



Russia-Poland gas relationship: risks and uncertainties of the ever after

1. Introduction

The existing long-term contracts (LTCs) between Poland and Russia for the transit and supply of natural gas are coming to an end, with the transit contract expiring on 17 May 2020. As suggested by a recent OIES insight, Russia's requirements for Polish transit in the second half of 2020 could be secured by short-term bookings rather than a new long-term transit contract.¹ Indeed, this is what happened at the beginning of May when Gazprom booked 80 per cent of capacity of the EuRoPol pipeline (the Polish segment of Yamal-Europe), under the new auction system for Q3 2020 when it will be needed to substitute for Nord Stream transit which will be halted in July for regular summer maintenance.² Gazprom also secured a very advantageous transit tariff for Q3 2020³ for the capacity which was offered by Gaz System, the Polish gas system operator, at its regular auctions, conducted under the EU Capacity Allocation Mechanism (CAM) network code.

The capacity auctions for the second half of May have shown a high volatility of daily bookings: from relatively high utilization of available EuRoPol capacity (93 per cent on 19 May) to an almost complete cessation of flows (10 per cent of capacity on May 24-25 and no westward flow at Mallnow on 26 May). Gazprom has said that the flows depend on the nominations by its European customers, and it appears that Gazprom is treating EuRoPol as a balancing route and is content with this more flexible arrangement for the time being.

Besides being a major transit country for Russian gas exports to Europe with about 33 Bcm per annum in transit via the EuRoPol pipeline, Poland has been the largest buyer of Russian gas in Central and Eastern Europe, purchasing about 10 Bcm per annum in recent years. The current Russia-Poland gas supply contract expires on 31 December 2022 and the Polish state-owned gas company, Polskie Górnictwo Naftowe i Gazowe (PGNiG), the main wholesale supplier of natural gas in the country, has officially informed Gazprom that it is not going to renew the LTC for gas supplies, since it is planning to switch to alternative deliveries of LNG and Norwegian pipeline gas. Thus, an important chapter in the history of Polish gas is coming to an end and a new era is beginning.

Meanwhile, end-use consumption of natural gas in Poland has grown from 14.5 Bcm in 2010 to about 18.6 Bcm in 2019, an increase of more than 30 per cent, as the domestic gas network has expanded and new industrial, residential, and commercial customers have been connected to natural gas. Conversely, gas production in the country has been slowly declining. In 2019, Poland produced

¹ Pirani, S., Sharples, J., Yafimova, K., Yermakov, V. *Implications of the Russia-Ukraine gas transit deal for alternative pipeline routes and the Ukrainian and European markets*. OIES Insight 65, March 2020, p.13

² Nord Stream AG reported that from 14 July to 26 July 2020, the company will temporarily shut down both lines of its gas pipeline system for annual routine maintenance works. <https://www.nord-stream.com/operations/transparencyremit/>

³ <https://biznesalert.pl/gazprom-rosja-polska-jamal-gaz-system-energetyka/>

approximately 4.1 Bcm of natural gas (21 per cent of its total natural gas supply). Growing gas demand, stagnant/declining indigenous supply, and the approaching expiration of the long-term gas import contract with Russia have turned into a triple challenge for Polish decision-makers.

As the urgency of the response has grown, the Polish government and PGNiG have placed their bets on the diversification of gas imports away from Russia, once a dominant supplier, and have achieved remarkable progress in eliminating Russian gas from Poland's gas balance. In the early 2010s Gazprom deliveries accounted for 90 per cent of Poland's total gas imports. The situation in 2019 was markedly different: of total Polish gas imports of 14.9 Bcm in 2019, pipeline gas from the Russian Federation was still the largest source with slightly over 9 Bcm (60 per cent of all gas imports and 48 per cent of total consumption), but a far cry from the recent past.

Pipeline imports from the west and south (through newly established interconnectors with Germany, the Czech Republic, and Slovakia), increased from 2.7 million cubic meters per day (MMcm/d) in 2010 to 6.8 MMcm/d or 2.5 Bcm per annum in 2019. Poland's LNG imports in 2019 were 3.4 Bcm. Since 2016, when the LNG terminal in Świnoujście, located on the Baltic Sea near the Polish-German border started its operations, LNG imports have grown from 2.6 MMcm/d to 9.3 MMcm/d in 2019, contributing 18 per cent of total supply and 23 per cent of total imports in 2019. Work to increase capacity at the 5 Bcm (14 MMcm/d) LNG terminal in Świnoujście by 50 per cent to 7.5 Bcm per annum was scheduled to conclude in late 2021, but is now likely to be pushed back to 2022 because of the COVID-19 pandemic.

While the gas trade between Poland and Russia has lasted for over thirty years and brought considerable benefits to both countries, it has now reached the point when the whole relationship must undergo a profound transformation in response to the fundamental changes that have taken place in the European gas market with regards to pricing, key contractual principles, and the availability of competitive sources of supply of both pipeline gas and LNG.

This Insight discusses the evolution of the Russia-Poland gas relationship, identifies the problems that have emerged, and assesses the opportunities and the risks for both sides stemming from the end of the long-term transit and supply contracts. The Insight also examines how new Russian pipelines and the changes in flows of Russian gas to Europe are likely to impact the transit of Russian gas via Poland and what this means for Poland's energy security.

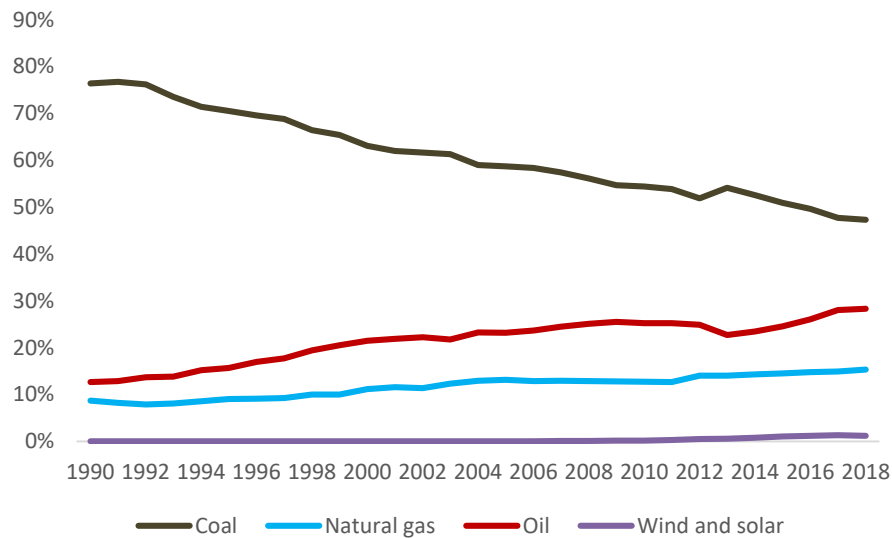
2. Brief overview of the history of Poland's energy balance and the role of natural gas

Poland's energy balance has been always dominated by coal owing to plentiful indigenous reserves and production. Poland is Europe's biggest hard coal producer and its coal resources are the largest in Europe.

According to the International Energy Agency (IEA), the share of coal in Poland's total primary energy supply (TPES) has declined considerably since the early 1990s when it accounted for well over 70 per cent, but coal remains the key energy supply source accounting for 47 per cent of the total in 2018. Coal provides more than two-thirds of the country's heat and power generation. The share of natural gas has increased from a mere 8-9 per cent of TPES in the early 1990s to 15 per cent in 2018. About one-fifth of this is produced domestically, and four-fifths is imported. Wind and solar constitute only around 1 per cent of TPES. (See Figure 1)



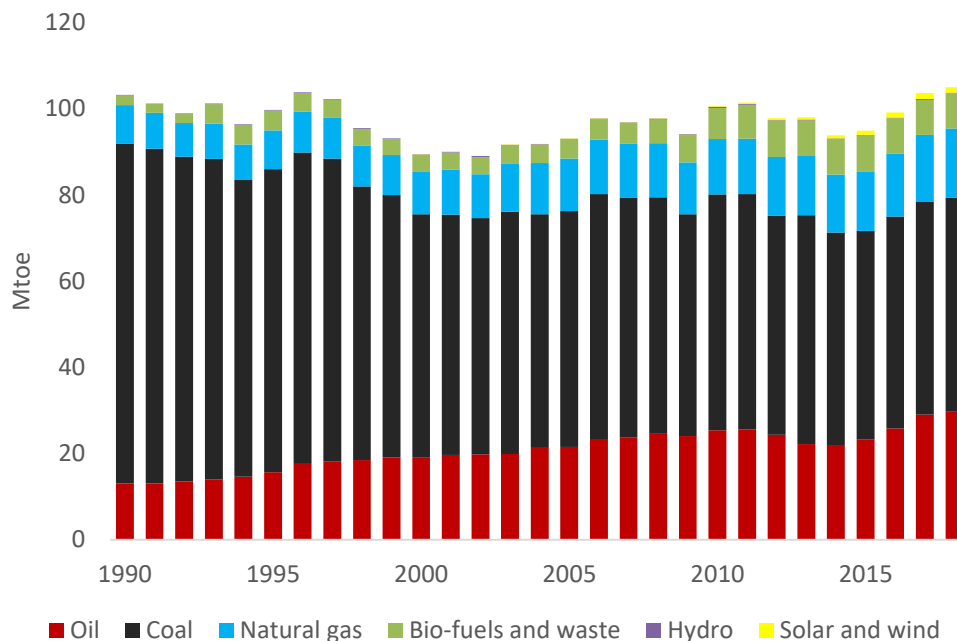
Figure 1: Shares of Poland's primary energy supply sources, 1990–2018



Source: OIES, data from IEA

In absolute numbers, the total supply of natural gas was 16.1 million toe or 16.9 standard Bcm in 2018. (See Figure 2)

Figure 2: Poland's total primary energy supply (TPES), 1990–2018



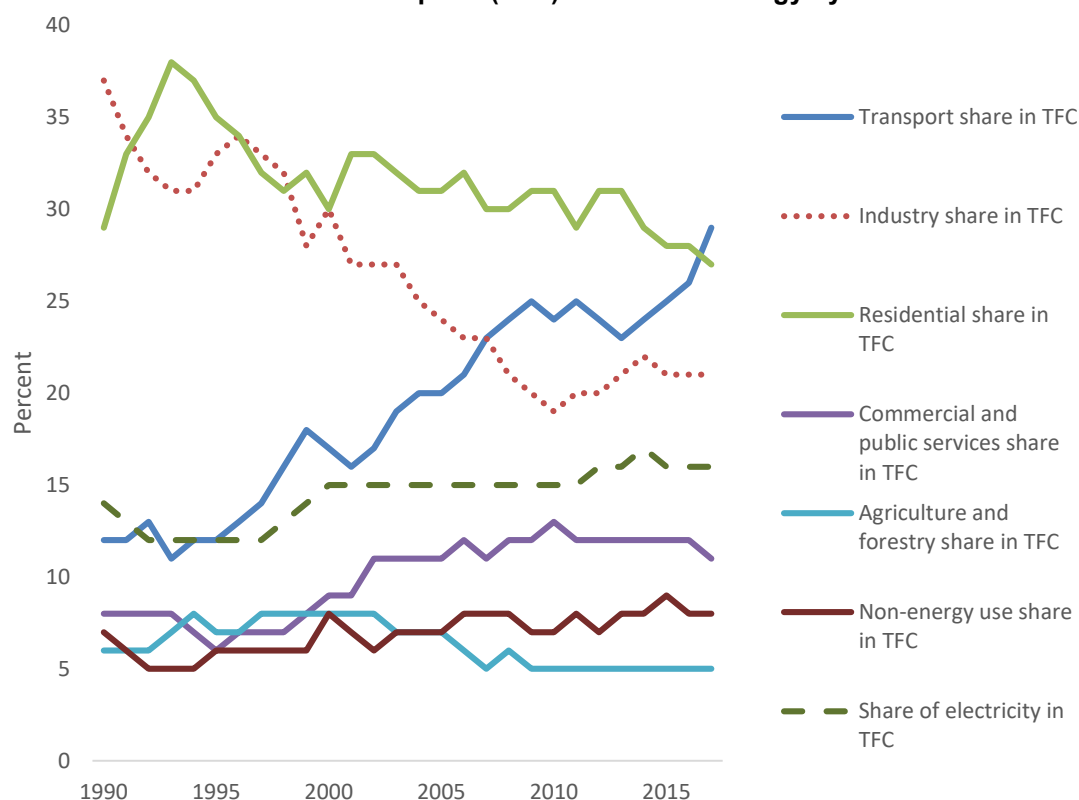
Source: OIES, data from IEA

The IEA noted in its country report that greenhouse gas (GHG) emissions per gross domestic product (GDP) and carbon intensity in Poland are among the highest in IEA Europe member countries owing to old, inefficient, and polluting coal-fired plants.⁴

⁴ Energy Policies in IEA Countries – Poland. 2016 Review. IEA, 2017 p.10

On the energy demand side, the transition to a market economy in Poland has resulted in enormous structural shifts in economic activity, away from a focus on heavy industry towards service-oriented sectors. As a result, the largest growth in energy consumption has occurred in the transportation sector as growing numbers of private cars and commercial trucks require more petroleum. At the same time, energy use by industry has declined considerably. Improved energy efficiencies have reduced the share of energy use by the residential sector. (See Figure 3)

Figure 3: Shares of total final consumption (TFC) in Poland's energy by sector



Source: OIES, data from IEA

Poland's natural gas balance on the basis of the latest available statistics from the IEA is presented in Table 1. The key aspect to note is Poland's significant gas import dependency. The growth of natural gas use in Poland in the past twenty years has been mostly related to higher imports. Until recently, it was primarily Russian gas, supplied to Poland via the high-diameter Yamal-Europe pipeline. The opening of the 5 Bcm Świnoujście LNG regasification terminal in 2016 represented a large step towards supply diversification⁵ This allowed Poland to boost gas imports without further increasing its dependency on Russian gas.

