

TRF & PEG News

AUTUMN ISSUE: SUMMER REVIEW AND WINTER OUTLOOK



TRF operated in highly dynamic fashion this summer, adjusting to the impact of COVID-19. The high level of LNG at the start of the period and its subsequent decline, the very rapid filling of storage and adjustments to the needs of neighbouring countries were all dealt with smoothly. In addition, the number of days of congestion dropped drastically compared to last year, thanks to optimised TRF management and more favourable flow distribution. The cost of using the locational spread decreased significantly as a result.

Price and liquidity



Summer 2020 PEG: €7.6/MWh*
 Summer 2019 PEG: €11.3/MWh
 *: from April to November

This was the historical low hit by the PEG last 23 May (average within-day transactions), in the context of the public health crisis. It was also €3.7/MWh lower on average, compared to summer 2019. It should also be noted that the PEG was, on average, €0.10/MWh lower than the TTF.



Summer 2019* = 2,428 GWh
 *: from April to November

traded on the PEG each day, at the same level as in summer 2019



players active in the PEG in October 2020, equivalent to October 2019

129* *: in October 2019



Focus on prices and liquidity p.2-3

Network flows and limits



Summer Review

The TRF experienced very little congestion compared to last year, thanks to favourable flow patterns and the adjustment of firm injection capacities in the storage sites downstream from the limits. In addition, single area management was optimised thanks to the feedback from 2019.



Focus on flows and Summer congestions p.4-5-6



Data from 1st November to 31 October. Source:



*: number of days on which at least one limit was reached. **: main mechanism for managing limits, via a call to the market. ***: mechanism of last resort

Winter Outlook

The level of storage filling in France and Europe is high at this stage, thus warding off risks of security of supply.

Close-up on the Winter outlook p.7-8

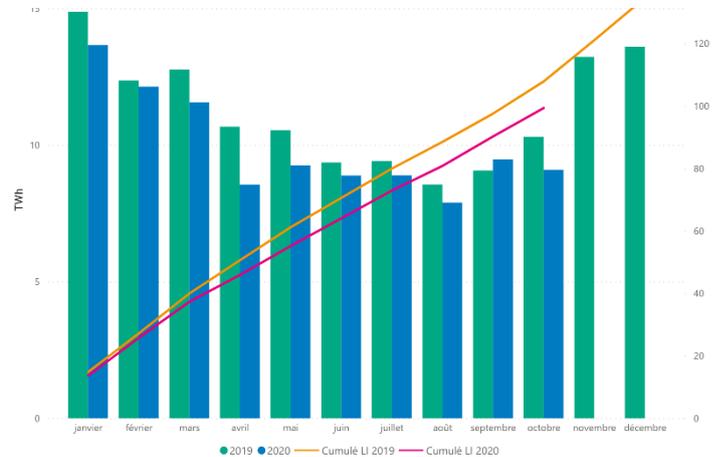
CLOSE-UP ON CONSUMPTION

A summer shaped by the public health situation

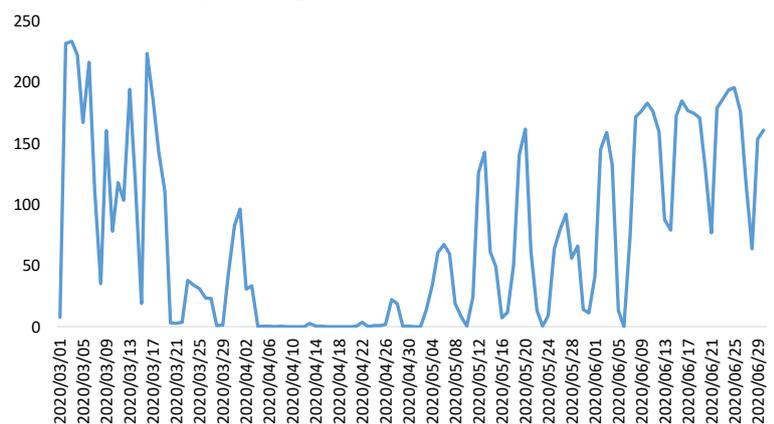
The TRF's functioning was influenced this summer by the COVID-19 crisis. Gas consumption decreased, particularly at the start of the crisis, due to the exceptional measures taken throughout Europe, which in turn had impacts on gas flows in France. For industrial customers directly connected to the GRTgaz network, the impact of the health crisis had a significant effect on their consumption levels. A fall of around 20% was observed in March and April with certain industrial sectors more particularly affected (Automotive-Pneumatic -50%, Glass and Non-Metallic Materials -30%), while others were spared (Chemicals, Agri-Food in particular). Concurrent to this, gas-fired power stations remained shut down for all practical purposes until the end of April, as demand for electricity was also low. Since the end of lockdown, industrial consumption has generally returned to normal levels¹, by over-consuming during last Summer to come back to normal quantities on aggregate since the beginning of the year, with some sectors having "made up for lost consumption", for example glass and non-metallic materials, while others such as automotive-pneumatics are still experiencing an overall drop in activity.

