



South Gas Regional Initiative

Work Plan

1st Target: Use of interconnections

Period of analysis

[October 2019 to September 2023]

May 2025

INDEX

Background	4
Executive summary	5
1 Current situation of gas interconnections in the Region	7
1.1 Context	7
1.2 Capacities	8
1.3 Capacity calculation methodology	11
1.4 Physical Flows	12
1.5 Available capacity to be auctioned via PRISMA	19
2 Assessment of capacity bookings	25
2.1 Firm booked capacities (bundled/unbundled)	25
2.2 Allocated firm capacity in different time horizons (auctions)	35
2.3 Interruptible capacity	42
2.4 Secondary capacity trade	48
3 Assessment of the use of the interconnections for the period October 2019 – September 2023	49
3.1 Relationship between technical capacity, capacity bookings, use of the booked capacity and flows	49
4 Assessment of the congestion status	59
4.1 Analysis of the VIP's congestion status	59

4.2	Use of anti-hoarding mechanisms in the region	62
5	Gas prices in the South Region	65
5.1	Gas prices overview.....	65
5.2	Period 1 (01/10/2019 – 31/12/2020): Price drops due to COVID-19 pandemic	66
5.3	Period 2 (01/01/2021 – 24/02/2022): Cold snap in Spain and price rise due to political tensions prior to the Russian invasion of Ukraine	68
5.4	Period 3 (25/02/2022 – 07/12/2022): Ukraine War causes great volatility in natural gas price	72
5.5	Period 4 (08/12/2022 – 30/09/2023): Energy policy measures to reduce the impact of the Ukrainian War bring down natural gas prices and volatility	74
6	Renewable gases	77
6.1	France (Teréga).....	77
6.2	Spain (Enagás).....	77
6.3	Portugal (REN)	78
7	Conclusions.....	80
7.1	VIP Pirineos.....	80
7.2	VIP Ibérico	81

Background

The South Gas Regional Initiative (`SGRI`) has developed Work Plans since 2011 in order to facilitate the compliance with the provisions of the EU 3rd Package and to promote the early implementation of Network Codes.

In 2011, TSOs of the SGRI committed to develop an early implementation of the [Commission Regulation 984/2013 of 14 October 2013 establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems and supplementing Regulation \(EC\) 715/2009 of the European Parliament and of the Council](#) (`CAM NC`)¹ on conditions for access to the natural gas transmission networks. The first CAM NC auctions were carried out in March 2014 for capacities to be used in October 2014. Nevertheless, the full implementation of the CAM NC was successfully reached in November 2015.

In 2017 TSOs provided a complete document monitoring the implementation of the Network Codes, in particular the CAM NC and the Congestion Management Procedures Guidelines (CMP Guidelines)². Specifically, the document assessed the use of interconnections in the region starting from the date of implementation of the CAM NC up to 30 September 2016.

Due to the success of the monitoring report done by the TSOs, again in 2024 NRAs asked the TSOs to address the current situation of gas interconnection in the region, its usage, the assessment of the capacity allocated, gas flows and the congestion status.

¹ Note that Regulation 984/2013 was repealed by [Commission Regulation \(EU\) 2017/459 of 16 March 2017](#)
² [Commission Decision of 24 August 2012 on amending Annex I to Regulation \(EC\) No 715/2009](#)

Executive summary

Name	Use of Infrastructures in the Region South Gas Regional Initiative Work Plan 2024/2025
Date	October 2024
Background	NRAs and TSOs from the South Region developed the South Gas Regional Initiative Work Plan 2024/25 that intends to explore 5 different targets. The first target, on “Infrastructures”, envisages the publication of the report on the use of infrastructures in the period October 2019 to September 2023. The report, developed by the involved TSOs (Teréga, Enagás and REN), includes an exhaustive range of technical and commercial pieces of information from VIP Pirineos and VIP Ibérico, such as: technical capacities, booked capacities, nominations / renominations levels, physical flows, secondary trades, CMP application and assessment.
Conclusions	The report analyses how the VIP Pirineos has behaved, for which the main conclusions are summarized below: - The VIP Pirineos has allowed the safe and efficient transmission of large quantities of natural gas to Europe, enabling supply to the centre of Europe. - Compared to previous years, the VIP Pirineos from Spain to France was very active during the analyzed period. The average utilization rate from Spain to France increased from 3% in the gas year 2019-2020 to 35% in the gas year 2022-2023 - The VIP has allowed shippers to operate in the most suitable direction depending on the market conditions. Although the direction of the flow has varied seasonally, since the end of 2021 the SP-FR flow has predominated.

	- The contracting mechanisms have effectively met high market demand, with auctions concluding at high premiums and firm capacities being fully contracted at 100%. This reflects strong interest from shippers. - This connection until the end of 2021 was mainly contracted by Open Season contracts prior to the CAM, however a change of trend has been seen when many of these contracts came to an end and that in turn coincided with a great interest of the market to book capacity in the SP-FR direction, with all the available capacity being contracted and even paying premiums. Most of the capacity has been booked through annual, quarterly and monthly products, leaving very little available capacity for daily and intraday products. Regarding VIP Ibérico: - In the Spain to Portugal direction, that used to prevail in the past, has been 50% used during the period analysed. There is a seasonality of booking and usage during the summer months in the Spain-Portugal direction that is less evident during the period under study compared to that studied in previous years. In this direction, users' booking behaviour has changed during these years compared to previous periods, with daily and intraday products being more widely used along with monthly products. - In the Portugal to Spain direction, a change of behaviour can be observed during 2019, mainly due to the increase of vessels unloaded in the Portuguese Gas System, where the reserves reached levels close to 100% of the technical capacity.
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1 Current situation of gas interconnections in the Region

1.1 Context

The analyzed time horizon (October 2019 to September 2023) comprises a broad period where different geopolitical situations have arisen at European and global level. The four-year period analyzed can be divided in two phases:

- Years 2019 – 2021. These years have undoubtedly been marked by the COVID-19 pandemic, which impacted all sectors (financial, energy, raw materials, logistics, transport, etc). Within this two-year period, two phases can be distinguished. The ‘first part was characterised by a large reduction in consumption due to the economic shock and the mobility restrictions imposed by all countries worldwide because of the pandemic. The second phase marked by the post-COVID recovery, driven by the fact that national governments, European institutions and even world organizations, encouraged consumption to reactivate the global economy.

Additionally, it should be noted that in Spain a weather phenomenon known as Filomena, an unusual cold spell in January 2021, caused the energy markets to reach record highs in booking allocations.

- Years 2022 – 2023. During this period, Europe experienced a significant increase in commodity prices, which led to a rise in the Consumer Price Index (CPI). This situation resulted in a macroeconomic restriction of domestic consumption. This economic scenario was further exacerbated by escalating tensions between Russia and Ukraine culminating in Russia's invasion of Ukraine in February 2022. This invasion caused substantial instability in financial and energy markets.

Moreover, the supply of piped gas from Russia to Northern Europe was dramatically reduced due to the decisions taken by the Russian government. Consequently, from spring 2022 onwards, gas and electricity prices began to rise, reaching record highs in December 2022 (around 300 €/MWh for gas). This price rise surged, coupled with the geopolitical tension from Russia's invasion, marked an unprecedented year in the gas markets.

It is important to note that, due to the reduction in pipeline gas imports northern Europe, there was a huge surge of LNG cargoes. Many countries started the development of FSRU to swift their import potential from pipeline to LNG. Meanwhile, internal domestic flows of the EU reverted from East to West to West to East which led to an increase of usage of some interconnections.

1.2 Capacities

1.2.1 Cross-border interconnections points within the South Region

In the South Region there are several relevant interconnections points, both at country level and balancing zone level.

In October 2014, within the scope of South Gas Regional Initiative, under the early CAM NC implementation, two ‘virtual interconnection points’ (VIP) were created in order to allocate capacity on an aggregated basis. These VIPs are:

- A virtual interconnection point between Portugal and Spain called “VIP Ibérico”, gathering the two physical interconnection points “Valença do Minho (PT) / Tuy (ES)” and “Badajoz (ES) / Campo Maior (PT)”.
- A virtual interconnection point between Spain and France called “VIP Pirineos”, gathering the two physical interconnection points “Larrau” and “Bariatou (FR) / Irun (ES)”.

Before November 2018, another important interconnection in the South Region was the link between the two French balancing zones PEG Nord (Point d’Echange Gaz Nord) and TRS (Trading Region South).

Since November 2018, the two marketplaces have merged into the TRF, effectively making the North-South link disappear.

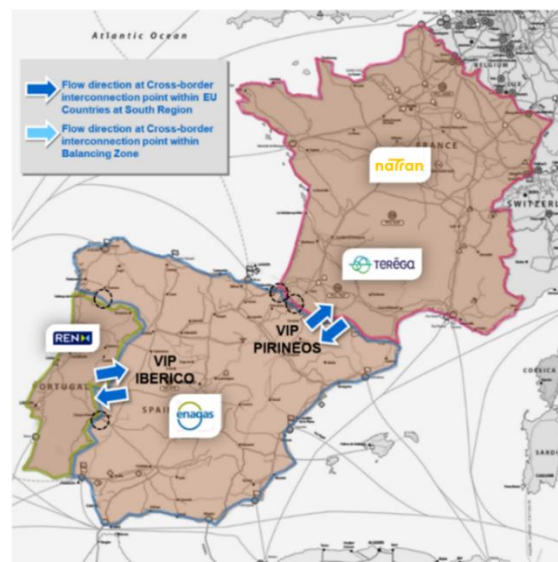


Figure 1: VIPs in the South Region

1.2.2 Technical Capacities at Cross-border interconnections points within the South Region

1.2.2.1 VIP Pirineos

The common firm technical capacity (after the lesser rule application) at VIP Pirineos amounts to 165(Winter)/175(Summer) GWh/d from France to Spain direction, and to 225 GWh/d from Spain to France direction.

✓ France to Spain flow direction

	Firm Technical Capacity (GWh/d)
Spanish side	225
French side	165 (W) / 175 (S)
Common Technical Firm Capacity (Lesser Rule)	165 (W) / 175 (S)
(W) Winter: from November to March // (S) Summer: from April to October	

Table 1: Capacities at VIP Pirineos FR-ES (GWh/d 0°C)

Since December 2015 Teréga also offers 60 GWh/d of interruptible unbundled capacity through day-ahead auctions, only when 98% of firm capacity is sold. These 60 GWh/d are offered on Spanish side as firm unbundled capacity from yearly to subsequent shorter horizons auctions until this capacity is sold out.

✓ Spain to France flow direction

	Firm Technical Capacity (GWh/d)
Spanish side	225
French side	225
Common Technical Firm Capacity	225
Since November 2022, TSOs offer 40 GWh/d of additional capacity under certain conditions	

Table 2: Capacities at VIP Pirineos ES-FR (GWh/d 0°C)

To mitigate the disruption of Russian gas supply to Northwest Europe, Enagás and Teréga agreed on increasing interconnection capacity from Spain to France. Thus, Enagás and Teréga increased technical capacity at Irún/Biriatou Interconnection Point, from 60 GWh/d to 100 GWh/d Spain to France.

This 40GWh/d additional capacity is offered at the VIP Pirineos in the following way:

On the Spanish side, this additional capacity is only offered to the market under certain circumstances, considering the local natural gas conditions in the nearby area (gas demand, established inlet gas pressures...). If offered to the market, it can only be booked as a firm day-ahead capacity product.

On the French side:

- From November to April next year, 40 GWh/d are offered as interruptible unbundled capacity when at least 98% of the firm capacity is sold from November to March and,
- From April to October, 40 GWh/d are offered as firm bundled capacity.

1.2.2.2 VIP Ibérico

During all the period under review, the technical capacity was 80 GWh/d in Portugal-Spain flow direction and 144 GWh/d in Spain-Portugal flow direction.

✓ Portugal to Spain flow direction

	Technical Firm Capacity (GWh/d)
Spanish side	80
Portuguese side	80
Common Technical Firm Capacity	80
All year through	

Table 3: Capacities at VIP Ibérico PT-ES (GWh/d 25°C)

✓ Spain to Portugal flow direction

	Technical Firm Capacity (GWh/d)
Spanish side	144
Portuguese side	144
Common Technical Firm Capacity	144
All year through	

Table 4: Capacities at VIP Ibérico ES-PT (GWh/d 25°C)

1.3 Capacity calculation methodology

1.3.1 VIP Pirineos and VIP Ibérico

In accordance with article 6 of CAM NC, Enagás and Teréga on the one hand and, Enagás and REN on the other, optimize their level of technical capacity to maximize the offer of bundled capacity in VIP Pirineos and VIP Ibérico, respectively.

A common methodology was established by TSOs and validated by the South Region`s NRAs in the framework of the South Gas Regional Initiative, providing details of their calculations and maximization process, in accordance with the regulation and the capacities agreed by the TSOs for the VIPs.

1.3.1.1 Capacity calculation methodology at VIP Pirineos

Currently, Teréga and Enagás calculate, agree, publish and offer capacity at the VIP Pirineos. This capacity calculation is based on an analysis of the technical capacity at both sides of the interconnection.

Therefore, firstly Teréga and Enagás calculate the maximum technical capacity that can flow from/to its network to/from the adjacent one. Depending on the interconnection, these figures are calculated commonly by both TSOs by establishing certain conditions in operational settings and hydraulic parameters, or by each TSO independently applying the Lesser Rule method afterwards.

This joint method takes into consideration a dynamic approach, re-calculating the technical capacity whenever needed, such as in case of critical demand changes, both at wide level

and at local level, or in case of commissioning of new infrastructures that might have an impact in cross-border capacities.

Details of the technical capacity calculation and optimization are available at Teréga³ and Enagás GTS⁴ websites.

1.3.1.2 Capacity calculation methodology at VIP Ibérico

Currently, REN and Enagás calculate, agree, publish and offer capacity at VIP Ibérico. This capacity calculation is based, in a first step, on a deep analysis of the technical capacity of IP Badajoz/Campo Maior and IP Tuy/Valença do Minho on both sides and done whenever needed, such as in case of critical demand changes, both at wide level and at local level, or in case of commissioning of new infrastructures that might have an impact on cross-border capacities. Each TSO has developed its own methodology for the calculation of the technical capacity, both of single infrastructures and facilities, as well as the wide system capacity that can flow through an Interconnection Point.

The joint method applied by Enagás and REN takes into consideration a dynamic approach to re-calculating technical capacity whenever is needed, such as in case of critical demand changes, both at wide level and at local level, or in case of commissioning of new infrastructures that might have an impact on cross-border capacities.

Further details of the technical capacity calculation and optimization can be found on REN⁵ and Enagás GTS⁶ websites.

1.4 Physical Flows

Historical flows at the IPs of the South Region for the period of study (between October 2019 and September 2023) are presented below, as well as an analysis of the physical utilization rate.

In general terms, changes in flow patterns at both VIPs can be observed. Find below a detailed analysis of gas year-by- gas year.

³ [Teréga's technical capacity calculation](#)

⁴ [Enagás' technical capacity calculation](#)

⁵ REN's technical capacity calculation: <https://www.ign.ren.pt/web/quest/gestao-tecnica>

⁶ [Enagás GTS' technical capacity calculation](#)

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- Gas year 2019-2020. The prevailing gas flows were from France to Spain and from Spain to Portugal. However, as a consequence of the COVID-19, which led to a decrease in gas demand, lower flows than previous years were observed at both VIPs.
 - From France to Spain the net flow reached 26.3 TWh (29.2 from France to Spain – 2.9 from Spain to France).
 - From Spain to Portugal the net flow reached 3.99 TWh (4.77 from Spain to Portugal – 0.78 from Portugal to Spain).
 - Gas year 2020-2021. A progressive increase of the natural gas flows were observed. From spring 2021 onwards, while the gas flow remained mostly from North to South, the exporting flows from South to North increased significantly compared to the previous year coinciding with the storage filling campaign. Net gas flows:
 - From France to Spain the net flow reached 12.6 TWh (18.8 from France to Spain – 6.2 from Spain to France).
 - From Spain to Portugal the net flow reached 2.36 TWh (4.4 from Spain to Portugal – 2.04 from Portugal to Spain).
 - Gas year 2021-2022. Since Spring 2022 a change in the flow pattern at VIP Pirineos can be observed. Flows from Spain to France increased drastically due to the Russian invasion of Ukraine, which led to a decrease of natural gas supply from pipelines coming to Europe from Russia through Ukraine. Net gas flows:
 - From Spain to France the net flow reached a total of 2 TWh (18.8 from Spain to France - 16.8 from France to Spain), with a peak flow from mid-February to end of July, with net flows of 17.3 TWh (17.8 from Spain to France - 0.5 from France to Spain).
 - From Portugal to Spain the net flow reached 0.11 TWh (2.5 from Spain to Portugal – 2.7 from Portugal to Spain).
 - Gas year 2022-2023. During this gas year flows from Spain to France remained the predominant flow. The following net gas flows were observed:
 - From Spain to France reached a total of 19.8 TWh (31.4 from Spain to France – 11.6 from France to Spain).
 - From Portugal to Spain reached 1.04 TWh (4.84 from Spain to Portugal – 5.8 from Portugal to Spain).
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The following graph illustrates the historical flows at the IPs of the South Region for the period of study.

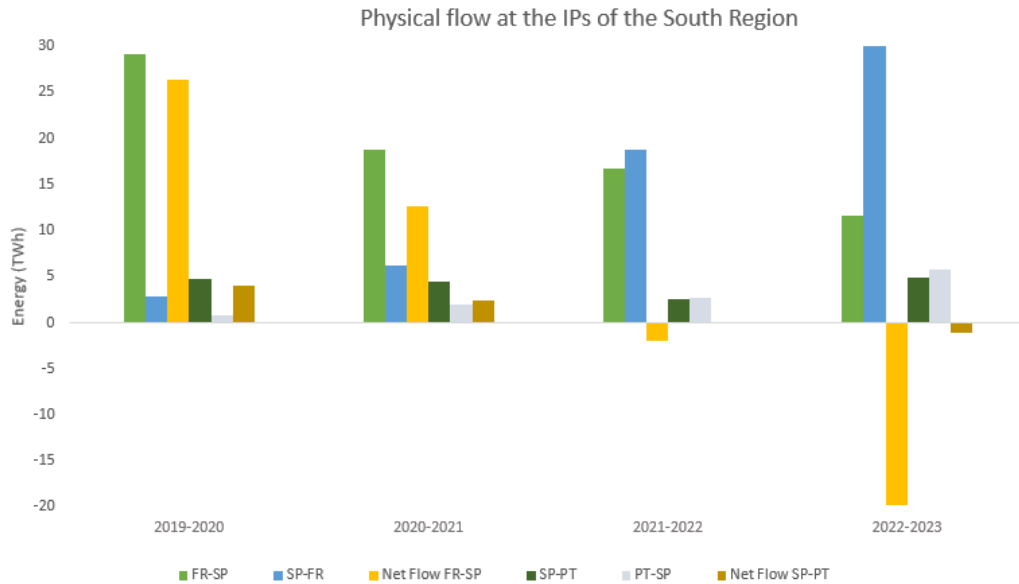


Figure 2: Physical flows at the IPs of the South Region.

1.4.1 VIP Pirineos

1.4.1.1 France to Spain flow direction

The following is a graph of the flow during the period under analysis:

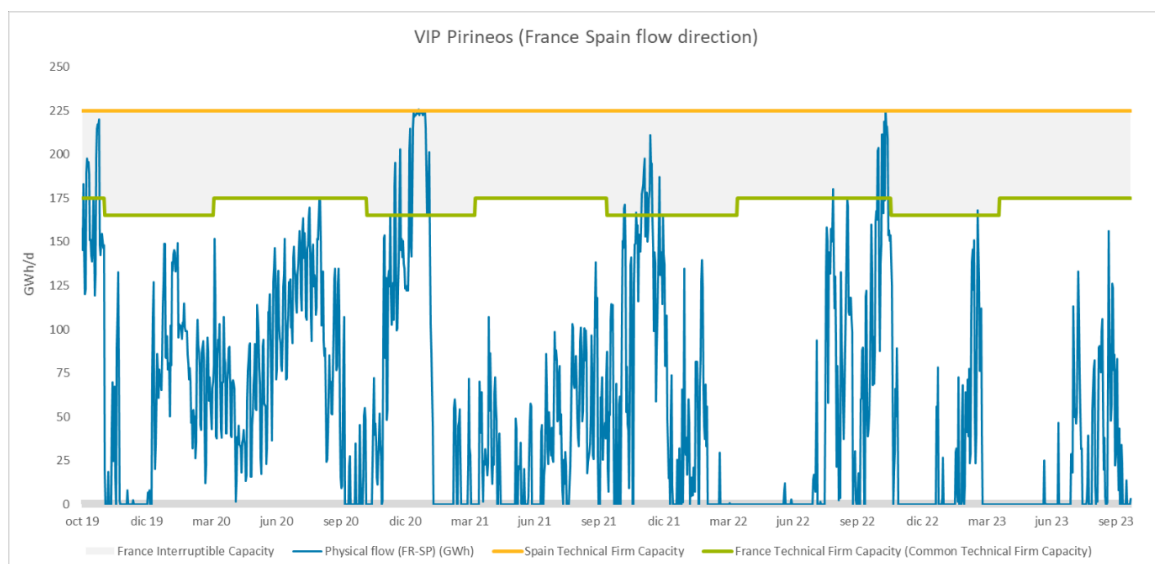


Figure 3: Physical flows at VIP Pirineos from France to Spain

In the gas year 2019-2020, the average utilization rate of the interconnection was 46% of the common technical firm capacity [165 GWh/d (W) / 175 GWh/d (S)]. The physical use of the interconnection exceeded 90% of the common technical firm capacity [165 GWh/d (W) / 175 GWh/d (S)] for 21 days (6% of the time during the year), and exceeded 100% of the common technical firm capacity (more than 165 GWh/d (W) / 175 GWh/d (S)) for 11 days.

During the gas year 2020-2021, the average utilization rate of the interconnection was 30% of the common technical firm capacity [165 GWh/d (W) / 175 GWh/d (S)]. A utilization greater than 90% of the common technical firm capacity [165 GWh/d (W) / 175 GWh/d (S)] of the VIP Pirineos was reached in 35 days. The utilization rate exceeded 100% of the common technical firm capacity (more than 165 GWh/d (W) / 175 GWh/d (S)) 29 days.

During the gas year 2021-2022, the average utilization rate of the interconnection was 27% of the common technical firm capacity [165 GWh/d (W) / 175 GWh/d (S)]. The physical use of the interconnection above 90% of the common technical firm capacity [165 GWh/d (W) / 175 GWh/d (S)] was reached for 34 days. The physical flow exceeded 100% of the common technical firm capacity (more than 165 GWh/d (W) / 175 GWh/d (S)) 17 days (usage of interruptible capacity).

During the gas year 2022-2023, the average utilization rate of the interconnection was 18% of the common technical firm capacity [165 GWh/d (W) / 175 GWh/d (S)]. A physical use of the interconnection above 90% of the common technical firm capacity [165 GWh/d (W) / 175 GWh/d (S)] was reached for 17 days. The physical flow exceeded 100% of common technical firm capacity (more than 165 GWh/d (W) / 175 GWh/d (S)) 10 days.

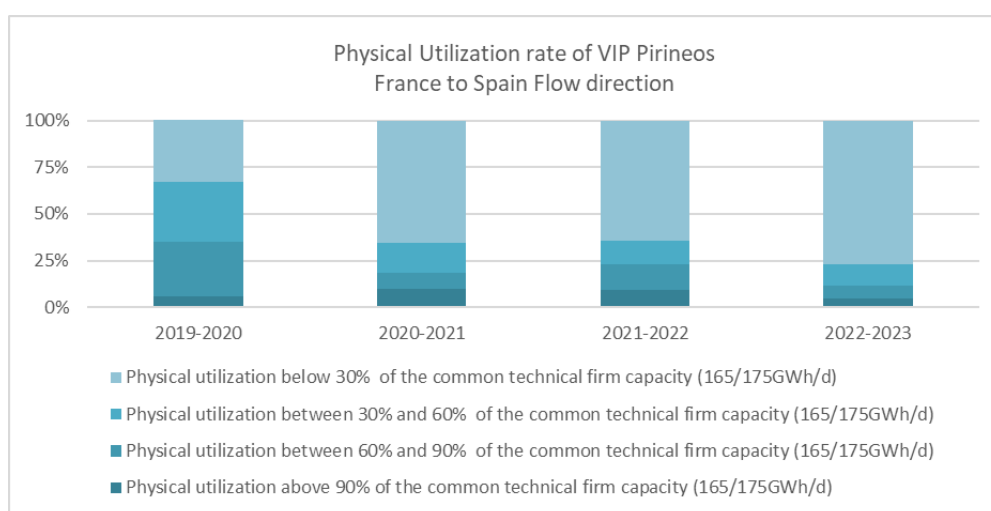


Figure 4: Physical utilization rate of VIP Pirineos from France to Spain [165 GWh/d (W) / 175 GWh/d (S)]

1.4.1.2 Spain to France flow direction

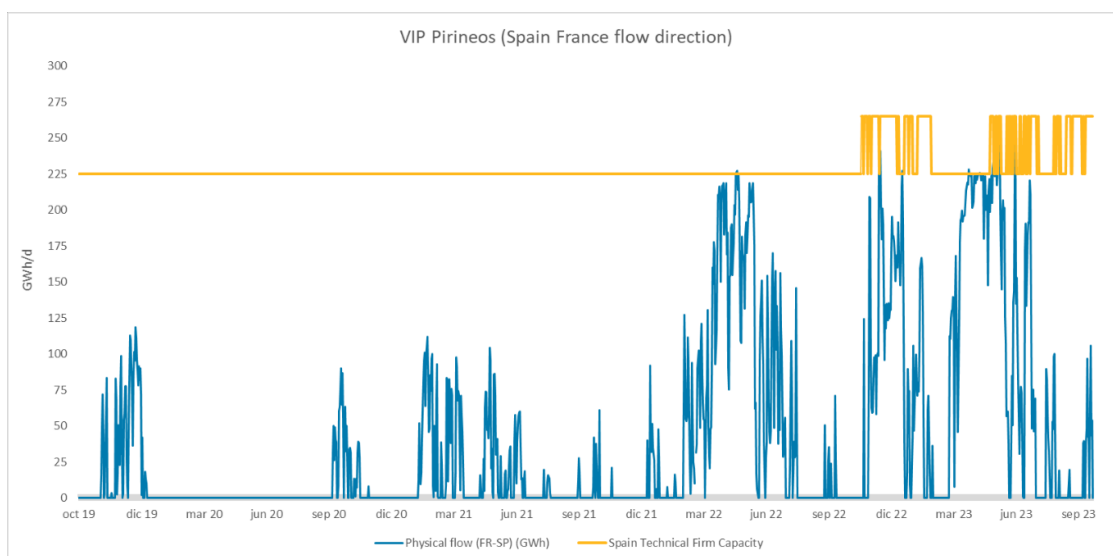


Figure 5: Physical flows at VIP Pirineos from Spain to France

Compared to previous years, the VIP Pirineos from Spain to France was very active during the analyzed period.

