

Chapter 7

Conclusion

We had set out to seek the answers to a number of research questions in this dissertation, which are reproduced below for ready reference:

1. Is it economically beneficial to import natural gas as compared to importing coal and crude oil?
2. Can open bidding based common price of gas be introduced in the country immediately?
3. What are the pooling of natural gas prices alternatives available?
4. What other steps regarding Central and State taxes are required to enhance off-take of gas?
5. What is the legal position with respect to pooling of natural gas prices?

Let us now take up each question and summarize our findings.

7.1: Is it economically beneficial to import natural gas as compared to importing coal and crude oil?

We have found that for the power sector, it is not beneficial to import natural gas as compared to importing coal or uranium, even after taking into account the cost of environmental impact. Table 2.11 shows that the foreign exchange component and environmental cost of power generation using coal is lower than that using natural gas. Similarly, nuclear power is also cheaper than natural gas based power, both in terms of import cost of fuel and environmental impact.

On the other hand, importing natural gas to substitute crude oil is economically beneficial in terms of lower import cost in energy equivalent terms as well as environmental impact. In terms of availability also, estimates suggest that natural gas reserves in the world will outlast crude oil reserves. Therefore, substituting naphtha/ fuel oil with gas in the fertilizer and industrial sectors, diesel with CNG in the freight transport sector, and LPG with PNG for domestic use emerge as priority areas.

7.2: Can open bidding based common price of gas be introduced in the country immediately?

This point has been analysed by Mercados EMI Pvt. Ltd., the consultant appointed by GAIL (India) Limited. The consultant has concluded that pooling of transportation tariffs is not feasible and is not being done internationally. The consultant also suggested that open bidding based pooling of gas prices is a desirable objective and we must work towards it in the future, but it is not feasible at the moment.

Our gas grid is not robust enough to support open bidding and consequent flows of gas in any direction required. Subsidies being extended to the fertilizer sector and low prices of domestic coal further complicate the natural gas marketing scenario in the country. Unless the national gas grid is fully established (which would involve substantial cost of infrastructure) and subsidies and taxation issues are addressed, we cannot switch over to a bid based pooling mechanism immediately.

Pooling of natural gas prices will effectively cross subsidize the price of imported gas. It will help us leverage domestically available natural gas and

provide a level playing field to new fertilizer plants and other customers as compared to old customers who are being supplied domestic gas at present. Total imports of natural gas can be stepped up considerably if pooling of gas prices is adopted, allowing us to reduce the foreign exchange outgo on account of energy imports and simultaneously reduce environmental impact. However, cost based price pooling is the only practically possible alternative.

7.3: What are the pooling of natural gas prices alternatives available?

Pooling mechanisms may be bid based or cost based. Cost based pooling mechanisms may be general pools wherein all or some of the gas available can be pooled and offered to all consumers; or sectoral pools intended for some sectors like fertilizer and power only. Some details of the alternatives available have been summarized in Tables 4.1, 4.2 and 4.3.

7.4: What other steps regarding Central and State taxes are required to enhance off-take of gas?

The first step required is to equate the import duties on LNG to the import duty on crude oil. At present LNG attracts duty @ 5% while no import duty is levied on crude oil. This is against the economic desirability of promoting the use of natural gas as a public good.

Differences in VAT between different States of India render pooling of natural gas prices difficult. Either natural gas should be brought under GST or it should be accorded the status of a "declared good".

Taxation levels should be in accordance with the effective calorific value and conversion efficiencies of alternative fuels. This would promote the use of

natural gas wherever it is more efficient to use and discourage its use as a substitute to coal for power generation.

Perverse incentives such as heavy subsidy in addition to low taxes on diesel should gradually be done away with to ensure rational use of fuels. This course is being gradually adopted.

7.5: What is the legal position with respect to pooling of natural gas prices?

Various pronouncements by the Supreme Court and High Courts have established that all domestically produced natural gas is owned by the people of India and held in trust by the Government of India and not by the contractor who undertakes prospecting. Natural gas is included in the Union List in the Constitution of India and armed with Article 73 of the Constitution of India, Govt have full authority to make policies regarding gas utilization, allocation and pricing. If a decision to go for pooling of natural gas is taken in the public interest after due deliberation, it would ordinarily be upheld in judicial reviews and gas using industries would be able to pass through the increase in prices to end users as the demand is inelastic.