Across the distribution networks, overall falls in consumption were also observed, though consumption levels since July have generally returned to normal levels. Looking at the January-August totals, some business sectors still post consumption "backlog". In contrast, individual consumers have exceeded usual levels this year, people having remained in their homes during lockdown.

2019/2020 comparative consumption of industrial customers connected to the GRTgaz network



Consumption of gas-fired power stations (GWh/d)

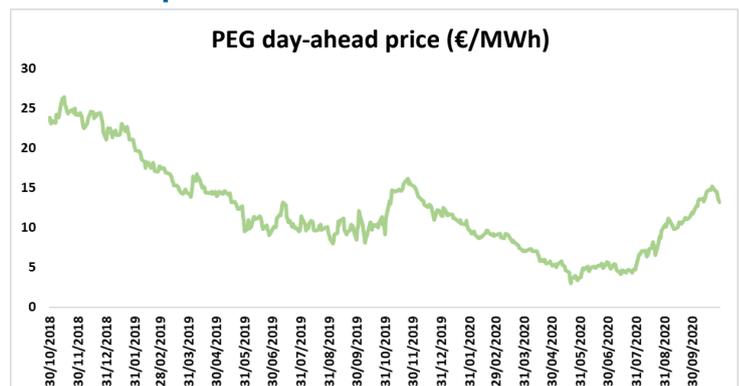


FOCUS ON PEG PRICES AND LIQUIDITY

A PEG price that proves highly competitive in Europe

The PEG was low in absolute terms in a context of depressed prices worldwide, reaching a **record low of €2.57/MWh** on average intra-day on 23 May 2020. In addition to that day, it was particularly low until August, as overall consumption was low and LNG supply comfortable. **Over the summer, the PEG was €3.7/MWh lower than during the previous summer** (€7.6/MWh compared with 11.3 in 2019).

PEG day-ahead price (€/MWh)

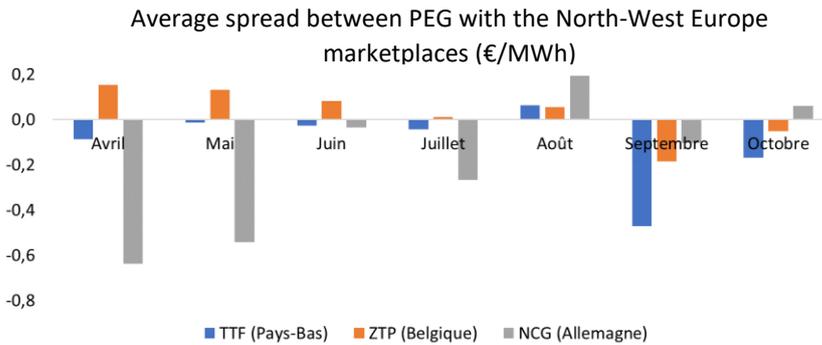


¹ This comment pre-dates the second lockdown instituted in late October.

At the end of August, the curve rose to levels similar to those of 2019, due to the combined effects of consumption returning to normal levels, reduced LNG supply, maintenance on Norwegian pipelines and purchases of gas for injection into storage.