As shown in the graph, the average utilization rate of the VIP Pirineos connection from Spain to France increased from 3% in the gas year 2019-2020, to 7% in the gas year 2020-2021, 23% in the gas year 2021-2022, and 35% in the gas year 2022-2023 respectively.

In the gas year 2019-2020 and the gas year 2020-2021, the physical utilization rate of the interconnection was below 30% of the common technical firm capacity [225 GWh/d] most of the time, during less than 5% of the year the physical utilization reached levels between 30% and 60% of the common technical firm capacity [225 GWh/d].

During the gas year 2021-2022 and the gas year 2022-2023, the average utilization rate of the interconnection increased from previous periods although the physical utilization rate was most of the time below 30% of the common technical firm capacity [225 GWh/d (S)]. The physical use of the interconnection above 90% of the common technical firm capacity [225 GWh/d] was reached for more than 10% of the days in the gas year 2022-2023. In the spring of 2022, following the recent war initiated by Russia and the measures taken by European countries to reduce natural gas consumption, physical flows from Spain to France increased once again. Flows reached the maximum technical capacity at VIP Pirineos several times during that period.

From March to May 2023, physical flows from Spain to France increased by 23% compared to the same period the previous year. This increase was driven by the mandatory filling

targets for underground storage facilities imposed by the EU, and the strike in France, which resulted in the stoppage of the French LNG terminals (Fos Cavaou, Fos Tonkin, Montoir de Bretagne and Dunkerque). Consequently, many vessels changed their destinations to Spanish terminals to unload their LNG, in order to regasify it and export it via VIP Pirineos to France and the rest of Europe.

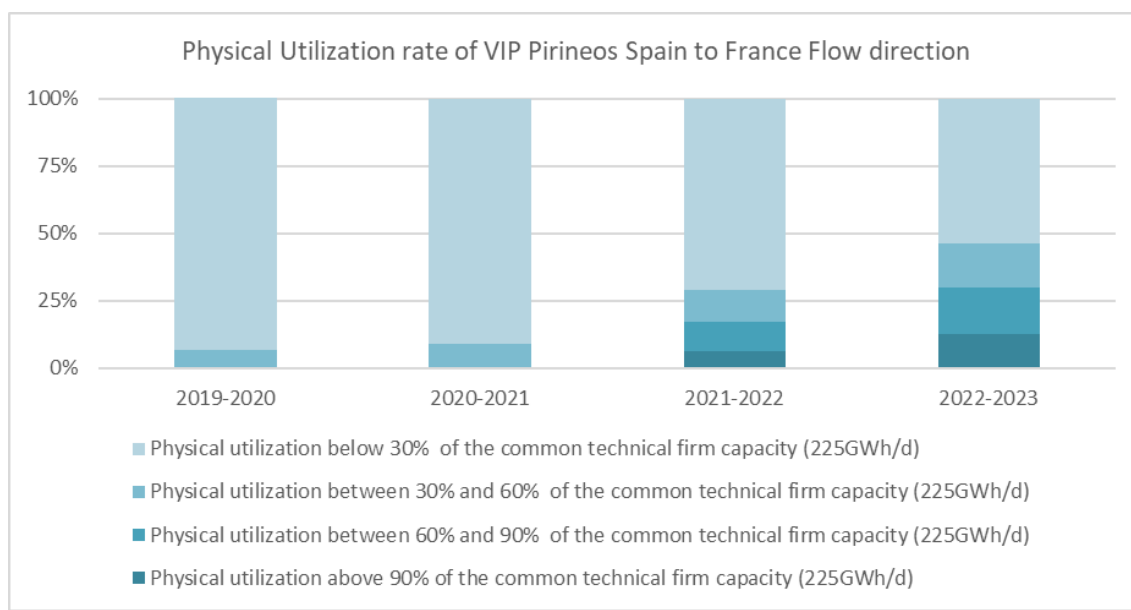


Figure 6: Physical utilization rate of VIP Pirineos from Spain-France (225 GWh/d)

1.4.2 VIP Ibérico

1.4.2.1 Spain to Portugal flow direction

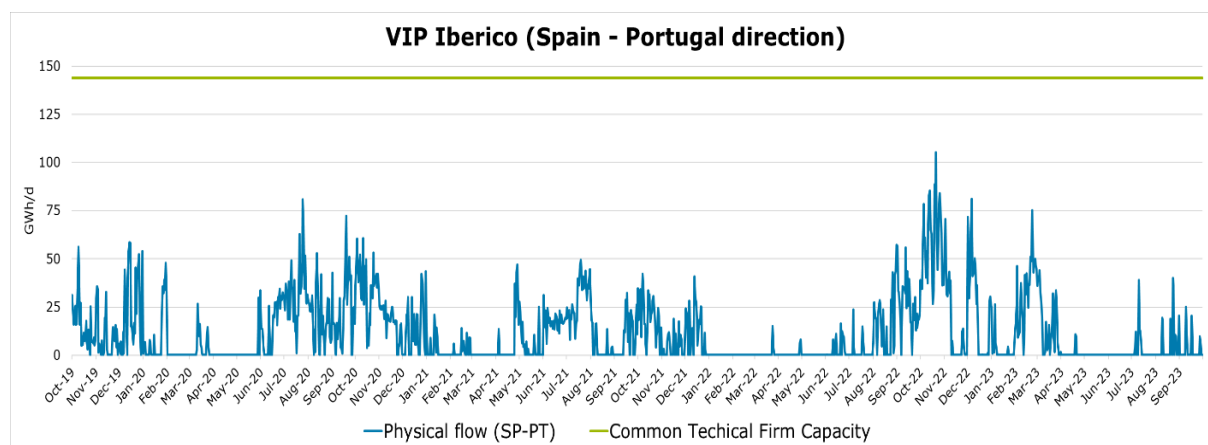


Figure 7: Physical flows at VIP Iberico from Spain to Portugal (GWh/d)

During the gas years 2019-2020, 2020-2021, and 2021-2022, the physical average utilization of the interconnection evolved from 9.1% to 5.5%, and subsequently to 4.9% of the technical capacity (144 GWh/day), respectively.

The gas year 2022-2023 commenced with elevated flow levels compared to the previous year, culminating in a peak on October 21st 2022, with a utilization rate of 73.16% of the technical capacity. The physical average utilization in the gas year 2022-2023 was 9.8%.

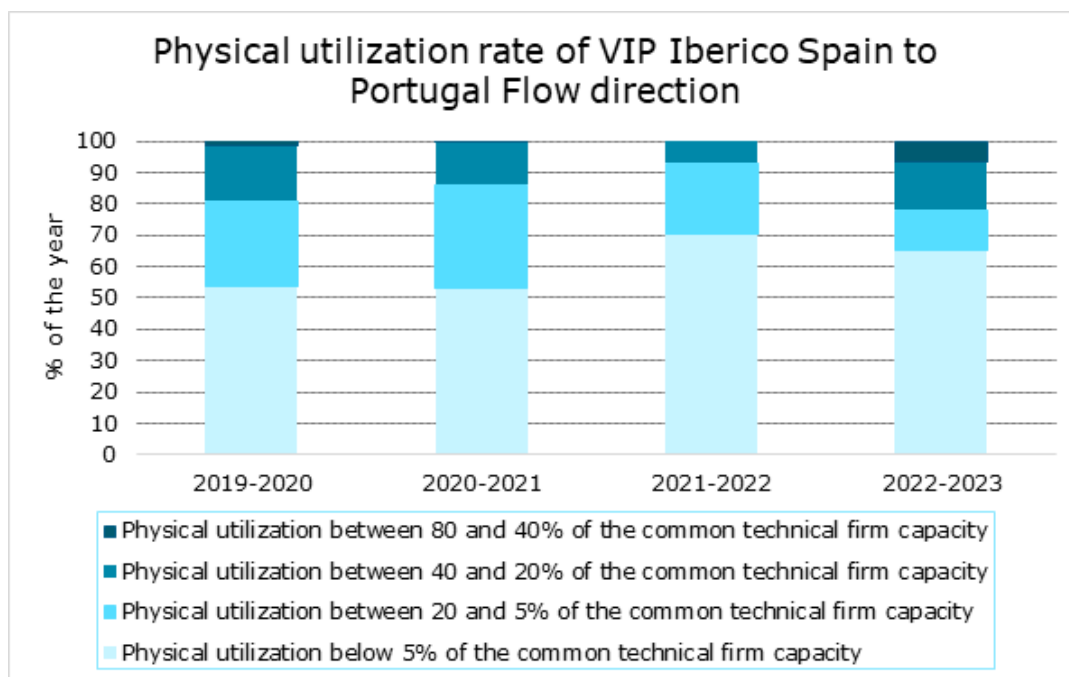


Figure 8: Physical utilization rate of VIP Ibérico from Spain to Portugal (144 GWh/d)

1.4.2.2 Portugal to Spain flow direction

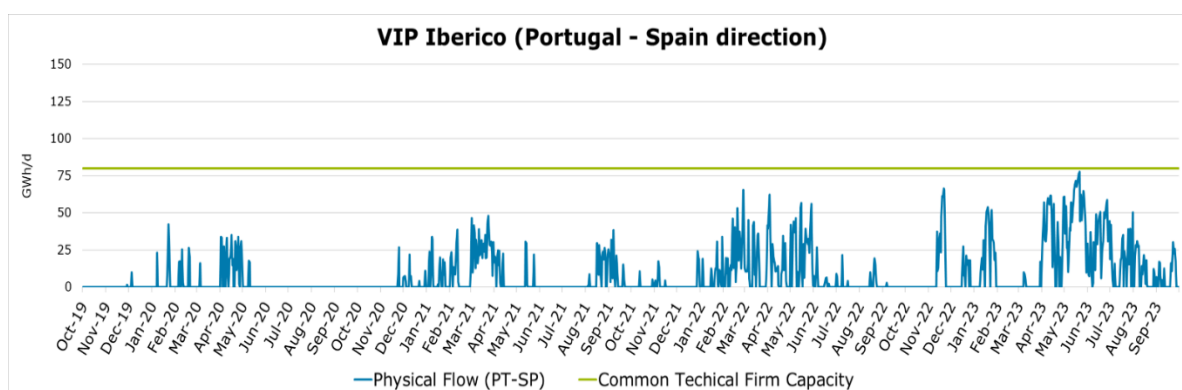


Figure 9: Physical flows at VIP Iberico from Portugal to Spain

During the gas years 2019-2020 and 2020-2021, physical flow of the interconnection was very low, with utilization rates of 2.7% and 7% respectively of the technical capacity (80 GWh/).

The gas year 2021-2022 also began with the same tendency. Due to the onset of the invasion of Ukraine by Russia, flows increased, resulting in an average utilization of 9.3%.

The gas year 2022-2023 continued with the trend of high flows, with an average utilization of 19.9%, reaching the peak of flow on 21st of May 2023, with a flow equal to 100% of the technical capacity.

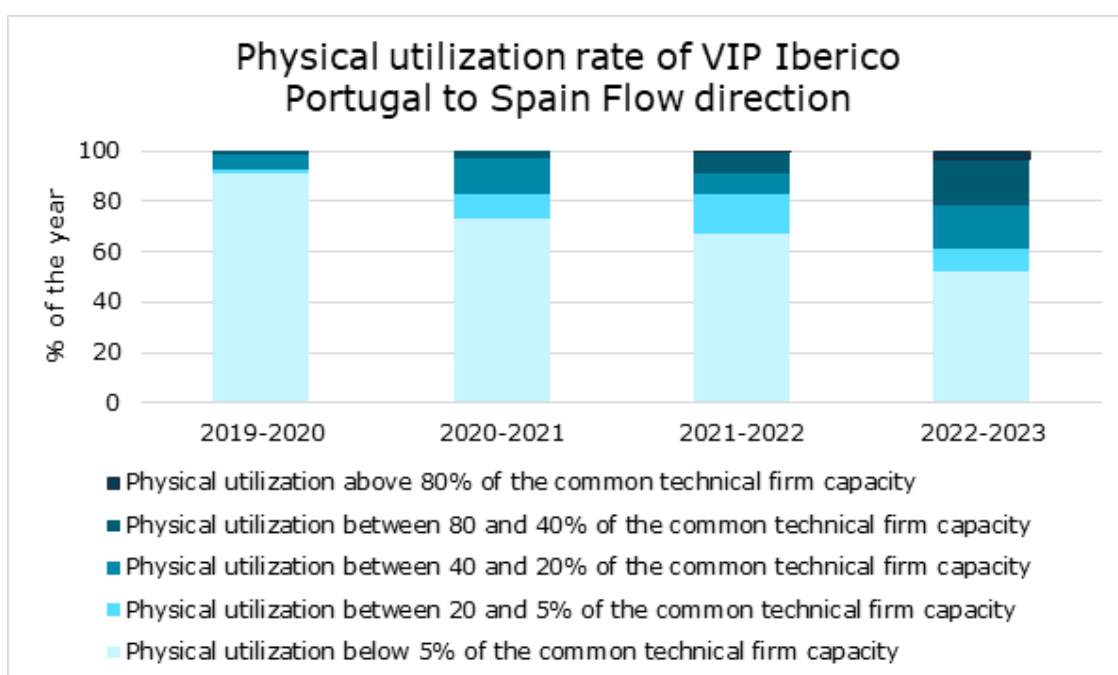


Figure 10: Physical utilization rate of VIP Ibérico from Portugal to Spain (80 GWh/d)

1.5 Available capacity to be auctioned via PRISMA

Each TSO calculates the maximum technical capacity, and the maximum booked capacity in both directions of the interconnection. The common value is reached to identify the maximum bundled capacity that could be offered to the market.

TSOs report the maximum value of technical capacity for each product. In case of different values in the same period, the TSOs consider the minimum available value to ensure the offer of bundled capacity and offer the additional available capacity an unbundled product.

Table 5 and Table 6 summarize the common capacity to be commercialized at the VIPs:

Teréga – Enagás ⁷	
FR - ES	165 (W)/175 (S) firm+60 interruptible
ES - FR	225 + 40

Table 5: Bundled capacities at VIP Pirineos (GWh/d 0°C)

REN - Enagás	
PT - ES	80
ES - PT	144

Table 6: Bundled capacities at VIP Iberico (GWh/d 25°C)

To maximise the capacity to be offered, each TSO considers capacities made available by the application of Congestion Management Procedures (CMP).

The calculation of the bundled capacity to be offered starts with the available capacity for the annual yearly capacity auctions. The available capacity not allocated in the yearly auctions will be offered in the upcoming auctions.

According to the results of the yearly capacity products auctions and considering the amount of capacity set aside for short term products, TSOs calculate the bundled capacity to be offered in quarterly products capacity auctions.

After that, bundled capacity not allocated in quarterly auctions will be offered in the subsequent auctions (monthly, daily and within-day), until the capacity is sold out.

Article 8 of CAM rules provides that at least an amount equal to 20% of technical capacity at each interconnection point must be set aside and offered as described in the following provisions:

- a) an amount at least equal to 10 % of the existing technical capacity at each interconnection point shall be offered no earlier than in the annual yearly capacity auction as provided for in Article 11 held in accordance with the auction calendar during the fifth gas year preceding the start of the relevant gas year; and

⁷ In the case of the VIP Pirineos connection, in the FR-SP direction, from Enagás side the technical capacity offer is 225 GWh/d as firm, Regarding the SP-FR direction, capacity offer for long-term bundled products is 225 GWh/d on both sides of the VIP. However, from 1st November 2022, as explained in chapter 1.3.1.2, the technical capacity may be daily increased by 40GWh/d. This additional capacity may be offered on Enagás' side as firm daily and withinday products and it is offered on Teréga's side as quarterly, monthly and daily products (firm from May to October/ interruptible from November to April).

- b) a further amount at least equal to 10 % of the existing technical capacity at each interconnection point shall first be offered no earlier than the annual quarterly capacity auction as provided for in Article 12, held in accordance with the auction calendar during the gas year preceding the start of the relevant gas year.

Due to the scenarios of high price spreads which led in high demand for booking capacity at VIP Pirineos, the reduction of the Large Price Steps (LPS) was agreed upon by Teréga and Enagás for the auctions held using the Ascending Clock Auctions (ACA) mechanism. This agreement was made to ensure that the auctions would not take an excessive amount of time, allowing the maximum allocated capacity to be achieved at the same time. This modification is in line with Article 17 of the CAM NC:

“A large price step and a small price step shall be defined per interconnection point and per standard capacity product and shall be published in advance of the relevant auction. The small price step shall be set such that an increase by an integer number of small price steps is equal to an increase by a large price step.

The determination of the large price step shall seek to minimize, as far as reasonably possible, the length of the auction process. The determination of the small price step shall seek to minimize, as far as reasonably possible, the level of unsold capacity where the auction closes at a price higher than the reserve price.”

1.5.1 VIP Pirineos

In VIP Pirineos, capacity is offered for the next 15 years (except for the unbundled capacity, which is only offered for the first year). As there is not the same technical capacity on both sides of the VIP Pirineos in France to Spain direction, the capacity set aside is calculated according to the common technical firm capacity (165 GWh/d for the North to South direction and 225 GWh/d in the South to North direction), following the previous mentioned rules stated on the CAM regulation. The bundled capacity to be auctioned on PRISMA corresponds to the application of the “lesser rule” of the available capacities on both sides for each year, in other words, the resulting capacity of the matching between the difference of the technical capacity of each side of the point and the booked and set aside capacities.

Tables below show data on capacity bookings (LT contracts pre-CAM NC and PRISMA) and available capacity as from October 2023. In other words, the available capacity for the next 15 years that has been auctioned in July 2023 is as follows.

VIP PIRINEOS (FR to ES)	French side				Spanish side			
GWh/d	Booked Capacity (LT before CAM)	Booked Capacity (after CAM)	Bundled Capacity (to be offered on PRISMA)	Unbundled Capacity (to be offered on PRISMA)	Booked Capacity (LT before CAM)	Booked Capacity (after CAM*)	Bundled Capacity (to be offered on PRISMA)	Unbundled Capacity (to be offered on PRISMA)
Oct 2023 to Sept 2024	77,5	7	63,9	0	4	6.015	63.9	127.5
Oct 2024 to Sept 2025	77.5	0	71	0	4	6.015	71	0
Oct 2025 to Sept 2026	77.5	0	71	0	4	6.015	71	0
Oct 2026 to Sept 2027	0	0	148.5	0	4	0	148.5	0
Oct 2027 to Sept 2028	0	0	148.5	0	4	0	148.5	0
Oct 2028 to Sept 2029	0	0	132	0	0	0	132	0
Oct 2029 to Sept 2030	0	0	132	0	0	0	132	0
Oct 2030 to Sept 2031	0	0	132	0	0	0	132	0
Oct 2031 to Sept 2032	0	0	132	0	0	0	132	0
Oct 2032 to Sept 2033	0	0	132	0	0	0	132	0
Oct 2033 to Sept 2034	0	0	132	0	0	0	132	0
Oct 2034 to Sept 2035	0	0	132	0	0	0	132	0
Oct 2035 to Sept 2036	0	0	132	0	0	0	132	0
Oct 2036 to Sept 2037	0	0	132	0	0	0	132	0
Oct 2037 to Sept 2038	0	0	132	0	0	0	132	0

Table 7: Capacity to be auctioned via PRISMA in the July 2023 yearly auction (France to Spain)

VIP PIRINEOS (ES to FR)	French side				Spanish side			
GWh/d	Booked Capacity (LT before CAM)	Booked Capacity (after CAM)	Bundled Capacity (to be offered on PRISMA)	Unbundled Capacity (to be offered on PRISMA)	Booked Capacity (LT before CAM)	Booked Capacity (after CAM*)	Bundled Capacity (to be offered on PRISMA)	Unbundled Capacity (to be offered on PRISMA)
Oct 2023 to Sept 2024	61,3	29,2	112,0	0	61.307	111.297	112.0	0
Oct 2024 to Sept 2025	47.387	142.826	151.744	0	47.387	139.457	151.744	0
Oct 2025 to Sept 2026	47.387	90.747	154.150	0	47.387	89.784	154.150	0
Oct 2026 to Sept 2027	2.587	14.919	198.950	0	2.587	13.956	198.950	0
Oct 2027 to Sept 2028	2.587	1.203	199.9	0	2.587	1.203	199.9	0
Oct 2028 to Sept 2029	2.587	1.203	177.412	0	2.587	1.203	177.412	0
Oct 2029 to Sept 2030	0	1.203	180	0	0	0	180	0
Oct 2030 to Sept 2031	0	1.203	180	0	0	0	180	0
Oct 2031 to Sept 2032	0	1.203	180	0	0	0	180	0
Oct 2032 to Sept 2033	0	1.203	180	0	0	0	180	0
Oct 2033 to Sept 2034	0	0	180	0	0	0	180	0
Oct 2034 to Sept 2035	0	0	180	0	0	0	180	0
Oct 2035 to Sept 2036	0	0	180	0	0	0	180	0
Oct 2036 to Sept 2037	0	0	180	0	0	0	180	0
Oct 2037 to Sept 2038	0	0	180	0	0	0	180	0

Table 8: Capacity to be auctioned via PRISMA in the July 2023 yearly auction (Spain to France)

1.5.2 VIP Ibérico

In the VIP Ibérico the capacity is offered for a five year-period in the annual action for yearly capacity products. Consequently, in accordance with CAM regulation, capacity is set aside only for quarterly auctions. Capacity set aside is calculated with respect to the technical firm

common capacity (144 GWh/d for the Spain to Portugal direction and 80 GWh/d in the Portugal to Spain direction). All the capacity at VIP Ibérico is offered as bundled; thus, no unbundled capacity can be booked at VIP Ibérico in any direction.

The following tables show data on capacity bookings (LT contracts pre-CAM NC and PRISMA) and available capacity as from October 2023:

VIP IBERICO (ES - PT)	Spanish and Portuguese side (kWh/d at 25°C)			
GWh/d	Booked Capacity (LT before CAM)	Booked Capacity (after CAM)	Bundled Capacity (to be offered on PRISMA)	Unbundled Capacity (to be offered on PRISMA)
Oct 2023 to Sept 2024	0	0	129,600,000	0
Oct 2024 to Sept 2025	0	0	129,600,000	0
Oct 2025 to Sept 2026	0	0	129,600,000	0
Oct 2026 to Sept 2027	0	0	129,600,000	0
Oct 2027 to Sept 2028	0	0	129,600,900	0

Table 9: Capacity to be auctioned via PRISMA in July 2023 yearly auction (Spain to Portugal)

VIP IBERICO (PT - ES)	Spanish and Portuguese side (kWh/d at 25°C)			
	Booked Capacity (LT before CAM)	Booked Capacity (after CAM)	Bundled Capacity (to be offered on PRISMA)	Unbundled Capacity (to be offered on PRISMA)
Oct 2023 to Sept 2024	0	0	72,000,000	0
Oct 2024 to Sept 2025	0	0	72,000,000	0
Oct 2025 to Sept 2026	0	0	72,000,000	0
Oct 2026 to Sept 2027	0	0	72,000,000	0
Oct 2027 to Sept 2028	0	0	72,000,000	0

Table 10: Capacity to be auctioned via PRISMA in July 2023 yearly auction (Portugal to Spain)

2 Assessment of capacity bookings

In this part of the report, capacity bookings will be analysed distinguishing between bundled and unbundled capacity, different time horizons (Long term, Yearly, Quarterly...) and firm and interruptible capacity. Also, a summary of the secondary capacity market has been included.

2.1 Firm booked capacities (bundled/unbundled)

The purpose of this section is to analyse the firm capacity bookings of the two VIPs in comparison to the technical capacity, distinguishing between bundled and unbundled capacity. It must be noted that interruptible capacity will not be considered, as it will be analysed in its specific chapter.

The concept of bundled capacity is defined in Article 3 (4) of CAM NC, in the following way:

« ‘Bundled capacity’ means a standard capacity product offered on a firm basis which consists of corresponding entry and exit capacity at both sides of every interconnection point».

Before the “early implementation” of the CAM NC in the Region, capacity was booked in an unbundled way, through the South Region TSOs` allocation capacity platforms.

After the entry into force of CAM NC, available capacity is offered as much as possible as bundled capacity, or unbundled if it is not possible to offer it as bundled, in auctions held on PRISMA platform. There is still unbundled capacity contracted through long-term (LT) contracts signed before the entry into force of the CAM Network Code implementation. However, it should be noted that most of these unbundled LT contracts work as if they were bundled since most shippers contracted the same amount of capacity on both sides of the VIP.

Long-term contracts represent a small percentage of the technical capacity bookings from 2026 onwards.

2.1.1 VIP Pirineos

Table 11 and Table 12 show the booked capacity (on yearly average) of the total technical firm capacity per gas year of the period under study, considering long-term contracts previous to CAM NC implementation capacity (via Open Subscription or Open Season procedures),

and bundled and unbundled capacity bookings after CAM NC implementation (contracted on PRISMA platform) on each side of the VIP.

During the winter of 2020, due to the high price spread, partially caused by the Filomena storm (anticyclone with very low temperatures) that caused a drastic drop in temperatures in Spain, large volumes of gas were contracted on a daily and within-day horizon, between January 3rd (days prior to the storm) and January 21st 2021. A large part of the capacity contracted during this period was done on an interruptible basis, since firm capacity was fully contracted.