7.6: The Way Ahead

The *Integrated Energy Policy 2006*, while discussing natural gas pricing policy, suggested that gas can either be priced on a cost-plus basis or on the basis of net-back price calculated in a manner that would allow gas producers to be competitive in the international gas markets. Having said this, it went on

to talk about the question of determining priorities in allocation of domestic gas as a scarce resource. It says:

Given limited production of natural gas in India, economic considerations may well require that domestically available gas be made available first to those end-uses that best extract its economic value among competing end-uses. Such end-uses in India could, for example, be fertiliser, petrochemicals, CNG vehicles and power in that order. All of these end-users could compete for the natural gas available from domestic sources with a floor price that would be equivalent to the net-back-price that the producer could have obtained as described above. Under such a scenario natural gas would first meet the fertiliser, CNG & petrochemical demand in full before reaching the power sector. In reality this situation is complicated by the fertiliser subsidy regime and the power pricing regime both of which allow pass through of feedstock/fuel costs. Again gas use may be considered economically more justified for peaking power that must be priced differently but it is not. There is also a Supreme Court order that requires preferential allocation of gas for CNG vehicles. Unless these ground realities change gas may need to be allocated under a cost plus regulation.

What we have found is broadly in line with the gas allocation priorities mentioned in Integrated Energy Policy 2006. Fertilizer sector fully deserves the top priority granted to it for gas allocation by Gol. Use of CNG in the transport sector, especially freight should be given second highest priority, followed by CNG to Industry and PNG to substitute LPG in the domestic sector. There are strong economic reasons to question the second highest priority being given to the power sector, which would be better off using coal and uranium instead of natural gas.

IEP mentions that gas should be supplied to power sector only after the total demand of fertilizer sector, CNG and petrochemical sector is met. Considering that the projected demand for fertilizer sector goes up to 113 MMSCMD by 2014-15, and nearly 87.64 MMSCMD gas is required to be used as LNG merely to substitute diesel being used today by trucks and buses,

domestic supply will fall short of meeting the demand. It can be concluded that there is a major need to import LNG and make it available to priority sectors like fertilizers and CNG for transport and PNG for domestic sector to replace LPG and kerosene oil.

The country today is spending huge amounts on subsidizing diesel, LPG and kerosene oil. These subsidies make the use of imported RLNG at its full price unattractive. Low prices of domestic coal make the use of RLNG for power generation unviable. If we have to import LNG in large quantities in view of its economic benefits, then the imported RLNG has to be pooled with the domestic production of natural gas to obtain a reasonable price.

Pooling would require designating one agency as an aggregator of gas. It will have to be decided which sources of gas are to be pooled. Gas from all these sources would then be made available to the aggregator for pooling with imported LNG on a cost plus basis. The resultant pooled price would enable reasonable large inflows of imported gas for the fertilizer, transport, industrial and domestic cooking sectors.

It may be mentioned here that the recent Rangarajan Committee Report⁵⁸ has proposed that the price of domestic gas may be fixed by taking the average of net-back price of Indian LNG import and the average of Henry Hub, NBP and Japanese import prices of gas. If this recommendation is accepted and implemented by the Government, prices of domestic and imported gas would become almost equal. This would virtually amount to pooling of gas prices and would make imports of LNG competitive with respect to domestic gas.

⁵⁸ Rangarajan, C. (December 2012), *Report of the Committee On the Production Sharing Contract Mechanism in Petroleum Industry*, Economic Advisory Council to the Prime Minister, India

However, in view of the huge rise in fertilizer subsidy and power tariffs that would take place, it is not certain that these recommendations will be implemented immediately. In addition, rationalizing gas tariffs without rationalizing prices of crude oil based fuels and coal simultaneously might lead to further distortions in the fuel mix.

As long as there is a significant difference in the prices of domestic and imported gas, pooling of natural gas prices appears to be a viable and desirable alternative in India. The benefit of pooled gas prices should then be extended to sectors which can utilize natural gas most efficiently, which are the fertilizer, transport, industry and domestic sectors. Such a strategy would benefit the country by reducing the cost of imported energy and simultaneously reducing the incremental carbon footprint on account of increase in economic activities in these sectors.