

# TRF & PEG news

SPRING ISSUE: WINTER REVIEW AND PROSPECTS FOR THE SUMMER



The first winter of operation of the Trading Region France was particularly positive: the results in terms of price and liquidity of the PEG are satisfactory, and on the rare occasions this winter when the network limits were reached, they were managed using the current mechanisms. The mass arrivals of LNG released the tensions from the North to the South of France. The outlook for the summer appears just as good, with few tensions forecast for filling the storage.

## Prices and liquidity

€0.11 /MWh

average end-of-day spread between the PEG and the TTF marketplace. This spread is very low, to the benefit of all French consumers. This trend is confirmed on the “futures”.

PEGN-TTF: €0.00/MWh\*  
 TRS-TTF: €1.68/MWh\*  
 \*: from January 2017 to October 2018

2,697 GWh

traded on the PEG every day, comparable to the volumes previously traded on the PEG North and the TRS combined.

PEGN: 2,382 GWh  
 TRS: 551 GWh  
 \*: from November 2017 to March 2018

122

actors active on the PEG in March 2019, constantly increasing.

105\*  
 \*: average of active actors from January 2017 to October 2018

Price and liquidity focus p.2-3

## Network flows and limits

### Winter Review

This winter was marked by the return of LNG.

Only two limits were reached: S1 then NS4. They were managed using the current mechanisms without requiring locational spread.

Flows and winter limits focus p3-4

- 2 days of red alert\*, i.e. 1% of the time
- 0 locational spreads\*\*
- €0 as the total cost of locational spreads
- 0 mutualised restrictions\*\*\*

### Summer Prospects

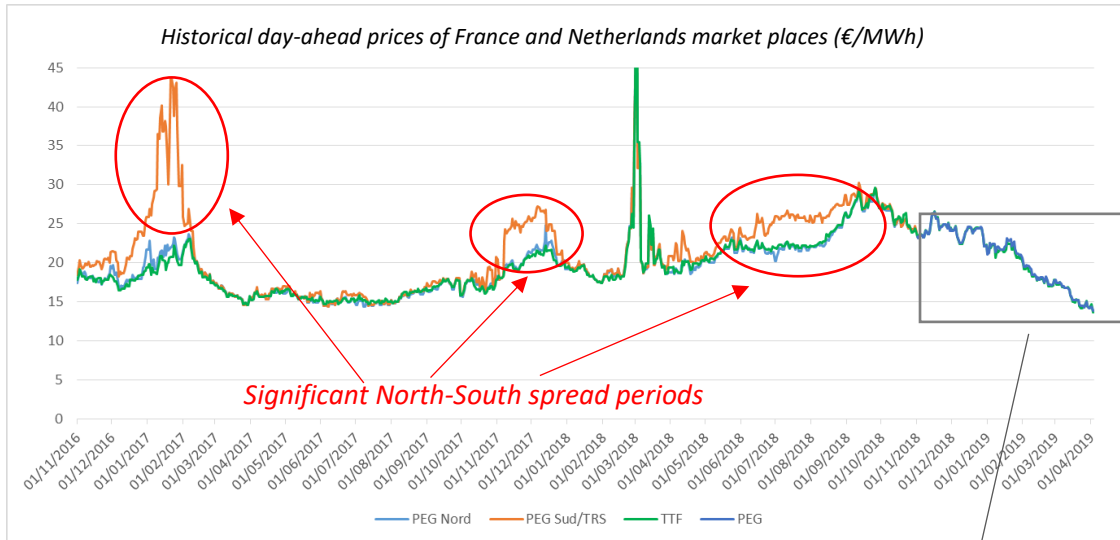
Few tensions are forecast this summer to fill the storages, under the combined effect of the high stocks at the beginning of the summer, the optimised works programme and the probable arrivals of LNG.

Summer prospects focus p.5-6

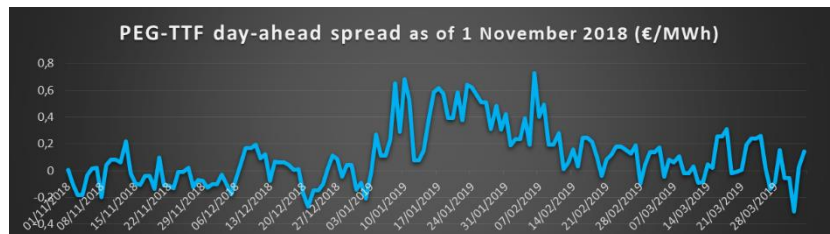
## PEG PRICE AND LIQUIDITY FOCUS

### A low PEG price, close to TTF

Since 1 November 2018, the creation of the PEG has removed the price differences between the North and the South of France, previously around €1.5 to 2/MWh on average and as high as €20/MWh occasionally.



