The European Geopolitical Forum

www.gpf-europe.com

EGF Gazprom Monitor
Issue 100: September 2019

A Snapshot of Key Developments in the External Relations of the Russian Gas Sector

By Dr Jack Sharples, EGF Associate Researcher on the External Dimensions of Russian Gas and Research Fellow on the Natural Gas Research Programme, Oxford Institute for Energy Studies

Key points:

- ***Main story:*** *Court of Justice of the EU rules on Gazprom's utilisation of the OPAL pipeline*
- ***Gazprom on the European market:*** *First anniversary of Gazprom's Electronic Sales Platform*
- ***Ukraine:*** *Naftogaz buys gas for Q1 2020 delivery as Ukrainian storage levels continue to rise; Gazprom CEO briefs President Putin on winter preparations; Ukrainian government approves unbundling of Ukrainian pipeline system from Naftogaz; EU, Russia, Ukraine trilateral gas talks held in Brussels*
- ***Nord Stream:*** *Nord Stream 2 AG continues legal challenge to EU Gas Directive amendment under Energy Charter Treaty*
- ***Southern Corridor:*** *Bulgaria awards construction contract for 'Balkan Stream' as onward extension of Turkish Stream; Bulgartransgaz plans south-to-north gas flows from Turkey to Romania;*
- ***Asia:*** *Novatek reaches FID on Arctic LNG 2 as the company develops its ability to ship LNG to Asia*

A message to Gazprom Monitor readers:

Dear Colleagues,

It is with great pride that we send you this 100th edition of the Gazprom Monitor.

The Gazprom Monitor was the brainchild of Dr Marat Terterov, Founder of the European Geopolitical Forum and the Brussels Energy Club. The first issue of the Gazprom Monitor was published in December 2010. After publishing 12 issues in 18 months, the 13th issue in June 2012 marked the point at which the Gazprom Monitor became a monthly publication. June 2012 also marked the point at which I took over from the original Russian author, moving from my role as Russian-to-English translator to my current role as the sole author.

The publication of this special edition coincided with Court of Justice of the EU ruling on the OPAL pipeline, a ruling that reinstated the partial exemption from EU third-party access provisions first granted just over a decade ago, in June 2009. As such, it felt appropriate to analyse the chronological development of that issue over the years, as representative of the many interesting stories we have analysed since the launch of the Gazprom Monitor.

Since that first edition, almost nine years ago, we have seen the launch of Nord Stream, the replacement of South Stream and Nabucco by the Turkish Stream and TANAP-TAP pipelines, a dramatic increase in the use of hub-indexation in place of oil-indexation in Gazprom's long-term export contracts, the conduct and settlement of the EU antimonopoly investigation into Gazprom, the launch of Gazprom's own Electronic Sales Platform, the completion of Gazprom's acquisition of the Belarusian gas pipeline system, the long-running sagas of the Gazprom-Naftogaz and Gazprom-Lithuania arbitration cases, the cessation of direct Ukrainian gas imports from Russia, the sale of Gazprom's shares in pipelines in the Baltic states, the launch of new LNG import terminals in the Netherlands, Lithuania, Poland, and France, opening the door to competing LNG from around the world including, most recently, from the United States, and the volume of Gazprom's annual gas exports to Europe growing to record levels in 2017 and 2018.

At present, we may observe the challenges posed to Nord Stream 2 by Danish permits and the amendment of the EU Third Gas Directive in relation to offshore pipelines, the imminent launch of Gazprom's exports to Turkey via Turkish Stream and the delays to its related onshore continuation pipelines in south-east Europe, the expiry of the Gazprom-Naftogaz gas supply and transit contracts at the end of 2019, the continued growth of Gazprom's domestic rival, Novatek, as an exporter of LNG to Europe and Asia, and the scheduled launch of Gazprom's pipeline gas exports to China in December 2019. Beyond these 'big ticket' issues, there are the ongoing dynamics of supply, demand, and price on the European gas market, as Gazprom benefits from the continued decline in EU gas production, while the rebound in EU gas demand since 2014 has been sustained by relatively low wholesale hub prices – a situation that is generating higher export volumes but lower profit margins for Gazprom.

Gazprom remains a fascinating company to observe. In 2018, Gazprom was the largest gas-exporting company in the world, with export volumes approximately twice those of the entire countries of Norway or Qatar. In that same year, Gazprom alone supplied around 47 per cent of EU gas imports, thus meeting around 37 percent of total EU gas demand. As long as Europe needs gas, European analysts like myself will remain interested in Gazprom.

It remains an honour and a pleasure to write the Gazprom Monitor. I hope that you have enjoyed these 100 issues, and that you will continue to enjoy our publication in the future.

Best regards,

Dr Jack Sharples

Main Story: The Court of Justice of the EU ruling on the OPAL pipeline

Summary

In Germany, the Nord Stream pipeline feeds into two pipelines – OPAL and NEL. As a result of the ruling, Gazprom's ability to use the OPAL pipeline is restricted, and can only be partially made up by spare capacity on the NEL pipeline. As a result, Gazprom will not be able to use the Nord Stream pipeline at full capacity.

Background: The OPAL and NEL pipelines

The Nord Stream pipeline consists of two parallel lines, which were launched in November 2011 and October 2012. From Vyborg in Russia, they pass under the Baltic Sea to make landfall at Greifswald, on Germany's northern coast. Together, they have the capacity to transport approximately 55 billion cubic metres (bcm) per year of Russian gas to Germany.

From there, two pipelines – OPAL and NEL – deliver gas onwards to European consumers. OPAL and NEL were commissioned in November 2011 and November 2012 respectively.

NEL has a capacity of 24 bcm per year and runs west from Greifswald to the Rehden underground gas storage facility in north-western Germany. From there, gas may flow onwards to the Netherlands, Belgium, and the UK. Due to delays, the NEL pipeline did not reach complete commercial operation until November 2013. During these delays, NEL operated at approximately 20 percent capacity (4 bcm per year).

OPAL has an entry capacity of around 37.2 bcm per year at Greifswald, the point at which it receives gas from Nord Stream. It transports gas from Nord Stream south to Brandov on the German-Czech border.

When it reaches the German-Czech border, the OPAL pipeline has a capacity of around 31.7 bcm per year, as it connects with the Gazelle pipeline, which crosses the western Czech Republic from north to south, before re-entering Germany at Waidhaus.

At its mid-point, OPAL also allows the offtake of around 5 bcm per year for sale into the German Gaspool market area.

Thus, OPAL allows the delivery of Russian gas to Germany and the Czech Republic via Nord Stream.

The Nord Stream, OPAL, and NEL shareholders

The Nord Stream shareholders are Gazprom (51 per cent), Wintershall and E.ON (15.5 per cent each), and Gasunie and ENGIE (9.0 per cent each).

Gazprom's participation in OPAL and NEL is through Gazprom's 50 per cent shareholding in WIGA Transport Beteiligungs (WIGA), in partnership with the other WIGA shareholder, Wintershall.

The OPAL pipeline is 80 per cent owned by WIGA through its subsidiary, OPAL Gastransport and 20 per cent by Lubmin-Brandov Gas Transport (LBGT), an infrastructure affiliate of Uniper. Uniper was spun off from E.ON in 2016, and is now 50 per cent owned by the Finnish Fortum.

The NEL pipeline shareholders are the WIGA subsidiary, NEL Gastransport (51 per cent), Gasunie Deutschland (25 per cent), and Fluxys Deutschland (24 per cent).

In addition to being the majority shareholders, OPAL Gastransport and NEL Gastransport are the technical operators of the OPAL and NEL pipelines.

Therefore, Gazprom effectively holds a 40 per cent stake in the OPAL pipeline and a 25.5 per cent stake in the NEL pipeline. At the entry point of Greifswald, only gas exported from Russia by Gazprom, via the Nord Stream pipeline, enters the OPAL and NEL pipelines. This is because Gazprom has a legal monopoly on the pipeline export of gas from Russia.

The principle of third-party access

EU gas market legislation provides for 'third party access' to gas pipelines. This principle means that operators of pipeline infrastructure must allow other energy companies to utilise that infrastructure. In order to prevent monopolisation of pipelines operators are obliged to reserve a set percentage of the pipeline capacity for use by third parties.

The capacity to be reserved for third parties is not explicitly specified in the Third Gas Directive.[1] Instead, Article 32 ('Third Party Access') simply states:

> Member States shall ensure the implementation of a system of third-party access to the transmission and distribution system, and LNG facilities based on published tariffs, applicable to all eligible customers, including supply undertakings, and applied objectively and without discrimination between system users.

Rather, the specification of how much capacity must be reserved for third parties is the prerogative of the relevant NRAs, and their rulings must be approved by the European Commission.

In most cases in the EU, the entire capacity of a pipeline is made available by the pipeline operator for booking by companies that wish to transport gas from one place to another. This is because pipeline Transmission System Operators (TSOs) are not engaged in the production of gas, or the sale of gas to final consumers, and thus do not need to book their own capacity.

Under current EU legislation, pipelines can be operated by a) independent companies (whose only business is to own and operate pipelines), b) independent companies that operate pipelines owned by companies that are engaged in upstream gas production or downstream gas sales to consumers; or c) by companies that are 'legally separate' from a parent company that is engaged in upstream gas production or downstream gas sales to consumers.

The importance of OPAL and NEL for Gazprom

OPAL and NEL were built as onshore continuations of Nord Stream, as evidenced firstly by the approximate correlation between the exit capacity of Nord Stream and the combined entry capacities of OPAL and NEL, and secondly by the overlap of shareholders between Nord Stream, OPAL, and NEL.

Furthermore, given that Gazprom supplies the gas that feeds into OPAL and NEL via Nord Stream, it is hardly surprising that Gazprom wishes to book the entire capacity of the OPAL and NEL pipelines.

[1] European Parliament and Council Directive 2009/73/EC

Because the combined capacity of OPAL and NEL at the point where they receive gas from Nord Stream is 61 bcm per year – 7 bcm more than the nameplate capacity of Nord Stream itself – any substantial restriction on the use of OPAL and NEL beyond this 7 bcm would, in effect, restrict the use of Nord Stream.

Applying the principle of TPA to OPAL and NEL

Gazprom and its partners have long argued that OPAL and NEL are extensions of Nord Stream, and should therefore be exempt from EU legislative requirements concerning third party access to gas pipelines.

The possibility of such exemptions, for a defined period of time, is provided for in Article 36 of the Third Gas Directive. To this end, OPAL Gastransport and NEL Gastransport, the operators of OPAL and NEL, applied for such exemptions from the German government.

The request by NEL Gastransport was not granted by German authorities. This is because NEL is not a 'cross border' pipeline, and only delivers gas to destinations in Germany. Therefore, shippers can book up to 100 per cent of the capacity of the NEL pipeline through the PRISMA platform, with no 'firm' capacity specifically reserved for the pipeline shareholders.

By contrast, the two shareholders in the OPAL pipeline, OPAL Gastransport and LBGT (then E.ON) were each granted partial exemptions by the German regulator, BundesNetzAgentur (BNetzA), in February 2009.

The partial exemption for OPAL Gastransport was modified and subsequently confirmed by the European Commission on the 12th of June 2009, while the partial exemption granted to LBGT was confirmed unchanged by the Commission. These would be valid for 22 years from the commissioning of the OPAL pipeline.

In granting these partial exemptions, the capacity of the OPAL pipeline was divided into two parts: Most of the capacity was classed as 'coupled'. This refers to capacity along the entire length of the pipeline, with entry at Greifswald (Nord Stream) and exit at Brandov (Czech border).

