Iran’s latest export/import options

Relations between Iran and its neighbours are strengthening despite increased efforts by the US to isolate Tehran; both Turkmenistan and Azerbaijan have recently agreed to boost gas exports to the Islamic Republic. Iran cannot be ignored – its export potential for Europe is significant, both as the holder of the second largest gas reserves in the world and geographically as a strategic link between gas-rich Turkmenistan and Turkey. But development has been severely hindered as US companies have been banned from working in the country and international sanctions over nuclear proliferation concerns are becoming a weightier deterrent for European companies. Even so the Iranians do manage to keep things going.

Now, with the threat of harsher sanctions looming, Gas Matters looks at prospects for the development of the Iranian gas industry and how progress, though faltering, may not be as bad as people think.

The oil and gas bureaucracy in Iran has a very deep-set mistrust of the foreign majors, established following the painful experience of the 1951 coup, the nationalisation of the industry and the subsequent fight against the western oil companies in the pre-1979 period. There may now potentially be a shift in attitudes as the people who worked during the 1970s are retired or retiring. “But, as we’ve seen in Iraq, countries fall back to deeply-rooted attitudes towards the oil and gas sector so I wouldn’t expect any radical change whatever happens politically,” says Pierre Noel, an energy policy specialist at Cambridge University’s Judge Business School.

A key obstacle to attracting foreign investment into Iran is the government’s insistence on maintaining its buyback contracts under which investors manage and operate the development phase of a project before the state repurchases the assets. The National Iranian Oil Company (NIOC) has started introducing elements of production sharing agreements (PSAs) to entice investors, but they still include relatively unappealing, set, rates of return.

“A few years ago, when the Europeans and Japanese were probably more enthusiastic, it was the unattractiveness of the commercial terms that the Iranians were offering that led to things not being done,” says Edward Chow, a senior fellow in the Energy and National Security Program at the US-based Centre for Strategic and International Studies. He added that international sanctions have now become a stronger deterrent to investment in Iran.

“When you speak with European companies who were there, the reality is that when they withdrew from those big LNG projects they were still quite far from a real commercial agreement with Iran,” agrees Noel.

“It’s always the same story; as soon as they reach an agreement the day after the Iranians come back to it and basically the message is, if a foreign company accepted it, it was because it was bad deal for Iran. They’re just very difficult to do business with,” he adds.

It may be a matter of necessity; when the Iranians truly need investments from foreign companies then they may find a way to produce acceptable terms. “But with $80/bbl oil you can get away with a lot of economically sub-optimal policy,” says Chow. “The cycle of not getting enough investment, or not getting the right kind of investment, will appear again when prices soften.” In this respect they are little different from their neighbours in the region – it is unlikely that any major hydrocarbon producing province in the Middle East, with the
potential exception of the Kurdistan region in Iraq, is going to be wide-open and freewheeling with regard to private sector investment in their upstream resources while oil prices are high enough to allow them to be choosy.

Nevertheless Iran has managed to attract investment from the Chinese. “And I don’t really buy the argument that the Chinese companies go around over-paying on things that don’t make commercial sense,” says Flynt Leverett, director of the Iran Initiative and Geopolitics of Energy Initiative at the New American Foundation. “I’m more inclined to think that the Chinese companies do things that make commercial sense within their parameters, but their parameters are a much lower capital hurdle then a typical western IOC would have.”

“And I get the sense in some of the more recent deals that the Iranians have concluded with the Chinese, that they may have been given slightly better terms than what foreign companies have got in the past,” Leverett added.

Although the US is pushing to impose more brutal economic sanctions against Iran over its nuclear programme both Moscow and Beijing are reluctant to agree to them. If the US administration cannot push the new measures through the UN Security Council it may instead encourage European countries, and possibly the Japanese, to impose stricter sanctions through national measures. “But it’s not going to generate strategic leverage over Iranian decision making,” says Leverett. “So by the end of 2010 the administration is going to be back with its original set of strategic choices; do they really want to engage seriously with Iran? Do they want to contain Iran? Do they want to go to war?”

But as a military invasion would likely trigger a complete collapse of American influence in the region, “war seems to be completely off the table in Washington,” says Chow.

“In the mid-term there is no replacement for the US in the Gulf, even if China is slowly increasing its economic and political influence. This is a situation most countries understand very well,” he adds.

So for the future it looks like more of the same: “A dramatic negative outcome seems unlikely, and a dramatic positive outcome seems even more unlikely,” says Noel. “But you will notice that it didn’t take a dramatic negative outcome for the major energy companies to withdraw from Iran.”

