

# The Impact of Turkish Stream on European Energy Security and the Southern Gas Corridor



John Roberts



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## AUTHOR'S NOTE

This paper was written before the July 9, 2015 disclosure that Gazprom had cancelled the contract with Italy's Saipem for laying the first string of Turkish Stream because of delays in work on the Eastern Route of Russia's Southern Corridor project, which would provide the gas input for Turkish Stream.

This development will delay the implementation of all aspects of Turkish Stream by at least a year. However, it also means that the Russian Government and Gazprom do not need to take any irrevocable decision on whether to proceed with the project until early 2016.

Cover photo credit: Reuters/ Umit Bektas. A worker checks the valve gears in a natural gas control centre of the Turkey's Petroleum and Pipeline Corporation, 35 km (22 miles) west of Ankara, May 18, 2007.

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## EXECUTIVE SUMMARY

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*Russia has proposed building a major new pipeline intended to carry gas to customers in both Turkey and the European Union. The project, dubbed Turkish Stream, is controversial for two interconnected reasons. Firstly, it is intended to help Gazprom fulfil its stated intention of terminating gas exports to Europe via Ukraine by the end of 2019. Secondly, it is far from clear that customers in the European Union would accept delivery of gas at Turkey's border with Greece in place of current deliveries to locations in Central Europe.*

*For these reasons, the issue of what Gazprom is actually likely to do in terms of implementing Turkish Stream, as opposed to what Russian officials have declared they intend to do, is of profound significance for European energy security. But Turkish Stream is also important for a third reason, its potential impact on the new pipelines—collectively known as the Southern Gas Corridor—currently being developed to supply Azerbaijani gas to Europe.*

Russia will implement its Turkish Stream project, although it is almost certain that it will limit its actual pipelaying operations so that in practice the country will, at least initially, only deliver half of the project's supposed eventual capacity of 63 billion cubic metres a year (bcm/y).

Pipelaying on the first 15.75 bcm/y “string” across the Black Sea is likely to start this year, enabling Gazprom to deliver gas to Istanbul next year by using the new line instead of the existing Trans-Balkan Pipeline across Ukraine.

The second 15.75 bcm/y string, which will carry gas to Turkey's border with Greece, will pose a direct challenge to the developers of the European Union (EU)-backed Southern Gas Corridor, since it will provide Gazprom with the ability to deliver gas into the Southern Gas Corridor (SGC)'s final component, the Trans-Adriatic Pipeline (TAP). Should Gazprom seek to utilise the TAP to deliver some 10 bcm/y of gas to European customers, it would, in effect, be turning EU rules on open access to its own advantage.

The development of Turkish Stream does not necessarily resolve a major problem for Gazprom: how to solve its delivery issues to customers in Central Europe should it implement its pledge to terminate deliveries via Ukraine from the end of 2019.

Turkish Stream poses challenges for the Southern Gas Corridor and European energy security. The commit-

ment of the developers of the Southern Gas Corridor to deliver an initial 6 bcm/y of gas to Turkey and a further 10 bcm of gas to European customers beyond Turkey is not impacted, but the SGC developers may well have to consider fresh options for delivery of additional volumes, such as gas from Azerbaijan's prospective “next wave” of offshore gas projects.

In particular, Azerbaijan and other prospective suppliers of gas to Europe via the SGC may have to take a fresh look at delivery options to and through the Balkans.

In considering these issues, it may be best for the European Union and its associates in the European Energy Community—in effect, all of Europe west of Turkey, Russia, and Belarus—to consider small scale, local cross-border interconnectors rather than such grandiose multinational projects as Eaststring, Tesla, the Vertical Gas Connector, or a revival of Nabucco West.

As for Russia, its plans to extend Turkish Stream through Greece bear watching, but financing them will be a problem.

And lurking in the background is the great unanswered question: might Turkish Stream prove to be the precursor to a radical change by Russia's rulers concerning their approach to both the delivery and the price of Russian gas exports to Europe?

**R**ussia will proceed to develop its Turkish Stream project to carry gas across the Black Sea to Turkey. It may not construct the system to the full 63 billion cubic meters (bcm) a year capacity announced by Russian President Vladimir Putin when he unveiled the project in Ankara on December 1, 2014, but there should be no doubt that a new set of lines from Russia to Turkey will be built in the next few years.

Turkish Stream will certainly have an impact on the development of the Southern Gas Corridor (SGC), the European Union (EU)-backed set of projects that initially aims to carry some 16 bcm per year of gas to Turkey and the EU, and ultimately double that amount to Turkey, the EU, and EU-affiliated European destinations within the European Energy Community. But Turkish Stream's impact is a challenge, not a threat, to the SGC. The real threat it poses is to European customers of Russian gas who currently rely on Gazprom to supply them via Ukraine, but who cannot—in the event of Gazprom implementing its warning to suspend all transit of Russian gas through Ukraine after 2019—necessarily expect to receive substitute supplies via either Gazprom's Nord Stream line across the Baltic, the Yamal pipeline through Belarus and Poland, or Turkish Stream itself.

Several key questions remain open at this stage. However, one overriding issue, the question of whether the future relations between Russia, Ukraine, and the European Union (and the United States as well) will improve or deteriorate over the next several years, is beyond the scope of this paper. Russia's occupation of Crimea and its military support for separatist forces in the Ukrainian regions of Donetsk and Luhansk contribute to an uneasy situation which may have eased slightly in the wake of a ceasefire agreement that concluded in the Belarusian capital of Minsk on February 11, 2015, by the leaders of Ukraine, Russia, France, and Germany. However, it should be noted that disputes concerning the supply of Russian gas to Ukraine and transit across Ukraine caused major crises between the two countries in 2006 and 2009, with the underlying causes yet to be settled.