The price of the PEG is very close to that of the North of Europe marketplaces, as was the ex-PEG North: the end-of-day spread between the PEG and TTF was €0.11/MWh on average in the winter, despite a slight increase of approximately €0.4/MWh between mid-January and mid-February. This increase is probably due in part to the restrictions on storage, having physically forced the extraction, as well as to the cold spell in France in January.



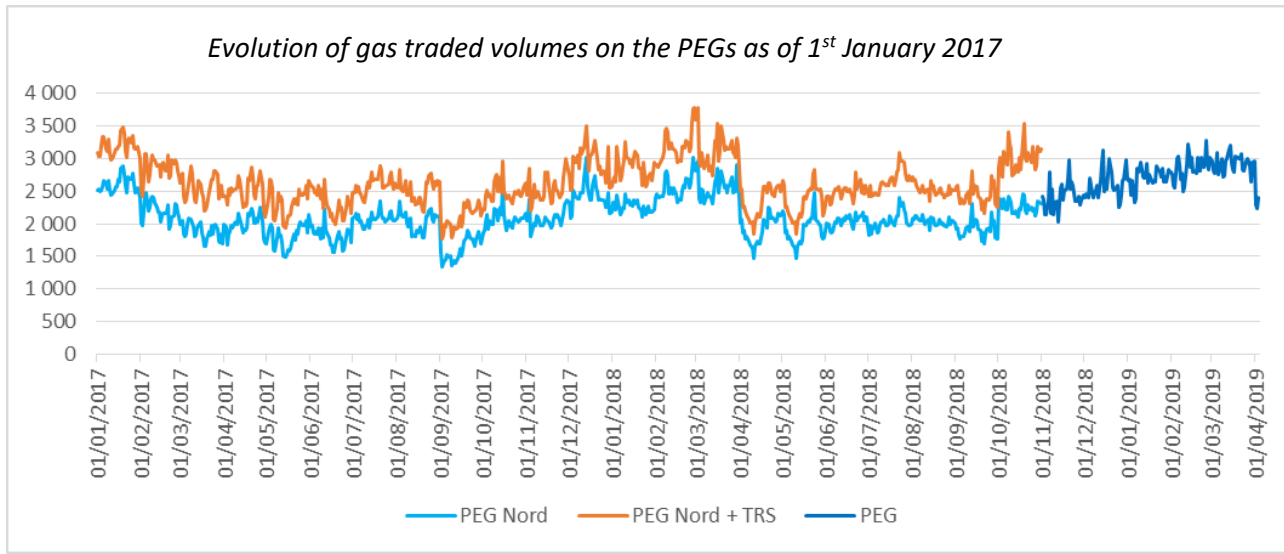
€/MWh	Avril 2019	Mai 2019	Juin 2019	Été 2019
<b>PEG</b>	15,6	15,6	15,7	15,8
<b>TTF</b>	15,6	15,7	15,8	15,9
<b>NCG</b>	16,3	16,3	16,4	16,5

Moyenne des prix à terme pour le mois de mars

These close to zero spreads between the PEG and the TTF are becoming increasingly likely for next summer. For the past several months and on the futures markets there have been negative spreads between the PEG and the NCG.

Finally, the PEG price fell sharply during the winter from an average of **€24.5/MWh** in November 2018 to **€15.8/MWh** in March 2019, probably under the combined effect of the mass arrival of LNG, the high level of gas in stock and the mildness of the winter (demand down by 7% compared to last winter and an average increase in temperature of 1.2°C).

Higher liquidity



The liquidity of the PEG in total volumes traded per day is greater than the volumes traded on PEG North (+13%), and slightly less than the total of the volumes traded on PEG North and TRS for the same period last year (-8%). This is explained by the fact that part of the previous trading was due to the North-South link.

