TAP, Nabucco West, and South Stream: The Pipeline Dilemma in the Caspian Sea Basin and Its Consequences for the Development of the Southern Gas Corridor

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Abstract
This article examines the benefits and obstacles in building the various non-Russian pipelines connecting the Caspian Sea with Europe. Overall, an opening of a corridor from Azerbaijan to Europe is closer than it was a year ago and the construction of such a pipeline would provide many benefits to Europe. However, the success of the EU's energy strategy in the Caspian region will depend on the EU's ability to deal with Russia and China, the two superpowers there.

Europe's Quest for Caspian Gas

The European Commission initiated the Southern Gas Corridor to diversify its supply sources away from Russia and develop the infrastructure necessary for transporting gas from the Caspian region and Middle East—primarily Azerbaijan, Turkmenistan, Iraq and Iran—to Europe. From its inception, this project sought to take natural gas from the Azeri field Shah-Deniz 2. The negotiations with other gas suppliers from this region are still in progress.

The Southern Corridor initially included three main pipelines: (1) the Interconnector Turkey–Greece–Italy Pipeline (ITGI), (2) the Trans-Adriatic Pipeline (TAP) and (3) the Nabucco pipeline. However, the project has faced many obstacles since the beginning of 2007. Last year was particularly difficult for the Southern Corridor: 2012 witnessed numerous "pipeline struggles" and the status of the gas pipelines planned for the wider Caspian region continued to remain uncertain. The ITGI pipeline project has not succeeded in its bid to the Shah Deniz consortium to become the transit route to Europe. Moreover, the Nabucco consortium decided to downsize its project into a Nabucco West pipeline with a capacity of 16 billion cubic meters (bcm)—just over half the capacity of the originally planned 31 bcm pipeline—due to high construction costs and the lack of gas suppliers. In addition, in December 2012 Russia's Gazprom broke ground on its South Stream pipeline (initiated in June 2007), one year earlier than planned. The event was marked by a ceremony with important participants, including the Russian president Vladimir Putin and the CEOs of South Stream partners, such as Italy's ENI and France's EDF. Even though the event was symbolic, as construction will only start in 2013, Russia has clearly showed its determination to expand its market share. South Stream—a rival to the EU-backed pipelines Nabucco and TAP—will carry 63 bcm per year of Russian natural gas to Europe via the Black Sea through Bulgaria, the countries of the former Yugoslavia, Hungary, Austria, Greece and Italy. The South Stream consortium plans to begin pumping gas to Bulgaria and beyond in 2015 and reach full capacity in 2019. Gazprom has already finalized its intergovernmental agreements with transit countries, for example Bulgaria, Hungary and Greece, which are also involved in EU-backed pipeline projects.

Currently, the Shah-Deniz consortium identified two pipelines—the Trans-Adriatic Pipeline (TAP) and Nabucco West—as possible routes to transport the gas produced during the second stage of the Shah-Deniz field. The Shah-Deniz group expects to make a final decision on the route by June 2013. However, it is now clear that this gas will run to Europe through several pipelines. Firstly, it will go through the South Caucasus Pipeline (SCP), which will cross Azerbaijani and Georgian territory to Eastern Turkey. Then, it will be transported by the Trans-Anatolian Gas Pipeline (TANAP). Azerbaijan's state energy company SOCAR and Turkey's state pipeline operator BOTAS proposed this pipeline in October 2011 as a result of the long and inconclusive negotiations on the Nabucco pipeline. TANAP will run across Turkish territory and have a capacity of 16 bcm per year. 6 bcm of this will be delivered to Turkey and the remaining 10 bcm to Europe. Thereafter, the pipeline will either connect to TAP at the Greek border or Nabucco West at the Bulgarian border. For an overview of the gas pipeline projects in the Southern Corridor, see Table 1. Consequently, two pipelines, the Trans Adriatic Pipeline (TAP) and Nabucco West, are competing with each other to revive the Southern Gas Corridor. In the light of this situation, this article aims to analyze the current situation around these two pipelines and their strengths and weaknesses. It then outlines the factors that have influenced the development of the Southern Gas Corridor. The article concludes with an overview of what the gas from Baku will mean for the development of the European Union's energy market and the Caspian region in the future.

