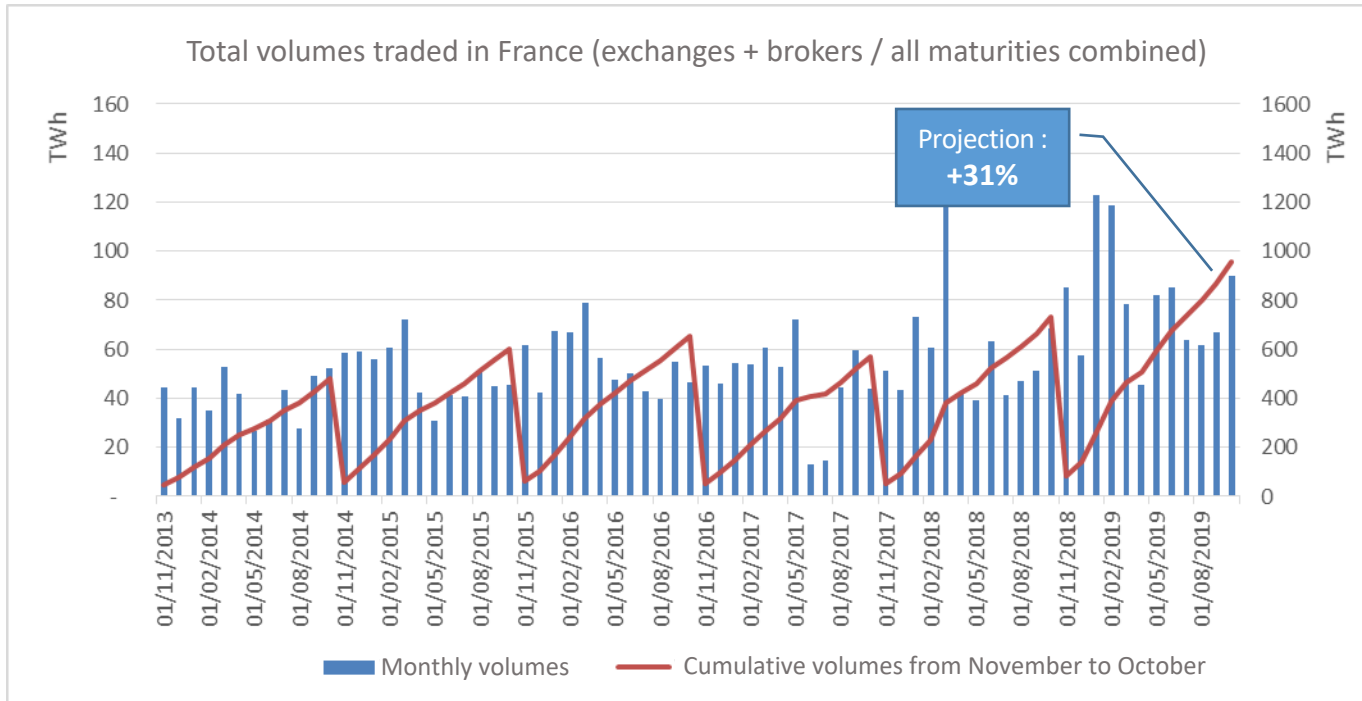
INTRA D		D+1		D+2 to D+5		
01/11/2018						
Limit	Alert level	Side of the limit management	Small impact works	Interruption of sales and interruptible/UIOLI	Local spread	Mutualized restriction
N51		Upstream				
N52		Downstream				
N53		Downstream	✓			
N54		Downstream	✓			
E02		Downstream				
S1		Downstream				



Imbalance per Balancing Section [Hide the details](#)

Balancing Section	Trading Region	EBJ (Daily Imbalance)	Q2	Q4
GRTgaz	-7,018,621	-6,711,737	-6,711,737	0
GRTgaz B		0		

An Increasing attractiveness of the PEG



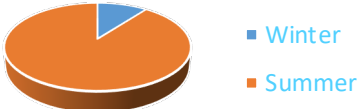
Spot market : - 8%

Futures market : +35%

- ✓ Number of active players in the PEG up from 105 to 129 since the merger
- ✓ The Bid-ask spread on the spot market on the PEGAS platform has decreased from €13c to €8c since the merger
- ✓ Volumes traded on the PEG are up sharply this year. This phenomenon is mainly explained by :
 - High LNG levels
 - A TRF effect ?

