ENERGY OUTLOOK

Year VI n°18 - October 2021

LNG and Natural Gas Market Outlook

Osservatorio energia

REF4E

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Out of standard **temperatures** and consequently above expectations **demand growth**, LNG (and Coal) supply **shortages**, lower than average **Russian supplies** to Europe, **null time-spreads** and low **storage** injection rates combined to fuel the gas market perfect storm we are witnessing. **None of the above is seen as structural though.**

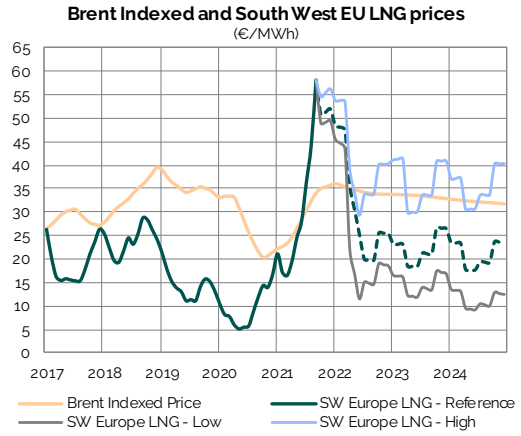
The above combination of bullish factors put the gas prices on a strongly bullish path over the last summer months, leading to an **over 10 €/MWh upward revision of our forecast for both the TTF and the PSV 2021 averages Year 2022 is now seen as settling above 30 €/MWh** on average at both hubs, The upward revision of years 2021 and 2022 targets incorporates a high probability of prices remaining under upward pressure over the winter months ahead. However, **market conditions are assumed to normalize heading into summer 2022 and by the following winter, driving TTF and PVS prices back below 30 €/MWh,**

FRAME OF REFERENCE AND METHODOLOGY

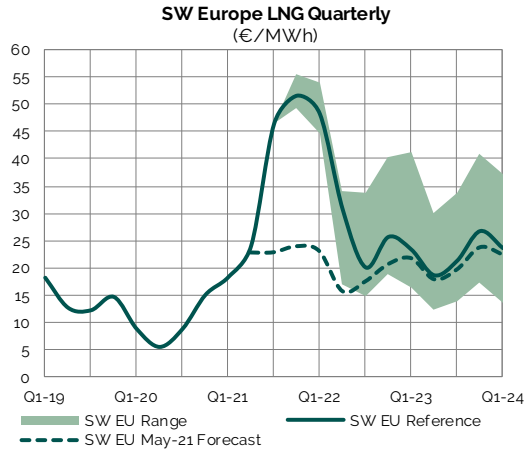
The REF-E energy outlook and the special focuses are elaborated by REF-E experts on the base of proprietary suites and market knowledge. Econometric and structural models, as well as our expert sensitiveness and detailed knowledge of regulation, accurate monitoring of market outcomes underlie our elaborations.

A Reference scenario is built to represent the highest probability market equilibrium given the BAU conditions and most likely evolutions of the underlying assumptions (such as known market developments or approved regulatory improvements). Our High and Low scenarios are respectively characterized by tightening and loosening market conditions (temperatures and climate, market congestions, etc), expected to drive the commodity prices higher or lower.

European LNG and Gas Prices Expected Trends



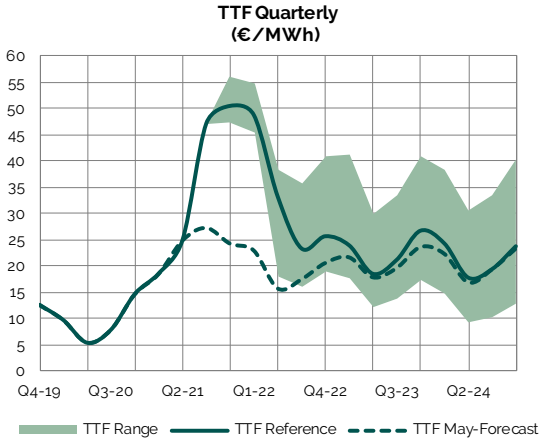
Source: REF-E Elaborations



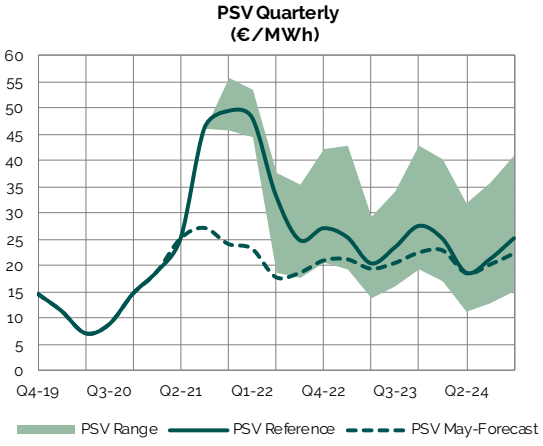
Source: REF-E Elaborations

The last two months gas prices sharp up-move exceeded our expectations, amid an extreme combination of tight fundamentals. **Our forecast for the 2021 South West Europe LNG average price was consequently revised to near 35 €/MWh**, over 10 €/MWh higher than our previous update (LNG and Natural Gas Market Outlook Jun-2021). Year 2022 forecast was also revised higher since tight market conditions reverberate over the first half of the year. **The *Reference* 2022 yearly average is close to 30 €/MWh, with the market expected to normalize towards the year.**

Should market tightness conditions persist in winter, prices my spike just below 40 €/MWh on average in year 2021 though, with the upper bound (High scenario) representing a low-capacity scenario facing high demand. The lower bound of the SW Europe LNG price reflects a wide available margin between demand and supply (Low scenario).



Source: REF-E Elaborations



Source: REF-E Elaborations

Our 2021 *Reference* TTF and PSV are now more than 10 €/MWh higher than the previous forecast, at around 35 €/MWh and 34 €/MWh on average respectively. Year 2022 settles above 30 €/MWh on average, with the upward revision mainly driven by the first half of the year quotations. Gas flows entering Europe via the *Nord Stream 2* pipeline starting from Q2-2022 and gradually increasing are in fact expected to bring the market fundamentals towards normalization by the first months of 2023.