The questions that will be addressed are these:

- How big a system is Russia actually likely to build, and what kind of timetable can be reasonably anticipated?
- Is Gazprom really going to suspend deliveries through Ukraine in five years' time and, if so, what are the consequences for existing customers in Central Europe?
- Is Gazprom likely to seek to funnel gas from Turkish Stream into the Trans-Adriatic Pipeline, a key element in the Southern Gas Corridor system, for onward delivery to customers within the EU?
- What would be the consequences for the SGC, and for prospective customers in the European Union and the European Energy Community, particularly in the Balkans, should Gazprom opt to take space in the Trans Adriatic Pipeline (TAP)?

#### **Question One:**

#### **How Big a System Is Russia Actually Likely to Build—and When?**

The scale of Turkish Stream is by no means assured. Yet, while a full 63 bcm per year (bcm/y) system would have profound implications for Europe's gas balance, particularly concerning the possible construction of new infrastructure in Greece, a more limited system of around half this size would also have major implications for European consumers, particularly in the Balkans.

There are good reasons to suppose that Gazprom will at least proceed with the construction of a two-string pipeline across the Black Sea to a landfall at Kiyıköy in Turkey, and then onwards to a terminal on the Turkish-Greek border at Ipsala/Kipoi. This would enable it to deliver 31.5 bcm/y into Turkey, with each string—or pipe—under the Black Sea capable of carrying 15.75 bcm/y.

Russia's Ambassador to the EU Vladimir Chizhov has noted that, by landing at Kiyıköy, Turkish Stream would utilize three-quarters of South Stream's original—and surveyed—930-kilometer (km) offshore route from its starting point at the Russkaya Compressor station near



Map. 1 Turkish Stream and the Southern Gas Corridor



Anapa on Russia’s Black Sea coast. But instead of making landfall at Varna, well to the north of the Turkish-Bulgarian border, it would land at Kiyiköy, just south of the border.

Chizhov has also highlighted the fact that Turkish Stream remains the inheritor of a series of contracts signed in 2014 by the Gazprom-led (and Amsterdam-registered) South Stream Transport company. These include:

- contracts worth €1 billion awarded in January 2014 for actual pipes for the initial 15.75 bcm/y string;
- contracts worth €800 million awarded in March 2014 for pipe required for the second string;
- contracts worth €2 billion awarded in March 2014 to Italy’s Saipem to lay the first string; and
- contracts for an unspecified amount, but presumed to be worth at least \$1.2 billion, awarded in April 2014

to the Swiss company Allseas to lay nine hundred kilometers of the second string and for Saipem to carry out complementary works on the second string.

The pipe contracts have already led to an accumulation of pipe in Bulgaria, while two of Saipem’s principal pipe-laying vessels, the *Saipem 7000* and the *Castoro Sei*, have remained berthed at the Bulgarian port of Bourgas for the last several months.

However, the full pipe-laying timetable remains unclear. Chizhov said that the first string under the Black Sea would be laid this year and would be intended to serve as a substitute for gas currently being delivered to Istanbul via Ukraine, Moldova, and the Trans-Balkan Pipeline across Romania, Bulgaria, and (in an essentially north to south direction) across Turkish Thrace. Gazprom, which has also said that that a pipeline would be laid across Turkish Thrace (in an essentially east-to-

Map. 2 Existing, Planned or Proposed Long-distance Pipelines in Southeastern Europe



west direction) to Turkey's border with Greece, has said repeatedly that the first line would become operational in 2016. Finally, on May 7, 2015, after meeting with Turkish Energy Minister Taner Yildiz in Ankara, Gazprom CEO Alexei Miller said that Russia and Turkey had reached an agreement "on operational commissioning and gas deliveries via the Turkish Stream will start in December 2016."<sup>1</sup> The next day he declared: "Today, Gazprom moved to the construction stage of the sea part of the Turkish Stream pipeline."<sup>2</sup>

In practice, what Gazprom appears to be envisaging is the laying of the first subsea string across the Black Sea this year, and a tight eighteen-month program to construct the necessary onshore facilities in Turkey. These will definitely have to include development of the landfall site at Kıyıköy, an intersection with the Trans-Balkan pipeline at Lüleburgaz in central Thrace, and the construction of an 80-km link from Kıyıköy to Lüleburgaz. Almost certainly, these initial works will also include a 100-km extension of the line from Lüleburgaz to Ipsala, on Turkey's border with Greece, which Russia and Turkey have agreed will be the location for a terminal from which Gazprom will seek to supply prospective customers in Greece, the rest of the EU, and the Balkans.

Actual pipe laying has yet to start. However, as of June 30, 2015, both the vessels hired in 2014 to lay the first string of the original South Stream pipeline, the *Saipem 7000* and the *Castoro Sei*, were still at anchor in the Bulgarian port of Bourgas and were thus clearly available to lay the first string of Turkish Stream this year.

Works to develop a full scale export terminal at Ipsala might well start within the same timeframe as these initial works, but any completion date would be dependent upon the conclusion and timing for subsequent delivery of gas delivery contracts for gas to be supplied to EU and Balkan customers from the Ipsala terminal. The choice of Ipsala as the terminal is highly significant.

1 "Gazprom, Ankara Agree to Start Turkish Stream Gas Deliveries in Dec 2016," RT, May 7, 2015, <http://rt.com/business/256509-gazprom-turkey-pipeline-launch/>.