2.1.1.1 France to Spain direction

VIP PIRINEOS (FR - ES) GWh/d	French side				Spanish side			
	LT before CAM Capaci ty	Unbundled after CAM	Bundled Capacity	Booked capacity	LT before CAM Capacity	Unbundled after CAM	Bundled Capacity	Total booked capacity
2019-20	146.5	0	3.481	150	146.25	22.5	2.25	171
2020-21	146.5	0	6.861	153.4	146.25	22.5	2.26	171
2021-22	146.5	0	5.933	152.5	146.25	40.5	13.5	200.25
2022-23	112	0	14.606	124,6	146.25 (77.2 from April 2023 on and 4 from July)	56.25	13.5	145.56

Table 11: Booked capacities at VIP Pirineos on technical firm capacity – France to Spain

It must be noted that, throughout the gas year 2022-2023, some of the LT contracts (previous to CAM contracts) expired, and consequently available capacity to be offered in short horizon products of the year increased.

French side

The following figure illustrates the evolution of the different types of booked capacities over the analysed period.

The technical firm capacity on the French side is either 165 GWh/d (from November to March) or 175 GWh/d (from April to October).

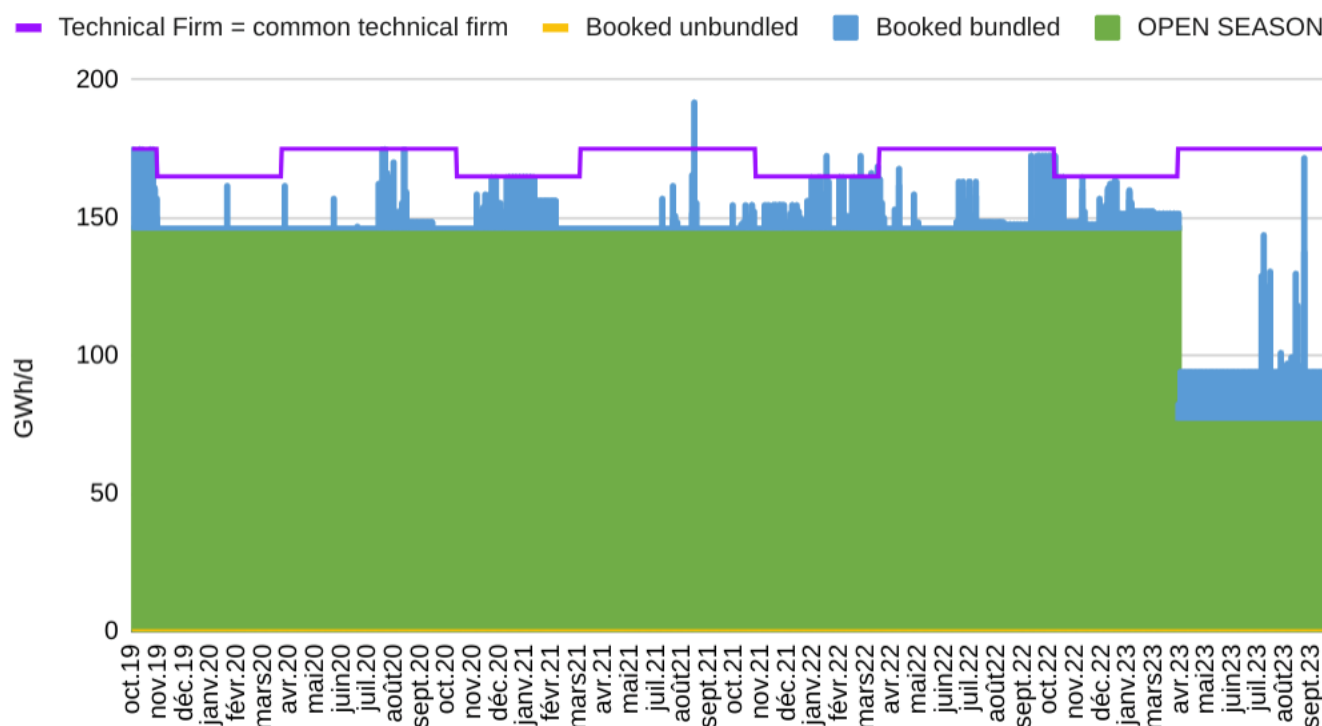


Figure 11: Capacity bookings at VIP Pirineos - France to Spain direction (French side)

As it can be observed, capacity bookings via long-term contracts represented a significant percentage of the technical capacity in the period analysed (80.7%). Consequently, the amount of bundled capacity available to be offered in the auctions was limited. However, this booked capacity decreased from 85.8% to 45.4% during the gas year 2022-2023, due to the expiration of a long-term contract on 1st April 2023, resulting in a reduction of bookings by 69 GWh/d belonging to four different shippers. Out of these 4 shippers, only one booked 7 GWh/d of quarterly products to mitigate the end of their initial 15 GWh/d LT contract.

A few other mid-term (quarterly or monthly) bookings were performed by two other shippers, ranging between 2 to 5 GWh/d after the end of the LT bookings. Additionally, two other shippers made each one a monthly booking for 1.2 GWh/d and 0.1 GWh/d of capacity, respectively.

The remaining booked capacity was contracted via DA (Day-Ahead) or WD (Within-Day) products. However, when arbitrage opportunities were favourable, the booking levels were high for certain days.

Lastly, when booked capacity exceed the technical firm capacity, it indicates that capacity offered in over-subscription (OS) was booked.

Spanish side

The next figure shows the evolution of the different types of capacities booked through the studied period, namely, the capacity of the LT contracts before the CAM NC implementation and the bundled and unbundled capacity bookings after the CAM NC.

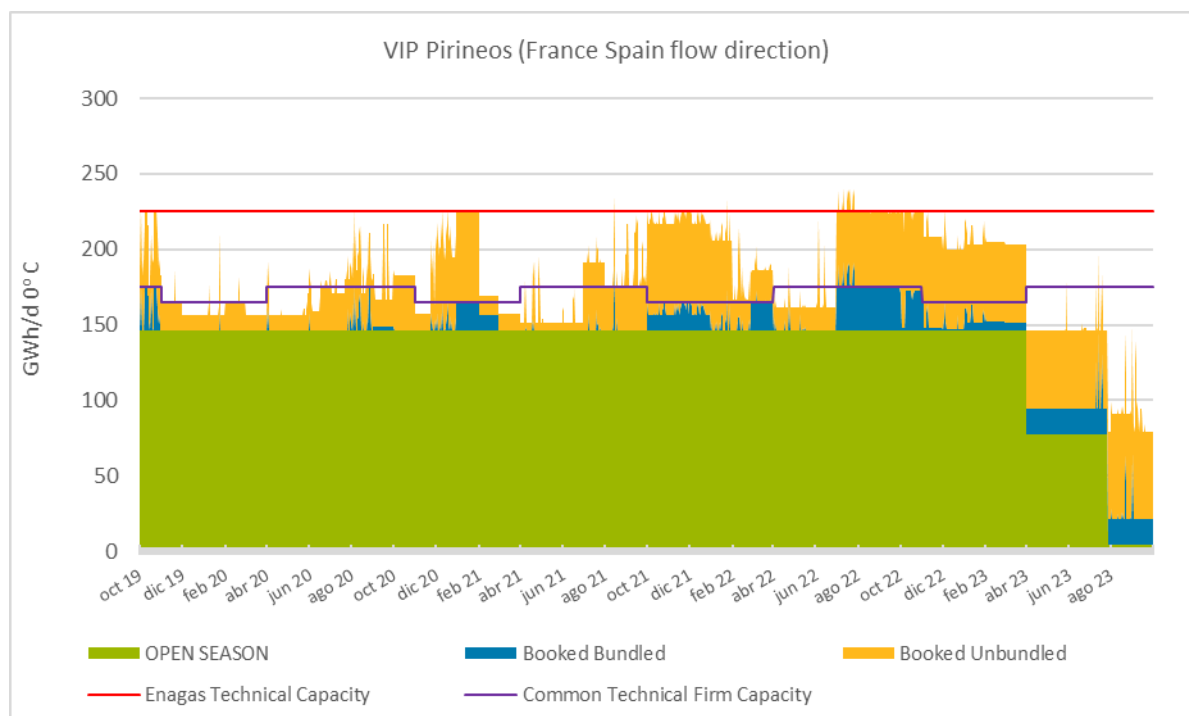


Figure 12: Capacity bookings at VIP Pirineos - France to Spain direction (Spanish side)

As can be observed, capacity bookings via long-term contracts represented a significant percentage of the technical capacity during the period analysed (65%). Consequently, the amount of bundled capacity offered in the auctions was limited. However, this booked capacity decreased from 65% to 34% during the gas year 2022-2023 due to the expiration of one long-term contract on 1st of April 2023.

Given that the technical firm capacity in French side was 165/175 GWh/d, the remaining capacity in the Spanish side, up to 225 GWh/d, was offered in an unbundled way.

After a prolonged period (2016-2018) during which the total booked capacity exceeded 90% of the common firm technical capacity (165 GWh/day), the gas year 2019-2020 was characterised by a considerable decrease down to 76%. This decline was attributed to the global situation resulting from COVID-19, which caused a reduction in global demand for natural.

During the gas year 2020-2021, there was a progressive increase in demand for natural gas following the lifting of the COVID-19 measures. In January 2021, a peak in contracting capacity is observed, triggered by Filomena storm. Consequently, bookings for that year increased up to 79%.

For the gas year 2021-2022, bookings continued to rise to 89% due to high natural gas prices. This compelled shippers to cover various positions (export and import) to minimize the risk of imbalance in Spain and France.

Finally, in gas year 2022-2023, bookings decreased due to the termination of the aforementioned long-term contracts.

2.1.1.2 Spain to France direction

VIP PIRINEOS (ES - FR) GWh/d	French side				Spanish side			
	LT before CAM Capacity	Unbundle d after CAM	Bundled Capacity	Booked capacity	LT before CAM Capacity	Unbundled after CAM	Bundled Capacity	Total booked capacity
2019-20	176.8	0	0.5	177.3	126	0	0	126
2020-21	176.8	0	0.3	177.1	114.75	11.25	0	126
2021-22	176.8	0	26,2	203	114.75	31.5	27	173.25
2022-23	118.9	14,9	106,1	239,9	114.75 (60.45 from April 2023)	33.75	105.75	227.1

Table 12: Booked capacities at VIP Pirineos vs technical firm capacity – Spain to France direction

As shown on the figures hereafter, flow direction from France to Spain prevails in terms of booked capacity.

French side

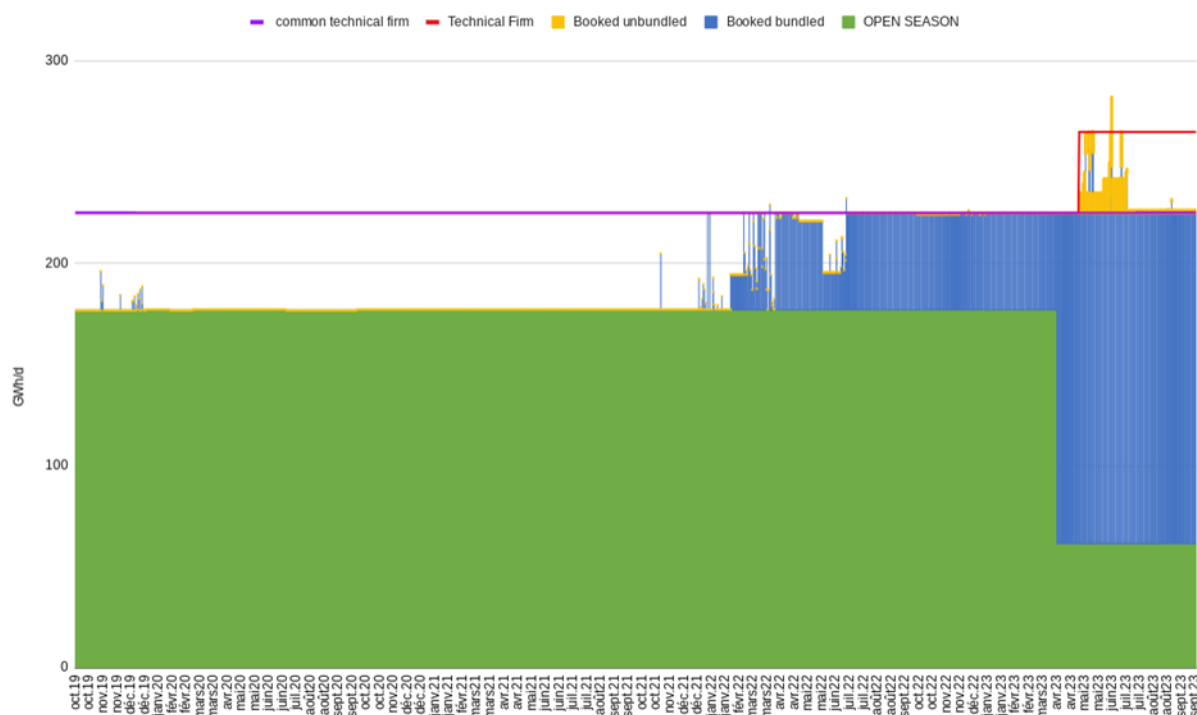


Figure 13: Capacity bookings on VIP Pirineos - Spain to France direction (French side)

Capacity bookings via LT contracts represented much of the marketed capacity: 64.5% of the technical firm capacity in the period analysed. However, this booked capacity decreased from 64.5% to 25% during the gas year 2022-2023, due to the expiration of a LT contract on 1st of April 2023.

Since May 2023, the technical firm capacity on the French side increased up to 265 GWh/d. Capacity up to 225 GWh/d was offered as bundled, while the remaining capacity was offered unbundled, since Enagás can only offer the additional 40 GWh/d on daily basis subject to the fulfilment of certain technical conditions on the Spanish side.

Prior to the onset of the war in Ukraine (end of February 2022), there were minimal bookings. Most of the demand for this capacity emerged later, particularly from April 2022 onwards. From July 2022, all firm bundled capacity was booked until the end of the analysed period.

Spanish side

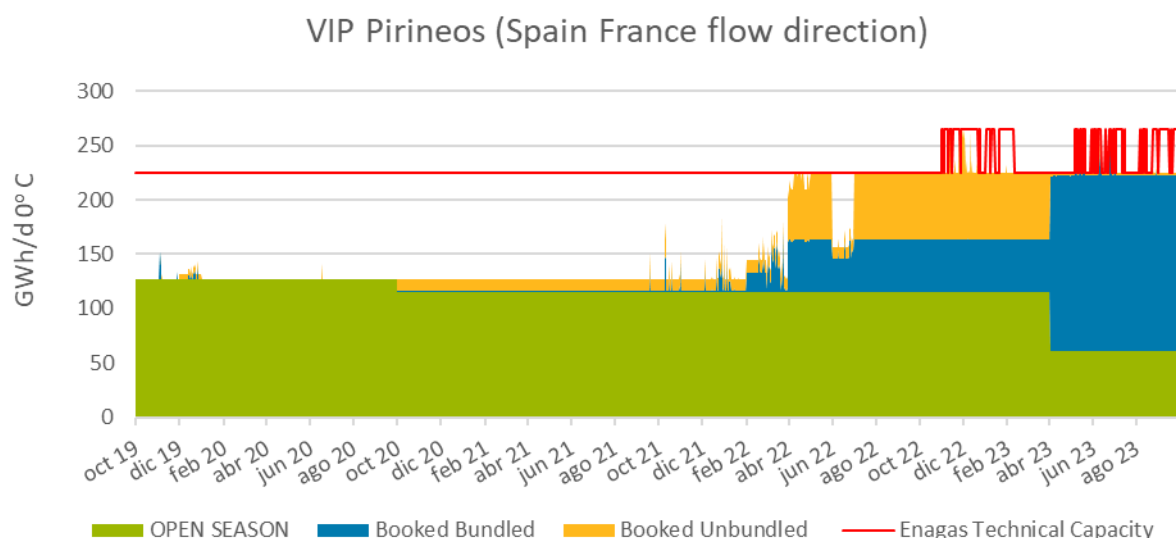


Figure 14: Capacity bookings on VIP Pirineos - Spain to France (Spanish side)

The first two gas years (2019-2020 and 2020-2021) can be distinguished from the second two gas years (2021-2022 and 2022-2023).

During the gas years 2019-2020 and 2020-2021, there were hardly any changes. LT bookings from the Open Season remained more or less steady until October 2020. The capacity allocated through the Open Season in the gas year 2020-2021 accounted for around 95% (115 GWh/d) of the total booked capacity. This represented a minor decreased in comparison with the previous gas year (126 GWh/d). Only 5% (6,3 GWh/d) of the booked capacity was allocated in Prisma platform through bundled capacity auctions.

On the Spanish side, unbundled LT contracts represented 56% and 51% of the technical capacity (225 GWh/d) for the gas year 2019-2020 and 2020-2021, respectively. Therefore, there was still an important amount of capacity that could be booked in a bundled way.

However, during the gas years 2021-2022 and 2022-2023, there was an increase in booking through Prisma platform, from 51% in gas year 2020-2021 to 78% in the gas year 2021-2022, reaching 89% by gas year 2022-2023. Furthermore, it is worth noting that for this last year, bundled contracts increased to 47% due to the expiration of those Open Season contracts.

2.1.2 VIP Ibérico

2.1.2.1 Spain to Portugal flow direction

The following table shows the booked capacity (on average) per gas year of the period under study.

VIP Ibérico (ES - PT) GWh/d	Spanish side				Portuguese side			
	LT before CAM Capacity	Unbundled after CAM	Bundled Capacity	Booked capacity	LT before CAM Capacity	Unbundled after CAM	Bundled Capacity	Booked capacity
2019-2020	92.99	0	4	97	0	54.36	4.05	58.41
2020-2021	93 (4 from January 2021 and 2 from September 2021)	0	10.2	103.2	0	9.99	9.98	19.97
2021-2022	2 (0 from March 2022)	0	12.62	14.62	0	0.83	12.59	13.42
2022-2023	0	0	28.3	28.3	0	0	28.23	28.23

Table 13: Booked capacities at VIP Ibérico vs technical firm capacity – Spain to Portugal direction

The end of LT contracts led to a decrease in bookings for unbundled capacity products, which can be confirmed by the data shown in the Table 13. Additionally, the booking of bundled capacity in this period was low, possibly due to the increase in LNG supply into the Iberian Peninsula. The increase of bundled capacity bookings in the last two years is explained by the military conflict in Europe.

Portuguese side

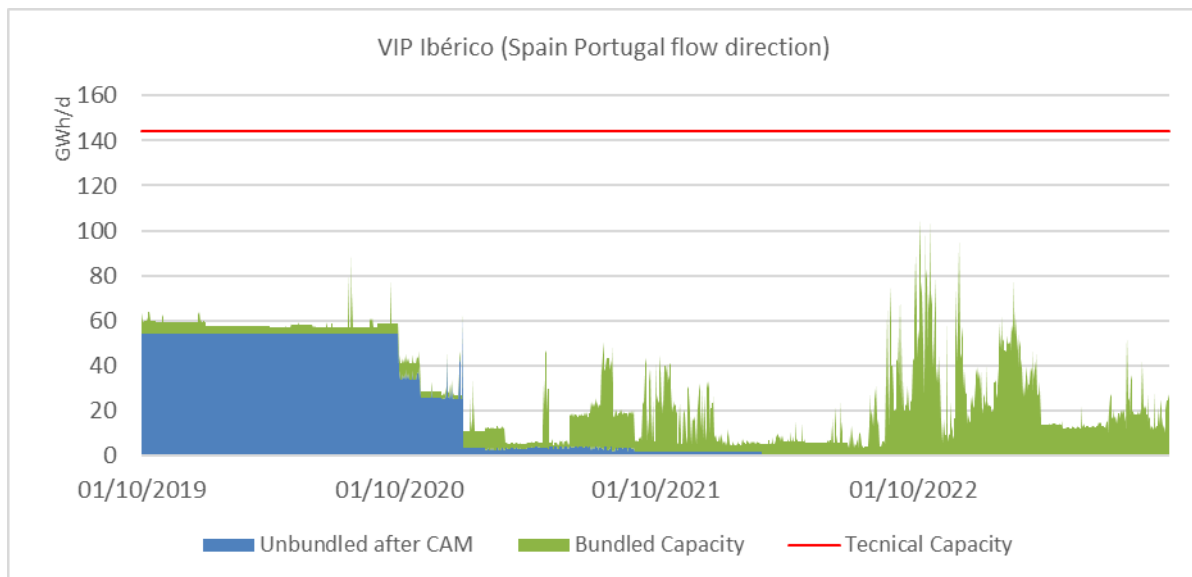


Figure 15: Capacity bookings at VIP Ibérico - Spain to Portugal direction (Portuguese side)

Spanish side

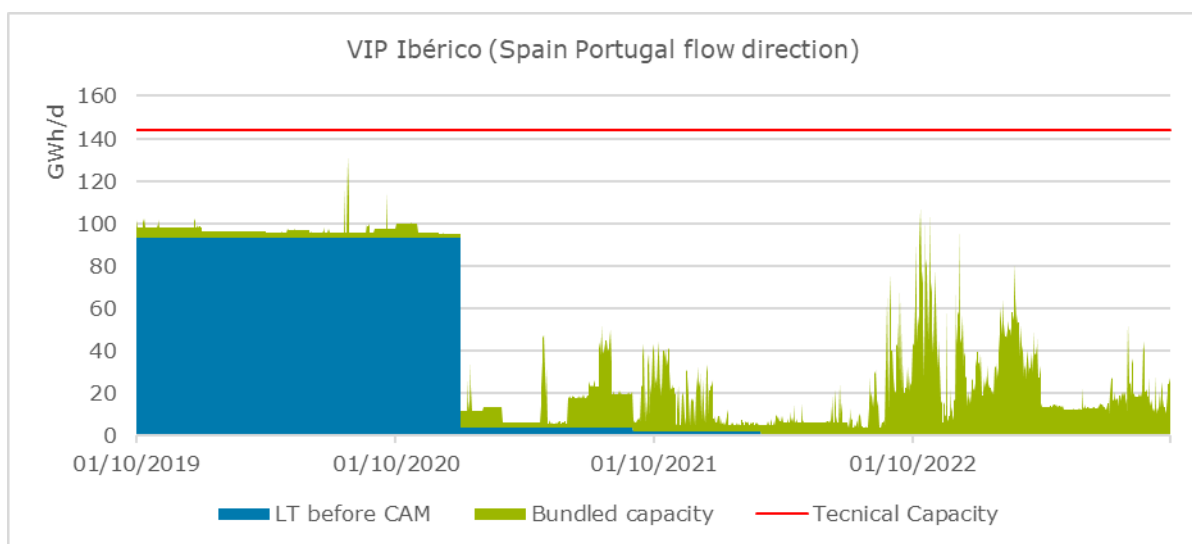


Figure 16: Capacity bookings at VIP Ibérico - Spain to Portugal (Spanish side)

2.1.2.2 Portugal to Spain flow direction

The following table shows the booked capacity (on average) per gas year of the period under study.

VIP Ibérico (PT - ES) GWh/d	Spanish side				Portuguese side			
	LT before CAM Capacity	Unbundled after CAM	Bundled Capacity	Booked capacity	LT before CAM Capacity	Unbundled after CAM	Bundled capacity	Booked Capacity
2019-2020	0	0	9.23	9.23	0	0	9.23	9.23
2020-2021	0	0	11.23	11.23	0	0	11.23	11.23
2021-2022	0	0	17.30	17.30	0	0	17.30	17.30
2022-2023	0	0	26.06	26.06	0	0	26.06	26.06

Table 14: Booked capacities on VIP Ibérico vs technical firm capacity –Portugal to Spain direction

No long-term contracts existed in either side of the border in the Portugal to Spain direction (see Table 10). Hence, only bundled capacity is presented in the figure 16.

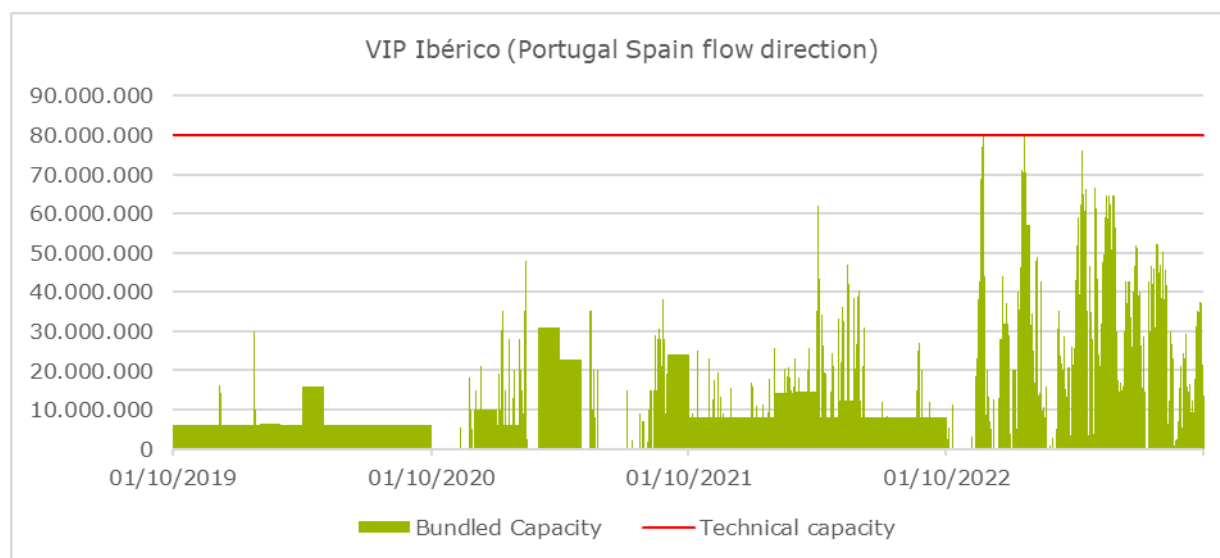


Figure 17: Capacity bookings at VIP Ibérico- Portugal to Spain direction(kWh/d)

An analysis of the Table 14 and Figure 17 shows that over the years, there was an upward trend in booked capacity for this direction. The trend might be a response to external factors such as the increased LNG supply into the Iberian Peninsula or geopolitical events like the military conflict in Europe, combined with the lower tariff's levels applied at Sines LNG terminal, and the reduced tariff term on the Portuguese side of the VIP Ibérico from Portugal to Spain.

2.2 Allocated firm capacity in different time horizons (auctions)

The purpose of this section is to distinguish the origin of the firm booked capacity shown in point 2.1 *Firm booked capacities (bundled/unbundled)*. As already explained, unbundled capacity comes, mostly, from LT contracts signed during the capacity allocation via Open Season procedures, while bundled capacity only comes from bundled auctions performed on PRISMA Platform.

Capacity on PRISMA is offered as standard products included in Article 9 of the CAM NC: Yearly standard capacity products, Quarterly standard capacity products, Monthly standard capacity products, Daily standard capacity products, and Within-day standard capacity products. Since November 2015, all these products are offered on the PRISMA by the TSOs.

Next figures show, for each VIP and direction, the origin of the firm booked capacity regarding the time horizon.

2.2.1 VIP Pirineos

2.2.1.1 France to Spain direction

In this direction, hereafter is a representation of all kinds of products, i.e. LT contracts, Yearly, Quarterly, Monthly, Daily and Within-Day products.

French side

The following is the graph of the VIP Pirineos from France to Spain:

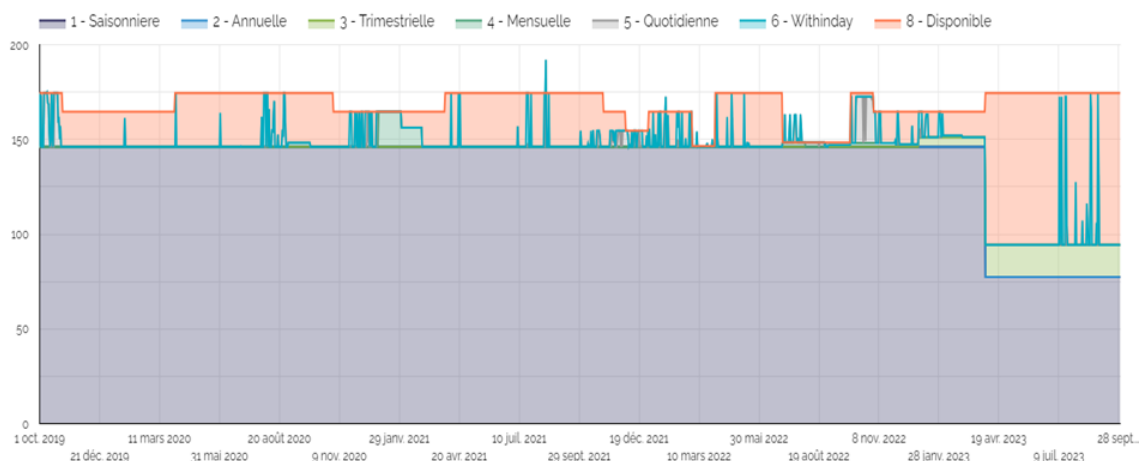


Figure 18: Status of booked capacity by product at VIP Pirineos, France to Spain (French side)

LT bookings decreased significantly from 86% (146.5 GWh/d) of the technical firm capacity to 45% (77.5 GWh/d) on April 1st, 2023. Four shippers held LT bookings that ended on that day, but only one booked some bundled capacity (7 GWh/d) - either quarterly or yearly products - to mitigate the end of its contract (15 GWh/d).

Only three other shippers booked this bundled capacity for more than a day: 2 booked Monthly products and one booked Quarterly products.

All the other shippers (approximately 15) booked Daily or Within-Day products.

Bookings (GWh/d)	Open Season	Yearly	Quarterly	Monthly	DA	WD	Available
GY 19-20	146.5	0	0	0.2	1.9	0.5	21.7
GY 20-21	146.5	0	0	2.3	0.4	1.6	20.0
GY 21-22	146.5	0	0	0.3	1.4	1.4	21.3
GY 22-23	111.9	0	9.8	0.5	2.2	2.3	44.1
Average	137.9	0	2.4	0.8	1.5	1.4	26.8

Table 15: Booked capacities by time horizon from France to Spain (French side)

Spanish side

The following is the graph of the VIP Pirineos connection in the direction France to Spain (capacity bookings by type of product):

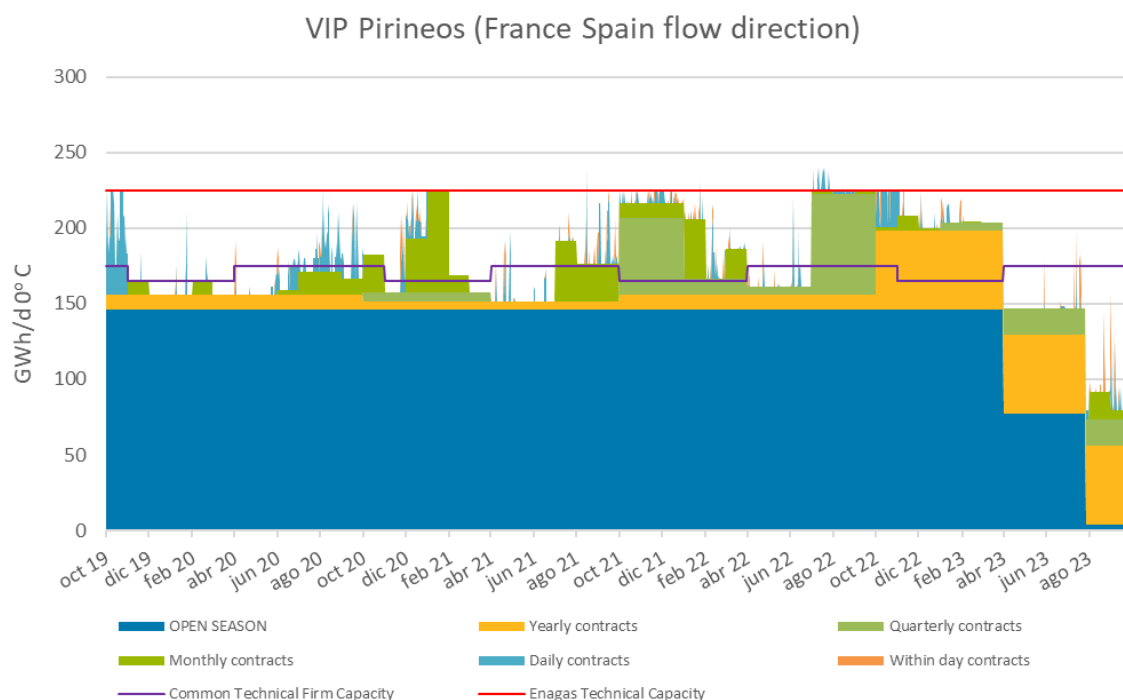


Figure 19: Status of booked capacity by product at VIP Pirineos, France to Spain (Spanish side)

LT contracts prior to the implementation of the CAM NC significantly decreased their share from the previous period (87%), representing 74.84% of the total booked capacity in this direction. This percentage further declined in the last gas year analysed to 2.42% (4GWh/d) until 2027-2028.

There was an increased participation in the yearly capacity auctions during the last gas year analysed: 31.07% of the total booked capacity was contracted through yearly auctions. For the quarterly auctions, the highest peak of bookings occurred in the gas year 2022-2023, in which the total quarterly capacity booked amounted 16.49% of the total booked capacity.

In terms of daily products, there was a notable decrease in bookings, with an average of 2.43% of total capacity booked, compared to the previous analysed period.

During the gas year 2022-2023 there was a greater participation in within-day auctions. 0.95% of total booked capacity was through within-day products, compared to the full analysed period, which on average was 0.63%.

The next table shows the daily average booking of capacity by type of product on the Spanish side.

	Booked capacity by time horizon GWh/d						
	LT contracts	Yearly product	Quarterly product	Monthly product	Daily product	Within-day product	Available
2019-20	146.27	9.81	0	5.25	8.38	0.51	54.79
2020-21	146.27	5.01	3.13	19.23	3.15	1.51	46.7
2021-22	146.27	10.03	33.09	7.85	2.54	0.86	24.37
2022-23	98.43	52.26	9.77	3.19	2.99	1.59	56.76
Average	134.31	19.28	11.50	8.88	4.26	1.12	45.66

Table 16: Booked capacities by time horizon from France to Spain (Spanish side)

2.2.1.1 Spain to France direction

French side

Following is the graph of the VIP Pirineos connection from Spain to France (capacity bookings by type of product):

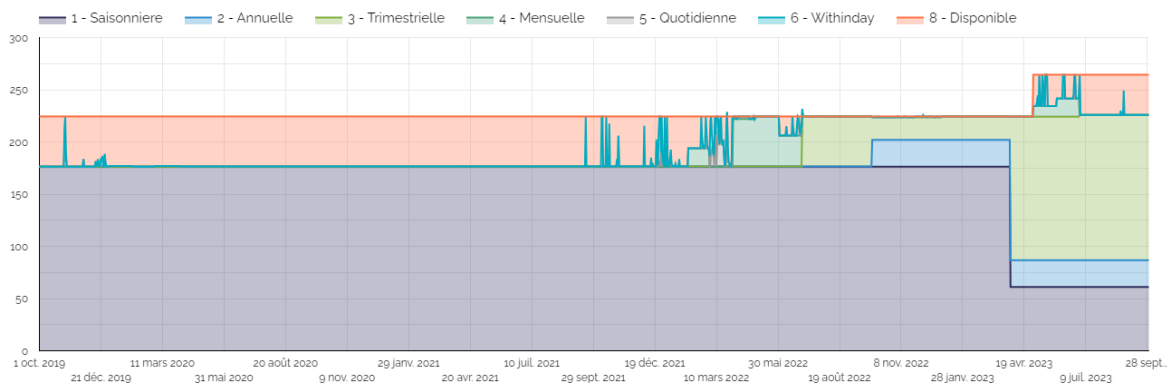


Figure 20: Status of booked capacity by product at VIP Pirineos, Spain to France (French side)

Bookings (GWh/d)	Open Season	Yearly	Quarterly	Monthly	DA	WD	Available
GY 19-20	176.8	0	0.1	0.1	0.3	0.2	47.5
GY 20-21	176.8	0.3	0	0.0	0	0.1	47.8
GY 21-22	176.8	0.3	12.1	11.6	2.0	2.7	19.6
GY 22-23	118.9	25.7	80.5	2.3	0.8	0.3	13.1
Average	162.3	6.6	23.2	3.5	0.8	0.8	32.0

Table 17: Booked capacities by time horizon from Spain to France (French side)

As for the Spain to France capacity, several long-term contracts came to an end on 1st April 2023. In parallel, the beginning of the war in Ukraine triggered very significant interest from shippers for capacity from Spain to France, resulting in the booking of all firm bundled capacity offered from March 2022 to September 2023. Before the beginning of the war in Ukraine, very little CAM capacity has been booked. The demand for this capacity appears to be conditioned to the lack of Russian gas in Northeastern Europe, all the way to Germany. Should Russian gas not return to the Northeastern part of Europe, such demand or part of it for capacity from Spain to France could be considered structural.

Spanish side

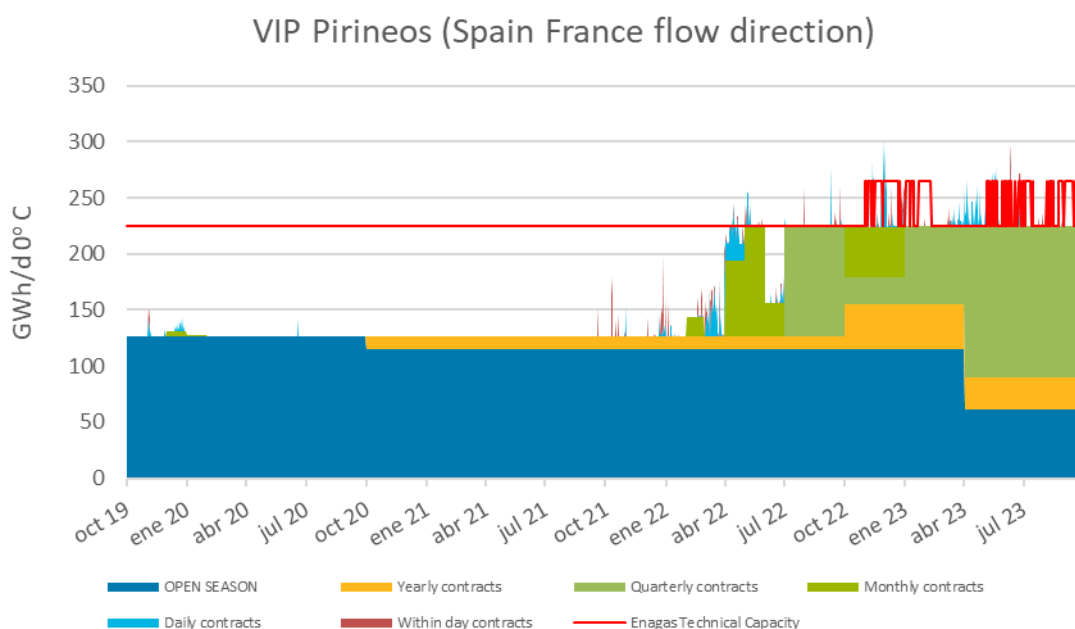


Figure 21: Status of booked capacity by product at VIP Pirineos, Spain to France (Spanish side)

Similar to the France to Spain direction, from the gas year 2022-2023 onwards, long-term contracts came to an end. This resulted in a decrease in the average booking rate of 95.13% in the first two gas years analysed, to an average of 66.11% in the third gas year, and further down to 38.79% in the last gas year. This has freed up capacity for shorter-term capacity products

Moreover, as a result, the last gas year analysed witnessed an increased in bookings for yearly products (15.01% of the total booked capacity) and quarterly products (38.85% of the total booked capacity) compared to the first three gas years.

	Booked capacity by time horizon GWh/d						
	LT contracts	Yearly product	Quarterly product	Monthly product	Daily product	Within-day product	Available
2019-20	126.43	-	0.10	0.54	0.35	0.07	97.51
2020-21	115.48	11.21	0.00	-	0.00	0.07	98.23
2021-22	115.48	11.21	24.78	17.63	3.81	1.78	50.31
2022-23	88.32	34.17	90.74	11.50	2.37	0.60	-
Average	111.43	14.15	28.90	7.42	1.63	0.63	60.84

Table 18: Booked capacities by time horizon from Spain to France (Spanish side)

2.2.2 VIP Ibérico

As in the case of VIP Pirineos, hereafter is a representation of all kinds of products, i.e. LT contracts, Yearly, Quarterly, Monthly, Daily and Within-Day products per side and direction.

2.2.2.1 Spain to Portugal direction

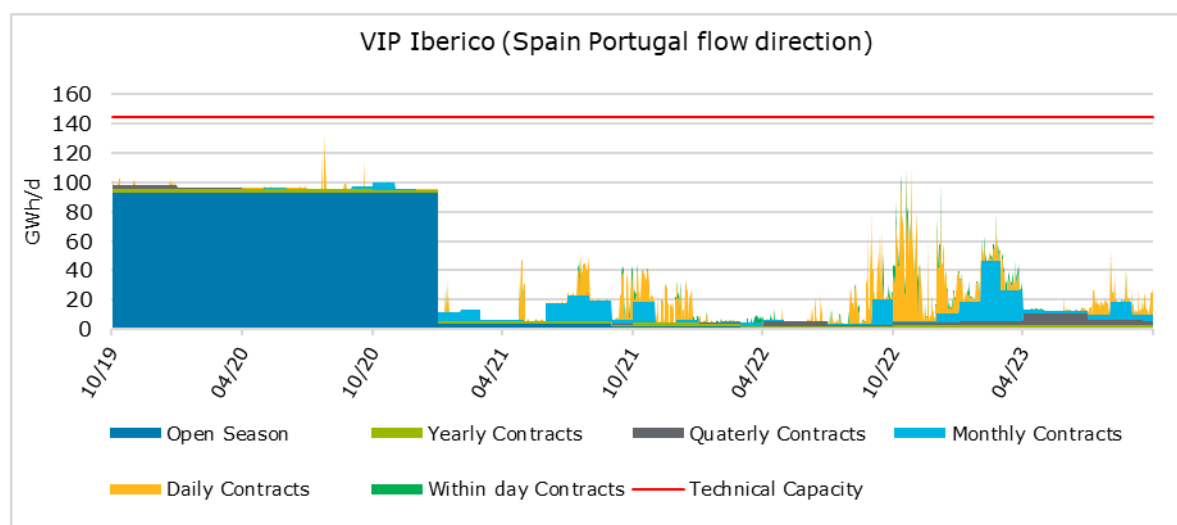


Figure 22: Status of booked capacity by product at VIP Ibérico, Spain to Portugal

The status of booked capacity at VIP Ibérico during the analysed period is characterized by the expiration of long-term contracts. Long-term bookings decreased from 93 GWh/d (65% of the technical capacity) to 4 GWh/d as of January 1, 2021, and further to 2 GWh/d as of September 1, 2021. Finally, as of March 1, 2022, there were no longer any contracts booked prior to the implementation of CAM NC.

VIP Pirineos was mainly booked through yearly, quarterly and monthly products, while shippers utilized daily and within-day products based on their commercial needs.

	% Booked capacity by time horizon versus total booked capacity						GWh/d
	LT contracts	Yearly product	Quarterly product	Monthly product	Daily product	Within-day product	Available
2019-20	64.58%	1.84%	0.47%	0.32%	0%	0%	46.98
2020-21	18.24%	0.94%	0.06%	3.98%	3.28%	1.98%	107.62
2021-22	1.38%	1.54%	0.74%	2.32%	5.22%	1.12%	130.58
2022-23	0%	2.29%	2.35%	6.18%	9.71%	1.87%	115.78
Average	21.05%	1.65%	0.90%	3.20%	4.56%	1.07%	100.24

Table 19: % of booked capacity by time horizon from Spain to Portugal (Spanish side)

As expected, after the end of the long-term contracts there was a significant drop in unbundled contracts.

So, since March 2022, there were no more long-term contracts, while there was an increase in the bookings of bundled products. Additionally, since that period, it can be observed that the booking of bundled contracts increased in the daily horizon.

2.2.2.2 Portugal to Spain direction

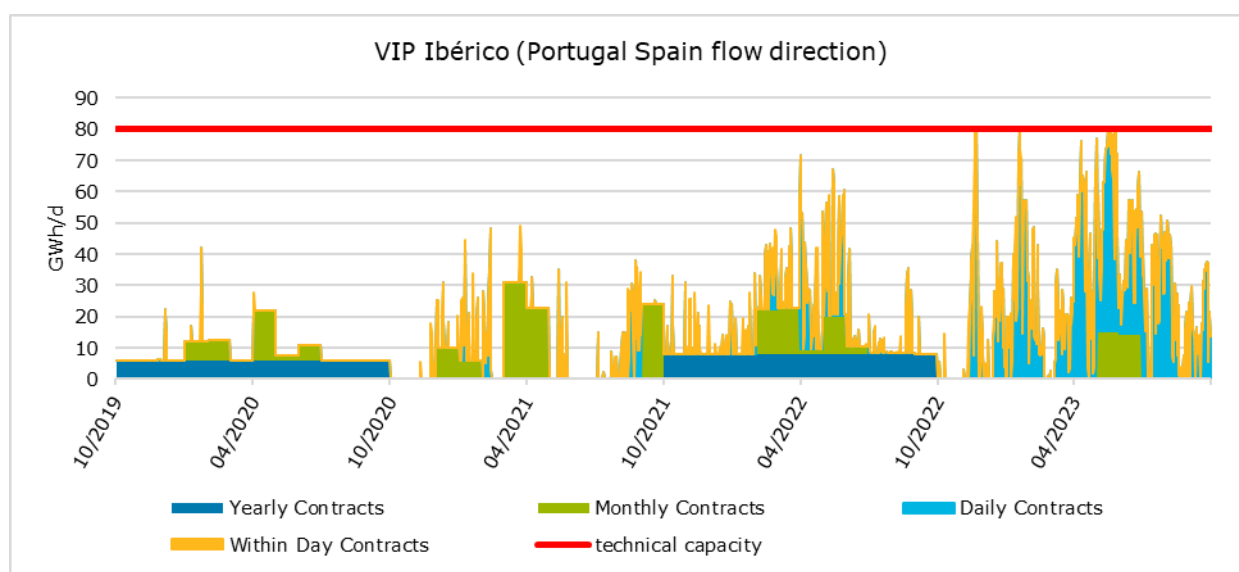


Figure 23: Status of booked capacity by product at VIP Ibérico, Portugal to Spain

	% Booked capacity by time horizon versus total booked capacity						GWh/d
	LT contracts	Yearly product	Quarterly product	Monthly product	Daily product	Within-day product	Available
2019-20	0%	7.52%	0%	8.74%	9.76%	7.15%	70.80
2020-21	0%	0%	0%	23.38%	19.89%	13.68%	59.95
2021-22	0%	10%	0%	8.18%	17.85%	4.52%	62.65
2022-23	0%	0%	0%	7.68%	36.71%	8.04%	53.87
Average	0%	4.38%	0%	11.99%	21.05%	8.35%	61.82

Table 20: % of booked capacity by time horizon from Portugal to Spain (Spanish side)

In this direction, there were no long-term contracts during this period. For the year 2019-2020, yearly and monthly products were highly booked. COVID changed this pattern, so in the following years, due to low consumption and uncertainty, monthly and daily products were the most booked.

As already commented, in VIP Ibérico no long-term contracts were in force for this direction. For that reason, offered capacity never changed during the period of study, and it was always offered as bundled capacity. Typically, capacity booking mostly occurred for the monthly and daily horizon products, as already explained.

2.3 Interruptible capacity

The purpose of this section is to analyse the interruptible booked capacity.

2.3.1 VIP Pirineos

There are two types of interruptible capacity offered at VIP Pirineos: due to physical restrictions of the network and due to contractual congestion.

2.3.1.1 France to Spain direction

French side

Interruptible capacity is only offered when at least 98% of the firm capacity has already been booked. From France to Spain, Teréga can offer 60 GWh/d of interruptible capacity that can be matched with firm capacity on Enagás side.

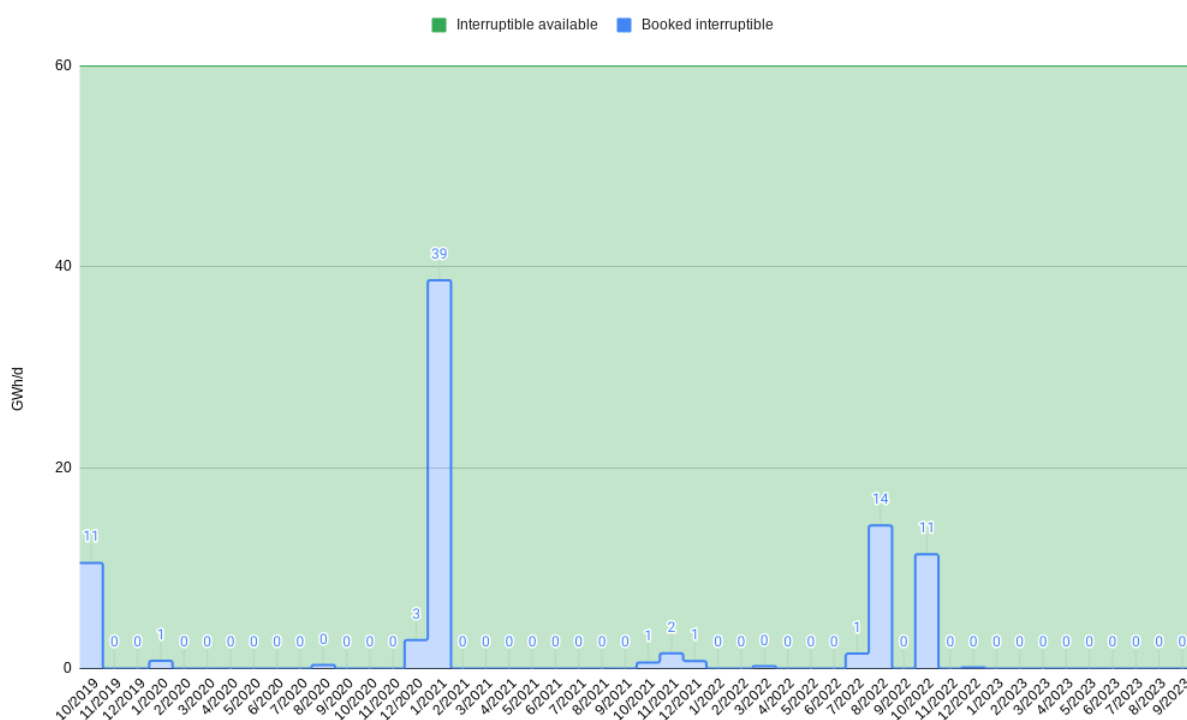


Figure 24: Interruptible booked capacity at VIP Pirineos, France to Spain (French side)

When the interruptible capacity booked exceeds 60 GWh/d, it means that Use-it-and-Buy-it (UBI)⁸ has been allocated on top of all the interruptible available.

GY	Average Annual bookings (%)	Max capacity booked over 1 day (GWh/d)	Days
2019/2020	0.9	47.3	15
2020/2021	0.3	60.0	27
2021/2022	3.5	68.0	34
2022/2023	2.3	49.8	19

Table 21: Details of interruptible capacity bookings at VIP Pirineos, from France to Spain (French side)

⁸

https://assets.ctfassets.net/ztehsn2qe34u/MuKgc0W5cjj9RR2Drt05O/3f7a214a7eb9217262e510c9bc9273b4/UBI_22_EN_2_.pdf

Spanish side

For this period, following the Commission Regulation (EU) 2017/459 of 16 March 2017, contractual interruptible capacity was offered on the Spanish side.

During the winter of 2021, when the Filomena weather phenomenon occurred, the availability of interruptible capacity was unlimited, resulting in a disproportionate amount of interruptible capacity bookings. Following the modification of interruptible tariffs from ex-ante discounts to ex-post compensation, it was decided to limit the offer of interruptible capacity for both, the daily and within-day horizons. The amount of capacity to be offered as contractual interruptible capacity is calculated based on the nominations submitted by network users.

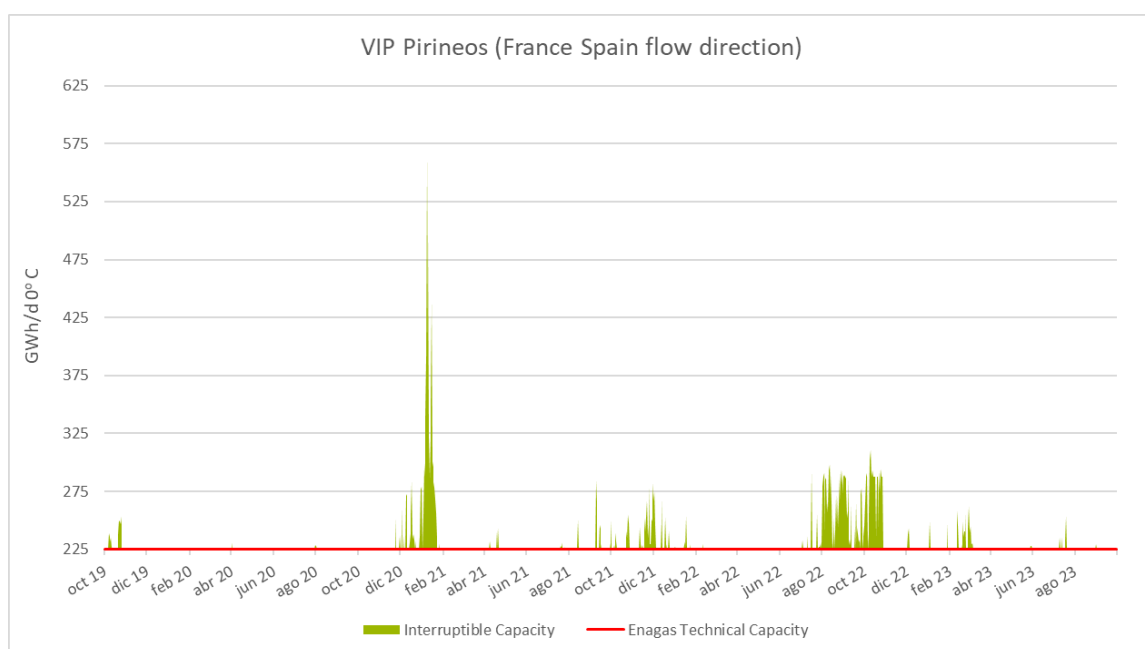


Figure 25: Interruptible booked capacity at VIP Pirineos, France to Spain (Spanish side)

The following table shows the number of days when interruptible capacity was booked per year.

VIP PIRINEOS (FR-ES) GWh/d	Spanish side		
	Days with Interruptible Capacity bookings	Maximum Interruptible capacity booked	Maximum vs technical capacity (%)
2019 - 20	14	28.88	13%
2020 - 21	54	334.06	148%
2021 - 22	106	73.17	33%
2022 - 23	56	85.59	38%

Table 22: Details of interruptible capacity bookings at VIP Pirineos, from France to Spain (Spanish side)

As observed, there were interruptible capacity bookings for each gas year within the studied period, with the gas year 2020-2021 exhibiting the highest level of such bookings.

In January 2021, interest in booking interruptible capacity surge due to the Filomena storm, which caused a significant drop in temperatures in Spain. This led to higher gas price spreads with France, increasing the appetite for interruptible capacity from France to Spain. The peak in interruptible capacity booking was registered on January 8th, 2021, reaching 334 GWh/d (148% of firm technical capacity), with 122 GWh/d booked in the Daily horizon and 212 in the Within-Day horizon.

2.3.1.2 Spain to France direction

French side

As mentioned, interruptible capacity (not analysed in the previous chapter) is only offered when at least 98% of the firm capacity has already been booked.

In November 2022, Teréga started offering 40 GWh/d of interruptible capacity from Spain to France. For this report, note that this additional 40 GWh/d of interruptible capacity was available only between November 1, 2022, and April 30, 2023. During this period, 23 GWh/d were booked on average.

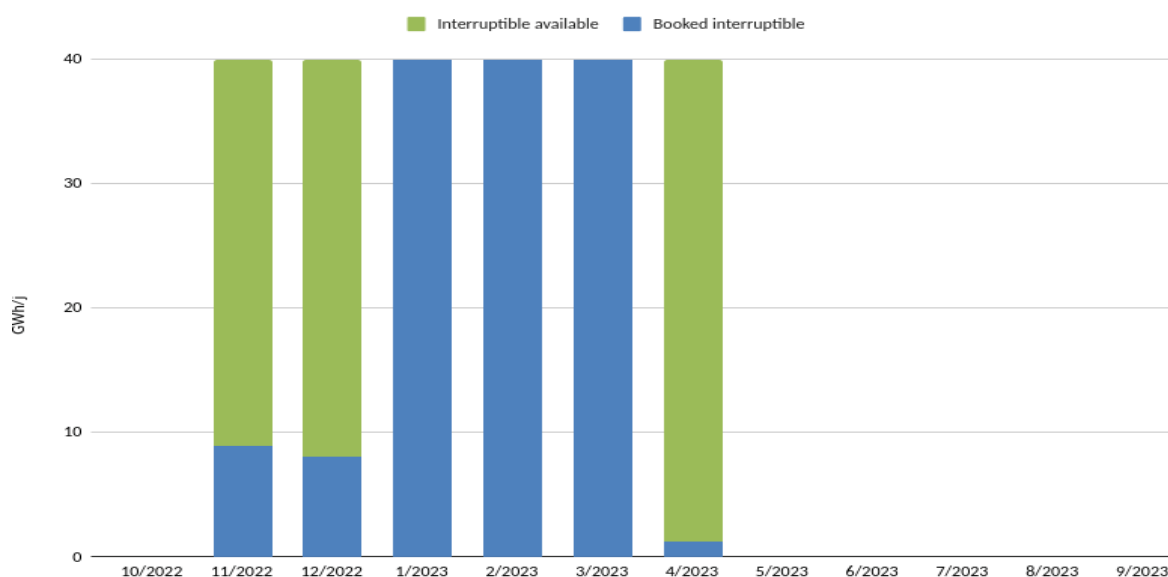


Figure 26: Interruptible capacity booked at VIP Pirineos, Spain to France (French side)

Spanish side

The interruptible capacity offer (not analysed in the previous chapter) follows the same methodology as the one described for the North to South direction on the Spanish side previously.

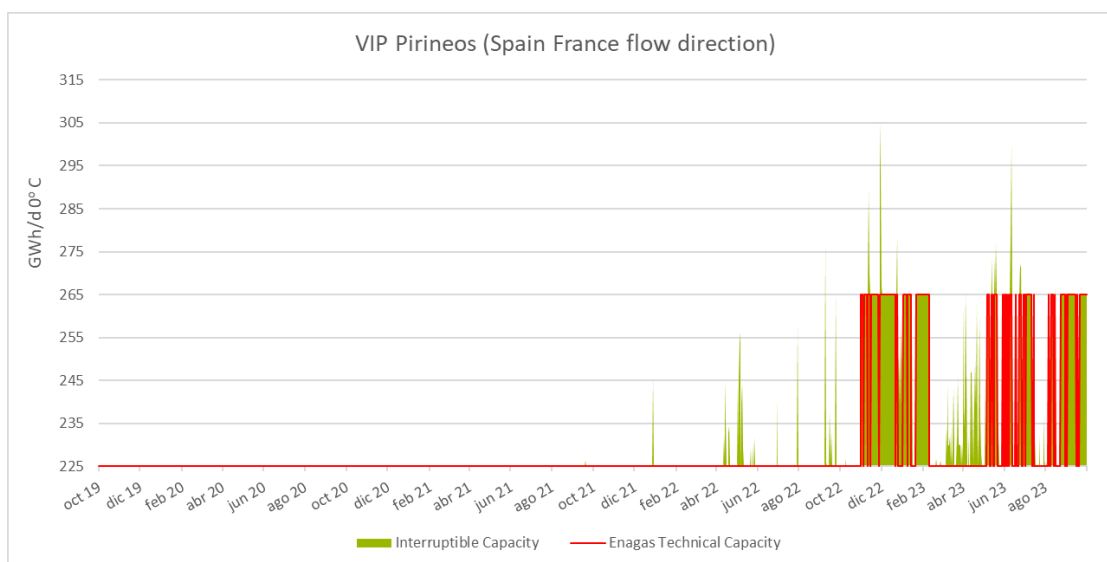


Figure 27: Interruptible capacity booked at VIP Pirineos, Spain to France (Spanish side)

The following table shows the number of days per year in which interruptible capacity was booked.

VIP PIRINEOS (ES-FR) GWh/d	Spanish side		
	Days with Interruptible Capacity bookings	Maximum Interruptible capacity booked	Maximum vs Technical capacity
2019 - 20	0	0.00	0%
2020 - 21	1	1.33	1%
2021 - 22	31	50.53	22%
2022 - 23	88	40.24	18%

Table 23: Details of interruptible capacity bookings at VIP Pirineos, Spain to France (Spanish side)

No interruptible capacity bookings were registered during the gas year 2019-2020. In the subsequent years, interest in this type of capacity increased. The maximum number of booked days in 2022 was 88, driven by to the conflict in Ukraine and, the European need for gas supplies to substitute Russian gas. In the gas year 2021-2022, the maximum booked capacity reached 50.53 GWh/d, representing 22% of firm technical capacity.

2.3.2 VIP Ibérico

Since 31st March 2023, REN and Enagás offer interruptible capacity as bundled capacity. This project was addressed in the context of the SGRI meetings, and a public consultation was held in June 2022. All the details can be found [here](https://acer.europa.eu/sites/default/files/documents/en/Gas/Regional_%20Initiatives/South_GRI/Public_Consultations/Documents/Interruptible%20Capacity%20VIP%20IBERICO%20June%202022.pdf)⁹.

No interruptible capacity was booked during the analysed period.

⁹

https://acer.europa.eu/sites/default/files/documents/en/Gas/Regional_%20Initiatives/South_GRI/Public_Consultations/Documents/Interruptible%20Capacity%20VIP%20IBERICO%20June%202022.pdf

2.4 Secondary capacity trade

Shippers operating in the European gas markets have the possibility to book capacity through the secondary market. This option provides greater flexibility for shippers who booked capacity via Open Season or through auctions of standard products on PRISMA, enabling them to release the contracted capacity and offer it to the market if they choose not to use it.

Booked capacity agreements or transfers of use can be trade through the PRISMA platform. Prices and conditions are pre-negotiated by the parties outside the platform. Once the agreement is reached, one of the shippers creates a trade proposal on PRISMA, either to sell or to buy, specifying its counterpart. The counterpart then has the option to accept or reject the proposal, with the price remaining unchanged.

2.4.1 VIP Pirineos

Teréga's Secondary Market

On Teréga's side, 32 secondary trades were concluded over the studied period, involving 7 different shippers:

- 1 Transfer of use for bundled capacity from Spain to France
- 10 Transfers of ownership for unbundled capacity from France to Spain
- 21 Transfers of ownership for unbundled capacity from Spain to France (including 6 transfers of ownership between two shippers - 1 in France and 1 in Spain - belonging to the same group)

Enagás' Secondary Market

During the analysed period, eight trades were posted on the PRISMA platform during the. All the eight trades were accepted, but only six were successfully concluded. Two were rejected due to, in accordance with information provided by PRISMA due to "Not enough capacity in contract/transaction in the selected period". All trades were conducted OTC (Over-The-Counter). Notably, 100% of the trades posted by Enagás involved unbundled capacity, with five of them in the South-North direction and three in the North-South direction, all taking place in 2022.

Overall, considering the total volume negotiated and the number of trades on the platform, the secondary market does not appear attractive to shippers. Given that most of the capacity offered is unbundled, the platform seems to function as a "last resource" option for obtaining capacity when required.

2.4.1 VIP Ibérico

Enagás' Secondary Market

On Enagás' side, 36 trades of bundled capacity were posted on PRISMA platform during the analysed period. Of these, 32 were accepted and concluded, one expired and three were rejected. All trades were conducted OTC. In addition, the majority of the operations were carried out in the Portugal to Spain direction during the gas year 2022-2023.

Considering the low number of trades and capacity, although higher than in the VIP Pirineos connection, it can be concluded that, since VIP Ibérico is allocated mostly on short term product, there is less room for secondary trade, because agents book capacity more adjusted to their specific needs.

REN's Secondary Market

During the studied period, there were 42 trades posted on PRISMA platform on the REN side, all of which were conducted OTC. Of these trades, 36 were successfully concluded, five were rejected, and one expired. There were two unbundled trades and 40 bundled trades. Most of the trades (32) were placed for the gas year 2022-2023, specifically for the month of September, and for the Spain to Portugal direction. There were no trades, for the gas year 2021-2022. Except for trades carried out in September of 2023, a small number of transactions took place throughout this period, because VIP Ibérico is mostly allocated on short term products, and, consequently, there is less room for secondary trade.

3 Assessment of the use of the interconnections for the period October 2019 – September 2023

The purpose of this section is to analyse the use of the booked capacity. For the abovementioned reason, all calculations and percentages represented on this part are calculated respect the total booked capacity of each side of the VIP.

3.1 Relationship between technical capacity, capacity bookings, use of the booked capacity and flows

3.1.1 VIP Pirineos

Following it is shown the graph of the VIP Pirineos connection with the utilization rate of booked capacities (nominations vs booked capacity) in both directions:

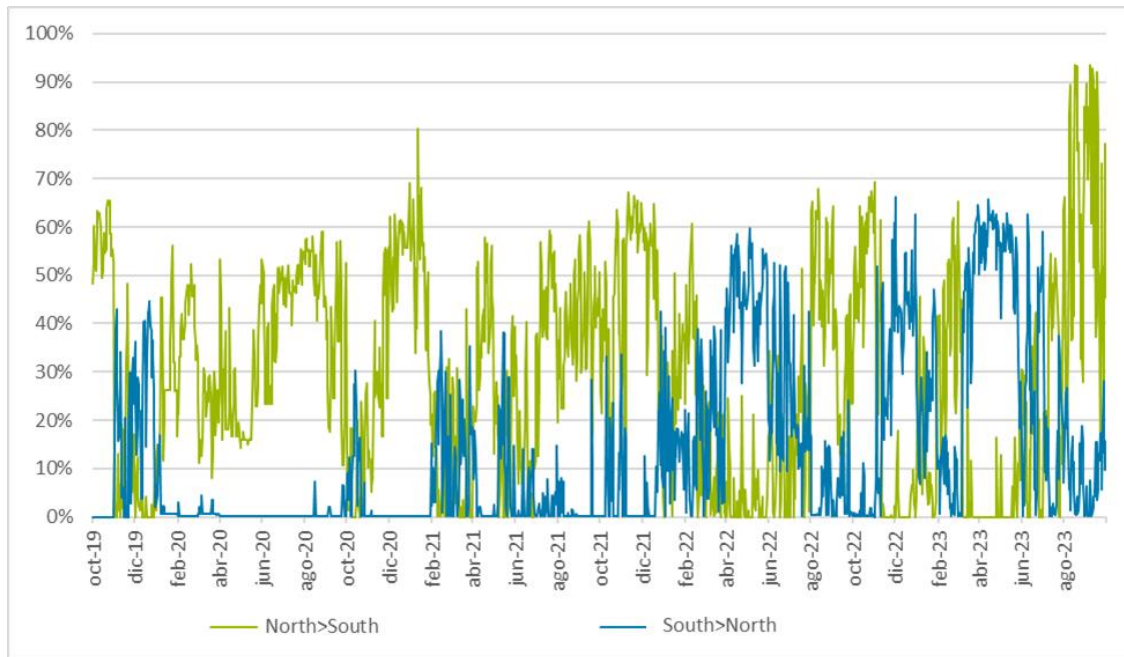


Figure 28: Used vs. booked capacity at VIP Pirineos (Spanish side)

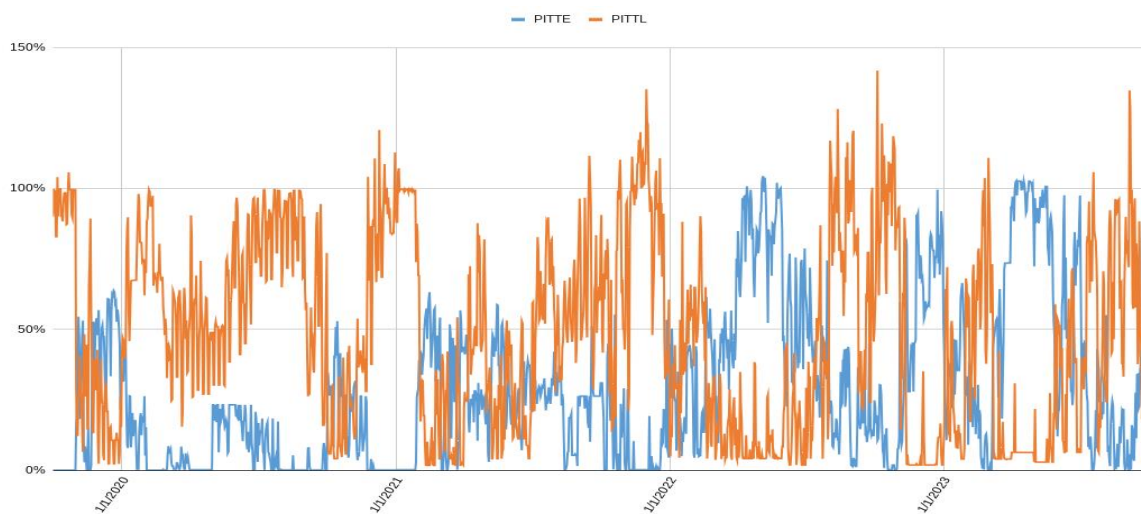


Figure 29: Used vs booked capacity at VIP Pirineos (French side)

3.1.1.1 North South flow direction

Hereafter you can find graphs on the technical capacity, capacity bookings, use of the booked capacity and physical inflow on both directions of the VIP.

Analysis on the utilization of booked capacity (French side)

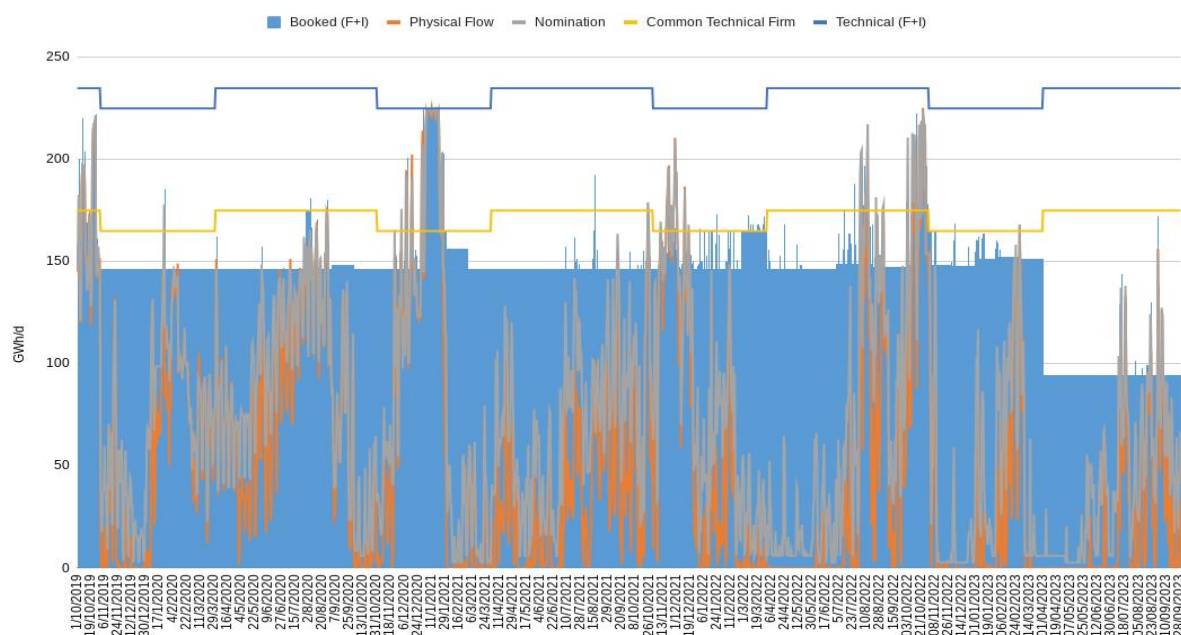


Figure 30: Booked capacity, nomination and physical flows at VIP Pirineos, France to Spain (French side)

Gas Year	Min	Avg	Max
2019/2020	2%	61%	106%
2020/2021	2%	46%	121%
2021/2022	2%	46%	135%
2022/2023	2%	39%	142%

Table 24: Utilization rates (nomination/booked capacity) at VIP Pirineos, France to Spain (French side)

Rates above 100% are due to allocation exceeding booked capacity thanks to usage of Use-it-or-Buy-It mechanism.

Analysis on the utilization of booked capacity (Spanish side)

Due to the geopolitical situation, COVID-19, energy price inflation and other factors, the VIP Pirineos connection has behaved in an active manner, with periods within the same gas year where utilization has varied from 0 to a high of 94%.

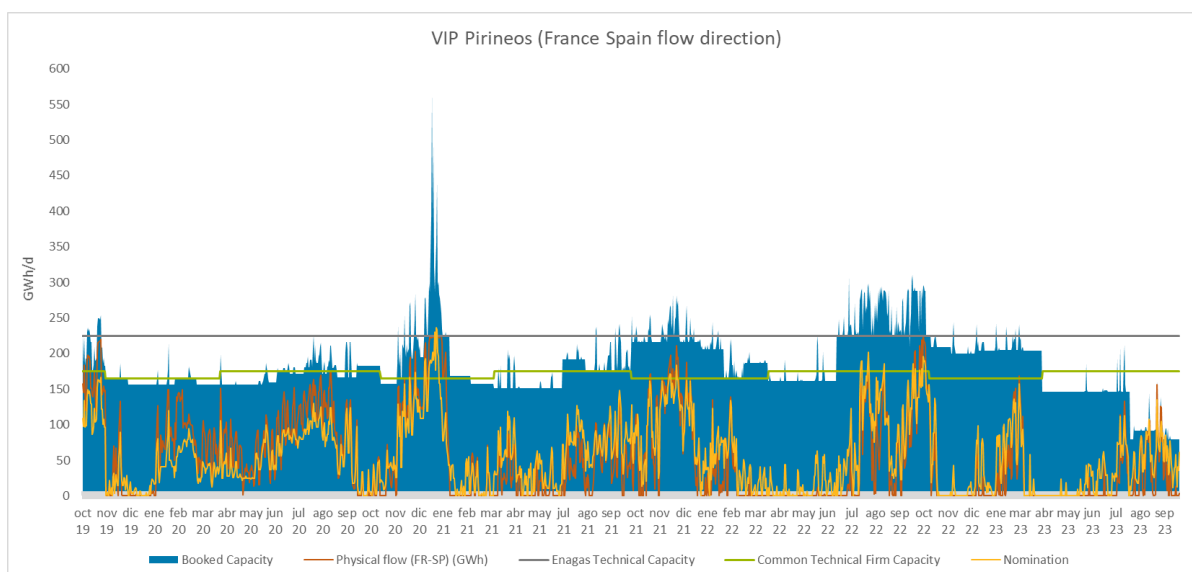


Figure 31: Booked capacity, nomination and physical flow at VIP Pirineos, France to Spain (Spanish side)

Period	Utilization rates at VIP Pirineos versus booked capacity		
	Minimum	Average	Maximum
Gas year 2019-2020	0%	32%	66%
Gas year 2020-2021	0%	30%	80%
Gas year 2021-2022	0%	26%	68%
Gas year 2022-2023	0%	26%	94%

Table 25: Utilization rates (nomination/booked capacity) at VIP Pirineos, France to Spain (Spanish side)

The graph illustrates high utilization during the winter periods of the analysed gas years. There was a huge interest in booking capacity from France to Spain in January 2021 due to the Filomena weather phenomenon; however, the nomination rate versus contracted capacity was 34%.

As observed, contracted capacity increased during the summer of 2021 compared to the same time of the previous year. In 2022, the capacity was contracted 100% on the Spanish

side starting from July, with a progressive and gradual decrease towards the end of the gas year 2022-2023.

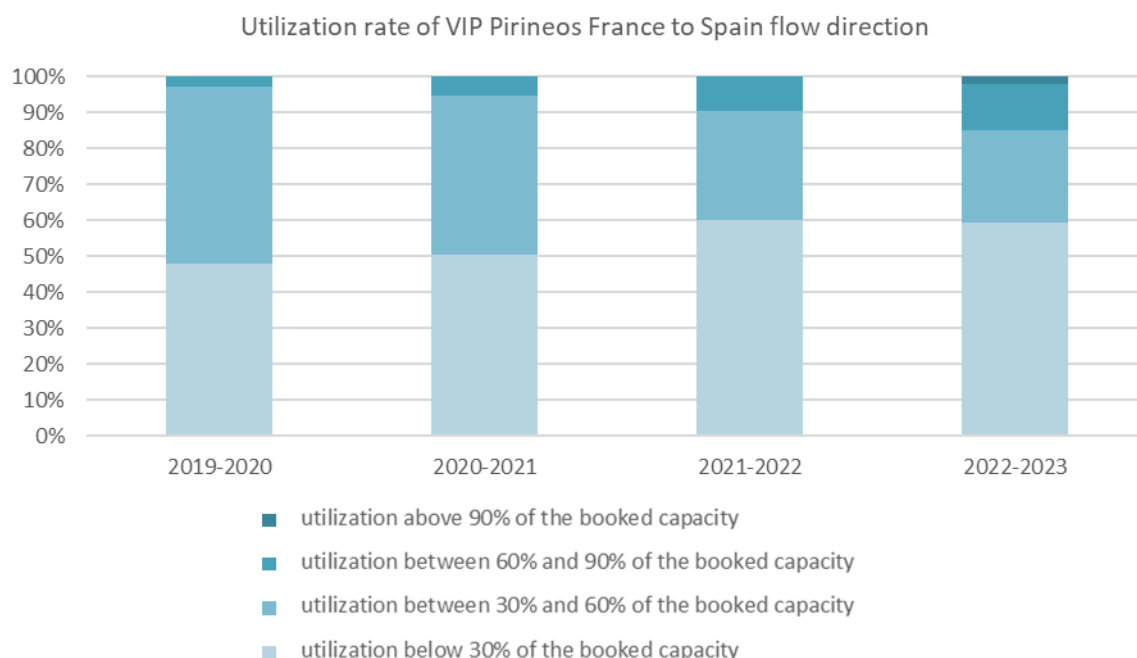


Figure 32: Utilization rates at VIP Pirineos, France to Spain (Spanish side)

3.1.1.2 South-North flow direction

VIP Pirineos was traditionally an entry point for the Spanish gas system, resulting in a scarce utilization rate in the South to North direction. However, during the analyzed period from 2019 to 2023, the flow direction of the VIP changed several times. Due to the geopolitical situation, the VIP Pirineos has gained significant relevance in the European energy landscape, reaching a contracting rate of 100% of the technical capacity. This indicates that, given the situation and the uncertainty of its evolution, the shippers have valued the exports from Spain to France as an alternative source to meet their needs.

