CHAPTER - VII
CROSS BORDER GAS PIPELINES FOR GAS IMPORTS

Introduction:

We will in this chapter evaluate the merits and risks associated with cross border gas pipeline projects. This is emerging as a very important source of gas with pipelines being discussed from Iran (Iran-Pakistan-India) as well as Turkmenistan (Turkmenistan-Afghanistan-Pakistan-India).

The long time that the issue has been taking for planning, and associated discussions in various forums bring out the immense difficulties and challenges in implementing cross border energy infrastructure projects like cross border crude, oil product and gas pipelines. India is relatively in-experienced in this area. However, prima facie review of the literature on this very important area highlights the extremely critical nature of cross border energy project in ensuring long term energy security as well as monetizing gas/oil resources and ensuring diversity of supply as well as sources. We have, in this connection, discussed the importance of diversification of sources of supply as one of methods to ensure energy security. The map below shows the proposed pipelines from Central Asia/Iran that can bring gas into the Indian market:

![Map of Proposed Pipelines from Central Asia to India](https://geocomme.wordpress.com/2012/10/24/pipelines-of-interest-to-india/)

**Figure 7.1:** Proposed pipelines from Central Asia to India

**Reference:** https://geocomme.wordpress.com/2012/10/24/pipelines-of-interest-to-india/
These pipelines are being planned for a long time and predicated on large reserves of gas in Turkmenistan and Iran. While various studies have been carried out, according to the experts participated in the workshops, there is still lack of clarity on their implementation, the quantum of gas and the pricing framework for India and the contractual risk mitigation framework of each party and the geopolitical risk allocation. It would, therefore, be worthwhile to examine for the purpose of comparison the case of Europe’s dependence on Russia which is discussed ahead.

**Case Study: Europe’s dependence on Russia:**

The dependence of Europe to cross border gas supplies, particularly from Russia is well documented. This is necessary as European domestic gas production has stagnated, while its demand has been growing:

![Europe Natural Gas Production and Consumption](image)

**Figure 7.2:** Production and consumption of natural gas in Europe


This has led to Europe’s dependence on cross border gas pipelines (as also gas imports through LNG). The main source of its gas imports is from Russia, through pipelines. On the other hand, Europe’s relationship with Russia is at present at a rock bottom due to the prevailing crisis related to Ukraine.

A map of Europe with the planned and existing pipelines bring out the clear role that such cross border gas flows play in the regional energy supply and also the role of new projects to bypass the dependence on Russia (which still supplies 30% of Western Europe’s gas needs - excluding UK).
It is now being perceived by policy makers and planners that Europe has to reduce its dependence on gas imports from Russia and perhaps increase its imports of gas from the USA (in the form of LNG) so that the Russian influence in the form of gas supply and prices on Western Europe is minimized. This harks back to the era of “cold war”, but the role that natural gas is playing in this discussion on Energy Security for Europe is noteworthy. The graphs below show the geopolitics of cross border pipelines for the European Union countries.

**Figure 7.3: Pipelines in Europe**


**Figure 7.4: Natural gas scenario in Europe- Import from Russia**

**Source:** SiaConseil, Energy markets, European Commission – Global Research (HVB), *Eurogas : Natural Gas Demand Supply – Long term outlook to 2030*, Central Europe, April 2009

(http://energy.sia-partners.com/20090427/europe-and-russian-natural-gas/)
The following graph shows the different sources of supply of gas to Europe.

**Figure 7.5:** Natural gas scenario in Europe- EU gas imports


BBC News, “EU seeks to expand energy grids”, 13 November 2008

Let us touch upon both the economic as well the geopolitical aspects of these massive cross border projects. One of the main drivers of cross border pipelines is the remote location of the gas (land locked countries) and the relative economics of transporting the gas to a demand centre by pipelines (as opposed to LNG) over a short distance. This graph below (James T. Jensen Associates, 2000) demonstrates the relative economics of cross border pipeline vis a vis LNG. It can thus be clearly seen that cross border gas pipeline infrastructure is clearly viable for distances below 2000-3000 miles (depends on the volume of gas).

**Figure 7.6:** Economics of cross border pipeline vis-a-vis LNG


Notwithstanding that one wonders as to why the cross border pipelines are so complicated to conceive let alone develop and implement. What are the key issues and challenges? Let us discuss them utilizing the following framework and then arrive at a set of policy prescriptions and directives that can make them work—especially to ensure that Iranian or Turkmenistan gas coming into the demand centres of Western-Northern India.

**The Commercial and Technical issues:**

Any project of this nature requires deep understanding of techno-commercial feasibility. The key commercial and technical issues confronting these projects are roughly the same as that for any other large project costing billions of dollars:

- Reliability of the source of gas (reserves and the production profile) to justify a large cross country and cross border pipeline project: ideally the reserves should be sufficient to justify a 20-25 year investment based on the throughput, or alternative sources of gas should be available to feed in once the existing source declines.

- There should be adequate market at the other end of the pipeline willing to book the capacity of the pipeline on a “ship or pay” basis, and the market should be of adequate depth, variety and credit quality so that the project is financially bankable.

- There should be enough demand to reach maximum throughput or breakeven volumes at least in the short term - as these are capital intensive projects with high break even

- The gas pricing (together with transport tariffs) have to be competitive in the local market—otherwise local supply sources can completely undercut the long distance gas supply—and make such huge investments stranded—once domestic supply picks up.