2 Ibid.

The border crossing between Ipsala and Kipoi, its counterpart on the Greek side of the border, is the meeting point for two major elements in the Southern Gas Corridor: the 1,840-km Trans-Anatolian Pipeline (TANAP), which is being built from Turkey's border with Georgia to its border with Greece, and the 870-km Trans-Adriatic Pipeline (TAP), which will connect with TANAP at Ipsala/Kipoi and then carry Azerbaijani gas across northern Greece to Albania and southern Italy. However, since the first string of Turkish Stream will essentially be used to substitute for gas currently being delivered to Istanbul via the Trans-Balkan Pipeline, an extension of the onshore line to Ipsala/Kipoi will only be required when the second string is ready to be commissioned, and that does not seem likely until 2017. In the immediate wake of Putin's initial announcement, there were reports that Russia had cancelled the contract with Allseas for laying the second string. However, since the physical pipe for this line has already been ordered, it is reasonable to suppose that Gazprom will more likely be working to secure a postponement of the original contract rather than its outright cancellation.

As for the development of Ipsala itself, Gazprom envisages it as the base from which it will be able to dispatch some 47 bcm/y of gas—the prospective contents of the second, third, and fourth strings of Turkish Stream's subsea section—to customers in the European Union and the Balkans. However, as noted previously, construction of most of the facilities will be dependent on first securing contracts for the gas and developing a clear understanding of how gas reaching Ipsala/Kipoi will be delivered onwards.

Gazprom cannot afford *not* to proceed with Turkish Stream. The only question is whether it will lay more than two strings and, if so, in what timeframe. Not only has it already signed specific contracts concerning the first two strings of South Stream and Turkish Stream, but it is also in the middle of an expensive \$22.5 billion program, which it confusingly calls the Southern Corridor, to bring gas from the north of Russia down to the Russkaya compressor station on the Black Sea, the jumping-off point for

**Table 1. The Comparative Capacities of Turkish Stream and the Southern Gas Corridor**

Turkish Stream	String One, 15.75 bcm/y: Essentially replaces the existing (Western) Trans-Balkan Pipeline route to Turkey and Greece.
	String Two, 15.75 bcm/y: Provides additional supply to Turkey and European markets accessible via Turkey using existing infrastructure or infrastructure currently under development.
	String Three, 15.75 bcm/y: Provides additional supply to Turkey and European markets accessible via Turkey. But it requires new infrastructure to carry gas beyond Turkey.
	String Four, 15.75 bcm/y: Provides additional supply to Turkey and European markets accessible via Turkey. But it requires new infrastructure to carry gas beyond Turkey.
Southern Gas Corridor Pipeline Component Capacities	Azerbaijan-Georgia (c. 450 km): 8-9 bcm/y using the existing South Caucasus Pipeline (SCP) and 30-33 bcm/y using the SCP Expansion (SCP-X) line: c. 40 bcm/y
	Georgia-Turkey (c. 240 km). The existing SCP will be expanded, and will thus constitute part of SCP-X, but using compression only: 24 bcm/y.
	The Trans-Anatolian Pipeline (TANAP) from the Turkish Border with Georgia to Eskisehir (c. 1400 km): 33 bcm/y.
	The TANAP line from Eskisehir to Kipoi (c. 450 km): 20-24 bcm/y.
	The Trans-Adriatic Pipeline (TAP) from Kipoi to Lecce (870 km): 20-24 bcm/y.

Source: Methinks Ltd.

Turkish Stream. This program, begun in 2011 and due for completion in 2017, only makes sense if much of the gas delivered to Russkaya is then forwarded to export customers beyond the Black Sea.

Moreover, a two-string system makes considerable sense in its own right (at least from a Russian perspective of substituting for Ukrainian transit), and not simply because it utilizes contracts that have already been implemented or are ready for implementation. The first 15.75 bcm/y string effectively replaces deliveries of up to 14 bcm/y, which Gazprom has contracted to deliver to Turkey via the Trans-Balkan Pipeline system. A small portion of this string's capacity is likely to be used to honor existing regional deliveries to Gazprom customers in Bulgaria and Greece.

At least part of the deliveries from the 15.75 bcm/y second string will be used to increase supplies to the gas-deficient Istanbul area. But there will still be some 10-12 bcm/y of second string content that is going to

need a new home. The logical new home—as Russian officials have suggested—is the European Union. There is modest scope for deliveries to two EU member states, Bulgaria and Romania, by means of reverse-flow through the Trans-Balkan Pipeline. But neither are major markets. Bulgaria's consumption in 2013 was just 2.6 bcm and is expected to grow by only around 0.7 bcm by 2020. Romania consumed 12.5 bcm in 2013 and is expected to see its consumption rise to around 15-16 bcm/y by 2020. But the country is already producing around 11 bcm/y and, as and when its new offshore Neptun field in the Black Sea comes on line, it will move first toward self-sufficiency in gas production and then prospectively to modest exporter status.

Gazprom is therefore likely to seek to book space on the Trans-Adriatic Pipeline to enable it to deliver some 10-12 bcm/y of second string gas to EU markets, an issue explored in greater detail in Question Three.



Gazprom and its political masters do not need to make up their minds in a hurry on whether to proceed beyond the first two strings. In order to go ahead with a full four-string 63 bcm/y system, they first need to secure some guaranteed form of onward shipment beyond Ipsala/Kipoi to carry some 31.5 bcm/y of third- and fourth-string supply to the eventual market in the European Union. This will require construction of major new infrastructure, with options ranging from a revival of the Interconnector Turkey-Greece-Italy (ITGI) system or the laying of a second pipe alongside the developing TAP pipeline to construction of new delivery systems through the Balkans to a major European hub such as Baumgarten. However, Gazprom and the Russian authorities do not need to address these issues (considered in greater detail in Questions Three and Four) for at least two or three years, by which time the relationship between Gazprom and its European customers may have once again changed profoundly, though for better or worse currently remains far from clear.

