The 2nd Phase of the EU Southern Gas Corridor: Which role for Azerbaijan?

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Summary

- The operation of the Southern Gas Corridor marks the first attempt of the EU to diversify its pipeline gas supplies and routes beyond Russia.

- The 2nd Phase of the Corridor, which involves the operation of several gas interconnectors in South Eastern Europe, is being promoted, while the EU is looking for additional supply sources, namely LNG.

- The Russian invasion of Ukraine, coupled with the intense energy crisis in Europe, has reinforced these trends.

- Field development in Azerbaijan and future prospects for LNG exports, primarily from the US, are discussed in this article as realistic options for alternative supply sources for Europe.
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Introduction

The interruption of gas supplies from Russia to Ukraine in 2006 and 2009, due to pricing disputes between Gazprom and Naftogaz, prompted a discussion in Brussels on finding alternative to Russia gas supply sources for Europe, and especially for the countries of Central and South Eastern Europe. The EU’s excessive dependence on Russian gas was thoroughly discussed, as some countries - like Hungary - are almost utterly dependent on Gazprom for their domestic energy requirements, while others - like Greece, Spain and Italy - had already diversified their energy mix with LNG imports from Northern Africa, (and Algeria, in particular), on the basis of long- term purchase contracts with Sonatrach. Through this crisis, the word ‘diversification’ was introduced into the EU energy vocabulary, with reference both to sources and routes, while the Southern Gas Corridor program was proposed, with South- Eastern Europe placed at the epicenter of the new European energy architecture. As a result, by dint of Decision No 1364/2006/EC, the EU officially established Natural Gas Route 3 (NG 3); known as the Southern Gas Corridor within the framework of the new European energy security strategy, it would for the first time connect the European markets with the Caspian Sea and the Middle East. The next step was the Third Energy Package, the new anti-monopoly legislative framework in the European energy sector, in accordance with which all EU member states should have access to gas from at least three different supply sources, either directly or through other member states, via pipelines or LNG terminals.

Europe is currently facing a third energy crisis, after Russia recognized the independence of the self- proclaimed autonomous Republics of Donetsk and Luhansk in Eastern Ukraine on February 21, 2022 and invaded Ukraine two days later. The characteristics of the current crisis are – nevertheless - different compared with 2006 and 2009, since there has been no disruption in the flow of gas from Russia, despite fierce fighting on Ukrainian soil, due to the fact that the route through the Ukrainian gas network has been partially replaced by the newly- established Turkish Stream pipeline. The Ukrainian transit route towards Central and Eastern Europe has not been disrupted either. Several European countries moved swiftly and purchased significant additional volumes of gas from Gazprom during the first days of military operations in Ukraine, fearing major increases in global gas prices. The crisis currently facing the states of Europe stems mostly from the extremely high prices of the gas procured, not only from Russia but also from other producing countries, coupled with the low level of gas storage in the summer of 2021 at the central storage facilities in Baumgarten, Austria.

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1 See Bud Coote. The Caspian Sea and Southern Gas Corridor, A view from Russia. Washington: The Atlantic Council of the United States, 2017
2 In January 2009, when the supply of gas through the Trans- Balkan Gas Pipeline was cut, Greece sent natural gas to Bulgaria, in a reverse flow along the pipeline.
6 The first section of Turkish Stream, to Turkey, was inaugurated in 2020 and the second, to South Eastern Europe, with Bulgaria as its entry point, in 2021. Turkish Stream has now been extended to the Republic of North Macedonia, and further extensions to Serbia and Bosnia/ Herzegovina are also foreseen. As a result, the old Trans- Balkan Gas Pipeline through Ukraine, Romania and Bulgaria has been replaced by Turkish Stream.
7 See Tass. 2022. “Gazprom continues supplying gas for transit to Europe via Ukraine as normal”. https://tass.com/economy/1419629
from underground storage facilities, while the total volume of gas remaining in European underground storage facilities stands at 27%, with German storages 74.4% and French 80.3% empty. To replace these volumes in Europe’s storage facilities by next winter, significant gas volumes will have to be procured, more than has ever been procured before, which will have a substantial effect on gas prices in Europe.