The OPAL Gastransport website refers to this 'coupled' capacity as non-regulated transit capacity (BZK). It is 'non-regulated' because it is not subject to EU gas market provisions regarding third-party access.

The remaining capacity was classed as 'de-coupled'. This refers to capacity that can be booked (for example) from Greifswald to the off-take point just south of Berlin, or from Berlin to the Czech border.

Only the 'coupled' capacity (that is 'transit' or 'cross-border') was granted a partial exemption from the need to provide third-party access. Furthermore, only part of this coupled capacity was granted an exemption, thus making the exemption doubly partial.

Of the 31.7 bcm of 'coupled' capacity for the transportation of gas from Greifswald (entry) to Brandov (exit), half was exempted from the requirement to provide access to third parties – 15.85 bcm per year.

Gazprom was explicitly forbidden from bidding for the remaining 50 per cent of this 'coupled' transit capacity. This aimed to avoid Gazprom monopolising the pipeline bringing gas to the Czech Republic from Germany. Specifically, the June 2009 Commission

decision – Decision C(2009) 4694 of 12 June 2009 – stated the following:[2]

> an undertaking dominant on one or several large markets in natural gas upstream or downstream covering the Czech Republic shall not be authorised to reserve, in a single year, more than 50% of the transport capacities of the OPAL pipeline at the Czech border…
>
> The limit of 50% of the capacities may be exceeded if the undertaking concerned releases to the market a volume of 3 billion m3 of gas on the OPAL pipeline under an open, transparent and non-discriminatory procedure ("Gas Release Programme").

The 'dominant undertaking' in this case is Gazprom, which at the time held an almost complete monopoly over Czech gas imports.

As a result of the June 2009 ruling, with no other source of gas into OPAL than Gazprom-supplied gas from Nord Stream, the OPAL pipeline remained under-utilised – and so did Nord Stream.

Project in limbo: Waiting game for a European Commission ruling on OPAL

In October 2013, BNetzA reached an agreement with OPAL Gastransport and Gazprom to amend the 2009 exemption. It was proposed that the exemption would still only cover the 'coupled' capacity from Greifswald to Brandov, and that only half of that capacity would be exempt from the need to grant third-party access.

However, the key change was that the remaining 50 per cent of coupled capacity would be booked via a capacity auction, with Gazprom would be allowed to bid only at a 'reserve price', thus allowing third parties to easily outbid Gazprom. In effect, Gazprom would be allowed to book the remaining 50 per cent of that coupled capacity if no other third parties wanted it. The first auction was proposed for July 2014.

In the intervening period, EU-Russia relations were overshadowed by the Russian annexation of Crimea and the outbreak of armed conflict in eastern Ukraine. In that context, the Commission delayed its confirmation of the OPAL settlement, and the auction was cancelled. Finally, the Commission announced its agreement with BNetzA to prolong indefinitely the deadline for a decision on OPAL.

The Commission reconsiders the OPAL case (May 2016)

In May 2016, Gazprom reportedly reached an agreement BNetzA. The details of that agreement were not made public, but the agreement appears to have triggered a request on the 13th of May from BNetzA to the European Commission, to reconsider the case.

However, on the 22nd of July, reports emerged that the European Commission would once again delay its final ruling on the OPAL pipeline, and had requested 'further technical information' from the BNetzA.

The European Commission ruling (October 2016)

On the 28th of October, the European Commission approved new rules for the operation of OPAL. Of the 37.2 bcm entry capacity of OPAL, 50 per cent (18.5

[2] https://www.bundesnetzagentur.de/DE/Service-Funktionen/Beschlusskammern/1_GZ/BK7-GZ/2008/2008_0001bis0999/2008_001bis099/BK7-08-009/BK7-08-009_und_010_Stellungnahme%20EU_KOM-OPAL_geschwaerzt_download_bf.pdf?__blob=publicationFile&v=4

bcm) was exempted from third party access provisions, while 10-20 per cent (3.7-7.4 bcm) was reserved for third parties. The remaining 30-40 per cent (11.1-14.9 bcm) was made available for bidding from all parties, including Gazprom.

The flexibility regarding the amount of capacity reserved for third parties was dependent on the levels of demand for capacity from such third parties.

While Gazprom – as a company with a dominant position on the Czech market – would not be allowed to outbid competitors for this remaining 30-40 per cent capacity, the fact that OPAL receives gas only from Nord Stream suggested that there would be little demand for this capacity from other companies. Theoretically, if no competitors bid for any OPAL capacity, Gazprom could have used up to 80-90 per cent of OPAL's capacity – equal to 29.8-33.5 bcm.

To recap, the 2009 ruling limited Gazprom to booking 50 per cent of the OPAL exit capacity at Brandov, the settlement proposed in October 2013 would have allowed Gazprom to book 100 per cent of the OPAL capacity if it was not required by third parties, and the October 2016 ruling would have allowed Gazprom to book up to 80-90 per cent of the OPAL capacity, depending on demand from third parties.

ECJ suspends European Commission ruling on OPAL pending final decision (December 2016)

The German regulator, BNetzA, began to implement the Commission ruling, signing an agreement with Gazprom and OPAL Gastransport, on the 28th of November. That agreement was due to enter into force on the 31st of December.

OPAL Gastransport held its first auction for monthly capacity on the OPAL pipeline on the 19th of December, for capacity usage in January 2017. Virtually all of that capacity was sold, which subsequently resulted in record flows through OPAL in early January.

However, on the 4th of December, PGNiG Supply & Trading (a German subsidiary of the Polish PGNiG), filed a suit at the European Court of Justice (ECJ), challenging the Commission's October ruling. PGNiG also challenged the fact that the European Commission and the BNetzA had not yet published the full text of the ruling from the 28th of October.

On the 15th of December, PGNiG and PGNiG Supply & Trading challenged the agreement between BNetzA, OPAL Gastransport, Gazprom, and Gazprom Export of the 28th of November at the Higher Regional Court of Appeals in Dusseldorf. PGNiG also demanded the suspension of the implementation of the BNetzA-Gazprom agreement, before it entered into force. The PGNiG challenge was supported by an additional challenge lodged by the Polish government on the 16th of December.

As a result, a tribunal at the General Court of the Court of Justice of the EU (CJEU) tribunal provisionally suspended the European Commission's ruling on the 23rd of December. The suspension was confirmed by PGNiG on the 27th of December. The PGNiG-BNetzA / OPAL Gastransport / Gazprom / Gazprom Export case was then referred to the Higher Regional Court of Appeals in Dusseldorf.

Court of Justice of the EU annuls suspension of Commission ruling on OPAL (July 2017)

In late July, both the General Court of CJEU tribunal and the Higher Regional Court of Appeals in Dusseldorf ruled to annul their respective suspensions.

The General Court ruling annulled the suspension that had been enacted in December 2016, and restored the provisional ruling of October 2016, pending a final ruling. The Dusseldorf ruling annulled the suspension of the BNetzA-Gazprom agreement.

Together, these annulments effectively allowed Gazprom to use 50 per cent of the OPAL pipeline capacity as exempt from third-party access provisions, and to bid for a further 30-40 per cent of that capacity in competition with other shippers. Given the lack of competing shippers, this had the effect of allowing Gazprom to use up to 80-90 per cent of the OPAL pipeline capacity.

The September 2019 ruling

Finally, on the 10th of September 2019, the General Court of the CJEU announced its final ruling: The European Commission ruling of October 2016 would be annulled, and the partial exemption originally granted in June 2009 would be reinstated.[3]

Therefore, as noted earlier, Gazprom is now restricted to booking just 50 per cent of the capacity of OPAL at its exit point at Brandov, on the German-Czech border, while the remaining 50 per cent of that Brandov exit capacity is effectively 'off limits' to Gazprom.

An understanding of the implications of this requires an assessment of the capacities at the entry and exit points of OPAL, and the share of those capacities held by Gazprom.

OPAL, NEL, and Nord Stream capacities

According to ENTSOG, the NEL pipeline entry capacities are held by NEL Gastransport (360.5 GWh/d), Gasunie Deutschland (177.6 GWh/d), and Fluxys Deutschland (164.0 GWh/d) – a total of 702.1 GWh/d. This means that the NEL pipeline has entry capacity of 65.65 million cubic metres per day (mmcm/d), which equates to 23.96 bcm per year.[4]

At Greifswald, the OPAL pipeline has 871.6 GWh/d of firm technical entry capacity owned by OPAL Gastransport and 217.9 GWh/d of firm technical capacity owned by Lubmin-Brandov Gas Transport (LBTG) – a total of 1,089.5 GWh/d.

These equate to 81.5 mmcm/d of capacity for OPAL Gastransport and 20.4 mmcm/d for LBTG – 101.9 mmcm/d in total. In annual terms, the entry capacity of OPAL is therefore 37.2 bcm, including 29.75 bcm held by OPAL Gastransport and 7.45 bcm by LBTG.

At the OPAL pipeline exit point, at Brandov on the Czech border, the exit capacities held by OPAL Gastransport and LBGT (as of 30th September 2019) are 737.6 GWh/d and 190.4 GWh/d, respectively – a total of 928.0 GWh/d. These volumes in GWh/d equate to 69.0 mmcm/d for OPAL Gastransport and 17.8 mmcm/d for LBGT – a total of 86.8 mmcm/d. In annual

[3] https://curia.europa.eu/jcms/upload/docs/application/pdf/2019-09/cp190107en.pdf

[4] Based on 10.695 GWh per 1,000 standard cubic metres

terms, these exit capacities are 25.2 bcm for OPAL Gastransport and 6.5 bcm for LBGT – 31.7 bcm in total.

For OPAL Gastransport, this is a slight decline from the 761.5 GWh/d (71.2 mmcm/d or 25.988 bcm per year) it held up to the 12th of September 2019.

The difference between the entry and exit capacities is accounted for by offtake capacity in the mid-section of the OPAL pipeline, just south of Berlin. For OPAL Gastransport, this concerns 110.1 GWh/d (10.29 mmcm/d or 3.756 bcm per year) and for LBGT, this concerns 27.5 GWh/d (2.57 mmcm/d or 0.938 bcm per year). In total, this regulated capacity amounts to 137.6 GWh/d, 12.9 mmcm/d, or 4.7 bcm per year.

Therefore, the OPAL and NEL combined entry capacities are 1,791.6 GWh/d, equal to 167.5 mmcm/d, or 61.1 bcm per year. For comparison, the widely-reported capacity of Nord Stream is 55 bcm per year.

OPAL, NEL, and Nord Stream gas flows in 2018

According to ENTSOG data on physical flows, OPAL and NEL received a combined average of 616,417 GWh (57.64 bcm) via Nord Stream in 2018. This is 4.8 per cent higher than the Nord Stream nameplate capacity.

Given that gas pipelines can indeed operate at slightly above their 'nameplate' capacity by increasing the pipeline pressure, this suggests that Nord Stream was effectively operating at full capacity in 2018.

The same was true of the OPAL and NEL pipelines. In 2018, the OPAL pipeline received 36.08 bcm via Nord Stream (97 per cent of its capacity), while NEL received 21.56 bcm (90 per cent of its capacity).

These flows were made possible by Gazprom's ability to book the majority of OPAL and NEL capacity, and to fill those pipelines with gas delivered via Nord Stream.

Immediate implications of the September 2019 ruling

The June 2009 exemption concerned 31.7 bcm per year of capacity that was offered as coupled capacity for entry at Greifswald and exit at Brandov. In other words, capacity that related to the use of OPAL as a 'transit' pipeline across Germany from the Baltic Sea to the Czech Republic. These volumes also equate to the entire exit capacity at Brandov.

