

Prospects for Building the Trans-Afghan Pipeline and its Implications

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Over a decade ago, those concerned with Central Asia's energy resources were asking the question, whether the region could emerge as another "Persian Gulf"¹. Fewer people are asking this question today, being inclined to believe that this relatively untapped region will at least become another "North Sea". With the growing awareness of the potential implications of the substantial level of dependence on the Middle Eastern energy, even a "North Sea" is perceived as an increasingly valuable asset for energy security.

Yet the future of Central Asia's energy reserves hinges upon the ability to export the available oil and gas to the rest of the world. Hitherto, several major steps have been taken aimed at exporting the oil reserves located in the Caspian region. The Caspian Pipeline Consortium is already pumping increasing volumes of Kazakh oil to Western markets and some Azeri and Turkmen oil has found a share of the world market. The prospective inauguration of the Baku- Tbilisi -Ceyhan pipeline will further strengthen the link between the Caspian region and the rest of the world.

The story about exporting Central Asian gas has been primarily less successful as neither Turkmenistan nor Uzbekistan, both countries ranking high in terms of gas reserves, has been able to monetize its wealth. Several major gas export projects undertaken by Turkmenistan have failed to go beyond the stage of negotiations and, as a result, their country's gas exports have remained primarily limited to the CIS region.

With the end of the Taliban rule in Afghanistan, Turkmenistan has revived its hopes for exporting substantial volumes of gas to the Asian market -- namely to Pakistan and possibly to India. This paper reaches the following preliminary conclusions in advance of the finalization of the feasibility study of the proposed Trans-Afghan Pipeline (TAP) sponsored by the Asian Development Bank (ADB), which will add more clarity:

- **Building the TAP will bring fundamental benefits:** Realization of the TAP project will have substantial repercussions. It will provide the first major gas export route for Central Asian gas outside the reach of Russia's Gazprom. It will raise the level of interdependence between India and Pakistan, contributing to their rapprochement. The TAP will enhance India's energy security and help to expand gas consumption in South Asia as a means for reducing greenhouse gas emissions.
- **The project will be commercially competitive:** Turkmenistan will be able to offer its gas at a price that can compete with other sources of gas for South Asia, namely from Iran and LNG sources. Moreover, Turkmen gas appears competitive versus the gas produced in Pakistan and India.

¹ Central Asia is defined in this paper broadly to include Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

- **The TAP will be viable if India joins the project:** Without India's participation, given the uncertainty about Pakistan's gas demand, the realization of the TAP project will be delayed. Alternative solutions in case of India's abstention from the project are possible, but raise doubts about the competitiveness of Turkmen gas due to increased delivery costs (namely if Pakistan decided to re-export it through an LNG plant constructed at Gwadar). While the delivery cost to Pakistan might not be affected, the consumers of the re-exported gas will be subject to increased costs.
- **Establishment of a consortium and access to financing are the major impending issues:** The TAP suffers from the lack of a consortium and leadership of an international major oil company. Following the publication of ADB's feasibility study, financing the project will confront this serious outstanding problem.
- **Need for US support for the TAP:** The support of the US administration is essential for the future of the project. A past example is the case of Baku-Tbilisi-Ceyhan project, for which initial viability was seriously questioned, but was realized owing to the assistance provided by the U.S. government. Such a support could help participants in the TAP project overcome issues related to financing.

The Trans-Afghan Pipeline project, dormant since 1998, was quickly revived following the fall of the Taliban regime. Now with Afghanistan relatively more stable, Turkmenistan, Afghanistan and Pakistan have intensified negotiations to realize the project.

This paper starts by evaluating the importance of the TAP project, and proceeds with analyzing the latest progress in multilateral negotiations aimed at turning the idea into a real project. Then, the emphasis of the paper turns to the various factors that will potentially affect the future of the TAP.

First, the paper evaluates Turkmenistan's potential as a gas exporting country. Turkmenistan has signed several export contracts, which might put serious constraints on its future export capabilities through the TAP, unless further steps are taken in upstream development.

Second, since the disintegration of the USSR, Russia has been the sole export route for Turkmenistan's gas. Given the present lack of a significant alternative export route for Turkmen gas, Russia's stance towards the TAP and its potential role for Turkmen gas exports deserves closer attention.

As the consuming countries involved in the TAP project have not signed gas purchase agreements, a precise estimate about how and where the TAP gas will be consumed is not possible. An evaluation of the prospective demand for this gas, particularly in Pakistan and India will provide insight about the viability of the whole project. Hence, factors that will drive gas demand in Pakistan and India, as well as the

potential alternative sources of gas supply for these countries, constitute the third area of focus in this paper.

Next, the paper evaluates the risks involved in crossing Afghanistan and Pakistan, two countries with ongoing tribal struggles and instability. Drawing on the assumption that the TAP project will be viable only if the pipeline reaches India, potential resolutions to Pakistan-Indian political disagreements are also evaluated.

Finally, issues related to financing the TAP project are considered. Evaluating the variety of challenges facing the project will provide insights about whether the TAP might become another Turkmen pipe dream.

I. The TAP and its importance

The proposed Trans-Afghan Pipeline is projected to carry nearly 20-30 billion cubic meters (bcm) of gas annually from Turkmenistan to Pakistan and India. Whether the project could be realized is uncertain and hinges upon various factors evaluated below. What is certain is that, if realized, the TAP project will have significant implications for Central Asia, as well as the neighboring regions.

The potential impacts of the project are several:

- **Opening Central Asian gas to the world:** So far, Central Asian gas, with the exception of the relatively limited Turkmen pipeline to Iran, has been either consumed within the region or exported via Russia. Gazprom's concerns about competing with Central Asia's gas and its own needs for Central Asian gas, have helped keep Turkmenistan's exports dependent on Moscow. The TAP project will enable Turkmenistan to get out of Russia's orbit and, contingent on future expansion of the pipeline, it can emerge as a valuable route for both Turkmenistan and Uzbekistan to export increasing volumes of gas to the world market.
- **Enhancing regional stability:** For decades Pakistan and India have failed to reach a breakthrough in their relations. This has been partly due to the nearly complete lack of economic interdependence between the two countries. The TAP can raise this level of interdependence and strengthen interests within both countries for building friendship. Similarly, the pipeline project will provide substantial revenue for war-damaged Afghanistan, which would contribute to its reconstruction, and aid its economic revival and stability.
- **Advancing India's energy security:** India's demand for energy has been one of the fastest growing in the world. As this trend is expected to be preserved in the near future, it will come at the cost of heightening the country's dependence on the Middle East's energy resources. While its rising dependence on Middle Eastern oil could hardly be avoided, India does have the opportunity to follow a different path in terms of meeting its gas demand if the TAP project is realized. The alternative would be

importing gas mainly from Middle Eastern countries, such as Iran and Qatar or rely on LNG.²

- **Reducing greenhouse gas emissions:** Both India and Pakistan will experience rapid growth in demand for fossil fuels in the coming decades. The realization of the TAP project could encourage India to switch from coal to gas for power generation projects. Similarly, the TAP will enhance Pakistan's efforts to replace its fuel oil with gas for its power projects. For both countries, availability of gas will lower the growth of and potentially reduce greenhouse gas emissions.