⁵ <https://www.polskielng.pl/terminal-lng/terminal-lng-w-swinoujsciu/>

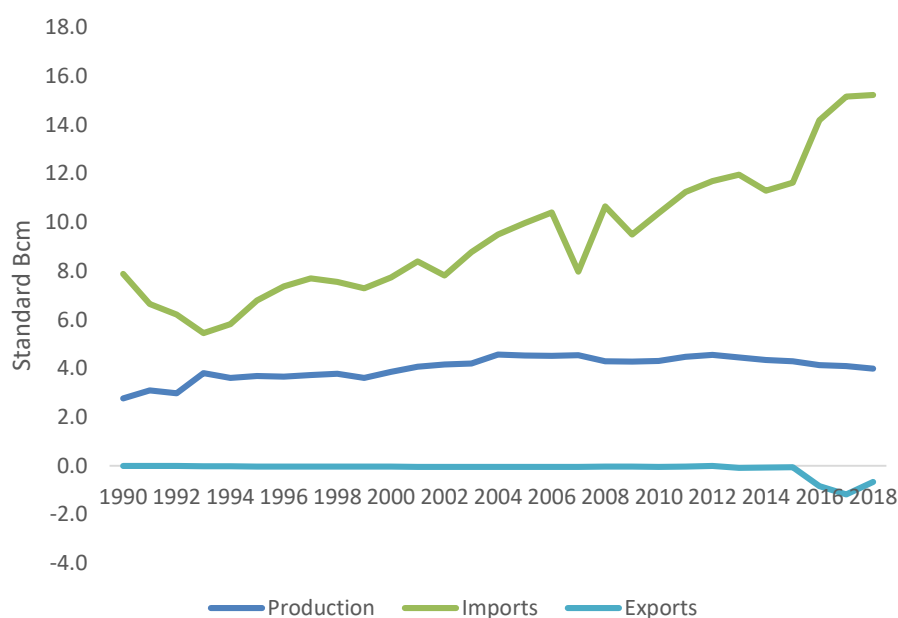
Table 1: Poland's natural gas balance in 2016–18 (Standard Bcm)

	2016	2017	2018
Production	4.1	4.1	4.0
Imports	14.2	15.2	15.2
Exports	-0.8	-1.2	-0.7
Stock changes	-0.5	-0.1	0.2
Total natural gas supply (as part of TPES)	17.0	18.0	18.7
Statistical differences	0.1	-0.1	n/a
Natural gas use by CHP plants	-1.7	-2.1	n/a
Natural gas use by heat plants	-0.2	-0.2	n/a
Other transformation	-0.7	-0.7	n/a
Energy industry own use	-1.2	-1.7	n/a
Losses	0.0	0.0	n/a
Total final consumption	13.2	13.2	n/a
Industry	4.0	4.3	n/a
Transport	0.4	0.4	n/a
Residential	4.0	4.2	n/a
Commercial and public services	2.2	1.7	n/a
Agriculture / forestry	0.0	0.0	n/a
Non-energy use	2.5	2.5	n/a

Source: OIES, data from IEA

It is worth noting that Poland has even started to export natural gas in the past few years, mostly to Ukraine, under the so-called “reverse” scheme whereby instead of importing Russian gas directly, Ukraine was taking back some of the gas delivered by Gazprom to Poland. (See Figure 4)

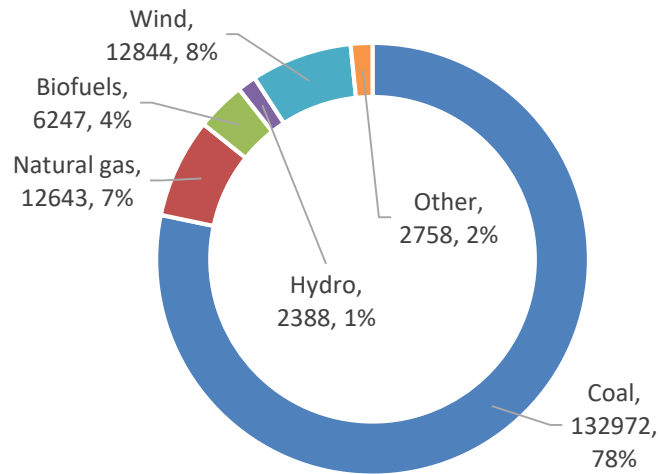
Figure 4: Poland's production, import and export of natural gas



Source: OIES, data from IEA

The second notable point about Poland's gas balance is the relatively small share of natural gas used in electricity generation. (See Figure 5)

Figure 5: Poland's electricity generation by source, 2018 (GWh)

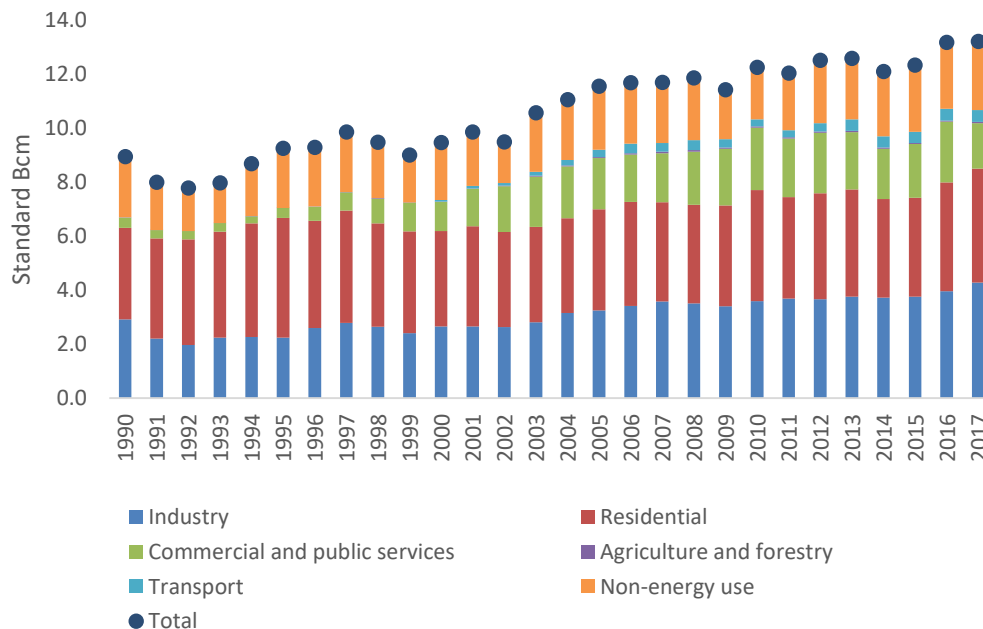


Source: OIES, data from IEA

Indigenous coal remains the key fuel for the Polish power plants, accounting for 78 per cent of electricity generation. Natural gas accounted for only 7 per cent in 2018, less even than wind generation which captured an 8 per cent share.

With regards to total final consumption of natural gas in Poland, the industrial and residential sectors have been the two largest users of natural gas, accounting for about one-third of total final gas consumption each. (See Figure 6)

Figure 6: Poland's natural gas final consumption by sector



Source: OIES, data from IEA

In 2019 the OIES published a paper by Zuzana Princova containing a thorough review of industrial natural gas demand in Poland.⁶ The Polish chemical and petrochemical industry is the most important consumer of natural gas, responsible for about 50 per cent of all industrial gas demand in the country. Within this sub-sector, most of the natural gas is used as feedstock for fertilizer production. As shown by Princova, non-energy use of natural gas by the fertiliser industry has been stable owing to the fact that the fertiliser companies receive their gas under long term supply contracts from PGNiG, as the lower-priced domestically produced natural gas rather than higher-priced imported Russian gas. In particular, Grupa Azoty, a partly state-owned fertiliser company, pays feedstock prices which are based on the price of local gas, which explains the uninterrupted growth in demand over the last decade. The supply contract between PGNiG and Grupa Azoty was signed on 21 June 2017 and took effect on 1 October 2018. It comes up for renewal on 30 September 2020 with a possibility of extension for two more years.⁷

Polish metallurgy, the second-largest industrial sub-sector by natural gas use, consumes most of its gas as energy. Cheaper coal is the main fuel used by the steel industry in Poland with natural gas playing a complementary role. In 2017, the sector used 0.77 Bcm of natural gas, representing 4.7 per cent of the country's direct gas consumption and 7.5 per cent of total industrial gas demand.⁸ Other industrial users of natural gas in Poland have included paper mills and glass and ceramic plants. Together, they use about 1.8 Bcm of natural gas per annum.

3. Russian gas in Poland

Poland is the most long-standing buyer of Russian gas in Europe, with the first small-scale volumes being supplied to Poland during the late 1940s. In recent years, Poland has been the largest buyer of Russian gas in Eastern Europe. Natural gas supply to Poland and transit via its territory are covered by LTCs concluded under an Intergovernmental Agreement of 25 August 1993 which covered Russian gas supply to Poland and the creation of a gas pipeline system for gas transit through Poland to Western Europe. The Yamal – Europe large-diameter, high pressure gas pipeline system starts in Torzhok in Russia and runs across Belarus and Poland to Germany.

Gazprom's counterparty in Poland is PGNiG, Poland's largest oil and gas company. It is involved in oil and gas field development, production, storage, and transmission of these primary energy products, construction and development of the national oil and gas transmission system, and gas imports and exports. The company was established as a state enterprise in 1982 and in 1990, it was transformed into a joint-stock company. PGNiG subsidiaries dominate across all segments of the value chain: in the gas distribution network it has 97 per cent penetration, in gas storage – 100 per cent, in gas acquisition (purchase and extraction) – 76 per cent, in wholesale sales of gas – 65 per cent, and in retail - more than 80 per cent (within this sector, it accounts for 97 per cent of household supply, 70 per cent of services and public utility, 80 per cent of agricultural use, and 78 per cent of industrial use).⁹

According to Gazprom, total cumulative sales of Russian natural gas to Poland over the entire history of gas trade between two countries amounted to around 333.5 Bcm in Russian standard¹⁰ as of 1 January 2020, including 9.7 Bcm in 2019. Of this 0.4 Bcm was fuel gas used for transiting Russian volumes to Europe.¹¹ Russia's gas exports to Poland peaked in 2012 at 13.1 Bcm but have dropped

⁶ Princova Z. Challenges of Industrial Gas Demand in the Czech Republic, Poland, and Slovakia. OIES Paper NG 145, May 2019

⁷ Ibid, pp.47-48

⁸ Ibid, p.54

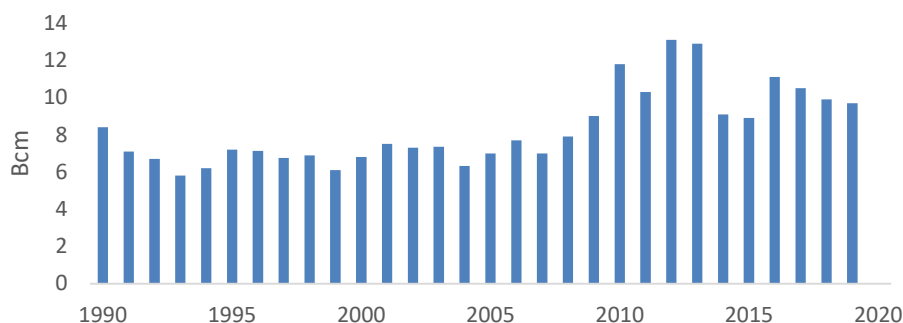
⁹ Sprawozdanie z działalności prezesa URE w 2018 r., p. 176 - 179

¹⁰ The data reported by Gazprom is in Russian Bcm as opposed to standard Bcm. To convert Russian Bcm to standard Bcm multiply by 0.98

¹¹ <http://www.gazpromexport.ru/en/partners/poland/> and <https://www.gazprom.ru/f/posts/77/885487/gazprom-emitent-report-4q-2019.pdf>

below 10 Bcm per annum in the past three years. (See Figure 7) The share of Russian gas in the total imports of PGNiG in 2019 was 60 per cent (compared to 2018 when it was 67 per cent and 2016 when it was 89 per cent).¹² Presently, Russian supply meets approximately half of Polish gas demand.

Figure 7: Russian natural gas exports to Poland



Source: OIES, data from Gazprom

EuRoPol GAZ, a Russian-Polish joint venture, was established in 1993 to design, finance, and build gas transit pipeline systems on Polish territory. The company owns the 684-kilometer stretch of the Yamal – Europe gas pipeline that runs through Poland. (See Figure 8)

Figure 8: EuRoPol pipeline



Source: ENTSG System Development Map, 2018–2019

In 1993 intergovernmental agreements (IGA) were signed between Russia, Belarus, and Poland on the construction of the Yamal-Europe pipeline.¹³ Later that year the project received the status of a “priority investment project” under the Trans-European Network Programme at the Energy Charter Treaty

¹² <http://pgnig.pl/aktualnosci/-/news-list/id/pgnig-2018-kolejny-rok-mniejszego-importu-gazu-z-rosji-i-wiekszego-importu-Ing/newsGroupId/10184> and <http://pgnig.pl/aktualnosci/-/news-list/id/pgnig-mniej-gazu-z-rosji-rosnie-import-Ing/newsGroupId/10184?changeYear=2020¤tPage=1>

¹³ For a detailed review of Russia-Poland IGA see Yafimova, K. Building new gas transportation infrastructure in the EU – What are the rules of the game? OIES Paper NG 134, Oxford, 2018, pp.113-114

Conference in Lisbon. Construction started in 1994 and the first stage, connecting the German and Polish networks, was completed in 1996; the Polish section began operation in 1999, and the Belarusian segment in 2003. As was said at the time, the pipeline's construction was occurring "from the market to the fields", or rather to the terminus of the Northern Tyumen Regions (SRT0) – Torzhok gas pipeline, the feeding point for the Yamal-Europe pipeline. The delays with construction were to a large extent caused by the markets' unreadiness to absorb significant incremental quantities of the Russian gas. Two strings were planned, but EuRoPol-2 was suspended as gas transit issues and disputes over the pricing of natural gas emerged between Russia and Poland.

In 2006 the Yamal – Europe gas pipeline reached its design capacity of 32.9 Bcm per annum. Fourteen compressor stations pump gas through the 60-inch (1420-mm) pipeline for over two thousand kilometres. In Russia, the trunk line runs from the Torzhok gas transmission hub in the Tver Oblast where it receives gas from the SRT0 – Torzhok gas pipeline. The Russian section is 402 km long and has three compressor stations. The pipeline then crosses into Belarus. Gazprom is the sole owner of the 575-km Belarusian gas pipeline section that has five compressor stations.