The remaining capacity for offtake at the mid-point of OPAL for sale in the Gaspool market area was never exempted, because it was not 'cross-border capacity', and so is not affected by the recent ruling.

By limiting Gazprom (as a 'dominant undertaking') to booking just 50 per cent of the capacity of OPAL at Brandov, the recent ruling places 15.85 bcm per year of OPAL capacity as 'off limits' to Gazprom.

This corresponds to the press release issued by OPAL Gastransport on the 16th of September, which noted that 15.86 million kWh per hour (380.64 GWh/d, 35.6 mmcm/d, or 12.994 bcm/year) of capacity was restricted as a result of the ruling. In this case, the term 'restricted' means that it cannot be booked by Gazprom, or any company with a dominant position on the Czech gas market.

Although LBGT has not issued a press release, the same will apply to their 6.5 bcm per year of capacity at Brandov, which is all offered as 'coupled' capacity – half of that capacity will be 'off limits' to Gazprom.

According to data from ENSTOG, the implementation of the ruling resulted in an immediate drop of daily exit flows at Brandov, from 1,020 GWh on the 13th of September to 565 GWh on the 14th of September.

In million cubic metres per day, this equates to a drop from 95 mmcm/d to 53 mmcm/d. In annual terms, this equates to a drop of 15.5 bcm – from 34.8 bcm to 19.3 bcm. This is almost precisely the amount that was placed 'off limits' to Gazprom by the recent ruling.

For context, exit flows from OPAL at Brandov throughout 2019 were generally between 900 GWh/d and 1,000 GWh/d, with peaks up to 1,080 GWh/d. This suggests that OPAL was being used close to (and beyond) its full capacity through much of the year.

The fact that the drop in flows into OPAL at Greifswald was less than the drop in flows out of OPAL at Brandov also suggests the offtake of gas at the OPAL mid-point for the Gaspool market area.

The role of interruptible capacity on OPAL

In addition to the firm technical capacity offered by OPAL Gastransport and LBGT on the OPAL pipeline, a smaller amount of 'interruptible' capacity is offered.

As the name suggests, interruptible capacity is "capacity that may be interrupted by the transmission system operator in accordance with the conditions stipulated in the transport contract"[5]. This may be when the system is congested, and capacity is re-allocated to a higher-priority customer that holds a 'firm' capacity booking.

By contrast, firm capacity cannot be interrupted. As such, interruptible capacity is useful for short-term bookings, while firm capacity is used for long-term bookings.

The additional flows through OPAL above and beyond the firm technical capacity in 2019 indicate the use of interruptible capacity.

At the entry point at Greifswald, this interruptible capacity offered by OPAL Gastransport has been 380.75 GWh/d throughout 2019. At the exit point of Brandov, it was 103.5 GWh/d throughout H1-2019, rising to 380.75 GWh/d between the 27th of June and 22nd of September, falling to zero before rising back to 103.5 GWh/d on the 1st of October.

This interruptible capacity may have been booked by the other gas traders, for short-term deliveries from the Gaspool market area to the Czech border, for sale into the Czech Virtual Trading Point (VTP) market area, to take advantage of the price differentials between these two market areas.

While the interruptible exit capacity at Brandov has been booked at a constant 103.5 GWh/d throughout 2019, the amount of interruptible entry capacity at Greifswald boked rose from around 120 GWh/d on the 13th of September to 264 GWh/d on the 2nd of October.

This suggests that the 'firm' capacity that was previously used by Gazprom is not being taken up by other users, and that the resulting spare physical capacity on the pipeline is being taken up by other users on an interruptible (and likely short-term) basis.

[5] Gas Regulation (Regulation (EC) No 715/2009

Can spare capacity on NEL be used?

Given that Gazprom's gas deliveries via OPAL must be reduced by 15.85 bcm per year as a result of the September ruling, this begs the question of whether some of these volumes can be made up by increasing flows through NEL.

In 2018, the NEL pipeline had approximately 2.4 bcm of cumulative spare capacity over the course of the year. If this spare capacity is subtracted from the 15.85 bcm of capacity that Gazprom has effectively 'lost' via OPAL, then Gazprom effectively needs to reduce flows via Nord Stream by 13.45 bcm per year.

Taking 2018 as the point of comparison, this would see Gazprom able to deliver 44.2 bcm via Nord Stream – 80 per cent of Nord Stream's nameplate capacity'. This is more than the 43.8 bcm Gazprom delivered via Nord Stream in 2016, but less than 51.0 bcm it delivered in 2017, according to Nord Stream AG.[6]

A further problem is that NEL carries gas to north-west Europe, while OPAL carries gas to the Czech Republic and onwards to southern Germany. So spare capacity on NEL cannot help Gazprom reach these markets.

Broader implications for Nord Stream 2

The Nord Stream 2 pipeline is currently under construction in the Baltic Sea, to bring gas from Russia (Ust-Luga) to Germany (Lubmin). Nord Stream 2 is planned to consist of two parallel pipelines, with a combined capacity of 55 bcm per year.

As an onward connection, the EUGAL pipeline is currently under construction. That pipeline is intended to run in parallel with the OPAL pipeline, with an overall capacity of 55 bcm per year. Of that 55 bcm, 45.1 bcm is intended for onward delivery to the Czech Republic, and 9.9 bcm to the Net Connect Germany (NCG) market area.

As an outlet for gas delivered via EUGAL to the German-Czech border, the Czech TSO, Net4Gas, is undertaking its 'Capacity 4 Gas' project. That project entered the construction phase in 2018. It involves expanding the capacity of the system to deliver gas onward to southern Germany and Slovakia (see appendix). Furthermore, Net4Gas is planning a pipeline connection to Austria, though it has not yet taken FID.

Taken together, these projects would enable the delivery of gas from Nord Stream 2 via EUGAL and the Czech pipeline system to Austria. This would dramatically reduce the need to deliver gas to Austria (and onwards to Italy) via Ukraine.

If the September 2019 ruling regarding OPAL sets a precedent for the EUGAL pipeline (i.e. limiting the amount of capacity that Gazprom can book on the German-Czech border), the whole project to deliver gas to Austria via Nord Stream 2 – and thus reduce Russian gas transit via Ukraine – is thrown into doubt.

[6] https://www.nord-stream.com/press-info/press-releases/nord-stream-reaches-average-utilisation-of-93-in-2017-51-bcm-delivered-to-the-european-union-500/

Gazprom on the European market

First anniversary of Gazprom's Electronic Sales Platform

The 20th of September marked a year since the launch of Gazprom's Electronic Sales Platform (ESP).

While the first full month of sales in October 2018 saw sales of 585 mmcm, the most recent sales in September 2019 saw Gazprom achieve sales volumes of 1,389 mmcm.

The ESP initially offered volumes for delivery in the following month, month+2, and month+3. The first day-ahead sale was concluded on the 18th of December, the first sale for within-month delivery was concluded on the 10th of January, and the first sale for weekend delivery was concluded on the 18th of January.

The ESP offers gas for delivery to TTF (the Dutch gas hub), the Gaspool market area in northern Germany, the Net Connect Germany (NCG) market area in southern Germany), and the Austrian and Slovak Virtual Trading Points (VTPs). In addition to these market areas, ESP volumes are also available for delivery to specific cross-border points: Arnoldstein, Baumgarten, Beregovo, Olbernhau, and Waidhaus. Olbernhau is located on the German-Czech border, at the southern end of the OPAL pipeline. The Gazelle pipeline crosses the Czech Republic and re-enters Germany at the Waidhaus interconnection point. Beregovo lies on the Ukraine-Hungary border, while Baumgarten lies on the Slovakia-Austria border, and Arnoldstein is located on the Austria-Italy border.

The majority of these delivery destinations are served via the Nord Stream and Yamal-Europe pipelines, while deliveries to Beregovo, the Slovakia VTP, Baumgarten, the Austrian VTP, and Arnoldstein are via Ukraine.

In the first year of its operation, the ESP has seen sales volumes of 13 bcm. Of that 13 bcm, 11.5 bcm was delivered in the 12 months between the 1st of October 2018 and 30th of September 2019 – the remaining 1.5 bcm is scheduled for delivery in Q4 2019.

For comparison, Gazprom's physical deliveries to the continental European market (excluding direct flows to Finland, the Baltic states, and Turkey, which in any case are not delivery destinations served by the ESP), totalled around 174 bcm in the same period.

Therefore, between the 1st of October 2018 and 30th of September 2019, gas sold via the ESP accounted for around 7.5 per cent of Gazprom's total physical deliveries to the continental European market.

The most popular sales destinations were: Gaspool (41 per cent of the total), Slovakia (18.6%), NCG (12.2%), Austria (8.7%), TTF and Olbernhau (7.0% each). Together, these six destinations accounted for 94.5 per cent of total ESP sales in the first year.

The most popular delivery schedules were: month+1 (46%), prompt (28.9%), month+2 (9.9%), and within-month (8.4%). If only sales data since February 2019 – the first full month for which prompt deliveries were available – is considered, the most popular delivery schedules were: month+1 (41%), prompt (33.9%), within-month (9.9%), and month+2 (7.7%). The term 'prompt' refers to day-ahead, weekend, Saturday, or Sunday delivery.

Finally, regarding prices, the ESP GazEx Index (a weighted average of all sales conducted on the ESP in a calendar month) may be compared to the day-ahead and month+1 prices on European hubs as a 'floor' and 'ceiling' for comparison.

The ESP GazEx Index has remained at a premium to the day-ahead prices at TTF, Gaspool, NCG, and the Czech VTP, with the exceptions of April and July 2019. However, between April and July 2019, the ESP Index was below monthly average day-ahead prices in the Austrian and Slovak VTPs.

When we consider month+1 hub prices – for example, the purchase of gas in September for delivery in October – the premium of the ESP Index over TTF, Gaspool, NCG, and the Czech VTP has been limited since April 2019, and the ESP Index has been below Austrian and Slovak VTP prices since then. Indeed, in September 2019, the ESP Index fell below month+1 prices at all of the hubs noted above.

It is necessary to exercise caution when comparing the ESP Index with competing hub prices, because the ESP Index is a weighted average of sales to multiple delivery points in accordance with a variety of delivery schedules (day-ahead, weekend, within-month, month+1, month+2, month+3, within-quarter, and quarter+1). Therefore, the ESP cannot be directly compared with any one set of European hub prices.

However, by using the day-ahead and month+1 prices as a floor and ceiling of competing prices, it may be concluded that since April 2019, sales via the ESP have at least been competitive with European hub prices – For most of Q2 and Q3 2019, the ESP Index sat above prices at the most liquid hubs of north-western Europe (TTF and Gaspool), but below prices on the less-liquid hubs of central Europe (Austria & Slovakia VTP).

The ESP has served several purposes for Gazprom. Firstly, it has allowed the company to sell volumes to new customers that currently do not have long-term contracts with Gazprom.

Secondly, some of Gazprom's existing long-term contract customers have been able to buy additional volumes at prices that have, at times, been below the prices in Gazprom's long-term contracts.

Thirdly, demand from both of these sets of customers has been driven by the desire to place gas in storage ahead of the expiry of the Gazprom-Naftogaz gas transit contract – the ESP has allowed Gazprom to service that demand.

Fourthly, Gazprom has been able to offer volumes for sale to specific delivery destinations as and when it has spare capacity on the pipeline routes that service those destinations, thus enabling Gazprom to maximise its utilisation of its export pipelines.

