

The EU and Natural Gas from Central Asia: Is Nabucco the Best Option? (ARI)

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Theme: This ARI looks at the advantages, difficulties and uncertainties concerning the Nabucco gas pipeline, the project to transport energy from a number of Central Asian countries to the EU.

Summary: The measures implemented by Russia in the last few years have called into question the advisability of building the Nabucco gas pipeline. This ARI presents the advantages of the project, as well as the difficulties and uncertainties involved: competition from the South Stream pipeline, problems in accessing Turkmen gas, limitations on Azeri gas, the remote chances of gaining access to the abundant reserves of the Middle East, the risk of saturating the European market and, last but by no means least, the relentless ambiguity of European leaders vis-à-vis the lack of a common energy supply strategy.

Key words: Central Asia, natural gas, EU, gas pipelines, Nabucco, South Stream, Nord Stream.

Analysis:

Nabucco: An Alternative to Russian Gas

Nabucco is a consortium comprising the companies OMV (Austria), MOL (Hungary), Bulgargaz (Bulgaria), Transgaz (Romania), BOTAS (Turkey) and, more recently, RWE (Germany), which proposes to build a gas pipeline measuring 3,300 km and running from Austria through Hungary, Rumania and Bulgaria to link up in Erzurum, in eastern Turkey, with the South Caucasus pipeline. The South Caucasus or BTE pipeline, financed mainly with capital of British Petroleum and Statoil, continues to Baku via Tbilisi. Accordingly, if Nabucco is built, Central European countries would have a southern route to import gas from the Caspian region without relying on Russia. The Turkey-Greece branch would also supply Greece and, from there, could link up through to Italy.

The main reason for building this gas pipeline is Central-Eastern Europe's dual dependence on the one hand on Russian gas and on the other on the countries through which it is transported. Dependence on Russian gas is total in Finland, Latvia, Lithuania, Slovakia and Bulgaria, countries which, having almost no production of their own, receive 100% of imports from Russia. For Austria, the Czech Republic, Hungary and Greece, gas purchases from Russia account for more than 75% of imports; in Poland and Romania

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these purchases account for 60% of imports and in Slovenia the figure is 50%. Overall, the EU-27 receives 36% of its total gas imports from Russia. This figure increases to 43% if we exclude intra-EU purchases and to almost 60% if we only take into account imports from the European Economic Area (EEA).

At the same time, dependence upon Russian gas leads to a dependence upon the areas through which the gas must be transported, which is considerably more problematic. At present almost all Russian gas imported into the EU must still pass through Belarus and Ukraine. Only Finland and the Baltic republics, as well as Turkey, have their own direct access to Russia, the latter via the Bluestream gas pipeline, opened in 2002. The risks of this transit dependence became painfully evident in January 2006, when Russia first cut off European gas flows passing through Ukrainian territory. Although the crisis was eventually resolved in a matter of days, the dispute left confidence in Russia's supply reliability deeply scarred. The repetition of the crisis in 2009, with much more serious consequences for European economies, has underpinned the idea that the squabbling between former Soviet republics poses a real risk for energy security in the EU.

The Russian Alternative to Nabucco: South Stream

However, Russia does not wish to lose its (quasi) monopolistic position in the Central European market, nor its monopsony with respect to the countries of Central Asia. That is why it has refused (most recently at the Khabarovsk Summit) to ratify the Energy Charter that would authorise European companies to make use of the Russian transport networks, and, therefore, to buy Central Asian gas directly, without depending on Gazprom as an intermediary. This also explains its response to the construction of Nabucco, which, like the Energy Charter, could threaten Russia's 'tutelage' over Caspian Sea gas.

Russia's response to the 'threat' of the Nabucco pipeline was the South Stream pipeline, unveiled in June 2007. This gas pipeline project is set to cross the Black Sea to enter the EU via Bulgaria without relying on Ukraine. It is a risky project, because it is more costly and technically more complex than Nabucco, and because for Russia it implies an excessive overlap of communication routes with Europe, since the major Brotherhood gas pipeline, which crosses Ukraine, reaches the same markets as the South Stream. However, the launch in December 2006 of the Baku-Tbilisi-Erzurum (BTE) section, strongly backed by US diplomacy, rendered the construction of the Nabucco more likely, finally pushing Moscow to offer this alternative, which directly links Russia with the south-eastern European countries and, through them, with Italy, the leading EU gas importer after Germany.