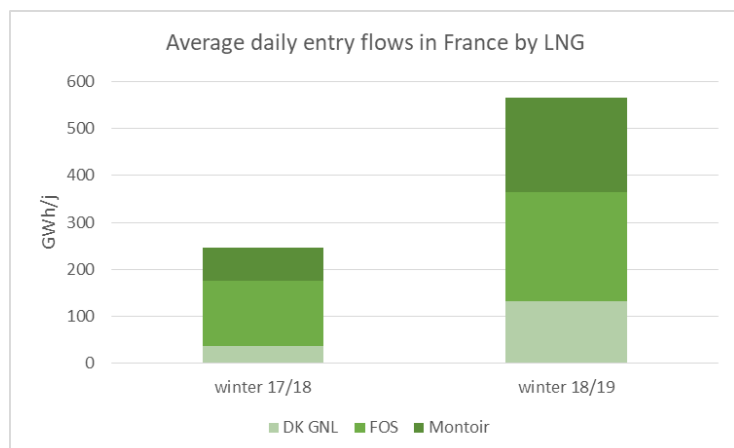
The liquidity of the PEG on the exchange also appears to have improved, since according to the first estimates of our Pegas partner, the bid-ask spread<sup>1</sup> on day-ahead products fell from **€c13/MWh** in winter 2017-2018 to **€c8/MWh** in winter 2018-2019.

In addition, the number of actors on the PEG is growing and fifteen new routing contracts have been signed with GRTgaz in the past few months, bringing the total number of shippers to 156, under the combined effect of the single area, the storage regulation and Brexit.

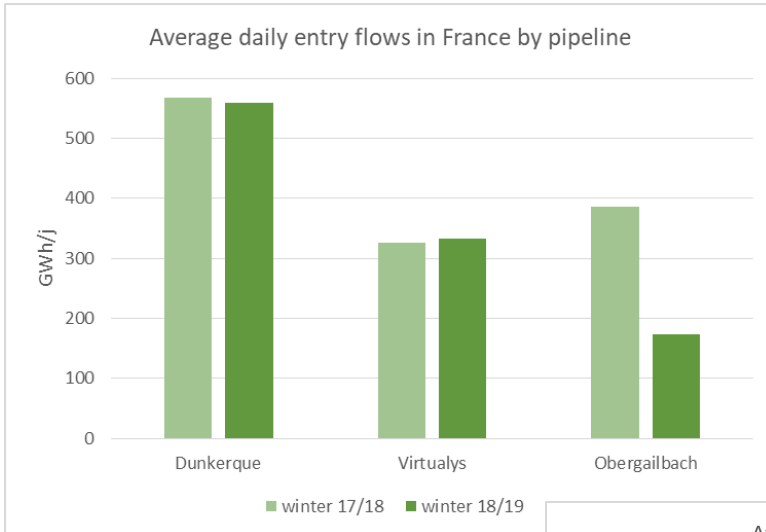
FLAWS AND WINTER LIMITS FOCUS

Abundance of LNG, abundant supplies at Dunkirk and significant transmissions to Spain and Italy

Since November 2018 there has been an acceleration of the return of LNG in the 3 French terminals. In-put of LNG was on average 564 GWh/day, an increase of 130% compared to the previous winter. This corresponds to a significant rate of use of terminals of around 50%.



<sup>1</sup> Estimate made on the basis of the bid-ask spreads observed during the settlement window



These high flows of LNG were in part offset by very low flows at Obergailbach, down 55% compared to last winter. The supply via Virtualys remained stable but at a fairly low level (less than 50% of the firm technical capacity of the point).

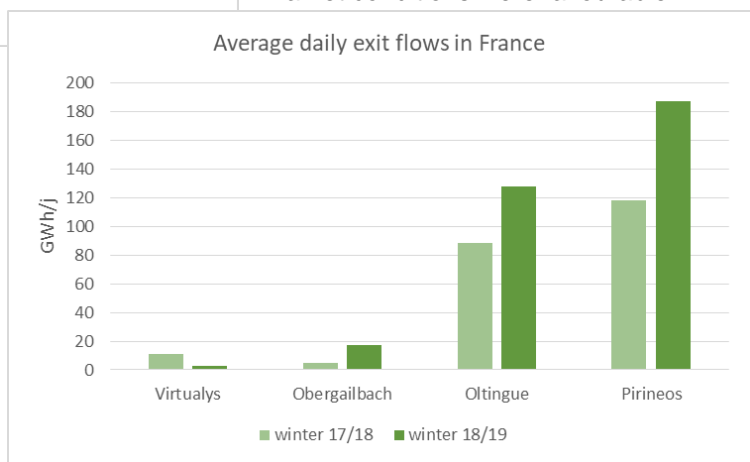
The Dunkirk point (import of Norwegian gas) remained stable, at a very high level of use representing on average 98% of the firm technical capacity.

There was high use of network off-take: first of all at Obergailbach, since the market conditions were favourable

(negative PEG-NCG spread), the reverse supply was used 4 times more than last winter.