It should be noted that this increase is also partly reflected in other European marketplaces, particularly those connected to LNG terminals

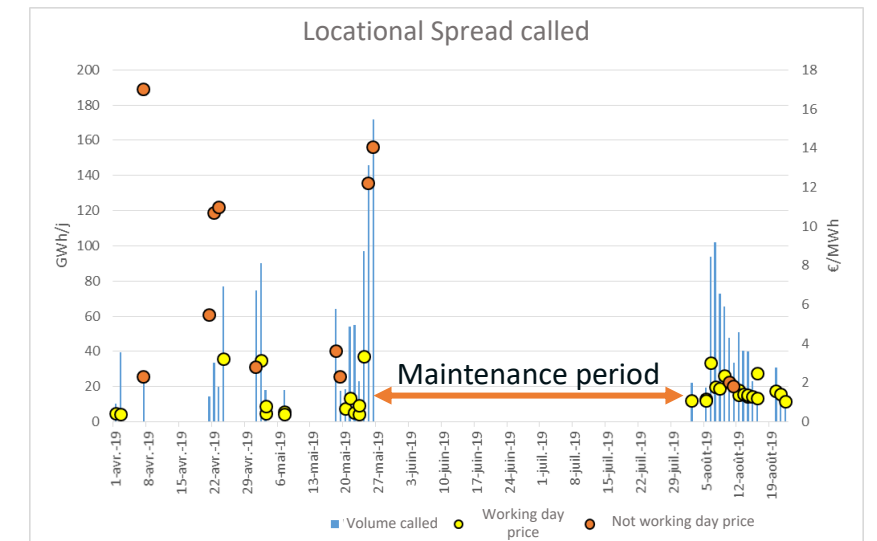
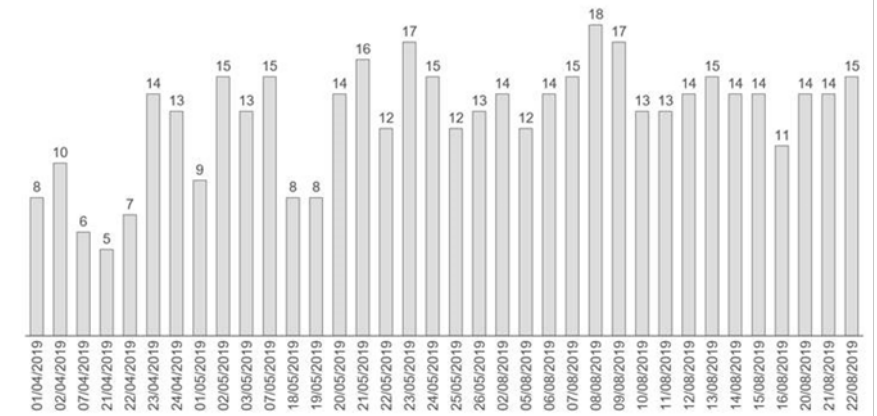
Congestion management indicators

The 30/09/2019	Frequency	Volumes	Cost
	58 Days on red alert, 	44 GWh of interruptible capacity and UIOLI cut off	7,21 M€ Cost of congestions - Weighted Average Price : 3,99 €/MWh
	44 Locational spread	1808 GWh called, On average 43 GWh	
	2 Mutualized restriction	149 GWh of firm capacities cut off	

Overall assessment of the Locational Spread

- Around 40 customers have signed the Locational Spread contract with GRTgaz and Teréga (21 active)
- 42 successful Locational spread out of 44 launched
- A participation, and therefore a competition that progressed during the first weeks
- And, in the end, prices that are falling:
 - 5.87 M€ for 1072 GWh or 5.5 €/MWh over the period April-May
 - 1.34M€ for 736 GWh or 1.82 €/MWh in August

Number of participants (selected or not) each day



Improvements for next year

- Limit the volume called
 - ✓ Limitation to PITS injection levels: Deliberation of 29 May 2019
 - ✓ Inter-TSO operational optimization based on the experience of the 1st year

- Increasing competition
 - ✓ Proposal of 2 new alert channels: via EIKON messenger & via mobile notification
 - ✓ Anticipation of alerts: Pre-Alert in case of potential locational spread

- Improve the TSOs intervention strategy
 - ✓ Prohibition of "iceberg" offers
 - ✓ Displaying only a range of needed volume and not the exact volume
 - ✓ Other modifications of the robot in collaboration with Powernext and the regulator