- The right of way and pipeline laying route should not have insurmountable technical and environmental challenges that make it difficult or extremely costly to implement

- The structuring of the pipeline tariff, transit fees and the off take agreements have to ensure that the project is financially viable and bankable in the long run

In addition to the above, there are major geopolitical challenges in cross country pipeline projects.
**Key Geopolitical Challenges:**

Even if the techno-commercial analysis provides adequate basis to progress these cross border projects, geopolitical risks are enormous and need to be understood and mitigated. The biggest challenges facing cross border projects are the key geopolitical risks:

- The project passes through various geopolitically sensitive jurisdictions or terrains where there may be significantly heightened security risk or political risk (Afghanistan/NWFP of Pakistan)
- There is an issue of evolving the legal and regulatory framework covering the jurisdictions so that there is buy-in by the host country and there is no retrospective “arm twisting”. Strong documentation covering these sovereign or quasi-sovereign entities and governments involved is the biggest challenge - and managing the risk of such multiplicity of force majeure events is a nightmare.
- One method in which the sponsors of a cross-border pipeline project can seek to mitigate risk, and achieve an integrated “truly international” project, is through the use of a package of host government agreements (HGA) for each host state and an inter-government agreement between or among the host states.
- As per international lawyers, HGAs are agreements that embody substantially all of the various grants, rights, exemptions, waivers, standards and obligations that the state is willing to offer a potential pipeline sponsor group to undertake the project and what, in return, the state expects from the project through, for example, economic rents (taxes, duties, fees) national content (employment opportunities) and the like. Where used, the HGA will be the document that defines the primary legal framework for the project sponsors within a particular host country as to the matters addressed. They may take many forms and include, for example, single country upstream oil and gas concessions and production sharing agreements (PSAs), as well as agreements specifically contemplating a multistate investment (such as a cross-border pipeline development). *(Building a Cross-Border Pipeline, George Goolsby, Partner, Baker Botts LLP, Houston, Texas; and Mark Rowley, Partner, Baker Botts, London, UK)*
- The cross border security/policing is also an issue that needs participation of each jurisdiction.
- Involvement of multilateral bodies like the Asian Development Bank or World Bank is imperative- as they have the skills and the reach to policy makers to resolve the disputes and reconcile the commercial positions.

We have discussed the risks associated with cross-country pipelines. In the following section we will discuss the policy prescriptions to tackle the problems.
Policy prescriptions:

The policy prescriptions that emerge from the brief discussion of cross country gas pipelines deals are that:

- For the pipelines to be viable they should make robust commercial and technical sense, backed by adequate reserves, robust markets and the terrain for construction leading to economic capex and tariffs.

- The economics of the gas price (together with the transport charge) should be competitive vis-a-vis other sources of gas in the market that the gas is supplied to. Without such economics entire economics can lead to stranded assets and underutilized capacity.

- There should be strong “take or pay” or “ship or pay” obligations at both ends of the deal to make the projects commercially viable and bankable. Such obligations should be backed by strong balance sheets and robust cash flows. Without such credit enhancement of the cash flows the projects would not obtain any bank financing from commercial sources.

- Managing the cross country sovereign jurisdictional issues through HGAs is crucial - without them the projects would not attract commercial bank financing in any form. Diplomatic and expert inputs in negotiating inter-government agreements with sensitivity and skills of the highest order would be necessary to be part of the team.

- Multilateral political and credit risk insurance would be imperative - especially for jurisdictions with doubtful political risk ratings or poor track record. Involvement of institutions like the Asian Development Bank, World Bank, International Finance Corporation would make the political risk mitigation easier.

To conclude, in spite of our analysis of the pipelines, our further analysis of the above suggested pipelines show inherent risks associated with these pipelines, though theoretically the pipelines could bring great advantage to India. We have also noticed that Europe and China are important users of cross-border gas pipelines for transportation of gas. India, however, would not be able to implement the above-mentioned cross-border pipelines in view of:

- Problems of terrorism and political instability in our neighborhood, as passage of pipelines through these unstable territories are fraught with serious repercussions.

- Insurmountable technical problems in view of the nature of terrain

- Ineffectiveness of joint discussions, diplomacy, joint venture etc. in view of the above problems.
• Consequent lack of interest on the part of investors, both from India and abroad.

As a result, it is felt that none of the projects would be feasible for India to take advantage of cheap gas available in the neighbouring regions.

It is therefore necessary for us look for alternatives. Iran could still be a viable option with changes in the route plans. Iran gas could be brought to a port city in Iran itself, which could be sent to India through a sub-marine pipeline. As this could be monitored more efficiently, this could be viable option without risks associated with the pipeline passing through a politically unstable region. Our analysis does not show any possible decline of disturbances in the coming years. Moreover, so far as the length of the route is concerned, this would also be shorter than the others discussed above. As a result, it would also be possible to find investors, both from India and abroad to invest in the sub-marine pipeline as this is a relatively risk-free and implementable option. If an agreement emerges between the U.S. and Iran, as is expected, this could become a viable option.

As per information available, India presently is the second largest importer of crude from Iran after China. On the other hand, Iran has also been one of the important importers of commodities, especially rice from India. With the expected changes in the trade practices and easing of trade with Iran, the environment for trade could further improve. Therefore, we are confident of the feasibility of the Iran-India sub-marine gas option.

Another option for India could be setting up of energy intensive industries such as fertilizer manufacturing in Iran. India could import the manufactured fertilizer and also it could sell fertilizer to Iran. It is expected that Iran would view such a programme as favorable to Iran in view of the employment implications in Iran, in addition to generation of revenues from taxes.

To be more specific with regard to Iran, India has already been operating from the Chabahar port in Iran. Iran seems to be keen to develop this port with Indian participation. The port at Chabahar, perhaps could be a gateway for Turkmenistan gas also instead of the highly political volatile Afghanistan-Pakistan route, which has been discussed and planned for quite some time now with very distant possibility of actual implementation. Though we had discussed briefly LNG imports from North America, we will examine the topic in greater detail in the next chapter.
References:


