Crunch time for caspian producers

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It's not a good time to be an oil or gas producer in the Caspian.

Kazakhstan is once again facing problems in developing the supergiant Kashagan oilfield; Turkmenistan is more than ever dependent on selling gas to just one customer, China; and Azerbaijan, like everyone else, is facing up to financial constraints caused by low oil and gas prices. As for their giant Caspian neighbours, Russia and Iran, they find themselves tackling their own mountainous obstacles, with Russia forced to adapt to an ever more competitive European gas market and Iran embroiled in a struggle with Saudi Arabia to determine the future course of OPEC.

The common problem they all face is the cost of pursuing in a low-price environment ambitious energy projects that were conceived in a high-price environment.

Kazakhstan

Kazakhstan and Turkmenistan are the most grievously afflicted. Kazakhstan initially hoped that Kashagan might first produce oil as long ago as 2005. Then the start was put back to 2008, and then, finally, actual production began in 2013. Almost immediately, however, it had to be halted; the offshore pipes were too corroded.

The Kazakhs' latest embarrassment came on 29 September. The energy ministry announced the start of production – and then withdrew the announcement saying it was a mistake. The current hope is that production will genuinely start in October 2016 and that it will rise to more than 150,000 b/d by the end of 2016.

This is a poor return for more than $100 bn invested in a field with 13 bn barrels in recoverable reserves, and which was at one stage expected to produce as much as 1.5 million barrels a day. The current plan, which might be achieved some time in 2017, is that production should rise to 370,000 b/d but subsequent planned expansion, including quite possibly a short-term project to expand output to 450,000 b/d, will be put on indefinite hold.

In managerial terms, the venture proved just how difficult it was for a consortium which included such giants as Exxon Mobil, Royal Dutch Shell, France's Total and Italy's Eni to cooperate effectively. The project floundered under Eni's initial leadership and a radical restructuring of the venture with specific tasks allocated to specific companies – although it improved the efficiency of its development – still failed to win the confidence of the Kazakh authorities, which for years declined to approve field budgets.

Kashagan, in which the China National Petroleum Corporation and Kazakhstan's KazMunaiGas are also partners, will eventually start contributing both to global oil supply and to Kazakh finances. But in today's circumstances the failure to produce giant volumes of oil from one of the world's biggest offshore oilfields more than 16 years after its discovery ranks as one of the oil industry's truly great failures.

Turkmenistan

For Turkmenistan, the key issue is its dependence on China as virtually its only source of income. China is both its biggest – indeed, almost its only – gas export market, as well as the principal source of both hydrocarbon investment and crucial loans required to keep government finances afloat.

For close to 20 years it has pursued the chimera of a pipeline across Afghanistan to carry its gas to Pakistan and India. In commercial terms, such a project makes excellent sense; in security terms, it remains a nightmare. At present, Turkmengas is constructing its 200-km section of line to the Afghan border, but what will happen after that is anybody's guess.

If such a line is to be built it will require more security than either the Afghan government or its NATO allies are in a position to provide. This implies that some kind of a deal will have to be struck with the Taliban.

Yet without such an alternative export pipeline, Turkmenistan remains a price taker rather than a price maker. It does export some gas to Iran, 7.2 bcm in 2015, but this is paid for in a mixture of cash and barter, with barter thought to be the predominant element. Moreover, it is dwarfed by Turkmenistan's exports to China, which amounted to around 27.7 bcm last year.

In principle, Turkmenistan and China have an agreement under which Turkmen exports to China will eventually rise to 65 bcm per year. But just when this will happen is increasingly in doubt as China reassesses just how dependent it wishes to be on gas in general and imported gas in particular. At present, almost 36 per cent of China's gas imports come from Turkmenistan.

Russia, which as recently as 2008 imported more than 40 bcm from Turkmenistan, ceased to import Turkmen gas at the end of 2015 and still appears to owe Ashgabat for much or all of last year's deliveries.

Turkmenistan has been particularly hard-hit by falling revenues, with the IMF recording a fall in export earnings from $19,340 million in 2014 to $11,894 million in 2015 and with a further fall to $10,059 million expected in 2016. According to the EU's Statistics office, China accounted for more than two thirds of all Turkmenistan's exports in 2015, amounting to €6,414 million out of a total of €9,360 million.

For the past two years, the State Oil Company of Azerbaijan, SOCAR, has courted Turkmenistan assiduously to see how Baku and Ashgabat might finally manage to achieve a Trans-Caspian connection. There do appear to be some positive results with the Turkmens accepting the concept that, at least as an initial stage, the focus should be on a system that enables gas produced in the Turkmen sector of the Caspian to be transported to Azerbaijan via a link to the offshore gas gathering system developed by BP for its development of the giant Azeri-Chirag-Guneshli oilfield complex.