Finally, by selling short-term volumes via its own ESP, rather than by placing volumes on European hubs, Gazprom and its counterparties have been able to effectively hide the prices paid during their transactions. The prices paid on the ESP are known only to Gazprom and its counterparty, although Gazprom publishes its 'ESP Gaz Index'. By contrast, when Gazprom's trading subsidiary, Gazprom Marketing & Trading (GM&T), sells gas on European hubs, all traders on those hubs are able to see the price at which GM&T is offering gas.

Ukraine

Naftogaz buys gas for Q1 2020 delivery as Ukrainian storage levels continue to rise

On the 17th of September, Naftogaz announced that it has purchased 450 mmcm of gas from 'a major international trader' for physical delivery in Q1 2020. The press release quoted the Naftogaz Head of Integrated Gas Business, Andrew Favorov, as stating:

> Thanks to the developed European gas market, and despite the risk of gas transit interruption by Russia this coming winter, we have contracted the required volumes with physical delivery in Q1 2020. We have ensured the proper preparation for the coming heating season, injected additional gas volumes to our UGS facilities, made our GTS ready for operation without transit, and contracted physical gas deliveries that do not depend on Gazprom's behaviour. This gives us confidence that the winter season will be warm in Ukraine, whatever our northern counterparts may do.

On the same day, another Naftogaz press release announced that Ukraine's gas storage stocks had reached 19.5 bcm – a 4 bcm (26 per cent) increase on the same day in 2018.

Gazprom CEO briefs President Putin on winter preparations

On the 9th of September, the Gazprom CEO, Alexei Miller, met with the Russian President, Vladimir Putin, and briefed him on the company's preparation for the winter season. According to a transcript of the meeting, Miller told Putin:

> Before the end of the year, Gazprom will inject at least 11.4 billion cubic meters of gas into European UGS facilities, more than twice as much as last year.
>
> We see that our European partners are injecting gas at a very rapid pace, and our Ukrainian colleagues are trying to follow suit.
>
> Without a doubt, one of the factors behind the large amounts of gas being injected into UGS facilities is the expiration of the contract for gas transit across Ukraine on December 31 this year.
>
> The question of the transit contract is essential, and yet the top-priority question is whether Ukraine will buy Russian gas under a direct contract.

It is to be expected that Gazprom is injecting large volumes into European storage facilities to ensure the delivery of gas to its European customers in the event of an interruption in transit via Ukraine.

What is more surprising is Miller's suggestion that the question of direct Russian gas supplies to Ukraine – which have been suspended since 2015 – is the 'top priority'.

Given that the level of Ukrainian transit required by Gazprom will depend upon the completion of Nord Stream 2 (and EUGAL, the Czech network expansions, and the Czech-Austrian interconnector), and their subsequent levels of utilisation, it is possible that Miller is implicitly offering cheaper gas supplies to Naftogaz as a motivation for signing a new transit contract on terms favourable to Gazprom.

Ukrainian government approves unbundling of Ukrainian pipeline system from Naftogaz

On the 19th of September, Naftogaz issued a press release noting government approval of the unbundling of Ukraine's gas pipeline system from the state-owned, vertically-integrated gas company, Naftogaz.

The press release stated that a new TSO, Gas Transmission System Operator of Ukraine LLC (GTSOU), has been established, and added:

> The new resolution of the government stipulates for the sale of GTSOU by UTG to Mahistralni Gazoprovody Ukrainy JSC (MGU JSC), a state-owned company, which is independent from Naftogaz group.
>
> Along with the handover of GTSOU ownership to MGU, the government will transfer the gas transmission system under operational control of the new TSO. The government has transferred control over MGU to the Ukrainian Ministry of Finance.
>
> The model will ensure the new TSO's independence from Naftogaz and full separation of gas transmission operations from gas production and supply, which is the ultimate purpose of the unbundling.

Naftogaz and the Ukrainian government aim to complete the unbundling process by the end of 2019. Furthermore, it is the intention of the Ukrainian side that the new gas transit agreement will be signed between Gazprom and GTSOU.

EU, Russia, Ukraine trilateral gas talks held in Brussels

Also on the 19th of September, the latest round of EU-Russia-Ukraine trilateral gas talks took place in Brussels. Present were Minister of Energy and Environmental Protection of Ukraine, Oleksiy Orszhel, the Naftogaz CEO, Andriy Kobelev, the Russian Foreign Minister, Aleksandr Novak, the Gazprom CEO, Alexei Miller, and the EU Vice-President for Energy Union, Maroš Šefčovič.

At the meeting, Naftogaz presented its roadmap for the unbundling of the Ukrainian pipeline system to its EU and Russian counterparts at that meeting. According to a Naftogaz press release:

> Naftogaz notes the interest of the Russian side in constructive negotiations and their higher willingness to accept the modern regulatory framework for gas transmission via the Ukrainian GTS. In particular, for the first time Gazprom accepted a possibility to work in line with European rules since 1 January 2020 if they are fully implemented in Ukraine by the end of this year.

This summation of the meeting was echoed in the European Commission press release, which stated:[7]

> Firstly and importantly, both sides have agreed in principle that a future contract will be based on the EU law. We have clearly described to the Russian side that Ukraine is gradually implementing EU energy rules and a future contract must respect them.
>
> At the same time, Gazprom is well acquainted with EU rules in its commercial relations with European gas companies. This would therefore be a well-known territory.
>
> The Russian side has asked for assurances regarding the transposition of EU legislation into the Ukrainian law – that it is indeed the case. We will accelerate the work of EU Energy Community so that transposition is on time and correct.

This is interesting, because the longstanding Naftogaz negotiating position has been to try to induce Gazprom to sign a new, long-term transit agreement (of up to 10 years) for the transmission of substantial volumes, with the transit tariff stipulating per-unit prices that fall as volumes rise.

However, if the Ukrainian pipeline system really will be operated according the EU rules from the 1st of January 2020, then the new state-owned pipeline system operator, GTSoU, will be obliged to publish transparent

[7] https://europa.eu/rapid/press-release_STATEMENT-19-5689_en.htm

tariffs that are available to all shippers, with those shippers (such as Gazprom) able to book the volumes they require for the duration they require. This is very different to a negotiated, long-term contract.

Therefore, given that this approach would effectively allow Gazprom to book the transit it needs, rather that negotiate and bargain for it, it is hardly surprising that the Russian side sought assurances that the transposition of EU law into Ukrainian law would be completed by the end of 2019 and thus provide the legal context for transit from 2020 onwards.

In terms of forthcoming meetings, the Commission press release goes on to add:

> We have agreed that there will be an inter-ministerial consultation with the two companies participating to hammer out the remaining interlinked issues. We would resume at political level by the end of October when, I hope, we will have more progress on the remaining issues. We will remain in contact in the meantime.

So, as all sides – Gazprom, Naftogaz, and Gazprom's European customers – prepare for the worst by stockpiling gas for the winter, we will continue to monitor Ukraine's gas-sector reforms, Naftogaz's unbundling, and the progress of the two sides towards a solution that would maintain Russian gas flows to Europe via Ukraine in January 2020.

Quite what such an agreement would look like remains to be seen, but it is worth remembering that the deterioration of relations between Gazprom and Naftogaz was strongly influenced by the fact that their bilateral long-term (10 year) contracts for gas supply and gas transit, signed in January 2009, diverged further and further from commercial reality, and so were effectively ignored to a greater and greater degree by both parties.

On the gas supply side, Naftogaz no longer requires anywhere near the volumes it was committed to purchase every year from Gazprom, just as Gazprom no longer needs the volumes it committed to transit via Ukraine every year.

Therefore, if the two sides are to reach a new agreement, it must be one that reflects the current commercial reality. For example, Naftogaz would benefit from purchasing gas from Gazprom directly, if that gas were priced competitively (for example, netted back from a relevant European hub), and were part of a diversified portfolio of imports. Likewise, Gazprom is likely to require substantial transit via Ukraine only until Nord Stream 2 and Turkish Stream are fully operational, and lower transit volumes thereafter.

Nord Stream

Nord Stream 2 AG continues legal challenge to EU Gas Directive amendment under Energy Charter Treaty

In May 2019, the EU Gas Directive was amended, so as to apply EU gas market regulations to pipelines in the 'jurisdictions' of EU member states (i.e. in their territorial waters) and not just on their onshore territories.

In effect, this means the application of EU gas market regulations to the Nord Stream 2 pipeline – which is currently under construction – in German territorial waters. As the map in the appendix demonstrates, the pipeline crosses only the Exclusive Economic Zones

(EEZs) and not territorial waters of Finland and Sweden. The same is likely to be the case regarding Denmark in relation to Bornholm Island.

According to a Nord Stream 2 AG press release published on the 26th of July:

> On April 12, 2019, Nord Stream 2 AG triggered the three-month consultation period during which parties must seek an amicable settlement before a notice of arbitration can be served. On June 25, a meeting took place between the European Commission and Nord Stream 2 aiming at an amicable settlement under the rules of the ECT. Until today, an amicable settlement has not been reached, and this three-month period has now expired.

At the end of September, it was announced that Nord Stream 2 AG (in which Gazprom is the only shareholder) would move to the next stage of arbitration. Although Nord Stream 2 AG has not issued a press release, its EU Representative, Sebastian Sass, gave a statement to the media:

> Nord Stream 2 AG has now decided to ask the arbitral tribunal to determine that the European Union is in breach of its international law commitments under the [treaty] and to make orders requiring the EU to discontinue its breach.

It should be remembered that, on the 25th of July 2019, Nord Stream 2 AG also brought a case to the General Court of the Court of Justice of the EU (CJEU), requesting the annulment of the amendment to the Gas Directive.

The amendment to the Gas Directive was approved by the European Parliament and Council of the EU in April 2019, passing into EU law the following month. EU member states have until February 2020 to transpose the legislation into their own national laws.

If EU gas market regulations are applied to Nord Stream 2 in German territorial waters (without any exemptions), Nord Stream 2 AG will be obliged to publish its tariffs and reserve a percentage of the capacity of Nord Stream 2 for booking by third parties. The German regulator, the BNetzA, would be responsible for determining how much capacity would be reserved for third parties, subject to approval by the European Commission (as in the case for OPAL).

At present, Gazprom would effectively pay transportation tariffs to itself (as the sole owner of Nord Stream 2 AG), while the reservation of part of the capacity of Nord Stream 2 would result in the pipeline being used below its technical capacity, because Gazprom holds a legal monopoly on pipeline gas exports from Russia. This latter point could only be overcome by Gazprom selling gas to European companies, with the legal ownership of the gas being transferred at the point at which the gas leaves the Russian onshore pipeline system and enters the offshore Nord Stream 2 pipeline.

As the pipeline operator, Nord Stream 2 AG would also be subject to some form of 'unbundling', although it is likely that the BNetzA would approve a 'legal unbundling' of Nord Stream 2 AG from Gazprom. This would require Nord Stream 2 AG to be based in a different physical location, with different staff, IT systems, accounts, and so on. To all intents and purposes, a separate company. This model of unbundling has been applied to Gascade (co-owned by Gazprom and Wintershall through their subsidiaries), which was certified by the BNetzA as a pipeline operator in Germany.

Southern Corridor

Bulgaria awards construction contract for 'Balkan Stream' as onward extension of Turkish Stream

On the 18th of September, the Bulgarian gas pipeline system operator, Bulgartransgaz, announced that it had signed a contract with the Saudi engineering consortium, 'Arcade', for the construction of a pipeline from Bulgaria's Turkish border to its Serbian border.

The pipeline, referred to as 'Balkan Stream' is intended to deliver gas from the second line of Turkish Stream onwards to Serbia, whence it will be delivered onwards to Hungary and Central Europe.