The creation of the TRF and the PEG has been a success

- ✓ A co-construction with all the actors of the French gas market: Shippers, Consumers, CRE, Stock Exchange Operator, Infrastructors,...
- ✓ A project carried out within the expected deadlines (new infra, IS, commercial offers)

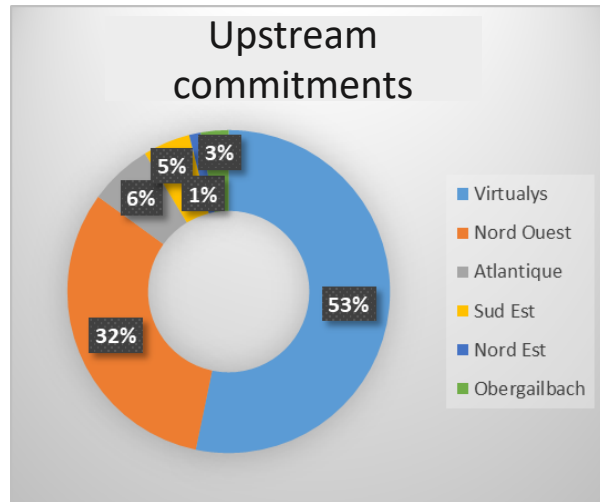
The first year of operation confirms the choices made

- ✓ The PEG shows a good vitality (increase in the number of players and liquidity)
- ✓ Residual congestion management mechanisms are efficient and cost-effective