The PEG is also competitive in terms of neighbouring market places in North-Western Europe. It was on average **€0.11/MWh lower than the TTF** and even **€0.18/MWh below the German market (NCG)**, with spreads of more than €0.60/MWh over multiple periods.

This significant gap with the NCG is ascribable to the significant volumes of LNG sold in Europe, in particular up to the end of May, of which France was one of the leading beneficiaries. In contrast, Germany, having no LNG terminal, could not directly take advantage of these volumes to lower the price of the NCG.



Average spreads over the summer

TTF: €-0.11/MWh *

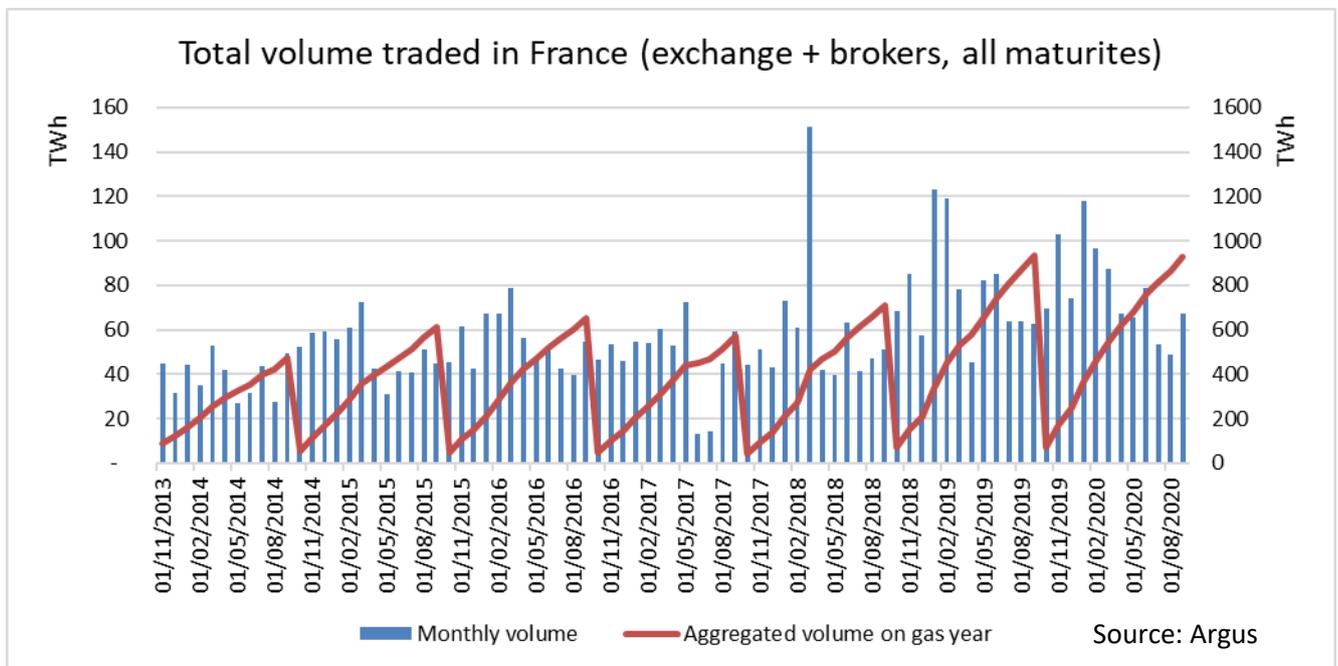
NCG: €-0.18/MWh *

ZTP: €+0.02/MWh *

* Positive value: PEG > neighbouring marketplace
 Negative value: PEG < neighbouring marketplace

Liquidity confirmed

The TRF’s attractiveness is undiminished with the number of active players on the PEG constant, and the exchange levels consistent from 2019.



Moreover, the CRE’s latest wholesale market monitoring report notes a **17% increase in trade in futures products** between 2019 and 2018.