The Trans-Adriatic Pipeline (TAP)

If constructed, TAP, developed by Norway's Statoil, Switzerland's EGL and Germany's E.ON, will ship 10 bcm of gas per year, with the option to increase the capacity up to 20 bcm. It will run through Greece and Albania, under the Adriatic Sea to southern Italy. The construction of TAP would provide the countries involved in this project, such as Greece and Albania, with a large inflow of foreign direct investment (FDI) and foster economic growth. TAP could also supply the energy markets in the west Balkan countries, which are highly dependent on Russian gas (some countries, such as Albania and Bosnia-Herzegovina, are 100% supplied by Russia). TAP and the gas transported through it will contribute significantly to gas diversification in these countries and will help them develop their energy infrastructure and regional gas network connections. The Albanian and Greek governments have already accorded TAP the status of "national importance." Gas prices in the west Balkan countries are relatively high. Consequently, TAP is commercially attractive for Shah-Deniz partners. More importantly, the current changes on the European gas market have created opportunities for TAP shareholders to deliver gas from Baku via interconnectors to other countries in Western Europe. For example, this gas will be available on the Swiss market and beyond. Consequently, Italy could become an important trading hub for the European market.

In regards to the regulations: In 2011 TAP shareholders asked the European Commission for an exemption from the EU's Third Energy Package, which allows competitors access to the pipeline. The application is currently under consideration. In 2012 the TAP partners and the Shah-Deniz stakeholders SOCAR, BP, Statoil and Total signed a number of agreements on cooperation, funding and ownership, providing Shah-Deniz investors with a 50% stake in this project if TAP is chosen. This should strengthen TAP's position in the bid in June 2013. Besides this, TAP submitted the Environmental and Social Impact Assessments for its pipeline sections to the officials in Italy, Greece and Albania. The respective decisions are to be expected in the next few months. Furthermore, on 13 February 2013 the countries involved in TAP, Albania, Greece and Italy, signed a tri-lateral intergovernmental agreement which reinforces their full political support for this project.

However, there are still powerful arguments against the TAP project. One is that the greater part of the gas transported via TAP is designated for the Italian energy market. Although the existing high gas prices in Italy are commercially attractive for the Shah-Deniz consortium, its gas market could be oversupplied in the future, following the realization of a range of LNG projects and the additional gas that will be delivered via the Russian-backed South Stream project. This, in turn, would cause the price of gas on the domestic market to fall and reduce the profits for the Shah-Deniz partners in the long-term. Other problems are related to the transport options in Europe: The gas connectors between the countries involved in this pipeline are under development, so it will take time and need additional investment before the gas transported via TAP will reach Western Europe and the west Balkan countries. Moreover, Greece's current financial problems are still unresolved, so there are no guarantees that the project will start in 2013 as planned. There are also concerns that TAP could subsequently be linked with the Gazprom pipeline network: The South Stream pipeline could broaden at the Austrian border and be connected by the TAP pipeline through Italian territory. This would be a worse-case scenario for Baku, in particular, which is trying to avoid any possible overlap with the Russian pipeline.

Nabucco West

The Nabucco West project envisages the construction of a pipeline from the Turkish–Bulgarian border to Austria through Bulgaria, Romania and Hungary. It will initially carry 10 bcm of Azerbaijani gas annually and later 16 bcm. If this pipeline is chosen as the European transport route for Shah-Deniz gas, the construction of the pipeline will start in mid-2013. The first delivery is expected to be in 2018. According to the representatives of the Nabucco consortium, the arguments in favour of the reconfigured Nabucco project are as follows: Firstly, Nabucco West would deliver gas to the Central European Gas Hub (CEGH) in Baumgarten, which is among the most important trading gas hubs in Central Europe. Consequently, the business opportunities for the Shah-Deniz shareholders would be greater than in Italy. Secondly, the Nabucco consortium would offer a transparent system of supply; whereas 50% of Nabucco's transportation capacity will go to Nabucco shareholders, the remaining 50% will be open to bids from external companies (so-called "third party access") under the same conditions and transparency. In contrast, the supply conditions of TAP are still unclear. Thirdly, with the help of the European Commission, the Nabucco project already has the necessary inter-governmental agreements and standardized European legal and regulatory regime.