2021 European natural gas demand is back in line with 2019 levels (almost 495 Bcm), 6% higher than in 2020. Over the following years, our *Reference* scenario considers a possible reduction of around 1% yearly, coherently with the incumbency of decarbonization

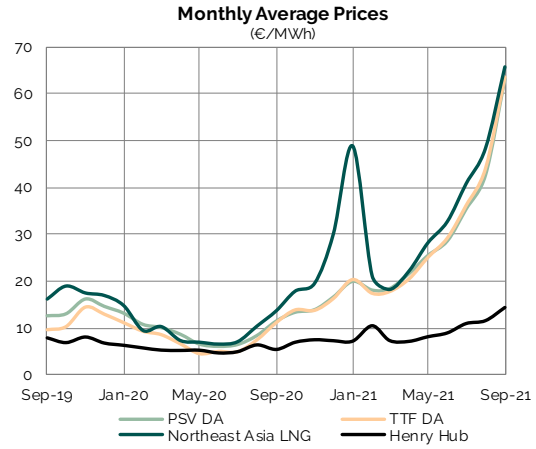
energy policies. **2021 Italian gas demand is expected to grow by 4.5% y/y (almost 74 Bcm) and an additional 0.5% y/y in 2022, in line with our previous expectations.**

In the event of gas demand being stronger than average (amid a colder than average winter) and prolonged supply-related issues, this would shape a *High* scenario, resulting in the average PSV and TTF gas prices both lying above 40 €/MWh and 35 €/MWh in 2022 and 2023 respectively. On the contrary, in the event of higher-than-average temperatures easing gas demand over the next winter months, along with low LNG prices, the PSV would settle near 20 €/MWh both in year 2022 and 2023.

Q3-2021 in a Nutshell

The combination of a series of bullish factors and dynamics put the gas prices on a strongly bullish path over the last summer months, which can be seen as specular of the 2020 ones:

- **Temperatures: following a colder and longer than average winter,** higher than average summer temperatures boosted the LNG demand across Asia and South America
- Supply shortages across strategic LNG facilities in the Pacific and heavy maintenance works in Norway reduced supplies to both Asia and Europe
- **Moreover, spot Russian flows between January and August were 3% lower than the first eight months in 2020**
- **Since January 2021 North African gas flows to Europe doubled responding to the strong demand and compensating the LNG arrivals reduction (-18% compared to Jan-Aug 2020).**



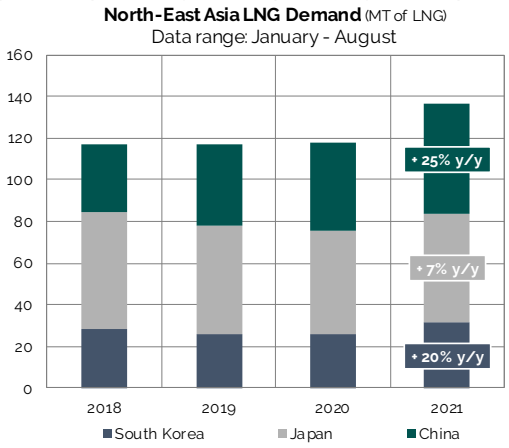
Source: REF-E Elaborations

- Spot prices moved sharply higher, and the winter-summer time spread closed consequently disincentivizing storage injections and keeping the European storage levels below the historical average ahead of the withdrawal season.

LNG Demand Driven Market to Normalize

The LNG exports growth is dominated by the Asian Pacific region, which represents more than 70% of the LNG demand growth.

Asia is in turn primarily driven by China (see the in-depth related box below "*Chinese LNG Demand Key Drivers*"), which to date overtook Japan as the world's top LNG importer, having received more than 50 Mt of LNG since the beginning of 2021. **Chinese economic growth is expected to moderate throughout 2022 though. This, combined with an increase of the renewable** sources use and a normalization of Coal supplies. Gas demand growth will therefore normalize although remaining a key driver for the overall world demand for LNG.

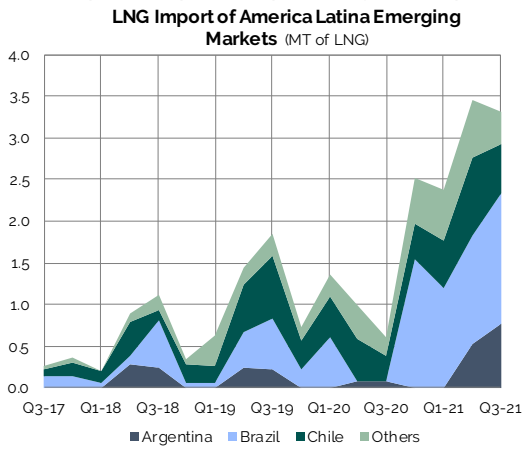


Source: REF-E Elaborations

South Korea LNG imports also grew in 2021, fully recovering from the pandemic crisis. Large-scale nuclear plants decommissioning starting from 2024 will keep sustaining gas consumption.

Pakistan, Bangladesh, and Thailand are the three main emerging Asian markets within the next few years, amid new gas plants construction and falling domestic production.

Japan LNG demand should gradually reduce over the coming years (-5% y/y) amid higher nuclear generation instead. In a recent draft of the *2030 Strategic Energy Plan*, Japan sets a path for ambitious Co2 target cut (almost by 50% within 2030). According to the draft, the LNG share in the Japanese energy mix will decrease at around 20% in 2030 (compared to almost 40% in 2019), along with a reduction also in coal and oil use. Renewables and nuclear will make the balance with an increase of around 20% and 15%, respectively, in the energy mix. Increased nuclear availability could require the restart of many shuttered nuclear reactors from a decade ago following the *Fukushima* disaster.



Source: REF-E Elaborations

Other than Asia, demand from emerging markets in Latin America, where renewables remain subdued, is growing firmly. Brazil's record imports since January (+90% y/y compared to 2020) distracted US LNG cargoes away from European terminals. The worst drought of the last century left in fact the Brazilians' hydroelectric plants empty. New rules in the gas market which enabled competition along with solid infrastructures 'construction and flexible LNG arriving from the US support Brazil and, overall, South America LNG demand growth over the coming years.

