

THE SOUTHERN CORRIDOR: BAKU-TBILISI-CEYHAN'S GAS LEGACY

A decade or so ago, the questions of how to get the bulk of Azerbaijan's oil and gas to Western markets led to historic decisions to build both the Baku-Tbilisi-Ceyhan (BTC) and the Baku-Tbilisi-Erzurum (BTE) export pipelines. The need for a dedicated line to carry Azerbaijani gas across Turkey to Southern and Central European markets has been consistently underlined by SOCAR and European counterparts alike. Now the partners developing Azerbaijan's giant Shah Deniz gasfield are moving inexorably towards implementation of a massive production project, TANAP. There are still unsettled issues, however, such as which pipeline will carry the gas from Turkey onwards to Europe, and how the BTE segment will be upgraded.

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decade or so ago, the questions of how to get the bulk of Azerbaijan's oil and gas to Western markets led to historic decisions to build both the Baku-Tbilisi-Ceyhan (BTC) and the Baku-Tbilisi-Erzurum (BTE) export pipelines. Equally important, construction of the two lines was to be coordinated in order to save costs. Indeed, it seems strange to recall now, there was even a time when BP, the senior foreign partner involved in both developing and exporting Azerbaijani oil and gas resources, considered it might be worthwhile to complete the gasline first.

Today, both lines are operational. But while the BTC oil pipeline is already one of the world's biggest and most successful mega-pipeline projects, constructed at a cost of some 3.9 billion dollars and routinely carrying close to 800,000 barrels of oil a day (or 40 million tons a year) for 1,768 kilometers from the Caspian Sea to the Mediterranean, the BTE gas-line remains its smaller brother. At present, BTE carries just over five to six billion cubic meters of gas a year (5-6 bcm/y) along its 918 km system. That represents the equivalent of around 4.5 – 5.4 million tons of oil a year, or roughly one-eighth of the energy carried by BTC.

In sum BTE is a line that has yet to fulfill its potential. But that is about to change. Now that the partners developing Azerbaijan's giant Shah Deniz gasfield are moving inexorably towards implementation of the massive 20 billion euros "Stage Two" project (SD2), intended to take production at the field to around 25 bcm/y, there's a need for export pipelines. And that means the expansion of the BTE system – and its extension onwards across Turkey and into southern Europe with a view to transporting Azerbaijani gas from around 2018 onwards to either Baumgarten in Austria or to Italy.

But it is still worth looking at the symbiotic relationship between BTC and BTE. It is not simply that BTC has supplied BTE with a right-of-way extending deep into Turkey, it is also that whatever expansions or replacements are made to the BTE system will now be largely financed from the proceeds of revenues made available to Azerbaijan and the Shah Deniz companies as a result of the success achieved by BTC in carrying Azerbaijani oil to market.

It's hard to recall that when the projects for a main export pipeline for Azerbaijani oil and for carrying Shah Deniz gas were under consideration in the late 1990s and early 2000s, that one of the key criteria was the need to cut costs. Turkey broke the deadlock on BTC in November 2000 with its offer to build the all-important Turkish section of the line for just 1.4 billion dollars. At that stage, the partners wanted to limit their investments: they were prepared to secure financing for the Azerbaijani and Georgian sections of BTC on a standard debt-equity basis, because, in effect, they could view the line as being essentially the same as any other line that carried

oil from a major oilfield to a terminal, capable of accessing international markets. True, the line was much longer than a classic oilfield to terminal pipeline (although Saudi Arabia does have one such line that runs for almost 700 km) and, equally true, BTC was unusual in that it crossed various international boundaries. But either BTC or something similar had to be built for, without a major pipeline, the value of the stakes that the shareholders had in Azerbaijan's Azeri-Chirag-Guneshli mega-oilfield complex would have been minimal. It wasn't quite a case of no pipeline, no exports; but it was a case of no pipeline, limited production, limited exports – and very limited cash returns.

So, under these circumstances, why spend too much money on a gas pipeline? Gas pipelines are more expensive than oil pipelines in that a gas pipeline, constructed to much the same diameter and length as an oil pipeline, will, by and large, only carry a little more than half the calorific energy content of an oil pipeline. So when the Shah Deniz partners paid out an estimated 1.3 billion dollars for Azerbaijan's first post-Soviet gas export line, constructed between 2003 and 2006, this was a lot of money.

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At this stage, the Shah Deniz partners faced a bigger problem. As they began to understand just how big the field was, and that its reserve base was at least 1.4 trillion cubic meters (with some Azerbaijani officials calling it a two tcm field), they knew that they would have to expand the gas export pipeline system across Azerbaijan and Georgia to Turkey. But with pipeline costs being so high, they were also eager to encourage others to come up with the kind of pipeline projects that would enable increased Shah Deniz gas exports to access markets both in and beyond Turkey.