Analysis of the utilization of the booked capacity in the French side

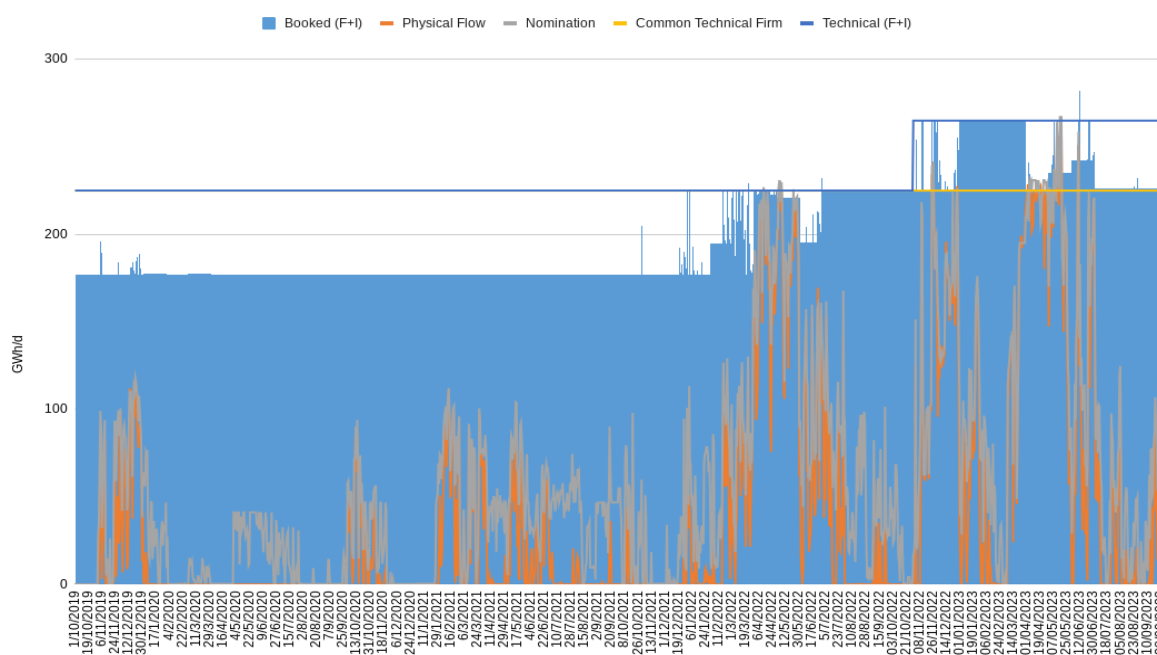


Figure 33: Booked capacity, nomination and physical flow at VIP Pirineos, Spain to France (French side)

GY	Min	Avg	Max
2019/2020	0%	12%	64%
2020/2021	0%	22%	63%
2021/2022	0%	36%	104%
2022/2023	0%	44%	103%

Table 26: Utilization rates (nomination/booked capacity) at VIP Pirineos, Spain to France (French side)

A rate above 100% is due to allocation exceeding booked capacity thanks to usage of Use-it-or-Buy-It mechanism.

Analysis on the utilization of the booked capacity in the Spanish side

During the analyzed period from 2019 to 2023, the direction of VIP Pirineos changed several times. The average utilization rate increased from 4% in year 2019 to 26% in 2022. However,

during the gas years 2021-2022 and 2022-2023, the utilization rates rose significantly, reaching levels above 60% and 66%, respectively.

Under specific market conditions, the capacity of the interconnection was highly booked and utilized. For example, the VIP Pirineos in South to North direction was booked at 55% of its capacity until December 2021, when the energy prices had a very important increment, fact that was added to the geopolitical tension between Russia and Ukraine. Because Europe was affected in terms of gas flows from Russia to the northern European countries, the booking capacity increased drastically to reach 100% and even OSBB and interruptible capacity was contracted.

Even though booked capacity (including interruptible) was higher than the technical capacity of the VIP Pirineos, user nominations did not surpass this technical threshold. Additionally, the increase of 40GWh/d in the capacity offered in the Spain to France direction from November 2022 allowed users to booked additional capacity in the daily offer, provided optimal conditions in the Spanish Gas System were met.

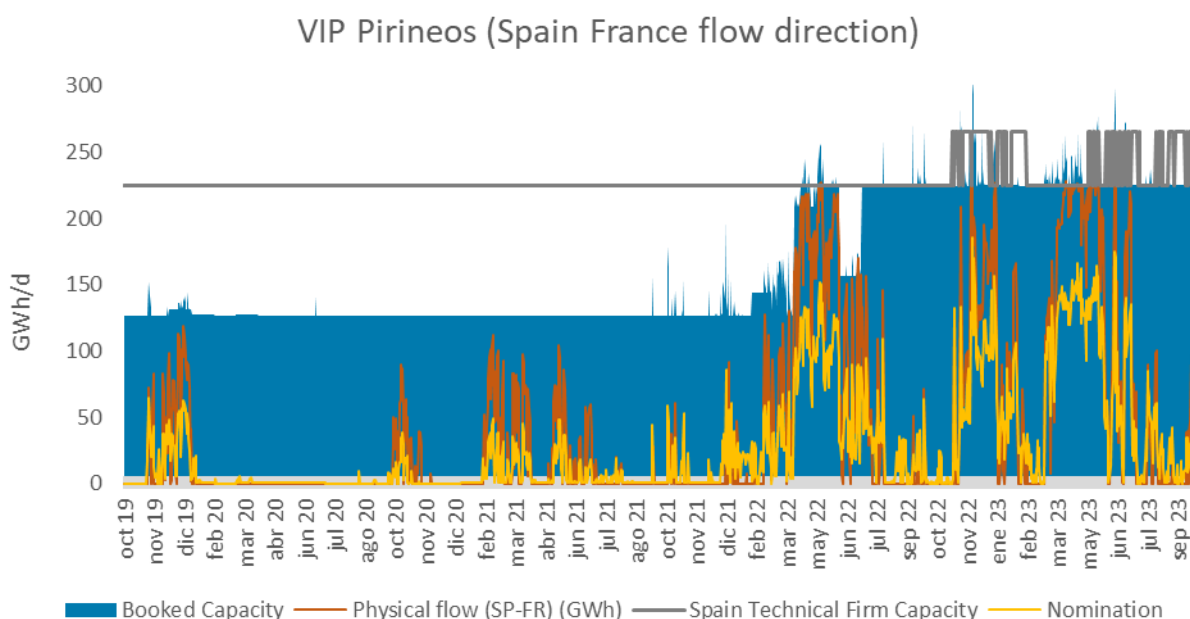


Figure 34: Booked capacity, nomination and physical flow at VIP Pirineos, Spain to France (Spanish side)

The graph indicates high utilization during the Spring periods of the 2021-2022 and 2022-2023 gas years. This is due to the European policies of filling storage facilities, together with the increase in energy prices and the global context of LNG markets.

Utilization rates at VIP Pirineos versus booked capacity			
Period	Minimum	Average	Maximum
Gas year 2019-2020	0%	4%	45%
Gas year 2020-2021	0%	5%	38%
Gas year 2021-2022	0%	18%	60%
Gas year 2022-2023	0%	26%	66%

Table 27: Utilization rates (nomination/booked capacity) at VIP Pirineos, Spain to France (Spanish side)

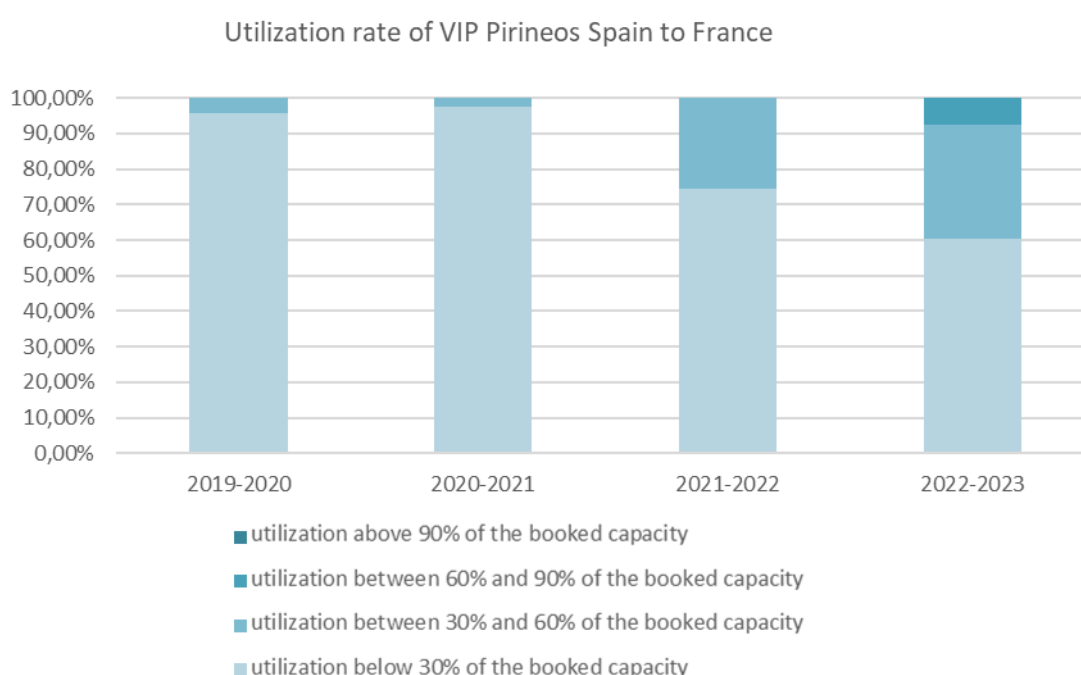


Figure 35: Utilization rates at VIP Pirineos, from Spain to France (Spanish side)

3.1.2 VIP Ibérico

3.1.2.1 Spain to Portugal direction

During the period analyzed in this report, the utilization of the booked capacity has gradually increased over the years. This is primarily due to a shift in booking patterns following the expiration of the long-term contracts and, the increased of bookings of shorter-term products whose usage present more certainty than the longer-term products. This shift in booking patterns reflects network users' preference for shorter-term contracts, which allow them more flexibility and to better align their capacity bookings with their actual usage needs, what has derived in a higher utilization rates of the booked capacity.

During the gas year 2019-2020, 80% of the booked capacity had a utilization rate below 30%. However, the utilization rate significantly increased during the subsequent gas years. In the gas years 2021-2022 and 2022-2023, the utilization rate exceeded 60% of the booked capacity more than 80% of time.

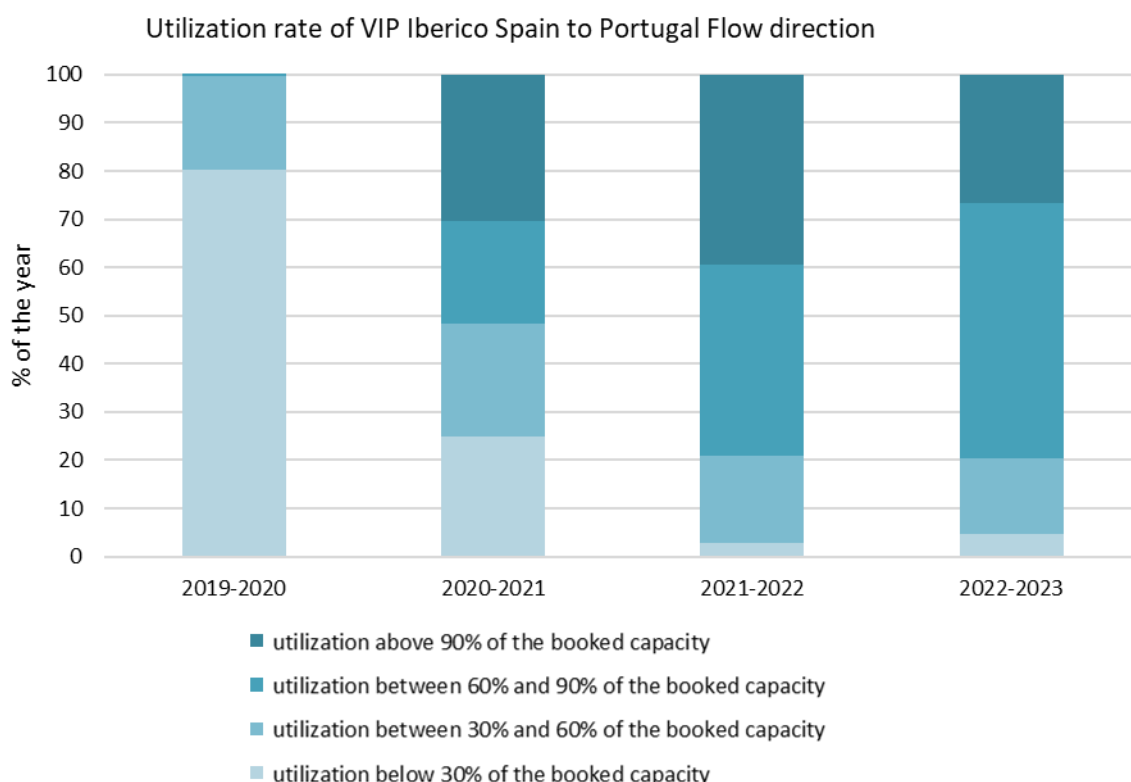


Figure 36: Utilization rates at VIP Ibérico, Spain to Portugal (Spanish side)

There has been a regular average use of the booked capacity over the years, reaching nearly 80% in the gas year 2020/2021 and values near or above this since the gas year 2021-2022.

Looking into more detail the use of booked capacities, there has been a steady growth in the range of 60% to 90%, reaching an overall use of 53% on gas year 2022-2023. On the other hand, the range of used capacity vs booked capacity above 90% has been varying from the maximum in gas year 2020-2021, reaching a total of 27% in gas year 2022-2023. Hence, in 2022-2023, during 80% of the time, used capacity was higher than 60% of booked capacity.

3.1.2.2 Portugal to Spain direction

A similar situation occurred in the Portugal to Spain direction, with a higher utilization of the booked capacity during the last two gas years of the period analyzed. This increase was driven by the contracting of short-term products and the impact of the war conflict, which resulted in higher gas flows to meet gas needs in Eastern Europe.

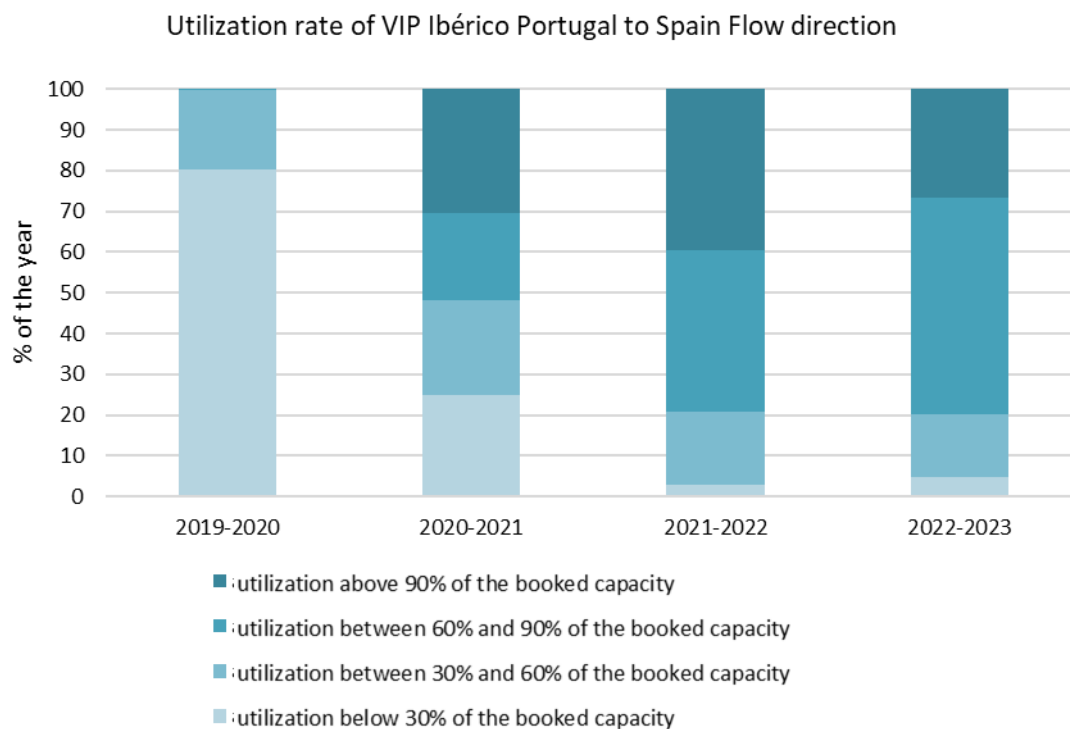


Figure 37: Utilization rates at VIP Ibérico, Spain to Portugal (Spanish side)

The utilization of the booked capacity over the years was not as regular as in the opposite direction. It reached its lowest level for the gas year 2019-2020 with a total use of 53% of the total booked capacity, and the highest level in the gas year 2022-2023 with a total use of 97% of the booked capacity.

Looking into more detail the use of booked capacities, there has been a fluctuation in the level of use above 90% of the booked capacity, reaching the highest level of 86% in the gas year 2022-2023. The range below 30%, which represented 32% in the year gas 2021-2022, shrank to 2% in gas year 2022-2023.

4 Assessment of the congestion status

4.1 Analysis of the VIP's congestion status

4.1.1 VIP Pirineos: France to Spain direction

According to ACER's Annual Report on Contractual Congestion, an IP is considered congested whether at least one of the criteria set out in paragraph 2.2.3(1) of the Commission Guidelines on Congestion Management Procedures (hereafter, "CMP GL") is fulfilled. That is, an IP is considered congested when demand exceeds the offer at the reserve price:

- (a) for at least three firm capacity products with a duration of one month or
- (b) for at least two firm capacity products with a duration of one quarter or
- (c) for at least one firm capacity product with a duration of one year or more or
- (d) where no firm capacity product with a duration of one month or more has been offered

In order to assess whether or not VIP Pirineos was congested, the results of the auctions that cleared with a premium price in the last gas years are listed below.

PRODUCT	DIRECTION	GAS YEAR	DURATION	START DATE	END DATE	PREMIUM	
						VALUE	UNIT
Bundled	FRANCE TO SPAIN	2019-2020	A	01/10/2019	30/09/2020	3,638235	c€/kWh/h/Runtime 25°C
Bundled	FRANCE TO SPAIN	2020-2021	A	01/10/2020	30/09/2021	3,464986	c€/kWh/h/Runtime 25°C
Bundled	FRANCE TO SPAIN	2021-2021	M	01/01/2021	31/01/2021	3,541985	c€/kWh/h/Runtime 25°C
Bundled	FRANCE TO SPAIN	2021-2021	M	01/02/2021	28/02/2021	12,180387	c€/kWh/h/Runtime 25°C

Table 28: Auctions that cleared with a premium price (duration equal than or greater than a month) at VIP Pirineos France to Spain direction

During the period under study (2019-2023), a breakdown by year has been made, including firm and interruptible capacity. For more details refer to the figure below:

- In the gas year 2019-2020, the average contracting over the technical capacity of 225GWh/d was 76%, reaching a maximum of 113%.
- In the gas year 2020-2021, the average contracting over the technical capacity of 225 GWh/d was 83%, reaching a maximum of 248% due to the Filomena weather phenomenon.
- In the gas year 2021-2022, the average contracting over the technical capacity of 225 GWh/d was 93%, reaching a maximum of 135%.

- In the gas year 2022-2023, the average contracting over the technical capacity of 225 GWh/d was 72%, reaching a maximum of 138%.

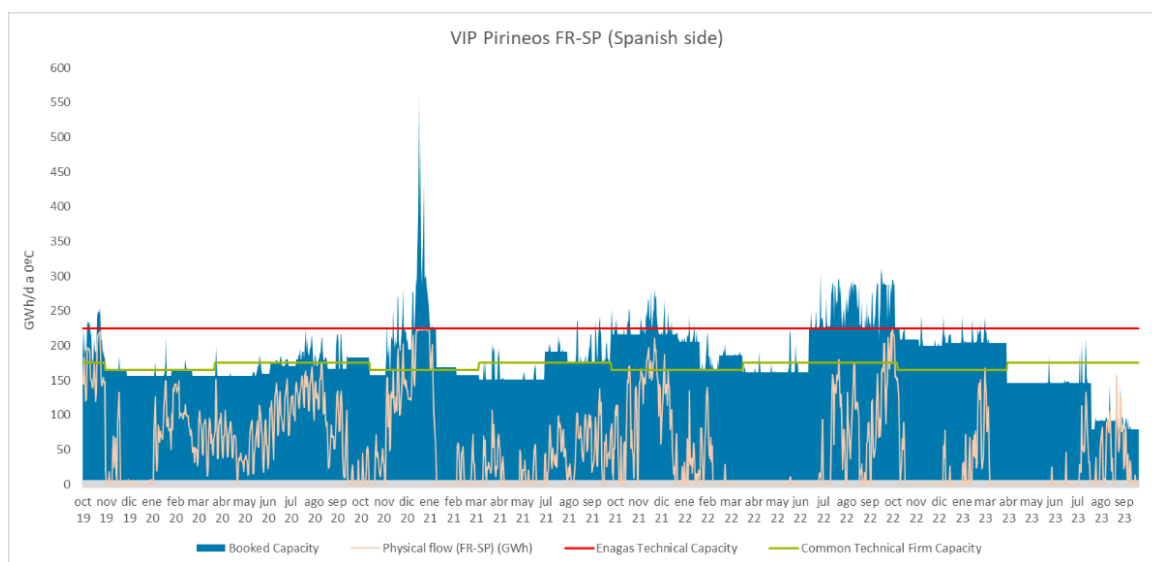


Figure 38: Booked capacity at VIP Pirineos (FR-ES)

Based on the data, it can be concluded that the VIP Pirineos in France to Spain direction was congested in the gas years 2019-2020 and 2020-2021, in accordance with ACER's definition of congestion.

In the 2019-2020 gas year, two annual firm capacity auctions were concluded at a premium over the reserved price, thereby meeting criterion c) for that year. It is important to note that, at the time, 88.8% out of the 90% firm capacity offered during the yearly auctions were already booked under long-term contracts. Consequently, it must be noted that only 2 GWh/d were offered from France to Spain in that yearly products auctions.

On top of that, on the French side, the French NRA introduced “a congested tariff” at IPs. This tariff was implemented when annual firm capacity auctions concluded with a premium over the reserved price, indicating high demand and potential congestion at those points. Then, the reserve price for the subsequent auctions for Quarterly, Monthly, Daily and Within-Day products was discounted over non-congested regulated tariff.

The first two years after the introduction of this “congested tariff”, two shippers placed bids in the first round of the yearly product auctions on the VIP, exceeding the capacity offered and generating a premium. In the second round, the shippers reduced their bids to 1 kWh/h resulting in an overall allocation of 2 kWh/d for a year, with an auction premium. This led to the application of the “congested tariff” at the French side of the VIP Pirineos in the subsequent shorter horizon products auctions.

The “congested tariff” is no longer in place.

4.1.2 VIP Pirineos: Spain to France direction

In order to assess whether or not VIP Pirineos is congested, the results of the auctions that cleared with a premium price in the last gas years are listed below.

PRODUCT	DIRECTION	GAS YEAR	DURATION	START DATE	END DATE	PREMIUM	
						VALUE	UNIT
Bundled	SPAIN TO FRANCE	2022-2023	Y	01/10/2022	30/09/2023	251,442455	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2022-2022	M	01/04/2022	30/04/2022	1,967843	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2022-2022	M	01/05/2022	31/05/2022	31,241776	c€/kWh/h/Runtime 25°C
Unbundled	SPAIN TO FRANCE	2022-2022	M	01/05/2022	31/05/2022	19,915427	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2022-2022	M	01/06/2022	30/06/2022	180,236605	c€/kWh/h/Runtime 25°C
Unbundled	SPAIN TO FRANCE	2022-2022	M	01/10/2022	31/10/2022	16,888159	c€/kWh/h/Runtime 25°C
Unbundled	SPAIN TO FRANCE	2022-2022	M	01/11/2022	30/11/2022	98,053159	c€/kWh/h/Runtime 25°C
Unbundled	SPAIN TO FRANCE	2022-2022	M	01/12/2022	31/12/2022	125,455130	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2023-2023	M	01/05/2023	31/05/2023	109,745956	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2023-2023	M	01/06/2023	30/06/2023	150,364949	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2022-2022	Q	01/07/2022	30/09/2022	75,167720	c€/kWh/h/Runtime 25°C
Unbundled	SPAIN TO FRANCE	2022-2022	Q	01/07/2022	30/09/2022	6,615749	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2022-2022	Q	01/10/2022	31/12/2022	89,674091	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2023-2023	Q	01/01/2023	31/03/2023	139,445498	c€/kWh/h/Runtime 25°C
Unbundled	SPAIN TO FRANCE	2023-2023	Q	01/01/2023	31/03/2023	88,358913	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2023-2023	Q	01/04/2023	30/06/2023	2,089,123569	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2023-2023	Q	01/07/2023	30/09/2023	2,103,729406	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2023-2023	Q	01/07/2023	30/09/2023	319,300269	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2023-2023	Q	01/04/2023	30/06/2023	186,212651	c€/kWh/h/Runtime 25°C
Bundled	SPAIN TO FRANCE	2023-2023	Q	01/07/2023	30/09/2023	139,449901	c€/kWh/h/Runtime 25°C

Table 29: Auctions that cleared with a premium price at VIP Pirineos Spain to France direction

In the period under study (2019 - 2023), a breakdown by year has been made including firm and interruptible capacity, please for more details see the graph below:

- From 2019 until December 2021, the average booking over the technical capacity of 225 GWh/d was 76%.
- For the year 2022, the average contracting over the technical capacity of 225 GWh/d was 93%, reaching a maximum of 133%.

