During Turkmen President Gurbanguly Berdimuhamedov's maiden-visit to India in May 2010, much attention was placed on energy relations between the two countries, particularly on the much-delayed Turkmen-Afghan-Pakistan-India (TAPI) pipeline project that envisages bringing Turkmen gas to India via Afghanistan and Pakistan. In an attempt to set aside any doubts about its continuing interest in the project, India responded by offering to host a technical meeting of experts under the aegis of the Asian Development Bank (ADB) that is funding the project. But notwithstanding the excitement, as in the case of the Iran-Pakistan-India (IPI) pipeline project, doubts persist over how serious India is about pursuing this project. To understand this reluctance on New Delhi's part to commit to transnational pipeline projects, a look at India's gas profile is necessary.

Historically, India has relied on coal to power its electricity sector and oil for its transport sector. Natural gas has had a limited role to play, mainly because of unsubstantial reserves, high import and running costs of gas-based power compared to coal-based power, and lack of infrastructure—both for pipelines as well as LNG terminals. But with international pressure increasing on the government to cut carbon dioxide emissions, India has seriously begun looking at cleaner fuels, including natural gas, to wean itself from its coal-based power sector and to use as feedstock for its fertilizer sector. Securing supplies to meet such demand required a multi-pronged approach to gas acquisition.

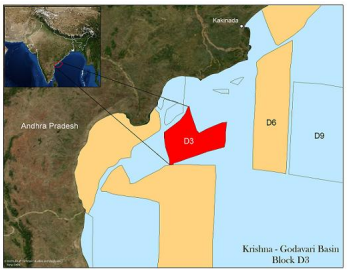
Gas Profile

India has around 1.2 trillion cubic meters (tcm) of natural gas reserves. While current demand is around 57.32 billion cubic meters per year (bcm/y), made up of around 45.58 bcm/y from domestic supplies and the rest from imported LNG, according to the India Hydrocarbon Vision 2025, published in 2002, India's future demand for gas could reach 113.61 bcm/y by 2015 and 135 bcm/y by 2025, depending on how the gas market develops in the country.

It was under these pressures that plans to import gas were taken up. India signed a contract for the import of 5 million tons of LNG from Qatar, and plans to import piped gas from neighboring gas-rich countries were initiated long before. These included the $7-8 billion Iran-Pakistan-India (IPI) project, the $3 billion Myanmar-Bangladesh-India (MBI) project and the $7.6 billion ADB-backed Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline project. However, despite years of planning and negotiations, none of these projects are anywhere close to completion.

The oldest project, the IPI pipeline first proposed back in 1989, now appears to have become only an IP, that is an Iran-Pakistan, project, given India's increasing reluctance to commit to its participation. The MBI project, first proposed in 1997 by a Bangladeshi company, Mohona Holdings Ltd, but which subsequently saw Bangladesh's withdrawal, was also written off after Naypyida, the new name for the capitol of Myanmar, reportedly grew tired of waiting for New Delhi to make up its mind on the route and dedicated all (gas) supplies to China. There are, however, recent reports that the pipeline may be resuscitated as a trilateral project or even as part of a larger sub-regional one. This leaves the limbo-dwelling TAPI project, an agreement that was signed in 2002, but whose future remains ambiguous despite reports of recent bonhomie between India and Turkmenistan.

Apart from real concerns regarding the safety of transit routes for the IPI and TAPI projects through Pakistan and Afghanistan, the reasons for India's disinclination may well lie in the country's changing gas scenario. In 2002, huge gas discoveries were made in India's eastern offshore coast by one of India's largest energy companies, Reliance Industries Limited (RIL) in the Krishna-Godavari (KG) basin in the Bay of Bengal area, estimated to hold around 310-340 billion cubic meters (bcm). It came on-stream in 2009, with production ramped up to 60 bcm per year from December 2009. This is expected to increase to 80 bcm by 2010-11, thus doubling domestic availability and alleviating the large-scale shortages currently prevalent in the country. Subsequently, RIL has made several more discoveries in the area, whose total assessments are yet to be made. Soon after RIL's announcement of the discovery, other Indian companies too announced the discovery of further gas finds. ONGC, India's state-owned oil exploration company, announced the discovery of some 392 bcm of gas in KG-DWN-98/2, which is next to RIL's KG-D6 block. The company plans to produce 8.6 - 10.3 bcm annually by 2015. In 2005, Gujarat State Petroleum Company (GSPC), India's only state government-owned firm, announced the discovery of some 56 bcm of gas in its Deendayal West field (KG8), which is also located in the Krishna-Godavari basin.