There were several such projects available. Perhaps the best known was –and is– Nabucco, which was predicated on carrying gas not only from Azerbaijan, but from other sources as well, notably northern Iraq, to the European gas hub at Baumgarten in Austria *via* Turkey, Bulgaria, Romania and Hungary. An international company with the national gas companies of all five transit states –and, later, Germany's RWE– was established and the concept developed as a merchants' pipeline. In other words, contrary to the norm at this time, a major gasline to market would not be built primarily by the country or companies producing the gas, but by intermediaries, who would have to develop a system that would ensure they could

recover both the capital and operational costs of what would be an enormous project through the application of tariffs that were still sufficiently low to encourage both producers and consumers to use their line.

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Then there was the Interconnector Turkey-Greece-Italy (ITGI) system. This was not so much a single project as a collection of elements, consisting of an interconnector between Turkey and Greece, which opened in late 2007; a planned extension across Greece, a connection to Italy, and, as a more recent addition, a connection from Greece to Bulgaria. The ITGI system had its origins in European Union concerns about the need for emergency two-way flows. The importance of this system lay in the word "interconnector". While gas might routinely be expected to flow one-way

through the line –in this case from Turkey through Greece to Italy or Bulgaria– the point was that in extremis it could be used in the other direction so that if there were to be a gas shortage in the Balkans, if necessary the Balkans –and Turkey– could be supplied with North African gas initially landed in Italy. So while it was always true that for its long term viability, the different parts of the ITGI system needed a commercial justification (which was provided for the first section with the delivery of Azerbaijani gas from Turkey to Greece), the system could also justify access to discretionary European funds for feasibility studies and project development from the European Union because of their strategic significance.

The third contender for carrying Azerbaijani gas to Europe at this stage, the Trans-Adriatic Pipeline (TAP) project, had no requirement for EU funds. It was backed by two of the wealthiest European energy companies, Switzerland's EGL and Norway's Statoil, and could well afford not only the costs of such initial items as feasibility studies and environmental impact assessments but also the capital requirements for actual construction. This did not, however, play a crucial role in the Shah Deniz consortium's choice of TAP over ITGI as the preferred option for reaching the Italian market; it was largely a result of ITGI's inability to provide the full scalability –the ability to increase the size of the pipeline to meet growing throughput requirement– that proved to be a key element in the Shah Deniz choice.

But to secure real commercial viability, both the Greece-Italy component of ITGI and the Nabucco system required the development of a commercial model that

was essentially untried in Europe: The provision of long distance pipelines by middlemen who would have to convince producers and consumers alike of the need to use their project – and of the ability of their project to provide for their needs on terms that would yield a profit for everyone involved. This merchants' model was commonplace in North America, but rare in Europe, where there were no known cases of major pipelines across multiple jurisdictions being built by intermediaries, even if the intermediaries were the gas companies of the countries which the line would pass through.

What changed all this was BTC. The oil pipeline was big brother and once big brother swung into action, it produced results. The first oil reached Ceyhan late at night on 28 May 2006, and was loaded onto a tanker called the British Hawthorn a few days later. It was the start of serious moneymaking for Azerbaijan's oil producers and, since its oil producers were largely the same as its gas producers, it changed the equation for gas as well. Moreover, not only did Azerbaijani production and exports rise rapidly with the opening of the line and the attendant development of the giant ACG field, but this happened against a background of rising oil prices.

Quite literally, billions of dollars began to flow into Azerbaijan's coffers. By 1 July 2012, the State Oil Fund of Azerbaijan (SOFAZ) had handled no less than 52.8 billion dollars in energy revenues during its 13-year existence, although only in the last couple of years was it able to hold on to most of these revenues, with its earlier receipts essentially going straight to the government to fund the national budget. So even though Azerbaijani oil production has not risen as far or as fast as expected, the government and its principal company, the State Oil Company of the Azerbaijani Republic, (SOCAR) now has access to prospective investment capital in a way that would have been almost unimaginable just a few years earlier.

The change in Azerbaijan's perception of its wealth can be dated to around 2009 and the beginning of the end of the long-draw-out negotiations concerning both new gas supplies to and through Turkey from the second stage of the Shah Deniz project, and the sums to be paid by Turkey for deliveries from the original first stage. While much of the focus was on the ability of Baku to secure something closer to commercial prices from Ankara for future gas deliveries, a key element was Baku's own interest in investing in downstream projects in Turkey.