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Map 1. Main European gas pipelines



Source: *Petroleum Economist*.

This decision has called into question the need for Nabucco as a guarantor of energy security in the region. Obviously, the construction of South Stream would not reduce Russia's predominance in imports to Central European countries, and nor would it put an end to the disputes between Russia and Ukraine, but it would prevent these from hampering EU member countries. Consequently, the Russian-Italian gas pipeline (ENI is involved in building it) would offer a 'free' solution to the transit problem, which is the real Gordian knot of European energy insecurity in respect of external natural gas supplies.

Safeguarding Turkmen Gas Supplies

The Kremlin's strategy also entails entering into long-term agreements with Kazakhstan and Turkmenistan to supply natural gas. These agreements have the 'advantage' of calling into question the profitability of Nabucco, for two reasons. On the one hand, if Nabucco does not find additional supply sources aside from those currently planned it could face a problem of excess capacity. On the other hand, if Russia is able to guarantee the entry into Europe of most Central Asian gas through South Stream, Central European demand could become saturated, rendering the construction of Nabucco not unnecessary (since it would reduce the seller's market power), but certainly economically risky.

Insecurity with respect to supply sources is a problem which has plagued Nabucco since its origin, because, although it has always been oriented towards the Caspian region, it has never specified countries or entered into formal agreements. This, in principle, seems indispensable given the massive fixed costs involved in this kind of investment. However, its developers were confident that the gateways to Central Asian gas would gradually open as the southern connection with European markets materialised, because the

governments of Kazakhstan and, in particular, Turkmenistan, have always expressed an interest in seeking alternatives which would enable them to break free of Russian control of their export routes.

This quest intensified after 1997, when the Turkmen government decided to halt its sales to Ukraine, aggrieved by the abusive practices of Itera, the Russian company that was acting as intermediary. It was then that the negotiations began for the construction of the Baku-Tbilisi-Erzurum (BTE) pipeline, which included the possibility of an undersea link to Turkmenbashi, on the other side of the Caspian Sea. Faced with this threat, in 2003 Russia managed to secure an agreement to resume Turkmen exports to Ukraine, but in 2005 these sales were again halted as the Turkmen government believed that its sale price to Russia was too low compared with the price Europeans' were paying for Russian gas.

This latest event triggered the construction of the BTE or South Caucasus pipeline, whose completion in December 2006 gave what appeared to be a definitive boost for development of the Nabucco project. However, in 2007, Russia reached another agreement with Kazakhstan and later with Turkmenistan, coinciding with the unveiling of the South Stream pipeline project and the progress in talks between Berdymukhamedov and the Chinese government regarding construction of a gas pipeline with a capacity to transport 30 billion cubic metres (bcm) to the Asian market.

These latest agreements appear to respond finally to Turkmen and Kazakh interests, because they ensure the sale of gas at much higher prices than before, and are accompanied by the construction of another gas pipeline which will run parallel to the eastern shore of the Caspian Sea towards Russia. In exchange, Kazakhstan would maintain its exports to Russia of around 10 bcm and Turkmenistan undertook to increase its exports to 70-80 bcm in 2009, which, in view of the productive possibilities of these countries makes Gazprom almost the exclusive customer for Central Asian gas.

Under these circumstances, the construction of the Trans-Caspian pipeline now looks like a very far-off option, aside from the fact that opposition from Russians and Iranians, who allege environmental and territorial motives, already made it quite an improbable proposition from the outset. Consequently, the Europeans' have been all but elbowed out of the race to obtain gas from east of the Caspian Sea. However, access to these reserves was what originally justified the construction of Nabucco, in the understanding that only these reserves would be able to ensure sufficiently high natural gas supply to guarantee that the project would be profitable.

Limits of Azeri Gas and Search for Alternatives

At present, the profitability of the Nabucco project appears to hinge entirely on the production capacity of the Azeri oil field of Shah Deniz, in which BP (25%) and StatoilHydro (25%), among others, hold ownership interests and whose operation cannot begin until 2013. For now, there is a commitment that from that date on this offshore field will supply Nabucco with 8 bcm of natural gas, representing one-tenth of the current imports of Turkey and south-eastern Europe. Furthermore, the pipeline is designed to have a pumping capacity of 31 bcm of gas per annum. If the supply increased to these levels, Nabucco could cover more than one-third of the imports to these countries. However, this increase is uncertain, not only because it is based on a field that is not yet

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on stream, but also because its production will have to be shared between various destinations.