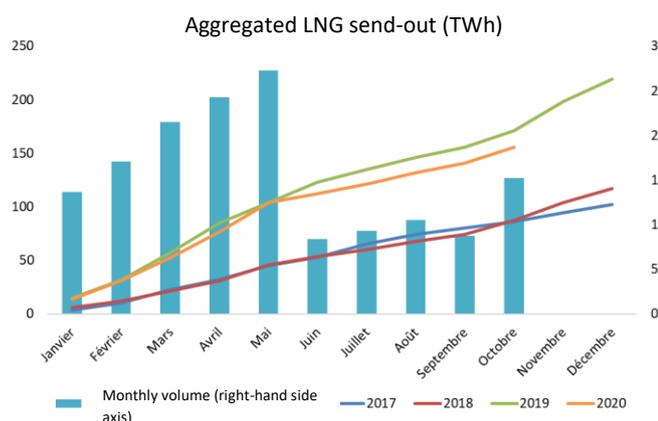
A CLOSER LOOK AT SUMMER FLOWS AND LIMITS

A flexible TRF in a changing context

LNG imports still high but lower in summer

Where LNG was concerned, the year fell into two distinct periods:

- At the start, the record level of LNG in France in 2019 proved solid. In addition to the structural surplus in LNG, deliveries in Europe and France were steady from February by the lockdowns instituted in Asia. These measures reduced local demand, causing many LNG cargoes to be redirected to the markets of last resort in Europe.

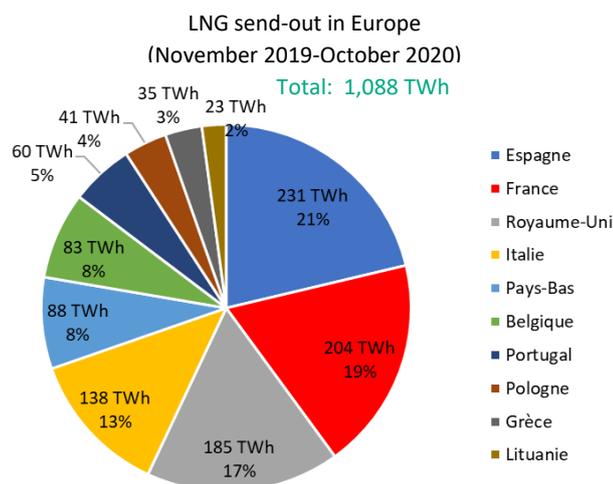


- This situation lasted until May, when emissions continued to reach 880 GWh/d on average, although the PEG had already declined to very low levels, of the kind that could discourage LNG deliveries. The sharp fall in LNG did not come until June. As liquefaction plants are not intended as flexibility tools, production adjusted to demand with a certain lag. Emissions then averaged 340 GWh/d at the end of the summer, the highest level seen since September 2019.

The same dynamic was observed at the European level, though with a lower fall on the Spanish end. Thus, despite lower emissions from June on, LNG imported during gas year 2019/2020 was even higher (+8%) than the previous year, which itself was record-setting.

France is the leading destination for liquid markets in North-Western Europe, and second at the European level, behind Spain.

The LNG delivered to France comes mainly from Russia (23%), followed by Nigeria (21%) and Algeria (19%).