Off-take to Italy via Oltingue also increased by 30%, in part thanks to the reduced transmission due to maintenance on the Tenp pipeline in Germany

Finally, off-take to Spain via the Pirineos point, managed by Teréga, jumped by 58% compared to the previous winter; the average use of the point was 187 GWh/day, more than the firm technical capacity of the point. The interruptible supply capacity was also very often subscribed. This strong expansion reflects the increase of around 40% of the flows from the North to the South of France made possible by the merger of the areas. Thus, this winter there were significant transmissions from the North to the South of Europe via France, with high Italy-France and Spain-France spreads.



### Two limits reached this winter

Occurrence of the limits had been estimated at 10% in the reference scenario from North to South. The probability of congestion was predicted to be stronger in the spring, when injections in the storage areas of the South are high, the level of demand still high and LNG low.

These estimates were confirmed this winter, since the limits were only rarely reached:

- on 3 December: high injections in Lussagnet combined with the significant off-take flows at Pirineos triggered the S1 intra-daily limit at night;
- on 8 March: the situation was similar, with in addition little LNG at Fos at the start of the day, which generated the NS4 day-ahead limit.



Map of the main limits of the network

These 2 limits were managed without resorting to locational spread, by triggering the prior mechanisms (cut-off of the interruptible supply and the UIOLI and stopping sales).

**Close-up on the locational spreads on 1 and 2 April 2019**

The locational spread was not triggered this winter, but it has been from the start of the gas summer. The S1 limit was reached, due to strong injections in Lussagnet and significant transmissions to Spain. The abundance of LNG at Fos did not relieve this limit because it arrived before the congestion front. The cut-off of the interruptible supply and the UIOLI at Pirineos not having been sufficient, the locational spread call for tenders was triggered, in working hours:

Day and time	Quantity called	Average price
1 April at 14.00	10.5 GWh	€c45/MWh
2 April at 10.00	39.5 GWh	€c40/MWh

The quantities requested were each time fully sourced at a very competitive price. The total cost for managing the 2 limits was around €20k.

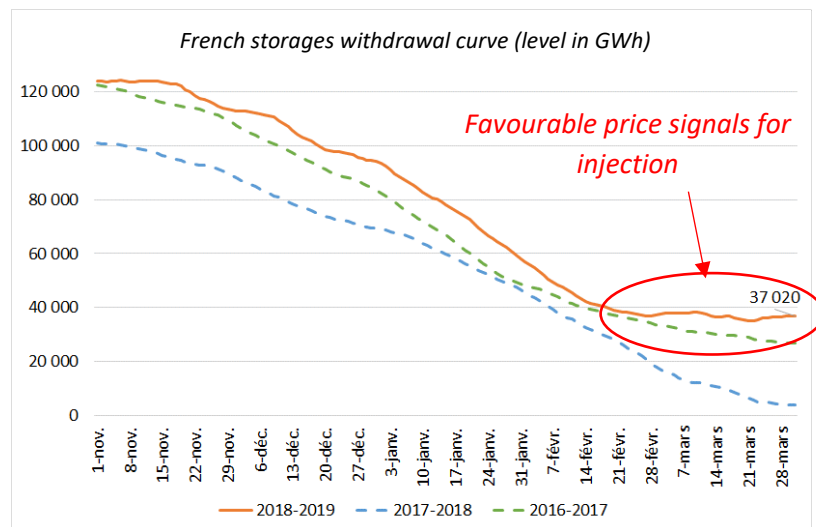
**SUMMER PROSPECTS FOCUS**

**Less gas to inject in the summer of 2019**

Due to the unusually mild winter, extraction from storage has been much lower than in the previous 2 years. Thus, the storage filling level on 1 April was 37 TWh, against 4 TWh last year.

Injections began in March, due to the favourable price signals: on average in March, the day-ahead PEG was €0.1/MWh less expensive than the summer PEG.

Accordingly, the quantities to be injected to reach the subscribed quantities (128.5 TWh) will be 25% less: only 90 TWh against 120 TWh last summer.



**A slimmed-down works programme**

Taux d'indisponibilité des capacités <small>Publié dans le programme travaux de février pour l'été suivant</small>	2016 Reference	2019
Coeur de réseau (ex N>S)	10,3%	6,9%
Points d'Entrée	10,0%	3,9%
Points de sortie	7,6%	3,8%
<b>Moyenne pondérée</b>	<b>9,4%</b>	<b>4,2%</b>

-55%

Capacity made unavailable due to works has been divided by 2 in 3 years, under the effect of two types of improvements:

- first, the works in themselves: better coordination, greater expertise regarding malfunctions, and increased efficiency thanks to temporary repairs.
- and secondly, publications: GRTgaz uses the mechanisms planned for operation of the TRF and thus has fewer capacity restrictions since the risk of residual congestion is managed via locational spread.