Improving the investment environment

To attract further investment into India's domestic energy sector, the government recently announced the doubling of natural gas prices produced by state firms by 113 percent to $4.20 per mmBtu. As this is comparable with international prices, with Henry Hub natural gas price averaging at $ 4/mmBtu for 2009-10, it is expected to attract many more firms, both Indian and foreign, into the E&P sector.

India's unconventional gas play

Apart from the discoveries of conventional gas, Indian companies are also excited about developments in unconventional (shale) gas. In April 2010, RIL entered into a joint venture with the US-based Atlas Energy, Inc. under which RIL acquired a 40 percent interest in Atlas' core Marcellus Shale acreage position in Pennsylvania, US. Recently there are reports that the company has acquired a 45 percent stake in the Eagle Ford shale gas field in Texas, which is owned by Pioneer Natural Resources Co. The company is looking for two more shale gas acquisitions in the US.

The importance of RIL's interest in US shale gas lies in the fact that India is projected to have huge shale deposits spread across the Gangetic plain, Assam, Punjab, Rajasthan, Gujarat and southern coastal areas. The discovery of the new US technology called 'fracking' as well as horizontal drilling, have not only increased shale gas productivity, it has also made extraction costs more viable. Four years ago, US companies were quoting a price of around $6/mmBtu to make the extraction of shale gas viable. Now, with the new technology, shale gas has become competitive, in some cases at around $3-4 /mmBtu.

The discoveries of natural gas and prospective shale gas reserves have also had an impact on India's LNG imports. Several power projects that were to be supplied by LNG are now expected to be fed by gas from the KG fields, leaving LNG terminals searching for new markets. Under these circumstances, it is unlikely that India would go for less cost-effective transcontinental pipeline projects.

It is not yet clear how unconventional gas will play out in India. The government has no policy framework for shale gas, though India has begun a pilot project to explore its shale gas potential. The initiative has been undertaken by ONGC, which has garnered a war chest of around $217 million to drill four wells by the end of the year after which the company will be able to decide whether shale gas exploration is commercially viable in India.

Apart from shale gas, India is also estimated to have reserves of coal bed methane (CBM) ranging from 1.9 to 4.5 tcm, according to data released by the Coal Ministry.

These developments have all contributed to a change in strategic thinking in India with regard to energy. More importantly, the perception is that India may not be as keen as it was earlier to pursue some of the pipeline projects mentioned above.

Interest in the Turkmen-Afghan-Pakistan-India pipeline remains

However, while most experts have written off the Iran and Myanmar-based projects, India has recently reaffirmed their interest in progressing with the TAPI pipeline project. Considerations other than commercial may be contributing to this. For India, access to elusive Central Asian energy reserves and countering the expanding presence of China in Central Asia (Kazakhstan and Turkmenistan) could be factors stimulating Indian interest in Turkmenistan. For Turkmenistan's part, enhancing ties with a growing economic power like India and the need to find alternative markets for its gas could be the main-driver for strengthening relations between the two countries. Turkmen gas production and exports have reportedly fallen following a dispute with Gazprom over gas volumes and prices. There is declining gas consumption in Russia, and an abundance of natural gas across the rest of Europe due to the availability of competitively-priced LNG. Hence, Ashgabat has been aggressively pursuing an export diversification policy. Most importantly, unlike in the case of IPI, Washington is supporting the TAPI project, as it is in its interest to make Afghanistan economically self sufficient and strong. The TAPI pipeline would allow Afghanistan not only to access Central Asia's energy resources, but also to earn it revenues ($300 million per year as transit fees), and to become a transport hub connecting three strategically important areas, namely, Central Asia, South Asia and West Asia. Moreover, TAPI would provide an alternative to the IPI project, which was projected to supply Pakistan and India with much-needed gas. However, given that any investments or energy projects with Iran would provide Tehran the wherewithal to proceed with its nuclear program, the US has made its opposition to such projects quite clear. As US Assistant Secretary of State for South and Central Asia, Robert Blake, has said, the US would prefer that all countries not conduct (such) transactions with Iran at a time when sensitive negotiations are ongoing with Tehran to halt its nuclear weapons program.

For India too, the TAPI project could serve as the strategic link it has long sought within Central Asia, which it sees as its strategic neighborhood, and South Asia. The project could lead to, or even expand, existing trade, electricity and transit networks across Eurasia and allow Turkmenistan and India to diversify their trade and energy relations with countries in South Asia, the CIS countries and Europe. However, New Delhi will have to weigh the strategic costs of the

project—the pipeline which was originally estimated to cost $3.3 billion in 2003, has now gone up to $7.6 billion due to the high price rise of steel and other equipment—with its commercial viability, particularly with its domestic gas output now looking brighter.