**Funding Iran’s energy sector**

Iran needs to invest some $200 billion in its energy sector over the next five years, Azizollah Ramezani, the then deputy minister and managing director of the National Iranian Gas Company (NIGC) said at the World Gas Conference in Buenos Aires last year. In March 2010 Javad Oji, NIGC’s new managing director, told reporters that Bank Saderat Iran (BSI) had committed to investing up to $17 billion to develop gas industry projects as part of the state-owned company’s fifth five-year plan.

“All of these scenarios which have Iran running out of capacity to export oil over the next few years all assume that Iran doesn’t do any investment on its own,” says Leverett. “Yet we’ve seen over recent years that the Iranians do manage to do their own investment and they do get investment in from other, mostly non-western sources. It’s never enough to meet the threshold that the IEA or other external observers set but they do manage to keep things going.”
As far as foreign investment is concerned China is Iran’s most plausible source for new capital. State-owned CNPC is contracted to develop the upstream phase of the South Pars field that was originally earmarked to feed the Pars LNG project. However there is currently no clear plan for what will happen with gas once it is produced, as the Chinese do not have the expertise to develop liquefaction trains. “I haven’t been able to get an answer to that one yet,” says Leverett. “I think CNPC will find a hard time finding another Western partner in the near term to do an LNG project.” It is of course possible that the Chinese, who are increasingly involved with upstream LNG projects in Australia, may develop their own LNG capability within the next few years.

“I wouldn’t be surprised if, in the next few years, you saw Turkey being willing to put some money into upstream gas in Iran, even if there is not a consensus to bring Iranian gas into Nabucco,” he adds. “Turkey needs the gas and I think there is the sense that if they do really want to be an energy transit hub for Europe they’re going to need to find some way to start bringing Iranian gas into Turkey.”
The new pipeline is certainly an “interesting development,” says Chow. “Potentially you could be feeding central Asian gas into a network which could go west or could go east; I think that’s worth watching.”

Investment could even come sooner than that; on March 24 Taner Yildiz, the Turkish energy minister, reported that the government will announce within two weeks if it will invest in developing Iran’s South Pars field in a deal worth an estimated $5.5 billion.

Increasing gas imports

Iran is forced to import gas into its northern region because the country’s rough terrain blocks supply routes from its major gas fields in the south. In January Baku agreed to export an additional 0.5 Bcm of gas throughout 2010 from Azerbaijan via the 1,474 km Kazi-Magomed-Astara pipeline. Azerbaijan already exports 1.3 Bcm/y to its southern neighbour. The two countries are currently working on a deal to keep the long-term exports at 1.8 Bcm/y, and this should be finalised by the end of 2010, according to Rovnag Abdullayev, the director of the State Oil Company of Azerbaijan (SOCAR). Iran has also recently struck a deal with Azerbaijan to build a 6.5 Bcm/y pipeline, scheduled to come online in 2012, which would bring Azeri gas into Iran.

Turkmenistan has supplied the Islamic Republic with gas since 1997 through an 8 Bcm/y pipeline stretching from Korpeje in Turkmenistan to Kordkuy in northern Iran. Ashgabat is keen to strengthen relations with its southern neighbour as part of a strategy to diversify its export routes away from Russia and a new 30 km pipeline running from the Dauletetab field in south-eastern Turkmenistan to Hangeran in Iran was commissioned in January. The pipeline flow, initially set at 6 Bcm/y, will eventually be increased to 20 Bcm/y, which would satisfy a significant proportion of Iran’s domestic consumption.

The new pipeline is certainly an “interesting development,” says Chow. “Potentially you could be feeding central Asian gas into a network which could go west or could go east; I think that’s worth watching.”

<table>
<thead>
<tr>
<th>Project name</th>
<th>Project executor</th>
<th>Project shareholders</th>
<th>Project objectives</th>
<th>Feed and Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas export through LNG (Pars LNG project)</td>
<td>Pars LNG Co.</td>
<td>NIGEC representing NIOC (50%) Total Co. (40%) Petronas (10%)</td>
<td>10 MT LNG production an annum</td>
<td>Phase 11 of South Pars gas field</td>
</tr>
<tr>
<td>Gas export through LNG (Persian LNG project)</td>
<td>Persian LNG Co.</td>
<td>NIGEC representing NIOC (50%) Shell Co. (25%) Repsol Co. (25%)</td>
<td>16.2 MT LNG production an annum within two trains</td>
<td>Phase 13, 14 of South Pars gas field (The phases may be subject to change in view of NIOC plans so as to expand the South Pars phases)</td>
</tr>
<tr>
<td>Gas export through LNG (Iran LNG project)</td>
<td>Natural Iranian Gas Liquefaction Co. (Iran LNG)</td>
<td>NIGEC representing NIOC (49%) Pension Fund, Saving and Welfare of Oil industry staff Co. (1%) Remissable stocks to LNG buyers and investors (40%)</td>
<td>11 MT LNG production within two trains</td>
<td>Sour gas extracted from South Pars Phase 12</td>
</tr>
<tr>
<td>Gas export through LNG (Golshan &amp; Ferdowsi project)</td>
<td>Malaysian Petrofild Co.</td>
<td>Malaysian Petrofild 100% investment</td>
<td>Golshan &amp; Ferdowsi field expansion and 10 MT of LNG production within two trains</td>
<td>Golshan &amp; Ferdowsi gas fields</td>
</tr>
<tr>
<td>Gas export through LNG (North Pars project)</td>
<td>Chinese CINOOK Co</td>
<td>Chinese CINOOK 100% investment</td>
<td>North Pars field expansion and 20 MT of LNG production within four trains</td>
<td>North Pars gas field</td>
</tr>
</tbody>
</table>