The realization of the TAP project will bring enormous benefits, although there may be some counterproductive implications for some countries. Turkmenistan may have difficulty in convincing the international financial community to building a second major export pipeline - namely the one through Turkey aimed at serving the European market. Existing doubts about Turkmen's ability to observe all of its gas sale contracts will be intensified. As a result, Europeans might end up with disappointment about diversifying their gas supplies through imports from Central Asia. Iran, a staunch rival for Turkmenistan in reaching the Indian market, might in fact be induced to enhance its focus on the European gas market and emerge as an increasingly important player. Finally, following the realization of the TAP project, Russia will confront with tougher negotiators in Ashgabad. This could result, either in higher costs for Gazprom's imports from Turkmenistan or a failure in extending its contracts with this country.

II. The new old TAP: where does the project stand?

The idea about transporting Turkmen gas to the South Asian market was born in the mid-1990s. The "founding" agreement for building a pipeline linking Turkmenistan's Dauletabad gas fields with Multan in Pakistan was signed in March 1995 between Turkmenistan's president Saparmurat Niyazov and the then Prime Minister of Pakistan Benazir Bhutto. The Afghan government expressed full support for the project and Uzbekistan's president Islam Karimov also committed to send Uzbek gas through the pipeline.

Two years later, the two leading governments in the project, Turkmenistan and Pakistan, signed an agreement with the US major Unocal and Saudi Arabia's Delta Oil to build the 20 bcm (700 bcf) pipeline. By October 1997, Unocal established the Central Asian Gas Pipeline consortium to build the Turkmenistan-Pakistan segment of the pipeline at an estimated cost of \$US 2 billion (\$2.7 billion if extended to India). Construction was scheduled to begin as early as in 1998, but the ongoing civil war in Afghanistan obstructed any opportunities for financing the project. After the US air

² It will be noted that Bangladesh possesses gas that might be exported to India. However, Bangladeshi public opinion appears quite negative to such exports. And even if Bangladesh exported gas to India one day, it would serve mainly a different regional market in India – the eastern India regions- while TAP and Iran and other Middle East options would at least initially serve mainly Western regions..

strikes in Afghanistan in August 1998, Unocal suspended its involvement in the pipeline and officially withdrew from the consortium towards the end of the year³.

After Unocal's withdrawal, both Turkmenistan and Pakistan maintained their desire to keep the project alive. The two governments did not object to the Taliban regime and continued efforts aimed at finding a new leader for the existing consortium. The intensified instability in Afghanistan, however, stalled the project until the end of the extensive US-led military operation in late 2001.

The TAP project received a new impetus with the removal of the Taliban regime in Afghanistan following a summit between the leaders of Turkmenistan, Afghanistan and Pakistan in May 2002. The parties affirmed their decision to revive the project and established a Steering Committee to oversee its implementation. At its first meeting in July 2002, the Steering Committee invited the Asian Development Bank (ADB) to play the role of development partner and help prepare the feasibility study of the project. In December 2002, the ADB approved a \$1 million technical assistance grant for undertaking a feasibility study, which was submitted in October 2003, but has been subject to a review in 2004. . A Steering Committee meeting in February 2003 concluded with a decision to formally invite India as a major purchaser of the gas and as an investor in the TAP.

The final Steering Committee meeting was held in December 2003 in Islamabad, where the parties agreed to establish a Joint Working Group to speed up the implementation of the project. During the meeting, while Turkmenistan committed to provide reserve certification for its Dauletabad gas fields by June 2004, Pakistan agreed to prepare a thorough report on its prospective gas demand. In the meantime, the ADB-sponsored consulting company was required to review its feasibility study, given the lack of a positive response on India's part on joining the project.

As the revived TAP initiative progresses towards realization, it appears to ascend on several grounds the previous initiative that got stalled following Unocal's withdrawal. The involvement of the parties has been institutionalized through regular meetings through the Steering Committee, and the Afghanistan government is now recognized by the international community. In addition, an international organization, the ADB, has taken a leading role in the implementation of the project.

Yet, several issues indicate that there is still a lengthy path that needs to be traversed prior to the accomplishment of the project:

Completion of a feasibility study: The ADB-sponsored feasibility study, which is expected to be finalized in 2004, will provide insight about the technical and economic viability of the project for various interested participants – primarily international companies.

- **Conclusion of gas sales and purchase agreements:** Turkmenistan, while continuing to negotiate gas sale agreements, has not signed any agreements with the prospective importers of its gas.

³ At the time of Unocal's decision to part with the consortium, the shareholders in the Central Asian Gas Pipeline consortium were: Unocal – 54.11 per cent, Delta Gas – 15 per cent, Japan's Itochu Corp and Inpex – 7.22 per cent each, Turkmen Ministry of Oil and Gas – 7 per cent, Korea's Hyundai Engineering – 5.56 per cent, Pakistan's Crescent Steel and Allied Products – 3.89 per cent. Source: "Work to Speed up on Central Asian Gas Pipeline," *Oil and Gas Journal*, June 21, 1999

- **India's official approval of the project:** New Delhi's response to the official invitation to join the TAP has been cautious. The Indian government has allowed the participation of its companies in the construction of the pipeline, but has explicitly rejected importing Turkmen gas prior to the resolution of political issues with Pakistan.
- **Selection of a precise route for the TAP:** Two routes for Turkmen gas exports have been under consideration: (1) Dauletabad – Herat – Sokh-Ab – Kandahar – Chaman – Bostan – Dera Ghazi Khan – Multan – Haveli – Fazilka; and (2) Dauletabad – Sheberghan – Mazar-e-Sharif – Pol-e-Khomri – Kabul – Jalalabad – Peshawar – Rawalpindi – Lahore – Amritsar⁴. The route selection will depend not only on cost and logistics related criteria, but also on domestic political rivalries in Pakistan and India's stance towards the project. While a final decision is pending, the tilt is in favor of the first route. This will enable Pakistan to connect the TAP to an already existing regional gas infrastructure, as well as extend the TAP to its port of Gwadar, in case of India's refusal to join the project as an importer of gas.
- **Establishment of an international consortium:** The ADB and the Steering Committee have agreed that the pipeline should be built and operated by a consortium that includes international oil firms and relevant national oil companies. It has been recommended that the consortium only transport the gas and not own it. Furthermore, gas transportation agreement will be required between the consortium and Turkmenistan. Establishment of such a consortium will be a primary step in the realization of the TAP project following the conclusion of the feasibility study.
- **Securing financing for the TAP:** This appears to be the most challenging issue about the project's future. The search for loans will be the chief activity of the parties in the project, following the conclusion of the feasibility study and the establishment of an international consortium.

III. Turkmenistan's reliability as a TAP partner?

One major question about the future of the TAP project is Turkmenistan's ability to supply the projected gas. As the pipeline is expected to transport 30 bcm of gas annually for the duration of about 30 years, Turkmenistan will need to provide nearly 850-900 bcm for this project. This section evaluates several issues related to Turkmenistan's ability to supply the required amount of gas to the TAP. Following a brief analysis of the country's gas reserves and production figures, the paper focuses on the existing and impending gas sale contracts between Turkmenistan and other countries.

⁴ "Technical Assistance for the Feasibility Studies of the Turkmenistan-Afghanistan-Pakistan Natural Gas Pipeline Project", Asian Development Bank, December 2002.

Whether Turkmenistan has over-contracted its gas for exports and its potential implications for the TAP is a major question. The paper also looks at the existing Turkmen gas export infrastructure and planned investments in this area as a possible indication of Ashgabad's ability to observe its export contracts. In addition, this section emphasizes the need for substantial investment in Turkmenistan's upstream infrastructure to produce gas as a means for observing the country's contracts. Finally, the possibility for linking Uzbek gas reserves to the TAP is under consideration.

