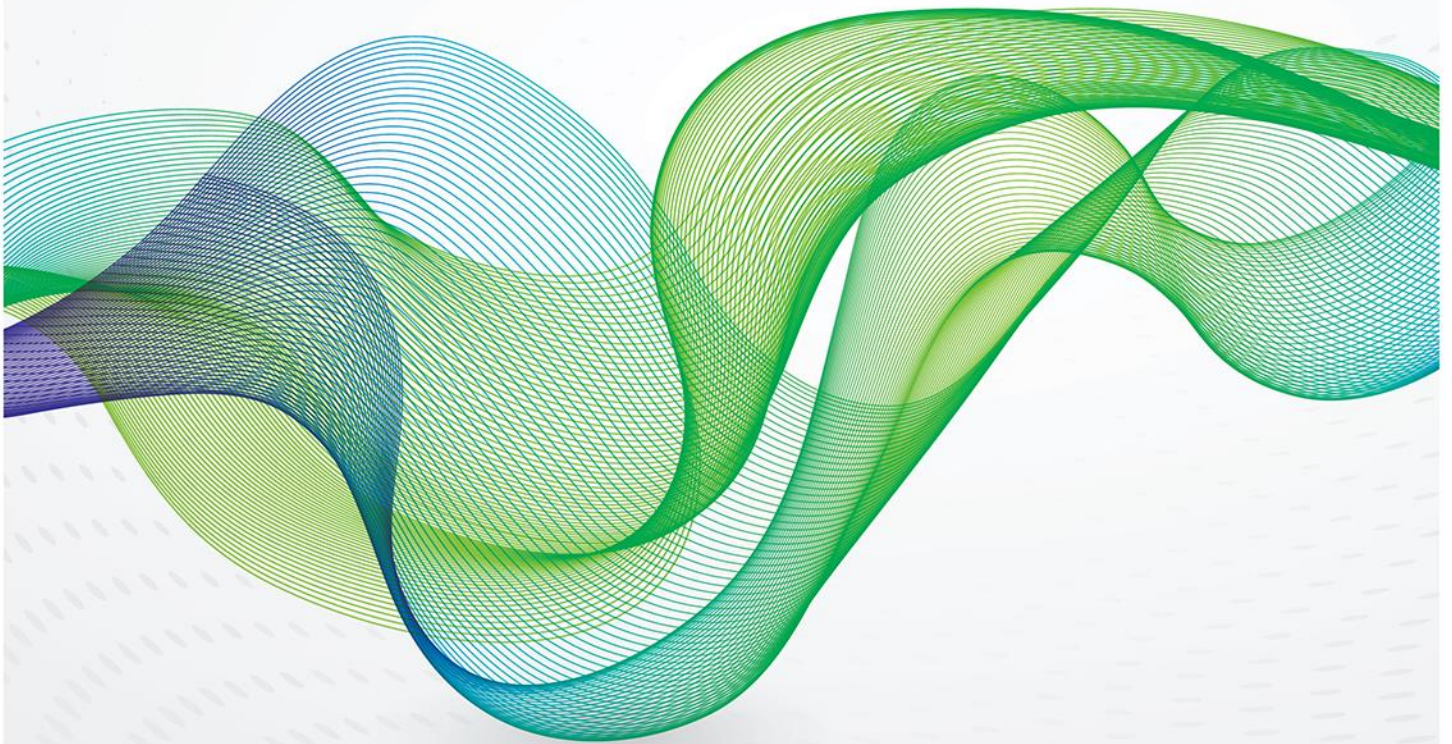




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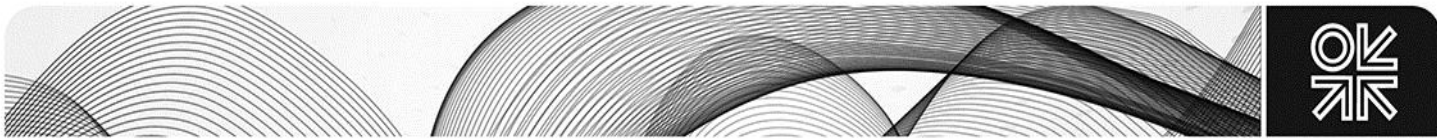
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Does the cancellation of South Stream signal a fundamental reorientation of Russian gas export policy?



OXFORD ENERGY COMMENT

Jonathan Stern,
Simon Pirani,
Katja Yafimava



Introduction

In 2006, Gazprom and the Italian company ENI announced a joint venture to build the South Stream pipeline system across the Black Sea, and signed a memorandum of understanding the following year.¹ Subsequently, EdF and Wintershall joined this technically challenging project – four pipelines, each 930 km in length to be laid from Anapa on the Russian Black Sea coast to Varna in Bulgaria in water depths of up to 2,250 metres. Originally the project was planned to be two lines with a capacity of 31 Bcm/year but, following the January 2009 Russia-Ukraine crisis, this was then expanded to four lines and 63 Bcm/year. The plan was to flow gas through the first pipeline in the 4th quarter of 2015, with full capacity of the first two lines to be reached by the end of 2017 and four lines by 2020. Tenders were issued, and when the project was cancelled in early December 2014, the pipe for the first string of the offshore line and the laybarge were already on site in Varna and were within days of starting to lay the offshore section.² By then, work on the eastern and western strings of Russia's "Southern Corridor" onshore pipeline³ bringing gas to Anapa had also started, as well as work on the Russkaya compressor station which would move gas through the offshore lines.⁴

From 2008-10, Russia signed intergovernmental agreements with seven European countries for the onshore section(s).⁵ The routes of the two onshore pipelines changed over time as the project encountered increasing national and EU regulatory challenges.⁶ The total cost of South Stream (for the full 63 Bcm/year of capacity) was estimated at around \$40 billion in mid-2014, comprising: \$17 billion for the Russian Southern corridor; \$14 billion for the offshore section and \$9.5 billion for the onshore European sections.⁷

South Stream was by far the largest ongoing European gas infrastructure project. Its cancellation and potential replacement with pipelines across the Black Sea to Turkey, is an event of significant importance for the European gas industry. It has repercussions for future flows of Russian gas across Europe and the Russian-Ukrainian gas relationship. But more importantly, when combined with other developments such as Gazprom's cancellation of its Wings joint venture purchase⁸ and abandonment

¹ A great deal of historical, technical and corporate information on South Stream can be found on the Gazprom website <http://www.gazprom.com/about/production/projects/pipelines/south-stream/> and the South Stream Transport website <http://www.south-stream-offshore.com/about-us/> (accessed in January 2015). For a summary of the early years see: Yafimava (2011), pp. 96-99.

² Both the pipe and the barge for the second offshore line had been ordered. The Gazprom Press Releases, which provide a project timeline for the years 2009-14, can be found at <http://www.gazprom.com/press/news/south-stream> accessed January 2015.

³ For details of the Southern Corridor pipelines and compressor stations see <http://www.gazprom.com/f/posts/44/270918/southern-corridor-en.pdf> accessed December 11, 2014.

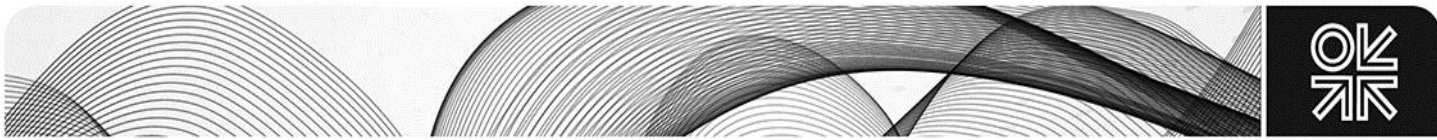
⁴ Work on the eastern string began in September 2014, 'Gazprom begins building Eastern Route of Southern Corridor', *Interfax Russian & CIS Oil and Gas Weekly*, August 28-September 3, 2014, p.27-8.

⁵ Hungary, Bulgaria, Serbia, Greece, Slovenia, Croatia, Austria. Details of proposed ownership and maps of the onshore sections can be found at <http://www.south-stream.info/pipeline/significance/> accessed December 11, 2014.

⁶ The northern branch via Bulgaria, Serbia and Hungary was originally planned to end at Baumgarten in Austria and in Italy; Baumgarten was then dropped as a destination and then reinstated, with Italy seemingly no longer an intended market. The southern branch only appeared to run from Bulgaria to Turkey, abandoning the original plan of a connection to Greece.

⁷ These estimates depend crucially on exchange rates, the date when the materials (particularly the steel pipe) were ordered, and whether they were sourced from Russian companies. They are based on an exchange rate of \$1 = RR30, but at the time of writing the rouble/dollar exchange rate was fluctuating between RR50-80. 'Gazprom mulls raising 100 bln rubles with infrastructure bonds – paper', *Interfax Russian & CIS Oil and Gas Weekly*, July 18-24, 2013, p.23; 'South Stream delaying project financing until Q1 2015 – source', *Ibid*, October 9-15, 2014, pp.33-34. The Russian "Southern Corridor" is not to be confused with the EU corridor of the same name designed to bring gas from Caspian and Middle East countries.

⁸ See <https://www.basf.com/en/company/news-and-media/news-releases/2014/12/p-14-435.html>



of efforts to obtain 100% of capacity in the OPAL (Nord Stream onshore) pipeline⁹, and the possibility that a second major pipeline export contract may be signed with the Chinese company CNPC in 2015, it may have signalled a sea-change in Russian gas export policy.

The rationale for South Stream

The timing of South Stream discussions, following the first major interruption of Russian gas supplies through Ukraine, in January 2006, was not an accident.¹⁰ In retrospect, it could be argued that the major consequence of the (short-lived) January 2006 crisis was that president Putin decided that transit diversification capacity – which was already well advanced with the Yamal-Europe, Blue Stream and Nord Stream pipelines – needed to be expanded to the point where Russian gas exports to Europe could completely avoid Ukraine.¹¹ In addition, at that time it was still possible to imagine that European gas demand might expand to the point where very substantial additional Russian delivery capacity could be required. A geopolitical explanation of that decision is that South Stream formed part of a strategy to isolate and exert political pressure on Ukraine using gas supplies and prices.¹² An alternative explanation was that South Stream was a “bluff” designed to prevent the EU’s Southern Gas Corridor (and specifically the Nabucco pipeline) from progressing. But such speculation was dwarfed by president Putin’s apparent conviction that it would never be possible to establish political and commercial relations with Kiev which would allow secure gas flows to Europe across Ukraine and, given the size and importance of export revenues for Gazprom and the Russian government, the only option was to eliminate this transit dependence. This conviction hardened following the more protracted January 2009 supply crisis and the financial losses and reputational damage to Russia as a gas supplier to Europe.¹³ Thus, from the Russian side, South Stream was part of a policy which began well before even the 2006 crisis.

Gazprom’s EU regulatory problems and South Stream

The regulatory environment worsened dramatically for Gazprom, following the introduction in 2011 of the EU’s Third Energy Package (TEP).¹⁴ The TEP mandated regulated third party access (TPA) to pipeline capacity based on published tariffs (or their methodologies) approved by national regulatory authorities (NRAs) as well as unbundling of transmission assets and certification of transmission system operators (TSOs) – unless an exemption from these rules is granted by an NRA and approved by the European Commission (EC). Thus the TEP created major problems for Russian gas exports to EU countries in terms of compliance with the changing regulatory environment both in respect of existing and new pipeline capacity.

Gazprom has been unable to utilise full capacity of the onshore extensions of the Nord Stream pipelines – OPAL and NEL. Although the German regulator granted an exemption allowing Gazprom to use 100% of OPAL, the EC Competition Authority capped it at 50%, following which Gazprom and the EC negotiated for more than a year, and reached a solution allowing Gazprom to utilise 100% of capacity unless access requests were received by third parties (to be determined through auctions). The EC was expected to approve the exemption by March 2014 but repeatedly postponed the decision citing

⁹ See <http://www.naturalgaseurope.com/opal-exemption-process-suspended>

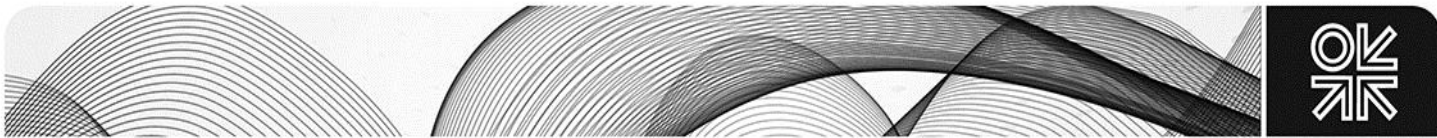
¹⁰ Stern (2006).

¹¹ It could equally be argued that the January 2006 crisis was simply the final confirmation for Putin of the correctness of a policy which was already well established.

¹² Helm (2007).

¹³ Pirani et al. (2009).

¹⁴ The documents which comprise the Third Energy Package can be found at: http://ec.europa.eu/energy/gas_electricity/legislation/legislation_en.htm



technical issues and linking it to the worsening EU-Russia relationship over Ukraine. However, the EC terminated its OPAL exemption review procedure in December 2014 due to Gazprom's failure to prolong the deadline under its settlement agreement on the exemption with the German regulator (thus rendering void the exemption's substantive changes, which were being assessed by the EC). According to Russian energy minister Novak, Gazprom intends to apply for a new exemption instead and demand 100% capacity in OPAL. However in the current environment it seems unlikely this will be successful.¹⁵

Given its negative experience with OPAL, Gazprom did not apply for an exemption for South Stream but based the project solely on a set of intergovernmental agreements (IGAs) signed with host countries. The EC deemed these agreements in breach of the TEP and called for their re-negotiation or renunciation, otherwise threatening infringement procedures against member states concerned.¹⁶ The Russian government declared that the IGAs took precedence over the TEP and that the EC had failed to prove otherwise.¹⁷ It also filed a request for consultations under the WTO, alleging the discriminatory nature of the TEP.¹⁸ Meanwhile, the South Stream host countries faced a choice: renounce the IGAs thus making themselves liable to penalties imposed by Russia, or retain the IGAs intact thus making themselves liable to penalties imposed by the EC. Indeed, the EC started two infringement procedures against Bulgaria - one on the grounds of TEP incompatibility and another in respect of the legality of procurement for the pipeline – which led to the suspension of pipeline construction in Bulgaria in August 2014.¹⁹

The TEP (in)compatibility argument, which was the main reason for the South Stream cancellation, is somewhat flawed as the TEP *in its current form* does not contain any rules for construction and utilisation of *new* pipeline capacity, but only rules for existing pipeline capacity. For as long as the TEP does not contain rules for new pipeline capacity the latter would fall under rules for existing capacity. The set of rules for new capacity is under development (to be formalised as an additional chapter in the Capacity Allocation Mechanisms (CAM) Network Code) and expected to become applicable in 2017-18.

Given this regulatory void in respect of new capacity, which would not be filled until the second half of the 2010s, Gazprom and the Russian government should have recognised and acknowledged much earlier in the process that South Stream could not proceed on its original timetable.²⁰ While it was somewhat disingenuous of the EU to continue to insist that South Stream had to conform to EU legislation and regulation – given that the detail of the latter in relation to large new gas transportation infrastructure was several years away from being clarified – the Russian side appeared to believe either that the EU would be forced to agree a compromise (because of its need for the gas), or that once pipeline construction began it could be presented with a *fait accompli*.

These assumptions seemed dubious even before the Ukraine crisis, but a compromise solution between the EC and the Russian government – that would have allowed Gazprom to ensure access to South Stream capacity sufficient for deliveries under its existing European supply contracts (in the event of transit across Ukraine becoming fully or partly halted) – would have been entirely possible from a

¹⁵ 'OPAL exemption process halted', *Natural Gas Europe*, 23 December 2014, <http://www.naturalgaseurope.com/opal-exemption-process-suspended>

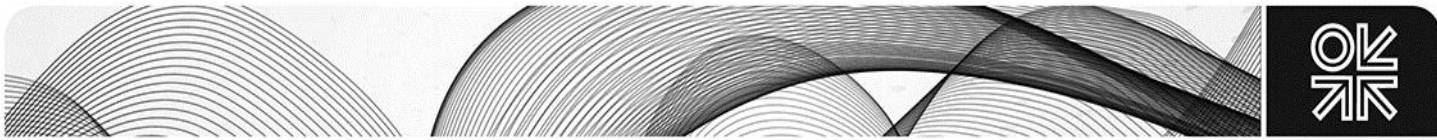
¹⁶ 'EC: Russia should apply for South Stream exemption', *Natural Gas Europe*, 7 December 2013.

¹⁷ 'Chizhov: there is no proof that South Stream is not compliant with the EU law', *Vzgliad*, 27 June 2014, available at www.vz.ru/news/2014/6/27/693041.html.

¹⁸ 'European Union and its Member States – certain measures relating to the energy sector, request for consultations by the Russian Federation', 8 May 2014, available at: [https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S006.aspx?Query=\(%20@Symbol=%20\(wt/ds476/1%20\)\)&Language=ENGLISH&Context=FomerScriptedSearch&languageUIChanged=true#](https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S006.aspx?Query=(%20@Symbol=%20(wt/ds476/1%20))&Language=ENGLISH&Context=FomerScriptedSearch&languageUIChanged=true#)

¹⁹ 'Bulgaria suspends all work at South Stream pipeline, project company carrying out EU instructions', *Russia & CIS Interfax Oil and Gas Weekly*, August 14 – August 20, 2014, pp.16-17.

²⁰ These problems were of long standing and set out in Yafimava (2013).



legal/regulatory point of view. However, following the Ukraine crisis and Crimean annexation, relations between the EU and Russia on all gas issues were “frozen”, creating great difficulty in even scheduling meetings between the two sides. This caused a suspension of the EU-Russia working group on South Stream, and a delay in EU decision-making on all other Russian gas issues including OPAL and the DG COMP proceedings.²¹ The inability of the parties to even negotiate, let alone reach a compromise, on regulatory issues ultimately led to the South Stream cancellation.

The December 2014 cancellation and announcement of “Turkish Stream”

On December 1, 2014, following a meeting between the Russian and Turkish presidents, president Putin and Gazprom CEO Alexey Miller announced that South Stream had been cancelled due to the combined failure of the Bulgarian government to provide assurances that the pipelines could be laid; and the European Commission to provide assurances that gas would be allowed to flow through them.²² There were public recriminations about who was to blame for the cancellation of the project, and a slightly strange press release from the European Commission noting the “currently unofficial nature of this announcement and invit[ing] the Vice-President [for Energy Union] to clarify the situation with the Russian side” although, given the statements by Putin and Miller, it was not apparent what further clarification was required.²³

With the exception of countries (particularly Bulgaria, Serbia and Hungary) which stood to gain from their transit role, the European view of South Stream had been generally negative either because of the belief that the project would undermine diversification of gas supplies, and reinforce Gazprom’s market dominance, or because of general political antipathy towards Russia and Gazprom. European investors in South Stream (ENI, EdF and Wintershall) maintained a relatively low profile, largely refraining from public comment either before or after the project’s cancellation; indeed there were suggestions that the investors did not know about the cancellation until they read about it in the press. Within a month, Gazprom bought the 50% of South Stream Transport (the offshore pipeline company) owned by the European partners which appeared the final declaration that the project was indeed dead.²⁴

While one strand of opinion was that the real reason for the cancellation was a recognition from the Russian side that, due to economic problems stemming from sanctions and a falling oil price, the project could no longer be afforded, this seems unlikely for the following reasons:

- The pipe for the first offshore line was already on the dock at Varna and the pipe for the second line had been ordered;
- The barges for laying the first two lines had been chartered and the first had already arrived at Varna;
- The western route of the (Russian) Southern Corridor and the Russkaya compressor station (close to Anapa at the start of the offshore lines) were under construction;
- A small amount of construction had taken place in Bulgaria and Serbia.

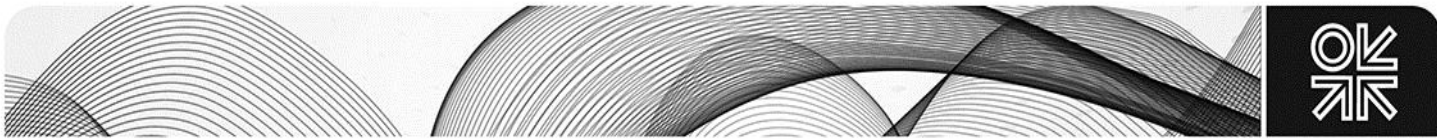
By the time the project was cancelled, Gazprom had already spent \$4.7 billion on the offshore and European sections, most of which would have been for the offshore pipe and the charter of the barge;

²¹ For details of the DG COMP case see Henderson and Pirani eds, (2014) pp.67-70.

²² ‘South Stream project closed over Bulgarian position, Turkey set to be Gazprom’s new route south’, *Interfax Russian & CIS Oil and Gas Weekly*, November 27-December 3, 2014, pp.11-15.