Moreover, gas delivered through the Nabucco West pipeline will help countries along its route, namely Bulgaria, Romania and Hungary, to diversify their gas markets. For them, the opportunity to access new sources in the Caspian basin is not only a lucrative commercial interest, but also an important means of achieving national energy security. For example, the Bulgarian government has declared the Nabucco project to be a national priority. This means that the administrative procedures related to building permits, land exploration and other concerns will be streamlined for the Bulgarian portion of Nabucco. It would also be possible to connect Nabucco West to the west Balkan countries. The gas networks of the countries involved in the Nabucco project are, or soon will be, well interconnected.

In January 2013 the Nabucco shareholders and the Shah-Deniz project partners signed a cooperation agreement on sharing funding and ownership. This foresees joint funding for the development costs of Nabucco West and will grant the Shah-Deniz project partners an equality option of 50% of shares on the Nabucco pipeline project if it selects Nabucco West as its European transport route. In the opinion of Nabucco representatives, this deal would be an important prerequisite for the project to go ahead. Remarkably, the rival TAP consortium already signed a similar funding deal with the Shah-Deniz partners in 2012.

On the other hand, the announcement by the German company RWE in early December 2012 that it will leave the Nabucco project might have a negative impact on its further development. The RWE representatives argued that the planned pipeline in the Southern Corridor requires very high investments and the financial and economic risks could jeopardize its realisation. Moreover, the current economic crises in the EU could lead to a decrease in energy consumption and lower gas demand in Europe. For the Nabucco project, in turn, the withdrawal of RWE means the loss of an important investor and major player on the European and German energy markets. Currently the group's six shareholders—Germany's RWE, Austria's OMV, FGSZ from Hungary, Transgaz from Romania, Bulgarian Energy Holding (BEH) and Turkey's Botas—hold equal stakes of 16.7% in the Nabucco project. OMV has already announced that it is interested in buying RWE's stake. However, it has no plan to keep these shares, but to offer them to the other potential buyers, mainly for the purpose of securing the consortium's existence. A few Shah-Deniz shareholders, namely SOCAR, BP and Total, were mentioned as potential buyers. The negotiations between the sides are ongoing, but the final deal will depend on the decision of the Shah-Deniz consortium on the European route for its gas.

Although the Nabucco West pipeline now has a higher chance of being built than in the past, there are still concerns that the upcoming reorganization of the Nabucco shareholder structure caused by RWE's departure will prevent the completion of all necessarily work on the pipeline route before the deadline for the Shah-Deniz consortium's final decision in summer 2013. This includes collecting the design data, the development of the new construction plan and studying all the details from a commercial point of view. The possible delay could consequently weaken the Nabucco position compared to TAP and undermine its chance of being chosen.

To sum up, the evidence suggests that both TAP and Nabucco West have a good chance of being realized, albeit with a possible delay. The negotiations between the Shah-Deniz shareholders and representatives of the pipeline projects are still in progress. The Shah-Deniz consortium so far shows no clear sign of favouring either of the two pipelines. However, there can be no doubt that the SOCAR management will have the last word in the final decision on the transport route to Europe, even though BP is the main operator of the Shah-Deniz consortium and Azerbaijan's SOCAR only owns a 10% stake. This is because Azerbaijani gas is the main player in the European Southern Corridor project. Thus, it is strategically important for SOCAR to secure access to the TAP and Nabucco West pipelines and in this way take control over the transport of its gas to Europe.