Chinese LNG Demand Key Drivers

Chinese economic growth recovered rapidly supported by an intense economic activity 'resumption. LNG imports also increased dramatically, boosting global markets' tightness.

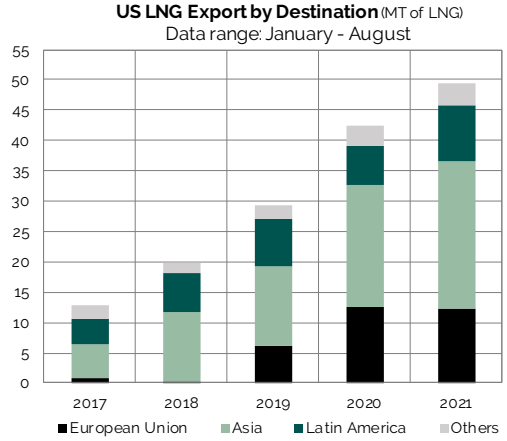
Thermoelectric gas demand drove the recovery (+13% y/y compared to the first half 2020), amid **reduced coal supply availability**. The yearlong campaign of coal-mining safety checks launched in November 2020 held back the Chinese 'domestic coal production, which is only 2% higher compared to the first half 2020. China's ban on Australian coal import exacerbated the market pressure, pulling the demand for LNG. **Higher than normal summer temperatures** boosted demand for conditioning, along with lower-than-expected solar and hydropower output which constrained supply further.

To avoid the risk of another winter shortage (as happened during the cold snap between 2020 and 2021, when spot prices spiked above 50 €/MWh for the first time) **the Chinese Government urged importers and pipeline companies to ensure supplies**, boosting stocking up demand during summer months.

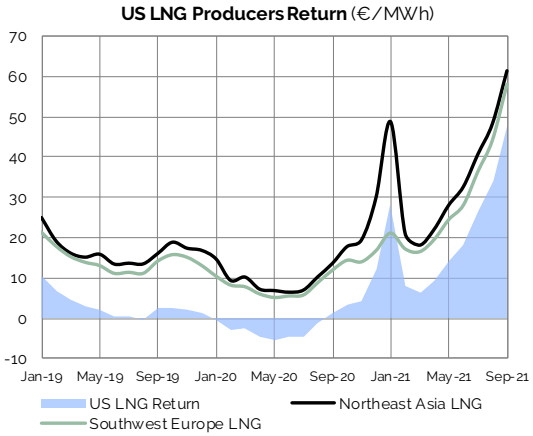
New regasification and storage capacity came online recently to cope with the growing demand. China's state-controlled energy giant *Sinopec* is about to conclude the construction of five LNG storage tanks of 220,000 cubic meters each, as scheduled in its expansion project at the *Tianjin* facility. By the end of 2021 a new berth for LNG vessels (266,000 cubic meters of capacity) will be added, and the hole terminal will reach almost 11 Mtpa of capacity. *Sinopec* also completed the expansion of its *Qingdao* LNG import terminal (building two new 160,000 cubic meters LNG storage tanks) boosting the terminal's yearly capacity to 7 Mtpa. The third expansion phase should be complete in 2023.

LNG Supplies Near-Term Shortages Loom

Prolonged bullish global gas market supported LNG exports from the US (65% higher than the Jan to Aug 2021). High spot prices in Asia and Europe lay in fact well above the US reference *Henry Hub*, making exports profitable and the US LNG producer remuneration[1] widely in positive territory.



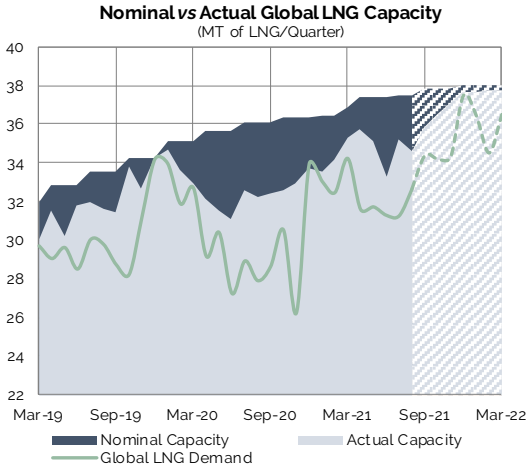
Source: REF-E Elaborations



Source: REF-E Elaborations

A series of **unplanned outages in the Pacific area's facilities reduced LNG availability and piled on demand growth as a bullish determinant.** The US route supply resort was favored, while Australia marked the most significative loss, reducing its liquefaction capacity by more than 10% on average since the beginning of the year. **However, only in the event of further unplanned maintenance overcoming the normal 5% global unavailability rate, this would worsen the already tight market conditions into the winter peak demand season**. **Natural gas wise, in Europe, a heavier maintenance schedule in Norwegian pipelines** along with unplanned issues at Troll field and at some gas processing plants weighed on the European fluxes' availability. Furthermore, the **suspension of operations in several LNG terminals across France and UK** affected the Region's import capacity, contributing to slower delivery of LNG cargoes to European terminals. The *Hammerfest* plant will stay shut until March 2022, leaving Norway without 4.2 Mtpa of liquefaction capacity (about 90% of the total).

Moreover, natural gas indigenous production across European countries is decreasing fast (-15% y/y on average), with **the Dutch production at the Groninghen gas field set to drop progressively at around 6 Bcm** over the next gas year and then run out completely by 2023 to limit seismic risks in the region.



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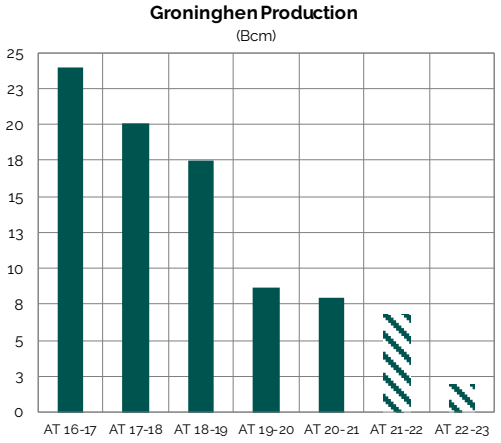


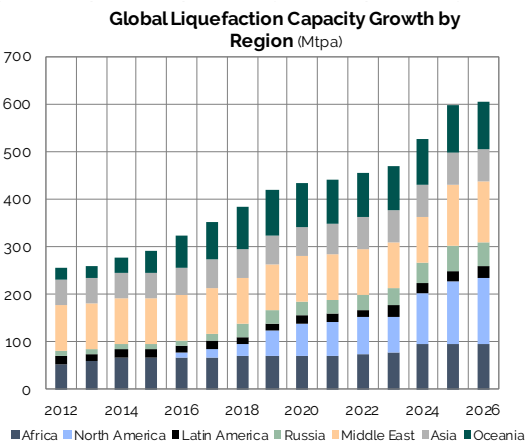
Source: REF-E Elaborations

[1] US LNG producers' remuneration is here calculated by subtracting shipping costs from the LNG reference prices in Southwest Europe and Northeast Asia.

LNG Liquefaction Capacity Growth Expected to Recover

As the global industry emerges from the pandemic, confidence in the Asian demand strengthens and oil and gas prices firm recovery favor most of the LNG projects shelved last year amid demand and prices collapse.

Despite the investment outlook for LNG having significantly improved this year, project go-aheads won't be as good as in 2019, as the governments are also setting increasingly stringent carbon emissions targets for 2030 and beyond. **However, record high prices are paving the way for a possible acceleration in the Final Investment Decisions (FID) for future projects within 2022**.



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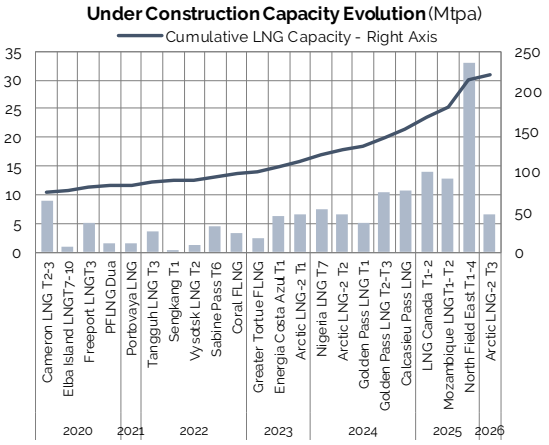


Source: REF-E Elaborations

Some effects are already visible, such as the sixth train of the *Sabine Pass* facility (4.5 Mtpa) and the *Calcasieu Pass* plant (both in the US) on track to an earlier commissioning than the expected. Both should in fact be operational within the first half of 2022 instead of the initially planned 2023 deadline.

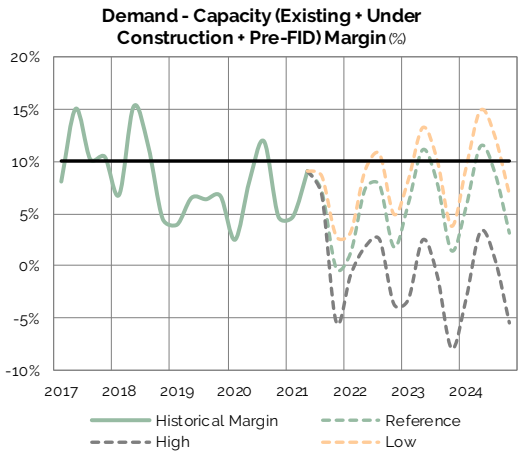
Over the next few years, **North America will lead LNG supply growth**, with almost 50 Mtpa of capacity under construction. This should be operational between 2022 and 2025 and more than 150 Mtpa in the pre-FID stage, waiting to be sanctioned by 2022. **Russia also contributes as key player in LNG export growth**, with more than 20 Mtpa of capacity under construction that should kick off by 2025. **Outputs from Middle East remains stable until 2024 though**, as the Qatari *North Field East* mega project is not expected to ramp up before 2025. **Export capacity growth from Africa is limited instead**, due to the delay of the *Mozambique LNG* project, whose construction works were interrupted in April following Islamist insurgents' attacks. The development of the facility should resume within 12-18 months and the project could begin production by 2025 or 2026, having initially been slated for 2024. Despite relying on more than 90 Mtpa of online capacity, Meanwhile, **Australia's LNG export volumes are expected to be relatively stable over the next few years,** waiting for the *Darwin LNG (Barossa)* facility to start operations by 2025.

However, despite high and profitable gas prices may accelerate future investments over the coming months, some projects have not made it through the pandemic crisis and are facing further delays in the investment decision (most of which posted to 2022). **Two LNG projects in Canada (for a total of 20 Mtpa) have been shelved amid lack of funding,** while the Russian *Novatek* is going to reconfigure its *Obsky LNG* project to produce ammonia and hydrogen. **Three new LNG projects, currently under the pre-FID stage waiting to be sanctioned, are added to the list** instead: the *Vista Pacifico LNG* facility in Mexico along with the *CP2 LNG* and the *Corpus Christi "Stage 3"* expansion (both in the US).

