



LPG Subsidies in India¹

The 1990s were a time of rapid economic change in India. After several decades of pursuing protectionist trade policies and placing severe limitations on foreign investment, India began to open up to foreign investment and trade. Tariffs on imported capital goods have been lowered, and in some cases eliminated. Restrictions on foreign ownership have been relaxed. Now, in many sectors, majority foreign ownership is permitted. Significant political resistance to economic liberalization persists, but recent elections have provided impetus for reform. The government has stated that it wants to increase foreign direct investment (FDI) to \$10 billion per year. By the mid-1990s, real GDP growth rate had

reached a rate of 7.4% a year and is currently projected at above 6% for the next few years.

The country is struggling to attract investment in the fuels sector. The issues in the LPG industry are demonstrative. In 1992, 35 private sector companies developed plans for the import and distribution of LPG in the hope that they would be able to benefit from the 10 million consumer-long queue for LPG connections. However, while the companies have added just over a million customers to their roster, the public sector oil companies have managed to rope in a phenomenal 14 million new customers during the same period mainly based on prices that are highly subsidized. This situation raises several questions regarding the environment for investment in India's fuels sector.

- *What are the costs and benefits of these subsidies?*
- *Who is bearing the costs? Who is reaping the benefits?*
- *What strategy should India follow to establish a healthy fuels market?*



Background

India has an area of 1,222,243 sq miles. Although India occupies only 2.4% of the total area of the world it supports over 15% of the world population. The GDP for 2000 was estimated at \$492.2 billion and the real GDP growth rate is expected to be above 6% a year for the next few years. Inflation was estimated at 5.8% in 2000. The external debt stood at \$101.5 billion. Annual foreign direct investment (FDI) in India has been in the range of \$3-4 billion over the last several years, which is quite small as compared to roughly \$40 billion

¹ This case study was prepared using publicly available information.

per year in China.

The Indian economy employs 431 million people. The large majority of this workforce (64%) labors in the agricultural sector. Of the remainder, 20% work in services and 16% in industry. The major industries are textiles, chemicals, food processing, steel, transportation equipment, cement, mining, petroleum and machinery. Approximately 35% of the population is below poverty line. Household income or consumption by percentage share is the following: the lowest 10% account for 4.1% and the highest 10% account for 25% (for 1994).

After many years of policies of import substitution and state ownership of key industries, India has implemented a series of policy changes since the mid-1990s to encourage foreign investment. Included in the reforms have been a relaxation of restrictions on foreign ownership in some sectors (now, majority foreign ownership is permitted in many cases), and the privatization of some industrial enterprises. Also, the government decided in January 2003 to move forward with the sale of majority stakes in two downstream oil companies. But, otherwise, energy sector remained behind these reform efforts: Electricity prices are still heavily subsidized, and, as discussed in more detail below, the formal end of the Administered Pricing Mechanism (APM) for petroleum products in April 2002 did not completely end government controls on petroleum product prices.

Energy Profile

Oil accounts for about 30% of India's total energy consumption. The majority of India's roughly 4.8 billion barrels in oil reserves are located in the Bombay High, Upper Assam, Cambay, Krishna-Godavari, and Cauvery basins. The offshore Bombay High field is by far India's largest producing field, with production of 250,000 barrels per day (b/d) in 1998. Average production level for 2001 was estimated at 782,000 b/d. India imported over 1.2 million b/d (mb/d) in 2001 (roughly 60% of total consumption).

Fossil Fuel Reserves, Production and Consumption in India (2001)

	Proved Reserves	Production	Consumption
Oil	0.6 billion t. (4.8 billion b.)	36.1 MT/yr (782,000 b/d)	97.1 MT/yr (2.1 mb/d)
Natural Gas	650 bcm (22.9 tcf)	26.4 bcm/yr (2.6 bcf/d)	26.3 bcm/yr (2.5 bcf/d)
Coal	84.4 billion tons	344 million tons	371 million tons

Source: BP World Energy

The oil and gas consumption in India has shown a steady growth of 7%-8% per annum in recent years. The future oil consumption in India is expected to grow rapidly, to 3.1 mb/d by 2010 from 2 mb/d in 1999. In the past decade, India has imported a large quantity of refined products, lacking the refining capacity to keep up with growing demand. In 1999, new construction allowed India to close the gap. At the end of 1999, India had 1.86 mb/d of refining capacity, an increase of 720,000 b/d in one year. Consumption of natural gas has risen faster than any other fuel in recent years. From only 0.6 trillion cubic feet (tcf) per year in 1995, natural gas use is projected to reach 1.9 tcf (54 bcm) in 2005.

Coal is the dominant commercial fuel in India, satisfying more than half of India's energy demand. Power generation accounts for about 70% of India's coal consumption, followed by heavy industry. Consumption is projected to increase to 465 million short tons in 2010, up from 348 million in 1999. India is the world's third largest coal producer (after China and the United States), so domestic supplies satisfy most of the country's coal demand. Indian coal has a high ash content and low calorific value; so coking coal must be imported.

Role of Government and Reforms

The energy sector in India is going through a cycle of private and public ownership. Whereas in the pre-1970s era, the private sector - both domestic and foreign - played a major role in the provision of energy services (with the exception of electricity), by the early to mid-1970s the entire sector had been brought back into government control. The crisis of 1990-91 was as much of an energy crisis as economic. For one, the current account deficit was accentuated substantially by the high oil prices arising out of the Gulf War. Secondly, the energy deficits in physical terms were continually increasing to reach 20-30% of demand; and, thirdly the history of financial mismanagement of the publicly owned energy service providers ensured an enormous inadequacy of internally generated resources to augment the dwindling budgetary support.