The contract was originally awarded to Arcade via tender in April 2019. Arcade was then dropped for allegedly not filing the correct paperwork. A new construction consortium – DZZD – was selected in May 2019. In June, Arcade appealed against the decision to annul the first tender and won its appeal. Then, in July, DZZD appealed against the decision to revert the contract to Arcade. Finally, in September, the Bulgarian Supreme Administrative Court dismissed the DZZD appeal, thus allowing Bulgartransgaz and Arcade to proceed with the project.

As a result of these legal delays in choosing a construction consortium, the Balkan Stream pipeline will be delayed. The contract between Bulgartransgaz and Arcade allows Arcade 615 days to complete the pipeline. This means that the pipeline will likely not be completed until late 2021 at the earliest (that is, if there are no more delays).

These delays could influence Gazprom's estimation of the volume of transit it will require via Ukraine in 2020 and 2021, given that the onward extension of Turkish Stream via Bulgaria to Serbia and Hungary is intended to replace volumes currently delivered to Hungary and Serbia via Ukraine. In 2018, around 11.5 bcm was delivered via Ukraine to Hungary and Serbia.

Bulgartransgaz plans south-to-north gas flows from Turkey to Romania

According to a Bulgartransgaz press release issued on the 3rd of September, the company hosted a roundtable on the concept of a 'Balkan Gas Hub'.

At that event, the CEO of Bulgartransgaz, Vladimir Malinov, announced that the company expected to sign an agreement with the Romanian TSO, Transgaz, by the end of October to allow the reversal of one line of the 'Trans-Balkan Pipeline' at Negru Voda on the Bulgaria-Romania border, to allow gas to flow from south to north at a volume of 1.5 bcm per year.

Malinov also told those present that Bulgartransgaz was pursuing an agreement with the Turkish TSO, Botaş, to reverse flows at the Malkoclar interconnection on the Bulgaria-Turkey border, to allow south-to-north flows. This would enable Bulgaria to receive Russian gas via Turkish Stream, rather than via Ukraine and Romania.

While Bulgartransgaz is not exactly racing ahead with the Balkan Stream project, it is making progress to ensuring that it will receive gas from Gazprom even if a new Ukrainian transit agreement is not reached.

Asia

Novatek reaches FID on Arctic LNG 2 as the company develops its ability to ship LNG to Asia

On the 5th of September, Novatek announced that it had taken a Final Investment Decision (FID) on its Arctic LNG 2 project, to build another LNG export terminal in northern Russia. According to the press release:

> The LNG plant will consist of three (3) liquefaction trains with overall production capacity of 19.8 million tons per annum. The launch of LNG train #1 is scheduled for 2023, with LNG trains #2 and #3 to be launched in 2024 and 2026, respectively. Capital expenditures to launch the project at full capacity is estimated at US$21.3 billion equivalent.

Novatek holds a 60 per cent stake in the project, while its partners, Total, CNPC, and CNOOC, each hold 10 per cent. The final 10 per cent is held by a consortium of Japanese firms (Mitsui and Jogmec).

Sources report that Novatek holds a 12 million tonnes per year (mtpa) offtake entitlement, while each of the project partners holds a 2 mtpa offtake entitlement, in line with their shareholdings.

Novatek's first LNG export terminal – Yamal LNG – consists of three trains, which were launched in December 2017, August 2018, and November 2018. The three trains of 5.5 mtpa give a total capacity of 16.5 mtpa. A fourth train, using Novatek's proprietary 'Arctic Cascade' technology is currently under construction, and will have a capacity of 0.9 mtpa.

Asia remains the primary export market for Yamal LNG and Arctic LNG 2, with related developments in shipping between north-west Russia and Asia via the Northern Sea Route (NSR), along Russia's Arctic coastline.

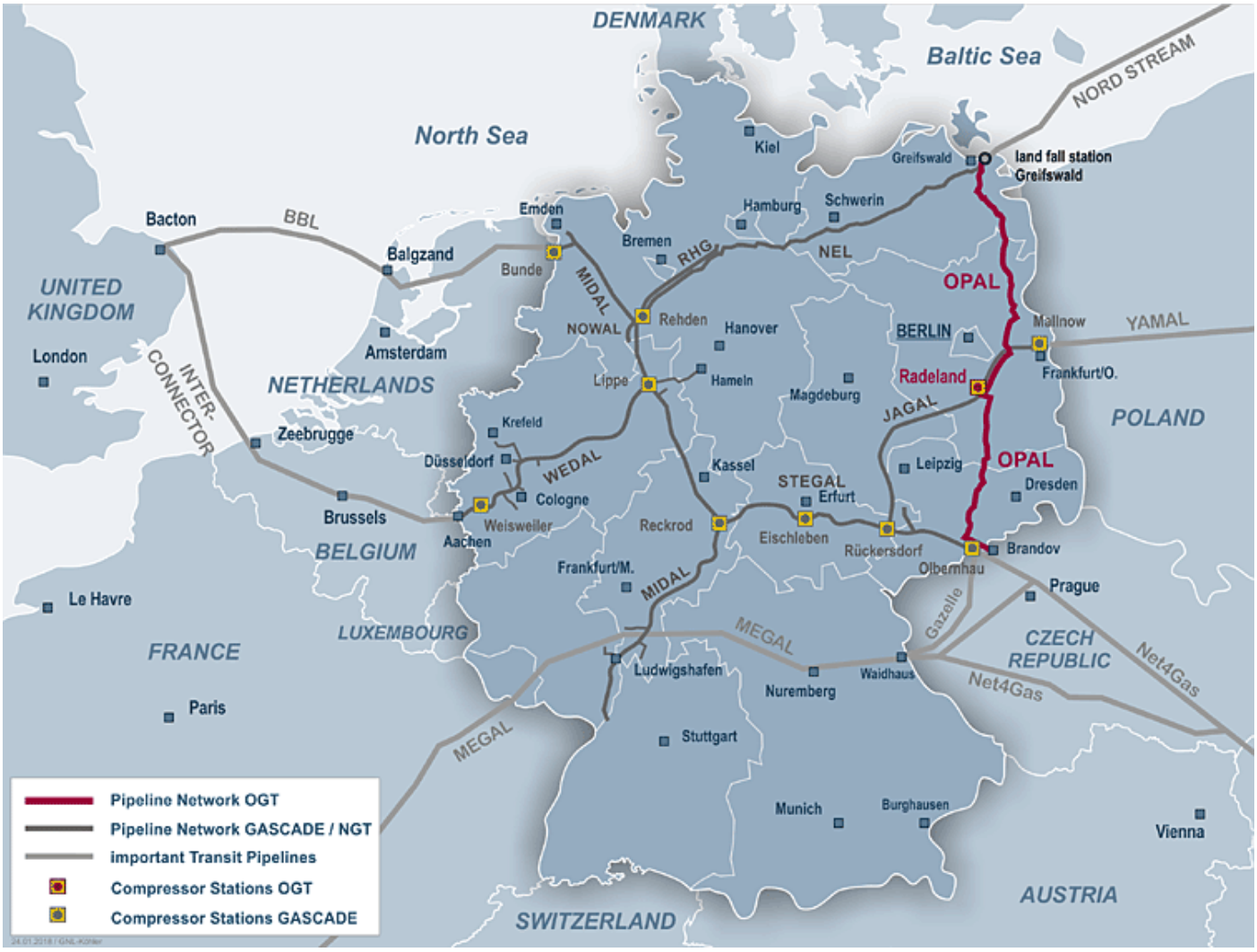
At the Eastern Economic Forum in Vladivostok in early September, Novatek signed a Heads of Agreement with the Russian shipping company, Sovcomflot, on creating a joint venture that will, according to Novatek:

> focus on managing the construction and operations of Arctic ice-class LNG carriers in accordance with best industry practices and international standards, ensuring the optimized transportation from NOVATEK's future LNG projects in the Russian Arctic region, including the Arctic LNG 2 project.

Then, on the 26th of September, Novatek announced that it had signed a cooperation agreement with Mitsui O.S.K. Lines, Ltd. (MOL) and Japan Bank for International Cooperation (JBIC) regarding LNG trans-shipment complexes in the Murmansk and Kamchatka regions of Russia – the former in north-western Russian close to the Norwegian border, and the latter in north-eastern Russia, north-east of Japan.

Finally, on the 1st of October, Novatek announced that 15 LNG cargoes had been delivered to Asia via the NSR in Q3 2019 – 25 per cent of all cargoes shipped from the Yamal LNG terminal. With 13 Arctic-class LNG tankers currently in operation supporting the Yamal LNG project and two more set for launch before the end of the year, the volume of LNG shipped to Asia from Yamal via the NSR is set to increase.

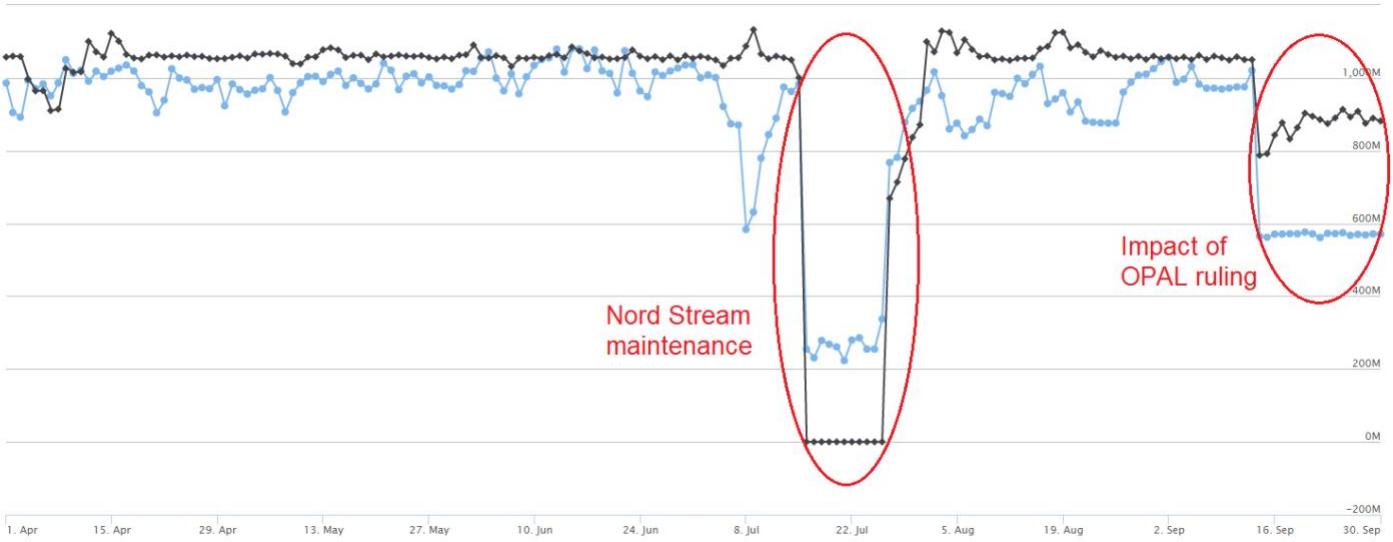
Fig.1. Map of the OPAL pipeline



Data source: ENTSOG

The map indicates the entry point at Greifswald, where OPAL receives gas from Nord Stream, and the exit point at Brandov on the German-Czech border

Fig.2. Daily gas flows through the OPAL pipeline at Greifswald (entry) and Brandov (exit), kWh/d