Source: NIGC
Iran has an obvious location advantage as a potential export hub. “But if you are the second largest holder of gas resources in the world, why aren’t you developing your own gas resources first, before moving other people’s gas to export markets?” asks Chow.

Gas export options
The most significant energy development project in Iran is the South Pars field, located 62 miles offshore in the Persian Gulf. South Pars is estimated to have 12.7 Tcm of natural gas reserves, around 47% of the country’s total reserves. The field, to be developed in 25 phases over twenty years, is managed by Pars Oil & Gas Company (PAGC), a unit of the National Iranian Oil Company (NIOC).

Phases one to ten of the South Pars development are already online. The majority of the field’s gas is earmarked to supply the domestic market for power generation and gas re-injection, with the remainder intended to be piped to South Asia or Europe, or used for LNG production and possibly even gas-to-liquids (GTL) projects.

There are three major LNG projects planned; Pars LNG, Iran LNG and Persian LNG (see table). However Iran needs European or US expertise to develop its LNG potential. Total, Shell and Repsol originally held stakes in the projects but all three are guarded over their investments in the Islamic Republic and will not give updates on their current status.

But there are rumours that the government in Tehran is losing interest in LNG.

“You can detect signs of growing opposition, or at least scepticism, to LNG,” says Flynn Leverett, following a recent visit to Iran. “I think somehow to do LNG is more symbolic of giving the natural wealth away to foreigners than pursuing regional pipeline projects.”

The current gas glut and the prospect of more new LNG production coming online in Qatar and Australia over the next few years have also undoubtedly dampened Iran’s mid-term LNG ambitions. However the Iranians are still likely to keep the option open for the future, because as much as it could eventually prove attractive in economic terms, LNG could be a powerful political tool to help cement certain strategic relationships, particularly with the new, emerging super-power; China.

But for now it is unlikely Iran will have any surplus gas to export. “You should never underestimate the domestic demand for gas in Iran,” cautions Leverett. “Even as they increase their own production, their own domestic demand for gas is going to be increasing. They have a very big demand for reinjection into oil wells, their domestic energy demand is growing, they have ambitions plans to develop all kind of gas-based industries, so I think that will be a big draw on whatever incremental production they have in coming years.”

According to the BP’s 2009 Statistical Review gas production in Iran in 2008 was 116.3 Bcm and consumption stood at 117.6 Bcm. The International Energy Agency (IEA) estimated that roughly 70% of Iranian natural gas in that year was marketed production, around 16% was for gas re-injection for enhanced oil recovery (EOR), and shrinkage, loss, and flaring accounted for about 14%. In the current market gas has a higher value when used for EOR than it would through any potential gas export project, whether pipeline or LNG. Oil production has always been the priority for Iran and at the moment that means focusing on reversing the decline rate at its mature oil fields, while simultaneously trying to bring a small number of new fields into production.
Iran runs the world’s largest EOR project at the Aghajari oil field in Khuzestan province. The original oil-in-place at the field was 28 billion barrels, with 10.2 billion barrels of recoverable oil but, as the field matured, output dropped to only 180,000 bpd. As part of injection operations, which started in 2008, a total of 600 Bcm of gas from phases 6, 7 and 8 of the South Pars field will be injected into Aghajari to boost production up to 300,000 bpd.

However if the Iranians increase domestic output sufficiently to start exporting gas, they are most likely to do it through regional pipeline projects, although substantial investments would be needed to develop the necessary pipeline infrastructure. “It makes sense for Iran to export to Saudi and the Gulf States, who are gas-short at the moment,” explains Leverett. “All of these states, except Qatar, have gas shortages of one sort or the other and I think there are limits as to how much Qatar is going to be able to increase its regional exports. It would make a lot of sense for all concerned to develop more of a regional gas grid, with Iran as an increasingly important supplier.”