Reserves vs. production targets

As part of the feasibility study for the TAP, ADB has requested the Turkmen government to prepare an extensive survey of the gas reserves in the Dauletabad Gas Field. While, the parties at the Steering Committee meeting in late 2003 agreed on Turkmenistan's conclusion of the survey by the end of June 2004, preliminary estimates do indicate that sufficient reserves exist. The U.S. Energy Information Administration has estimated that proven reserves of Turkmenistan stand at 2.86 trillion cubic meters overall and that reserves in the Dauletabad field are 1.3 trillion cubic meters. Further growth in Turkmenistan's proven reserves is highly expected, due to the relatively low level of exploration in Turkmenistan's offshore fields. Overall, judging merely from the resource base of the country, it is highly likely that Turkmenistan will be able to observe existing and additional gas export contracts.

Nevertheless, resource wealth is not an adequate condition for realizing ambitious growth rates in production as evidenced in the gap between Turkmenistan's past production targets and its actual production figures. In 1993, the Turkmen government set the goal of producing 130 bcm by 2000 of gas, but ended up producing only about 44 bcm⁵. This gap has persisted and the production goal of 67 bcm of natural gas in 2003, a 26 per cent of increase above 2002⁶, has been met with actual production of 52 bcm of gas in the first eleven months of 2003,⁷. Similarly, the government has set production goals of 85 bcm and 120 bcm of gas in 2005 and 2010, respectively. Whether Turkmenistan will be able to overcome the decade long gap between its targets and actual production results, is an open question.

And yet brighter prospects for Turkmen gas production might be on the horizon as two major problems hampering production in the 1990s might be disappearing. On the one hand, Turkmenistan's relations with Russia's Gazprom might become more cordial in the 2000s than in the 1990s. On the other, the days of confronting an insolvent gas market in Ukraine appear to be gone. Prospects regarding a third problem, a substantial lack of foreign involvement in Turkmenistan's gas development, will most likely determine Ashgabad's ability to bridge the gap between its targets and reality. The paper returns to this topic following an evaluation of Turkmenistan's gas sales contracts and infrastructure development.

⁵ James Dorian, "Turkmenistan's Future in Gas and Oil Hinges on Certainty for Export Options", *Oil and Gas Journal*, October 7, 2002, p.20

⁶ "Gazovy Roman Dvukh Prezidentov", *Infomaker-Russian Focus*, April 21, 2003 (www.securities.com).

⁷ Rusenergy.com, December 5, 2003

Observing multiple contracts that go beyond production targets

Eagerness to export the national gas wealth has resulted in several gas sale contracts for Turkmenistan, but dealing with multiple contracts will be a delicate issue. On the one hand, the availability of a number of contracts could serve as a catalyst for upstream investment in production facilities. But on the other hand, there is the possibility that some of the contracted export volumes might remain unfulfilled, given the optimistic assumptions on production targets.

The major contract that will affect Turkmenistan's overall gas export commitments is the one signed with Russia in April 2003. The 25-year contract commits Turkmenistan to export 5-6 bcm in 2004, 6-7 bcm in 2005, 10 bcm in 2006, 60-70 bcm in 2007, and up to 80 bcm during 2009-2028. Furthermore, Gazexport, the export arm of Gazprom, and Turkmen authorities have already discussed the possibility of delivering 80 bcm to Russia as early as in 2007⁸.

Ukraine is another country with an eye on Turkmen gas exports. It signed a five-year contract in May 2001, which envisages up to 250 bcm of gas to be exported to Ukraine by the end of 2006, with annual negotiations between Naftogaz Ukrainy and Turkmenistan on issues related to volumes and prices. While Ukraine has already secured a deal to import 36 bcm of gas a year from Turkmenistan in 2003 and 2004, it is looking for a new longer-term contract. Officials in Ashgabad have already reported their intent to sign a 25-year deal with Ukraine, which will secure supplies to the latter from 2007 to 2031.⁹ This is a reflection of the change in Turkmen's perception about the credibility of Ukraine as a gas customer. Naftogaz Ukrainy has reported substantial improvement in collecting the liabilities of its customers in cash and has even paid nearly \$200 million of its past debts to Turkmenistan this year alone¹⁰. This deal, if accomplished, will further increase the demand for Turkmen gas in the forthcoming years.

Itera is also willing to extend its relations with Turkmenistan. It appears committed to purchase Turkmen gas and re-sell it within the CIS. As evidence, it signed an agreement to buy 10 bcm both in 2003 and 2004 and has expressed its desire to conclude a long-term contract on gas purchases with Turkmenistan.

Yet, the future of such a contract is contingent upon Itera's relations with Gazprom. It has already been ousted from its monopoly role in the transit of Turkmen gas to Ukraine. Moreover, there are indications that Gazprom wants to take over Itera's other markets in the CIS (either directly or through its new partner Eural TG) and prefers to use the limited existing export capacity in Central Asia for its own needs¹¹.

Iran has been another partner for Turkmenistan. It signed a 25-year long-term contract with Turkmenistan in 1995 and is expected to import 6 bcm of gas through the Korpedzhe-Kurt Koi pipeline in 2003¹². The capacity of the pipeline is estimated at 8

⁸ "Turkmenistan: Gas Sales Accelerated to Russia", *Nefte Compass*, June 4, 2003

⁹ "Turkmenistan Intends to Sign a Gas Contract with Ukraine for 25 Years", *Gazeta.Ru*, August 12, 2003

¹⁰ Igor Maskalevich, "Minus 'Iterizatsii' Vsei Strany", *Zerkalo Nedeli*, June 7, 2003

¹¹ "Eural Ousts Itera From Gas Markets of CIS", *Vedomosti*, December 26, 2003

¹² "Turkmen Sales To Iran", *World Gas Intelligence*, March 17, 2003

bcm, but parties have been involved in bilateral talks for expanding the capacity up to 13 bcm in the following years.

Adding up the existing and potential contracted volumes puts the optimistic production targets set by Turkmen authorities under question. If the TAP pipeline is put in operation by 2007 and starts pumping an additional 30 bcm of Turkmen gas, Ashgabad will need to either revise some of its contracts or achieve production levels that exceed its current targets. A rough estimate for 2010 projects total demand of 183 bcm for Turkmen gas – assuming a very modest rise in domestic consumption of about 15 bcm, 80 bcm for Russia, 35 bcm for Ukraine, 13 bcm for Iran, and 10 bcm for Itera (or its potential substitute).

Due to the size of the contracted volumes, the fate of Turkmenistan's gas relations with Russia and Ukraine will determine Ashgabad's ability to meet future gas export commitments at current production targets. A major indicator will be provided by infrastructure development in Turkmenistan aimed at exporting gas to the North.

Expanding the infrastructure to the North

Currently Turkmenistan exports its gas to Russia and Ukraine through two major pipelines. The first one is the Deryalik-Europe pipeline (formerly known as Central Asia-Center I, II, IV), which runs through Uzbekistan and Kazakhstan, and has a nominal capacity of 60 bcm a year. According to Gazprom experts who recently examined the Turkmen section of the pipeline, the actual capacity is below 45 bcm a year¹³. The second pipeline is the Bekdash-Europe pipeline (formerly known as Central Asia-Center III) and runs through Western Turkmenistan with capacity of 5 bcm a year.

These figures indicate the need for expanding the capacities of the Northern routes in order to meet Turkmenistan's contracted gas export commitments. Meanwhile, building new pipelines to the North or expanding the existing ones will enhance mutual interests to maintain Turkmenistan's contracts with Russia and Ukraine.