If the supply turns out to be less than 20 bcm it will be difficult to ensure the project's viability, although it is true that these imports, while not hugely abundant, would help diversify the sources of supply and mitigate the dependence on transit through Ukraine. In contrast, the security of transport through the south would not be fully guaranteed, especially with regard to the obligatory transit through Georgia. For its part, Turkey is a reliable partner, but naturally transit of the Nabucco pipeline through its territory would afford the Turkish government considerable negotiating clout when it comes to its aim of joining the EU, which is not to the liking of all current EU members. The recent tension between the Turks and the French in this connection show just how significant the problem is.

Accordingly, if Nabucco is destined to only be fed by the Shah Deniz field, one might rightly ask whether the economic risks (and political costs) posed do not outweigh the benefits that might be derived, especially considering that the Azeri gas could also flow to Europe without too much difficulty via its natural exit route, namely the northern Caucasus, to link up with the South Stream pipeline. The companies involved in exploiting the Shah Deniz reserves, which are also the companies responsible for building the BTE, are naturally interested in extending the section that currently ends at Erzurum into Europe, as are those who see it as particularly important that the geo-strategic positions of Turkey, Georgia and Azerbaijan be strengthened. However, for the companies that have contributed capital to build Nabucco and, even more, for the EU as a whole, the project may need to be more robustly justified.

This justification might involve redefining Nabucco as a project aimed at tapping various supply sources. In this connection, its developers suggest that the gas pipeline might offer the possibility of forking off towards the Middle East and at the same time linking up with Egypt. However, Egypt consumes almost all the gas it produces and almost all of its exports reach Europe via the Mediterranean, while the connection with Iran, which currently barely exports natural gas, would seem highly complicated for political reasons. Lastly, Qatari reserves are too far away, and the country exports mainly liquefied gas to Asian markets, so that in order to gain better access to Qatari gas (and perhaps also to that of Iran) the most reasonable option appears to be, as with Egyptian gas, transport by sea rather than by land.

Uncertainty about Demand

The other problem facing Nabucco is not one of supply, but demand. If, pursuant to the agreements with Russia, Central Asian gas finally enters Europe via the South Stream pipeline, demand for imports in Central European countries could be met by 'Russian' exports. In this case, Nabucco could become a project without a beginning or end, in other words, with no suppliers or markets.

Those who defend Nabucco insist that this will not happen. Let us look at the projections. In the next decade, Russian natural gas production may continue to increase, but at a moderate pace, which, coupled with the growth of its own domestic demand would leave sufficient but modest scope for growth in exports. According to my own estimates, exports

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could grow at a rate of between 0.5% and 3.5%, which in the best-case scenario would enable the 128 bcm exported to Europe in 2007 to increase to 220 bcm in 2020.¹

This means that Russian exports could hardly grow at the same rate as gas demand in European countries. In the next few decades, economic growth will push European energy demand upwards, even though the ratios of consumption vs. GDP continue to fall. As part of this general trend, the increase in demand for gas will be especially sharp, since it is expected to gain in weighting on the European energy balance, from the 23% it currently accounts for to 32% in 2020.

At the same time, production by the main domestic producers (UK, the Netherlands and Denmark) will decline, and Norway's will only be able to inch upwards. All of this means that the EU's dependence on imports will tend to rise and that the contribution of both the EU and Norway to these imports will fall to below 30%, so that more than 70% of imports (approximately half of total consumption) will have to come from countries that do not belong to the European Economic Area.

In short, according to various estimates, demand for gas in the EU in 2020 will range between 600 bcm and 680 bcm, depending mainly on the degree of compliance with the targets set by the 20-20-20 Directive. Assuming that internal production falls from 170 bcm to 130 bcm and that in Norway it holds steady at around 80 bcm, supply from countries outside the EEA would have to be between 475 bcm and 400 bcm. According to these projections, Russia's involvement in EU imports would only stay close to current levels in the best-case scenario, but it could be drastically reduced if Russian exports stay close to current levels and demand for gas in the EU imported from the outside pushes above 450 bcm.