But politics between Tehran and the Arab nations remain an overwhelming barrier to any kind of regional gas trade. The neighbours are engaged in an ongoing dispute over maritime borders, and particularly over the development of the prolific Dorra gas field in the Gulf continental shelf. In addition if the emirates were to pursue options for importing gas from Iran it would be viewed as a, “direct insult to Washington, which those countries cannot afford for now,” adds Noel.

As seems inevitable with Iran, disputes over pricing are a big hindrance. Kuwait and Bahrain have been negotiating for years with Tehran but the National Iranian Gas Export Company (NIGEC) will still not include a price ceiling formula in its export agreements. “If oil prices reach $140/bbl again, the price will be more than $16/MMBtu. That’s unacceptable,” an Arab official involved in the talks was quoted as saying recently.

**Nabucco**

Iranian plans to ship gas to Europe, whether through the Nabucco pipeline or its own pipeline initiatives, elicit even greater scepticism. “It’s just for rhetorical ploy”, says Chow. “It’s a very useful thing for the Iranians to say given that Iran has a lot of gas resources and Europe does seem to want to diversify. Nabucco is fashionable to talk about, but I just don’t take it very seriously.”

At the end of 2009 Ramezani said Tehran was, “ready to discuss taking more than a 50% share” in Nabucco, however the Nabucco consortium is adamant there are enough supplies for the pipeline without Iranian gas. Christian Dolezal, spokesperson for Nabucco Gas Pipeline, told **Gas Matters**: “Our company has no information about currently concrete negotiations between European gas traders and Iranian companies concerning gas supply.”

“We do know, on the other hand, about concrete talks between gas traders and gas suppliers in Azerbaijan, Turkmenistan and Iraq,” he added. The consortium are expecting between 8 to 10 Bcm from Shah Deniz, around 10 Bcm from the Pearl field in northern Iraq, in which Austrian’s OMV and Hungary’s MOL acquired stakes last year and officials in Ashgabat have indicated Turkmenistan will supply around 10 Bcm of gas.

However availability of additional gas supplies from Central Asia to feed Nabucco is questionable, with both Turkmenistan and Azerbaijan having agreed to ramp up gas exports to Iran, Russia still wanting to retain its position as Turkmenistan’s dominant gas buyer and seeking to double...
its purchase of Azerbaijani gas; and China soon to be importing up to 40 Bcm/y of Turkmen gas through its recently inaugurated 1,833 km pipeline. These factors could seriously undermine Nabucco’s efforts to secure resources and may potentially force the consortium to resort to Iranian gas.

“It’s really a question of political will on the European side,” says Leverett. “Are they going to keep buckling to the United States on this, or, if they really believe it is a strategic priority, are they going to do what they need to do to get enough gas volumes lined up to make it commercially viable.”

India and IPI pipeline plans

India is also a potential export market for Iran, beyond the immediate Gulf region. This month Tehran and Islamabad signed an agreement to start construction on the long-delayed Iran-Pakistan (minus India) pipeline project which will supply Pakistan’s Balochistan and Sindh provinces with 21.2 MMcm/d from Iran’s Assalouyeh gas field from 2015.

The $7.6 billion project will for now proceed without the participation of Delhi, which withdrew from negotiations due to disputes over the cost of the gas shipments. Under the current deal, Iran and Pakistan will each be responsible for building the leg of the pipeline that runs through their own territory, with Iran likely to extend its existing IGAT-7 pipeline to its northern border. Iran has started work on the line already, and even if Pakistan does not keep to a comparable construction schedule, the domestic pipeline will provide gas to Iran’s Baluchistan region, which is still relatively underdeveloped, and other energy-starved areas along its route. The bilateral agreement leaves open the option for Delhi to join the project at a later stage, however Leverett noted that people on the ground in Tehran are, “getting more and more sceptical that it’s ever going to run to India.”

As far as existing exports are concerned, Turkey remains Iran’s main export market. Over the last fiscal year Iranian exports were estimated to be around 6.8 Bcm/y, mainly to Ankara, and shipments are expect to increase this year, according to Javad Oji. Iran’s only other export contract is a minor deal, as part of a gas swap with Azerbaijan, to supply around 0.3 Bcm/y to the Azeri exclave of Nakhchivan which is sandwiched between Iran and Armenia. In light of this, as Noel says, “Gas is going to remain a chiefly domestic game in Iran for quite sometime.”

This article was published in Gas Matters, April 2010.

Gas Matters is published by Gas Strategies.

To subscribe to Gas Matters, please contact Matthew Shelton on +44 (0)20 7332 9981 or e-mail: m.shelton@gasstrategies.com