Data source: ENTSOG; Additions by the author

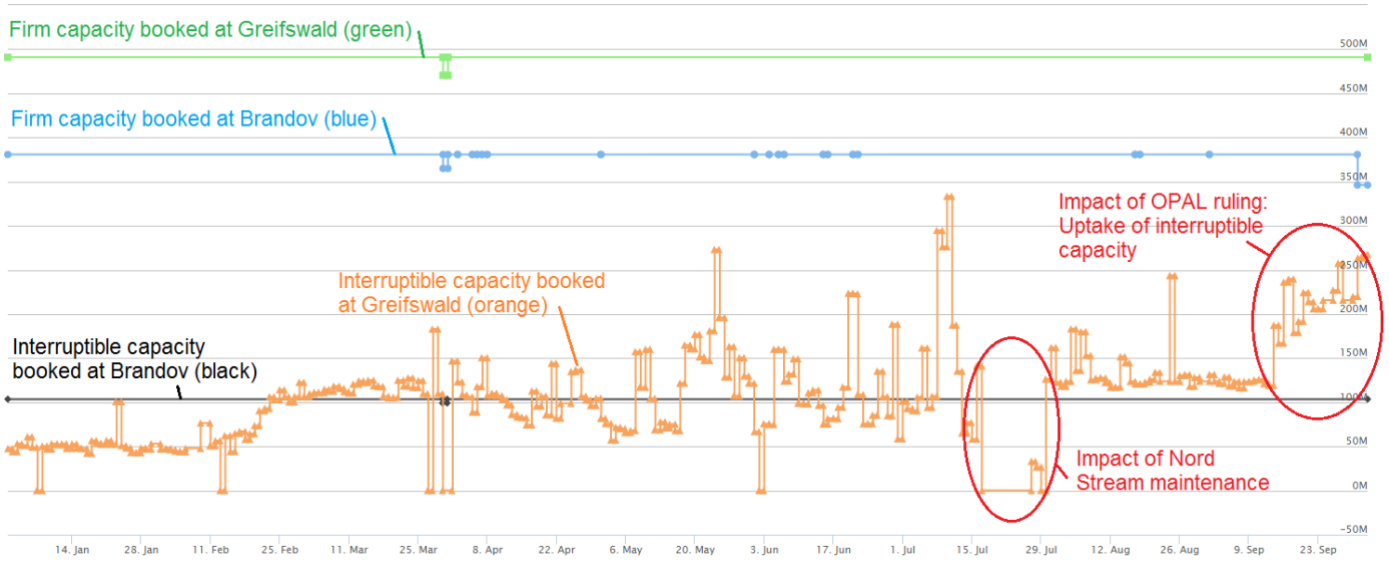
Notes:

The black line indicates daily flows into the OPAL pipeline at Greifswald (where it receives gas from Nord Stream), while the blue line indicates daily flows out of the OPAL pipeline at Brandov (on the German-Czech border).

The maintenance on the Nord Stream pipeline takes place every summer for around 10 days, during which time flows via the OPAL and NEL pipelines at the point of entry fall to zero.

Flows into the OPAL pipeline at Greifswald are higher than outflows at Brandov due to the offtake of gas at the mid-point of the OPAL pipeline, at Groß Köris, to supply the Berlin-Brandenburg region.

Fig.3. Firm and interruptible capacity bookings on the OPAL pipeline in 2019



Data source: ENTSOG; Additions by the author

Note:

The graph above illustrates firm and interruptible capacity offered by OPAL Gastransport.

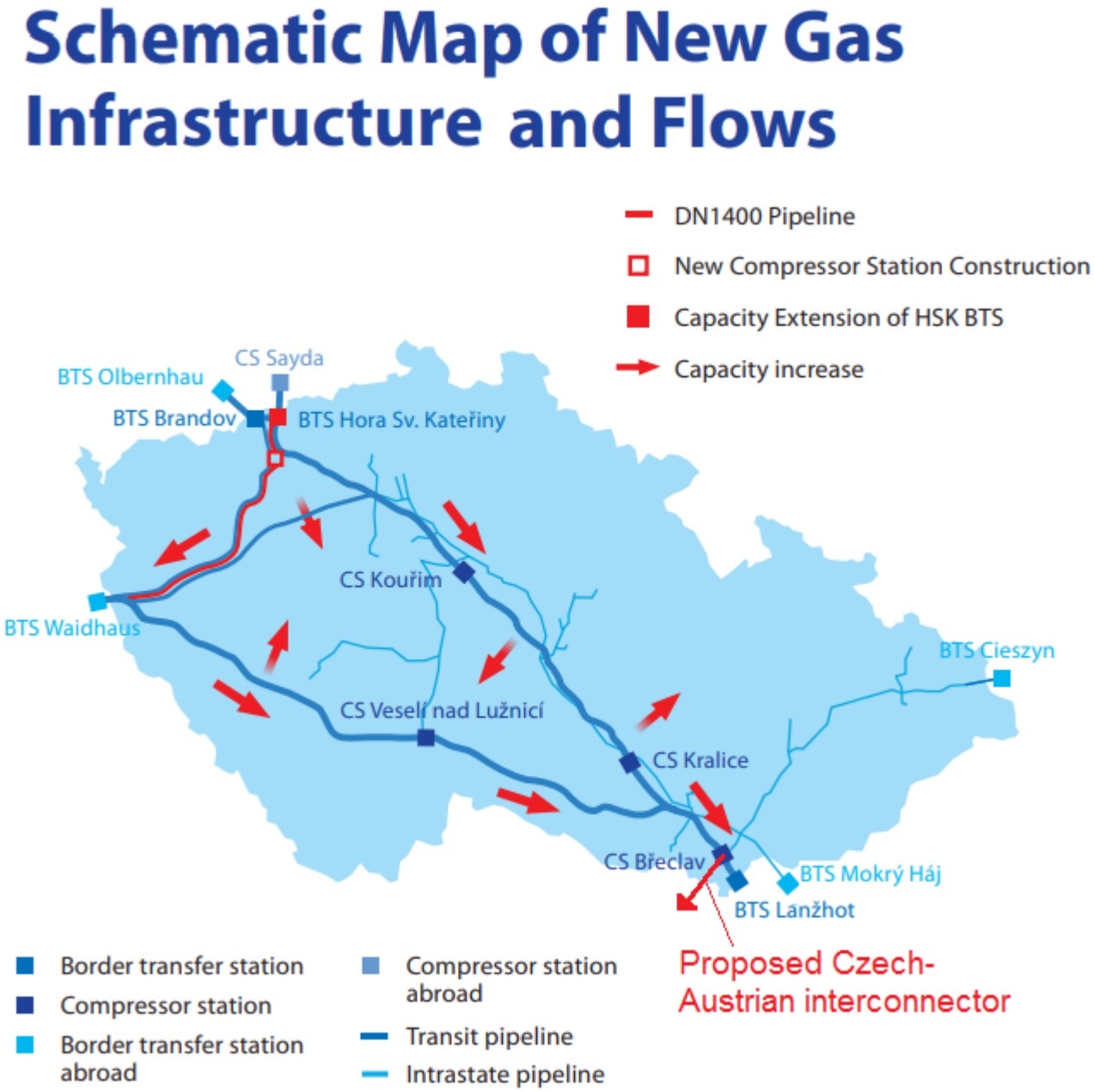
As of the 1st of October, OPAL Gastransport holds:

- 871.6 GWh/d of firm capacity at Greifswald, of which 490.8 GWh/d (56%) is booked
- 737.6 GWh/d of firm capacity at Brandov, of which 380.7 GWh/d (52%) is booked
- 380.7 GWh/d of interruptible capacity at Greifswald, of which 263.7 GWh/d (69%) is booked
- 103.5 GWh/d of interruptible capacity at Brandov, of which 103.5 GWh/d (100%) is booked

Firm capacity held by LBGT at Greifswald (217.9 GWh/d) and Brandov (190.4 GWh/d) was full booked throughout 2019, with no variations. LBGT did not offer interruptible capacity.

A substantial proportion of the firm capacity held by OPAL Gastransport is not currently booked, as a result of the recent OPAL ruling. That is because Gazprom is the only company that would require 'coupled' capacity to transport gas from Greifswald to Brandov, unless Gazprom agrees to sell gas to a European company, with the European company taking delivery at Greifswald and shipping it to Brandov.

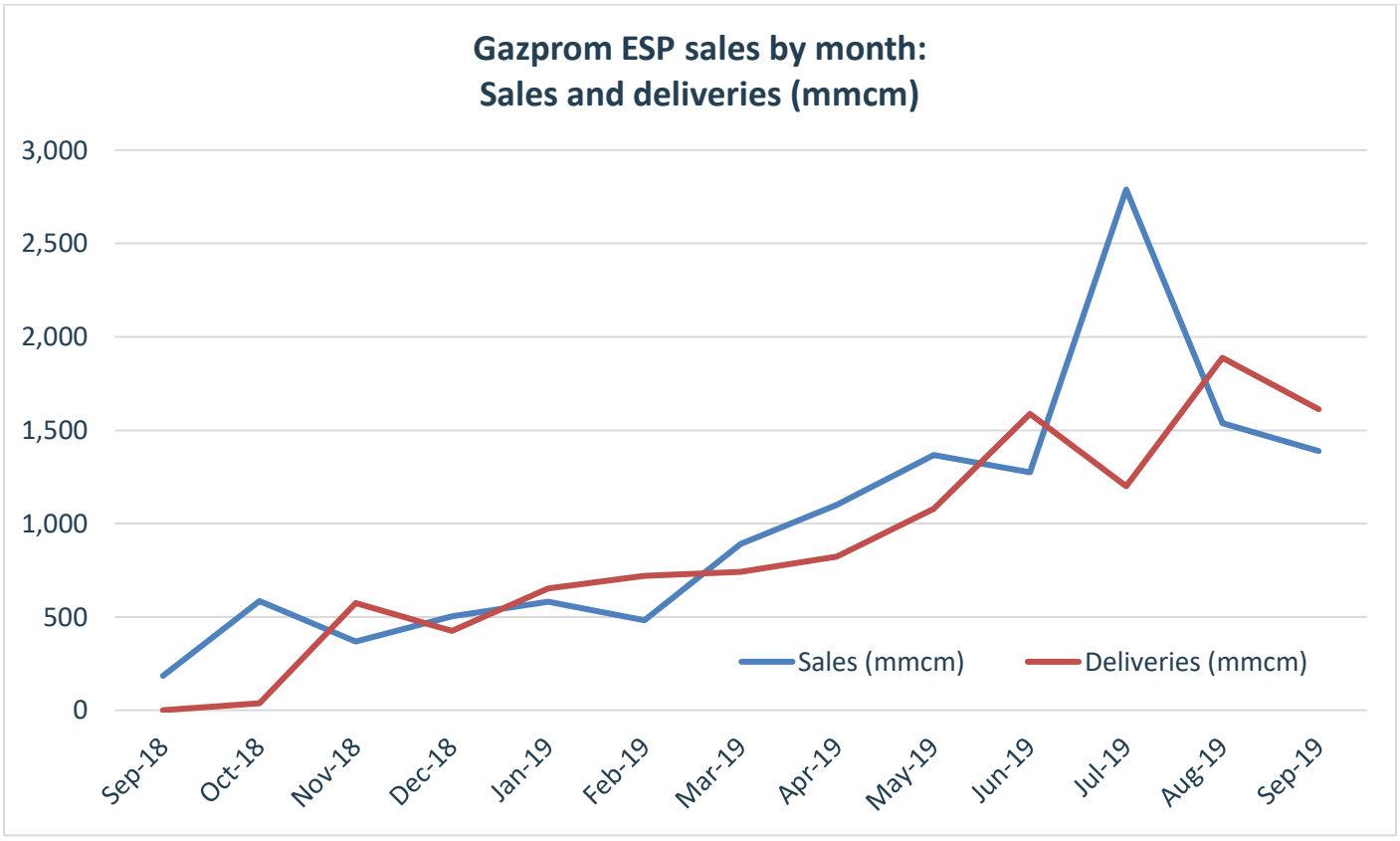
Fig.4. Map of Net4Gas system development (Capacity 4 Gas project)