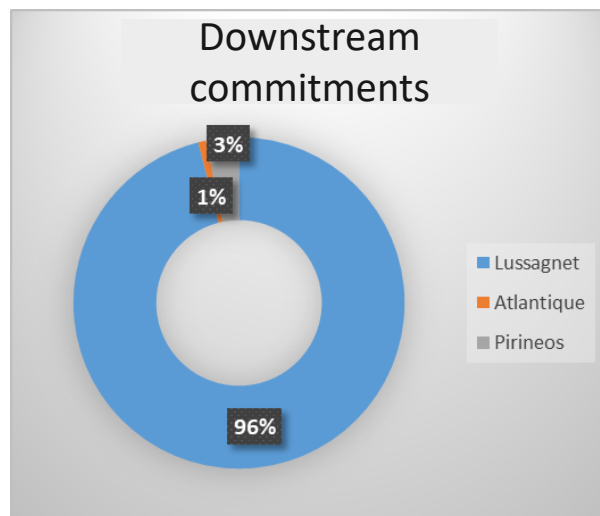
Back-up slides

Analysis of physical commitments



The storages are the main source of flexibility with Virtualys interconnection

➔ Few take or pay constraints



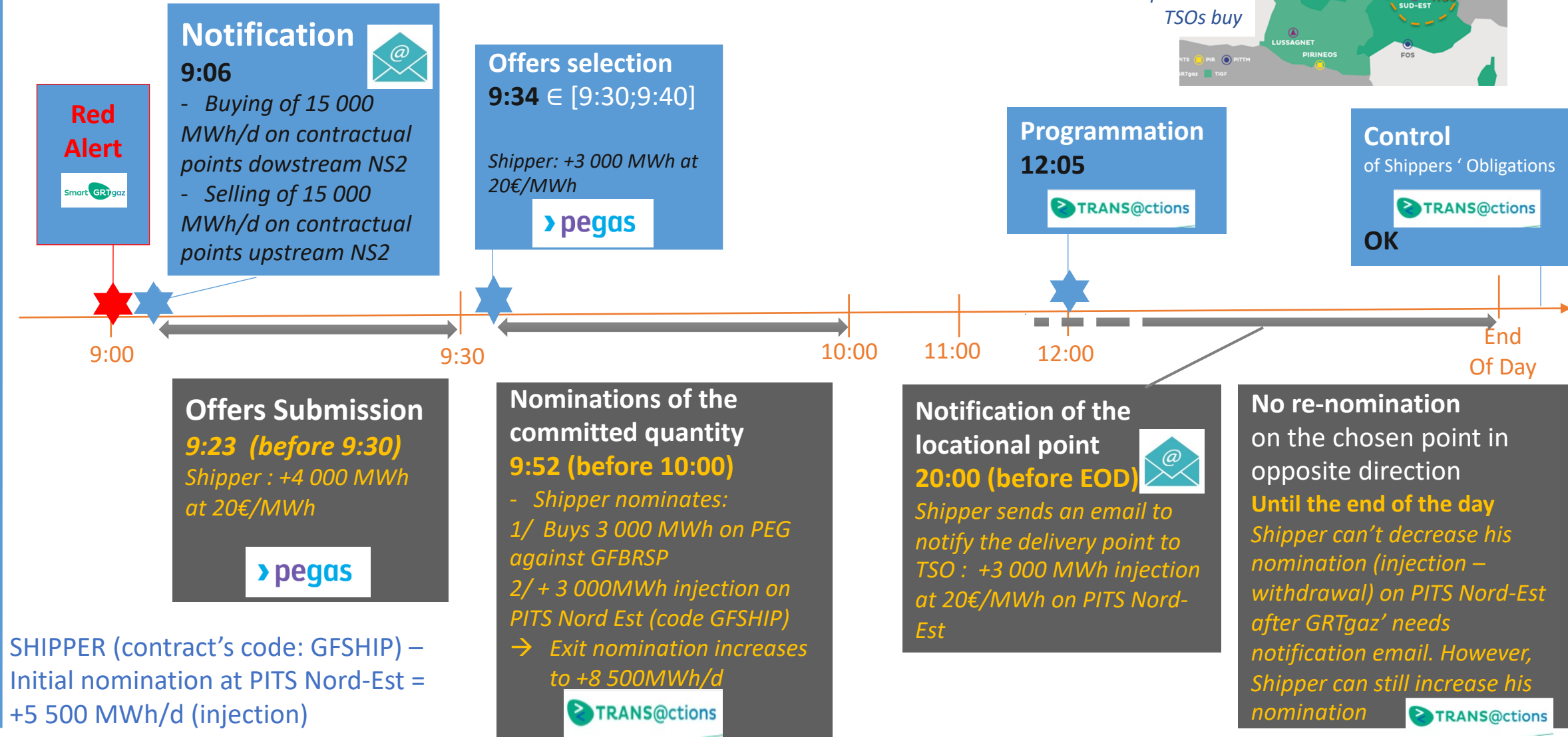
Operation on November 1st 2018: an exemple

+ Example of a consultation for NS2 limit:



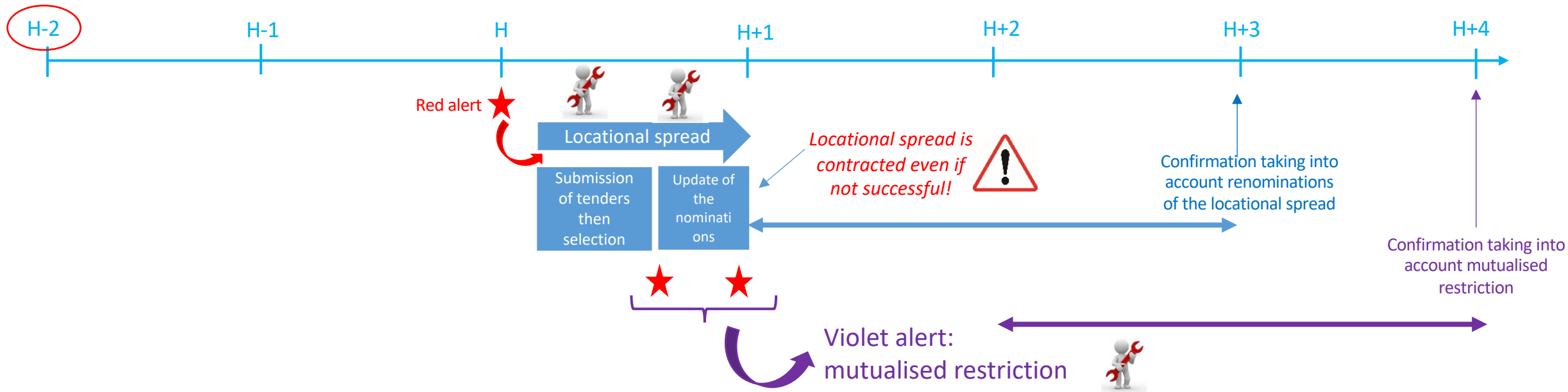
TSOs

Shippers



Mutualised restriction is activated only if the locational spread is not sufficient

Sequence of locational spread and then mutualised restriction, for nominations made before hour H-2:



The mutualised restriction is triggered for the cycle H+2-H+4 if:

- The locational spread launched at H is not successful
- AND the alert level is still red at H+1



No other locational spread is launched if the former one is not successful!