Moreover, doubts persist over whether Turkmenistan has sufficient reserves to supply the project. Pakistan and India want certification about the gas reserves before moving further on the project. According to the BP Statistical Review 2009, Turkmenistan has 7.94 tcm of gas, a sharp upgrade from the 2008 estimate of 2.43 tcm after a an audit of the huge South Yolotan-Osman field in western Turkmenistan was completed by the UK auditing firm Gaffney, Cline & Associates. The Gaffney audit estimated the reserves of this field alone to be between 4-14 tcm. But it must be kept in mind that Ashgabat has already dedicated huge amounts of gas to Russia, China, Iran and Europe. It has a contract with Gazprom to export up to 50 bcm per year of gas to Russia for two more decades, a contract with China starting in 2009 for 30 bcm annually and a deal with Iran for 8 bcm annually. The acceptance of the TAPI deal to supply 30 bcm annually would bring annual Turkmen gas exports to well over 100 bcm annually—a huge amount of natural gas to export when Turkmenistan's proven reserves of gas are not fully known. However, Turkmenistan asserts that its gas production should increase to 250 bcm by 2030, of which 200 bcm will be designated for export.

The SAGE project

Interestingly, as doubts regarding the fate of TAPI persist, another option for transporting Turkmen gas to India was discussed during the Turkmen President's visit. This project entails a gas swap deal wherein Turkmenistan will pump in the amount of gas required by India into Iran's northern Iran gas grid. Iran will then feed in the same amount of Iranian gas into its southern pipelines to Chahbahar port from where it will be pumped into a sub-sea pipeline to India. The project was originally proposed in the 1990s by the South Asian Gas Enterprise (SAGE) and is known as the SAGE project. SAGE had also proposed a similar under-sea pipeline project from Oman as an alternative to the IPI project that would bring gas from the Middle East, sourced from either Qatar or Iran. While at the time the project was deemed unviable as the technology for deepwater pipe-laying and manufacturing had not matured, that is no longer the case. According to Iranian media reports, the 1100 km pipeline will carry some 31 bcm of gas annually with the cost of construction estimated at $4 billion.

Following the May meeting, Indian officials said that they were also interested in acquiring stakes in producing onshore gas fields in Turkmenistan, as well as in setting up a petrochemicals plant in Turkmenistan, conditioned on guaranteed supplies of gas feedstock. The two sides further agreed to study the possibility of developing joint ventures to work in Turkmenistan's upstream sector.

Notwithstanding the interest on both sides to proceed with TAPI, given that the pipeline would be passing through unstable areas in Afghanistan and Pakistan, it would entail the same security issues as the IPI project. Even the sub-sea route has its own logistical difficulties, including the problem of carrying out maintenance on a sub-sea pipeline at a depth of 3.5 kilometers. Moreover, as is the case with the pricing of Iranian gas for IPI, there were reports in 2008 that Turkmen gas was charging three times what India had committed to Iran. Ashgabat reportedly had asked for $400-$450/1000 cubic meters, with additional transport and transit fees that would be payable to Afghanistan and Pakistan, making the final price at around $650-675/1000 cubic meters; India was asking for $200-$230/1000 cubic meters. Current information on any price re-negotiations is unavailable. However, India will certainly weigh the cost of domestic gas with that of imported gas before signing any deal.

Finally, there is a perception that when it comes to gas imports, India prefers LNG over pipeline deals. This was confirmed recently by B.C. Tripathi, chief of India's state-owned natural gas company, GAIL India, who said that LNG was the only viable option for India's gas imports. His opinion is born-out by the fact that India's third LNG terminal is coming on-line over the next few years. India is also negotiating LNG contracts with Russia as well as additional supplies from Qatar. Hence, despite the recent stated interest in TAPI by the heads of India and Turkmenistan, the TAPI project could meet the same fate as the Iran and Myanmar-based pipelines planned to bring gas to India.

That, however, does not mean that India and Turkmenistan will not do business. Though the Indian gas scenario is currently upbeat with the new finds and potential shale gas prospects, in the long term India will in all likelihood have to import gas—if the gas market develops as envisaged and if the price suits India. New Delhi has long sought a role in Central Asia's energy sector, albeit for strategic considerations, but has met with little success so far. Turkmenistan could well provide India the opportunity to get a foothold in that region, if not through TAPI, perhaps through the SAGE project, which will allow it to import Turkmen gas, albeit through a third country, or at least allow Indian companies a foothold in Turkmenistan's energy sector, both upstream and downstream. Only time will tell.

Shebonti Ray Dadwal is a Fellow at the Institute for Defence Studies and Analysis, New Delhi, India.