However, one should note that, despite tense EU-Russia relations and attempts by several European countries to diversify their energy mix, the volume of the gas traded between the two parties has significantly increased, especially after 2017, and that the two long-standing disputes over Gazprom’s monopolistic practices and the Third Energy Package have now been settled. Furthermore, Russian companies have invested in new infrastructure projects relating to gas exports to Europe, including the launch of the Yamal LNG terminal in December 2017 and the Nord Stream II pipeline. The construction of the latter has already concluded, although actual operations have yet to begin, as the pipeline has been highly politicized by the EU and the US as a means of exerting political pressure on Moscow over its aggression against Ukraine. Additionally, it should be highlighted that, despite the war in Ukraine, Russian gas sales to Europe have not halted and most European gas companies have purchased additional volumes of Russian gas from Gazprom, on the basis of bilateral contracts already concluded with the Russian energy giant, since Gazprom’s gas is cheaper than the LNG marketed in Europe or the price negotiated on the spot market. However, Russia’s extreme aggressiveness towards Ukraine has put the option of increasing the share of LNG in the European energy mix, as well as strengthening bilateral energy cooperation with Azerbaijan, center stage.

In general terms, the outlook for expanding EU gas import capacity - an increase of 35% over the current capacity - is at odds with the EU’s stated goal of net-zero greenhouse gas emissions by 2050. Building all the gas infrastructure (pipelines and LNG terminals), currently in pre-construction or construction phases, would add 222 bcm/y of net gas import capacity into the EU, however it threatens the EU’s medium-term goal of cutting emissions to 55% by 2030. These goals are likely to be revised in the light of ongoing crisis in Ukraine.

The resource base of the Southern Gas Corridor

As the literature describes, as far as South-Eastern Europe is concerned, the concept behind the establishment of the Southern Gas Corridor over the last decade has been to reduce gas dependence on Russia. The very first gas supply source promoted as an alternative to Russia is the Caspian Sea, namely Azerbaijan. Caspian oil and natural gas resources attracted international attention after the dissolution of the Soviet Union in 1991, when western investments in the energy sectors of the newly independent littoral states became possible. Three major field discoveries signaled an increase in the economic importance of the Caspian globally: Shah Deniz in Azerbaijan, Kashagan in Kazakhstan and Galkynysh in Turkmenistan. Kazakhstan’s oil exports are headed primarily towards the US, through the CPC (Caspian Pipeline Consortium) route and the Novorossisk port in the Black Sea, while Kazakh gas exports supply mainly the vast

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8 See Tass. 2022. “Record gas pumping into European UGSF by winter to seriously affect price.” [https://tass.com/economy/1419245](https://tass.com/economy/1419245)
market of China, through the Central Asian Gas Pipeline. Turkmen gas exports supply neighboring countries in Central Asia, like Uzbekistan, and also China, on the basis of a long-term bilateral agreement. Turkmenistan could potentially supply Europe with gas, construction of a subsea pipeline in the bottom of the Caspian Sea would be required through. Azerbaijan is far better placed from point of view geography and available volumes to supply South-Eastern Europe with gas. Proven reserves of Azerbaijan now amount to 1.3 tcm - following the discovery of Shah Deniz offshore gas field\(^{12}\). In addition to Shah Deniz, the offshore gas discoveries of the last decade are bound to increase production and exports to Europe in the decade after 2020, given that foreign capital investment continues, regardless of the fluctuations in global oil prices. Fields like Umid (200 bcm and 40 million tons of condensate), Bebek (400 bcm and 80 million tons of condensate), Shafag-Asiman (300 bcm) and Nakhchivan (300 bcm in place) in the Azeri offshore sector will require substantial foreign investment, if they are going to be in a position to feed the Corridor and its future interconnectors in South Eastern and Central Europe\(^ {13}\). The most promising discovery, however, has been the Absheron offshore gas field with estimated reserves of 350 bcm and 45 million tons of condensate\(^ {14} \). Socar, the State energy company of Azerbaijan, plans to combine production from Shah Deniz with Absheron, in order to reach 40 bcm/y and increase gas exports to Europe after 2022, when the new gas infrastructure in South Eastern Europe will be in place and operational\(^ {15} \).