So far, all three countries have expressed their ultimate goal to move in this direction. A major step has been taken between Gazprom and Turkmen authorities in August 2003, when the parties reached an accord to prepare business plans for pipeline construction. In addition, Gazprom agreed to provide Turkmenistan gas equipment and technologies valued at 461 million USD in lieu of payment for half of the contracted gas in 2004-6¹⁴. This may partly facilitate the realization of the construction projects. Similar barter agreements exist with Ukrainian companies, which President Niyazov has called on to participate in Turkmenistan's trunk expansion.

While prospective developments regarding these pipelines require closer observation in the future, several potential problems need to be highlighted.

First, the required trunk capacity within Turkmenistan in 2010, if projected contracts with Russia and Ukraine are in force, will exceed 115 bcm. This is far above the current capacity of 50 bcm, which indicates the need for a massive investment in pipeline construction.

¹³ "Russia, Turkmenistan Axis", *World Gas Intelligence*, April 14, 2003

¹⁴ "Gazprom to Participate in Construction of Central Asia-Center Gas Transportation System", *Vremya Novostei*, August 19, 2003

Second, it will not suffice to invest in Turkmenistan only. The major pipeline traverses Uzbekistan and Kazakhstan and both countries hope to become net exporters of gas in the near future. Moreover, the Uzbek national company Uzbekneftegas has already signed an agreement with Gazprom for delivering gas to Russia, with annual volumes reaching 10 bcm in 2005. As a result, the total capacity of the transit pipelines through these two countries should be greater than 115 bcm a year.

Third, there is no consensus on the precise route of a new pipeline that needs to be constructed in addition to expanding the existing pipelines. Reaching an accord on selecting a route will further complicate the need to determine the precise proportions of investments from each partner.

Forth, the difficult task for achieving an adequate export capacity that will satisfy the needs of both Russia and Ukraine, will most likely exacerbate competition between these two countries for the available Turkmen trunk. It is highly likely that Moscow and Kyiv will favor different routes for capacity expansion in Turkmenistan, with Kyiv preferring to focus on projects routed along the Caspian coast.

Fifth, judging from Gazprom's past behavior in Eastern Europe and Ukraine, it is highly possible that the Russian major will insist on its direct participating in the construction of the pipeline traversing Turkmenistan, Uzbekistan and Kazakhstan. This may lead to a delay in pipeline expansion projects, which may endanger meeting Turkmenistan's export commitments. On the other hand, Gazprom's involvement as a stakeholder in expansion of the Central Asian trunk will increase the mutual commitment for observing the 25-year contract with Turkmenistan.

The need for foreign investment in Turkmen upstream

Turkmenistan produced almost 54 bcm of gas in 2002¹⁵ and the government has set the 2010 target at 120 bcm. If contracts with Russia and Ukraine materialize along with the TAP project, Turkmenistan will need to produce above 183 bcm by the end of the decade. Similarly, the country produced about 9 million tons of oil in 2002, but has set the 2010 goal at 48 million tons¹⁶.

Both figures imply that Turkmenistan will exceed the peak production in the late 1980s, when the gas sector was benefiting from substantial access to Soviet investment resources. In most estimates, Turkmenistan's requirements for capital investment in the oil and gas sector by 2010 will exceed 25 billion USD¹⁷. This highlights the point that a substantial rise in foreign investment will be a prerequisite for the development of the Turkmen energy sector.

Turkmen legislation pertaining to the oil and gas sector has often been identified as an extensive one that provides broad rights and guarantees for foreign companies¹⁸. The 1997 Law on Hydrocarbon Resources provides a detailed legal framework for

¹⁵ "Po Itogam 2002 Goda Neftegazovy Kompleks Sokhranil Liderstvo v Promyshlennosti Turkmenii, *Neftegazovy Vertikal*, January 17, 2003

¹⁶ Dorian, *op.cit.*, p. 25

¹⁷ Dorian, *op.cit.*, p. 22

¹⁸ "Foreign PSAs Help Boost Turkmen Oil Production", *Oil and Gas Journal*, October 21, 2002, p. 51

Turkmenistan's energy sector by allowing foreign companies to enter into joint ventures and production sharing agreements (PSAs) in Turkmenistan.

Nevertheless, several issues need to be addressed for securing greater foreign participation in Turkmenistan's energy sector, which in turn can help the country reach its production targets:

- **Need for ownership reform in the gas sector:** Nearly 84.5 per cent of the gas in 2002 was produced by Turkmengaz with the remainder produced by Turkmenneft. Expanding gas production will require demonopolization in gas production and distribution. While this can create incentives for foreign involvement, the extent of the reform might appear high for a country with a centralized government and bureaucracy.
- **Dealing with low-price contracts:** For years Turkmenistan has been selling its gas at levels much below the world prices. The contract that was signed with Russia in April 2003, as well as the existing contracts with Ukraine, has set the price for gas at \$44 per thousand cubic meters, half of which is paid in bartered goods. Such low prices leave very small margins for foreign companies involved in Turkmen gas development. At the same time, Turkmen authorities will confront serious difficulties in raising prices to levels sufficient to attract private gas developers.
- **Lack of a major oil export pipeline:** Most foreign companies willing to be involved in Turkmenistan's energy sector will go there for a share in the expanding oil sector, where the government has allowed relatively more freedom in resource development. But unlike Azerbaijan and Kazakhstan, Turkmenistan lacks a major outlet for the country's oil, and there is no established plan for creating one in the near future. This will tend to discourage foreign investment in the oil sector and may affect gas production, which is often a function of oil sector development.
- **High level of corruption in a petro* state:** Many foreign majors have identified widespread government corruption as a serious obstacle for investing in Turkmenistan. The experience in many other resource rich countries with weakly established institutions indicates that dependence on energy wealth may hinder market reform, which in turn breeds corruption.

Uzbek gas for the TAP

If Turkmenistan meets hardships in observing its export contracts, it can always ask for help from its neighbor. Uzbekistan ranks high in terms of gas reserves, and in fact produced 58 bcm of gas in 2002, slightly more than Turkmenistan¹⁹. Furthermore, its ongoing negotiations for PSAs with Russia's LUKoil and Itera for developing a field with estimated 250 bcm of gas reserves indicate its determination to emerge as a net

* The term 'petro' is used as the generic term for a country with high dependence on energy exports.

¹⁹ "Uzbek Gas Oil Major Boosts Production in 2002", *Interfax News Agency*, January 27, 2003

exporter of gas²⁰. Meanwhile, for years the Uzbek president Karimov has expressed his support for the TAP project and his country's wish to export its gas through this pipeline²¹.

Notwithstanding Karimov's enthusiastic approach towards the TAP, sending Uzbek gas through this pipeline is a very delicate issue for Turkmenistan. It was alleged that President Niyazov orchestrated an assassination attempt on Niyazov in late 2002 in order to exclude Uzbekistan from TAP related negotiations²². Whether the incident was orchestrated by Niyazov himself and whether Uzbekistan had a role in it, is a mystery, but Niyazov did manipulate the incident to oust Uzbeks from negotiations on the future of the TAP project.

For at least two reasons, Uzbeks may find it difficult to obtain a minimum quota for exporting gas through the TAP. First, if the TAP is realized, Turkmenistan will be reluctant to lose or share its customers in India and Pakistan, as these new customers will purchase the gas with hard currencies and at higher prices than those set in Turkmenistan's current contracts with Russia and Ukraine. Second, the volume of gas through the TAP will enhance Turkmenistan's bargaining power versus Gazprom and other customers, such as Ukraine and Itera. Lowering gas sales through the TAP will weaken Turkmenistan's hand in future negotiations with these partners from the North.