Data source: Net4Gas

Location of proposed Czech-Austrian interconnector added by the author

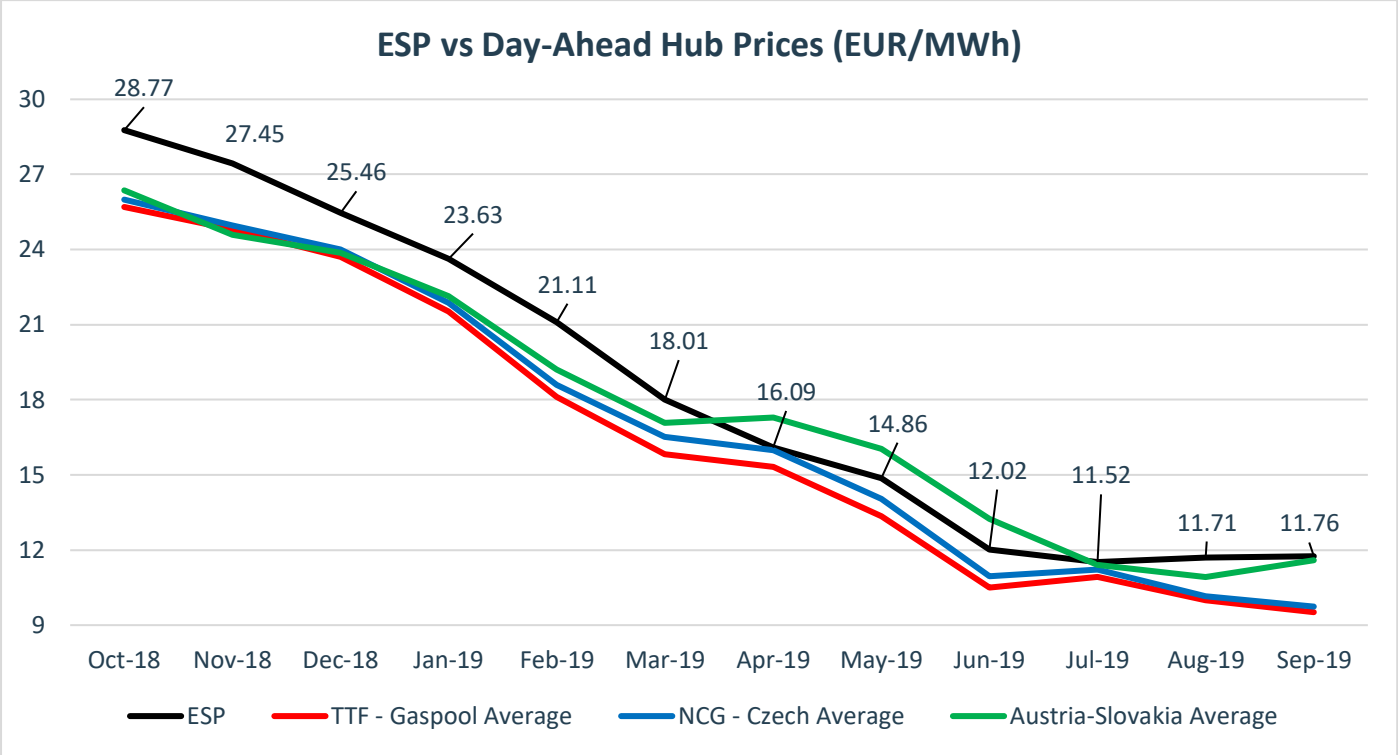
Fig.5. Gazprom Export gas sales via the ESP (million cubic metres)



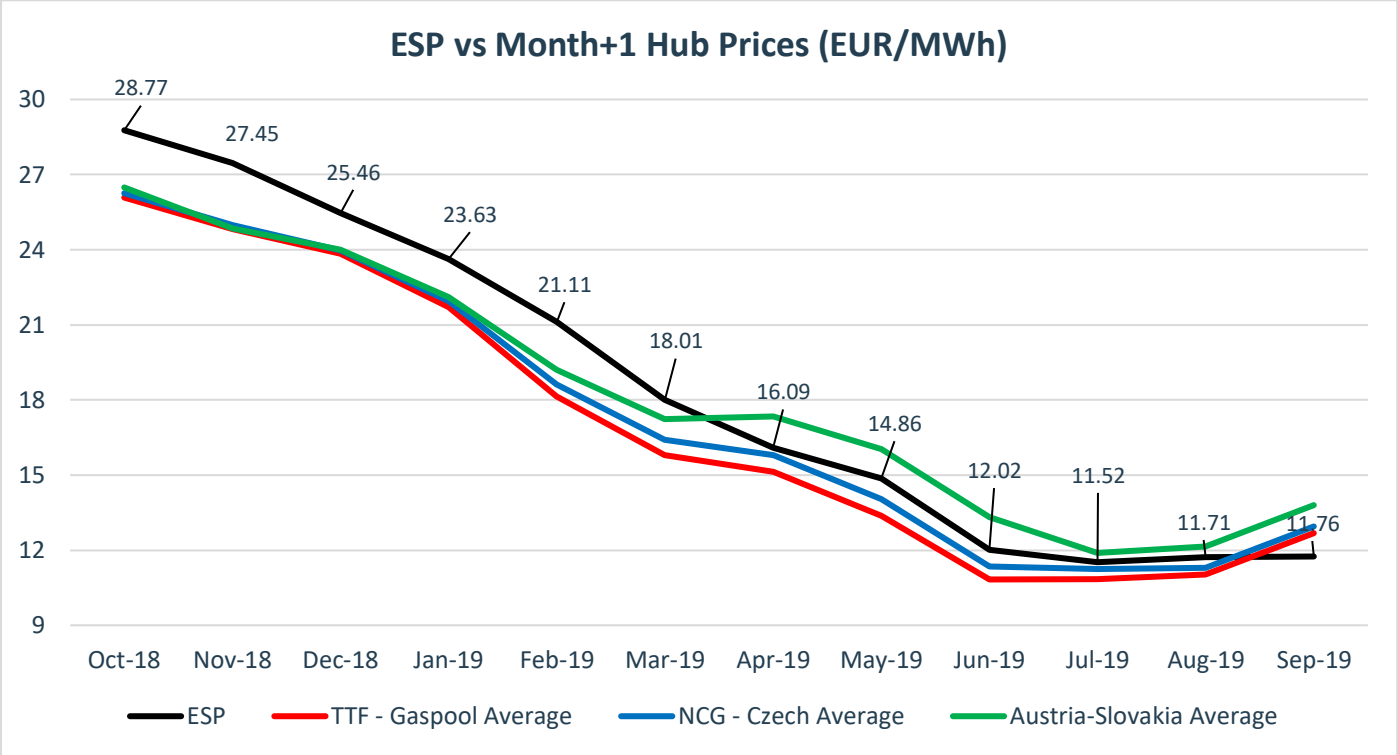
Source: Gazprom Export. Graph by the author

Note: The difference between sales and deliveries each month is due to the fact that the volumes sold in a calendar month are not always delivered within that same calendar month. For example, transactions concluded in September for delivery in October 2019 will appear in this chart as 'sales', but will not appear as 'deliveries'.