Table 1. Liquefaction Projects in Pre-FID Stage

Country	Plant	Expected FID	Expected Start Year	Capacity (Mtpa)
Australia	Pluto LNG T2 (Scarborough)	2021	2026	5
Cameroon	Cameroon FLNG Expansion	Not Defined	2026	1
Canada	Woodfibre LNG	2021	2025	2
Canada	LNG Canada Expansion T3-4	Not Defined	2026	13
Canada	**Kitimat LNG**	**Shelved**	**2027**	**10**
Canada	**Goldboro LNG T1-2**	**Shelved**	**2025**	**10**
Canada	Bear Head LNG T1-2	Not Defined	2023	2
Indonesia	Sengkang Expansion T2-4	Not Defined	2026	2
Indonesia	Abadi LNG	Not Defined	2027	10
Mauritania	Greater Tortue FLNG T2	2023	2026	3
Mexico	**MPL Puerto Liberdad T1-2**	**2022**	**2024**	**12**
Mexico	**Vista Pacifico**	**Not Defined**	**2025**	**4**
Mozambique	Rovuma LNG T1-T2	2023	2026	15
PNG	Papua LNG T1-2	2023	2026	9
Qatar	North Field South Expansion T5-6	2022	2027	16
Russia	**Baltic LNG T1-2**	**2022**	**2024**	**10**
Russia	**Obsky LNG T1**	**Shelved**	**2024**	**5**
USA	Texas LNG Brownsville T1	2022	2025	2
USA	Texas LNG Brownsville T2	2022	2024	2
USA	Rio Grande T1-2	2022	2025	11
USA	Port Arthur LNG T1-2	2022	2024	11
USA	Plaquemines LNG Phase-1	2021	2024	10
USA	**Magnolia LNG**	**2023**	**2026**	**9**
USA	Lake Charles	2021	2025	15
USA	Jordan Cove	Not Defined	2025	4
USA	Gulf LNG Pascagoula T1-2	Not Defined	2025	11
USA	Freeport LNG T4	2022	2026	5
USA	**Corpus Christi LNG T4-7**	**2022**	**2026**	**10**
USA	Driftwood LNG T1-2	2022	2025	17
USA	**Delfin FLNG**	**2022**	**2025**	**13**
USA	**Cameron LNG T4-5**	**2022**	**2026**	**8**
USA	Alaska LNG T1-3	Not Defined	2025	20
USA	**CP2 LNG**	**2023**	**2026**	**20**
Total				**270**

Source: REF-E Elaborations



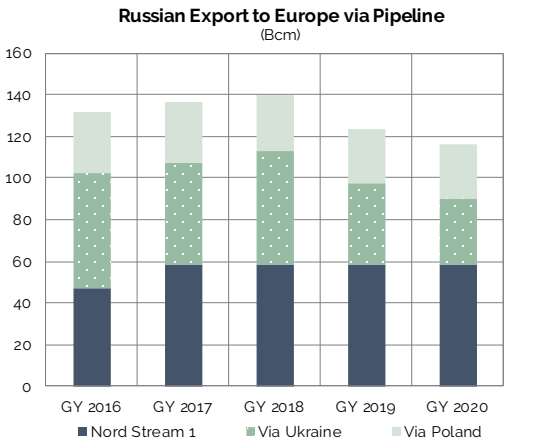
Source: REF-E Elaborations

Despite the recent supply tightness (mostly related to unplanned issues at the already operational plants) which contributed to surge spot prices, there are almost 150 Mtpa of liquefaction capacity under construction around the world and **a structurally short global LNG market over the next few years is seen as unlikely**. Only in the event of new investments being delayed further, and global demand ramping up further, then a margin squeeze may be seen from year 2022 onwards.

In the short-term a **compression of the margin over the coming winter cannot be ruled out if global LNG demand remains high (cold winter and/or sustained economic growth)**. However, should full liquefaction capacity combine with low demand (in the event of a mild winter), the margin between potential demand and supply may in fact open beyond the historical average value of 10%, as happened in 2020 summer months.

Russia Pushes Through New Markets and Tests New Strategies

Flows entering Europe via Russian main three pipeline have been decreasing since GY 2019 (-10% y/y on average).



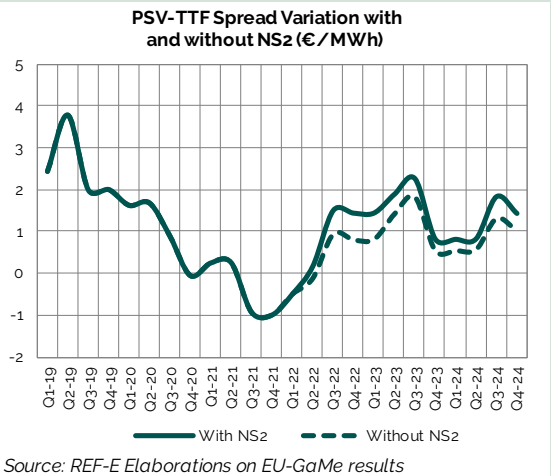
Source: REF-E Elaborations

Limited Russian flows to Europe contributed to the recent gas price sharp gains, with *Gazprom'* showing off the importance of the Nord Stream 2 pipeline start. Russia is directly connected with Germany via *The Nord Stream 1* pipeline, which is generally used to its maximum capacity. **Should the Russian commercial strategy be carried out over the coming months, the gas supply crunch within Europe could deepen, keeping prices in proximity of the recent highs until early 2022.**

Critical relationships between Russia and Ukraine weigh on flows entering Europe at Veľké Kapušany (-20% y/y) through the Ukrainian-Slovak border, with the actual long-term transport contract (40 Bcm/y) expiring in year 2024.

This year ***Gazprom* did not book additional transport capacity via Ukraine for the winter ahead, opening the way to a critical scenario where supply tension may arise.** The recent conclusion of a **new 15-year supply agreement between Hungary and Russia** adds to the picture**.** with *Gazprom* shipping 4.5 Bcm/y of natural gas to Hungary via Serbia and Via Austria until 2036, bypassing the historical transit via Ukraine.

To reduce its dependence on Russian deliveries, Poland is not willing to close any other long-term contract with Gazprom. With the existing contract (10.2 Bcm/y) expiring by the end of 2022, Poland will then rely on US LNG and 10 Bcm/y additional flows from the new *Baltic Pipeline* supplied by Norway (operational from October 2022).



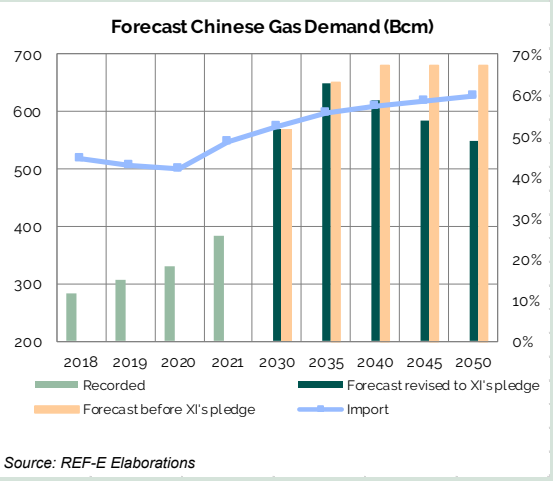
Source: REF-E Elaborations on EU-GaMe results

Nord Stream 2 impact on European gas prices

Being imports through Nord Stream cheaper than through Ukraine, its opening would lower the TTF Reference by 0.4 €/MWh yearly on average. However, since the related TTF price reduction would be more significant than the PSV one, its impact on the PSV-TTF spread is a 0.5 €/MWh widening on average.