The Polish section consists of a 683-km linear part and five compressor stations. The starting point for EuRoPol in Poland is the Kondratki compressor station and the end point is the Mallnow compressor station near Frankfurt an der Oder in the vicinity of the German-Polish border where the gas pipeline links up with the JAGAL-Nord gas transmission system, which is, in turn, connected to the STEGAL – MIDAL – Rehden UGS gas transmission system. These pipelines are owned and operated by Gascade, which is a legally unbundled subsidiary of WIGA (formerly WINGAS).

In 2006, when the pipeline throughput reached its design capacity of 33 Bcm, the transit tariff for EuRoPol was \$1.94/mcm/100 km, and the transit fee for shipping gas from Kondratki to Mallnow thus equalled \$13.7/mcm.¹⁴ Since Gazprom financed the construction of the Polish section of the Yamal-Europe pipeline, the 2003 IGA between Russia and Poland stipulated that the transit tariff paid by EuRoPol Gaz should be set in a way that was sufficient to cover the operational costs of running the pipeline plus a very moderate profit.

The issue of what exactly constitutes reasonable profit has divided the Polish and Russian shareholders in EuRoPol Gaz. The representatives of PGNiG insisted on a higher transit tariff while the Gazprom people argued that the tariff set in 2006 accurately reflected the principles stipulated in the IGA. After a series of disputes between the shareholders the Polish regulator set a much higher tariff of \$2.7/mcm/100 km. Gazprom, however, insisted on a rate set by the IGA and continued to pay for transit at the previous tariff rate (\$1.94/mcm/100 km). It filed a suit against Poland, which it won in 2008.¹⁵

In Poland, the perception that EuRoPol Gaz had been under the influence of Russian interests and had not taken the interests of the Polish side into account, started to emerge. These feeling were exacerbated by the complicated structure of the joint-venture: 48 per cent of it was owned by PGNiG, 48 per cent by Gazprom, and 4 per cent by JV Gas Trading (in which PGNiG held 43 per cent, Gazexport – 16 per cent, Wintershall – 2.73 per cent, Wegllokoks – 2.27 per cent, and a trading company Bartimpex, with close historical links to Gazprom – 36 per cent).¹⁶

At the end of October 2010 Russia and Poland introduced amendments to the 2003 IGA which mostly concerned any increases in deliveries of Russian gas to Poland, and the transfer of the technical operation of the Polish stretch of the Yamal-Europe pipeline from EuRoPol Gaz to the Polish state-owned grid operator, Gaz-System. The 2010 amendments to the IGA and its protocols also cleared the contentious tariff issue: the tariff continued to be based on the principle of covering operating costs and interest payments (EuRoPol Gaz had to repay a loan to Gazprombank that had been used to construct the pipeline) and providing the pipeline operator with a reasonable profit. The amendments then

¹⁴ 'EuRoPol Gaz reduces transit charges from January 2006', *ICIS*, 19 December 2005, <https://www.icis.com/explore/resources/news/2005/12/19/9284432/europol-gaz-reduces-transit-charges-from-january-2006/>

¹⁵ Orban, A., 2008. *Power, Energy, and the New Russian Imperialism*. p.129

¹⁶ Stern, J. *The Future of Russian Gas and Gazprom*. Oxford, 2005 p.119

specified that the Polish regulator sets the tariff for the pipeline and that the annual profit of EuRoPol Gaz should not exceed 21 million Polish zloty (about \$5.1 million at today's exchange rates). EuRoPol Gaz was to propose the exact tariff to the regulator for each year, and it was for the regulator to approve it. As a result, the Polish state's transit revenue has remained relatively small.¹⁷ On the other hand, the Polish transit route has continued to be extremely competitive and attractive for Gazprom. The transit fee of about \$2/mcm/100 km via the EuRoPol pipeline is approximately the same level as for Nord Stream 1 and about 20 per cent lower than the route via Ukraine where the transit fee amounted to about \$2.4-2.6/mcm/100 km (the range was due to changes in the price of fuel gas).

4. Poland's vision of its energy future: difficult trade-offs

Gas market reform has been under way in Europe for nearly thirty years, and it has been part of the process of fundamental regulatory and commercial changes on the continent. In Poland, the transformation of the gas market has been a complex and drawn-out process. Its results need to be considered in the context of Poland's historical circumstances.

As argued in the Poland country report by the IEA, the country has made significant achievements in the natural gas sector, including the unbundling of the sector, the establishment of an independent system operator and the introduction of measures to increase liquidity on the wholesale gas market. The opening of the Świnoujście liquefied natural gas (LNG) terminal, which can satisfy more than a quarter of the Polish gas demand, represented a large step towards supply diversification. However, problems remain with regards to the completion of the process for liberalising natural gas prices, in particular at the retail level.¹⁸

Poland is facing difficult trade-offs between the multiple goals of meeting the environmental targets set out by the EU, providing the economy with sufficient volumes of natural gas, and diversifying its gas supply and ensuring energy security.

Poland has been trying to charter its own path with regards to the climate change policy of the European Commission, justifying it by concerns over energy security. While most European countries have embraced strong emissions reductions targets, Poland has been reluctant to commit to a fast transition. In 2012 it vetoed the plans put forward by the EU for legally binding targets for 2030 that would put the country on a trajectory toward the objective of an 80–95 per cent cut in greenhouse gas (GHG) emissions by 2050. Instead, it has developed its own GHG emission plan which called for emission cuts of about 30–40 per cent. In 2015, Poland vetoed an amendment to the Kyoto Protocol on carbon dioxide (CO₂) emissions,¹⁹ thereby thwarting the ratification of the treaty by the EU-28 as a whole.²⁰

The Polish government believes that coal should continue to play a central role in the country's energy balance for an extended period.²¹ This conviction is based on two main considerations.

Firstly, realistic assessments of the impact of a fast transition to a carbon-free society suggest high costs for the Polish economy. As shown in the World Bank study, "Poland bears a higher economic burden than the average EU country because of its relatively high abatement targets for non-ETS sectors with strong baseline emissions growth".²² Since power generation in Poland is predominantly coal-based, the authors of the study argue, CO₂ reduction from the sector would lead to an increase in

¹⁷ 'Gazprom and PGNiG settle cooperation issues in gas sector', *Gazprom press release*, 30 October 2009, <https://www.gazprom.com/press/news/2009/october/article70291/>

¹⁸ IEA, 2017

¹⁹ <https://www.reuters.com/article/us-poland-climatechange/polands-president-vetos-amendment-to-kyoto-protocol-on-co2-emissions-idUSKCN0SL1R020151027>

²⁰ <https://www.euractiv.com/section/climate-environment/news/eu-tempted-to-bypass-poland-to-meet-climate-commitments/>

²¹ <https://energynews.us/2016/07/12/midwest/in-poland-efforts-to-rescue-coal-industry-will-likely-come-up-short/>

²² Transition to a Low Carbon Economy in Poland. EBRD/World Bank Group, 2011, p. 21 https://www.esmap.org/sites/default/files/esmap-files/ESMAP-LCCGP_POLAND%20_Web.pdf

electricity prices (by about 20 per cent, much more than in the rest of the EU), a decline in output by about 10 per cent, the expansion of CO₂-free renewable power production, and, to a more limited extent, fuel shifting to gas (since nuclear power is assumed restricted to business-as-usual levels). This would result in a loss of competitiveness, depressed production, and the effects on real GDP would be more than twice as high for Poland as for the rest of the EU (with a loss of 1.4 per cent of GDP).²³

Secondly, indigenous coal is a guaranteed energy supply that is independent of Russia, until recently a dominant source of most of Poland's natural gas. Poland has not been shying away from expressing its unhappiness with the Russian gas supply situation. As noted in Jonathan Stern's "The Future of Russian Gas and Gazprom", Poland has been a country "with a strong desire to diversify away from Russian gas supplies but extreme difficulty in achieving this aim".²⁴ During the 1990s, argues Stern, these efforts were as much connected with an assertion of economic independence, national sovereignty, and a demonstrative break with the Communist era, as with concerns over security of supply from a single source. By the 2010s the rationale has shifted towards "restructuring commercial relationships in order to achieve a more politically acceptable framework of economic and energy independence".²⁵

5. Russia-Poland gas supply contract: re-negotiations, arbitrations, and anti-trust investigation amid tectonic shifts in global and European gas markets

The existing gas supply contract between Gazprom and PGNiG was signed in 1996 as a classical oil-indexed long-term contract with take-or-pay clauses. These general principles have historically been designed to allow the seller and buyer bilaterally to balance the various business risks involved (particularly with regards to price and offtake volume). But they have come under increasing pressure since the 2010s (in the aftermath of the 2009 economic crisis) and as the reforms in the European gas and power markets progressed. European gas buyers have sought greater flexibility in offtake volumes and gas prices after traditional importers lost customer franchises in the liberalization of the gas market and the spread widened between European oil-linked gas prices and traded prices.

During a period of weak European gas demand in the first half of the 2010s, Gazprom faced increased competition in Europe from LNG and from pipeline suppliers with more flexible pricing strategies (e.g. Norway). Russia's initial response to the buyer's market in Europe, however, was to view the problem of slack gas demand as only a temporary phenomenon. Russia's short-term strategy, in expectation of the market rebalancing fairly quickly, was to make some concessions in order to retain long-term contracts and relationships with wholesale buyers in Europe. During the second half of 2009 and first half of 2010, Gazprom went through a round of modifications to its export contracts with its key customers in Europe. As part of regular contract reviews it made price concessions to several European gas buyers in France, Germany, Austria, and Italy by altering gas price formula coefficients, resulting in an effective price discount of about 10 per cent.

But not all Gazprom's European clients were offered the discounts right away, and not all were ready to accept the proposed deal. Many gas importers found that they could not pass their higher purchase costs on to customers (in the wake of a high cycle for oil prices) and encountered significant financial losses. As a result, Gazprom faced a growing number of renegotiation and arbitration processes.²⁶

One example of these protracted negotiations was with PGNiG, the Polish gas company. In April 2011, PGNiG requested a review of the pricing arrangement in its long-term contract with Gazprom for a purchase of 11 Bcm per year until 2022, but after nine months of negotiations there was still no deal.

²³ Ibidem

²⁴ Stern J. *The Future of Russian Gas and Gazprom*. Oxford, 2005. p.116

²⁵ Op.cit, p.117

²⁶ For a detailed account of these events see Stern, J. Russian responses to commercial change in European gas markets. pp.50-81 in *The Russian gas matrix: How markets are driving change*. Ed. by Henderson, J. and Pirani, S. Oxford University Press, 2014

On 20 February 2012, PGNiG filed a case with the Arbitration Tribunal in Stockholm. In September 2012 Poland's Treasury Minister Mikolaj Budzanowski said that the price Poland was paying for Russian gas exceeded \$500/Mcm, compared with an average price on the Western European market of around \$360/Mcm, which was "absolutely unacceptable".²⁷

The prospect of an arbitration with uncertain results made Gazprom return to the negotiating table with a new offer, and the arbitration proceedings were terminated by November 2012. The price reduction was reported as 10 per cent, resulting in a rebate to the Polish side of at least \$420 million for 2011.²⁸ In 1996 when the supply contract between Poland and Russia was signed, Polish gas demand projections were extremely bullish, forecasting levels of 18-20 Bcm per annum by 2005 and 22-28 Bcm by 2010. But as plans to develop gas-fired generation in the country met the hard reality of vested coal interests and were put on the back burner, Poland's gas needs had to be scaled down. High gas prices also played their role. Following difficult negotiations with Gazprom, PGNiG managed to reduce the volumes in the 1996 contract by almost a quarter in 2014–15. At the same time, the efforts to secure alternative supplies have increased.

The interim results of the 2011–12 standoff between Gazprom and its European clients (and Poland in particular) could be summarized as the emergence of a "bending, not breaking" formula for the Russian long-term contracts. Obviously, neither side could afford to terminate long-term contracts abruptly. At the same time, renegotiations acknowledged lower market demand and allowed greater flexibility in the take-or-pay terms. Adjusted price formulae narrowed the gap between spot and contract prices and provided buyers protection, while retaining oil indexation. But Russia initially rejected all suggestions of a move away from the indexation of gas prices to oil prices or changes in the traditional structure of long-term take-or-pay contracts.

But this compromise formula was soon put to the test as a result of a new confrontation between European Commission authorities and Gazprom concerning the traditional terms on sales of Russian gas to European consumers.

On 27 September 2011 European antitrust officials conducted raids (unannounced inspections) on Gazprom affiliates' offices in several European countries.²⁹ Copies of documents, apparently including Gazprom's export contracts, were made. One year later, on 4 September 2012 the European Commission's Directorate General for Competition (DG Comp) announced the start of an antitrust investigation against Gazprom.³⁰

The investigation concerned Gazprom's activities in eight Central and East European countries: Poland, Czech Republic, Austria, Bulgaria, Hungary, Latvia, Estonia, and Lithuania. There are some key common denominators among the countries in this list. Many of the consumer countries in Central and Eastern Europe were almost 100 per cent reliant on Gazprom for gas supply, and as former members of the socialist bloc, their contracts were generally of a more recent vintage. Also, whereas buyers of Russian gas in West European countries such as Germany, France, and Italy had made some progress in the early 2010s in renegotiating the price elements of their contracts, buyers in Central and Eastern Europe had had less success in negotiations.