In sum, Russia can be expected to think very carefully before it commits itself to initiating contracts for construction of the third and fourth offshore strings of Turkish Stream and for the attendant infrastructure required for onward shipment to customers in the EU. In the interim, it can argue that moves to proceed with the first two strings constitute a steady progression towards construction of a four-string system—even if they don't.

### **Question Two: Gazprom Deliveries through Ukraine**

Gazprom CEO Alexei Miller declared on April 13, 2015, that his company would halt gas deliveries to Europe through Ukraine when the current contract expires in 2019.<sup>3</sup> Instead, it would redirect transit to Turkish Stream. He coupled this statement with an argument that Gazprom could easily double the volume of gas delivered to Europe, but that there was no indication

that European consumers required that capacity.<sup>4</sup> This meant, as Miller argued, that such volumes could simply be dispatched to other markets, such as Asia.<sup>5</sup>

What the Gazprom CEO did not make clear was whether this meant that Gazprom is planning to terminate or reduce some existing supply contracts to customers in Central Europe. These are contracts that the company would not be able to serve via Ukraine, because of its own planned suspension of transit, or via Turkish Stream, unless major new infrastructure were developed to carry the gas from Turkey to Central Europe.

Gazprom's warnings that it will end transit across Ukraine are questioned by some major Western analysts. Jonathan Stern of the Oxford Institute for Energy Studies—and a member of the Gas Advisory Council set up jointly by the European Commission and Russia—said of the planned phase-out of Gazprom transit across Ukraine: "This is not possible, not by 2020—just as Ukraine saying it will phase out (direct supplies of) Russian gas is not possible."<sup>6</sup>

Michael Lynch, President of the Massachusetts-based Strategic Energy & Economic Research (SEER) company, speaking shortly after Miller's April 13 remarks, argued that, "If you've got customers and a line through Ukraine—and an oil price of \$50—you're not going to cut off the gas."<sup>7</sup>

Equally serious is the question of whether Gazprom could be in breach of contract with some customers in Central Europe if it were to suspend deliveries of gas via Ukraine in the absence of alternative delivery mechanisms. Stern argues that delivery to a hub on the Turkish-Greek border would not be sufficient to meet current contractual obligations, whereby Gazprom has to deliver gas to locations agreed with its Central European customers. "It is not the obligation of the

3 "Russia to Stop Gas Delivery via Ukraine by 2019, Push Ahead with Turkish Stream—Miller," *Russia Today*, April 13, 2015, <http://rt.com/business/249273-gazprom-ukraine-gas-transit/>.

4 *Ibid.*

5 *Ibid.*

6 Jonathan Stern, comments made at Vienna Gas Conference, January, 28 2015, author's notes.

7 Michael Lynch, comments made at ICEED Conference, Boulder, Colorado, April 15, 2015, author's notes.

buyer to get gas to the delivery point; it is the obligation of the seller,” Stern says.<sup>8</sup>

It would appear that both Miller and Putin consider delivery to Ipsala and Kipoi as sufficient to honor the obligations for delivery to the European Union, since Kipoi is an entry point to the EU. Andrey Konoplyanik, an adviser to the Director General of Russia’s Gazprom-Export, also evidently agrees with this assessment. Speaking in the same workshop as Stern in Vienna, Konoplyanik noted that, since EU regulations meant that Gazprom would not actually own the gas molecules once they were dispatched across the border into the EU, the underlying issue was “how to re-route the contracted amount to Baumgarten” from the planned hub on the Turkey-Greece border, with gas delivered to that hub by Gazprom then put up for auction to customers in the EU.<sup>9</sup>

### Question Three: Turkish Stream and the Trans-Adriatic Pipeline

The issue of whether Gazprom might seek to secure space on the TAP from Kipoi to Italy is both a political issue and an issue concerning the comparative capacities of the two systems. The political issue concerns both the right of Gazprom to access a line originally developed to help Europe access new, non-Russian gas supplies and the consequences for European customers—and by extension European energy security—of Gazprom securing space on TAP.

The capacity element raises the possibility of Gazprom seeking to access the TAP line. At its most basic (see table 1), the point is that the TAP line is currently being developed so that it will be available to carry some 10 bcm/y of Azerbaijani gas to European markets from early 2020 onwards; but with a built-in design capacity so that, as and when further gas supplies are available,

additional compression can be put in place to double capacity to at least 20 bcm/y.<sup>10</sup>

At present, there is no such availability, and the assumption of the SGC developers was that they would probably have to wait until the “next wave” of Azerbaijani gas projects came on stream in the early- or mid-2020s to fill the extra capacity planned in both the TANAP and TAP lines.<sup>11</sup> The “next wave” is a loose term used to characterize a cluster of projects concerning the planned or proposed development of a number of Azerbaijani fields. These include Absheron, Umid, Babek, Zafar-Mashal, Shafiq-Asiman, and Deep Level Azeri-Chirag-Guneshli, as well as a prospective Phase Three operation at Shah Deniz, the giant field being developed by British Petroleum (BP) and its colleagues, and whose current Phase Two development will provide all the input for the initial 16 bcm/y of SGC gas. So far, however, only the relatively small Umid field is under actual development, with investment programs for the rest still some way off.

Should Gazprom proceed with its second string—for which it has already secured physical pipe—it could seek to utilize this additional capacity in TAP to carry some 10-12 bcm/y of Turkish Stream gas to Italy. And since Gazprom can have such gas available before any non-Russian supplier is likely to be able to do so, there has to be a reasonable prospect that Gazprom will indeed seek to send some Turkish Stream gas onward to the EU by means of utilizing TAP. All it has to do is secure firm sales commitments and then bid for space on TAP. It would have to give plenty of advance warning, since TAP would have to put additional compression in place in

10 Pipeline capacities are never precise. They depend on the amount of compression used. In general, TAP officials consider the upper range of capacity in their system to be around 23-24 bcm/y. Technically, further compression could be added to increase capacity, but it would be likely proven commercially unproductive. Once capacity levels of 23-24 bcm/y are reached (and probably before that, at around 20 bcm/y), any move to carry further major volumes of gas through the TAP system would be taken as a sign that it was time to consider laying a second physical pipe alongside the first.

11 Any increase of gas exports from Azerbaijan would also require the laying of a second physical pipe across Georgia. This is a quite practical proposition and has at least been tentatively considered in the context of possible Turkmen gas input into the SGC. But it would require some two years’ advance notice in order to lay the pipe through the Lesser Caucasus Mountains.

8 Jonathan Stern, comments made at Vienna Gas Conference, January 28, 2015, author’s notes.

9 Andrey Konoplyanik, comments made at Vienna Gas Conference, January 28, 2015, author’s notes.

time for the Russian shipments, but that is something that it is required to do as and when a customer wants to book space on the line.

The key issue here is that, while the EU has granted TAP's developers an exemption from its usual insistence on open third party access for the initial 10 bcm/y shipments of gas from Shah Deniz Phase Two (SD2) to customers in Greece, Albania, and Italy, TAP has to operate on the principle of open third party access with regard to subsequent deliveries. Hence, Gazprom's opportunity to use EU regulations intended to curb monopolistic practices to its own advantage.

Should Gazprom book space on TAP, this could serve to block a considerable volume of potential Azerbaijani gas exports, and by limiting that export or confining it to the Turkish market (at a time when Turkey was already in a position to receive a lot more gas from Russia), it could further undermine the already fragile economics of the TANAP pipeline across Turkey.

Brendan Devlin, an adviser in the European Commission's Directorate-General (DG) for Energy, said on March 5 that there were no obstacles to Gazprom using TAP to ship Turkish Stream gas to Italy. "It doesn't matter who the shipper is," Devlin said. "We don't care if it is Russian gas, Libyan gas, Azeri gas. The internal market works like that. It's the rules that we have set up for Russia, or for Gazprom." Moreover, in the same way that the EU requires Gazprom to implement its rules within the EU, "they are free and welcome to use pipelines in the European Union on the same basis. To the question 'Can they use TAP?'—from a regulatory and political perspective, the answer is: 'Yes,'" Devlin stated.<sup>12</sup>

However, it should be noted that, as of May 2015, no Russian or Gazprom official had approached TAP even to make inquiries about possible use of the line to carry Turkish Stream gas.

#### **Question Four: The Fallout on the Southern Gas Corridor, the EU, and the Balkans**

In the longer run, the Russians have made it clear that they believe new infrastructure will have to be built on the Greek side of the Turkish-Greek frontier to carry Turkish Stream gas to Europe. This particularly applies to the need for new or expanded pipelines to carry third- and fourth-string gas, but it would, of course, also apply where Gazprom to decide not to use TAP. As a result, there has been a flurry of activity concerning new gas pipelines in the Balkans that could act as onward extensions of Turkish Stream.

The country most deeply involved, since Turkish Stream ends at its border, is Greece. Greek Prime Minister Alexis Tsipras discussed possible onward transit of Turkish Stream gas across Greece in talks with Putin in Moscow on April 8 and with Gazprom in Athens on April 21. One focus of their talks was a potential revival of plans for a pipeline across Greece to connect to one of the losing propositions for a Southern Gas Corridor component, the Poseidon pipeline from Greece to southern Italy. This would connect the existing Turkey-Greece Interconnector between Karacabey and Komotini with a new set of pipelines across Greece to the Thesprotia district on Greece's Ionian coast, from whence the proposed 11 bcm/y subsea Poseidon line would carry the gas to Italy. The 11 bcm/y Karacabey-Komotini link, opened in 2007, is largely idle and would be of no use to Gazprom, since it originates on the wrong side of the Turkish Straits from Ipsala-Kipoi, while developing the rest of the ITGI/Poseidon system would cost something in the region of \$5-6 billion for a 20-30 bcm/y system.

Greece itself does not have enough funds and, under current conditions, there would be little appetite from commercial investors for such a project. That would mean that Russia would essentially have to finance the line itself. In a phone call on May 7, 2015, Putin was reported to have told Tsipras that Russia was willing to provide financing to Greek companies for a possible extension to Turkish Stream, but there was no indication whether this was an offer to pay for the entire project or

<sup>12</sup> "Russia Can Use Trans-Adriatic Pipeline, Commission Confirms," *EurActiv*, March 6, 2015, <http://www.euractiv.com/sections/energy/russia-can-use-trans-adriatic-pipeline-commission-confirms-312688>.