Meanwhile, Russia is winking at China and new outlets in Asia. Although Chinese demand is expected to be two-speed: up to 650 Bcm by 2035, then falling to 550 Bcm by 2050, according to PipeChina, the percentage of import dependance will in fact steadily strengthen (from just-under 60% today to 80% in 2060).

The demand has partially been supplied by Russian LTC. In 2014, a **historic agreement** was reached between **Russia and China**: supply **$400bn throughout 30 years** starting from 2018 (actual start date: December 2019 with completion of the first part of the pipeline).



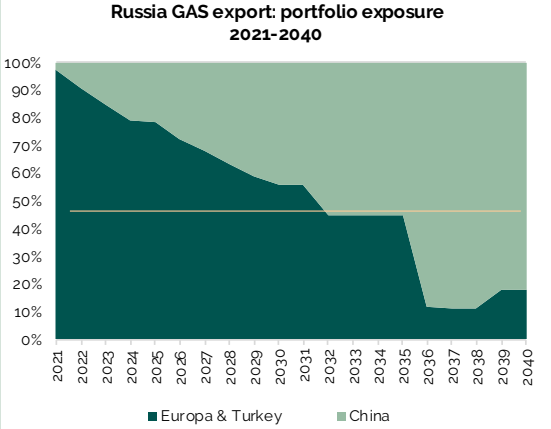
Source: REF-E Elaborations

Last August, the first 10 Bcm were shipped through the **Power of Siberia pipeline** (extending over 8,000km between Russian and Chinese territory) to the Northeast China's *Heilongjiang* Province (31 million inhabitants,), *Beijing* (20 million inhabitants) and *Tianjin* (13 million inhabitants).

The project will be completed by year 2025, with the pipeline reaching Shanghai and 38 Bcm/y being pumped. Rumors of a **Power of Siberia 2** project are also circulating.

Moreover, in April 2021, Gazprom provided a positive opinion on a feasibility study (preliminary technical and economic analysis) on a new route **connecting Russia to China via Mongolia.**

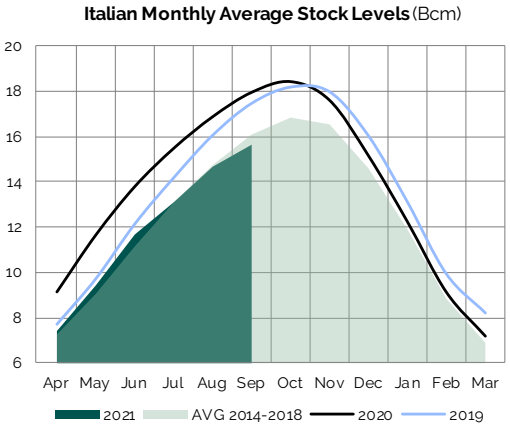
This impressive infrastructure could be the project for the coming decade (like Power of Siberia was one of the key projects in the 2010s). This pipeline will have a **capacity of 50 Bcm/y**: 1.3 times larger than Power of Siberia.



Source: REF-E Elaborations

The European Gas Market: LNG Dynamics as a Key Driver

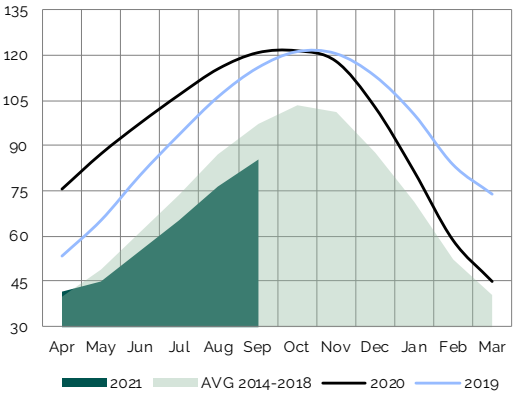
The LNG price references gain exceeded expectations, stabilizing above the oil-indexed threshold, with the Southwest Europe reference having tested above 70 €/MWh. Meanwhile, correlation between the European LNG price reference (LNG Southwest Europe) and the European hubs gas prices strengthened further, with **global LNG market dynamics affect European and Italian natural gas markets.**



Source: REF-E Elaborations

Record highs spot prices and limited LNG supply weighed on European gas inventories, already drained by a longer and colder than average winter season. **The almost null winter-summer time spread slowed the sites 'injection rate and the European storage inventories are approaching the withdrawal season at almost 70% of their capacity**. Should winter temperature be colder than normal and Russian flows tighten up further, this could jeopardize the security of supply over the coming months.

European Monthly Average Stock Levels (Bcm)

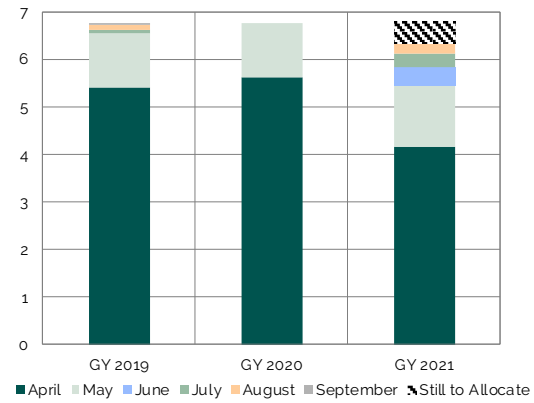


Source: REF-E Elaborations

Italian Storage Auctions

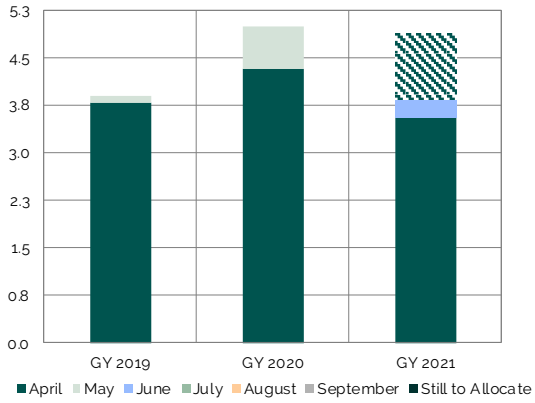
The allocation of storage capacity in Italy takes place through monthly auctions through which all the available volume is generally allocated. A reserve price is determined by each storage operator and agreed with the Italian Energy Authority ARERA and offers submitted below this latter value are not accepted. *Stogit* is the major storage operator in Italy with a capacity of 17 Bcm.