²³ ‘Joint Press Statement by Ministers and Representatives of Austria, Bulgaria, Croatia, Greece, Italy, Romania and Slovenia and VP Šefčovič’, Brussels, 09 December 2014, http://europa.eu/rapid/press-release_STATEMENT-14-2520_en.htm

²⁴ The shares were ENI (20%), Wintershall and EdF (each 15%). The speed of the buyout also suggested that the European partners had not yet made significant investments in the project. ‘Gazprom purchasing 50 per cent of total shares in South Stream Transport’, Gazprom Press Release, December 29, 2014, <http://www.gazprom.com/press/news/2014/december/article211599/>



and a similar amount on pipe and compressors for the Russian Southern Corridor. This represented approximately 40% of the \$20 billion of capital investment required for the first two lines (approximately 30 Bcm/year of capacity).²⁵

If pipelines to Turkey could be substituted for South Stream, much of the capital already spent could be recouped, provided that laying the offshore section had not yet started. But once the pipe was on the seabed, then the Russian side would be completely dependent on Bulgarian and EU decisions to monetise its considerable investment. Hence with the barge and pipe already in place at Varna, the timing of the decision was crucial.

The South Stream cancellation was accompanied by a Russian announcement that it would be replaced with pipelines of the same capacity to deliver gas across the Black Sea directly to Turkey. Of the 63 Bcm/year of capacity, 14 Bcm/year would replace the volume currently delivered to Turkey via Ukraine and the trans-Balkan pipeline, while the rest (approximately 50 Bcm/year) would be delivered to the Turkish-Greek border where Gazprom would set up a natural gas “hub” for Southern European customers.²⁶ This was received by some European commentators as a face-saving publicity “gimmick”; and the Turkish side cautiously noted that only a Memorandum of Understanding had been signed. Subsequently it emerged that the Russian preference is that the new pipelines – which apparently the Turkish side has suggested should be called “Turkish Stream” - should parallel Blue Stream making a similar landfall at Samsun, whereas the Turkish preference is that the landfall should be (at a thus far un-named location) in western Turkey (see Map).

However, the timetable for gas to flow through these new lines may depend significantly on the chosen route:²⁷

- The preferred Russian option might avoid the need for any significant new undersea survey if the route parallels the existing Blue Stream lines to Samsun, but it would require substantial additional onshore capacity to take the gas westwards to join the Trans-Balkan line which supplies Gazprom's customers in south-east Europe and Turkey;
- The preferred Turkish route would allow two lines to follow the proposed South Stream route (for which the undersea survey has been completed) until they reach the Bulgarian economic zone, which they would avoid and travel directly to the Turkish mainland and join up with the Trans-Balkan pipeline just south of the Bulgarian border.

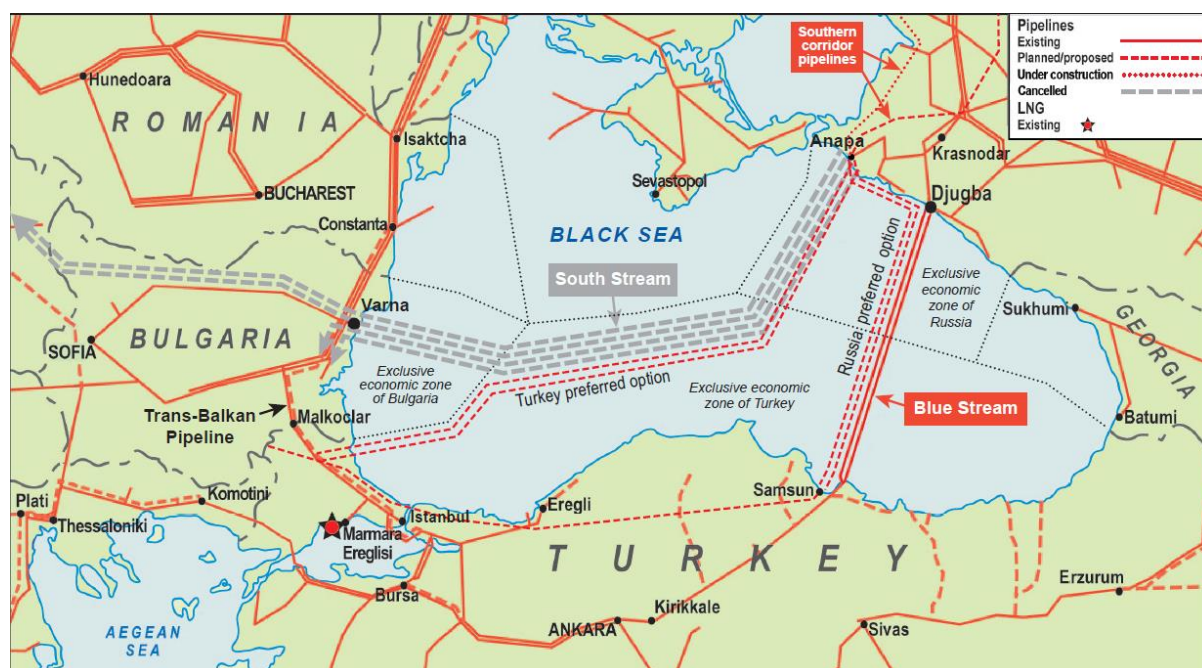
²⁵ ‘Gazprom mulls raising 100 bln rubles with infrastructure bonds – paper’, *Interfax Russian & CIS Oil and Gas Weekly*, July 18-24, 2013, p.23; ‘South Stream delaying project financing until Q1 2015 – source’, *Ibid*, October 9-15, 2014, pp.33-34. See the caveats on exchange rates in note 7.

²⁶ ‘South Stream project closed’, see note 22.

²⁷ Aside from general preferences, no detail had been released about the two routes at the time of writing, hence the map contains our speculation of what these may look like.



Russian and Turkish Preferences for the “Turkish Stream” Pipeline Route*



*actual routes projected by the authors

Source: OIES

If Turkey and Russia can reach a quick agreement on the route, there seems no reason why the laying of the first line cannot begin immediately, given the presence of the pipe and the barge (albeit currently in the wrong location) at Varna. If the Turkish route is chosen, there will need to be an undersea survey for the part of the line which will run from the original South Stream corridor to the western Turkish mainland, and this might take as long as a year. However, while this is being carried out the rest of the route could be laid. And once the new lines reach the shore, the distance to the Trans-Balkan line would be relatively short.

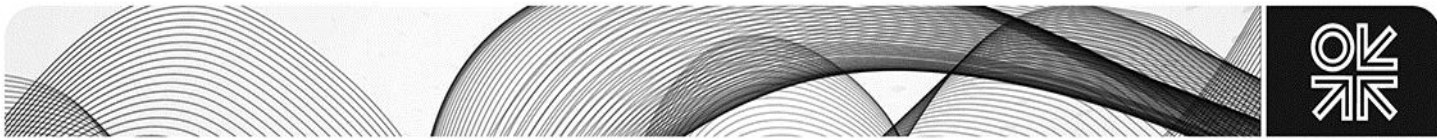
The positions of different groups of stakeholders

Russia and Gazprom:

Turkey is the second largest European regional export market for Gazprom and imported 26.7 Bcm in 2013; by comparison the whole of south-east Europe imported less than 10 Bcm of Russian gas in that year, and even adding Hungary and Austria the total was only 21 Bcm (see Appendix).²⁸ Equally important in the current gas environment in Europe, is that Turkey is the only *major* expansion market for Russian gas in the 2020s.²⁹ New pipelines would ensure Gazprom's ability not just to deliver to Turkey without fear of transit interruption, but also to supply “reverse-flow” gas to its south-east European customers quickly at relatively low incremental cost. But even if this proves not to be possible – for logistical or EU regulatory reasons – it would have protected its most important market in the region

²⁸ Figures in Russian units (reduce by 7.97% to convert to European units). South-east European countries include: Bulgaria, Bosnia and Herzegovina, Greece, Macedonia, Romania, Serbia, Slovenia and Croatia.