The Southern Gas Corridor Project: Obstacles

Nonetheless, the main problems of Southern Corridor project are not the troubled pipeline projects, but the lack of gas to fill these pipelines in the future. Azerbaijan cannot guarantee more than 16 bcm per year in the long term. It hopes to get the first gas for the Shah-Deniz Stage 2 project at the end of 2017 and start gas exports to Europe after the project begins commercial development, presumably in the second quarter of 2018. According to the agreement on TANAP, 6 bcm of gas per year will be reserved for Turkey and only 10 bcm of gas per year will be transported to Europe. However, problems with the supply of Azerbaijani gas could arise because Turkey is a fast growing gas market in the Caspian Region: In 2012 it consumed over 43 bcm; this could increase to more than 70 bcm by 2030. The additional volume of gas needed to cover Turkey's rising demand would mean that the amount provided by the agreement on TANAP could go up. There are also concerns that the gas from the Shah-Deniz field could be redirected to Azerbaijan's domestic market because of the rising gas demand there.

Therefore, the further development of the Southern Corridor will depend on the ability of the EU to secure new gas suppliers in the region. However, the uncertainty about the development of the gas fields in Iraq rules out that country's participation in the Southern Corridor project in the short term. The EU sanctions on business with Iran exclude its possible participation in this project. Gas from Central Asia, including Turkmenistan and Kazakhstan, would be a solution. The EU is trying to persuade these countries to take part in this project, but here EU interests conflict with those of Russia and China. The future of the Southern Corridor project will depend on the EU's ability to deal with these two superpowers in the region.

Russia possesses long cultural and political ties to the regional elites in the Caspian. It has both economic leverage (for example, through financial support and common business links) as well as energy leverage, including the existing pipeline and grid infrastructure. What is certain is that Russia will not renounce its own position in the region and will use different methods of pressure on gas producer countries and the transit country Turkey. Azerbaijani politicians are concerned that the newly elected government in its neighbour Georgia will rebuild its relations with Russia and that this will in turn be used by the Kremlin to jeopardize Azerbaijan's energy and transportation projects. As Turkey is currently highly reliant on Russian gas, which accounts for about half of its gas demand, the Kremlin feels strong enough to put pressure on the Turkish politicians. For example, in reaction to the TANAP agreement between Azerbaijan and Turkey, Russia has threatened that after 2018, when the transport of Shah-Deniz gas via TANAP will start, Moscow will end its support to Turkey in tackling the country's growing gas demand, potentially leading to gas shortages. Thus, hard and soft constraints from Russia on Azerbaijan and Turkey might be forthcoming.

Furthermore, the deal signed between the Shah-Deniz main operator BP and the Kremlin-controlled national oil company Rosneft in October 2012, in which BP received a stake of 19.75% in Rosneft by selling half of its Russian joint venture TNK-BP to the Russian oil company, has raised strong concerns among the executives of Azerbaijan's SOCAR. Additionally, in November 2012 the Russian giant Gazprom declared that it has started negations with BP on the construction of Nord Stream's third leg, which might transport more then 18 bcm per year to the British market. Certainly, BP executives are doing everything to reassure Azerbaijan that the company is still loyal to its Caspian producer: For example, at the end of January 2013, BP announced that it intended to buy a 12% stake in the Azerbaijani–Turkish joint pipeline project TANAP. Nevertheless, the Azerbaijani officials are afraid that the Kremlin could use the common interests of British and Russian companies to indirectly influence BP's business in Azerbaijan in the Kremlin's favour.

Additionally, the questions concerning the Caspian Sea's unclear legal status undermine hopes for a quick resolution of the gas shortage. Kremlin officials have repeatedly stressed that Russia will not give its consent to the construction of the Trans-Caspian gas pipeline, which could meet the gas shortfall of the EU-backed pipelines, Nabucco and TAP, with additional gas from Turkmenistan. All five littoral states in the Caspian Basin, including Russia and Iran, which are not included in any of these projects, must consent to any Caspian projects. Otherwise, the projects would face legal obstacles. The Kremlin has claimed that the construction of the pipeline is very risky from an environmental point of view. Moreover, in the negotiations with the EU representatives on setting the provisions of the Third Energy Package for the South Stream project, the Russian authorities are actively arguing that their project is a better candidate for receiving a privileged position than Nabucco and TAP because it would deliver gas to EU and non-EU countries. By contrast, the Southern Corridor pipelines would primarily run through the territory of EU member states. The EU still has not made a decision, but the recent statements of EU authorities indicate that Brussels is not likely to accept Russian arguments that the South Stream project should also be the EU's highest strategic priority.