The focus of the commission's investigation into Gazprom concerned three key issues: potential obstacles to the free flow of gas across member states; impediments to the diversification of gas supply; and the question of whether gas customers were being charged too much as a result of the linkage of gas prices to oil. The investigation lasted for more than three years and resulted in the "statement of

²⁷ <https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/110612-russias-gazprom-polands-pgnig-agree-on-gas-price-adjustment>

²⁸ "Gazprom, PGNiG agree gas-price adjustment, terminate arbitration proceedings", *Interfax Russia and CIS Oil and Gas Weekly*, 1-7 November 2012, p.39

²⁹ https://ec.europa.eu/commission/presscorner/detail/en/MEMO_11_641

³⁰ https://ec.europa.eu/commission/presscorner/detail/en/IP_12_937



objections” issued by the EC’s Directorate General for Competition (DG-Comp) and sent to Gazprom in April 2015.³¹

The DG-Comp’s preliminary findings from the investigation established that in two countries out of eight under the review - Poland and Bulgaria - Gazprom had violations in all three categories, that is, these contracts had “unrelated commitments” imposed on wholesalers, had “unfair pricing”, and created “hindrances on cross-border sales”.³² Gazprom reviewed the objections and responded with its proposal on how to remedy the situation. Its suggestions submitted to DG-Comp in March 2017 were found satisfactory and became the basis for legally binding commitments for the company.³³

With regards to Gazprom’s specific commitments to Poland, DG-Comp indicated that the functioning of the Polish gas market had already improved greatly by 2017 as a result of the Commission’s antitrust investigation and developments in the gas market. First, Gazprom removed the export ban from its gas supply contract with Poland, which was one obstacle to the free flow of gas across Polish borders. Second, the possibility of reverse gas flows on the Yamal pipeline and a greater number of gas interconnectors increased cross-border gas flows and allowed Polish customers access to Western European gas hubs, both in the case of an emergency and to seek alternative supply routes. Finally, due to the fall in oil prices, prices charged by Gazprom under its oil-indexed contract also decreased.³⁴

DG-Comp also noted that Gazprom was still a dominant player in the Polish upstream wholesale gas market in 2017. Furthermore, under the current Gazprom supply contract, the prices paid by Polish customers could rise again and become excessively high in the future.

In this context, Gazprom’s commitments provided a framework to ensure that Polish customers could benefit from competitively priced gas at that time and in the future and to further facilitate the free flow of gas across Polish borders. In particular, if the price of oil rose and gas prices under the Polish oil-indexed gas contract increased again, Gazprom’s commitments would allow Polish customers to ask for a renegotiation of their gas price, if it diverged from Western European price benchmarks, including prices at competitive gas hubs. Such contractual price revisions were also to become more frequent and their timing streamlined. Gazprom also committed to remove, once and for all, any market segmentation clauses in its gas supply contracts with Central and Eastern European customers, including PGNiG, which would allow Polish customers to export and import gas to/from other EU gas markets without any restrictions resulting from Gazprom’s supply contracts. Finally, Gazprom agreed to offer swap-like operations, which would enable its customers to bring gas originally contracted at selected delivery points to Poland to be instead brought to the Baltic States. The commitment therefore offered wholesalers the possibility of seeking new customers in the Baltic States before the gas connecting infrastructure became accessible.

Regarding the transit tariff for the Yamal Pipeline, the Commission’s investigation showed that the situation could not be changed by the antitrust procedure due to the impact of an IGA between Poland and Russia.³⁵

While the anti-trust investigation was taking place, Poland continued its efforts to dial-down the gas price in its long-term contract with Gazprom. At the end of 2014 oil prices collapsed from around \$100/bbl to a mere \$50/bbl by January 2015. The oil-indexed gas price formula in Gazprom’s contract with PGNiG contained a significant time lag, so the prices Poland was paying for gas in 2015 were still based on \$100/bbl oil. Extremely unhappy with this situation, PGNiG filed for arbitration of its complaints in May 2015 to the Arbitration Institute of the Stockholm Chamber of Commerce, a neutral body that resolves international commercial disputes. The case was considered for more than five years. In its

³¹ https://ec.europa.eu/commission/presscorner/detail/en/MEMO_17_547

³² See Stern J. and Yafimova K. The EU Competition Investigation into Gazprom’s Sales to Central and Eastern Europe: a detailed analysis of the commitments and the way forward. OIES, 2017 <https://www.oxfordenergy.org/publications/eu-competition-investigation-gazproms-sales-central-eastern-europe-detailed-analysis-commitments-way-forward/>

³³ https://ec.europa.eu/commission/presscorner/detail/en/IP_17_555

³⁴ https://ec.europa.eu/commission/presscorner/detail/en/MEMO_17_547

³⁵ Ibidem



interim ruling the arbitrators said that PGNiG could seek to change the contract price within the range of its claim, but its request regarding a new price formula was “too far-reaching”.³⁶

Finally, at the end of March 2020 the Stockholm arbitration court said the amount Poland had to pay for Russian natural gas was overstated and failed to reflect price levels in the energy markets. Gazprom is now required to pay back an estimated \$1.5 billion to PGNiG, which is the difference between the prices calculated based on the adjusted formula and the amounts actually paid by PGNiG since 1 November 2014.³⁷ The ruling effectively concludes the 40-year-old saga of the Soviet influence over its former East European satellites via the network of bilateral trading contracts. The European Union legal acquis in gas trade in Eastern Europe has finally become the law of the land.

The efforts of the EC to advance competition law, the investments into improving infrastructural interconnections on the continent, and the gradual progress of market-based gas trading in Europe have all been contributing to a better functioning European gas market. The fast-paced developments in the global LNG market in the 2010s have become an external game-changer and accelerated the processes that were already under way in Europe.

As noted in the IGU Wholesale Gas Price Survey 2019, in the period 2005 to 2018, “global natural gas markets have become more integrated through increased LNG trade, increased market related pricing and gas hub development”.³⁸ Regional differentials between Henry Hub, NBP/TTF and Japanese import prices have narrowed in the past few years, and inter-regional arbitrage has been driven primarily by differences in transportation costs. The growth in volumes of destination-flexible LNG globally and significant underutilized LNG regasification capacities in Europe have turned Europe into a residual market for global LNG, responsive to market price signals.

At present, price formation in the European gas market is determined by supply and demand via traded markets, especially in Northwest Europe. According to the IGU, Europe has been one of the regions where the most significant changes in price formation mechanisms have taken place. There has been a broadly continuous move from oil-indexed gas prices to gas-on-gas price formation (GOG) since 2005, with GOG’s share increasing from 15 per cent in 2005 to 76 per cent in 2018.³⁹ In Northwest Europe the change has been most dramatic, with a complete reversal in the ratio of oil-indexation to gas-on-gas: from 72:28 in 2005 to 4:96 in 2018,⁴⁰ as a result of increased hub trading and contract renegotiations, as noted above.

Gazprom has had to reluctantly accept the shift away from oil-indexation and towards GOG. In its presentation to investors during its 2020 Investor Day on 11 February 2020, the company disclosed the composition of its sales in 2019 by types of pricing mechanism.⁴¹ More than half of the volumes delivered to Gazprom customers abroad were sold under long-term contracts with a direct link to different trading hub indices, including spot and forward markets. Another important segment (11.3 per cent) was accounted for by trading operations and sales via the electronic platform. Less than one-third of volumes has remained in the categories of oil indexation and quasi-oil indexation.⁴² Thus, by 2020 Gazprom has embraced gas-on-gas pricing in Europe, with the exception of a few legacy long-term contracts that are under arbitration, including the one with Poland. (See Figure 9)

³⁶ <https://www.reuters.com/article/pgnig-gazprom-idAFL8N1TW06M>

³⁷ <http://en.pgnig.pl/news/-/news-list/id/victory-for-pgnig-the-arbitral-tribunal-in-stockholm-rules-to-lower-the-price-of-the-gas-sold-by-gazprom-to-pgnig/newsGroupId/1910852>

³⁸ Wholesale Gas Price Survey 2019 Edition. International Gas Union, May 2019 p.48

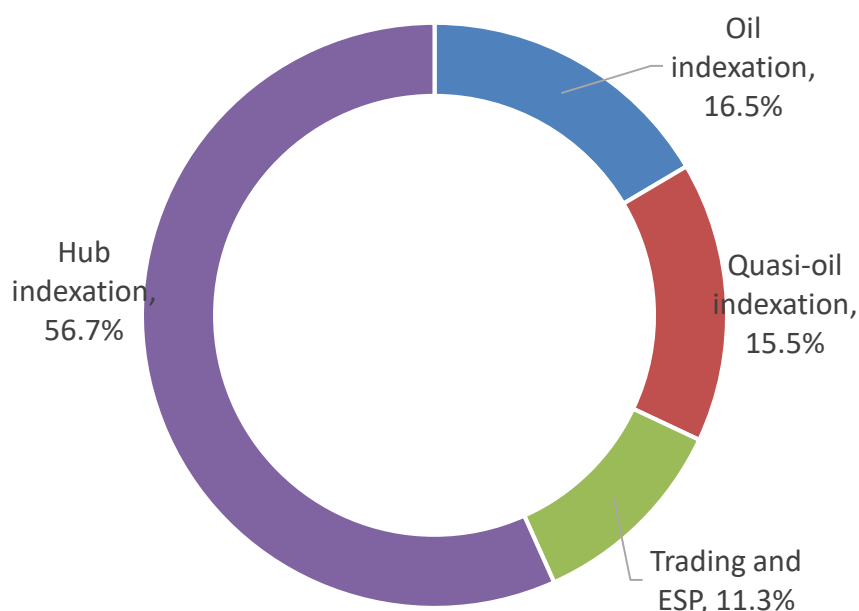
³⁹ Op.cit. p.55

⁴⁰ Op.cit. p.56

⁴¹ <https://www.gazprom.ru/f/posts/64/716836/investor-day-2020-presentation.pdf>

⁴² The cryptic definition of quasi-oil indexation has not been explained by Gazprom in detail. Some statements by top managers at GazpromExport suggest that this pricing method refers to a pricing formula that is part hub-indexed and part oil-indexed.

Figure 9: Types of pricing mechanism in Gazprom contracts in 2019



Source: Gazprom

6. Poland's officials on the strategy of diversifying gas supply sources

For Poland, the developments in the global gas markets have been a welcome change. From the beginning of the 2010s Poland has made a considerable effort to diversify away from Russian gas and thus to improve its energy security (as defined by the Polish authorities).⁴³

The political parties which form the current Polish government whose term in office runs from 2019 to 2023 have supported the position of the majority Law and Justice party on stopping gas imports from the east and opposing new Russian export pipelines to Europe: "We consistently strive to diversify energy supplies, including independence from energy supplies from the direction of East. This was served by the construction of "the northern gas gate" (LNG terminal in Świnoujście). Our government will continue its expansion and construction of gas connections from Norway via Denmark (Baltic Pipe) and implemented energy cooperation with the United States in the field of import liquefied natural gas and the development of nuclear power. At the same time, we will remain in the unchanging position of opposing construction of the Nord Stream 2 gas pipeline".⁴⁴

The Polish government has employed several political, regulatory, and economic levers to weaken Gazprom's dominant supply position.

On the political front, Polish top officials have been arguing for a complete interruption of gas relations with Russia as their goal. A statement by Poland's President, Andrzej Duda, is characteristic of the attitude of Poland's ruling class: "If we are talking about full diversification of gas supplies to Poland, we

⁴³ <https://businessinsider.com.pl/finanse/bezpieczenstwo-energetyczne-polski-wywiad-z-piotrem-naimskim/t25ep7l>

⁴⁴ PiS political program.



are talking about Poland's full gas independence from Russia; this is the milestone on the way towards the independence".⁴⁵

Another example of this position comes from Piotr Naimski, the Polish government plenipotentiary for Strategic Energy Infrastructure, who said on 5 September 2019: "We will not need Russian gas, we do not plan to extend the current long-term contract with Gazprom. This is monopolistic and we will free ourselves from this monopoly".⁴⁶ He then added on 2 October 2019: "The Baltic Pipe and the extended LNG terminal are our strategic solution to the situation of subordination to the Russians. After 2022 this problem will be solved, all gas imports to Poland will be from a different direction".⁴⁷

On a regulatory level, in 2017 the Polish government adopted a regulation that introduced the gradual diversification of imports. According to the document, the share of natural gas from one import direction in 2017-22 should not exceed 70 per cent, and in 2023, 26 - 33 per cent.⁴⁸ The reality of diversification has proven to be running ahead of the regulatory goals. By 2019, according to Poland's Ministry of Energy, Russia's share of Poland's natural gas imports declined to 60 per cent.

7. Poland's big bet on LNG

The diversification of Poland's gas imports away from Russia and access to competitive prices became possible following the start of operations of the 5 mt LNG regasification terminal in Świnoujście in 2016.⁴⁹ The rising tide of global LNG supplies provided Poland with what looked an attractive alternative to Russian gas.