²⁹ For an analysis of the expansion potential of the Turkish gas market see: Rzayeva (2014).



from (what it perceives as) unreliable transit through Ukraine. The new pipelines would also place Gazprom in a powerful position to compete with gas from Azerbaijan, Iran, Iraqi Kurdistan and any other potential source passing through Turkey en route to Europe.

Gazprom's sales figures give a clue as to how much additional capacity it makes sense to create – at least initially – in the Turkish Stream system. Replacing the 14 Bcm/year which reaches Turkey through the trans-Balkan line, and adding 10 Bcm/year for South East Europe, it is clear that two new lines with a capacity of 30 Bcm/year would be quite sufficient to supply these markets and allow for some expansion of deliveries to the Turkish market (although certainly not sufficient to eliminate dependence on Ukrainian transit – see below).³⁰ This would still require negotiations on whether it will be compatible with Third Package regulations for Gazprom to “reverse flow” gas from the new pipelines through the trans-Balkan pipeline to Bulgaria, Romania and other Balkan countries.

Gazprom's existing supply contract with Bulgargaz expires at the end of 2022,³¹ whereas its contracts with Romanian buyers cover deliveries until 2030;³² the delivery points are located at the cross border interconnection points (flanges) on the Romania-Moldova (Isakcha) and the Bulgaria-Romania (Negru Voda) borders. Gazprom's transportation (capacity) contracts, underpinning these supply contracts, expire in 2030 (with Bulgargaz) and in 2023 (with Romgaz). To serve Bulgaria and Romania via the trans-Balkan pipeline in ‘reverse’ mode would enable it to continue to use these delivery points (but not as defined in the existing transportation contracts), or move the delivery points elsewhere.³³

The option of using the trans-Balkan pipeline in ‘reverse’ mode appears compatible with the TEP, as Gazprom would be using the same amount of capacity as booked under its existing capacity contracts for ‘forward’ capacity; furthermore, in so doing, Gazprom would be in line with the TEP Use-It-or-Lose-It (UIOLI) requirements. However, this is only true to the extent that usage of pipeline capacity in ‘reverse’ mode does not necessitate changes in existing capacity contracts sufficient to be considered a termination or extension under the TEP. This would automatically require them to be brought into line with the CAM network code (i.e. entry/exit tariffs, deliveries at hubs and auctioning of capacity).³⁴

Turkey:

While Turkey would wish to limit Russian dominance of its gas market, it needs to take into account the history of transit problems through Ukraine which have impacted flows through the trans-Balkan pipeline. The new lines would ensure direct delivery of Russian gas – rather than Turkey remaining the last country in the geographical chain of the trans-Balkan route. Moreover the Russian announcement of an on-land pipeline to a hub on the border with Greece is somewhat misleading in two respects. It will be the Turkish government and Botas, not Gazprom, which will determine transportation arrangements on Turkish territory. And the “hub” on the Turkish-Greek border seems most likely (at least initially) to be simply a delivery point which other countries can decide to utilise as they see fit. But

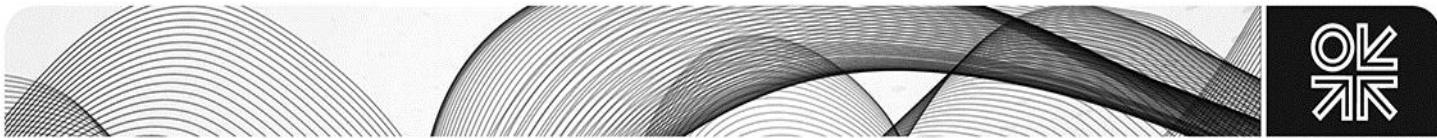
³⁰ It is an interesting question whether Gazprom's real intention for South Stream was to build the first two lines and then see whether demand merited additional pipelines, although the two additional pipelines would have been needed for Gazprom to completely vacate the Ukrainian corridor.

³¹ According to Gazprom Export, the contract stipulates supplies “along the traditional transportation corridor and along the South Stream pipeline once it is commissioned”, with a ToP obligation.

³² <http://www.gazpromexport.ru/en/partners/bulgaria/>; <http://www.gazpromexport.com/en/presscenter/news/736/>
<http://www.gazpromexport.ru/en/partners/romania/>

³³ e.g. the Turkish-Bulgarian border (Strandszha), the Turkish-Greek border (Kipi) or the new (and yet to be built) Greece-Bulgaria (IGB) or Greece-Turkey (ITG) border interconnection points (currently only Strandszha has sufficient capacity).

³⁴ In its draft CAM NC amendment, on incremental capacity submitted to ACER on December 26, 2014, ENTSOG does not distinguish between incremental and new capacity and treats physical reverse flow capacity at an interconnection point which has not been offered before as incremental – as opposed to existing – capacity. In this interpretation, if no reverse flow capacity has previously been offered on the Trans-Balkan pipeline this would be considered (not existing but) incremental capacity and would therefore be subject to TEP rules.



even if Gazprom has sufficient finance to build four lines, there seems little point in delivering an additional 30 Bcm/year of gas to a region where, even by 2030, no individual country is projected to have annual gas demand in excess of 5 Bcm.³⁵ There is also the intriguing possibility that some Russian gas could flow through the Trans-Adriatic (TAP) pipeline, under construction to transport Southern Corridor (principally Azeri) gas to Greece and Italy, which could remove the need for (at least) part of any additional Russia-specific capacity to be built to these countries.³⁶

The Turkish side undoubtedly realises that, with the cancellation of South Stream, it is in a strong commercial position. The initial talks on the new lines coincided with discussion on a price discount where 6% had already apparently been agreed, with the Turkish side requesting a higher figure.³⁷

Consequences for Russia-Ukraine-EU gas relations and flows

The cancellation of South Stream and adoption of new pipelines arriving in a non-EU member state remove a major problem in EU-Russia gas relations which seemed unlikely to reach any quick (and possibly any) resolution even before the Ukraine crisis. But as a result of the events of 2014, the EU political agenda expanded to include maintaining a gas transit role for Ukraine, and this is also important for maintaining reverse flows to Ukraine, to the extent that direct purchase of large volumes of Russian gas remains politically difficult for Kiev.

The Ukrainian government led by Arseny Yatseniuk has expressed a determination to phase out Russian gas imports (replacing them with LNG and pipeline gas from other sources), but a willingness to continue transit.³⁸ On the Russian side, when announcing the South Stream cancellation, Alexey Miller reiterated the claim that transit of Russian gas across Ukraine would be phased out, but a willingness to continue supplying the country.³⁹ The positions of the two countries on supply and transit are fundamentally in conflict, and appear equally unrealistic. Our calculations suggest that given:

- the available capacity in, and configuration of, existing delivery networks;
- the EU-imposed rules about the share of capacity which Gazprom can utilise;
- and the specifics of market requirements in different European countries;

even with two new Black Sea pipelines to Turkey, Gazprom will not be able to meet all of its contractual commitments unless it continues to utilise some part of the Ukrainian system until at least 2020 and probably much longer.