Uzbekistan, however, does have the chance to dispatch part of its gas through the TAP. Most of Turkmenistan's present gas exports cross Uzbekistan. If current plans to expand the Central Asian gas trunk turn in favor of an expanded route through Uzbekistan, this will further augment Tashkent's hand versus Turkmenistan. Thus, even if Uzbekistan fails to be a part of the approaching negotiations on gas sales agreements with Pakistan and India, the country may adhere to such negotiations in the future.

IV. What is Gazprom's Strategy towards the TAP?

Developments in the Turkmen gas sector in the past decade were highly correlated with Turkmenistan's relations with Russia, and with Gazprom in particular. Gas production, which hovered around 82 bcm in 1990, decreased to 12.4 bcm in 1998²³, primarily as a result of disagreement with Gazprom on gas transit through Russian territory. By the same token, the rebound in the Turkmen gas sector since 1998 could be attributed to the improved relations with the Russian monopoly.

It is for this reason that analyzing Gazprom's strategy towards Turkmenistan and the TAP project is crucial. Looking at the company's perceptions gas from Turkmenistan could provide some insight about its prospective policies towards Turkmenistan.

Ideally, Gazprom would like to maintain the status quo regarding Turkmenistan's export alternatives as Gazprom would derive several benefits if the TAP project was not implemented. First, Gazprom would obtain a near monopoly in future negotiations with

²⁰ "Uzbekistan: LUKoil aims to Sign Gas PSA by Year-End", *Nefte Compass*, May 7, 2003

²¹ "Uzbekistan to Export Natural Gas and Take Part in Construction of Pipeline via Afghanistan and Pakistan to India", *AK&M Agency*, December 22, 2002, (www.securities.com)

²² "Turkmenistan i Uzbekistan ne Podelili Gazoprovod", *Zerkalo*, December 12, 2002

²³ Dorian, *op.cit.*, p. 20

Turkmenistan for gas sales and prices. Meanwhile, there is a considerable urgency for securing gas imports from Turkmenistan as Gazprom faces diminishing returns from its gas reserves in Russia and is concerned about its future ability to honor gas contracts with Europe. It plans to hike its exports from 129 bcm in 2002 to 190 bcm to the European Union by 2010²⁴. The gas that Gazprom buys from Turkmenistan is too cheap to turn down -- it is just \$44 per thousand cubic meters, half of which is paid in bartered goods. In fact, high-ranking officials in Russia's energy ministry have stressed the price advantage of Turkmen gas over costly development of national reserves in Russia²⁵. This price differential may allow Gazprom to surmount its financial problems and Russian domestic production may start growing at a higher rate again. In addition, the prospective liberalization of gas prices in Russia will preserve the attraction of lower priced Turkmen for the Russian market, which is the second biggest consumer in the world.

A potential failure of the TAP project will have an additional benefit for Gazprom, which perceives Iran as a major potential competitor in the European market. Iran, in the meantime, lobbies for its own pipeline to India and Gazprom officials would most likely be relieved to observe the realization of the proposed Iran-India pipeline project, instead of the TAP. The former will divert part of Iran's gas exports to the South Asian market, where Gazprom does not have plans to compete and reduce the flow of Iranian gas to Western markets.

As a result, Gazprom's response to the TAP project has been twofold. First, it signed a 25 year contract with Turkmenistan in April 2003 to which secure substantial volumes of gas imports, especially after 2007. The increase in 2007 from 10 bcm to 60-70 bcm could be attributed to Gazprom's plans to inaugurate two major export projects by that year: the Yamal project that will boost exports to Europe and the North European Gas Pipeline project with an expected initial capacity of 30 bcm a year²⁶.

Second, Gazprom has been an ardent supporter of the Iran-India pipeline project. As early as in 1997, when the "first" TAP initiative obtained Unocal's involvement, Gazprom proposed to build a pipeline from Iran to India²⁷. Political issues between India and Pakistan, as well as financial concerns about the project, kept it unrealized, but, Gazprom has vigorously continued to lobby for implementing the project. Its latest proposal has been to conduct a feasibility study for a shallow coastal route for the pipeline, but this has been stalled due to India's objections.

Notwithstanding Gazprom's initiatives, the Russian major will confront a fundamental problem in its relations with Turkmenistan. The April deal concludes with an article that provides a loophole for Ashgabat by allowing either party to renegotiate or revoke the agreement on each consecutive fifth year of the 25-year contract, as well as

²⁴ Stanislav Roginskii, "Spros i Predlozhenie Gaza v Evrope 2005 i 2010", *Zhurnal NeftegazovyVertikal* 2003/6

²⁵ "Zamministra Energetiki RF Schitaet, chto Rossii Vygodno Pokupat' Turkmenskii Gaz", *NeftegazovyVertikal*, April 22, 2003

²⁶ Samsam Bakhtiari, "Russia's Gas Production, Exports Future Hinges on Dramatic Changes Needed at Gazprom", *Oil and Gas Journal*, March 10, 2003, Sergei Blagov, "A Risky Gambit for Global Gas Supremacy", *The Moscow Times*, June 24, 2003

²⁷ "Gazprom Primet Uchastie v Stroitelstve Gazoprovoda iz Irana v Indii Cherez Pakistan", *Kortes Oil and Gas Spectator*, November 16, 2002, (www.securities.com)

renegotiate future prices²⁸. Almost certainly, if the TAP is realized, despite its limited capacity, will bring about a price hike, if not a thorough revision in the Turkmen-Russian contract after 2007. It is within this context that the failure of the TAP will preserve Gazprom's upper hand in its negotiations with Turkmenistan.

V. Who will consume the Turkmen gas?

Turkmens are willing to supply 30 bcm annually of gas through the TAP, but will there be sufficient demand for this gas in the countries that will be associated with the project? This section examines various issues that will potentially affect the demand for Turkmen gas in Afghanistan, Pakistan and India.

The adherence of India to the project is not yet confirmed, but this paper assumes that its involvement in the TAP is critically important for the viability of the project. The alternative, in case of a lack of Indian participation, will be to limit the capacity of the TAP up to 20 bcm a year. This possibility has been discussed at the Steering Committee meetings, but this will raise the price of the piped gas per cubic meter. It will lower the competitiveness of Turkmen gas in Pakistan and at a potential LNG terminal at the Gwadar port, if Pakistan decides to re-export it. Furthermore, if India joins the project at a later date, the project overall will fail to benefit from the economies of scale provided by the currently proposed 30 bcm pipeline. Hence, the viability of the project is very much at the hands of India's timely participation.

Afghanistan

Afghanistan's status within the TAP project has been defined mainly as a transit country. Looking at the ongoing negotiations, however, reveals the obscurity of Afghanistan's position within the project. ADB's preliminary reports have cited the country both as an importer and a prospective exporter of gas through the TAP.

In actual fact, Afghanistan does possess natural gas reserves, which in 1970s were estimated at about 150 bcm²⁹. In the early 1980s, natural gas exports were at the range of 2.5-2.8 bcm a year, and constituted its main source of export revenues. The civil war and the protracted period of instability halted upstream development.