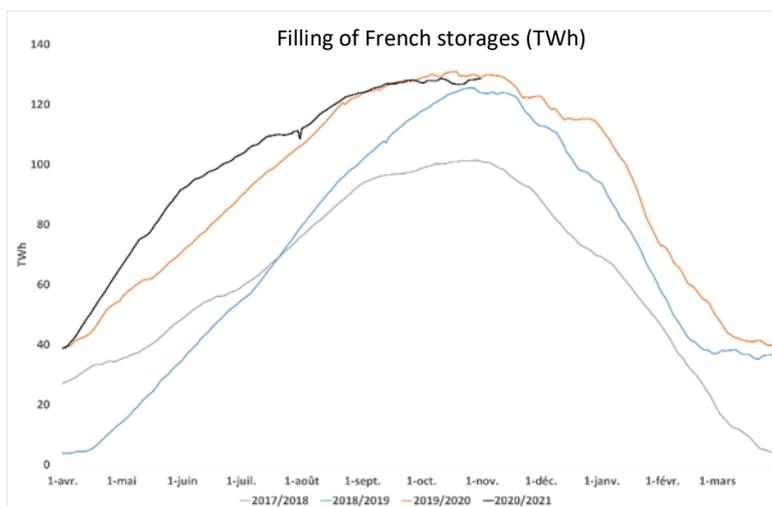


Storage tanks filling quickly

Like last year, storage was already 30% full at the start of the summer, following a mild winter with good supply. Also like last year, filling was early with storage already at 96% at the end of August 2020.

The injections at the beginning of the campaign were particularly sizeable: 61% of net injections took place in April-May. This is unusual, in that the bulk of the injections are usually in the middle of summer, when consumption is low. This year, the fall in demand due to the public health conditions caused prices to fall at the start of summer and encouraged purchases to fill storage facilities.

In addition, these high injection levels were made possible by the absence of congestion at the start of the summer and reduced work, following delays arising from COVID-19.



Did you know?

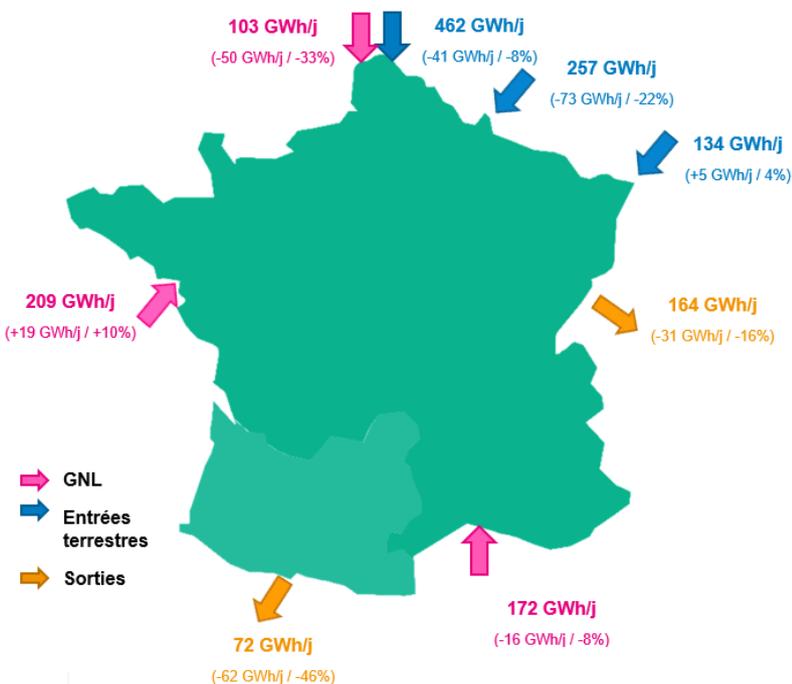
Injection levels in April hit an all-time record for injections into French storage facilities in a single month!

26.5 TWh

The very attractive gas prices encouraged the market to inject as much as possible. More than 880 GWh/d were stored this month to be sure to respond to winter demand at a lower cost.

Fluctuating flows

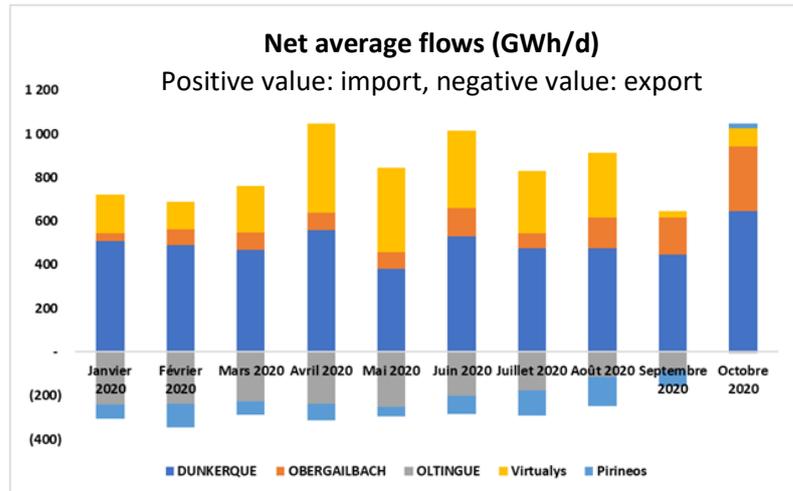
Average daily flows summer 2020 (April - October), compared to summer 2019