Assuming the aim is to phase out Ukraine transit entirely then, taking 2013 deliveries as a guideline (see Appendix), a combination of the Yamal-Europe and Nord Stream pipelines would have been sufficient to meet the requirements of German, Polish and French, and a part of Czech, Slovak, Hungarian and Austrian requirements.⁴⁰ An expanded Blue Stream and two new Turkish Stream lines would be able to cover Turkish and south east European and almost all of Hungarian and Austrian

³⁵ Stern ed. (2014), Table 4, p.10.

³⁶ The TAP pipeline is under construction with an original capacity of 10 Bcm and a potential additional expansion to 20-22Bcm/year; information on the project can be found at <http://www.tap-ag.com/>

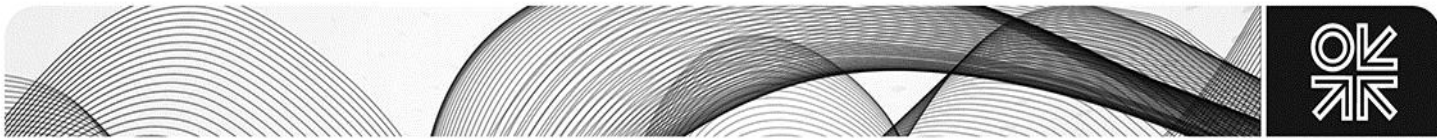
³⁷ 'Turkey in talks with Gazprom on price discount, considering Moscow's proposal on new pipeline', *Interfax Russian & CIS Oil and Gas Weekly*, December 4-10, 2014, p.38.

³⁸ 'Kyiv hopes EU will meet over 50% of its gas imports needs', *Ibid*, August 14-20, 2014, pp. 6-7.

³⁹ 'Miller: transitnaya rol' Ukraini svelac' k nulyu', Interview, December 6, 2014.

<http://www.vesti.ru/doc.html?id=2179690>

⁴⁰ 2013 may not be a typical example since Russian exports reached a near-record level that year (see Appendix). Here we assume that Gazprom is able to use 33 Bcm of Yamal-Europe and 38 Bcm of Nord Stream (NEL plus 50% of OPAL) capacity. These annual capacity figures are a simplification because they ignore the seasonality of actual deliveries.



demand, but would leave no capacity for increased Turkish demand.⁴¹ But this takes no account of Italian deliveries, which can only be served via Turkey, since EU regulation makes any expansion of the Nord Stream network highly problematic. Serving Italy via Turkey will require at least three and probably four new offshore lines, which will take a considerable time to build – until at least 2020 (and probably longer) – and will depend on Gazprom being able to mobilise sufficient finance, and meeting TEP rules (which was a major obstacle to South Stream).⁴²

An additional 63 Bcm/year corridor across the Black Sea would be sufficient to supply Italy, Hungary and Austria (in addition to Turkey and south east Europe) and would therefore take care of all Gazprom's southern and south eastern markets. But two problems remain: serving the Czech Republic and Slovakia, and the traded markets of the UK and the Netherlands. The latter two could simply be served by buying gas at the hubs, but this makes little sense for Gazprom given its large production surplus.⁴³ Slovakia and Czech Republic can theoretically be served from Nord Stream, but at 2013 levels of exports there would have been insufficient capacity to do so, and are much more easily (and cheaply) served through Ukraine.

Ukraine wants to become independent of buying gas directly from Gazprom, but for a significant period of time can only achieve this by buying reverse flow - mostly "second hand Russian gas" - from Europe.⁴⁴ Russia wants to become independent of gas transit through Ukraine by 2020, but will not succeed, at least in that time frame. The position set out by Gazprom's Alexey Miller, that all Russian gas will be delivered via Turkey starting in 2020, and that it is up to EU countries to make transportation arrangements to pick it up from the Greek border, is not credible.⁴⁵ Gazprom has long term gas and capacity contracts which extend beyond 2019. While it could choose to pay for capacity which it does not use, it is the legal obligation of Gazprom (rather than of the buyers) to find some way to deliver gas under its supply contracts. It will therefore continue to use the Ukrainian corridor – albeit to a decreasing extent – for at least Czech, Slovak and some part of Italian, Austrian and Hungarian deliveries.

The EU will continue to play a key role in the Russia-Ukraine gas relationship

The October 2014 Brussels agreement between Russia and Ukraine gave the EU a key role in both sales and transit of Russian gas through Ukraine and conferred upon Brussels an important political (although not legal) responsibility for preventing a breakdown in the gas relationship between the two sides.⁴⁶ This EU role will be important until 2020 at least, by which time the long term supply and transportation contracts between Gazprom and Naftogaz will have expired, and a new gas status quo between Russia and Ukraine will need to be established. The cancellation of South Stream has not fundamentally changed this situation, although it has certainly delayed Gazprom's intention to reduce transit through Ukraine prior to 2020. Unless it is possible by 2020 to build four new pipelines to Turkey, and arrange onward transportation through EU countries – resolving the TEP problems which proved impossible in the case of South Stream - a significant Russia-Ukraine transit relationship will need to

⁴¹ In 2014, a separate agreement was signed by Botas and Gazprom to expand the annual capacity of Blue stream from 16-19 Bcm. The addition of two new lines would bring Black Sea transportation capacity to 49 Bcm.

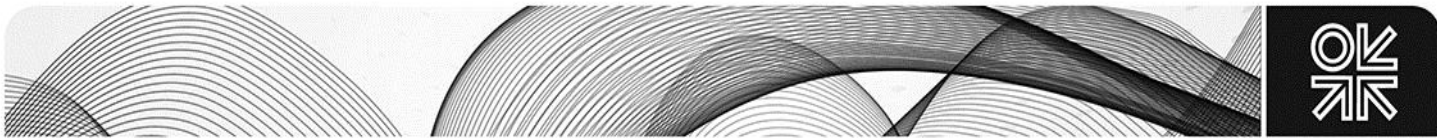
⁴² There is also the question of how these pipelines will be funded given the current problems of sanctions and financial crisis in Russia, and whether the European investors in South Stream would wish to invest in this new corridor.

⁴³ At present, Gazprom does buy gas at the hubs to serve (particularly) the UK market but it has the option of moving more physical Russian gas into Germany and operating swaps; vacating the Ukrainian corridor would deprive it of that option. For details of the Gazprom production surplus (which increased in 2014) see Henderson and Pirani eds. (2014) especially pp.371-4.

⁴⁴ For details see Stern ed. (2014).

⁴⁵ 'Ukrainian transit gas will be diverted via Turkey – Gazprom', *Interfax Natural Gas Daily*, January 15, 2015, p.7.

⁴⁶ In January 2015, an EU team began negotiations with Gazprom on a "summer package" for Ukraine as a follow-up to the winter arrangements. Ibid and 'Breakthrough: 4,6 billion dollar deal secures gas for Ukraine and EU', EU Press Release, IP/14/1238, 30 October 2014. http://europa.eu/rapid/press-release_IP-14-1238_en.htm;



be maintained. And unless Russia-Ukraine political relations improve dramatically, there will be a considerable role in that relationship for the EU as negotiator, mediator and conciliator.

A fundamental reorientation of Russian gas export policy?

