

Chapter 7

This chapter analyses the states policy of Natural Gas based economy. The emergence and the future of the fuel in the transport and Industrial sector is overviewed.

Chapter 7. Gas Based Economy – Gujarat

Gujarat is not new to gas. The Mehsana - Kalol belt has in fact been producing gas since long. The local industries there have been using natural piped gas as the main industrial fuel since early eighties. City gas grid for domestic use was commissioned in Baroda long back. The state was first in the country to commission Petronet LNG terminal in Dahej. The state again was first to commission Natural Gas based power plant at Utaran and then at Sugan. The state has 2200 Kms of Gas pipeline grid and city gas service grids in place.

All major Petroleum and Gas Companies are present in the state. The state has major stake in gas business as stake holder in Gujarat State Petroleum Company Ltd (GSPCL) and its sister companies.

The state has declared its vision to be a Gas based economy.

7.1 Supply Sources

Gujarat produced in 2009 10 only 2404 MMSCD of natural gas a merry 5% of the total gas produced in the country (*refer Table B-37, 64*). The main gas source envisaged for the state are Krishna Godavari Basin produce and imported LNG. The state has commissioned two LNG jetties along with the regasification facilities to handle 5 + 2.5 MTPA of LNG in Joint / Private sector.

7.2 Logistics – Pipelines

Pipeline grid of 2200 Kms have already been laid connecting major consumption hubs, city grids for Ahmedabad and Baroda in place. GSPC Gas has daily gas sales volumes of 3.00 MMSCMD, at present with a customer base of approximately 150,067 domestic households, 629 commercial establishments, and 820 industrial customers. GSPC Gas has also commissioned 70 CNG stations across the state (*GSPCL annual repot, 2010*).

7.3 Demand

As discussed in earlier sections Natural Gas demand is substantial this keeping in view the potential in power sector for gas based power plants, city gas grids, demand for industrial fuel by industry to feed boilers and as transport fuel to feed city public transport services and commercial passenger and LCVs.

At present only a part of the demand is being met by the service providers. The reason is inadequate Natural Gas production in state and very little supplies / allocation from Krishna Godavari basin fields.

The alternate visualized and planned in the form of LNG is priced very high and hence imports not viable. Table A-26 gives the price comparison of natural gas and LNG internationally. Till the prices come down LNG parcels are going to be far and few. At the current price band of \$ 10 to 12, LNG will be out priced by all other petroleum fuels and hence there will be no takers. This price volatility has been one of the prime reasons for very little investments in this sector internationally. However as petroleum prices move down, LNG prices will also cool down.

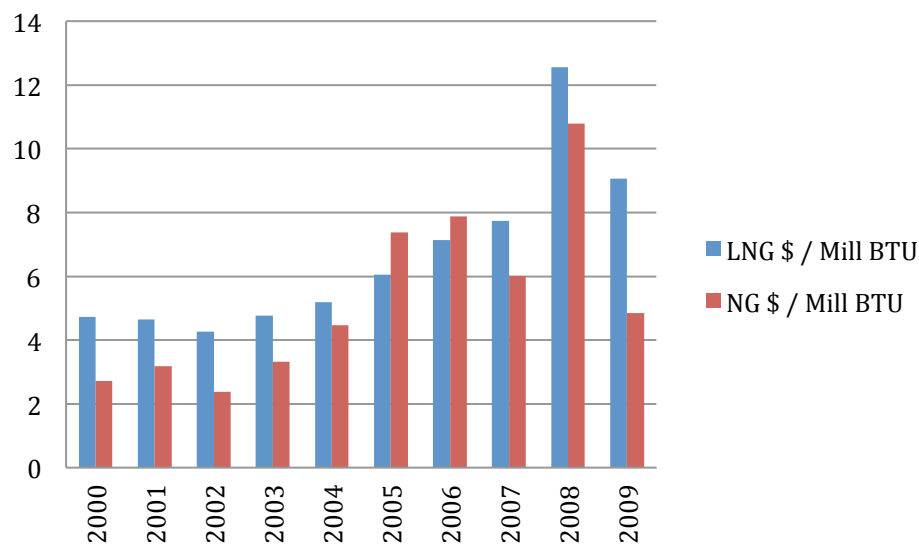


Chart 7.1 International Price Trends

7.4 World Scenario

Worldwide Natural gas primarily is used for power generation as heating fuel and domestic usages. The use as transport fuel is prevalent but in a limited way.