Azerbaijan and the Shah Deniz field in particular have been identified by Brussels as the first resource base for the Southern Gas Corridor, and in particular for its 2\(^{nd} \) Phase. The total length of the Corridor is 3,500 kilometers, which is divided into three sections: the South Caucasus Pipeline (SCP) from Baku to Erzurum in Turkey, the Trans-Anatolian Pipeline (TANAP) crossing Turkish territory up to the Greek border at Kipoi-Evros and the Trans-Adriatic Pipeline (TAP) through Greece, Albania and the Adriatic Sea to Italy\(^ {16} \). The purchase contracts, signed between SOCAR and the gas trading companies of Greece (DEPA), Albania (Albgaz) and Italy (Snam Rete), provide for an initial volume of 10 billion cubic meters (bcm)/y, with a provision to double the volume after 2025\(^ {17} \). It is understood that these volumes of Azeri gas represent a minor – indeed rather symbolic – diversification away from Russian gas for Europe, but it is a start. The consortium announced (17/03/22) that the initial capacity of 10 bcm/y has been attained, out of which 8.5 bcm have been delivered to Italy. According to the official statement ‘TAP can double its capacity and expand in stages, up to 20 bcm within 45-65 months, as a result of requests to be received during the binding phase of a market test and the accumulated requests resulting in an economically viable outcome. The next binding phase is currently scheduled for July 2023. However, TAP can accelerate this timeline and launch the binding phase of the market test during 2022, provided that TAP receives interest for an earlier start in the ongoing public consultation.’\(^ {18} \) The geostrategic importance of Azerbaijan as a supply source for Europe has increased in the

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\(^{18}\) See TAP Press release, 17/03/22. TAP transports first 10 bcm of natural gas to Europe.
light of current geopolitical developments in Ukraine, and the next generation of Azeri offshore fields are considered of vital importance as a first diversification source for the 2nd Phase of the Southern Gas Corridor and the future interconnections in South Eastern Europe\(^{19}\).

### The gas interconnectors in South Eastern Europe

The 2\(^{nd}\) Phase foresees future TAP interconnections in Greece, with Bulgaria first through the Interconnector Greece- Bulgaria (IGB), running from Komotini to Stara Zagora. Construction work on the IGB began in late 2018, while the pipeline is expected to come into commercial operation in July 2022. Socar and Bulgargaz have already signed a gas purchase agreement for 3 bcm/y with a potential expansion to 5 bcm/y, in the years to come\(^{20}\). The IGB, (182 km) will connect with TAP in Greece, in the Komotini area, while the project is being implemented by “International Company Greece Italy” (ICGI), a joint venture company with Bulgargaz and IGI Poseidon (Interconnector Greece- Italy) holding the share on a 50%- 50% basis\(^{21}\). The IGB is the first project to be realized within the Southern Gas Corridor framework, but also on the North- South axis, as further expansion to Romania, Serbia and Hungary is foreseen, with Greece serving as the transit hub for Azeri natural gas going to South Eastern Europe. In this respect, several other interconnectors are mapped out for the region: interconnectors Bulgaria-Serbia (IBS), Bulgaria- Romania (IBR) and beyond that to Hungary, which will be able to to function in reverse flow, as well. At the EU-Western Balkans Summit in Sofia in May 2018, Bulgaria and Serbia signed a Joint Declaration on the construction of the Interconnector Bulgaria-Serbia (IBS, Dmitrovgrad-Nis), with the aim of connecting to TAP. The Serbian section of this pipeline has already been included on the EU’s list of PCIs (Projects of Common Interest), with 49.6 million Euros already approved. Construction work started in February this year, with the IBS scheduled to become operational in 2023, bringing Azeri gas to Serbia for the first time\(^{23}\). Similar Joint Declarations have also been signed for the Bulgaria-Romania and Romania-Hungary interconnectors, and both are also included on the EU list of PCIs. As a result, all these projects will be realized by the regional energy companies together with co-financing from the EU available funds and financing institutions, namely the EIB (European Investment Bank) and the EBRD (European Bank for Reconstruction and Development).