In 2016, Gazprom accounted for 89 per cent of total Polish gas imports, but in the following years deliveries from Russia fell steadily, with a simultaneous growth in LNG imports, obviously helped by declining LNG prices. PGNiG's total gas imports reached 14.85 Bcm in 2019, about 1.32 billion cubic meters more than in 2018. LNG imports from the US, Qatar and Norway reached 3.43 Bcm, up 0.72 Bcm or 26.2 per cent higher year-on-year (after regasification). Poland also sourced more gas from its European neighbours, Germany, and the Czech Republic (PGNiG referred to these as pipeline imports from west and south). At the same time, imports from Russia under the Yamal contract (pipeline imports from the east) which has a minimum take-or-pay provision of 8.7 Bcm amounted to 8.95 Bcm in 2019, compared with 9.04 Bcm in 2018. As a result, in 2019 the share of Russian gas declined to 60 per cent while the share of imported LNG in PGNiG's portfolio of total imports surged to 23 per cent.⁵⁰ (See Figure 10)

⁴⁵ <https://www.prezydent.pl/aktualnosci/wypowiedzi-prezydenta-rp/wystapienia/art,1043,prezydent-baltic-pipe-to-milowy-krok-ku-pelnej-dywersyfikacji-dostaw-gazu.html>

⁴⁶ <https://www.wnp.pl/gazownictwo/naimski-nie-bedziemy-potrzebowali-rosyjskiego-gazu-wyzwolimy-sie-z-monopolu,352469.html>

⁴⁷ <https://www.youtube.com/watch?v=qEXaPh831eo>

⁴⁸ Journal of Laws, Position 902 (2017), Access Mode:

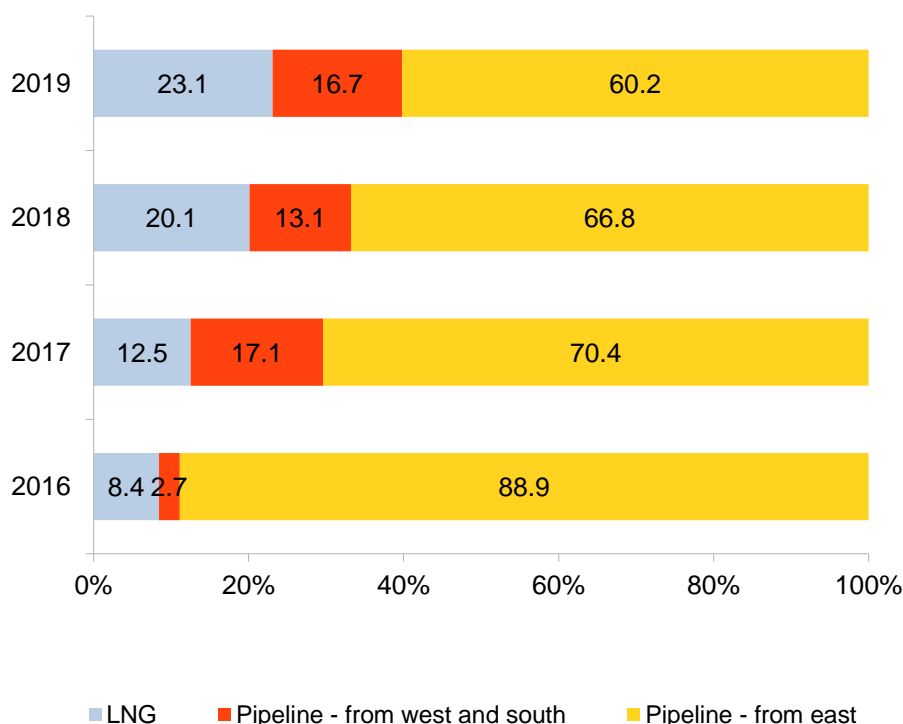
<http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU20170000902/O/D20170902.pdf>

⁴⁹ <https://en.polskielng.pl/lng-terminal/lng-terminal-in-swinoujscie/>

⁵⁰ <http://en.pgnig.pl/news/-/news-list/id/pgnig-less-gas-from-russia-lng-imports-on-the-rise/newsGroupId/1910852>



Figure 10: PGNiG gas import structure 2016–2019 (percent)



Source: PGNiG

First deliveries of LNG to PGNiG came from Qatargas, a JV of Qatar Petroleum, ConocoPhillips, and Mitsui & Co. Ltd. This contract was expanded in 2017 to 2.7 Bcm per annum with a ramp up of deliveries from 1 January 2018. It will run until June 2034.⁵¹

In June 2017, PGNiG received the first ever LNG delivery from the US – a spot supply from US LNG provider Cheniere Energy, which was followed in November 2018 by PGNiG signing a long-term contract with the US company. On July 26, 2019 PGNiG received its first cargo at the LNG Terminal in Świnoujście under the LTC.

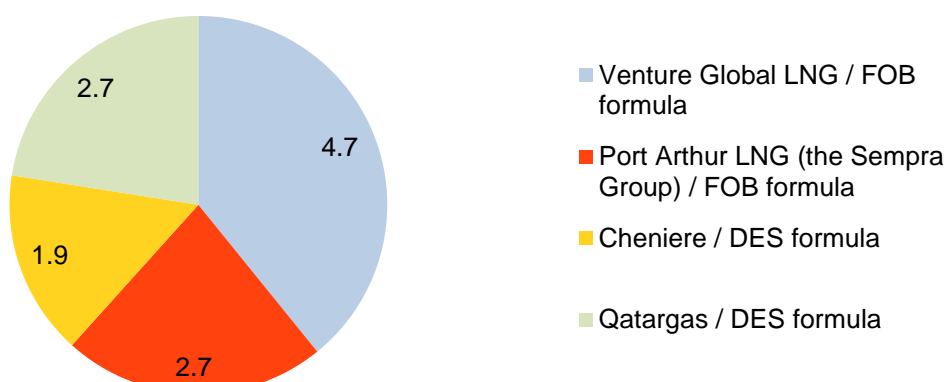
The LTC totals approximately 39 Bcm of natural gas over the 24-year period of the agreement. In 2019–2022, the total annual volume of supplies to Poland from Cheniere will amount to 0.52 mt of LNG, or approximately 0.7 Bcm after regasification. In the years 2023–2042, the annual supplies from Cheniere will increase to about 1.45 mt of LNG (around 1.95 Bcm of gas after regasification). Deliveries are based on a DES (delivery ex-ship) formula – delivery to the terminal in Świnoujście is provided by the seller.⁵²

By 2023 PGNiG is planning to expand its LNG portfolio. According to current plans, it will comprise contracts with a wider group of the US and Qatari LNG suppliers (See Figure 11).

⁵¹ <http://en.pgnig.pl/news/-/news-list/id/pgnig-signed-a-strategic-agreement-with-qatargas/newsGroupId/1910852?changeYear=2017¤tPage=3>

⁵² <http://en.pgnig.pl/news/-/news-list/id/first-cargo-of-us-lng-under-long-term-agreement-between-pgnig-and-cheniere-arrives-in-poland/newsGroupId/1910852>

Figure 11: PGNiG LNG portfolio from 2023 (Bcm per annum)



Source: OIES, data from PGNiG

The expansion of the Świnoujście LNG terminal to 7.5 mt is now under way, according to official reports. Poland has also been planning to build a second LNG regasification facility: a floating storage and regasification unit (FSRU) in Gdańsk capable of handling 4 Bcm of gas annually, equivalent to 2.8 mt of LNG. This FSRU will offer its regasification capabilities in Poland and other Baltic Sea countries. These deliveries could be made through the Poland-Lithuania gas pipeline and/or LNG ships. In addition, the FSRU will be connected to the Polish gas transmission system, which will allow gas to be supplied to neighbouring countries in Central and Eastern Europe. The FSRU will have the capability to reload LNG onto smaller tankers or provide bunkering services for LNG-fuelled vessels.⁵³

The project was approved in the Fourth PCI list on 31 October 2019 (along with the Poland-Slovakia interconnector and Baltic pipe – see below).⁵⁴ According to current plans, the FSRU will become operational by 2025. While purchasing the regasification vessel is relatively straightforward, obtaining the necessary permits for constructing onshore pipelines which would connect the regasification vessel with Poland's gas transmission system is more complicated. The area around Gdansk is heavily built-up, which makes the process of obtaining the numerous required permits very burdensome.

If these plans are realized, Poland's total regasification capacity will reach over 11 Bcm.⁵⁵ Another option has been considered which would increase the capacity of the FSRU to 8 Bcm and this would bring Poland's total regasification capacity to 15.5 Bcm.⁵⁶ In this scenario, LNG imports could be sufficient to meet Poland's gas demand requirements without gas imports from Russia.

8. Poland's second bet: the Baltic Pipe project

In addition to its ambitious LNG plans, Poland has also considered alternative pipeline import supplies. These ideas culminated in the Baltic Pipe project designed to bring pipeline gas into the country from the Norwegian sector of the North Sea, via Denmark. To this end, a 900 km natural gas pipeline including two offshore pipeline segments with a combined length of 385 km in the North Sea and in the Baltic Sea, and two onshore pipeline segments of up to 570km length in Denmark and Poland, along with a compressor station at Zealand in Denmark has been proposed.⁵⁷

The Baltic Pipe will source gas from the existing Europipe II offshore pipeline, running from Stavanger, Norway, to Germany. The first 110 km-long section of the Baltic Pipe, with an 800 mm-diameter and

⁵³ <https://en.gaz-system.pl/centrum-prasowe/aktualnosci/informacja/artukul/202464/>

⁵⁴ https://ec.europa.eu/inea/sites/inea/files/4th_pci_list_0.pdf

⁵⁵ <https://www.ceep.be/second-lng-terminal-in-poland/>

⁵⁶ <https://biznesalert.com/fsru-lng-terminal-gdansk-gazterm-2019/>

⁵⁷ <https://www.baltic-pipe.eu/about/>

8.5MPa to 11MPa operating pressure, called the North Sea offshore pipeline, will land in Blabjerg on the west coast of Denmark. The second 230 km segment of the pipeline with a diameter ranging between 900 mm and 1,000 mm and operating at a pressure between 5MPa and 8MPa will cross Denmark onshore from the west coast to Zealand, where a new compressor station will be built. The third pipeline segment (the Baltic offshore pipeline) will be a 275 km-long and 900 mm-diameter bi-directional offshore pipeline with an operating pressure range between 6.7MPa and 12MPa. It will pass through Danish and Polish territorial waters and the Swedish Exclusive Economic Zone in the Baltic Sea to make landfall at Niechorze-Pogorzelica in Poland. The final segment of the pipeline with a diameter of 1000 mm and operating pressure in the range between 8.4MPa and 15MPa will run onshore for a distance of up to 280km in Poland to connect to the Polish national transmission system. This section of the line is the most challenging part of the project. It is noteworthy that the pipeline will cross the routes of both Nord Stream 1 and Nord Stream 2 and would require agreements with their operators on the technological and environmental safety of the crossovers. (See Figure 12)

Figure 12: The Baltic Pipe project



Source: ENTSG

The Baltic Pipe project has been designated as a strategic infrastructure project to create a new gas supply corridor in Europe and was recognized as a Project of Common Interest (PCI) by the EU in October 2013.⁵⁸ The reasons for granting the project PCI status included the strengthening of supply diversification, market integration, price convergence and security of supply primarily in Poland and Denmark and secondarily in Sweden, Central and Eastern Europe (CEE), and the Baltic region. One of the announced goals of the project was to connect the Baltic Pipe to the LNG terminal in Świnoujście, which could in the future guarantee Scandinavian countries access to the global liquefied natural gas (LNG) market.

The \$1.88bn pipeline project is being jointly developed by the Danish gas transmission operator Energinet and the Polish transmission operator GAZ-System. GAZ-System and Energinet completed the project's feasibility study in 2016 and took the final investment decision (FID) in November 2018. According to the current plan, the construction of the pipeline should be completed in October 2022, just before the long-term gas supply contract between Russia and Poland expires on 31 December

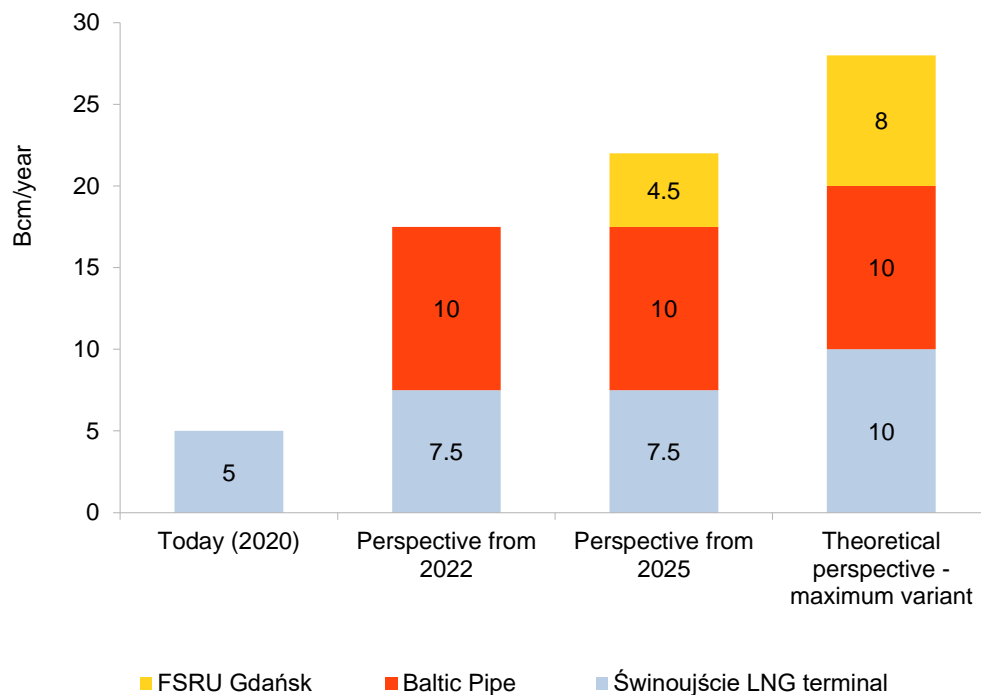
⁵⁸ <https://www.baltic-pipe.eu/about/project-of-common-interest/>



2022. On 15 November 2019 PGNiG informed Gazprom officially that it would not be renewing the LTC, as it plans to switch to different sources of imported gas – from Norway and LNG.⁵⁹

GAZ-System is responsible for the construction of the undersea pipeline in the Baltic Sea. In 2019, the European Commission, via the Connecting Europe Facility (CEF), granted nearly EUR 215 million for Baltic Pipe construction works. In the beginning of May 2020, GAZ-System reported that it had selected Saipem Ltd as the offshore Baltic Pipe contractor⁶⁰ with the contract reportedly quoted at EUR 280 million. On 11 May 2020, GAZ-System reported that it had received the last remaining construction permit for works in the Swedish Exclusive Economic Zone in the Baltic Sea. This permit for laying the gas pipeline issued by the Swedish Ministry of Enterprise and Innovation completed the process of obtaining construction permits for all sections of Baltic Pipe in all the countries it will go through. Earlier, the complete set of administrative decisions had been obtained in both Poland and Denmark. Construction of the pipe is currently scheduled to start in the summer of 2021 and if everything goes according to plan, the project should be operational in October 2022.⁶¹ In conclusion, when and if all planned LNG and new pipeline projects are realized, Poland will be able finally to achieve its vision of freeing itself from Russian gas. (See Figure 13)

Figure 13: Polish plans for diversifying gas supply sources



Source: OIES

⁵⁹ <http://en.pgnig.pl/news/-/news-list/id/declaration-of-will-to-terminate-yamal-contract-effective-december-31-2022/newsGroupId/1910852?changeYear=2019¤tPage=1>

⁶⁰ <https://www.baltic-pipe.eu/gaz-system-selected-pipelayer-contractor-for-baltic-pipe-offshore/>

⁶¹ <https://www.baltic-pipe.eu/gaz-system-holds-all-construction-permits-for-baltic-pipe-project/>

9. Poland's ultimate ambition: becoming a gas hub for Eastern and Central Europe

Polish ambitions extend beyond the idea of replacing Russian supply with LNG and Norwegian pipeline gas. The new sources of supply, according to the proponents of a new grand vision for Poland's gas future, will also serve to make Poland the key distributor of gas in Eastern and Central Europe. (See Figure 14).