Afghanistan's future status regarding the TAP will depend on its ability to develop its natural resources and the pace of growth in gas demand. Two factors point out that Afghanistan is likely to emerge as a net gas importer from the TAP, at least in the short run. First, major investments in its gas transmission and power generation infrastructure are on the agenda. Given the low potential for hydro-power generation, gas fired thermal plants will drive the country's demand for gas. Second, prospects for developing its own gas reserves do not appear bright in the near future. The ongoing instability in the country, the primitive state of gas infrastructure, and the lack of a sizable

²⁸ "Soglashenie mezhdru Rossiiskoi Federatsiei i Turkmenistanom o Sotrudnichestve v Gazavoi Otrastli", *Pravitel'stvo-Postanovleniia*, (www.eastview.com)

²⁹ EIA Afghanistan Fact Sheet, October 2002, www.eia.doe.gov

domestic market will most likely deter foreign involvement in upstream facilities. Thus, if the TAP becomes operational by 2007-8, Afghanistan will primarily be a consumer of Turkmen gas, though at relatively modest quantities in comparison to Pakistan and India.

Pakistan

Since India has not endorsed the TAP project yet, and Afghanistan's future demand for Turkmen gas appears negligible, Pakistan emerges as the primary market for the Central Asian gas. Will Pakistan need the 20-30 bcm of natural gas that is projected to pass through the TAP?

Looking at the trends in Pakistan's gas consumption raises hopes that the country will need at least part of the TAP gas, but not as much as 20-30 bcm in the near future. Gas demand grew at a rate of 5.5 per cent in 1995-2000³⁰, reaching 26 bcm in the 2001-2 fiscal year. Recently, the government announced plans to switch power plants from furnace fuel oil to natural gas. The annual bill for importing furnace fuel oil reached nearly 1 billion USD in 2002, creating a serious burden for the country's foreign exchange reserves. The plan to convert these plants to natural gas is estimated to raise the total gas demand by nearly 8 bcm a year³¹. A study by the World Bank estimates that a potential reduction in the demand for fuel oil by 4.5 million tons will provide an annual saving of \$ 650 million.³²

Meanwhile, since the announcement of a new power generation policy in 2002, the Private Power and Infrastructure Board has received fifteen expressions of interests (EIOs) for generation capacity of 2,683 MW with nine of these projects based on gas³³. The government has warned about the power shortage reaching 5,529 MW by 2010 and hinting about the prospective growth in demand for gas. In addition, major investments in Pakistan's gas infrastructure are under way that will further raise the demand for gas in the industrial and residential sectors³⁴. The Ministry of Oil and Gas of Pakistan has estimated that, gas demand will go up by at least 50 per cent to nearly 40bcm as early as 2006³⁵.

Nevertheless, the availability of sizable domestic gas reserves and possible improvements in upstream development could considerably constrain Pakistan's demand for Turkmen gas. The country's reserves have been estimated at 710 bcm (25.1 tcf)³⁶, and Pakistani authorities have announced a goal to raise gas production over 100 per cent by the end of the decade, bringing the domestic supply up to 55 bcm in 2010³⁷.

Whether Pakistan will be able to achieve its gas production targets will hinge upon developments in the upstream sector, as well as the pace of reform in the energy market. There are indications that the government is serious about improving the conditions for upstream development by reducing corporate taxes, terminating its policy

³⁰ Hassaan Vahidy, Fereidun Fesharaki, "Pakistan's Gas Discoveries Eliminate Import Need", *Oil and Gas Journal*, January 28, 2002

³¹ *ibid*

³² "World Bank Wants Gas Rates Increased in Pakistan", *Asia Pulse*, August 27, 2003

³³ "Pakistan Board Gets 5 EIOs for Gas-Based Projects", *Asia Pulse*, July 25, 2003

³⁴ "Large Gas Pipeline Expansion Mooted in Pakistan", *Asia Pulse*, July 22, 2003

³⁵ EIA Pakistan Fact Sheet, May 2003, www.eia.doe.gov

³⁶ *ibid*

³⁷ "Pakistan to Lift Gas Production by 100 per cent in Eight Years", *Asia Pulse*, October 7, 2002

of mandatory participation in exploration joint ventures, and providing guarantees for foreign exchange remittances by foreign companies³⁸. Furthermore, in line with IMF and World Bank's proposals, Pakistani authorities have announced plans to liberalize gas prices and allow privatization of the country's major oil and gas companies. While these policies might experience delays, their realization will provide a further boost for upstream development.

Considerable uncertainty about expected trends in Pakistan's gas demand and supply has prevented the emergence of a consensus within Pakistan on the country's need to import gas in future. Given this uncertainty, Islamabad could be expected to opt in favor of LNG import projects that could be expanded on several phases. Pakistani authorities, however, have been eager to support the TAP even with the risk of insufficient growth in demand. This could be explained at least on two grounds.

First, even though Pakistani officials have claimed that the TAP will be viable even if India does not participate, on a number of occasions they have been eager to invite India to join in the project. It is highly possible that Pakistan views the TAP as a potential lever over its rival to raise the level of interdependence in Pakistan's favor. Additional benefits of realizing the TAP are that it will generate significant transit revenues, as well as project Musharraf's image as a contributor to the reconstruction of Afghanistan.

A second reason for Islamabad's eagerness towards the TAP might be related to the competitive price offered by Turkmenistan. While gas purchase agreements have not been concluded yet, Turkmenistan is able to offer gas at relatively low prices. Ashgabat did offer to deliver the gas at Multan in the price range of \$1.65-2.05 per MMBTU (\$59.4- \$73.8 per thousand m³) in 1997, when Unocal was involved in the project³⁹. This price is considerably below the expected domestic prices in Pakistan following gas market liberalization. While current prices, subsidized by the government, hover around \$2 per MMBTU (\$72 per thousand m³), they are expected to go up to nearly \$4 per MMBTU (\$144 per thousand m³) after the impending price reform⁴⁰. Thus, importing Turkmen gas could partly alleviate the economic burden on gas consumers who will soon start paying higher prices for gas. Meanwhile, the government could use the price of the TAP gas to cap the gas prices that will be requested by prospective private investors for upstream development Pakistan. However, it may be important that the Turkmen pipeline does not end up in Pakistan, as the low price may potentially hamper domestic upstream development.

India

India, being the sixth largest energy consumer in the world, appears to be an attractive market for Turkmen gas. Moreover, gas demand highly exceeds supply partly due to subsidized prices, which has required rationing gas primarily to power and

³⁸ Ahmad Mukhtar, "Oil and Gas Generation and Transmission: An Interview with Minister for Petroleum and Natural Resources", *Economic Review*, 2002/4-5, p. 56

³⁹ Hart's Asian Petroleum News, March 13, 2000.

⁴⁰ Hasan Asad, "Oil and Gas Exploration and Production in Pakistan", *Economic Review*, 2002/4-5, pp.: 9-12

fertilizer industries. Gas consumption in 2002 stood at 22.7 bcm, accounting for 8 per cent of India's fuel mix. Indian government estimates that current demand for gas is at least 50 per cent above the supply⁴¹. While these estimates appear to be based on subsidized prices, the same sources, taking into account the reform initiatives on the horizon, forecast that demand will reach 90 bcm in 2005 and 115 bcm in 2012. ADB's more conservative estimate is that demand will reach 67.5 bcm in 2008⁴².

The demand estimates indicate that there is a substantial role for Turkmen gas in the Indian market. However, the potential extension of the TAP to serve the apparent demand in India hinges upon three major issues.

First, India has been adamant against involvement in any pipeline projects that crosses its rival Pakistan. The TAP, if extended to India, will provide significant transit revenues for Pakistan and leverage in the hands of Islamabad. Rapprochement with Pakistan is widely considered as a precondition for extending the TAP pipeline to India.

