

Introductory Remarks

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Pipelines are very, very, very expensive projects. That means that while there may be a host of plans for developing pipelines – accompanied by a welter of ‘deals’, ‘agreements’ and ‘memoranda of understanding’ – a degree of scepticism is justified until the point at which final investment decisions (FIDs) are taken and actual contracts are signed.

In the case of the Southern Gas Corridor, the conditions were right in terms of prospective demand and adequate price levels for the parties involved to take the FIDs and start to award contracts for a set of interlinked projects that, at the time, were costed at around \$45bn. If those decisions had to be taken today then, even though the costs have come down to around \$40 bn, it is highly unlikely they would be taken.

But the FIDs were taken and the various projects are all being implemented. Almost all the work on the upstream side, which is the expansion of Azerbaijan’s giant Shah Deniz field to produce an extra 16 bcm/y, is complete. So is work on the expansion of the pipeline system to enable this gas to reach Turkey. The 1,850-km Trans-Anatolian Pipeline (TANAP) across Turkey is almost completed, and there is no reason to doubt that around the end of June or the beginning of July 2018, Turkey will start to receive SD2 (Shah Deniz Phase II) gas. Initially, Turkey will receive gas at a rate of some 2 bcm/y, but within three years it should be receiving its full contracted volume of 6 bcm/y.

Likewise, most of the Trans Adriatic Pipeline’s (TAP) 876-km of onshore line from the Turkish border with Greece at Ipsala/Kipoi to Albania’s Adriatic coast has now been laid and should be in a position to transport 10 bcm/y of SD2 gas beyond Turkey from the start of 2020.

There is still one section that has yet to be started, the 105-km subsea link to Italy. In technical terms this is a relatively straightforward project that should only take a few months to implement. It is possible that the Italian elections to be held in two days' time (5 March 2018) will strengthen the position of the Five Star Movement, which is strong in southern Italy and opposes the TAP. If so, this could pose serious problems for the entire SGC project, since the sales contracts for some 10 bcm/y of SD2 gas that underpin the \$40 bn of current investment all hinge on deliveries to – or through – Italy. However, while the first SD2 gas is due to reach Turkey in a few months' time, the flow to Italy is not scheduled to start until early 2020, so there is still time to complete the TAP project before then, even if there are some politically-induced delays.

What do we mean by the SGC? The key to thinking about the SGC is that it is intended to be developed in two stages. The first is the stage that is almost complete, providing for 6 bcm/y of gas deliveries to Turkey and for a further 10 bcm/y to be delivered via Turkey to customers in the rest of Europe, notably Italy. But the physical pipe that is being laid will have the capacity to carry twice as much gas. All that needs to be done to enable this is to put additional compressor units in place. The real issue concerns where the gas might come from to fill this extra capacity.

The potential for expanding the SGC to its full 32/20 bcm/y capacity (32 bcm/y as far as Turkey and 20 bcm/y as far as Italy) should be considered in terms of regional producers who could supply additional gas into the system.

There are plenty of countries that have proven gas resources which could serve as a basis for further input into the SGC. But, with one notable exception, there are profound obstacles that hamper the development of these resources.

Azerbaijan: In late 2013, when the FIDs were taken for the key SGC components, there was an underlying assumption that new gasfields would be developed in Azerbaijan to provide additional gas. But faced with market conditions that are considerably less robust than in 2013, there has been little investment since then in Azerbaijani gas, apart, of course, from SD2. In practice, only one new field is being brought online by

an international developer, the Absheron field being developed by France's Total. And, even there, actual development is confined to a highly limited initial phase designed purely to serve the gas-short local market.

Turkmenistan: Turkmenistan has a resource base easily capable of supplying an additional 16 bcm/y to fill all the SGC's second stage capacity. But it still seems to be a long shot because of the complexities involved in getting the Turkmen authorities to engage in project development and in gas sales far beyond their borders. However recent apparent changes in Ashgabat's attitude to Caspian maritime boundary issues may indicate that prospects for constructing the necessary Trans-Caspian Gas Pipeline (TCGP) may be improving.