The second project being promoted in South - Eastern Europe is the Thessaloniki-Gevgelija interconnector, running between Greece and North Macedonia, a country that is almost entirely dependent on Russian gas.

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20 See Azer News. “Details of IGB fulfilment plan to bring Azerbaijani gas to Bulgaria disclosed.”
https://www.azernews.az/oil_and_gas/120630.html
21 See Novinite. “Agreements for financing the gas connection Bulgaria-Greece are signed.”
https://www.novinite.com/articles/200825/Agreements+For+Financing+the+Gas+Connection+Bulgaria++Greece+Are+Signed
22 IGI Poseidon is a Greek-registered company whose shareholders are the Greek public gas corporation DEPA (50%) and the Italian Edison (50%).
23 See AzerTac. 8th Ministerial Meeting of Southern Gas Corridor Advisory Council features plenary sessions on expansion of project and energy transition.
Bulgaria, Romania, North Macedonia and Serbia are key countries for the implementation of the EU's diversification strategy. Most of the LNG volumes will be destined for Asian markets, primarily China, which is currently the first and largest 'client' for American LNG.

The American LNG strategy for Europe seems to be oriented along the North-South axis, in four key countries, all of them EU member states and key NATO allies: Poland, Lithuania, Croatia and Greece. Lithuania and Poland have built LNG terminals in the Baltic Sea, in recent years, with the goal of reducing their dependence on Russia, while in the South, the Revythoussa LNG terminal in Greece is one of the biggest in the world.

In July 2017, the then European Commission President Jean-Claude Juncker and the then US President Donald Trump agreed to strengthen EU-US strategic cooperation on energy, particularly in the sphere of LNG, with the aim of exporting American LNG to Europe in order ‘to diversify and render its energy supply more secure’. The US became a net natural gas exporter in 2017, with its LNG exports rising by 58% during the first half of 2018, in comparison with the same period in 2017. According to preliminary data, US LNG exports also increased by over 50% compared with the previous year. The expected commissioning of more LNG terminals this year is bound to make the US the world’s second largest LNG exporter, taking the place of Qatar. Most of the LNG volumes will be destined for Asian markets, primarily China, which is currently the first and largest ‘client’ for American LNG. In the short term, however, and in view of the ongoing crisis in Ukraine, Europe is one of the main destinations for US LNG exports, due both to its established LNG infrastructure and growing market demand, and to its goal of reducing European dependence on Russian gas. In the light of the ongoing energy crisis and Europe’s more coordinated efforts to distance further from Russian gas, the European Commission expects American LNG imports to rise significantly in the years ahead, and is therefore promoting the construction of LNG terminals across Europe, from the Baltic to the Aegean.