simply to provide some seed capital for cash-strapped Greece.<sup>13</sup> One core issue that has yet to be publicly addressed is the fact that such a line would have to be constructed in accordance with EU rules governing third party access, the very issue that prompted Russia to abandon South Stream. The developers would have to request exemption from EU regulations concerning initial application of third party access. The European Commission does acknowledge that companies developing infrastructure should be able to recoup their costs and so exemption for an element of capacity for a specified number of years should be granted. But this process would not necessarily be automatic, since questions would be raised by both Commission officials and individual member states concerning whether such a project as ITGI/Poseidon, were it to be developed by Gazprom or with Gazprom support, would contribute to the diversification of supply sources for Europe as well as to the diversification of routes. Ironically, should Gazprom opt both to seek space on TAP and also to explore the construction of ITGI/Poseidon, it could do worse than examine the possibility that to assuage European concerns, not to mention legal niceties concerning the exemption issue, it should also consider whether to enlarge ITGI/Poseidon from its historic concept as an 8-11 bcm/y system into something on the scale of the 20-24 bcm/y system that TAP should eventually become. This would then enable ITGI/Poseidon to join TAP in being able to accommodate non-Russian gas supply sources, such as those from the “next wave” of Azerbaijani gas development.

Although Russia and Greece did indeed go on to sign a memorandum of understanding in St Petersburg on June 19, 2015 on development of a €2bn Russian-Greek joint venture for an extension for Turkish Stream across Greece, there was no mention of any onward connection to Italy. Moreover, the complexities concerning both finance and conformity with EU regulations ensure that such a project is unlikely to be developed in the next two or three years. But it should not be ruled out in the long

run. Developers of Greece’s Poseidon project still hold valid permits for a landfall in Italy, an issue which still remains unsettled for TAP, although a landfall permit is expected to be secured this summer. In a few years’ time, not only Greece and Russia, but also the EU, may well take a fresh look at Poseidon/ITGI.

Meanwhile, it is reasonable to assume that Gazprom will at some stage turn its attention to TAP, since it is a project already well under way in terms of land acquisition and the ordering of key materials, including physical pipe. But if Gazprom should decide to book space in TAP, what would be the consequences for the Southern Gas Corridor and for gas importing countries in Europe?

The most pressing issue concerns Azerbaijan. Producers expected to be responsible for the “next wave” of Azerbaijani output would have to find an alternative way to get their gas to European customers, since the spare TAP capacity, which they generally anticipate would be available for their use, would then be taken by Gazprom. They could still get “next wave” gas to Ipsala by means of TANAP, but after that the anticipated TAP pipeline to Italy would be filled up with a mixture of SD2 gas and Turkish Stream. They would have to seek new alternative exits from the European end of the TANAP system.

That means, inter alia, dusting off some previously discarded projects in southeastern Europe, such as the Nabucco West project. When TAP was first approved in June 2012 as the vehicle to carry SD2 gas to Europe, the field’s developers reiterated hopes that TAP’s construction would eventually be followed by the construction of Nabucco West. The Nabucco developers lost interest at the time, but the idea never quite died. Thus, on March 4, 2015, after holding talks with visiting Azerbaijani President Ilham Aliiev, Bulgarian Prime Minister Boiko Borisov said, “We want to unfreeze the Nabucco project through Bulgaria,” and called on the European Commission to support the project’s revival.<sup>14</sup> Aliiev, for his part, commented, “We think that we can unite TAP

13 “Ankara, Moscow Agree to Run Turkish Stream by End-2016,” *Today’s Zaman*, May 7, 2015, [http://www.todayszaman.com/business\\_ankara-moscow-agree-to-run-turkish-stream-by-end-2016\\_380091.html](http://www.todayszaman.com/business_ankara-moscow-agree-to-run-turkish-stream-by-end-2016_380091.html).

14 “Bulgaria Seeks to Revive Nabucco Gas Pipeline after Russia’s South Stream Killed,” Reuters, March 4, 2015, <http://uk.reuters.com/article/2015/03/04/bulgaria-azerbaijan-pipeline-idUKL5N0W61T520150304>



and Nabucco. It is not important what you call this route. Our main goal is that the volumes of Azeri gas enter Europe.” Aliev added, “The more EU countries receive our gas, the better for all.”<sup>15</sup>

Other proposals are also under consideration. Slovakia’s gas authority, Eustream, has proposed a project called Eastring, which looks very similar to the Nabucco West concept only located further east in different regions of Hungary, Romania, and Bulgaria. This would seek to carry some 20 bcm/y of gas, either from Bulgaria to Slovakia or vice versa. Eustream has signed, or says that it is about to sign, a memorandum of understanding (MoU) with partner countries for this project. However, signing such MoUs is easy; translating them into contracted projects is vastly more complicated.

Likewise, Hungary has proposed a project for a gas line to connect Greece’s planned new liquefied natural gas (LNG) terminal at Kavala (or some similar location on its north Aegean coast) with Macedonia, Serbia, and Hungary, a project which the Hungarians have informally dubbed the Tesla pipeline, after the Serbian-American scientist Nikola Tesla. The foreign ministers of all four countries met in Budapest on April 7 to further this proposal which, like Eastring, is likely to result in the signing of MoUs to underline the political commitment of the respective governments to the project. From the perspective of the European Commission, such projects would appear to be versions of South Stream dressed up to look like Nabucco West. It would take a lot of work, and a lot of commercial commitments from (as yet unavailable) non-Russian gas suppliers, to convince Brussels that such projects as Eastring and the Greece-Hungary line would truly contribute to diversification of supply sources for gas reaching Europe, rather than serve as diversification routes whose main purpose would be to improve Gazprom’s prospects of accessing markets in central Europe, should the Russian giant implement its stated commitments to end gas transit across Ukraine.

One significant indication that Eastring, for example, is not necessarily focussed on broader European energy

security issues, let alone cost effectiveness, is that, although initial accounts indicated that it planned to use transit across the southwestern corner of Ukraine for a roughly 200-km section between Slovakia and Romania (utilizing an area under Kyiv’s control), subsequent descriptions allowed for the construction of a Ukraine bypass to ensure a direct link between Slovakia and Romania, a move that would isolate Ukraine, while the issue of enabling Ukraine to continue to receive gas in the event of a Russian cut-off is supposed to be at the forefront of regional thinking on energy security. Above all, however, the twin questions of who will bear the cost of such major projects, and just what those costs will be, remain essentially unanswered. Limited accounts concerning how these lines might kick-start do not provide any indication of just how the lines are supposed to operate in a world in which commercial companies, rather than national governments, are the principal actors in actually implementing such projects.

Then there is SEEP, the South East European Pipeline. This was a project—although it is better considered a concept since it was essentially an intelligent piece of market analysis rather than a firm plan for specific infrastructure development—prepared by BP in 2010 to 2011, largely as a way of putting pressure on TAP and Nabucco West to ensure that they come up with fully commercial projects. SEEP attempted to assess two main aspects of regional gas development, the volumes that Balkan states themselves required for gasification and the best way to use interconnectors between the various Balkan states in order to provide a sort of capillary input into the Balkans, rather than rely on a single dominant pipeline.

Circumstances have changed considerably since then. Romania is no longer likely to be a prospective growing market for imported gas in the timeframe envisaged for the “next wave” of Azerbaijani gas, but the need for the other Balkan states to reduce their extreme dependence on Russian gas remains strong. Indeed, with the prospective loss of supplies for Ukraine, the need to provide them with alternative pipeline access, such as the

15 Ibid.

recently-announced connection between Macedonia and Greece, is stronger than ever.

There is another problem concerning the kind of energy diversification project that Balkan governments are considering. There is always political support for big projects, such as Nabucco West, Eastring, or Tesla costing several billions of euros. This may be for reasons of political showmanship or, more sinisterly, because of the prospects that big projects yield better opportunities for crony deals and corruption.

Significantly, the most immediate practical deals are relatively small scale interconnectors. But they face problems of a different kind. Devlin, one of the European Commission's foremost experts on regional energy issues, commented directly on the prospects for interconnectors at a Brussels meeting in March 2015: "There are a host of possibilities, but these are prevented from happening, not because of any physical problems, but because of regulatory constraints, and regulatory constraints are the result of political restraint, imposed by the governments of the region. It's not a physical problem, it's a failure of political will, and a failure to implement the Third Energy package in its entirety in the countries involved."<sup>16</sup> Devlin then cited five specific examples of projects that had not been implemented at all or whose use was stalled because of intergovernmental disagreements. He ended by saying that "a new proposal for a huge pipeline" could once again delay the immediate gains that could be made with relatively small efforts and resources.

These gains primarily concerned Bulgaria, so it may well be as a result of Devlin's comments that Bulgaria's energy ministry declared on April 1, 2016, that construction of the €220 million, 182-km Interconnector Greece-Bulgaria (IGB) project, for which the European Union has already pledged €80 million, may start in mid-2016.

To the Bulgarians, the IGB, which would be capable of carrying some 3-5 bcm/y of gas, would constitute the first element in the Vertical Gas Corridor (VGC), a proposal to link the gas networks of Greece, Bulgaria, Romania, and possibly Hungary. The VGC can certainly be considered a logical effort to try to implement the European Commission's (EC) objective of linking up regional interconnectors so that they form a coherent regional system, as was demonstrated by the presence at initial discussions on the subject in Sofia in February of such senior EU officials as Maroš Šefčovič, the EC Vice President responsible for the Energy Union, and Miguel Arias Cañete, the Commissioner for Climate Action and Energy.

Thus, when energy officials from Greece, Bulgaria, and Romania signed an agreement on April 22 backing the construction of the IGB, due to start in 2016 and complete in 2018, it was dressed up as if it were the full VGC that was about to be implemented. Moreover, the dilatory approach taken by successive Bulgarian governments to implement the IGB, and its support for both a revival of Nabucco West and Slovakia's Eastring proposal, epitomizes the confusion that surrounds the issue of how to take advantage of the giant 50 bcm/y gas terminal that Gazprom claims to want to build at Ipsala/Kipoi, and the lack of firm projects to ensure the onward transmission of that gas.

### Conclusions

The most obvious conclusion concerning the impact of Turkish Stream on the Southern Gas Corridor is that it may block direct passage of "next wave" Azerbaijani gas to southern Italy, but serve to accelerate the gasification of the Balkans and the revival of plans, by one route or another, to develop a pipeline connection between Turkey and Central Europe. With the European Commission already committed to the development of a variety of gas interconnectors in southeast Europe, the principal energy security issue confronting the European Union in this context is the development of a clear set of priorities as to which of the various interconnectors it currently considers to be projects of common interest.

<sup>16</sup> "Bulgaria Lacks Political Will to Build Interconnectors, Says Commission," *EurActiv*, March 6, 2015, <http://www.euractiv.com/sections/energy/bulgaria-lacks-political-will-build-interconnectors-says-commission-312709>.

They should be prioritized in order to form the core of a system to ensure that gas utilizing the Southern Gas Corridor can be forwarded from Turkey, Greece, or Albania to a major European hub, such as Baumgarten.

Yet there is also another way in which Turkish Stream may influence not only the development of the Southern Gas Corridor, but that of all gas supplies to Europe, including piped imports from Norway and North Africa and current or prospective LNG imports from the Middle East, West Africa, the Caribbean, and the United States.