Iran. For Iran, the question is simply phrased: 'Why head west when it is more profitable both to use the gas as a substitute for oil on the domestic market and, in terms of eventual exports, to seek to reach Asia/Pacific markets in the form of LNG'. There are no active plans for a major increase in gas exports to Turkey, which would require Tehran to build about 1,600 kilometres of new pipe to reach the Turkish border, and it is not clear where Iran would get the finance for such a project.

Northern Iraq: Logically, since it is the closest proven resource to Turkey, gas from northern Iraq should be a contender. But plans for some \$5bn in Turkish investment in order to develop gas reserves in the Kurdistan Region of Iraq have ground to a halt amidst a deterioration in political relations between Ankara and Erbil. This means that plans prepared four years ago for the KRI to export as much as 10 bcm/y to Turkey by around 2020 remain on hold.

Eastern Mediterranean: At this stage it is hard to see how the Eastern Mediterranean can be expected to contribute to the SGC. In commercial terms, it would make excellent sense for gas from Israeli or even Cypriot fields to access the relatively close markets in southern Turkey. In practice, however, a pipeline from the Eastern Mediterranean to Turkey can be ruled out unless there is a solution to the Cyprus problem or if the project were to be developed as a confidence building measure between the two sides. In the absence of any Cypriot Government incentive for such

a project, the Cypriot government cannot, in law, prevent other parties from using its EEZ for pipelaying. However, it can seek environmental assurances and use such requests to impose bureaucratic delays that, in effect, would almost certainly cause such a project to be dropped.

The most likely way by which gas from such fields as Israel's Leviathan and Egypt's Zohr will reach international markets is in the form of gas liquefied at Egypt's currently semi-idle plants at Idku and Damietta. The Cypriot discoveries of Aphrodite and Calypso will have to be significantly augmented by other discoveries if longer-term plans for Cyprus to develop its own LNG production plant are to bear fruit. Plans for a pipeline to carry East Mediterranean gas to Italy via Greece are problematic, not least on grounds of length and expense.

Russia: In current circumstances, the most likely candidate for supplying gas to fill available SGC Stage Two capacity is Russia. Russia is currently physically laying its Turkish Stream pipeline, and should complete the laying of the first 15.75 bcm/y pipe within a few months and this will serve to provide Turkey with a replacement route for Russian supplies currently delivered via the Trans Balkan Pipeline through Ukraine, Romania and Bulgaria. Russia's Gazprom has said it will no longer use routes requiring transit across Ukraine once current delivery contracts run out at the end of 2019.

There is little reason to doubt that the second 15.75 bcm/y string will be laid later this year or in 2019. It is intended to serve markets in the EU but so far it is not even certain whether it will make landfall at Kiyikoy in Turkey or near Varna in Bulgaria. Moscow has for two years been talking to the governments of various Balkan countries about options for developing a pipeline through Bulgaria, Serbia and Hungary to reach the Austrian hub at Baumgarten – a sort of 'Son of South Stream' approach – and to Greece and Italy about a possible revival of the IGI-Poseidon project. But the former would probably cost upwards of €8bn and the latter around €5-6bn. So it seems reasonable to conclude that Gazprom will eventually opt to take advantage of the open season which the TAP operators will have to hold within the next two years to see whether they can book capacity for the onward sale to – or through – Italy of some

10 bcm/y of gas. At this stage, it is hard to see any other supplier capable of bidding against them, at least in terms of delivering such volumes.

Two final points:

1. **The role of Turkey**, instigator or recipient of blockages? It is not that Turkey would necessarily seek to use its geographical position to disrupt pipeline flows; it is that the situation in the country causes concerns about its stability, and, there is a possibility – not, I stress, a probability – that there could be serious unrest ahead and that this could include renewed attacks on pipelines akin to those that marked the resumption of open war between the Turkish State and the PKK in July 2015.
2. **US LNG:** The question of the expansion of the SGC has to be seen against a background of increased availability of LNG supplies to Europe, notably from the USA.