While net land in-flows averaged at 723 GWh/d over the first three months of 2020, they were much higher in summer. Particularly in April, they reached 1,045 GWh/d to meet the demand for injection into storage,

despite strong LNG inflows. And in June, levels reached 1,014 GWh/d, in order to offset the fall in LNG imports.

In September, these inflows fell, despite the drop in temperatures. With storage facilities already almost full, demand for injection nearly fell away entirely, and land-based inflows amounted to around 650 GWh/d. This fall in inflows was largely driven by Virtualys, which dropped from 298 GWh/d in August to 30 GWh/d in September. Strong demand for H-gas in the Netherlands triggered imports from Belgium, which pushed up the ZTP. The spread between France and Belgium was flipped at this point, resulting in net exports to Belgium on some days.



On the outflows side, Oltingue, which supplies Italy via Switzerland, was high, at 230 GWh/d in April-June (88% of capacity). The flow then decreased to 125 GWh/d in July-September following the fall in Italian demand, before the point went into maintenance almost the whole month of October.

As for Pirineos, its use was low in April-May (59 GWh/d on average), as Spain is well supplied in LNG, as is all of Europe. When the LNG dried up, exports to Spain increased to 112 GWh/d in June-August. In September, with consumption increasing in France, the spread between the two countries decreased as did exports. In October, the spreads were even reversed, causing flows to do the same, with France becoming an importer from Spain.

A streamlined TRF

The TRF saw three times less congestion this year compared to the previous year. In addition to the comfortable LNG supply that has facilitated transit from the North to the South of France, three main factors are behind this trend:

- The moderate levels of outflows towards Spain (except in August);
- Adjustments to firm injection capacities in storage downstream of limits
- Better management across the zone, thanks to feedback from the first year of the TRF
- Substantial LNG flows



Data from 1st November to 31 October. Source:

Smart GRTgaz INFO VIGILANCE

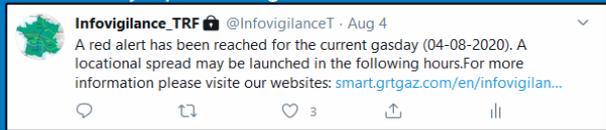
*: number of days on which at least one limit was reached. **: main mechanism for managing limits, via a call to the market. ***: mechanism of last resort

In addition, a better strategy of sourcing for the Locational Spread has been put in place and competition to respond to the locational spread has become tighter, with more players participating. Combined with the drop in requirements levels compared to 2019, this resulted in a **fall in the average cost, from €4/MWh to €1.3/MWh**.

Calls for locational spread were concentrated in August as injections into storage in the South and exits to Spain were strong, while there were few LNG arrivals to the South of the network.

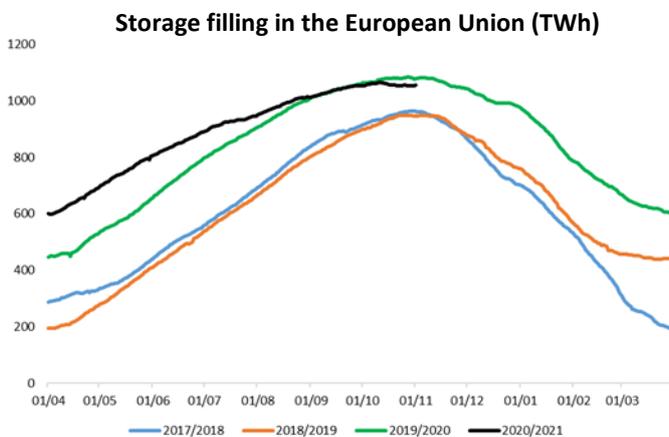


Did you know? Locational spread launches are now made known by alerts sent out on Twitter. Subscribe now! Only open to signatories of the Locational Spread contract.