Second, India is experiencing a revival in development of its own upstream resources. The government's initiative to attract the private sector to oil and gas development through its New Exploration and Production Policies (NELP) is gradually paying off⁴³. A major indication was the discovery of a large gas field by Reliance Industries in the Krishna Godivari Basin in late 2002⁴⁴ that is expected to add up to 14 bcm a year to domestic gas supply. While further discoveries are expected, it is still far from certain whether they will be adequate to match the growing demand for gas.

Third, if India decides in favor of importing gas, Turkmen gas is just one among a range of alternatives. Several additional sources of supply are available, which are worth considering in terms of their ability to compete with Turkmen gas.

One potential source is Iranian gas. Since the early 1990s, Iran has been lobbying for a pipeline that would export nearly 30 bcm of gas annually to India. One of the proposed routes traverses Pakistan, which has been stalled due to India's objections. It is worth noting that Pakistan has been a staunch supporter of the proposed pipeline even at the height of ongoing negotiations on the TAP project. The Iran-Pakistan-India pipeline, if constructed, will cross nearly 850 km through Pakistani territories, bringing transit revenues that would be even higher than the TAP⁴⁵.

Iran has subsequently asked India to consider two alternative pipeline routes, the first one passing through the shallow waters of Pakistan and a second one through the deep waters of the Indian Ocean. While neither of the projects has been suspended, their future depends not only on the improvement of Indian-Pakistani relations, but also on Iran's prospects within the US policy towards the "Axis of Evil".

Gas imports from Bangladesh could provide another source of supply for India. In fact, India's three major oil and gas companies, IOC, GAIL and ONGC, have formed a consortium, the India International Gas Company, which will be in charge of building the pipeline and marketing the gas. Unlike in the TAP project, the proposed pipeline benefits from the presence of an international major, Unocal. The American company has been

⁴¹ "India: Tackling Import Dependence", *Petroleum Economist*, December 17, 2002

⁴² "Reliance Finds Cast Cloud over Import Prospects in India", *World Gas Intelligence*, December 3, 2002

⁴³ Amit Kapur, "The Energy Industry in India: a Perspective", *International Financial Law Review*, 2002, Vol 21/9, pp.: 9-20

⁴⁴ "Qatari Minister Outlines Vision for Top Role in All Gas Forms", *World Gas Intelligence*, December 16, 2002

⁴⁵ Expected transit revenues are estimated at nearly 600 million USD per year.

actively lobbying in favor of building the 1,363 km line, with an initial throughput of 6 bcm, at the cost of 1.2 billion USD⁴⁶.

Nevertheless, this import project has also made little progress, primarily because of the uncertainty about the exact size of gas reserves in Bangladesh. The national company Petrobangla has provided much lower estimates than international majors about the country's gas wealth⁴⁷. Similarly, there has been great controversy on the future of domestic demand in Bangladesh. The mere issue of exporting national gas reserves has emerged as a source of criticism against politicians in favor of the project. While the future of gas imports from Bangladesh appear uncertain, it is worth noting that even if a pipeline is constructed from Bangladesh, it will not necessarily compete with the TAP as gas will mainly serve the eastern parts of India, a country with a sizable geography.

LNG imports appear to be the major competitor to pipeline projects targeting the Indian market. Besides overcoming the need to transit a neighboring country, LNG projects worldwide have experienced decreasing infrastructure costs, as well as the emergence of greater flexibility in LNG contracts⁴⁸.

Yet, the future of competing gas projects for India will be determined not only by geopolitical reasons and the cost of the project itself, but also by the price at which each project could deliver gas to India. If the original Turkmen proposal to bring gas to Pakistan's city of Multan at the cost of \$1.65-2.05 per MMBTU is maintained, the price of Turkmen gas in India, devoid of taxes and surcharges, will not be much higher than \$2.50 per MMBTU (\$90 per thousand m³). This appears as a highly competitive price within the Indian gas sector as the national companies sell their gas at the subsidized price of \$1.50 per MMBTU (\$54 per thousand m³), which goes up to 2.70 USD per MMBTU after taxes (\$97.2 per thousand m³)⁴⁹, and the price from private developers ranges from \$3.00-3.50 per MMBTU (\$108-126 per thousand m³). Following the liberalization trends in India's energy market, gas prices are expected to get indexed to fuel oil and settle above \$3.00 per MMBTU (\$108 USD per thousand m³).

A competing proposal from Iran is to deliver piped gas at the Indian border at \$2.30 USD per MMBTU⁵⁰ (\$2.29 per GJ or \$86.4 per thousand m³). Moreover, Iranian officials have claimed that they can provide LNG at \$3.00 per MMBTU (\$108 per thousand m³), including transportation costs⁵¹. This points out that Iran might become an increasingly important actor in India's gas market, particularly through its LNG projects. Other sources of LNG will have to compete with lower cost gas produced in India. Indeed, Qatar has been the country that has achieved the highest progress among the LNG initiatives in India. Its plant in Dahej in Gujarat, with an annual capacity of 5 million tons, is almost completed. But the initiator of the project, Qatar's RasGas has been repeatedly pressed to renegotiate the price of its gas. Petronet, the company in charge of implementing a comprehensive program to expand the use of LNG in India, has

⁴⁶ "Bangladesh: Export Decision the Key", *Petroleum Economist*, December 17, 2002

⁴⁷ Robert Milici, Peter Warwick and Emil Attanasi "To Sell or not to Sell: Assessments of Bangladesh Hydrocarbons", *Oil and Gas Journal*, November 18, 2002, p. 25

⁴⁸ Amos Avidan, "Drive to Lower Transportation Costs Key to Many Gas Projects", *Oil and Gas Journal*, May 15, 2000, Collen Taylor Sen, "Global LNG Industry Expanding to Meet Heightened Gas-Demand Projections", *Oil and Gas Journal*, August 12, 2002

⁴⁹ "India Threatens to Take RasGas to Court", *World Gas Intelligence*, June 16, 2003

⁵⁰ "Iranian LNG Sales Drive", *World Gas Intelligence*, May 13, 2003

⁵¹ *Ibid*

failed to find clients for the Qatar LNG. A cartel, established by fertilizer companies, and the National Thermal Power Corporation, have been pressing for the LNG price to stay below 3.00 USD per MMBTU (\$108 per thousand m³). Prospective exporters of LNG will face similar problems, especially if further progress is achieved in domestic upstream and import projects from Turkmenistan or Iran.

VI. Security problems for the TAP: selecting a route

Negotiations at the Steering Committee meetings of the TAP project have focused on two potential routes for the pipeline. The first traverses Northern Afghanistan through Mezari-Sherif and Kabul, passes through Islamabad and reaches Lahore in Eastern Pakistan. The alternative route goes through Southern Afghanistan through Kandahar, passes through Pakistan's Baluchistan province, and reaches Multan.

Selection of either of the routes is complicated by security concerns in both countries, as well as the involvement of local interests. A major problem in Afghanistan is the inability of the central government to establish its authority throughout the country. ISAF's authority is limited to Kabul and is not committed to providing security to all parts of Afghanistan. Meanwhile, clashes with Taliban forces are a common phenomenon, given the sizable number of sympathizers around the country. In addition, crime rate, as well as the level of opium production, has been on the rise⁵².

The route of the TAP will have an impact on the development of the region through which the pipeline and associated infrastructure will be built. While, there is a large consensus among various Afghan tribes and politicians about supporting the TAP, there is much disagreement on the precise route of the pipeline. The lack of an existing gas infrastructure in Afghanistan raises the marginal value of building a pipeline through a particular province. Constructing the pipeline through Kabul is certainly a factor that will potentially boost the region's economy. Meanwhile, the Southern provinces of Afghanistan are scarcely inhabited and prone to terrorist attacks. But, either of the routes will hardly be secure, provided that ongoing instability in the country is not overcome.