However, the scale of this 'shortfall' could be significantly reduced if continuity is achieved in import flows from Central Asia and/or if there is a significant drop in demand by CIS nations, which currently absorb 25% of Russian exports. In view of the latest events, these two factors look quite likely, and are indeed interlinked. The recent pressure on Ukraine (which will increase the greater the number of transit alternatives) to force up gas prices to bring them into line with those in force in the EU market gives Russia more scope to accept a hike in the price of the gas it purchases from Turkmenistan and Kazakhstan. This price hike will make it easier for Russia to guarantee that the supply from central Asia will be above 60 bcm, which would be enough to meet all the Russian exports to the CIS, which will probably fall as the purchase price rises. This would 'free up' a significant amount of gas, which could be used mainly in other European markets.

Consequently, it is not unlikely that the 'Russian' exports –including Central Asian re-exports– might increase at the same pace as EU demand for imported gas, in which case the South Stream and Nabucco pipelines would come into direct competition with each other for the same markets. This competition might spell good news for consumers, but bad news for the Nabucco project. If, on the other hand, Nabucco's developers, who have a dominant position in gas supply in their various national markets, force the purchase of

¹ R. Fernández (2009), 'Russian Gas Exports Have Potential to Grow Through 2020', *Energy Policy*, forthcoming publication.

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gas from this pipeline, the result could be payment to Russia of the contracted amounts not consumed pursuant to the take-or-pay contracts.

Public Goods and National Interests

In short, like all projects to build major gas pipelines, Nabucco incurs very high fixed costs and raises major uncertainties, and this generates doubts as to whether it is advisable. Precisely for this reason, public support, shared by all EU members, is indispensable considering that these same uncertainties might hamper the execution of a project that is necessary to guarantee competition and/or energy security in the continent.

However, the evidence that this kind of infrastructure is a public good does not automatically imply unconditional support for the Nabucco project. This is merely the starting point from which the opportunities afforded by the project should be assessed. In principle, the aim of opening up Nabucco to new supply sources is unrealistic and the opportunity cost of pumping (only) Azeri gas could prove too high, but in any case it is vital to closely analyse the extent to which these objectives might be attained if the project were given credible backing by European leaders. This support would have to be not just economic, but political, taking into account that if it were sufficiently determined then the South Stream project might be the one to withdraw from the running. However, such support is not easy to obtain in a context in which national interests prevail over joint EU strategies and where none of the major nations has much to gain if the project does go ahead.

In this regard, it is worth recalling that BP is one of the companies most interested in developing Nabucco, but the fact is that the UK, like Ireland, the Netherlands, Belgium, Denmark and Sweden, does not depend on non-European supply sources. France's Total is also involved in both the exploitation of the Shah Deniz field and the construction of the BTE, and it also wants to enter the Nabucco consortium (if Turkey allows it), but France has its supply sources distributed between Africa, Russia and Europe. Meanwhile, Spain is substantially dependent on foreign supply, but its supply strategy is oriented to the south, where it has a number of suppliers as it combines imports via gas pipelines with maritime transport.

Lastly, Germany and Italy have made quite a clear approach to Russia, consisting in generating sufficiently solid synergies and interdependencies to ensure that Russian supplies are stable and in line with their energy requirements. Meanwhile, the Russian government has favoured this policy because Germans and Italians are its main clients, but also because it is well aware that without the support of these two major players the manoeuvring room of the smaller players is considerably more limited. Accordingly, consortia have been set up (always with a majority of Russian capital) to develop upstream investments and in return the formation of joint ventures enabling Gazprom to enter the downstream businesses of these countries has been facilitated. Lastly, in the framework of this cooperative approach, the co-financing of the Nord Stream pipeline ensures the transport of Russian gas to the German market via the Baltic Sea without having to depend on other countries, while the South Stream pipeline, which will run to Italy, involves Italian oil and gas giant ENI.

Conclusion: Under these circumstances, the European alternative is being undermined in favour of Russia's strategy of ensuring a predominant presence in the major European markets and discouraging the search for alternatives that sidestep its territory and

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threaten its monopolistic position in small European markets and its monopsonistic position in Central Asia. This option, insofar as it transfers the cost of ensuring European supply to the exporter, is not necessarily a bad one. However, if this is the option eventually chosen by the EU, it must approach its relations with Russia in a manner consequent with this objective. If, in contrast, the EU opts for the Nabucco project, it should do so in a much more determined fashion. The ambiguity that results from the lack of a common strategy is the worst possible option.

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