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28 The Sabine Pass LNG terminal was inaugurated in Louisiana in 2016. In 2020, Cheniere commissioned for the first time the Corpus Christi LNG plant, while the Calcasieu Pass Train 6-10, also in Louisiana, is expected to come into operation in September 2022.
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Mediterranean; the terminal primarily serves Algerian LNG on the basis of the long-term contract between DEPA and Sonatrach, but also receives spot LNG cargoes from the US. The ultimate aim of the US energy strategy for Europe is for the US to acquire a share in the EU energy mix, by exporting LNG to key European countries along the North-South axis. This will allow the American LNG to be re-gasified and gain access in this form to the Central and South Eastern European grids, supplying countries like North Macedonia and Hungary with other, non-Russian gas. For that reason, in addition to the Revythoussa terminal, a second LNG facility is currently being touted for the port of Alexandroupolis, in northern Greece. Once built, the planned Floating Storage Re-gasification Unit (FSRU) will supply gas to the Greek, Bulgarian, Romanian and Serbian markets, after the gasification of the LNG in Alexandroupolis. The FSRU will be connected to TAP and IGB, as well as to IBS and IBR interconnectors. Furthermore, it is worth noting that the Thessaloniki- Gevgelija Interconnector may also be connected with the FSRU, through TAP, allowing North Macedonia to be supplied not only with Azerbaijani gas but also regasified gas from the US.

Conclusions

Nevertheless, despite all these diversification efforts, Russia is and will likely remain the primary source of energy for the European market, with two pipeline systems covering most of the European continent. In the North, the old Yamal-Europe gas pipeline supplies significant volumes of gas to German and Polish markets, while Nord Stream 1 adds still more Russian gas to Germany’s OPAL gas network. Construction of the Nord Stream 2 pipeline is already complete, though as detailed above the commissioning of the pipeline is still pending, due to the Russian invasion of Ukraine. Turkish Stream- the European section- represents the southern flank of the Kremlin’s strategy for supplying Russian natural gas to South Eastern Europe: Bulgaria, North Macedonia, Greece, Serbia and - as of 2023 - Bosnia/Herzegovina. The Turkish and the European sections of Turkish Stream will each deliver 15.75 bcm/y at maximum capacity. The philosophy behind Turkish Stream is to circumvent the Ukrainian route, i.e. the old Soviet-built Trans Balkan Gas Pipeline. This serves three strategic goals: it isolates Ukraine, undermines the strategic importance of the Southern Gas Corridor and extends Russian gas coverage to the whole of South Eastern Europe. Turkish Stream is already in full operation, and it should be noted that the Russian gas supply has not been halted, either in South Eastern Europe or in Ukraine itself, as a result of the military

30 The Alexandroupolis FSRU will create a fourth natural gas import gate into Greece, with a send-out capacity of 6.1 bcm/y and a storage capacity of up to 170,000 cubic meters of LNG. The FID for the construction of the FSRU has been issued by the shareholders of Gastrade SA, and it is expected to be operation by the end of 2023.


33 In full operation, Nord Stream 2 will supply an additional 55 bcm/y to Germany, volumes the German leadership urgently needs to find a substitute for, it is to be able to cover German domestic demand for energy.

34 The subsea section in the Black Sea is 910km long and the land section will run 180km into Turkey. The pipeline runs across the Black Sea to Kiyikoy, west of Istanbul, and continues from there to the Turkish-Bulgarian border; the second section of the pipeline runs to Bulgaria, Northern Macedonia and Serbia, while a connecting branch will extend from Belgrade to the Republika Srpska of Bosnia-Herzegovina.


36 See Marika Karagianni. 2016. Is Turkish Stream able to change the energy developments in Europe? Baku: Caspian Center for Energy & Environment- ADA (Azerbaijan Diplomatic Academy)

The EU is seeking to create a network of gas pipelines and interconnectors across South Eastern and Central Europe, [...] as the first realistic alternative to Russian natural gas.

Should all the above-mentioned interconnectors be realized along the Corridor, a new holistic gas distribution system will supply Azerbaijani gas, as well as LNG, to the whole South Eastern European area, thus reducing Russian dominance. In the light of the above, it is evident that the EU is seeking to create a network of gas pipelines and interconnectors across South Eastern and Central Europe, with Northern Greece serving as the main transit hub for Caspian natural gas and LNG from the US, and potentially other sources too, as the first realistic alternative to Russian natural gas. Furthermore, it appears that the prospects for LNG in South Eastern Europe are far better than they were a few years ago; with all the new projects under development, LNG - American or otherwise – is clearly emerging as a serious alternative to Russian gas.