The South Stream cancellation was rapidly followed by two other important gas events in Europe: Gazprom's failure to continue its fight to obtain an exemption for 100% of capacity in the OPAL pipeline; and the abandonment of its asset swap with BASF which would have given it full control of the Wingas joint venture.⁴⁷ All of this is consistent with the announcement by Alexey Miller that the company is abandoning its long held strategy of direct sales to European end-users.⁴⁸

"The principle of our strategy in relation to the European market is changing. The decision on stopping South Stream is the beginning of an end to our operation model of the market within which we oriented ourselves towards supplying [gas] to the end consumer...

But you can't win love by force. If the buyer doesn't want the purchase to be delivered home, well then perhaps he needs to get dressed and go to the store, and if it happens in winter, get dressed warmer. Well he could also take some package...which can well be the Third Energy Package, but what counts most is that it should not be empty. In our case the store is certainly the delivery point on the Turkish-Greek border."

This firmly closes the door on any possibility of a 'strategic partnership' between Russia and Europe on gas, and places the trade at the level of a 'commercial partnership' ie if Russia has gas to sell and Europe wants to buy then trade will take place, but there will be no deeper economic or political commitment to facilitate trade.⁴⁹ It also means Gazprom acceptance of the fact that it will only be present in the parts of the European gas chain which are commercially necessary for gas sales. It no longer has aspirations to invest further in mid- and downstream energy assets (which can probably no longer be afforded in any case).

An ironic result of the 2014 crisis - a much more logical commercial strategy for Russian gas exports?

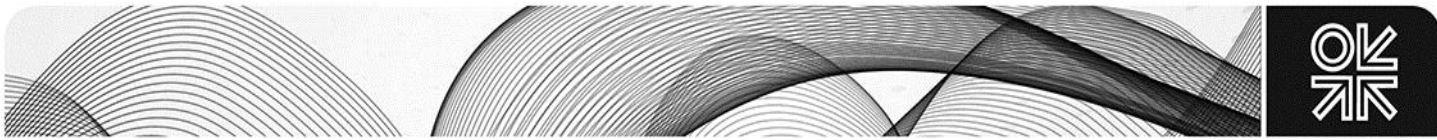
US and EU sanctions, limiting the availability of finance for Russian energy companies and threatening the possibility of an embargo on LNG technology, have accelerated both a move into the Asian market by Russian companies and a shift away from Russian LNG to pipeline gas projects. The signing of the 38 Bcm/year pipeline contract with the Chinese company CNPC in 2014, with the possibility that a second contract could be signed in 2015 for 30 Bcm/year via the Altai pipeline, would mean that – adding in existing LNG deliveries from the already operational Sakhalin LNG project - Russia could be delivering over 80 Bcm/year of (mainly pipeline) gas to Asia (but mainly to China) by the early 2020s.⁵⁰ Abandoning South Stream, which looked very complicated from a regulatory point of view, in favour of direct undersea pipelines to Turkey, prioritises Gazprom's second biggest market, and its only European market with major expansion possibilities over the next decade. Refocussing on pipeline gas

⁴⁷ <https://www.basf.com/en/company/news-and-media/news-releases/2014/12/p-14-435.html> For the history of the Wingas joint venture see Henderson and Pirani eds (2014), p.89.

⁴⁸ 'South Stream project closed "absolutely definitely" – Miller', *Interfax Russia Oil and Gas Weekly*, December 4-10, 2014, pp.9-13.

⁴⁹ A 'strategic partnership', which in Russian terminology means the two sides working together to facilitate the delivery of more Russian gas to the EU, had been discussed in the context of a possible new EU-Russia Partnership and Cooperation Agreement, see Henderson and Pirani, eds (2014), pp. 103-4.

⁵⁰ Henderson (2014).



– where Gazprom has decades of experience, compared with LNG where it has very little - looks like an entirely sensible strategic move.

With hindsight, it could be argued that Gazprom should have adopted these policies some years ago. The nearly 10-year negotiation over a pipeline to China was helped to a successful conclusion by the 2014 crisis with the EU, with the first contract increasing the possibility of a second. The problems with South Stream over EU regulation – which were extremely complex even before the Ukraine crisis ruled out negotiations on a compromise – have to a large extent been resolved as long as Moscow and Ankara can agree on the Turkish Stream pipelines. It is most likely that only two pipelines – for which a substantial part of the cost has already been sunk – will go ahead, at least initially, which will allow Gazprom to meet its contractual commitments to both Turkey and south-east European countries without transit through Ukraine. Gazprom's downstream strategy in Europe – which had largely failed and in any case had been undermined by the reduction of mid and downstream margins due to increased competition – has been replaced by a much more straightforward sales and trading strategy for which the corporate capability is already in place. Phasing out of Ukrainian transit will be delayed, and 30-50 Bcm/year will probably continue to flow into the 2020s, with the EU maintaining the key role in ensuring security of supply which it assumed in 2014. Lack of European gas demand prospects may prioritise exports to China over expanding the offshore Turkish corridor beyond the two lines for which (a large part of the) investment has already been made. But an irony of the post-Ukrainian crisis period may be that a combination of western sanctions, EU regulation and the breakdown in EU-Russia relations, may have pushed Russia and Gazprom into a much more logical commercial strategy for gas exports.

But how many major export projects can Gazprom finance?

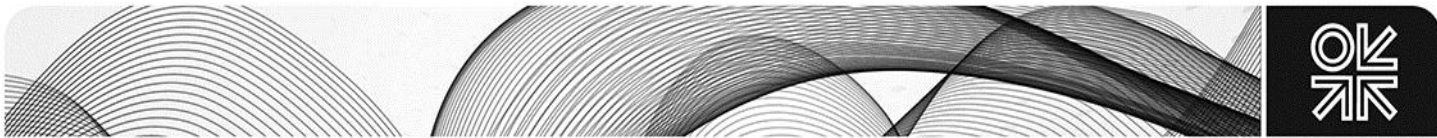
Probably the most important challenge for this new Russian gas export strategy is financial. The cumulative effect of low oil prices and the falling ruble exchange rate is less severe for Gazprom than for the Russian oil companies, but will still constrain the company's investment plans. In late 2014 Andrei Kruglov, chief financial officer, enumerated "a series of negative external factors" impacting Gazprom's finances, including falling oil prices and outstanding debts to Gazprom from Naftogaz Ukraine. He said that Gazprom's debt-to-earnings ratio was in a "comfortable" range, comparable with other oil and gas companies, and that a "conservative" approach to debt finance would continue, but conceded that sanctions had imposed "significant restrictions" on major Russian companies' ability to raise debt finance.⁵¹

Gazprom's revenues from gas sales to customers in Russia and the FSU peaked in 2011 and have been falling since then, both in cash terms and as a proportion of the total revenues from gas sales. By 2013, revenues from those two markets had fallen to \$39.7 billion (1,299 billion rubles), from a peak of \$46.3 billion (1,360 billion rubles) in 2011; Russia and the FSU comprised 44% of total revenues in 2013, down from 49% in 2011. Although Gazprom has other businesses, gas remains dominant, accounting for nearly three-fifths of revenue in 2013.⁵² The combined effects of the economic crisis in Russia and the political/military crisis in Ukraine means that Gazprom's revenues from sales in Russia/FSU are likely to continue to fall. Gazprom's projections show domestic sales falling to 325.3 Bcm in 2015 from (a preliminary figure of) 332.7 Bcm in 2014. But even this pessimistic forecast assumes that total Russian gas demand will rise (to 475.2 Bcm in 2015 from 468.3 Bcm the previous year)⁵³ – which, under conditions of recession, seems highly unlikely.