As of 2008 there were 9.6 million natural gas vehicles worldwide, led by Pakistan (2.0 million), Argentina (1.7 million), Brazil (1.6 million), Iran (1.0 million), and India (650,000). The energy efficiency is generally equal to that of gasoline engines but lower compared with modern diesel engines. It is very interesting to note that in most developed economies Natural gas is hardly used as automotive fuels. This is with design and not by chance.

Natural gas is a cleaner fuel than petroleum liquids and coal. The availability being limited it is utilized in order of preference for generating electricity, domestic fuel for heating purposes, in industries as feed for petrochemicals, fertilizers and public transport.

The reasons are not far to understand. The transportation of this fuel is cumbersome and constrained. So the fuel is best used in applications which are fixed in nature. The other fuels being more flexible in handling are left for transport sector.

Thus the state policy should take into account this aspect and provide this fuel for city public transport services, domestic fuel, power industry and then to fertilizers and other industries in order of priority.

The state planners should also note that the availability of this fuel in India will always be constraint. In case any other major finds are not made, the state should gear up to LNG as a viable alternate option even at a higher cost. The city domestic gas grids, public transport services, intra city including private commercial vehicles like the 3 wheelers and 4 wheelers to be on Natural Gas even if the cost is higher than diesel / petrol. This will enable the city to reduce and control pollution levels which has already been experienced in Ahmedabad. In case the price delta between diesel and CNG exists city decongestion cess or other forms of taxes as fuel surcharges may be introduced to neutralize the price delta between CNG and petrol / diesel and to cross subsidize additional cost burden from LNG directly at import level. It should be dynamic and continuously set every 15 days as in other free trade petroleum products.

Further bulk long term purchase of LNG will certainly reduce price volatilities of the product and reduce the high freight and handling cost of this product thereby bringing down the costs and prices of the product at state level.

As already discussed in the earlier sections fuel prices internationally move in consonance, arbitrages in between fuels are seen due to differences in locational and other costs like handling and storages, fuel efficiency (calorific values differences), logistic costs etc. In long run these arbitrages level out subject to the constraint level cost by the market forces with the price mechanism itself. Thus all fuels and their substitutes will follow crude the main energy fuel till any other better alternative energy source / product are discovered.

At the current technology and energy product availability levels world over high energy prices are here to stay. The state economy should gear up its plan accordingly and not based on earlier crude price levels of sub \$ 50 - 55 / barrels rates. The current regime of high subsidy on petroleum products is not sustainable. They will lead to heavy fiscal deficit and ultimately to high inflation levels thereby slowing down the economic growth. The country is bound to move away from the high petroleum subsidy regime sooner or later. This is more so as our economy is market driven and open to international trade. The international market trends will influence the domestic market and fuel arbitrages will be removed by pushing up demand of energy intensive products from domestic market thereby driving up fuel demand till such time a new equilibrium is re-established.

Thus energy market which is highly import dependent in India is moving towards forced price reforms and they will follow the international markets closely.

The state economy should gear up for energy prices at import parity levels and industries to adjust their operations as per international standards of energy costing. This will enable our exports to be competitive on value added parameters rather

than on energy subsidies. This will lead to reduction in energy intensities of the industries as they will optimise on energy costs.

7.5 Summary

To conclude, Gas based economy initiative is a good concept environmentally and commercially when initiated. The flip side is availability of the product, which has been a constraint for the state. Intensive and extensive exploration has to be conducted for establishing product availability locally. Gas from Krishna Godavari basin will not suffice states requirements. The availability from the source is also going to be a constraint as Natural Gas is being allocated by the Center basis national priorities. Imports will be the main stay. Thus gas pricing will be based on import parity of LNG rather than on administered prices which have been much lower than the petroleum price parity. The state has ensured a viable alternative to petroleum products in the state and thus broad based the energy market which is bound to have beneficial impact on the state economy on the long run.