In Pakistan's case, pipeline security is not totally different from Afghanistan. President Musharraf has not been able to establish firm authority throughout the country's territories. Pashtuns in the North, and Bugtis and Mezaris in the South could potentially interrupt future gas flows through the TAP, and local interests will bear upon route selection. The Southern route is hampered by the ongoing feud between Bugti and Mezari tribes for royalties on vaguely defined land ownership in the Sui area – the region where Pakistan's largest gas fields are located. Repeated attacks on the existing pipeline infrastructure threaten future prospects about a TAP route through Baluchistan.

Nevertheless, Pakistan's choice of a route for the TAP will depend also on whether India will be a part of the deal. The choice in favor of the Northern route would help to cut the distance to New Delhi, if India opts to be a part of the TAP. The Southern route appears as the safer option for Pakistan, as the pipeline could be extended to the Gwadar port in the south at a lower cost and, depending on its own demand, the gas exported as LNG.

⁵² "Stroitransgaz Primet Uchastie v Tenderakh na Stroitelstve Truboprovodov", *Kortex Oil and Gas Spectator*, May 10, 2003 (www.securities.com)

VII. Could the TAP be built without a breakthrough in Indian-Pakistani political relations?

Tensions between India and Pakistan have grown in the past few years discouraging the implementation of the TAP project. In fact, the two countries came close to a war by late 2001, when they severed diplomatic relations. A further crisis has been averted, but India has repeatedly blamed Pakistan for terrorist attacks within the country associated with Kashmir-related issues. Meanwhile, Pakistan has dragged its feet on India's proposals to expand economic relations, by insisting on its "Kashmir-first" policy. India, on its part, has opposed any pipeline projects that would traverse Pakistan, leading to a standstill in the Iran-India project, and complicating negotiations aimed at implementing the TAP.

Would this tension in bilateral relations lead to the ultimate failure of exporting Turkmen gas to the Indian market? Several reasons hint that one could be hopeful about the prospect that the TAP will reach India.

Since April 2003, Pakistan and India have moved towards resuming diplomatic relations. Meanwhile, Musharraf has been put under increasing pressures to reconsider his stance on supporting terrorism in the post-9/11 international political environment. While Pakistan's prospective stance on Kashmir-related terrorism is obscure, India's efforts to publicize Pakistan as a terrorist country might further enhance the international pressure on Islamabad.

Pakistan has shown increasing understanding of India's concerns about the security of the prospective pipeline through its territory. High-ranking officials, including Prime Minister Zafarullah Jamali, have offered guarantees not to cut the supply of gas in case of crisis⁵³.

On the other hand, India's stance towards the TAP has also moved in a new direction. The Ministry of External Affairs has officially ruled out extension of the TAP to the Indian border, but has approved the participation of the major Indian companies, GAIL and IOC, in the construction of TAP's sections in the other three countries⁵⁴. For two countries, which effectively do not trade with each other, the participation of Indian companies in a joint project with Pakistan would be a major economic and political breakthrough.

In addition, India's official stance against gas pipelines crossing Pakistan has confronted increasing pressures at home. Proponents of the Iran-Pakistan-India and the Trans-Afghan pipelines have pointed out the fallacy in the government's arguments against these pipelines⁵⁵. They have noted that the deep-water pipelines and LNG projects are not significantly more secure than an overland pipeline through Pakistan. Offshore routes could in fact be blown by Pakistan's Inter-Services Intelligence Agency - the ISI- with less evidence. Moreover, the duration and costs for repairs for an offshore pipeline would be greater. Meanwhile, due to its control over one of the largest maritime

⁵³ "India-Pakistan Talks May Herald Cooperation", *Energy Compass*, May 29, 2003

⁵⁴ "GAIL Keen on not Missing Pakistan Bus", *Financial Express*, June 2, 2003

⁵⁵ "Not a Pipe Dream", *Indian Express*, July 23, 2003

strike capabilities in the Indian Ocean, Pakistan could easily target LNG tankers in case of a crisis with India.

Finally, the prospective agreements for establishing an international consortium, and future gas sale contracts, may come with certain safeguards that could assuage India's concerns about potential interruptions of the TAP through Pakistan. The Steering Committee of the TAP project has decided that the international consortium will construct and operate the pipeline. The involvement of international majors in the consortium, along with Pakistan's companies, will increase the stakes of foreign participants in the pipeline. This in turn will bring certain responsibilities for Pakistan to provide regular surveillance of the overland pipeline, and immediate access for repair in the event of damage.

Another safeguard could be established through a pledge by Turkmenistan to sever the supply of gas in the event of an interruption caused by Pakistan, to discourage Pakistan from halting the flow of gas to India in case of crisis. A further precaution in favor of India could be forged by establishing a linkage between the gas and power sectors of India and Pakistan. India could be given the right to export electricity to Pakistan, which will have the potential to cause power outages in Pakistan in case of a need to retaliate for an interruption in gas supplies.

VIII. Financing the TAP Project

ADB's work on a feasibility study for the TAP project is approaching completion. Securing financing for this project will be the biggest challenge following the publication of the study. The involvement of ADB as a broker for promoting the implementing the project is an essential factor that could help in attracting financial resources for the TAP. Apart from this, ADB officials have been pleased with the increasing number of companies that have expressed interest in building the pipeline.

Nevertheless, success in financing the project hinges upon several outstanding questions that require resolution:

- **Lack of a consortium:** A number of international companies have submitted their expression of interest in the TAP, however a consortium, has not been established. The success of several energy transit projects in the CIS, such as the Blue Stream and the CPC, has resulted from the presence of a consortium with an international major leading the project. While ADB expects that a consortium will be established within six months of the publication of the feasibility study, there is still no indication that an international major that will lead the consortium.
- **Need for sales and purchase agreements:** Export contracts between Turkmenistan and receiving countries will encourage the involvement of international financial institutions, but no such agreements have been concluded and negotiations on the details of the gas price could be complicated.

- **Difficulty in demand and supply forecasts in India and Pakistan:** Gas sales and purchase agreements can only be concluded if the two major prospective customers for Turkmen gas provide clear projections of their future gas needs. Such projections are hampered by the availability of alternative sources of gas imports, as well as uncertain prospects about domestic gas production in India and Pakistan. The lack of a certainty about the adherence of India to the TAP project further complicates the overall negotiations regarding Turkmen gas prices and throughput.
- **Turkmenistan's difficulty in providing collateral:** Turkmenistan could potentially lead the TAP project if it had the ability to capitalize on its export contracts as collateral. But, all of its export contracts (save the one with Iran) are based either on low priced gas or barter. Gazprom's ability to use such export contracts as a collateral had provided a major milestone in its financial endeavor for the Blue Stream project [I don't understand this sentence].
- **Turkmenistan's other gas contracts:**, Turkmenistan's production targets appear too optimistic for many financial institutions. The gap between these targets and the total volume of contracted gas for exports will raise doubts about Turkmenistan's ability to provide a guarantee for the throughput for the TAP.
- **Unclear government incentives:** No government involved in the TAP has yet provided guarantees or tax incentives for the construction of the pipeline. Such incentives are crucial in mitigating risks and attracting financial resources.
- **High costs for risk insurance:** As the pipeline will traverse Afghanistan and Pakistan, both countries with ongoing tribal disturbances, the TAP will confront with higher insurance costs.