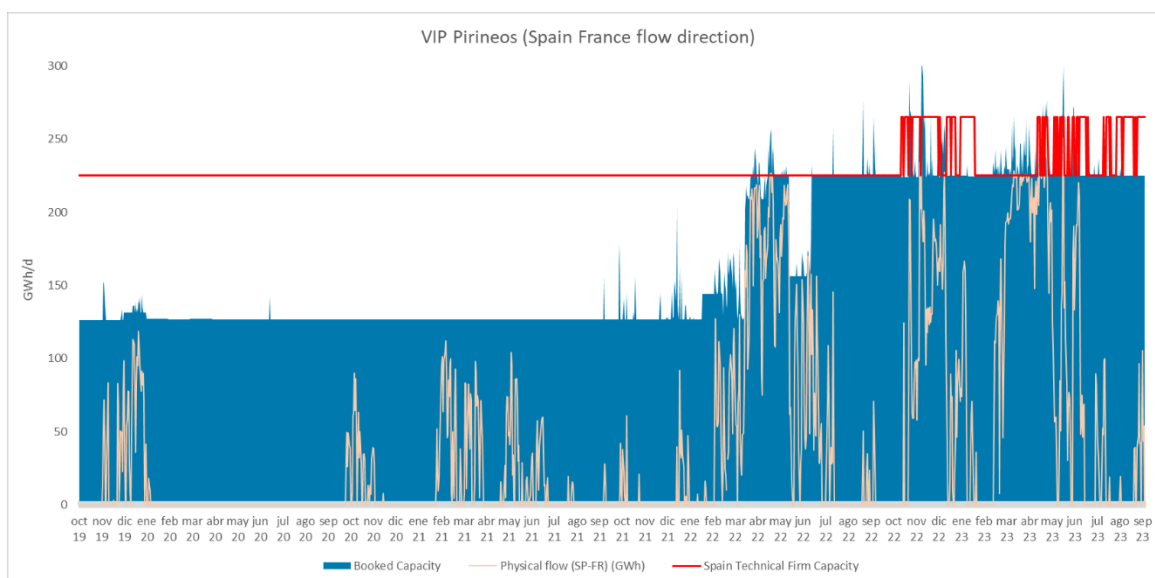


Figure 39: Booked capacity at VIP Pirineos (SP-FR)

Given the data, it can be set that VIP Pirineos in Spain to France direction was congested in the gas years 2021-2022 and 2022-2023 according to ACER's definition.

4.1.3 VIP Iberico: Spain to Portugal direction

In the studied period, none of the auctions resulted in premium. None of the criteria set out in paragraph 2.2.3(1) of the Commission Guidelines on Congestion Management Procedures have then been fulfilled and therefore, that IP side cannot be considered congested.

4.1.4 VIP Iberico: Portugal to Spain direction

In the period under study (2019 - 2023), there was premium only in three daily auctions held in May 2023. For that reason, the Commission Guidelines on Congestion Management Procedures have not been fulfilled and this IP side cannot be considered congested.

4.2 Use of anti-hoarding mechanisms in the region

4.2.1 Long Term Use-It-Or-Lose-It

VIP Pirineos

In April 2020, April 2021, April 2022 and April 2023 Enagás and Teréga performed the calculations according to [Regulation \(EC\) No 715/2009](#).

At Spanish side, contracted capacity shall be considered systematically underutilized if at least one of the following conditions is met:

- 1) If, for two successive periods of six (6) consecutive months, starting on the first (1) October or the first (1) April, the utilization rate of the contract (calculated as the average used capacity per day in each period divided by the average booked capacity) is less than 80%, or
- 2) If, in both analysed periods, there are at least 60 days in which the shipper nominates above 80% of its booked capacity and then renominates half or less of the capacity initially nominated.

If underutilization is detected in the previous analysis, it is checked if the shipper has offered capacity in the secondary market under reasonable conditions (in terms of price and amount of capacity offered). If that is not the case, capacity is susceptible of being withdrawn.

At the French side, the Long-Term UIOLI procedure can be applied if the following two conditions are met:

- 1) same conditions that in the Spanish side
- 2) if Teréga has not been able to fulfil, duly justified, at least one request of capacity from another shipper for an annual subscription for a Daily Entry or Exit Capacity at the aforementioned Network Interconnection Point.

Regarding VIP Pirineos, the underused capacity in the North to South direction has been progressively reduced during the past two years, while in the South to North direction the tendency seems more irregular.

The LT UIOLI mechanism has not been applied due to the different triggering conditions on both sides of the VIP.

4.2.1.1 VIP Ibérico

Due to the change in the booking patterns and use of contracts in VIP Ibérico, in the last three years, UIOLI LT report was not needed in this VIP.

For the gas years 2019 - 2022, UIOLI LT report was made and sent to regulators but there was no need for withdrawal capacity to any shipper.

4.2.2 Surrender capacity

4.2.2.1 Enagás

Although this mechanism has been implemented in Enagás since March 2014 (for the assignment of the gas year October 2014-2015), no shippers have requested to surrender their capacity so far.

4.2.2.2 Teréga

No shipper has requested to surrender its capacity during the considered period.

4.2.2.3 REN

There were no requests for surrender capacity during the period under review.

4.2.3 Oversubscription and Buy-Back

4.2.3.1 VIP Ibérico

During the period analyzed in this report, oversubscription was available for 952 days in the Spain to Portugal direction, with bookings occurring on 2 of those days. In the Portugal to Spain direction, oversubscription was available for 357 days, with bookings occurring on 3 of those days.

The buy-back mechanism was never applied for the period under study in either direction.

4.2.3.2 VIP Pirineos

During the period analyzed in this report, oversubscription was offered on 645 days in the South to North direction, and on 496 days in the North to South direction.

Oversubscription was booked on 16 days from South to North during the period studied, mainly in the gas year 2022-2023, resulting in an additional oversubscription of 22,500 MWh/d for those days. There was no need to buy-back any capacity.

On the contrary, in the North to South direction, oversubscription was booked 52 days during the period analyzed.

Throughout the analyzed period there has been no need to buy-back capacity.

5 Gas prices in the South Region

In this chapter, it will be carried out an analysis of how the gas prices in the French and Spanish markets affect the usage of the VIP Pirineos.

The period under study, from October 1st, 2019 until September 30th, 2023 includes the main relevant market variables that could affect the IP.

5.1 Gas prices overview

In the following graph it is represented the evolution of the gas prices in both markets.

When analyzing the graph, 4 different study periods are identified:

1. Period 1 (01/10/2019 – 31/12/2020): COVID-19 pandemic.
2. Period 2 (01/01/2021 – 24/02/2022): Cold snap in Spain and Price rise due to political tensions prior to the Russian invasion of Ukraine.
3. Period 3 (25/02/2022 – 07/12/2022): Ukraine War causes great volatility in natural gas price.
4. Period 4 (08/12/2022 – 30/09/2023): Energy policy measures to reduce the impact of the Ukrainian War bring down natural gas prices.

Next, each period is analyzed in depth.

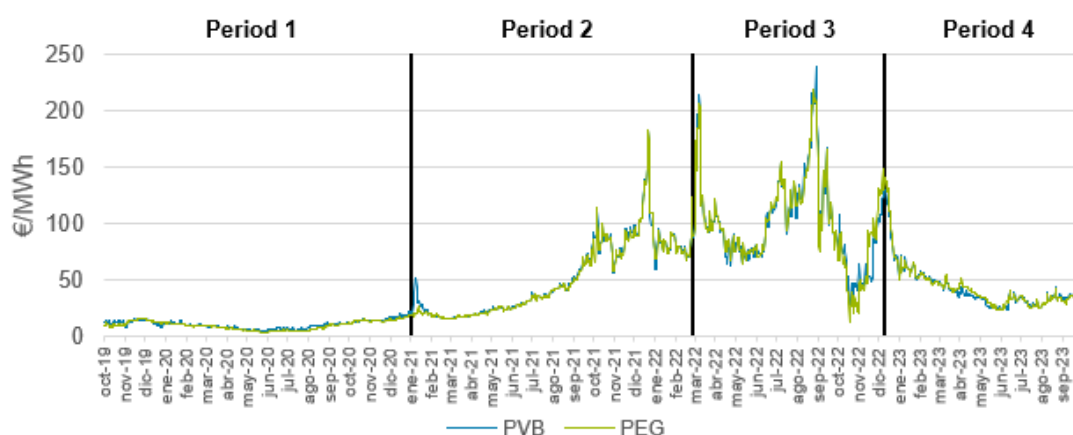


Figure 46: Natural gas price (Day Ahead) PVB - PEG (01/10/2019 – 30/9/2023)

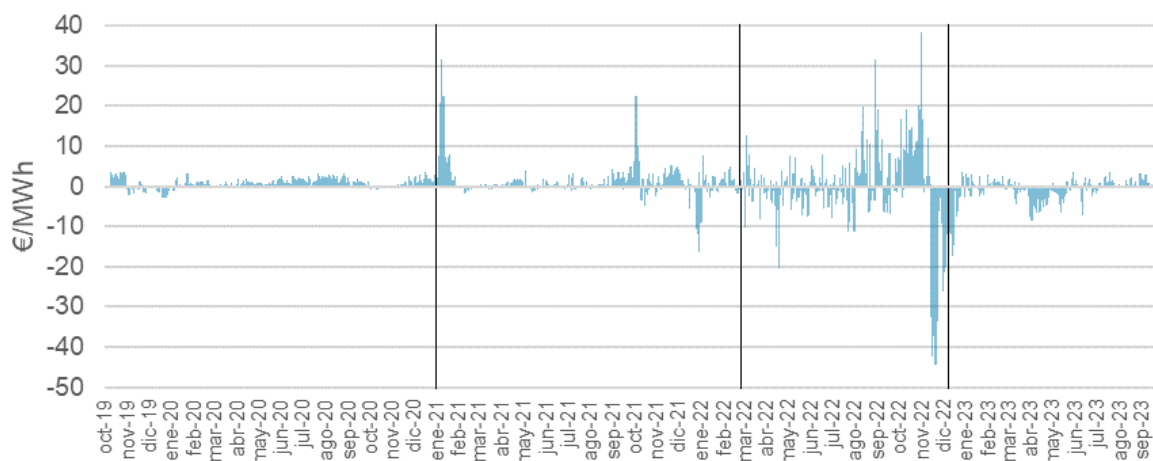


Figure 40: Natural gas price spread (Day Ahead) PVB - PEG (01/10/2019 – 30/9/2023)

5.2 Period 1 (01/10/2019 – 31/12/2020): Price drops due to COVID-19 pandemic

The last quarter of 2019 maintained the trend observed in previous months, with relatively stable prices around 12 €/MWh. However, this trend shifted in February 2020 due to the COVID-19 pandemic. Lockdowns and reduced economic activity led to a significant drop in natural gas demand (in Europe, natural gas demand fell by 7% in the first five months of 2020 compared to 2019), causing prices to plummet to historic lows. In May 2020, the PVB price for the Day Ahead product was 4.08 €/MWh, while in PEG that value dropped even further to 2.88 €/MWh.

With the end of the more restrictive lockdowns due to the pandemic and a progressive economic reactivation, the price began to recover in June 2022, reaching pre-pandemic levels around November 2020 and even exceeding the pre-pandemic price levels by December 2022.

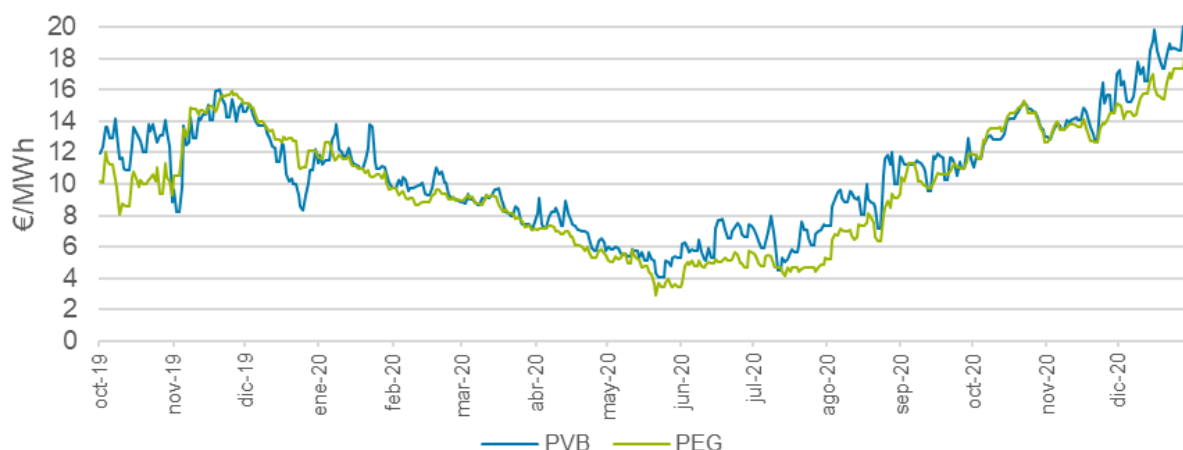


Figure 41: Natural gas price (Day Ahead) in PVB and PEG (01/10/2019 – 31/12/2020)

In relation to the spreads between both hubs, it was observed that on 74% of the days during this period, the price of PVB is higher than of PEG, while only on 26% of the days, PEG prices were higher than those of PVB. The average spread was 0.76 €/MWh, with PVB being more expensive than PEG. The maximum spread during this period in favour of PVB (PVB>PEG) was 3.911 €/MWh, whereas the maximum spread in favor of PEG (PVB<PEG) was -2.739 €/MWh.

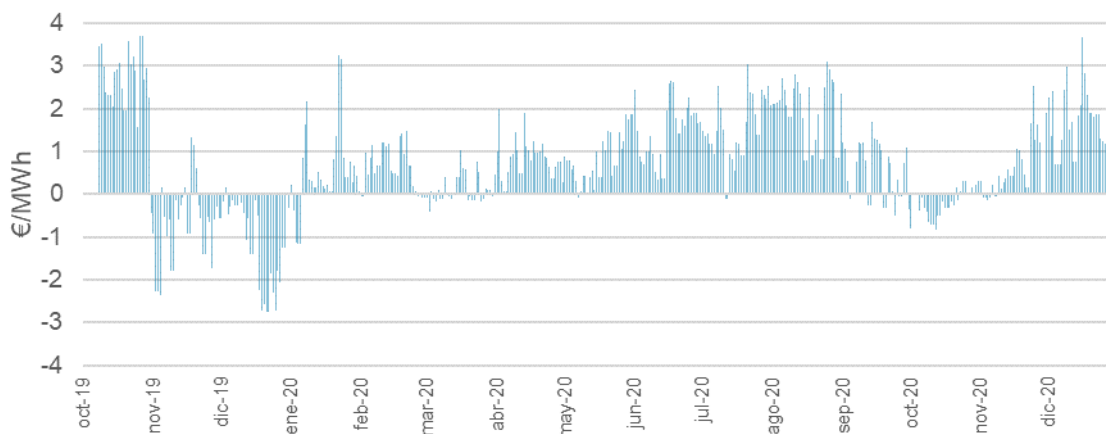


Figure 42: Natural gas price spread (Day Ahead) PVB - PEG (01/10/2019 – 31/12/2020)

Within this Period 1, two months are observed where PEG is more expensive than PVB: during the months of November and December 2019 and during the month of October 2020.

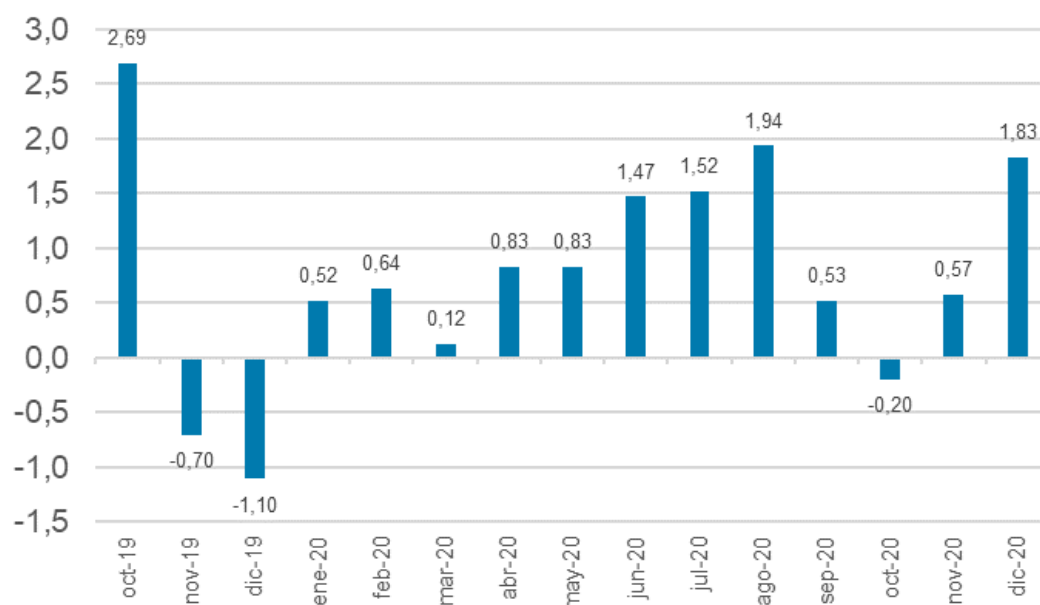


Figure 43: Monthly average PVB-PEG spread (Day Ahead)

5.3 Period 2 (01/01/2021 – 24/02/2022): Cold snap in Spain and price rise due to political tensions prior to the Russian invasion of Ukraine

In early **January 2021**, a significant event unfolded in Spain, profoundly impacting the natural gas price. On January 7th and 8th, 2021, an intense cold snap led to a rapid price surge. Notably, on January 7th, the price soared to 51.55 €/MWh in the PVB market, followed by 52.0 €/MWh on January 8th. As a result, the spread between Spain and France widened, exceeding 31 €/MWh. The spreads on January 7th (PVB-PEG spread: 31.64 €/MWh) and on January 8th (PVB-PEG spread: 31.17 €/MWh) were the 4th and 5th highest positive spreads for PVB (PVB>PEG) since the establishment of the organized natural gas market in Spain (MIBGAS).

Beyond this event, starting in **April 2021**, there was a progressive increase in the natural gas prices across Europe. A particular cold winter led to a massive extraction of gas from underground storages, creating uncertainty about how the winter 2021/2022 would be faced.

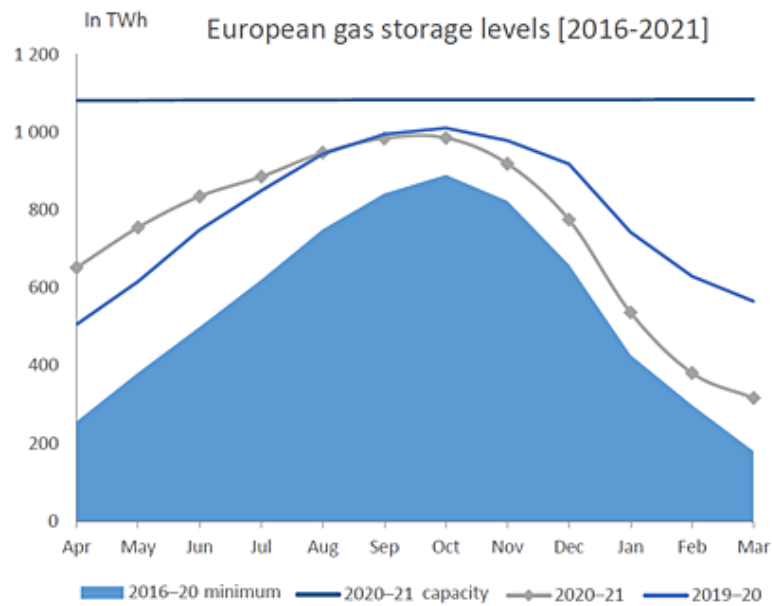


Figure 44: European gas storage levels [2016-2021] 10

Starting in the **summer of 2021**, upward tensions on natural gas prices increased. Geopolitical concerns emerged as Russia, through GAZPROM, significantly reduced its gas pipeline supply through Ukraine and Poland. To this decrease were also added stops in the main production wells in northern Europe. Consequently, the demand for LNG in Asia continued to increase, which strained competition to attract LNG to Europe. Due to the general lack of natural gas in Europe, underground storages remained well below the levels of recent years, which increased the uncertainty about the next gas winter.

¹⁰ GIE. (May 11th, 2021). *Record-breaking underground gas storage net withdrawals in Europe last winter*. Link : <https://www.gie.eu/press/record-breaking-underground-gas-storage-net-withdrawals-in-europe-last-winter/>

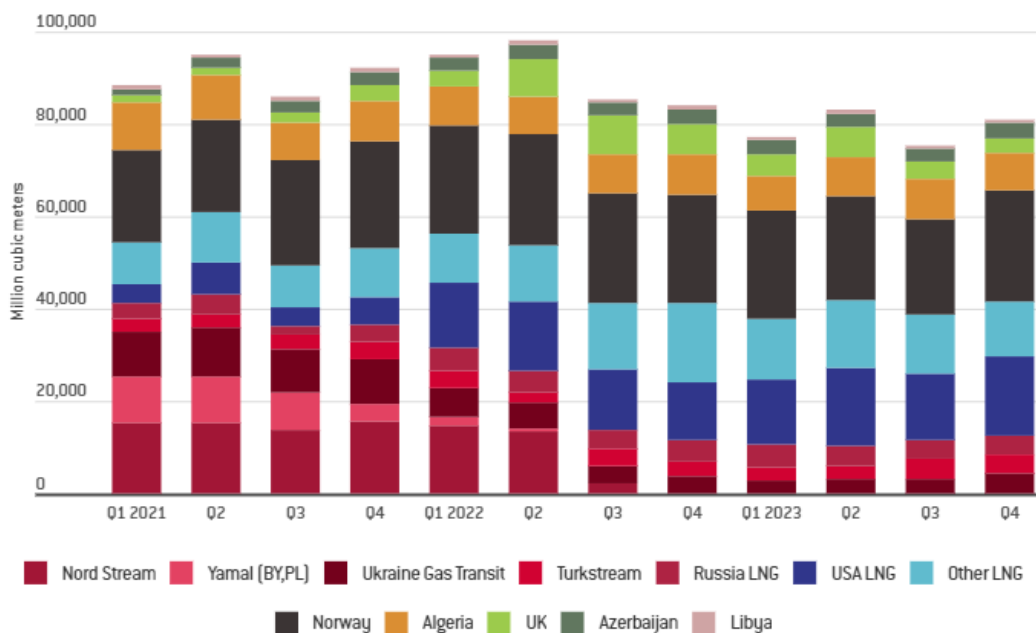


Figure 45: EU natural gas imports by supplier and route, 2021-2023 ¹¹

With the **arrival of 2021/2022 gas winter in Europe**, there was again an increase in natural gas prices, which exceeded the 100 €/MWh threshold. The prolonged uncertainty generated by the unavailability of Russian gas in Europe, the low temperatures, together with the situation of tension in Eastern Europe between Ukraine and Russia drove prices to record highs during the last weeks of December. Regarding the situation at the end of 2021, on December 18th Gazprom stopped supplying natural gas through Yamal pipeline, which triggered prices which exceeded 180 €/MWh that week.

January 2022 brought relief to the markets, milder than expected temperatures and the consistent arrival of American LNG caused prices to fall in January. Market stability although with high prices lasted until February, that month Russia invaded Ukraine causing the period of greatest natural gas volatility ever seen.

¹¹ Ben McWilliams at al. (February 22nd, 2024). *The European Union-Russia energy divorce: state of play*. Link: <https://www.bruegel.org/analysis/european-union-russia-energy-divorce-state-play>

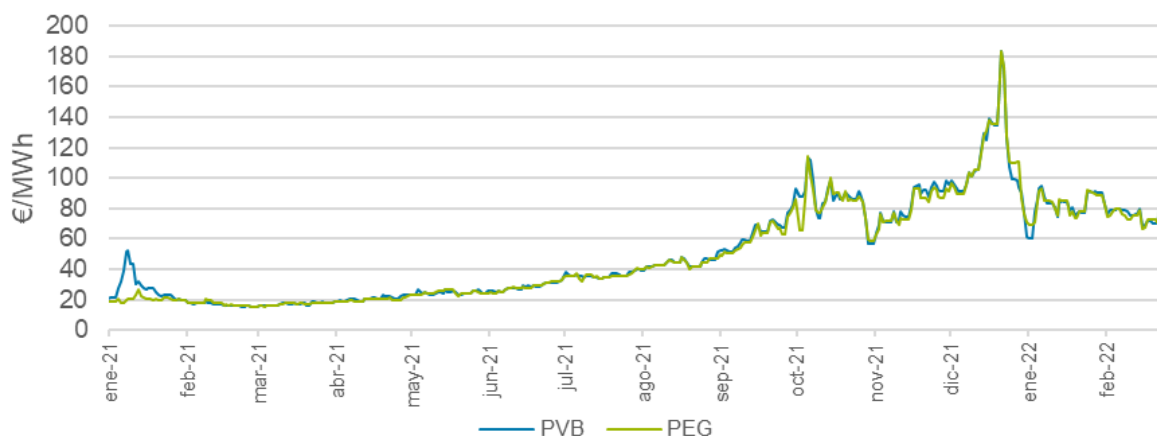


Figure 46: Natural gas price (Day Ahead) in PVB and PEG (01/01/2021 – 24/02/2022)

In relation to the spreads between both hubs, we find 61% of the days of this period the price of PVB is higher than PEG, while 39% of the days PEG is higher than PVB. The average spread is 1.05 €/MWh (more expensive PVB than PEG). The Maximum Spread for PVB (PVB>PEG) is 31,64 €/MWh while the maximum spread in favor of PEG (PVB<PEG) is -16.34 €/MWh. It should be noted that if at the beginning of October, the PVB-PEG spread was positive by more than 20 €/MWh (PVB>PEG), a couple of months later that spread inverted to exceed -15 €/MWh (PVB<PEG) due to the high volatility and uncertainty of the markets.