Figure 14: Poland as a gas hub in Eastern and Central Europe



Source: Biznes Alert

In September 2019, the Polish section of the new cross-border gas pipeline connecting Poland and Slovakia was launched, with financial assistance from the EU's Connecting Europe Facility (CEF) program.⁶² The implementation of this new interconnection is an important part of the North South Gas Interconnections in Central Eastern and South-Eastern Europe project ([NSI East Gas](#)) and will contribute to improving regional security of supply and the development of a competitive gas market in the entire region.

The Poland-Slovakia gas interconnection with technical capacity of 4.7 Bcm per annum in the direction from Poland to Slovakia and of 5.7 Bcm per annum in the direction from Slovakia to Poland will be a high-pressure, bi-directional pipeline with a diameter of 1,000 mm. Its Polish section will be 59 km-long, while the Slovakian part of the pipeline will be 103 km-long. The commissioning of the new pipeline is expected in 2021.

⁶² <https://ec.europa.eu/inea/en/news-events/newsroom/construction-poland-slovakia-gas-interconnector-well-under-way-thanks-to-eu>

The connection of the Slovak and Polish gas transmission systems has been designated an EU [Project of Common Interest](#) (PCI) and as such benefits from EU funding through the CEF programme. The grant for works - EUR107.7 million - was awarded in February 2017 and covers 40 per cent of the construction costs.⁶³

At the same time, work has been ongoing for constructing interconnectors between Poland and the Czech Republic between Poland and Ukraine (with the potential for greater usage of the gas storage facilities in Western Ukraine), and between Poland and Lithuania, opening access to Poland for LNG imports via Lithuania.

10. Is Poland's gas import strategy water-tight?

The Polish approach to the diversification of its gas imports can be characterized as a “double down” strategy. Having made a big bet on LNG, a market that has been prone to volatility and swinging pricing cycles, Poland has added another potentially risky bet: the Baltic Pipe project which it is striving to complete before the LTC with Gazprom expires at the end of 2022. What makes this strategy risky is not the commitments to LNG or the new pipeline construction. Indeed, the diversification efforts are good insurance for Poland, despite the high costs, especially given that the bulk of the money for the Baltic pipe and the Gdansk LNG terminal (both have been approved as PCIs) is to come from the EU budget on supporting the development of European gas infrastructure.

The risk comes from mixing commercial considerations with politics, and from “burning bridges” to the East politically and commercially before the new ones (expansion of LNG regasification capacity and Baltic Pipe) are completed. Of course, the physical “bridge” in the form of the existing pipeline infrastructure of Yamal-Europe will remain in place and can be used to procure Russian gas post 2022 if the Baltic Pipe gets delayed or LNG imports run into some currently unforeseen problems, such as shut-ins of LNG terminals with which PGNiG has contracts due to inability to cover even variable costs.

However, in the absence of an LTC with Gazprom, Poland is not going to have any certainty that its nominations to purchase Russian gas after 2022 will be met in full or even partially. Gazprom is planning its business many years ahead, with upstream investments in particular fields designated to support specific export pipelines and specific European customers.

The physical availability of gas is never a concern when the market is long. But when the market is short, finding supply at short notice becomes potentially problematic. This might become important for Poland in view of the cost advantages of employing the virtual reverse scheme for purchasing gas from Germany (which is emerging as a key distribution hub for Russian gas in Europe) versus arranging physical reverse flows on the EuRoPol pipeline.⁶⁴ For virtual reverse, Poland needs to have sufficient volumes of Russian gas transiting. As we demonstrate below in the section on the future of Russian gas transit via Poland, this should not be taken for granted.

The current glut in the European gas market has emerged due to a confluence of events on both the demand and the supply side that are both structural and cyclical in nature. The cyclical elements have been mostly on the demand side and have included very high levels of gas in storage inherited from the end of last year when concerns over the future of Ukrainian transit made European companies take extra precautions and buy more gas than usual;⁶⁵ the warm winter of 2019/2020 that exacerbated the

⁶³ <https://ec.europa.eu/inea/en/connecting-europe-facility/cef-energy/6.2.1-0019-skpl-w-m-16>

⁶⁴ For a detailed explanation of the virtual reverse scheme see Peters, W. *Poland, a “failed state” in gas trading*. The Gas Value Chain Company GmbH, June 2018. pp.16-25

⁶⁵ <https://www.oxfordenergy.org/publications/russia-ukraine-gas-transit-talks-risks-for-all-sides/>



storage situation,⁶⁶ and, finally, the COVID-19 pandemic that has brought economic activity to an abrupt halt since March 2020.⁶⁷

On the supply side, reckless investments in new capacity driven by overly optimistic expectations that the high gas prices of the early 2010s would continue, set in motion cyclical oversupply that has driven prices down to the level of variable costs in the past few years (clearly unsustainable in the longer term), and raising the question of which of the suppliers is going to blink first.⁶⁸

The structural elements of the crisis can be seen in signs that fears of a fast-paced energy transition to a carbon-free world have started a race to monetize ample gas reserves amongst producers. This development may potentially become extremely bearish for the global gas market, as it changes normal intertemporal decisions of resource owners with regards to when oil and gas should be extracted and invites the permanent overbuild of productive capacity. The structural changes on the demand side appear to provide some support to natural gas in the medium term, since gas is seen as a “bridge fuel”, the cleanest of the fossil fuels that can support energy transition without burdening it with the excessive costs of new, untested, carbon-free technologies.

Markets have short memories. Today few people remember that as recently as the winter of 2018/19 Gazprom experienced problems meeting peak seasonal demand for its European customers. It is noteworthy that the overhang of gas productive capacity in Russia shrank from almost 200 Bcm in the mid-2010s to just 40 Bcm by the end of the decade.⁶⁹ Moreover, the physical availability of Russian gas should not be taken for granted for all current export routes in the longer term.

New gas productive capacity in Russia has been added on the Yamal peninsula.⁷⁰ This gas “wants” to flow via the newly created pipeline corridor Bovanenkovo-Ukhta-Torzhok within the Russian gas transportation system (GTS) and onto Nord Stream and Nord Stream 2 rather than via the central corridor of the GTS and via Ukraine or Belarus/Poland for a very simple reason: the length of the former to the point of entry to the target market in the EU is almost 1,500 kilometres shorter.⁷¹

The geography of the new generation of Russian gas fields and the most economically efficient way of organizing the gas flows for this gas via Russia has been the key determinant of the new configuration of Russian gas export pipelines to Northwest Europe. The oft-talked impact of Nord Stream and Nord Stream 2 on the transit of Russian gas via Ukraine and Belarus/Poland are the second-order consequences of the tectonic shift in the way the production and transportation of Russian gas has been evolving in the past ten years.

For Poland, it might be worth considering the fact that supply into its gas system from the east has been sourced from the declining legacy production base in the Nadym-Pur-Taz (NPT) province, and future availability of Russian gas via this route might become supply-constrained, especially if export netbacks are lower than Russian regulated gas prices, as they are now. Ironically, given Poland's fierce resistance to Nord Stream 2, it is Russian gas arriving to Greifswald that might become the best insurance for the Polish gas balance against any possible shortfall of supply from the alternative sources to Russian gas.

The start-up of the LNG terminal in Świnoujście has strengthened Poland's negotiating position with Gazprom but it remains to be seen how trends in the global LNG market in the wake of the global pandemic and the unprecedented oil and gas supply destruction are going to unfold. The pandemic has

⁶⁶ <https://www.oxfordenergy.org/publications/short-term-weakness-long-term-uncertainties-key-messages-from-the-oies-gas-research-programmes-spring-sponsors-meeting/>

⁶⁷ <https://www.oxfordenergy.org/publications/quarterly-gas-review-issue-9/>

⁶⁸ <https://www.oxfordenergy.org/publications/2-gas-in-europe-is-here-who-will-blink-first/>

⁶⁹ <https://www.oxfordenergy.org/publications/shrinking-surplus-outlook-russias-spare-gas-productive-capacity/>

⁷⁰ <https://www.gazprom.com/projects/yamal/>

⁷¹ The distance from Yamal to Northern Germany is about 3,200 km, whereas the distance to south Germany (via Ukraine and Central Europe) is about 4,700 km. The new pipelines in the northern corridor of the Russian GTS and Nord Streams are modern and operate at high pressure, whereas the pipelines in the central corridor and in Ukraine are, on average, over thirty years old and approaching the end of their normative economic life.



increased overall uncertainty with regards to the timing of near-term new LNG projects. Many new projects have been put on a back burner, and their entry to the market has been postponed by a few years. This may lead to a tight LNG market in 2023/24 with high upside risks for prices.

Poland has made an important step forward in the process of physically diversifying its gas import portfolio. Unfortunately, this step has been unnecessary large, stretching Poland's financial position and making it vulnerable to external shocks such as the one we are currently living through with the COVID-19 pandemic. The fixation on "ideological physicality" in Poland (a term coined by Jonathan Stern of the OIES) has translated into the excessive politicization of gas trade by the Polish authorities. Concerns over security of supply have turned into a total rejection of all Russian gas, at least according to public statements by Polish officials.

The attempts to find substitutes to Russian supply have led to the pursuit of commercially questionable and economically redundant projects. These include plans for creating massive (as opposed to moderate) LNG import capacity, and the commercially challenged Baltic pipeline that duplicates existing capacities for bringing Norwegian gas to the Northwest Europe via Germany.⁷² PGNiG has purchased capacity in all these facilities and has thus cemented its established monopoly and excluded any competition.

Meanwhile, the results of the recent arbitration between PGNiG and Gazprom show that reducing the cost of Russian imports could have been achieved without building nearly so much diversification infrastructure. Instead of embracing the opportunities offered to final gas consumers by the liberalized, competitive wholesale trading gas markets in Northwest Europe, the Polish government has protected the established incumbent, PGNiG, and created barriers to entry for new market entrants, the independent traders. A recent OIES research paper on gas trading in Europe shows that there is practically no trading at the Polish "hub", nor will there be.⁷³

Poland's efforts to diversify gas supply sources did improve its negotiating leverage with Gazprom. But instead of using this advantage to obtain better commercial terms, the Polish government decided to physically eliminate Russian gas from Poland by building massively expensive alternative infrastructure. This has been a political decision with extremely negative economic consequences. It was not necessary as commercial negotiating leverage: the DG COMP decision and arbitration process finally brought the price of Russian gas into line with European prices, making this strategy look even more expensive. But the Polish decision-makers have been too preoccupied with their idea of serving the "greater good" of trans-Atlantic solidarity by opposing Russia at every opportunity, promoting US LNG as "molecules of freedom", and using the EU subsidies for gas infrastructure to support the state-owned PGNiG in entrenching its established monopoly in the Polish gas market.

A new consideration in the gas trade game has been the varying carbon footprint of alternative gas supplies. Russian pipeline gas via new modern pipelines not only has the lowest cost of supply to Europe (but not necessarily the lowest price), but, as demonstrated by several studies conducted in Germany,⁷⁴ it also has a relatively low carbon footprint, especially compared to the carbon footprint of LNG. (See Figure 15) This might become a significant factor in the near future, if the EU implements its plans to enforce its climate change goals with a cross-border carbon tax.

Sound commercial strategy for a gas importer with a diversified portfolio of suppliers, as a rule, is based on a principle of keeping all options open and maximizing the returns from the portfolio. This means that a problem with one source of supply (e.g. a delay in the timing of a new project) can be solved by other suppliers helping cover the shortfall. This is when good relations matter. Poland and Russia have had a long history of gas trade in which Russia has been a reliable supplier, and Poland a reliable customer. In spite of commercial disagreements, stemming from the legacy of long-term contracts

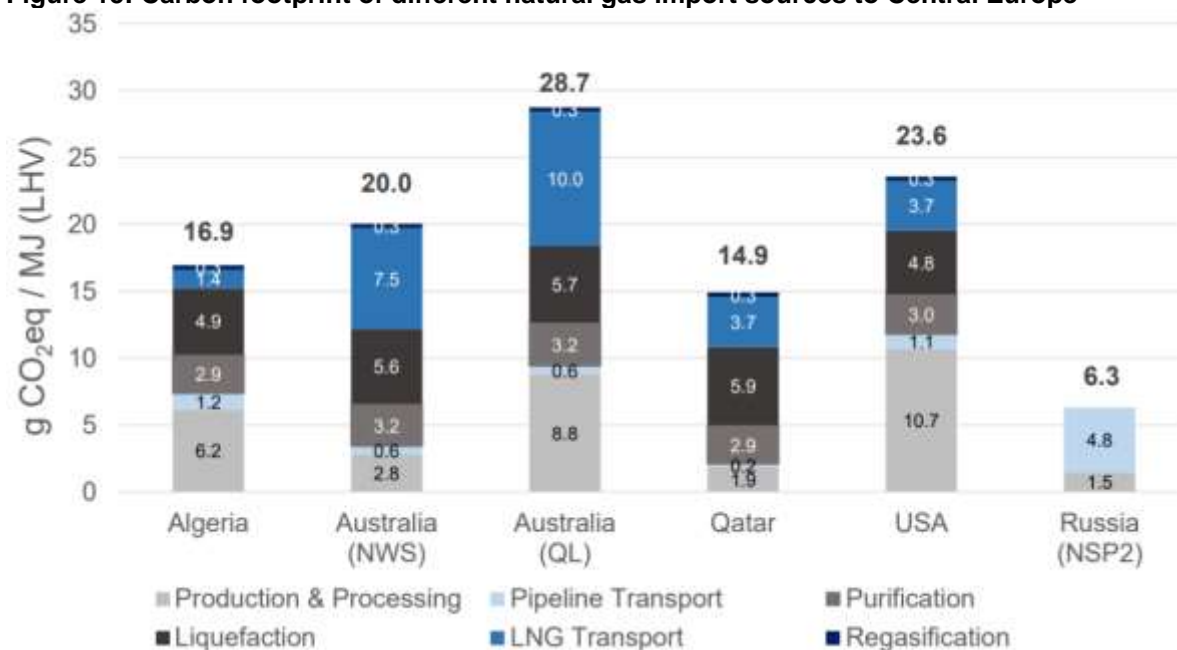
⁷² For a critical review of Poland's position from the point of view of a seasoned European gas trader and industry expert, see Peters, W. *Poland, a "failed state" in gas trading*. The Gas Value Chain Company GmbH, June 2018

⁷³ <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2020/05/European-Traded-gas-hubs-the-supremacy-of-TTF.pdf>

⁷⁴ Carbon Footprint of Natural Gas Transport. Study by Thinkstep, a Sphere company, 2017; Critical Evaluation of Default Values for the GHG Emissions of the Natural Gas Supply Chain, 2016. Study by DBI <https://www.dbi-gut.de/emissions.html>

signed decades ago, Russia has demonstrated that it could (albeit reluctantly) adjust its terms of trade in response to changing market realities.