Fig.6. Gas prices on Gazprom's ESP and European hubs

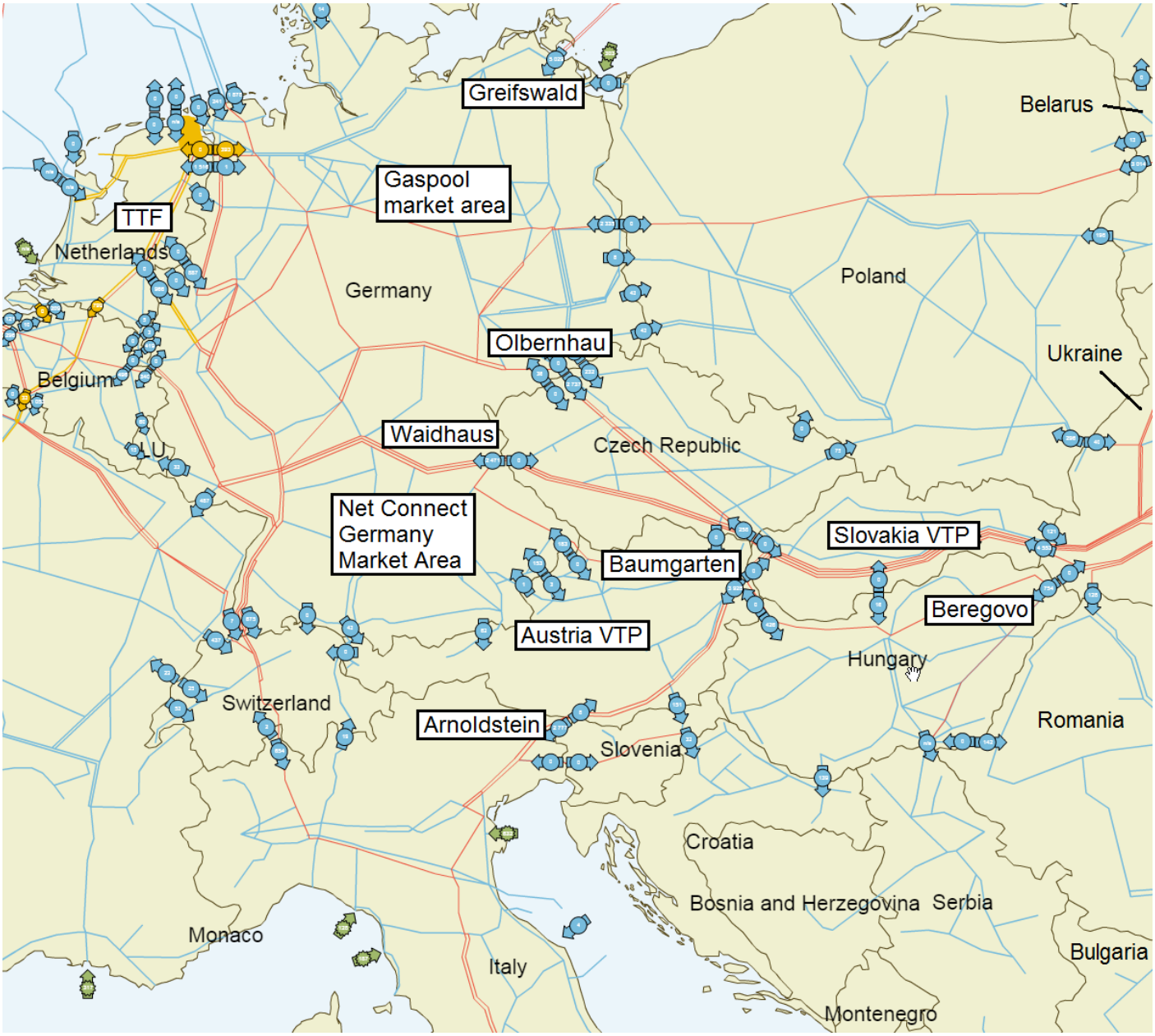


Data source: Argus. Graph by the author



Data source: Argus. Graph by the author

Fig.7. Map of delivery points for gas sold on the Electronic Sales Platform

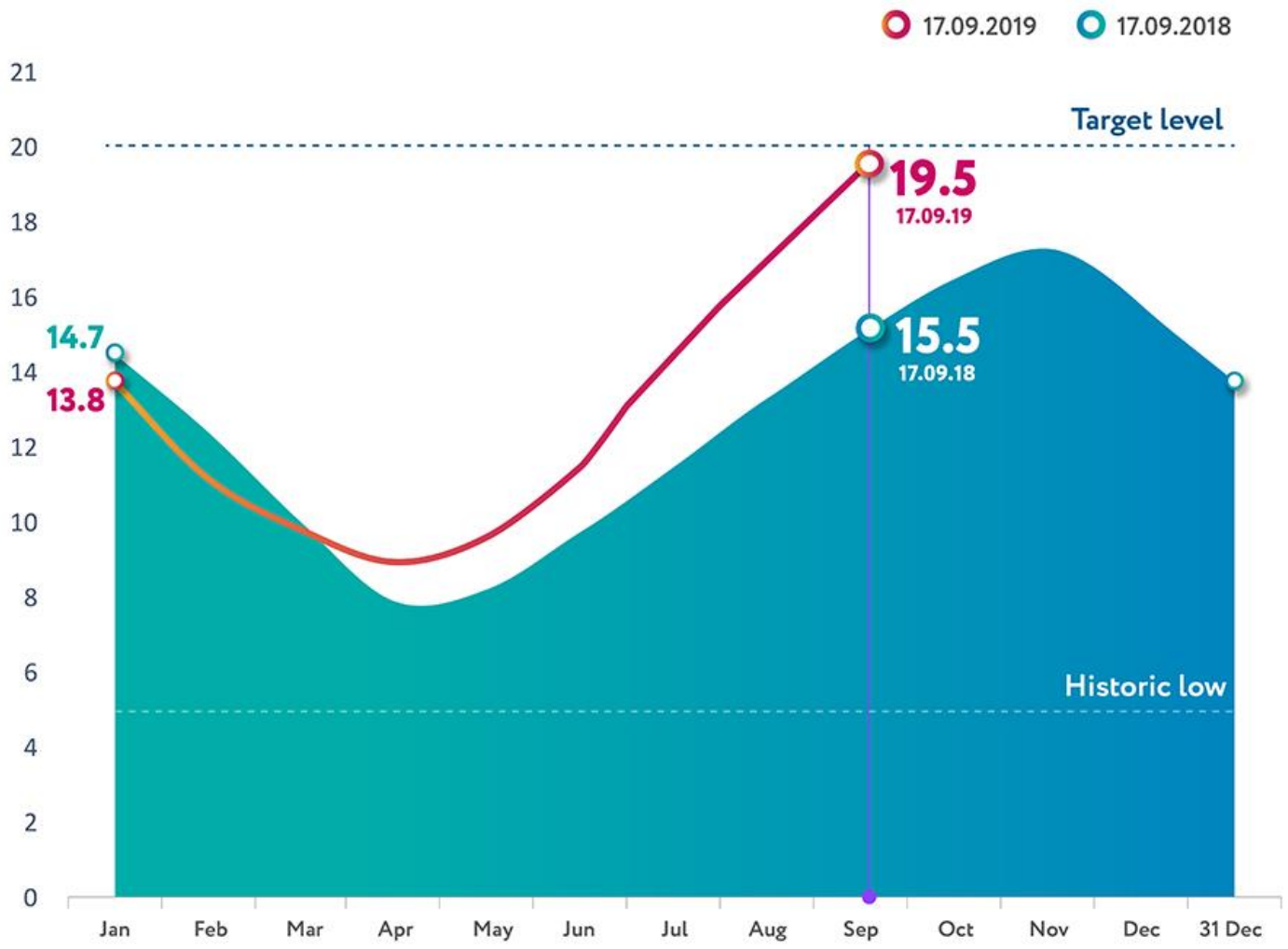


Source: Original map from *IEA Gas Trade Flow in Europe*. Additions by the author.

Note:

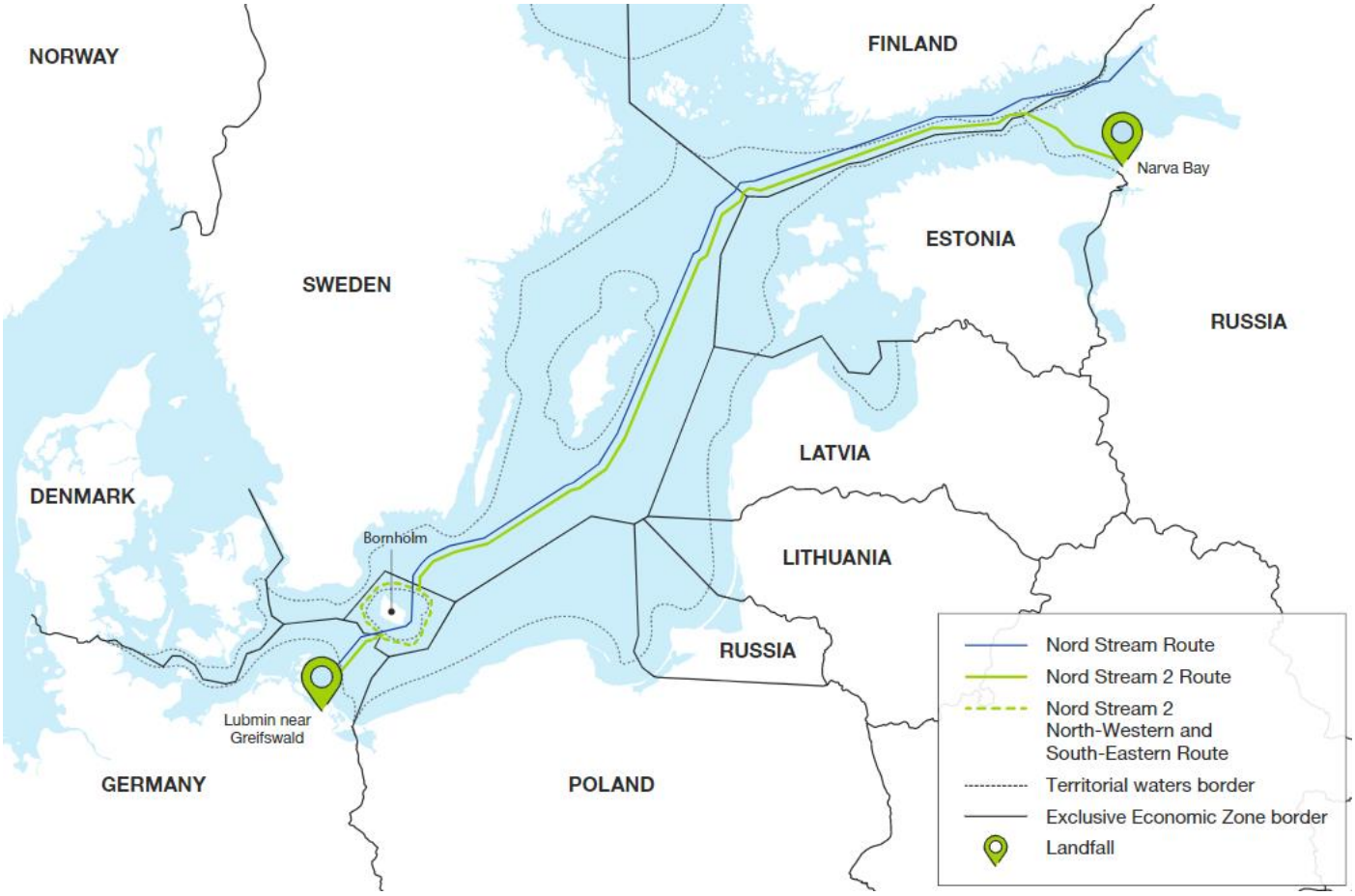
- Deliveries to Olbernhau are for the Czech Virtual Trading Point (VTP) market area
- Deliveries to Beregovo are for Hungary
- Deliveries to Arnoldstein are for Italy

Fig.8. Ukrainian gas storage levels in 2018 and 2019 (bcm)



Source: Naftogaz

Fig.9. Map of Nord Stream 2 route



Source: Nord Stream 2 AG

About EGF

The European Geopolitical Forum (EGF) was established in early 2010 by several independently minded practitioners of European geopolitics, who saw a certain vacuum in the information flow leading into the European geopolitical discussion. EGF is dedicated, therefore, towards the promotion of an objective, Pan-European geopolitical debate incorporating the views of Wider-European opinion shapers rather than simply those from the mainstream European Union (EU) member states. EGF seeks to elaborate upon European decision makers' and other relevant stakeholders' appreciation of European geopolitics by encouraging and effectively expanding the information flow from east to west, from south to north. In order to achieve these objectives, the European Geopolitical Forum was established as an independent internet-based resource, a web-portal which aims to serve as a knowledge hub on Pan-European geopolitics. EGF's strength is in its unique ability to gather a wide range of affiliated experts, the majority of whom originate from the countries in the EU's external neighbourhood, to examine and debate core issues in the Wider-European geopolitical context. Exchange of positions and interactivity between east and west, south and north, is at the heart of the EGF project. Please visit our website for further information at www.gpf-europe.com.

About the Author

Dr Jack Sharples is a Research Fellow on the Natural Gas Research Programme at the Oxford Institute for Energy Studies (OIES). He has been the author of the monthly *Gazprom Monitor* reports since May 2012. His research focuses on the political economy of the European gas market (and the role of Russia on that market in particular). This includes key trends in European gas supplies, wholesale gas market dynamics, and developments that influence gas consumption.

Dr Sharples has published numerous papers and articles on the European gas market, and the role of Russia on that market. Recent publications include: 'LNG Supply Chains and the Development of LNG as a Shipping Fuel in Northern Europe' (January 2019); 'Ukrainian gas transit: Still vital for Russian gas supplies to Europe as other routes reach full capacity' (May 2018); 'UK dependence on imported hydrocarbons: How important is Russia?' (March 2018); 'Gazprom in Europe – two "Anni Mirabiles", but can it continue?' (with James Henderson, March 2018); 'The political economy of energy security in Eastern Europe: Russia, Ukraine, and the EU' (2018); 'Europe's largest natural gas producer in an era of climate change: Gazprom' (2017); 'The shifting geopolitics of Russia's gas exports and the impact on EU Russia gas relations' (2016); 'Energy transitions in carbon-producing countries: Russia' (2016);; 'The importance of gas storage facilities in the European gas and power markets' (2016); and 'Russian gas supplies to Europe: the likelihood, and potential impact, of an interruption in gas transit via Ukraine' (2016).

His most recent publication, 'Gazprom's Gas Sales via its Electronic Sales Platform' (July 2019) is available from the Oxford Institute for Energy Studies website, at the address noted below.

Dr Sharples received his PhD from the University of Glasgow, UK, having written his thesis on the political economy of state-business relations in the Russian gas sector. His doctoral thesis analysed the relationship between Gazprom and the Russian state on the domestic Russian gas market, in transit/supply relations with Ukraine and Belarus, and on the EU gas market. During his PhD studies, he was a Visiting Researcher at the European University of St Petersburg, the Brussels School of International Studies, and the Institute of Europe (Russian Academy of Sciences), Moscow.

Further details of Dr Sharples' research and publication activities may be found at the websites given below.

E-mail: jack.sharples@gpf-europe.com
OIES website: https://www.oxfordenergy.org/authors/jack-sharples
Personal website: http://oxfordenergy.academia.edu/JackSharples

info@gpf-europe.com
www.gpf-europe.com
www.gpf-europe.ru