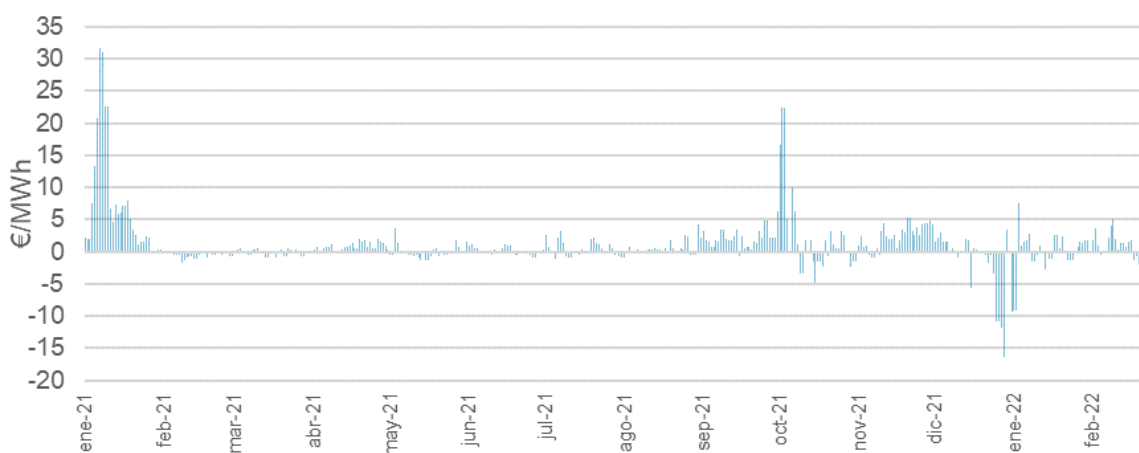


Figure 47: Natural gas price spread (Day Ahead) PVB - PEG (01/01/2021 – 24/02/2022)

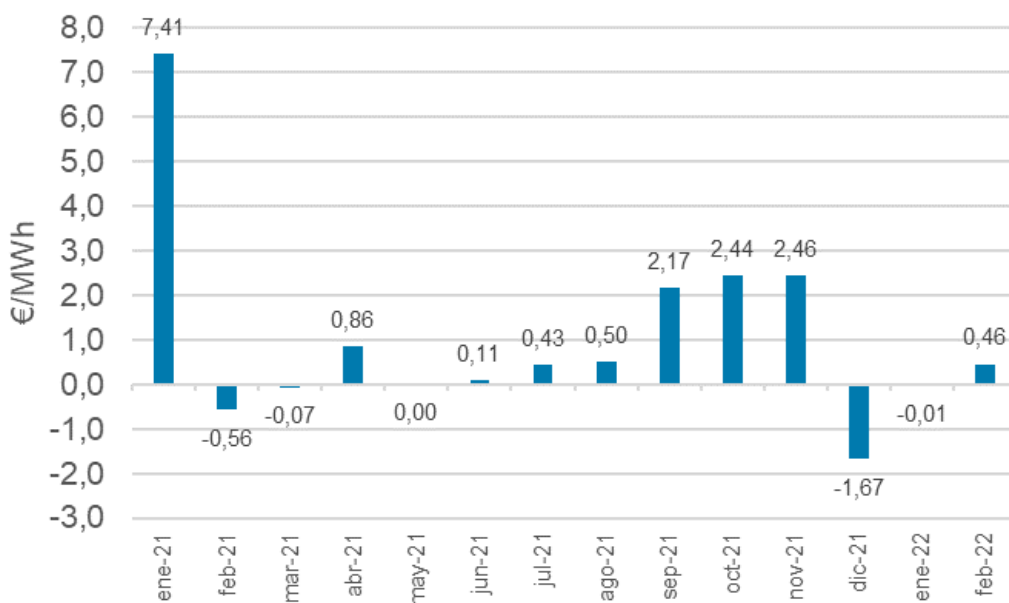


Figure 48: Monthly average PVB-PEG spread (Day Ahead)

5.4 Period 3 (25/02/2022 – 07/12/2022): Ukraine War causes great volatility in natural gas price

After the Russian invasion, the markets experienced enormous turbulence. Uncertainty increased volatility and in the first week of March, the 200 €/MWh barrier was surpassed. The response of the EU through the REPowerEU announced on March 8th temporarily calmed the markets. Even so, volatility was the general tone of this period with price rises and falls as news of the war and sanctions against Russia unfolded.

The tensions in the markets meant that any unexpected event would cause prices to rise or fall abruptly. Periods of optimism alternated with moments of high concern about the future of the markets. In this volatile environment there are two moments of special importance: August-22 and December-22.

In **August** 2022, Gazprom announced the "unscheduled maintenance" of Nord Stream. The markets saw this news with great concern and raise the price of PVB and PEG above 200 €/MWh in the last week of August. On the other hand, the last quarter of 2022 was also particularly volatile. Price minimum in October (24th Oct 22 PVB: 31.6 €/MWh and PEG: 20.58 €/MWh) due to high underground gas storage (result of European measures against this energy crisis) was followed by a price increase in early **December** (8th Dec 22 PVB: 131.5 €/MWh and PEG: 130.53 €/MWh) due to the arrival of the winter in Europe (to which were added cuts in the USA terminal of Freeport and maintenance in Norway).

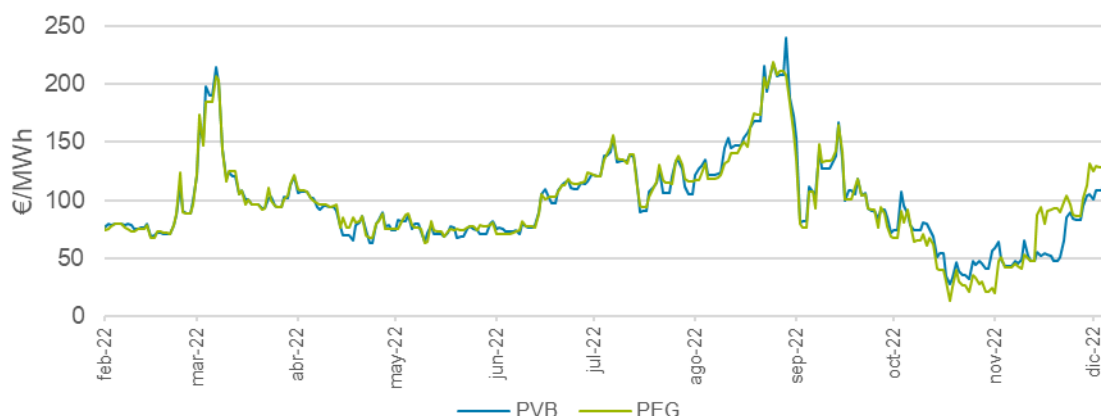


Figure 49: Natural gas price (Day Ahead) in PVB and PEG (25/02/2022 – 07/12/2022)

In relation to the spreads between both hubs, we find 51% of the days of this period the price of PVB is higher than PEG, while 49% of the days PEG is higher than PVB. The average spread is -0.37 €/MWh (more expensive PEG than PVB). The Maximum Spread for PVB (PVB>PEG) is 38,16 €/MWh while the maximum spread in favor of PEG (PVB<PEG) is – 44.50 €/MWh.

The three largest spreads for PVB (PVB>PEG) analyzed occur in this period: 1º 38.16 €/MWh (Nov 1st, 2022), 2nd 31.74 €/MWh (Oct 31st, 2022) and 3º 31.68 (Aug 29th, 2022). On the other hand, the 10 largest spreads for PEG (PVB<PEG) occur during the month of November 2022, (only the 3 largest are indicated here): 1º -44.50 €/MWh (Nov 19th and 20th, 2022), 2º -42.19 €/MWh (Nov 15th, 2022) and 3º -42.19 €/MWh (Nov 18th, 2022).

As seen in the following graph, in just a couple of weeks in November 2022 the spread reverses extremely. Prices rose more in France (in general in northern Europe) than in Spain in November due to forecasts of colder temperatures until the end of the year, gas supply outages in Norway because of the fire at the Aasgard B gas field and annual maintenance carried out at the Interconnector UK gas pipeline linking the United Kingdom with Belgium.

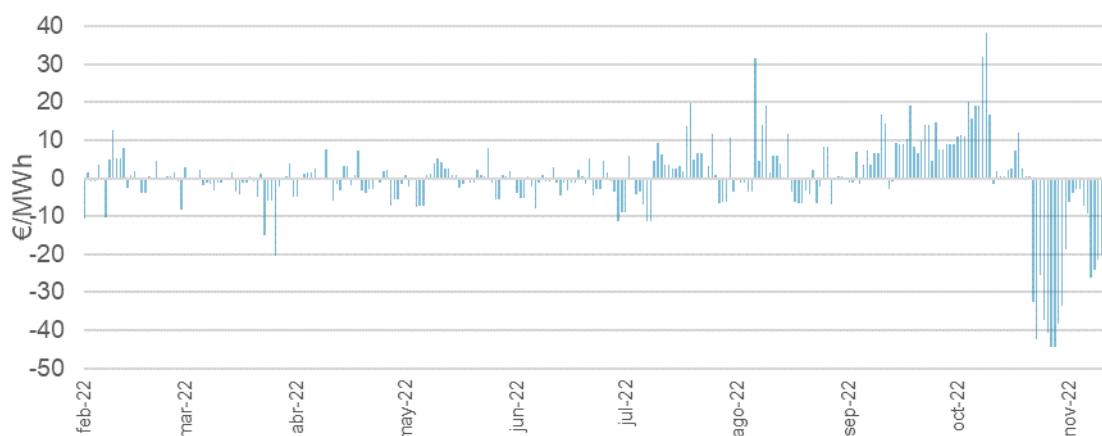


Figure 50: Natural gas price spread (Day Ahead) PVB - PEG (25/02/2022 – 07/12/2022)

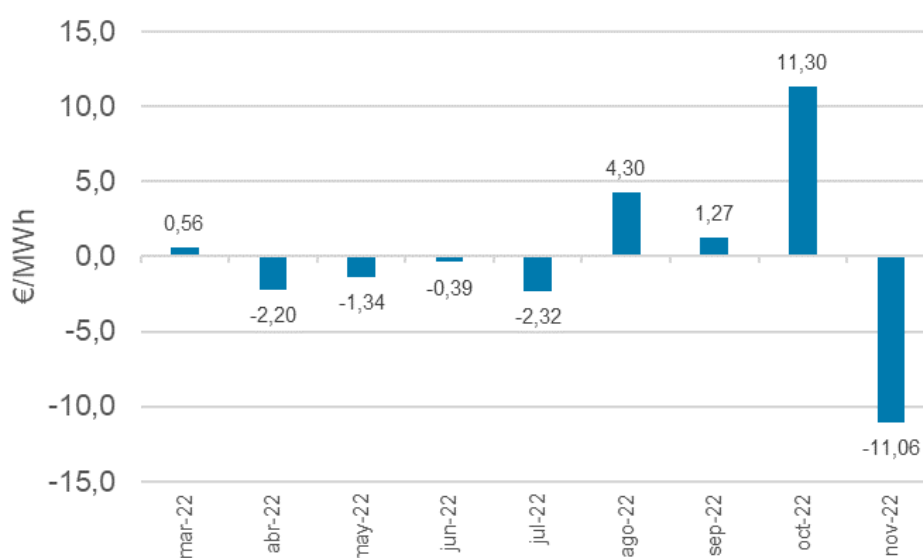


Figure 51: Monthly average PVB-PEG spread (Day Ahead)

5.5 Period 4 (08/12/2022 – 30/09/2023): Energy policy measures to reduce the impact of the Ukrainian War bring down natural gas prices and volatility

A warm winter, structurally decreased demand in Europe, a solid supply of LNG from the US, as well as new European regasification terminals, meant that the markets returned to calm in 2023.

Especially noteworthy is the incorporation of FSRUs in Germany: December 2022 Wilhelmshaven, January 2023 Deutsche ReGas (Lubmin) and February 2023 Brunsbützel LNG Terminal. These measures that ensured the security of Germany's natural gas supply had an important effect on the markets that in February already marked a price below 50 €/MWh.

Although the scenario is very different from 2022, the gas market in Europe is still reactive to news that implies a possible reduction in supply, particularly for LNG. An example of this is the increase in prices due to the Australian liquefaction plants strikes in August 2023, (during this month the price increased by more than 40% mainly due to this strike) and continued to rise during the month of September. Although there are significant percentage changes caused by news and events, it must be considered that compared to the year 2022 (where large price variations could occur in just a few days), the year 2023 can be considered stable at the level of prices.

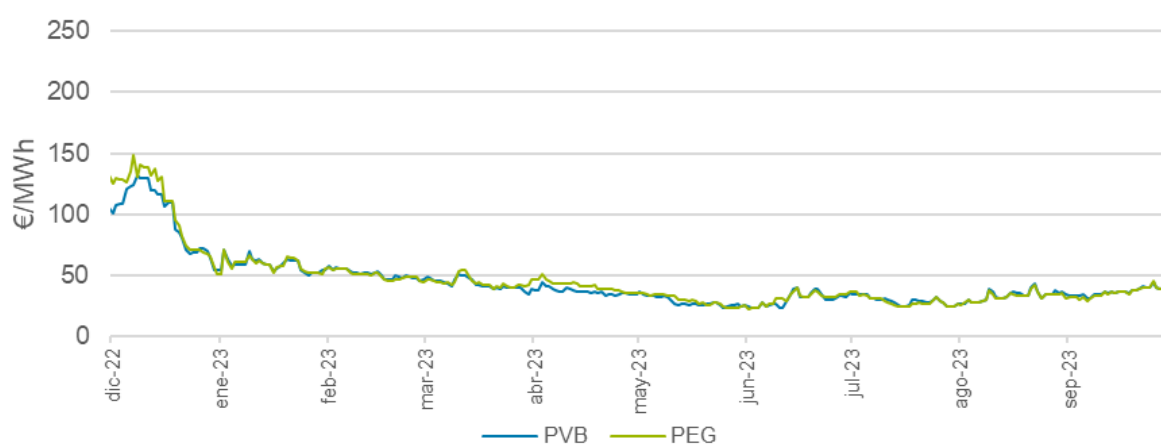


Figure 52: Natural gas price (Day Ahead) in PVB and PEG (08/12/2022 – 30/09/2023)

In relation to the spreads between both hubs, we find 47% of the days of this period the price of PVB is higher than PEG, while 53% of the days PEG is higher than PVB. As it has been observed, in each period the number of days in which PEG is higher than PVB has increased. The average spread is -0,84 €/MWh (more expensive PEG than PVB). The Maximum Spread for PVB (PVB>PEG) is 6,08 €/MWh while the maximum spread in favor of PEG (PVB<PEG) is -17,28 €/MWh, much smaller values than the maximum spreads seen in 2022.

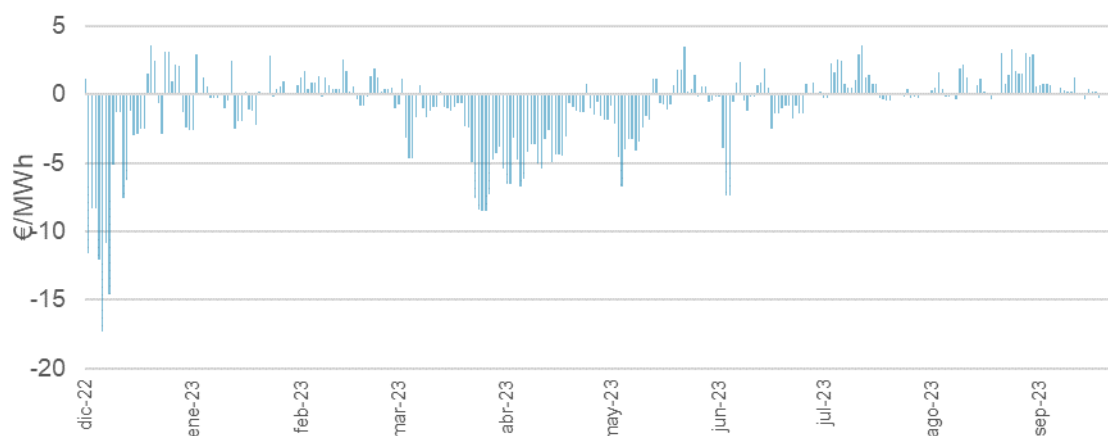


Figure 53: Natural gas price spread (Day Ahead) PVB - PEG (08/12/2022 – 30/09/2023)

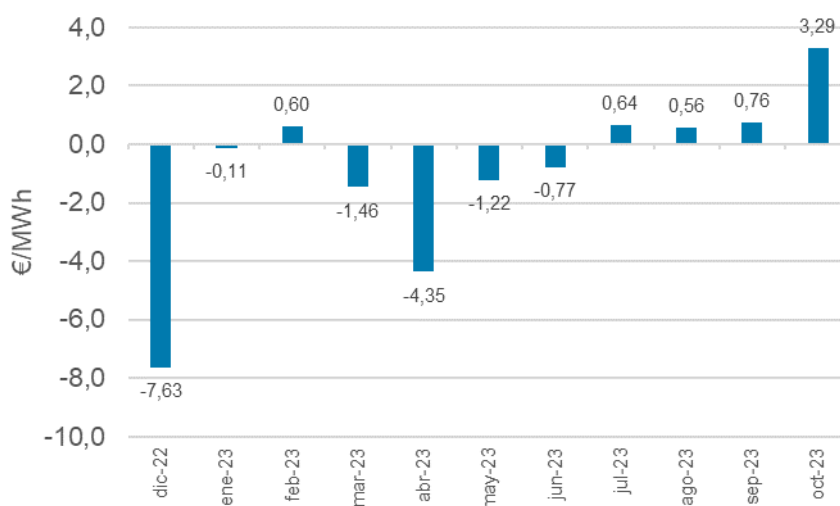


Figure 54: Monthly average PVB-PEG spread (Day Ahead)

6 Renewable gases

6.1 France (Teréga)

In terms of renewable gases, significant progress has been made during this period, increasing biomethane production from 110.2 GWh in 2019 to 725.8 GWh in 2023. Biomethane production has been multiplied by 6.6 in 4 years in Teréga's geographical area. It was 2.5% of Teréga's zone consumption in 2023.

GWh	Teréga	DSOs	Total	Comments
2019	17.4 (50,5)	22.6 (59.7)	40 (110.2)	from Sept. to Dec. (from Jan. to Dec.)
2020	49.2	180.4	229.6	
2021	77.4	374.2	451.6	
2022	115.9	513.7	629.6	
2023	125 (168.7)	404.6 (557.1)	519.6 (725.8)	from Sept. to Dec. (from Jan. to Dec.)

Table 30: Injection of biomethane into Teréga's network and into DSOs connected to it

6.2 Spain (Enagás)

Spain has a great potential to generate renewable gas, given the volume of organic waste generated by key economic sectors, such as the agri-food and livestock industries, among others. The Spanish Biogas Roadmap, published in March 2022, set a country target for 2030 of biogas production (including biomethane) of at least 10 TWh per year, a figure that the draft update of the PNIEC has subsequently doubled to 20 TWh.

The creation of a Guarantees of Origin System for renewable gases, operational since January 2023 and managed by Enagás GTS, and the promotion of projects, will be key aspects for the deployment of biomethane.

The system already allows certifying the renewable origin of the gas produced in Spain. Certificates provides information on how and where the renewable gas has been produced. The gases covered by this certification system are biogas, biomethane and renewable hydrogen.

In terms of biomethane's figures, there has been significant progress in the period studied, from an average of 103.6 GWh of biomethane production in the early years to 251 GWh in 2023.

GWh	Enagás Transporte	DSOs	Total	Comments
2019	-	-	-	No data
2020	104.6	2.1	106.7	From Jan. to Dec.
2021	94.7	5.7	100.4	From Jan. to Dec.
2022	140.7	38	178.7	From Jan. to Dec.
2023	166.3	84.7	251	From Jan. to Dec.

Table 31: Injection of biomethane into Enagás Transporte's network and into DSOs connected to it.
Source: Enagás

6.3 Portugal (REN)

In 2020, Portugal published its Strategy for Hydrogen¹² defining a set of mid-long-term targets, namely blending of H₂ with natural gas up to 10-15% in the existing transmission and distribution infrastructures. Together with the definition of these targets, specific Legislation¹³ and Regulations¹⁴ were published. This new framework led infrastructure operators to develop the required activities aiming to ensure the network and infrastructure readiness to allow H₂ blends with natural gas in line with the target, and the incorporation of other low carbon and renewable gases such as biomethane, and low carbon methane.

Accordingly, REN launched the H₂REN Program to identify its infrastructure requirements and operational procedures review to accommodate H₂ blends in high pressure infrastructures and its distribution network, while identifying and listing all the required actions and investments to allow in the future a 100% H₂ ready infrastructure. At present, regarding high pressure infrastructure requirements for up to 10% H₂ incorporation, the H₂REN Program already identified the need for some investment, namely:

- 44 M€ in the transmission network
- 119 M€ in the underground storage

These investments are expected to be executed along a ten-year period and were already submitted for approval under the National Investment Plan delivered in 2023, an updated investment Plan is required every two years. At the Distribution network level, the required

¹² [Resolução do Conselho de Ministros n.º 63/2020](#)

¹³ [Decree-Law n.º. 62/2020](#)

¹⁴ <https://www.dgeg.gov.pt/>

investments to allow for a 20% H2 blend, were foreseen in the Distribution 5-year plans submitted in 2024.

Third Party certification about study conclusions is now issued for 10% H2 blending in Transmission and is being concluded for Underground Storage. Certification and reports are sent to the Directorate-General for Energy and Geology for technical validation.

In line with the strategic framework for hydrogen in Portugal, the Portuguese Government published in 2023 for public consultation the procedures for first green/low carbon hydrogen and biomethane auction in Portugal. This was concluded this year with the actual auction in course with 120 GWh for hydrogen (60 GWh in Transmission and 60 GWh in Distribution) and 150 GWh of biomethane as a first signal of network decarbonization efforts and renewable gases market incentive.

Still regarding hydrogen, REN is developing 100% H2 projects, namely Agenda H2 Green Valley in South of Portugal (Sines) and Celza pipeline in the H2med corridor. REN has also submitted a request for provisional HTNO nomination by the Portuguese Government.

For biomethane, Portugal has published an Action Plan for Biomethane in 2024¹⁵, targeting to achieve 2.7 TWh in 2030 and 5.6 TWh in 2040. REN, resulting from feedback from several producers is promoting projects and solutions aiming the optimization of their connection to National Gas Network as biomethane is seen as a fundamental contributor to network decarbonization.

For the period of the report, there was a small (residual) injection of green H2 in the distribution network for a DSO pilot project and no injections of biomethane occurred

¹⁵ [Resolução do Conselho de Ministros n.º 41/2024](#)

7 Conclusions

The period analysed from October 2019 to September 2023 was predominantly influenced by three major geopolitical events at European level: COVID-19 pandemic and its subsequent recovery, the price inflation together with the tension with Russia, and the beginning of the war between Russia and Ukraine.

As a consequence of these geopolitical events, the gas flows direction within the South Gas Regional Initiative (comprising France, Spain, and Portugal) has shifted from the historically trends of the previous years where the North to South direction was predominant to the South to North direction.

The SGRI countries have played a crucial role in exporting natural gas through international connections, thanks to the unloading of LNG from other countries in Portugal, France and Spain, for subsequent regasification and export via existing pipelines.

The capacity bookings in the gas year 2021-2022 highlighted the resilience of the current CAM NC regulation, with interruptible capacity being offered for extended periods once firm capacity had been sold out.

During the period analysed, at both VIP Pirineos and VIP Ibérico, the unbundled capacity booked through long-terms contracts, subscribed before the implementation of the CAM NC, represented the largest part of the booked capacity at all SGRI interconnection points in the gas year 2019-2021. Consequently, the remaining capacity offered and booked in a bundled way on PRISMA was minor. This situation changed during the gas years 2021-2022 and 2022-2023, when many of the long-term contracts expired, making more capacity available to be booked under CAM NC regulation. From now on, a significant amount of capacity will be released to the market, enabling the increase of booking for yearly and other short-term capacity products at the VIPs.

7.1 VIP Pirineos

- **Performance.** Over the years, the utilization of the VIP Pirineos has increased, reflecting the growing demand and strategic importance of this interconnection. The VIP Pirineos has demonstrated resilience and adaptability in response to market demands and geopolitical events. This underscores the critical role of this connection in ensuring a stable gas supply to Europe when needed. Its ability to handle increased volumes and adapt to changing conditions highlights its strategic value in the regional energy infrastructure.

- **Contracting mechanisms.** The contracting mechanisms have successfully met the high demands of the market, with auctions concluding at high premiums and firm capacities being contracted at 100%. This indicates a strong interest from shippers in this interconnection. The robust performance of these mechanisms ensures that the available capacity is efficiently allocated, reflecting the high level of confidence and reliance placed on this interconnection by market participants.
- **Expiration of long-term contracts.** The gradual expiration of long-term unbundled contracts has allowed for more capacity to be made available to the market, offered as bundled products. This transition has increased the flexibility and availability of capacity, enabling more dynamic and responsive market operations. The shift towards bundled products under CAM NC regulations enhances the efficiency and transparency of capacity allocation, benefiting both shippers and the overall market.

7.2 VIP Ibérico

- **Balanced flow direction.** Over the analysed three-year period, the previously predominant Spain-to-Portugal direction has balanced to 50% for each direction. This indicates a significant shift in the natural gas flow dynamics between the two countries, reflecting changes in supply and demand patterns. This balance suggests a more equitable distribution of natural gas resources/entry points and a more flexible and responsive gas market.
- **Seasonality and short-term products.** The seasonality of booking and usage during the summer months in the Spain to Portugal direction is less pronounced in this period compared to previous reports. This change indicates a shift in market behaviour, where capacity is now almost always reserved through short-term products. The increased use of daily and intraday products, along with monthly products, highlights a trend towards more flexible and immediate booking strategies. This shift could be driven by market participants seeking to optimize their operations and respond more dynamically to market conditions.
- **High utilization in Portugal to Spain direction.** In the Portugal to Spain direction, a notable change in behaviour was observed in 2019. Factors such as an increase in vessels unloaded in the Portuguese Gas System contributed to reach booking levels close to 100% of the technical capacity. The ability to reach near-maximum capacity utilization reflects the efficiency and reliability of the gas transmission system.