Figure 15: Carbon footprint of different natural gas import sources to Central Europe



Source: <https://www.thinkstep.com/content/resource-report-carbon-footprint-natural-gas-transport>

The current stance of the Polish government has been to position the country as Russia's number one political adversary in Europe. In Poland's national security strategy released in May 2020, Russia is designated as the most important opponent. The strategy then asserts that blocking the creation of gas transmission infrastructure from Russia to Europe is its energy security goal.⁷⁵ The strained political relations with Russia, harsh anti-Gazprom rhetoric, and attempts to harm Russian interests as much as possible at any opportunity (the efforts to "torpedo" Nord Stream 2 is a case in point) have reflected Poland's Atlantic political orientation and its policy of being a conduit for US interests in Europe. Poland's political choice may have economic consequences, if, all of a sudden, the planned sources of alternative supply are not available in time, or unexpected market developments make their use economically costly.

11. The future of Russian gas transit via Poland

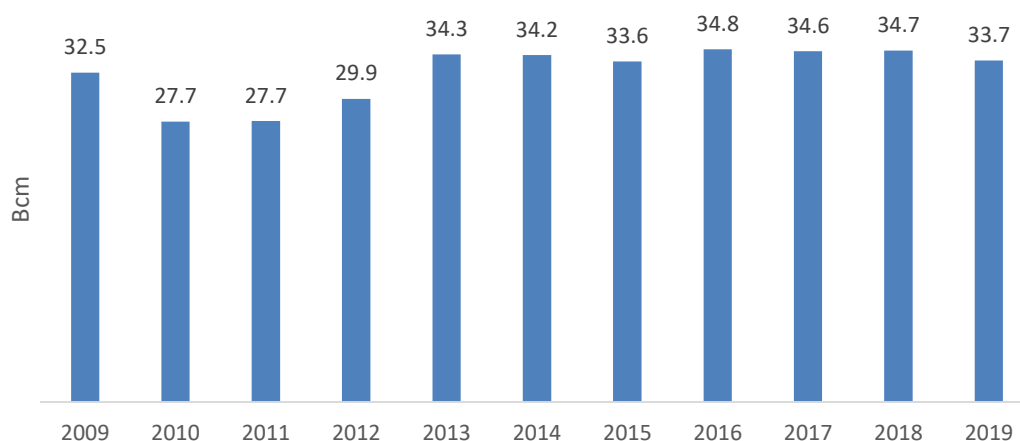
Poland has been one of the key routes for Russian gas transiting to the EU. Historically, the transit flows via Poland have been remarkably stable, and pipeline utilization rates have exceeded 90 per cent. These high utilization rates can be explained by the fact that it was a relatively new route with low transit tariffs for Gazprom. Since Gazprom owns 48 per cent of EuRoPol Gaz, when it pays transportation tariffs to EuRoPol Gaz then part of the profits for the company are returned to Gazprom. Gazprom also has an interest in using the route since it owns Beltransgaz, an operator of the section of the Yamal-Europe pipeline in Belarus.

Poland had been unhappy about the low transit revenues but could not increase transit fees before the expiration of a long-term transit contract due to the conditions of the IGA. Since 2006, about 30 Bcm

⁷⁵ National Security Strategy of the Republic of Poland, May 2020. p.34
https://www.bbn.gov.pl/ftp/dokumenty/National_Security_Strategy_of_the_Republic_of_Poland_2020.pdf

per annum of Russian gas has been transiting Poland, via the EuRoPol section of the Yamal-Europe pipeline, to European destinations. (See Figure 16)

Figure 16: Gas transit via EuRoPol



Note: including fuel gas

Source: OIES, data from Gaz System

But now the utilization of EuRoPol has suddenly become an issue. The long-term transit contract between Russia and Poland expired on 16 May 2020. As predicted in previous research by OIES, no new long-term transit contract was signed,⁷⁶ and the parties have decided to use short-term capacity booking instead.

The developments around the Polish gas transit corridor in 2020 and thereafter should be placed in a wider context. The COVID-19 pandemic has brought European economic activity to an abrupt halt and as a result, gas demand in Europe has declined and is likely to test exceptionally low levels in 2020. But even before the full extent of coronavirus threat became obvious, it was a “bumpy start” for Gazprom this year.

Fears of “no deal” with Ukraine had incentivised Europeans to purchase Russian gas in 2019 over and above “normal” levels; this reduced deliveries in the beginning of 2020 when a transit deal with Ukraine removed the supply risks. Gas in storage was at high levels by the start of the heating season of 2019/20, and the warm winter reduced consumption. By the end of March 2020 European gas storages were around 56 per cent full, compared with roughly 40 per cent at the same time in 2019 (amounting to an increase in volume of around 40 per cent). A global glut of LNG and the disappearance of the Asian premium made LNG readily available and cheap for European buyers. In the spring of 2020, \$2/MMBtu gas in Europe became reality. By May, gas prices at TTF became lower than at Henry Hub.

Gazprom’s latest guidance for the expected volume of annual gas exports to Europe in 2020 suggests a sharp decline year-on-year to 166.6 Bcm, down more than 30 Bcm compared with 2019. The expected average price for exports to “Far Abroad” for 2020 has declined to \$133/Mcm compared with \$204/Mcm in 2019.⁷⁷

⁷⁶ Pirani, S., Sharples, J., Yafimova, K., Yermakov, V. *Implications of the Russia-Ukraine gas transit deal for alternative pipeline routes and the Ukrainian and European markets*. OIES Insight 65, March 2020, p.13

⁷⁷ <https://www.vedomosti.ru/business/articles/2020/04/29/829336-gazprom-mozhet-poteryat>

The transit deal between Gazprom and Naftogaz Ukrainy has left Gazprom with what was considered at the time of the deal just enough pipeline export capacity for deliveries to Europe at the levels registered for Russian gas pipeline exports in 2018 and 2019 – around 200 Bcm/year. (See Table 2).

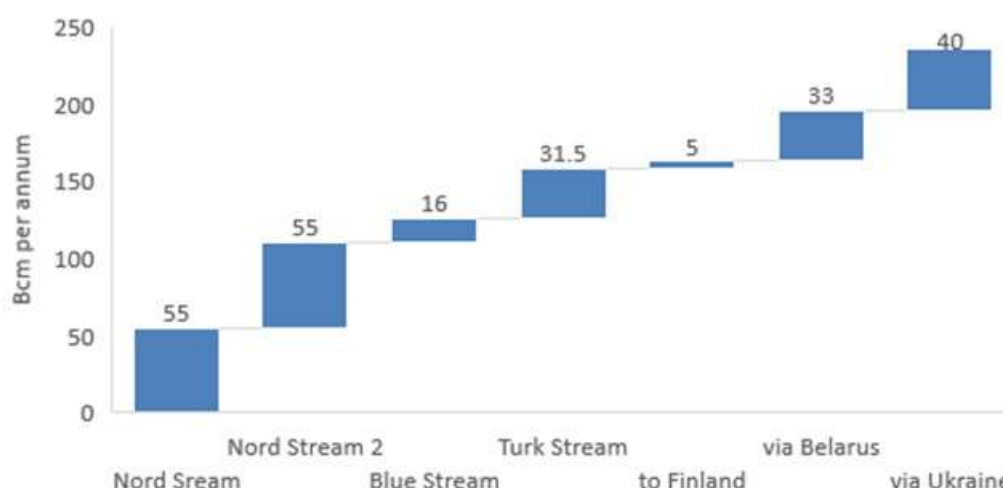
Table 2: Capacity on main routes for deliveries of Russian pipeline gas to Europe

Pipeline/route	Annual capacity (Bcm)	Utilization rate (% of annual capacity)			Capacity available for Gazprom (Bcm)
		2017	2018	2019	2020
Nord Stream I	55	93%	107%	106%	55
Blue Stream	16	99%	83%	~60%	16
Turk Stream	31.5	n/a	n/a	n/a	31.5
Transit via Ukraine	136	69%	65%	66%	65 - prebooked
Europol via Poland	33	90%	92%	~88%	33
Total	271.5				200.5

Source: OIES

The expected launch of Nord Stream 2 at the beginning of 2021 (according to the latest official statements by Gazprom and different Russian officials)⁷⁸ would bring total pipeline export capacities available to Gazprom to more than 250 Bcm. (See Figure 17)

Figure 17: Pipeline capacities to Europe available to Gazprom in 2021–2024



Source: OIES

But now, due to the complex crisis, shrinking demand and drastically reduced export outlook in 2020, instead of “just enough” pipeline capacity, Gazprom is going to have plenty of spare export pipeline capacity to Europe in 2020. Moreover, Nord Stream 2 in 2021 (if Russia delivers it) makes this overhang even bigger.

In the absence of robust gas demand growth in Europe from 2021, Gazprom will have to make two important choices regarding export pipeline capacity surplus: first, which export routes to load up to

⁷⁸ 'В Минэнерго подтвердили сроки завершения "Северного потока – 2"', *RIA Novosti*, 18 February 2020, <https://ria.ru/20200218/1564934332.html>



their maximum capacity and which to leave underutilised; second, which routes to use for covering seasonal flexibility requirement and cover during the maintenance of undersea pipelines.

We expect Gazprom's top priorities for maximum load are going to be the new direct pipelines from Russia to its target markets, especially Nord Stream where the restrictions on the full utilization of the pipeline have been finally removed. On 20 May 2020, Germany's Federal Network Agency (BNetzA) granted the Nord Stream Pipeline a derogation from the application of the primary provisions of the EU Gas Directive. The derogation applies to the pipeline section located on German territory (including German territorial waters) and is initially valid for twenty years, retroactively from 12 December 2019.⁷⁹

At the same time, a few days earlier, on 15 May 2020 the German regulator rejected the application for derogation by Nord Stream 2 because the agency determined that the project was not "complete" before the stated deadline of 23 May 2019 and did not agree with the economic and functional interpretation of the 'completion' criterion advocated by Nord Stream 2 in its application.⁸⁰ While this decision may affect the operations of the pipeline, Gazprom has a variety of options that can help it maximize utilization of Nord Stream 2 over and above 50 per cent, the formal threshold under the directive as it required half of the capacity to be left for third-party access. It is noteworthy that the analysis by the Polish think tank OSW lists several such options, including transferring the point of sale for certain volume of gas for Nord Stream 2 to Russia.⁸¹ This would allow Gazprom to use 100 per cent of Nord Stream 2 capacity without the necessity of obtaining waivers from the European regulators.

With regards to the third-country transit routes (via Ukraine and via Poland), prior to 2020 it was Ukraine which had large underutilised capacity and which was the prime provider of flexibility for Gazprom for its exports to Europe. In 2018 Gazprom transited 86.8 Bcm via Ukraine, using an estimated 65 per cent of Ukraine's available transit capacity to Europe that year. In 2019 Russian gas transit through Ukraine went up by 3 per cent, to 89.2 Bcm. It is noteworthy that Gazprom's planning with respect to the usage of the Ukrainian transit corridor before 2020 assumed that the company only had to pay for the actual transited volumes under the terms of its previous contract with Naftogaz.⁸²

The new deal with Ukraine, however, is different. According to the agreement, the transit payment terms are not flexible because the annual booked capacity of 65 Bcm in 2020 and 40 Bcm in 2021-2024 has been spread over equal daily bookings: 178.1 million cubic metres/day in 2020 and 109.6 million cubic metres/day in 2021-2024. Gazprom has to pay a relatively high transit fee of \$31.7/Mcm for the whole transit route (\$2.66/Mcm/per 100 km) for the booked transit irrespective of actual transit volumes; the contract, therefore, works as a classical ship-or-pay arrangement. In effect, Ukraine has managed to secure transit revenue irrespective of actual flows of Russian gas via its system through to the end of 2024. In 2020 so far, mild temperatures and full gas storages have affected Gazprom's use of the Ukrainian route, even under the new inflexible terms. Ukraine used to be the balancing route for Gazprom, but the new "ship-or-pay" transit deal makes it viable for balancing only if Gazprom needs to ship more, not less than the level of pre-booked capacity. This is not the case this year, and unlikely to be the case in 2021.

As a result, if Gazprom stops treating the Ukrainian transit corridor as the balancing route, to increase the payback on the transit payment it has agreed, this would leave the other third-country transit route Gazprom has been using, via Poland, very exposed to the risk of lower and seasonally uneven utilization. For this to happen, of course, the total pipeline export capacity to Northwest and Central

⁷⁹ <https://www.nord-stream.com/press-info/press-releases/nord-streams-contribution-to-european-security-of-supply-confirmed-513/>

⁸⁰ <https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/051520-german-regulator-formally-rejects-request-from-nord-stream-2-for-eu-law-waiver>

⁸¹ <https://www.osw.waw.pl/en/publikacje/analyses/2020-05-18/german-regulator-opposes-preferences-nord-stream-2>

⁸² The Stockholm arbitrage in its controversial decision treated the transit contract between Gazprom and Naftogaz as if it were "ship-or-pay", but Gazprom never considered the transit arrangement with Ukraine for 2009-2019 as "ship-or-pay" and organized the flows via the Ukrainian corridor in accordance with its interpretation of the contract.