There was little point in Baku building up its own refining and petrochemical facilities within Azerbaijan –other than to supply the domestic market of course– but there was tremendous potential for investments in export-oriented projects in Turkey that could use Azerbaijani supplied oil and gas as feedstock. So in March 2012, when SOCAR became the actual operator of Turkey's petrochemical company, PETKİM, by purchasing an additional ten percent stake on top of its existing 51 percent

majority shareholding, it announced plans both to construct a new 5.5 billion dollars refinery at the existing PETKİM petrochemical complex at Aliağa on the Aegean, and also to upgrade petrochemical facilities and create a new world class industrial port at the complex. All told, SOCAR plans to invest no less than 17 billion dollars in Turkey between 2012 and 2017.

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So what has all this to do with gas and the Southern Corridor? Well it is not only that gas piped through Southern Corridor pipelines would be able to fuel the Aliağa complex, it is that Azerbaijan can now afford to take a substantial stake –with all the financial implications involved– in the actual pipeline to carry the gas both to the new petrochemical complex and,

equally importantly, to the new European export markets that Baku and the Shah Deniz partners are seeking to access. Although most media reports suggest the all-important first stage of this pipeline, capable of carrying 16 bcm/y of Azerbaijani gas to western Turkey, is costed at around five-six billion dollars, few would be surprised if the eventual cost amounted to something closer to ten billion dollars.

And then there's the question of the timing of Azerbaijan's new found wealth. The first few years of BTC saw considerable oil sales revenues used to pay back the immense financial costs entailed both in developing the ten billion dollars Azeri-Chirag-Guneshli field and the eventual 3.95 billion dollars cost of constructing the BTC itself. Once Azerbaijan's own routine budgetary needs were taken into account (including the allocation of large sums towards security in light of the ongoing Nagorno-Karabakh dispute), there was not much money left over for insertion into SOFAZ. But in 2010, SOFAZ received its first massive revenues; in 2011 it secured 19.1 billion dollars; and by 1 July 2012, it contained some 32.67 billion dollars, and was anticipating that by the end of the year it would possess around 40 billion dollars.

The fund's mandate includes investment in major projects, including infrastructure. This does not automatically mean that SOFAZ resources will be used to finance TANAP or any other international pipeline project, although that is not ruled out. What it does mean is that it frees up funds in the Azerbaijani state budget to finance such projects.

In sum, BTC has given Azerbaijan the ability to develop its own gas export pipelines. This means that while TANAP alone may cost anything up to ten billion dollars, it will be SOCAR, or SOCAR and its fellow producers in the Shah Deniz consortium, who are in control of the line. Under a BOTAS-operated pipeline, for

example, Baku would always be concerned that no matter how strong Turkish assurances were of safeguarding throughput from the Georgian border to Turkey's borders with Greece or Bulgaria, there would always be concern that in a crisis, such as the harsh winter conditions of early 2012, gas intended for delivery to customers beyond Turkey would be siphoned off to serve customers within Turkey. At the same time, SOCAR's preparedness to take a majority stake in TANAP, essentially ensuring the bulk of finance for the project, makes it easier for SOCAR's Shah Deniz partners to join in the venture.

"The TANAP project is of interest for the entire region, and therefore we support it," BP country manager for Turkey Bud Fackrell told Azerbaijan's "Trend News Agency" in August. "BP received SOCAR's offer to purchase part of its share. We intend to purchase a stake in this project."¹

The concept underpinning Nabucco, that of a dedicated line, in which the owners would control both intake and offtake and thus be able to ensure contractual commitments were met, was designed precisely to avoid such a problem, and that was one major reason why Nabucco enjoyed such strong European support. It was also the reason why, at the height of the supposed contest between Nabucco, ITGI, and TAP for the right to carry SD2 gas to market, SOCAR officials would stress repeatedly that what their company wanted was a dedicated pipeline.

TANAP fulfills this key condition and, now that Azerbaijan can afford to build the line itself, that is why it has, *de facto* if not *de jure*, been chosen as the system for carrying Azerbaijani gas to market across Turkey.

But BTC's riches have delivered a further bequest to Shah Deniz. SOCAR and its Shah Deniz partners have stressed repeatedly in recent months that they will take stakes in whichever pipeline is chosen to carry Shah Deniz gas from Turkey to markets in Southern or Central Europe. BP, the operator at Shah Deniz, set the ball rolling when Alasdair Cook said on 27 June, that BP would take what he termed a "substantial" stake in the TAP project. "BP has completed the negotiation in principle to join the TAP pipeline and to help provide funding in the short term," he said. "We will put our money where our mouth is, we will demonstrate that we are very serious about the success of TAP."²

This would not be the first example of a Shah Deniz company participating in one of the final delivery pipelines; that honor goes to Statoil, which joined the TAP group in February 2008. But at the time, Statoil's stake in the venture was of a somewhat

1 *Trend News Agency*, 17 August 2012, <http://en.trend.az/capital/energy/2056944.html>

2 *The Wall Street Journal*, 27 June 2012, <http://online.wsj.com/article/SB10001424052702303649504577492231449786036.html>. The interview for Dow Jones & The Wall Street Journal singles out Cook's own use of the word "substantial."

different character. A key aim at that time was simply to ensure that the Nabucco partners realized they would have to develop their project under genuinely competitive conditions.