Stogit: Peak Modulation Auctions
(Bcm)



Source: REF-E Elaborations

Stogit: Uniform Modulation Auctions
(Bcm)

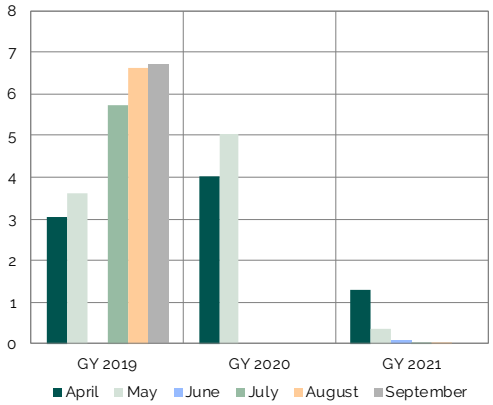


Source: REF-E Elaborations

Stogit offers, among others, the basic *Uniform Modulation* service (which is the constant gas supply in each month of the withdrawal phase) and the *Peak Modulation* service (which is the variable gas supply based on the month) to cope with peak demand.

The available capacity is normally almost completely allocated between April and May. **This year the allocation is proceeding much more slowly though and 1.5 Bcm have not been allocated yet despite a significant reduction of the allocation prices** (almost 90% lower, on average, compared to GY 2020). **Not all the available capacity may be awarded this year and there is a high risk for 1.5 Bcm missing from the normal winter supplies.**

Stogit: Peak Modulation Service Average Price
(€c/Smc)



Source: REF-E Elaborations

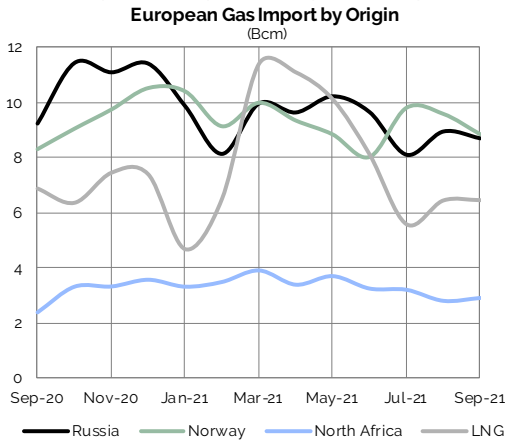
Import Mix: Impacts on the PSV-TTF Spread

The LNG market dynamics not only influence the PSV and the TTF quotations, but also their differentials by affecting the import mix, especially in the short term.

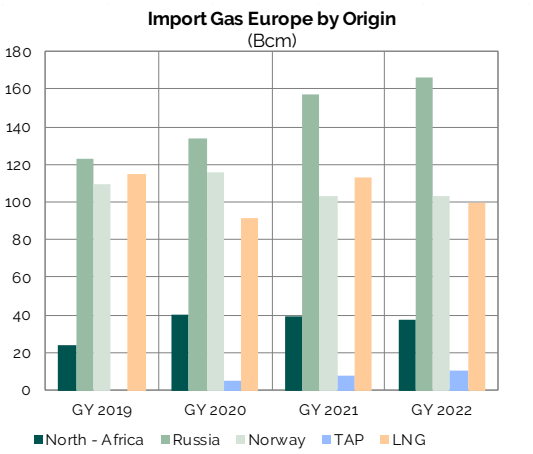
European pipeline imports rose by 8% in GY 2020, coherently with gas demand resumption. Flows from Russia still weight the most, despite a 2% y/y overall reduction. This leaves space for **North African flows. An 88% increase of the arrivals from Algeria in GY 2020 added in fact to the** Azerbaijani flows arriving via *Trans Adriatic Pipeline* (TAP). The latter slightly exceeded our previous expectations, almost reaching 5 Bcm at the end of September 2021. **TAP flows will reach full capacity within 2022.**

In Gas Year (GY) 2020 **the overall Italian gas imports are 6% higher compared to the GY 2019**, with higher-than-average summer temperatures having been supportive for the conditioning demand. **LNG imports in Italy are 20% lower compared to the past GY instead, coherently with our previous forecast of almost 10 Bcm,** having suffered from strong competition with Asian markets**. Algerian gas flows completely offset the LNG scarcity, more than doubling compared to the previous GY,** benefiting from low oil-indexed prices.

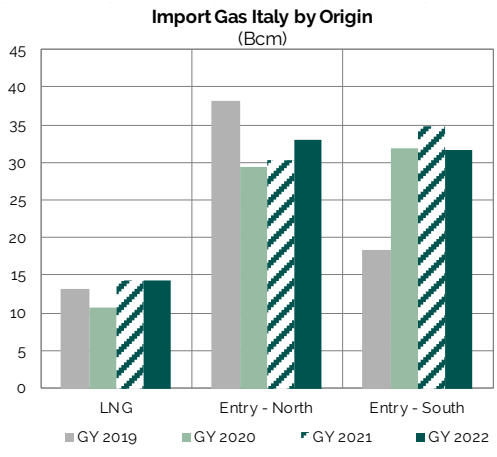
In our Reference scenario **LNG imports in Italy should recover in GY 2021 (reaching almost 13 Bcm) along with flows entering from the Northern areas driven by the predominance of Russian supply and the Nord Stream 2 pipeline, which should be fully operational in year 2023.**