Europe available to Gazprom needs to significantly exceed the European demand for Russian pipeline gas exports.

The second important condition is Gazprom's ability to switch and/or optimise loads on the alternative pipelines without sacrificing its contractual obligations. After transiting Poland, Russian gas arrives in the area east of Berlin in Germany, not far from where two major extensions from Nord Stream and Nord Stream 2 – OPAL and EUGAL – are running south. The start-up of Nord Stream 2 will mean that deliveries via EUGAL will ramp up further. This might make some of the transit capacity in EuRoPol that had been targeting Germany redundant for Gazprom.

Since April 2020 the Polish grid operator, Gaz-System, has been offering capacity in the Polish gas transit network via auctions for the period from 17 May 2020 onwards. Interested shippers have been able to book annual capacity, in particular at Kondratki, the entry point of EuRoPol to Poland and at Mallnow, the exit point to Germany for up to fifteen gas years, while quarterly, monthly, daily and within-day products will be available as well, in line with the EU rules that require TSOs to offer standard products at every interconnection point with other transmission systems.⁸³

Gazprom seems to have decided to make the Polish transit corridor the balancing route that would act as a shock absorber for periods when gas transit capacity available to Gazprom exceeds the call on Russian pipeline gas in Europe and during maintenance periods for the undersea pipelines.

Evidence from the first auctions for EuRoPol capacity since 17 May 2020 clearly indicates that Gazprom is now treating Belarus/Poland as a balancing item. The first daily booking after the expiration of the long-term contract on 17 May only required 58 per cent of EuRoPol capacity. In the next two days volumes recovered, only to dwindle from 23 May. Belarus was receiving some gas, but the flows through Poland shrank dramatically during May 23–26. On 26 May Gascade, the operator of the German gas transportation system reported that westward flows from Poland to Germany at Mallnow fell to zero.⁸⁴ Gascade organized reverse flows,⁸⁵ which, ironically, could be bringing to Poland gas which has been delivered to Germany from Russia via Nord Stream.

The westward flows via Yamal-Europe are expected to recover from June with 93 per cent of capacity of EuRoPol booked at a monthly auction. Earlier, Gazprom had booked 80 per cent of EuRoPol capacity for Q3 2020 during quarterly auctions.⁸⁶ The reported transit fee at the quarterly auction was low, only \$7.2/Mcm for the whole route, or just \$1.05/Mcm/per 100 km, compared with the \$2.66/Mcm/per 100 km which Gazprom pays to Ukraine under the latest deal. It appears that Gaz System is ready to offer low tariffs to make sure that EuRoPol capacity is booked. On the other hand, prices at European hubs are so low that even an exceptionally low transit tariff accounts for an incredibly significant share of revenues.

The extremely low gas price environment in Europe in 2020 is putting pressure on Gazprom. When gas prices in Europe go below \$4/Mcm, Gazprom's export margin starts testing negative territory (i.e. export netbacks turn lower than Russian domestic regulated prices).⁸⁷ In this situation it might be in Gazprom's interests to keep its sales to Europe at minimum contract levels waiting for a price recovery.

⁸³ <https://en.gaz-system.pl/press-centre/news/information-for-the-media/artykul/202972/>

⁸⁴ <https://www.bloomberg.com/amp/news/articles/2020-05-26/russian-gas-flows-to-europe-plunge-after-price-collapse>

⁸⁵ <https://www.naturalgasworld.com/yamal-europe-reverses-flow-79230>

⁸⁶ <https://gsaplatform.eu/auctionyearcalendars>

⁸⁷ This "back of the envelope" calculation depends on the export route, because of difference in transportation costs. For example, when the gas price in Europe is \$4/MMBtu, Gazprom's export netback for the route via Ukraine can be estimated as follows: \$4/MMBtu less 30 per cent Russian export tax equals \$2.8/MMBtu less \$0.9/MMBtu transit fee via Ukraine (assuming full utilization of the pre-booked daily capacity of 178 Mcm/day) equals \$1.9/MMBtu export netback at Russia-Ukraine border, approximately the same level as the regulated wholesale gas price for industrial users in the Kursk region in Russia (bordering Ukraine). In reality, since Ukrainian transit currently works as a ship-or-pay arrangement, and Gazprom has been using only about 150 Mcm/day, or 84 per cent of the pre-booked capacity via the Ukrainian route in May 2020 (the average utilization this year so far has been even less - 130 Mcm/day) the effective unit transit fee for the ship-or-pay arrangement in May amounted to \$1.1/MMBtu, bringing the export netback at the Russia-Ukraine border in our calculation down to \$1.7/MMBtu, 11 per cent lower than the Russian regulated price for industrial users in the Kursk region. With gas prices of \$1/MMBtu in Europe that

Other suppliers to Europe have higher variable costs of supply, and low gas prices are going to hurt them more, fostering market rebalancing. But before this happens, gas suppliers have to survive the gas glut and rock-bottom prices. By the end of May 2020 gas prices at European hubs had dropped to \$1/MMBtu, and the outlook for the remainder of Q2/Q3 2020 is dismal. Gazprom will be under pressure to rationalise its sales channels and cut overall transit costs. Nord Stream has been operating under a ship-or-pay principle, and the key to a lower unit transit tariff is high utilisation – exactly what has been happening.

The Ukrainian route – after a deal driven more by politics than economics – can be considered a sunk cost and will be utilised closely to pre-paid levels. The only transit route where Gazprom will not have a long-term ship-or-pay obligation after mid-May 2020 is via Poland, exposing EuRoPol to the risk of lower transit flows in the situation of a possible transit capacity surplus. Obviously, future EuRoPol utilization depends on how commercially advantageous it is for Gazprom to use other routes. Since Poland is an EU country, Gazprom can follow European rules and book capacity as it sees fit. If the Polish regulator sets the tariff high, then Gazprom may decide against using it. If the tariff is competitive, the chances for higher usage of EuRoPol are greater.

As noted above, the Polish state's transit revenue under the Yamal contract has been relatively small.⁸⁸ Earlier, Polish officials had expressed their displeasure with the contract terms stipulated in the IGA. Piotr Naimski, a Polish official in charge of energy security, said that Poland was pumping about 30 Bcm of gas to Germany through its section of the gas pipeline every year, and maintaining the transit of such an amount of raw materials is “a matter of business.” In accordance with the IGA, Poland was receiving 21 million zlotys per year (\$5.4 million) for the Russian gas transit and such a fee was “actually equal to zero,” the official was quoted as saying. Gazprom should pay the market price for its gas transit, Naimski noted.⁸⁹ Now that Gazprom has booked capacity for Q3 2020 at “market prices” in an open auction, and that price turned out to be lower than under the old IGA, the Polish officials might need to recognise that market forces are a double-edged sword.

Gazprom needs EuRoPol capacity in June-July, in preparation for and during the regular maintenance of Nord Stream, which will take both strings offline from 14 July to 26 July this year. As for the rest of Q3, Gazprom apparently expects that Europe is going to be open for business after the pandemic, and gas demand will be bouncing back.

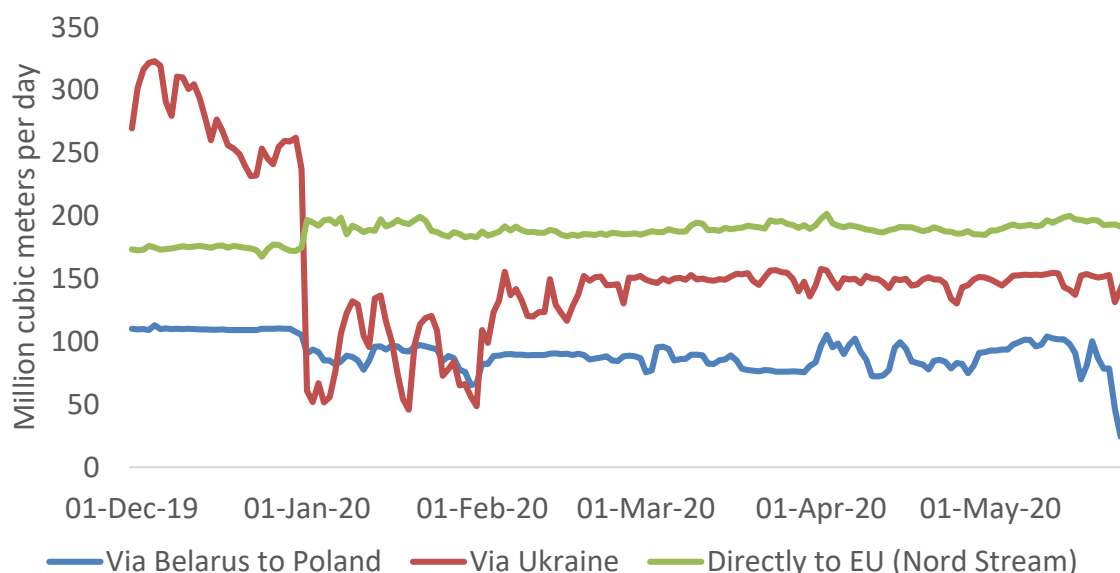
Figure 18 illustrates the changes that have occurred to gas flows via the main export corridors for Gazprom since the end of 2019.

occurred on 20 May, the export netback at the Russia-Ukraine border is negative, bringing Gazprom losses of 0.4/MMBtu for its exports via Ukraine (not accounting for the opportunity cost of selling more gas at discounted prices in Russia). Ukrainian transit is currently the most expensive route for Gazprom, but it has to use it as a result of the December 2019 deal.

⁸⁸ ‘Gazprom and PGNiG settle cooperation issues in gas sector’, *Gazprom press release*, 30 October 2009, <https://www.gazprom.com/press/news/2009/october/article70291/>

⁸⁹ <https://tass.com/economy/1073410>

Figure 18: Gazprom pipeline gas deliveries to the EU via main routes



Source: OIES, data from Gazprom

This year, up until the last day of the long-term transit contract with Poland on 16 May, the flows have been as follows:

Transit via Ukraine: After a sharp fall in January 2020 transit volumes recovered to about 150 mcm/d on average for the period from 1 March to 16 May (84 per cent of pre-booked capacity of 178 mcm/d)

Nord Stream: Utilization is exceeding nameplate capacity, flows through 16 May 2020 were 7.4 per cent higher compared to the same period of 2019.

Transit via Belarus onto Poland: flows dwindled 19.5 per cent in the period through 16 May 2020 y-o-y.

After the LTC expired on 16 May, flows remained largely the same for Nord Stream and Ukraine, but dwindled for the Polish route, especially on 24-25 May when they accounted for a mere 10 per cent of EuRoPol capacity. And on 26 May they stopped altogether.

In 2021, if Nord Stream 2 starts early, gas transit via Poland might become “collateral damage” to the excess of transit capacity available to Gazprom. We do not expect that Poland would get the same kind of “political” transit deal that Ukraine managed to get from Russia - indeed EU rules would forbid this. Poland still may secure some transit on a short-term basis by auctioning capacity in EuRoPol if there are delays with Nord Stream 2, but it is unlikely that all 33 Bcm of available transit capacity will be needed. Longer term, the fate of Polish gas transit depends on the market situation. If European demand for Russian gas is high and European gas prices are high, this capacity could be used by Russian exporters, but if these conditions do not occur then utilisation could fall significantly.

After 2021, assuming the finalization of Nord Stream 2, gas flows via EUGAL and the Czech ‘Capacity4Gas’ project are likely to divert the flows away from Ukraine. As a result, the volumes of Russian gas transiting via Ukraine after 2020 will probably be capped at the pre-booked 40 Bcm per annum even in the most optimistic scenario of robust recovery for European gas demand. After the expiration of the Russia-Ukraine “transit grace period” in 2024, the Ukrainian route may assume the balancing function for Russia’s gas exports, but most likely in a reduced format. In the future Poland and Ukraine may retain their relevance as transit countries for Russian gas exports to Europe by becoming ‘balancing routes’ for different parts of the European market. For example, in a possible future scenario Nord Stream is used at full capacity to supply Northwest Europe (with Poland as the balancing route) and Nord Stream 2 and EUGAL are used at full capacity to supply the Czech Republic, Austria,

and Italy (with Ukraine as the balancing route). Finally, in a parallel development, Ukraine will probably be the balancing route supporting Turk Stream flows to Serbia, Hungary, and Croatia.

For such scenario to occur, Europe's call on Russia's pipeline gas must be high, which in turn is only likely to happen if the global LNG market is getting short, either as a result of robust global demand for LNG, the emergence of LNG supply constraints, or a combination of both. Waiting for "low tide" for LNG projects may take at least three years, and possibly even longer. It is noteworthy that the timing of the expiration of the Russia-Poland LTC on gas supply (the end of 2022) might coincide with the start of a new phase of the cycle.

12. Conclusion

Poland has been pursuing a policy of diversifying away from Russian gas for many years. This has been driven as much by politics as it has by economics. Nevertheless, it has now developed a portfolio of LNG and alternative pipeline options that might replace all its Russian gas imports by the middle of the 2020s, if the new projects proceed according to plan. There may be a price to pay for this diversification, especially if the global gas market tightens and prices rise, as Poland seems to be cutting off a relatively cheap cost of supply. In addition, Russian gas could offer it a source of energy with lower emissions; however, Poland seems determined to reject this. Poland's security of gas supply for the period from 2023 is now dependent on two bets – on LNG and on Baltic pipe, each of them with a new set of risks.

On the flip side, Russia has decided to adopt a policy of increasing its export transit options. The construction of Nord Stream 2 and the recent deal with Ukraine have left Yamal-Europe as the new swing producer in this strategy. This situation has been exacerbated by the ending of the long-term transit contract and the sharp fall in European gas demand as the result of the COVID-19 crisis. Gazprom now has the option to contract for capacity in Yamal-Europe on a flexible auction basis and will do so if demand for its gas in Europe is high enough and if the tariff for transit is competitive enough. The Polish authorities may therefore have to resign themselves to more volatile and lower transit revenues depending on the outturn of the European gas market in a post COVID-19 world and also on Gazprom's export strategy.