New struggles between Russia, Azerbaijan and the EU are to be expected regarding the EU energy market due to the current sale of Greece's state owned gas corporation DEPA and its network subsidiary, the Hellenic Gas Transmission System Operator (DESFA). Gazprom, which provides about 80% of Greece's gas, has offered a little less than 2 billion euros for DEPA. The sum is much higher than DEPA's real value. The other bidders, including Azerbaijan's SOCAR and two local companies, offered less than half the Russian bid. It is still unclear which of these companies the Greek government would prefer. Greece is committed to completing the sale by the end of March 2013. However, the situation has become very controversial. On the one hand, the Gazprom action has been strongly criticized by the European Commission and the US government, which are against Gazprom expansion onto the EU market. They believe that selling DEPA to Gazprom would make Greece Gazprom's energy hostage and the deal with SOCAR would be strategically more favourable. On the other hand, the Greek authorities and European creditors are interested in selling DEPA at the highest price. Greece also hopes that through the deal with Gazprom it can renegotiate the price it pays for Russian gas. It is difficult to predict which of the reasons—the political or the economic—will be decisive. If Gazprom is successful, its monopoly on the Greek gas supply network would strengthen and its direct access to the European market would be guaranteed. This could make Gazprom the main competitor in the EU gas projects in the Mediterranean region, where the EU and Israel are looking into plans for routes that would transport gas from Israeli fields to Europe through Greek territory.

The other obstacles to the successful realization of the Southern Corridor program are the controversial politics of the EU members Bulgaria and Hungary. On the one hand, they are participating in the EU backed pipeline projects and, on the other, are involved in the construction of the South Stream pipeline. Their high dependence on Russian gas and Gazprom's friendly business relations in these countries, for example the joint investment in energy infrastructure and access to the national energy companies, shape the effectiveness of the EU in the realization of its diversification strategy. Although the EU has successfully implemented regulations against the interruption of supply to the EU market, the Russian gas monopolist is still able to both dictate gas prices and offer gas discounts and favourable contract terms to Bulgaria and Hungary. What is more, South Stream gives the Eastern EU member countries the opportunity to diversify their national energy markets at lesser financial expense than the rival Nabucco project because Gazprom will cover the main costs for South Stream. Consequently, the rethink of national energy strategies by the affected countries in favour of a common EU position on energy security strategy is problematic as long as Russia maintains its position in these countries.

China, on the other hand, is trying to gain direct access to the natural resources of Caspian producers and is investing millions of dollars in the regional development of the oil and gas fields and new pipeline infrastructure there. Its first success in its ambitious energy strategy is the construction of the 1,833 km long Central Asia–China gas pipeline, which will connect Xinjiang with Kazakhstan, Uzbekistan and Turkmenistan, through which Turkmenistan is planning to supply China with 30 bcm. (This volume also includes gas exported to Russia and also gas booked for the Nabucco pipeline to fill this pipeline with the necessary gas volume). The first Lines A and B of the pipeline which connected China with Kazakhstani gas fields have already become operational. The next line C is currently under construction. It is estimated that gas supply will begin in January 2014 and achieve the total transmission capacity of 55 bcm of gas per year in 2015. Moreover, China's officials have closely observed the troubles around Nabucco and have tried to persuade the Azerbaijani government to export its gas to the Chinese market, but so far their efforts remain without success. Nonetheless, the Central Asia–China pipeline will significantly strengthen China's position vis-à-vis the EU and Russia in the struggle for resources in the Caspian.

With regard to EU politics in the Caspian Basin, EU officials have worked dynamically for the last few years to ensure the commercial viability of the Southern Corridor pipelines. However, the long negotiations between EU representatives and gas producer countries Azerbaijan and Turkmenistan were only partially successful. The EU has played an active role in the achievement of the Cooperation Agreement between the Nabucco shareholders and Shah-Deniz partners. But the proposed EU agreement on the Trans-Caspian gas pipeline, which would begin the construction of the physical infrastructure to supply Turkmen gas across the Caspian Sea, is still waiting for Turkmenistan's approval and it is not clear whether and when this will come. The main problem is that the EU still lacks a broader developmental concept for the South Caucasus region that comprises not only cooperation in the energy and security spheres but also in other areas such as the economy. There is, for instance, a lack of stimulatory financial mechanisms that could provide an alternative to the Russian and Chinese investment in the region. This absence undermines the position of the EU as a reliable partner in the implementation of the Caspian energy infrastructure projects.