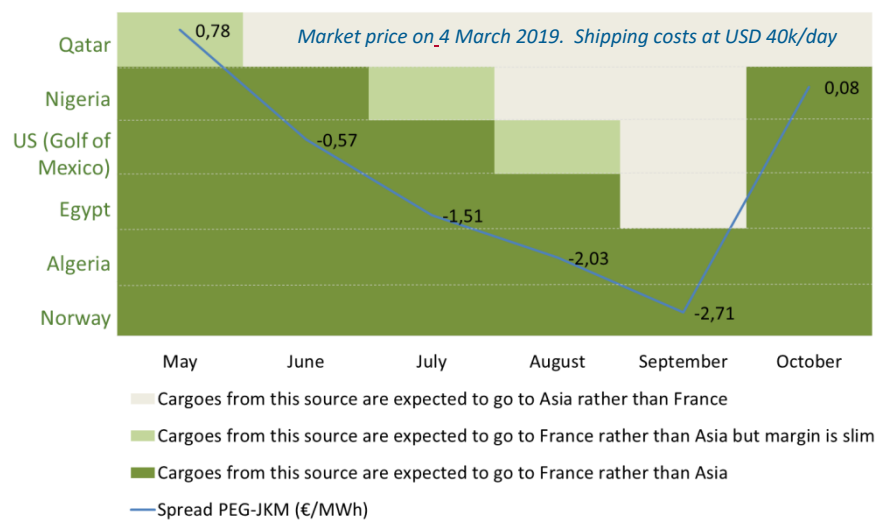
### More arrivals of LNG in France

The arrivals of LNG at Montoir and Fos reduce the physical flows from the North to the South of France. This limits the occurrences of North->South limitations and frees up the restrictions on the off-takes during works thanks to the superpoint operation.

Currently the futures spreads between the PEG and the JKM (Asia) are low, making LNG from nearby sources more competitive in France than in Asia. This analysis shows that the economic conditions are currently favourable to arrivals of LNG in France over the next few months. Caution however is needed, given the volatility of the global LNG market.

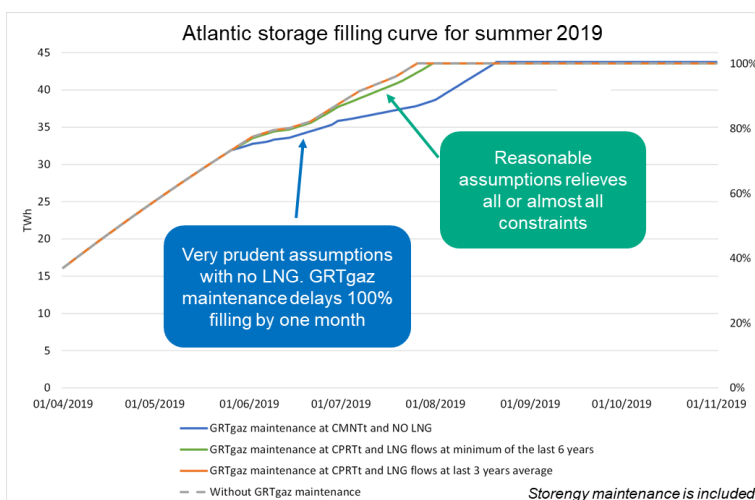
To have a reliable vision one month before the arrivals of LNG, it is advisable to view the schedules for the arrival of LNG tankers, updated on 25 of each month:

Analysis of the competitiveness of various LNG sources according to the PEG-JKM spreads on the futures market



Montoir and Fos Tonkin: <https://www.elengy.com/fr/contrats-operations/gestion-operationnelle/donnees-d-utilisation/>  
 Fos Cavaou: <https://www.fosmax-lng.com/fr/nos-services/donnees-operationnelles/donnees-d-utilisation/>

### Little constrained storage injections



Because of the combination of these three factors (less gas to inject, a slimmed-down works programme and LNG), little tension should be observed this summer to fill the storage. Our studies for the Atlantic storage based on minimum and likely capacity of the works programme show that this storage could be filled by late August on the most cautious assumptions. If the beneficial effect of LNG is also taken into account, then total filling would be possible by late July.

In general, the LNG arriving at Fos and Montoir will reduce tensions on all the off-takes of the South of France: the Atlantic and Lussagnet injections, but also transmission to Spain.