Subsequently, there were a whole lot of further declarations of intent concerning potential investment by Shah Deniz partners in prospective pipeline systems required to deliver Azerbaijani gas to European markets. “We have told both Nabucco West and Trans-Adriatic Pipeline partners that we will buy a large stake from the pipeline project we choose,” SOCAR President Rovnag Abdullayev said on 4 July. “It will be so large a stake that it will enable us to make decisions.”³ As to which of these options will be chosen for final delivery of SD2 gas to Europe, that decision is not scheduled to be taken until the middle of next year.

Then on 9 August, when the Shah Deniz consortium signed an agreement to help fund TAP project development –with both sides accepting that now TAP was working with the consortium on a preferred contractor basis in order to provide the consortium with an option for exports, further development costs should be shared–TAP announced that “the agreement also includes an option for the Shah Deniz shareholders to take up to 50 percent equity in TAP.”⁴

The experiment with developing a large-scale trans-national merchants’ pipeline is not quite over. Nabucco West remains a viable contender for the delivery of Azerbaijani gas to European customers, and Baumgarten makes good sense as a major destination. But, as Abdullayev has noted, should Nabucco West be chosen for the final leg, then almost certainly the leading Shah Deniz shareholders will become shareholders in the Nabucco West project.

In the meantime, there is the question of just how BTE itself will be upgraded. The key point here is that BTE is best regarded as a system rather than a single pipeline. In reality, BTE is a form of shorthand for two separate pipes: one is the South Caucasus Pipeline, built and owned between 2004 and 2006 by most of the Shah Deniz partners, which runs for 693 km across Azerbaijan and Georgia to Georgia’s border with Turkey; the second is a 218 km line, built and operated by Turkey’s BOTAŞ, which runs from the Georgian-Turkish border to Horasan, near Erzurum, where it connects with Turkey’s main east-west trunkline. As presently configured, the two lines are capable of carrying around eight-nine bcm/y. Both lines are 42-inch which enables them to carry a lot more gas than at present simply by adding extra compressor stations. Under a rule-of-thumb calculation, it’s a commercial proposition

3 *Bloomberg*, 4 July 2012, <http://mobile.bloomberg.com/news/2012-07-04/shah-deniz-partners-to-buy-large-stake-in-pipeline-to-europe>

4 “Shah Deniz Partners Bp, Socar And Total Commit To Funding For Tap”, *Trans Adriatic Pipeline Website*, 9 August 2012, <http://www.trans-adriatic-pipeline.com/news/news/detail-view/article/330/>

to rely on compression alone to enable a 42-inch pipe to carry around 20 bcm/y. But, largely with a view to possible further Azerbaijani gas exports after SD-2 comes on line, the SCP partners have already announced that a second pipe will be laid alongside the first for the SCP's entire 443-km crossing of Azerbaijan and for a few kilometers inside Georgia as well. Extra compression will be used to ensure an increase in capacity through the existing single pipe through the mountains from the Georgian plain east of Tbilisi to the Turkish border.

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In Turkey, however, it is not quite so clear what will happen. Quite possibly the line from the Turkish border to Horasan will become the first section of the TANAP line. Alternatively, the existing line may simply be reversed, and used to carry gas to northwestern Turkey from a take-off point on the main system at Horasan/Erzurum. Far more significant is the fact that BP and the other foreign partners engaged in developing Shah Deniz can now take direct stakes in TANAP and whatever lines are built to enable gas flowing through TANAP to reach markets further afield secure in the knowledge that the most important player of all, SOCAR, will be doing the same. And, just as BP has already said it is to take a stake in TAP, so have other Shah Deniz participants, notably SOCAR, said that they too will take a stake in whichever pipeline is finally chosen to carry Azerbaijani gas to Europe. For its part, the Nabucco International Pipeline Company has said it would welcome new partners so that, if Nabucco West is chosen over TAP in the final decision, it would be reasonable to expect the participation of SOCAR and other Shah Deniz partners in that line.

What all this means is that no longer will these projects designed to extend the reach of the SCP have to be built as merchants' pipelines or by middlemen because upstream partners wanted to limit their exposure. Instead they will be developed in a far more classic manner, by upstream partners almost certainly working in partnership with downstream offtakers. In effect, by building TANAP and by taking stakes in either TAP or Nabucco West, the producers at Shah Deniz will ensure that their ability to operate an effective export system for Azerbaijan extends all the way to the heart of Europe.

And this is due, in very great part, to the continuing beneficence of BTC.