Source: REF-E Elaborations



Source: REF-E Elaborations



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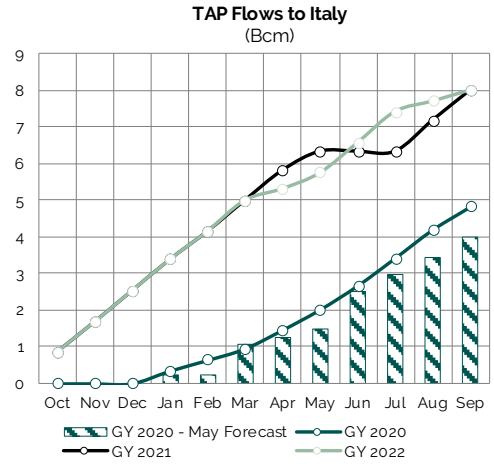
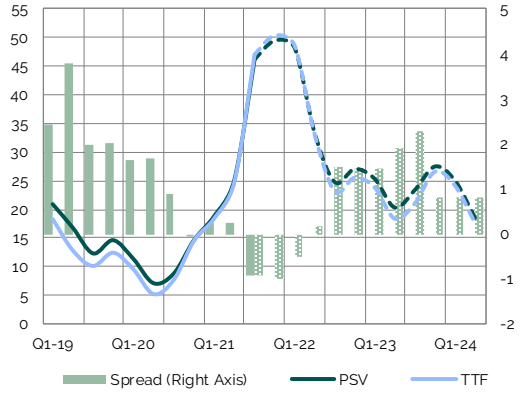


Source: REF-E Elaborations

Variations in the import mix, with the sharp increase of arrivals from Southern areas to Italy in the last months, supported our hypothesis of a gradual closure of **the PSV-TTF spread, which is expected to average in negative territory for year 2021.**

With the Nord Stream 2 start the PSV-TTF spread should progressively re-open though, moving back into positive territory and possibly averaging above 1.5 €/MWh by 2023, under the base case assumption of market dynamics normalization and a gradual reduction of Algerian flows.

PSV - TTF Spread Quarterly (€/MWh)



Source: REF-E Elaborations

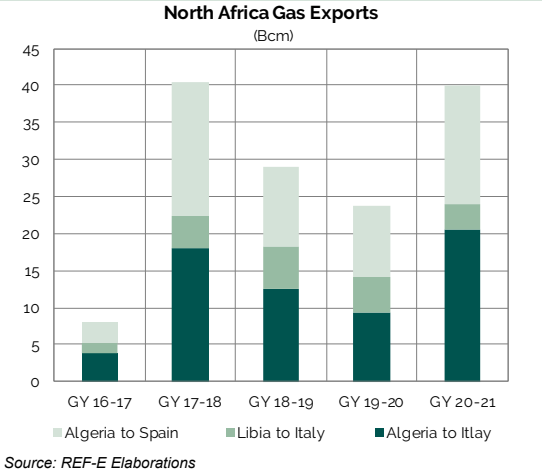
Table 2. PSV and TTF Gas Prices (€/MWh)

	2021			2022			2023		
	Reference	High	Low	Reference	High	Low	Reference	High	Low
PSV	34.8	36.4	33.9	33.3	42.3	25.3	24.1	37.3	17.1
TTF	35.1	36.6	34.3	32.7	42.4	24.5	22.5	36.4	15.2
Spread	-0.3	-0.2	-0.4	0.7	-0.1	0.8	1.6	0.9	1.9

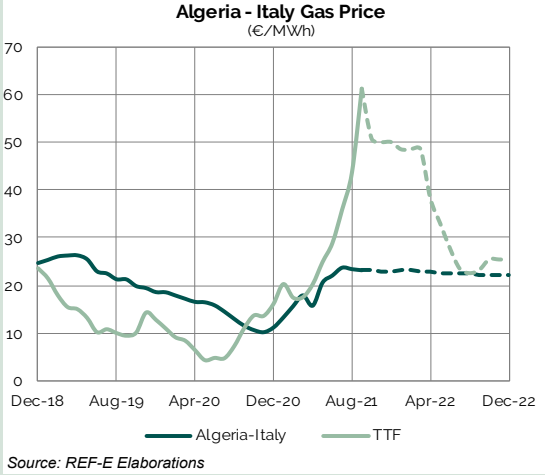
Source: REF-E Elaborations

Algeria

North African long-term supply contracts prices are still dominated by the oil indexation, with a time lag of about six months compared to the Brent price. During the first months of 2020, with the gas prices at the main European hubs falling to historic lows, flows of North African origin to Europe also decreased, favoring instead those from Russia and Norway thanks to the greater competitiveness of the TTF. **Across 2020-2021 gas year exports from Algeria to European countries increased on average by more than 90% compared to the 2019-2020 one**, making them cheaper than the rising spot gas prices.



Source: REF-E Elaborations



Source: REF-E Elaborations

In terms of volumes, the Algerian framework is the most flexible for the Italian market. Several key factors drove the exponential increase in flows arriving in Italy at the Mazara del Vallo entry point (by over 120% y/y).

In addition to the long-term contract 'price convenience (oil-linked) compared to the recent trend in the spot gas prices, the three historical Italian importers can also purchase **spot volumes (on a monthly and quarterly basis) without supply limits, on top of the long-term contracted quantity**. This possibility was offered by *Sonatrach* in 2019, after the long-term contract renegotiation, after having recorded a decrease in the agreed volumes compared to previous years. According to the information available, spot sales are separated from Algerian gas for short-term delivery auctioned on the *PRISMA* platform, which instead provide for quarterly or monthly deliveries to Mazara del Vallo, in addition to shipments on an annual basis on the *Transtunisian* (TTPC) and the *Transmed* (TMPC) gas pipelines. Finally, **the *Make-up Gas* service is also provided**, consisting in the right to receive in subsequent years (without further charges) the volumes of gas for which a buyer has already paid according to the *Take or Pay* obligations but which he has not withdrawn during the contractual year to which they refer.

To date, with reference to the annual transportation capacity at the Mazara del Vallo entry point, just over 54 Mcm of natural gas were awarded for the 2021-2022 gas year compared to an available capacity of 102 Mcm, 28% higher than the allocated capacity during 2020-2021 gas year (approximately 42 Mcm). We therefore expect that **the volumes entering from the so-called *Points from the South* (including those arriving from Azerbaijan) will remain high over the next year**. This also in consideration of the increasing uncertainty on the evolution of trade relations between Russia and Ukraine and the expected entry of the new *Nord Stream 2* gas pipeline.

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