This way concerns the pricing issue. It is just possible that Gazprom, the rather staid and conservative organization that has for so long sought both to keep prices high and to retain as strong a link to oil prices as possible, may change its policy or, more likely, find itself subject to a change in pricing policy initiated by the Kremlin. Technically, Gazprom could have declared the start of the construction phase within weeks—if not days—of Putin's original announcement on December 1, 2014. Some technical works were, and are, required to take account of the change of route from South Stream, notably a fresh survey of the last quarter of the 930-km Black Sea crossing and a full evaluation of the route of the onshore Kiyıköy-Lüleburgaz-Ipsala pipeline. But since pipe laying can be carried out in stages, even in deep sea locations, the *Saipem 7000* and the *Castor Sei* could have been mobilized as soon as weather conditions on the Black Sea were suitable to lay pipe.

The main reason that this did not happen was that Turkey was twinning final approval for the project—the approval that Miller appears to have secured in Ankara on May 7, 2015—with a major revision of the price it pays for gas that it currently receives from Russia via the existing Trans-Balkan and Blue Stream pipelines. It is still not absolutely clear just how much Turkey will eventually end up paying for its Russian gas imports this year, not least since the pricing formula is structured as a discount on a base price that is not subject to public disclosure. Nonetheless, press reports indicate that Turkish private companies importing gas from Russia will benefit from a substantial reduction in prices as a

result of agreements reached in early May and that Turkey's main importer, the state pipeline company Botas, can likewise anticipate a major reduction in the gas import price.

The Turkish press, citing Russia's *Kommersant* newspaper, anticipates that the four private companies serving Istanbul with gas delivered via the trans-Balkan pipeline (and which account for around 10 bcm/y of Turkey's current 27 bcm/y of gas imports from Russia) secured in May 2015 an agreement under which the price set for their purchases from Gazprom in the first quarter of the year was just \$300 per thousand cubic meters (1000 cm), and the price for the second quarter was just \$260/1000 cm. If confirmed, this would constitute a 40 percent drop on the \$374/1000 cm price set last year for 2015 deliveries.

The most important element here is not so much the figures themselves, since the opaque nature of Turkish gas import prices makes precise comparisons impossible, but the sheer scale of the price cut. The nominal price to be paid by Turkey's Botas for the bulk of Turkish imports in late 2014 was understood to be \$435/1000 cm, although the Turkish state importer may actually have been paying less in reality. In December 2014, Yıldız was reported to be seeking a 10.25 percent price cut, but by March, he appeared to be trying to secure a much deeper cut for imports by the state gas concern.

Such prices compare with the reported \$335/1000 cm that Botas pays for gas delivered from Azerbaijan under the terms of contracts covering the supply of some 6.6 bcm/y of gas from the first stage of the Shah Deniz project, and the reported \$490/1000 cm for Iranian gas delivered by pipeline from northwest Iran.

There is an emerging school of thought that falling gas prices in Europe and the prospect of US gas reaching Europe in the form of LNG from 2016 onwards might prompt the Kremlin into a radical rethink of Russia's gas pricing strategy. Russia has never sought to be the low cost provider, but there are at least three strong reasons why this might change. The first is the steadily increasing

pressure of Russia's so-called independent gas producers—in effect, all the gas companies that are not controlled by Gazprom—to have access to the Gazprom-controlled Russian gas export system. At present the independents routinely produce around 25-27 percent of all Russia's gas but account for barely 5 percent of its exports. Instead, they have to focus on the domestic market, which generally offers much poorer prospects for sustained profits.

The second is that Russia currently has a much greater capacity to produce gas than it can either consume on its own or secure foreign markets both willing and able to purchase it. Russia has the resources to increase production to meet major increases in European demand should these respond to possible major gas price reductions.

Third, such an approach would have a strong impact on Russia's market position in Europe, shrinking the role of non-Russian suppliers and once again making Russia the prime determinant of gas prices in Europe. Under such circumstances, the challenge to prospective new suppliers seeking to access European markets via the Southern Gas Corridor—whether in Turkmenistan, Iran, northern Iraq, the eastern Mediterranean, or among the prospective “next wave” of Azerbaijani producers—would be immense, since Russia could always undercut them.

Such a policy, however, still depends on Russia being able to deliver its own new wave of cheap gas to Europe, which would either require the country to reconsider its plans to scrap the transit across Ukraine by 2020 or to develop new infrastructure to carry gas delivered by Turkish Stream onward from Ipsala/Kipoi into the heart of Europe. And, at present, it does not appear to have either the cash or the appetite to carry out such a program.

So there is a conundrum. Turkish Stream has the ability to pose a significant challenge to the further development of the Southern Gas Corridor, but only if Russia itself chooses in the short run to take advantage of the one element in the SGC, the Trans-Adriatic Pipeline, or if it commits itself to developing a further set of pipeline connections into Europe to carry some its project 47 bcm/y of Turkish Stream gas westwards from Ipsala/

Kipoi. But that, of course, would require the kind of capital expenditure and acceptance of EU regulation that prompted Putin to abandon the original South Stream concept.

Turkish Stream opens opportunities for Russia, but these opportunities require such an infusion of cash and such a radical change of approach to the provision of gas to Europe that, in all probability, they will serve to hinder rather than prevent the flow of additional non-Russian gas to Europe via the Southern Gas Corridor. And even those hindrances may simply serve as a driver for new pipelines in the Balkans to be supplied with gas delivered through the Southern Gas Corridor.

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