A CLOSER LOOK AT THE WINTER OUTLOOK

Security of supply now guaranteed



There is no identified risk regarding security of supply: as was the case last year, the French storage facilities are full (129 TWh as at 31 October 2020).

At the European level, stocks are also at comfortable levels. More than 1,050 TWh are available to meet winter requirements.

What is the outlook for LNG this winter?

A resurgence in demand in Asia is creating a significant spread between the PEG and the JKM. In December, this spread exceeded €5/MWh, prompting LNG from remote sources to move more towards Asia. This could reduce LNG supply by the end of the year. That being, even if the spread remains quite high in January/February 2021, for the time being the high charter costs of LNG carriers could foster deliveries to Europe. It is, however, the shorter-term conditions that will determine flows.

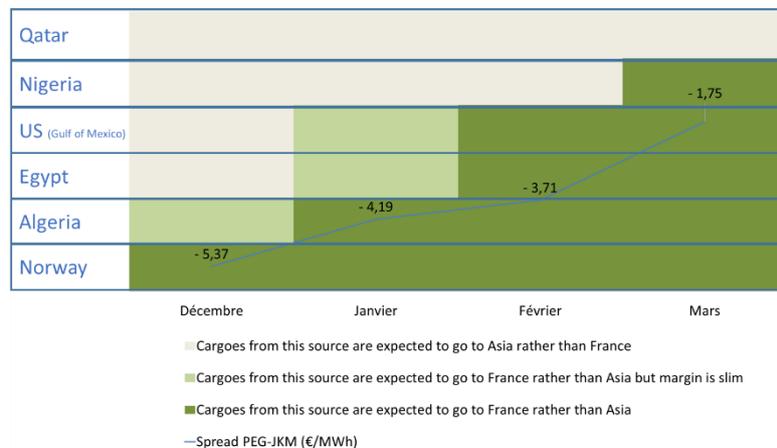
For a reliable outlook one month before LNG arrivals, readers are advised to check the LNG arrival programmes, updated on the 25th of each month:

Montoir and Fos Tonkin:

<https://www.elengy.com/fr/contrats-operations/gestion-operationnelle/donnees-d-utilisation/>

Fos Cavaou: <https://www.fosmax-Ing.com/fr/nos-services/donnees-operationnelles/donnees-d-utilisation/>

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



What is the outlook for electricity and transit?

Forward prices indicate a higher gas price than in the previous winter (€10.4/MWh for the day-ahead on average for December 2019-March 2020 compared with 14.4 for the December 2020-March 2021 futures). These could be guided by expectations of lower LNG supplies. However, the PEG remains less expensive than its neighbours or at their level. However, it should be noted that last year, at the same time, the forward curves showed a price of around €15/MWh, which fell thereafter.

€/MWh	Spot price 1->5 Nov20	Dec. 2020	December- March
TTF	13.8	14.4	14.5
PEG (France)	13.6	14.2	14.4
NCG (Germany)	13.5	14.2	14.4
ZTP (Belgium)	13.7	14.3	14.5
PSV (Italy)	13.5	14.1	14.4
Mibgaz (Spain)	13.5	14.9	15.2

The spreads between markets have contracted, showing no significant prospects for transit. This situation is in keeping with the low transit rates observed at the end of the summer. In particular, the French and Italian prices are equivalent.

€/MWh	Spot forward average	Dec. 2020	December- March
Clean Spark Spread France	2.4	6.2	9.1
Clean Dark Spread France	3.9	7.5	10.6

The Clean Spark Spread and Clean Dark Spread are positive, suggesting that the thermal power plants will be under heavy pressure from the power system this winter.

*Clean Spark/Dark Spread = electricity price – gas/coal price / central yield – CO2 price * emission factor). CO2 price = approximately €24/t.*