Conclusion

The evidence suggests that the opening of the Southern Corridor carrying Azerbaijani gas is closer than it was a year ago. Both the Azerbaijani government and EU officials have worked hard to secure the best route for Caspian gas. Even though the 10 bcm of gas per year transported from Baku will represent a relatively small addition to EU gas consumption, which currently amounts to more than 500 bcm, it will push the Southern Corridor project ahead. Moreover, Azerbaijani gas will, as a source of non-Russian gas, increase the European gas capacity and strengthen energy networking, not only inside the Southern Corridor, but also on the EU market, connecting the EU member states with the countries in the western Balkans. It is also clear that gas delivered from the Caspian Basin to Europe will not be cheaper than Russian gas (about 40 billion US dollars of investment would be needed to bring Azeri gas to Europe). However, the price for Baku gas will certainly contribute to gas price competition and more transparency in the calculation of gas prices on the European market.

For Azerbaijan, the realization of the TANAP project and acquisition of a 50% stake in the Nabucco West or TAP projects will represent a foothold on the European gas market. It will ensure control over the supply from its territory to the EU border, which will strengthen its role as an important gas producer in the Caspian Basin. For Turkey, the participation of Turkish companies in the Southern Corridor projects will reinvigorate Turkey's position as an important supply hub in the Caspian region. This will not only help the country diversify its gas imports and reduce its dependence on Russian gas, but also ensure that it receives gas at a favourable price. Besides, the cooperation with Azerbaijan on TANAP will secure economic profits in the form of transit fees and direct investment into the development of the Turkish petroleum industry.

However, we can assume that the conflicts between Russia, the EU, Azerbaijan and Turkey in the Caspian Basin will continue in the future. Consequently, the EU's new additional "prevention mechanisms" against possible gas shortages should be developed because what happens in the Caspian Basin will have an impact on the whole of European supply in the future.

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Table 1: Gas pipeline projects in the Southern Corridor

Pipeline project	Route	Project partners	Planned Capacity [bcm/per year]	Estimated costs of construction	Start of construction
Nabucco West	From the Turkish-Bulgarian border, through Bulgaria, Romania and Hungary to Austria (1.300 km long)	Botas, RWE, Bulgargaz, MOL, Romanian Transgaz OMV	From 10 to 16 bcm	still not clear	If it is chosen by the Shah-Deniz consortium as the preferred European gas transportation route, construction will begin in 2013 Expected to be completed by 2018
South Stream	From Russia through Bulgaria, Serbia, Slovenia and Hungary to Italy and Greece, (3,700 km, with a 1,000 km offshore section)	Gazprom Eni, Électricité de France, Wintershall Bulgargaz, MOL, Srbijagas	63 bcm	US$ 39 billion	December 2012 Expected to be completed by 2015 (reaching full capacity in 2019)
Trans-Anatolian Pipeline (TANAP)	From the Georgian-Turkish border to thte Turkish-European border with two branches to Greece and Bulgaria (It is expected to be connected with Nabucco-West) (2.000 km long)	SOCAR, Botas	From 16 bcm to 31 bcm	US$10 billion	2014 Expected to be completed by 2017/18
Trans Adriatic Pipeline (TAP)	From Azerbaijan via Greece and Albania to Italy (520km long)	EGL Holding, E.ON Ruhrgas Statoil	from 10 to 20 bcm	€2.0 billion	If it is chosen by the Shah-Deniz consortium as the preferred European gas transportation route, construction will begin in 2013 Expected to be completed by 2017/18
Trans-Caspian Pipeline	From Turkmenistan to Azerbaijan, (the length is still not clear)	still not clear	30 bcm	US$5 billion	still not clear

Source: compiled by the author after bringing together information on gas pipeline projects based on the data of of www.newsbase.com