⁵¹ "Ustoichivaia korporatsiia. Interv'iu Andreia Kruglova", *Gazprom Journal* no. 12, 2014, pp.12-16.
<http://www.gazprom.ru/f/posts/35/032231/gazprom-magazine-2014-12.pdf>

⁵² Gas accounted for 2,972 billion rubles of 5,250 billion rubles total in 2013. OAO Gazprom, Management Report 2013, pp.28-29.

⁵³ "Gazprom: eksport gaza ne vyrastet", *Vedomosti*, 30 December 2014



Gazprom's revenues from sales to the FSU will also surely continue to fall, as Ukraine pursues diversification options such as reverse-flow deliveries from Europe. Ukraine's purchases from Gazprom fell from 36-40 Bcm in 2010-11 to 13-14 Bcm in 2013-14, (although in fact much, if not all, the gas bought under "reverse flow" arrangements and by Ostchem Holding was bought from Gazprom indirectly⁵⁴).

The period since 2008 has seen European gas demand fall to levels not seen since the mid-1990s; demand is not expected to recover to its 2010 level until the mid to late 2020s.⁵⁵ Gazprom sales to Europe fell substantially post 2008 but recovered to a record level of 166 Bcm in 2013. In 2014, exports fell to around 147 Bcm but crucially European gas prices which, in major European gas markets, have transitioned from oil linkage to market prices derived at hubs, fell dramatically (*ahead* of the fall in oil prices) which will have significantly reduced Gazprom's revenues.⁵⁶

The question raised by these negative trends is whether Gazprom will be able to raise sufficient finance to simultaneously support:

- four offshore pipelines to Turkey replacing South Stream;
- the Power of Siberia pipeline for which a 38 Bcm/year contract has been signed with CNPC with deliveries to start around 2018;
- the Altai pipeline from Western Siberia to the Chinese border if a 30 Bcm/year contract is signed this year (which both sides have indicated is a possibility) with deliveries starting around 2020.

We have suggested above that Gazprom will – initially at least – build only two Black Sea lines to Turkey, for which much of the investment has already been sunk, and the company is already contractually committed to building the Power of Siberia pipeline. But whether it will be possible to raise substantial external finance – *in addition to the requirements for these projects* – and specifically the \$18.5bn required for the Altai pipeline to China prior to 2020, remains uncertain.⁵⁷

⁵⁴ Energobiznes/Energy Ministry; author's estimates.

⁵⁵ Honoré (2014).

⁵⁶ The 147 Bcm figure is provisional and relates to long term contract exports from Russia (not total Gazprom Group exports). European hub prices fell from around €27/MWh (\$10.8/MMBtu) at the start of 2014 to around €23/MWh (\$8.1/MMBtu) in December, but had been as low as €17/MWh in the middle of the year.

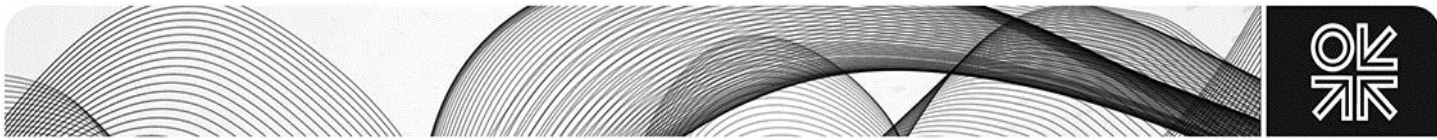
⁵⁷ Estimate from Henderson (2014).

APPENDIX: Russian Gas Exports to European Countries 2003–2013 (bcm*)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
WESTERN											
Austria	6	6	6.8	6.6	5.4	5.8	5.4	5.6	5.4	5.4	5.2
Belgium	0	0	2	3.2	4.3	3.4	0.5	0.5	0	0	0
Denmark	0	0	0	0	0	0	0	0	0	0.3	0.3
Estonia	0.8	0.9	1.3	0.7	0.9	0.6	0.8	0.4	0.7	0.6	0.7
Finland	5.1	5	4.5	4.9	4.7	4.8	4.4	4.8	4.2	3.7	3.5
France	11.2	14	13.2	10	10.1	10.4	8.3	8.9	8.5	8.2	8.6
Germany	35	40.9	36	34.4	34.5	37.9	33.5	35.3	34.1	34	41
Greece	1.9	2.2	2.4	2.7	3.1	2.8	2.1	2.1	2.9	2.5	2.6
Ireland	0	0	0	0	0	0	0	0	0	0.3	0.5
Italy	19.8	21.6	22	22.1	22	22.4	19.1	13.1	17.1	15.1	25.3
Latvia	2.4	1.2	1.4	1.4	1	0.7	1.1	0.7	1.2	1.1	1.1
Lithuania	2.9	2.9	2.8	2.8	3.4	2.8	2.5	2.8	3.2	3.1	2.4
Netherlands	2.3	2.7	4.1	4.7	5.5	5.3	4.3	4.3	4.5	2.9	2.9
Switzerland	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4
Turkey	12.9	14.5	18	19.9	23.4	23.8	20	18	26	27	26.7
United Kingdom	0	0	3.8	8.7	15.2	7.7	11.9	10.7	12.9	11.7	16.6
Sub-Total	100.6	112.2	118.7	122.5	133.9	128.7	114.2	107.5	121	116.2	137.8
EASTERN											
Bosnia and Herzegovina	0.2	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.3	0.3	0.2
Bulgaria	2.9	3	2.6	2.7	2.8	2.9	2.2	2.3	2.5	2.5	2.9
Croatia	1.2	1.1	1.2	1.1	1.1	1.2	1.1	1.1	0	0	0.2
Czech Republic	7.4	6.8	7.4	7.4	7.2	7.9	7	9	8.2	8.3	7.9
Hungary	10.4	9.3	9	8.8	7.5	8.9	7.6	6.9	6.3	5.3	6
Macedonia	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Poland	7.4	6.3	7	7.7	7	7.9	9	11.8	10.3	13.1	12.9
Romania	5.1	4.1	5	5.5	4.5	4.2	2.5	2.6	3.2	2.5	1.4
Serbia	1.9	2.3	2	2.1	2.1	2.2	1.7	2.1	2.1	1.9	2
Slovakia	7.3	7.8	7.5	7	6.2	6.2	5.4	5.8	5.9	4.3	5.5
Slovenia	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5
Other countries	0	0	0	0.4	0.5	0.6	1.2	2.1	1.3	0.8	1.2
Sub-Total	44.6	41.8	42.9	43.9	39.9	43	38.5	44.5	40.7	39.6	40.8
GRAND TOTAL	145.2	154	143.5	166.4	173.8	171.7	152.7	152	161.7	155.8	178.6
Deliveries under long term contracts**					158.8	168.5	142.8	138.6	150.3	139.9	166

*data in Russian cubic metres – to convert to European units reduce by 7.97%. **deliveries under long-term contracts represent volumes which are believed to be delivered from Russian gas fields to Europe; the higher totals include gas delivered by Gazprom but sourced from elsewhere.

Source: Stern ed. (2014), Table 1, p.3.



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