But no firm agreement has yet been concluded and, indeed, it is still not clear whether Azerbaijan sees such a system as a means of delivering Turkmen gas to its own domestic market or for dispatch via the Southern Gas Corridor to Turkey and markets beyond Turkey.

Azerbaijan

Azerbaijan thus holds at least one important key to Turkmenistan's gas future, but it is also facing significant constraints itself – although these do not appear to be quite so problematic as those confronting the producers on the Caspian's eastern shore.

The core of its current problem is that its biggest single hydrocarbons project, the development of the giant Shah Deniz offshore gasfield, is almost completely geared for export, with all the 16 bcm/y of gas to be produced under the $18.9 bn expansion project known as Shah Deniz Phase Two (SD2) pre-sold, with 6 bcm/y bound for Turkey from 2018 onwards and 10 bcm/y bound for European countries beyond Turkey. But its production of gas for domestic consumption is at best static and may be falling at a time when demand is rising and the country has ambitious plans to develop, with the help of CNPC, a giant Oil and Gas Petrochemical Complex.

An agreement to develop a system under which some 10 bcm/y of Turkmen gas could reach Azerbaijan and then be used for a combination of purposes, including domestic supply as well as transit to Turkey and destinations further afield, therefore has obvious attractions.

The past year or so has also seen talks with Gazprom on possible imports of around 3 bcm/y to cover potential shortfalls, but Baku now appears to have terminated these discussions, whilst opening talks with Iran on at least the storage of Iranian gas in Azerbaijan.

But the biggest issue remains the development of the Southern Gas Corridor. Azerbaijan is responsible for meeting just over a quarter of the costs, with SOCAR and the specially established Southern Gas Corridor Company having to provide around $10.45 bn of the anticipated $39.1 bn costs. Azerbaijan does possess the financial resources to meet these costs, which have come down significantly from the estimates of $44-45 bn drawn up at the time when the final investment decisions for the SGC's principal components were taken in late 2013. But there are doubts concerning just how this massive set of interlinked projects will progress in the long-term.

In the short- and medium-term, matters are moving ahead smoothly, with no less than $18 bn worth of contracts placed for the development of SD2 and the expansion of the South Caucasus Gas Pipeline which will carry the 16 bcm/y of SD2 exports as far as Georgia's border with Turkey.

Some 31 per cent of the next stage of the infrastructure required to carry to the gas into Turkey and on to the EU, the $9.2 billion TransAnatolian Pipeline (TANAP) has also been completed. And, with regard to the final stage, the Trans Adriatic Pipeline (TAP) which will connect with TANAP at one end and the Italian Snam-Rete system at the other, contracts have now been let for all the onshore sections in Greece and Albania.

Once the last contracts has been let for the 105 km subsea crossing to Italy and onshore 8 km connection. This will mean there is a mechanism for delivering all the initial 16 bcm/y of SD2 production. However, the source of further gas supplies to enable the SGC to operate to its full 31-32 bcm/y design capacity in Turkey and 20 bcm/y capacity from Turkey to Italy remains an open question.

Azerbaijan is looking to the development of a "Next Wave" of offshore gasfields to provide the bulk of this additional input. In particular, it would like to see the early development of Absheron, for which France's Total as a production sharing contract. But although the SGC provides a means for Absheron gas to reach international markets, current prices in both Turkey and Europe make it uncertain whether the field could be developed profitably in the short run.

Over the next few months, Total is due to present a development plan to SOCAR and the Azerbaijani government, to which the Azerbaijani authorities are due to respond. The question is whether they will, in fact, agree that it is feasible to develop the field rapidly, with first output perhaps as early as 2019.

In the current price environment, it seems more likely to count on Absheron, and a whole series of other prospective Azerbaijani field developments, coming on stream in the second half of the 2020s, rather than the first option.

There is, of course, the possibility that gas from a wide variety of other sources – such as Turkmenistan, Iran, Northern Iraq and the Eastern Mediterranean – might make use of the availability of additional capacity in the SGC from 2020 onwards, but at this stage it is a lottery as to which of these potential suppliers would be in a position to provide input into the SGC system from that time.

As for Russia and Iran, their problems are essentially those confronting all production giants, how to adapt to changing market conditions, notably in an era of relatively low prices and of disputes within OPEC as to how such conditions should be tackled, and a much greater role for market forces in key gas markets, notably Europe and Asia/Pacific.

In a strictly Caspian context, Russia appears to making progress in developing its fields in the North Caspian while Iran is lagging in the south. But their principal impact in the longer run will concern such issues as Iranian cooperation with Azerbaijan in swaps and storage, to relieve pressure on Azerbaijan's domestic gas sector as well as to provide energy to the Azerbaijani exclave of Nakhichevan, and whether Baku will see fit to adjust its energy policies in any way to play its role in a potential Russian-Azerbaijani-Iranian commercial relationship at a time when Moscow and Tehran are also developing increasingly close security ties.

by John Roberts