As such, the government actively started wooing not only private participation but also foreign private participation in all the energy sectors of the country. In order to make investments in the energy sector attractive, the government had to implement strong reform measures in this sector. In 1991, the Indian government began major and irreversible structural changes aimed at radically reforming the economy. These efforts have continued and have already resulted in massive deregulation and a significant opening of the Indian economy, which previously had discouraged FDI and restricted the role of private enterprise in many industries.

Specifically, some of the essential liberalization initiatives in moving from a regulated to a free market economy were:

- Pervasive delicensing of the industrial sector.
- Partial privatization of state enterprises.
- Financial sector and market reform.
- Liberalization of foreign trade.
- Exchange rate unification and rupee convertibility on current transactions.
- Liberalization of foreign investment regulations.

Liquefied Petroleum Gas (LPG) Industry

Demand & Supply

LPG was introduced as a domestic fuel in the 1960s. Until the economic reform programs were put into operation, state-owned companies handled the entire production and marketing of LPG. The three sources of supplies were refineries, fractionation of associated gas from oil fields and imports. As of early 2000s, about half of domestic LPG production is based on crude oil and the other half comes from natural gas. The imports constitute more than 20% of the supplies. There are efforts to increase import capacity of ports. In 2003, a new facility at Pipapav in Gujarat is under development.

The demand for LPG has grown from less than 200,000 tons in 1970-71 to about 5 MT in 2000. The average growth rate in demand has been around 12% annually. There are around 40 million LPG customers. Some 15 million have been on the waiting list (only in urban areas). LPG consumption by industry is split as follows: 89% domestic, 1% refinery, 1% transport, 8% industry and 1% agriculture. In the 1990s, LPG demand was estimated at 7.5 to 9.0 million tons (MT) by 2001-02 and 10.0 to 12.0 MT by 2006-07. The projected supply was only about 4 to 5 MT by 2001-02, leaving a gap of about 3 MT.

The expected increase in demand is partly due to the expansion of the Indian middle class, which sees subsidized LPG as improving their lives. But, the government's intention to increase the use of LPG as an auto fuel also plays an important role. In major cities, air pollution is a serious problem and switching to LPG from leaded gasoline or diesel is expected to improve air quality.

Market Reform

Partly because of this gap and partly because of inadequate infrastructure facilities for import, storage and handling, the government decided to throw open the LPG business to private entrepreneurs in 1993. It introduced the LPG (Regulation of Supply and Control) Order in 1993, which has enabled private marketers to import, store, bottle and market LPG at market-determined prices. Many players entered the field. However, their entry was constrained because of rise in international prices of LPG, ostensibly because of purchases by China and the government's inability to reduce subsidies. Several entrants withdrew having failed to exploit the willingness of consumers to make cash deposits for service connection.

Until recently, the Administered Price Mechanism (APM) had governed hydrocarbons in India. The APM was introduced in 1976, and the Oil Coordination Committee (OCC) was created to implement the mechanism. The APM was based on a retention pricing system, which compensated oil companies for their costs and assured a 12% return on net worth. It comprised a complex system of more than 100 pool accounts with the major ones being the crude oil price equalization, product pool and the freight surcharge pool accounts. The OPA (oil pool account) was maintained to provide uniform and stable prices by balancing high and low input costs. The rationale for the APM arose from the need to subsidize certain consumer sectors, to overcome locational disadvantages and to provide a fair return on investments. As such, LPG and kerosene have enjoyed large subsidies whereas products such as gasoline have attracted enormous surcharges.

The introduction of differential subsidies and taxes on various products led to a misutilisation of selected petroleum products and a burgeoning demand for subsidized petroleum products, which had to be met increasingly through imports. The large subsidy on LPG combined with that on kerosene and the historical subsidy burden contributed by diesel together with infrequent adjustments to pooled prices and a mismanagement of the pool account built up a deficit of \$4.42 billion (Rs 184.4 billion) by 1997-98, \$6.5 billion in 1998-99 and almost \$14 billion in 2000. If the APM system had worked efficiently, a deficit of this magnitude would not have built up although the cost of inefficiencies in the system would still have been passed on to the consumers through the cost-plus pricing system.

This huge deficit translated into an inability on the part of the oil industry to affect major investments in either oil exploration or refining capacity. As a result, the pressure to attract private capital increased. One of the significant reform packages under implementation is a dismantling of the APM and a move towards a system of market-determined, tariff-based prices. This dismantling of the APM is part of a larger reform program that encourages competition in both the upstream and downstream oil sectors and encourages the import of crude oil and petroleum products.

In April 2002, the government announced that subsidies for all petroleum based products would be phased out except for LPG and kerosene which the government pledged would see their subsidies phased out within a 3 to 5 year period. LPG and kerosene are used as domestic cooking fuels by a large portion of the population. Also concurrently in 2002, LPG subsidies will be paid out of the government funds as opposed to APM pools and subsidies were revised upwards by Rs 67.75 per cylinder.

The issue is not resolved because subsidies will have to be removed by a future government which may not have the will to undertake that action. There are several issues of great concern for any government in India: the implication of higher petroleum prices in states far from the coast; the market's ability to ensure adequate inventories and timely supplies to remote areas; and the protection of consumers from the effects of fluctuating prices.

Private Sector Involvement

Private players, also called the parallel marketers, have about 21 working units with a total installed capacity of 1 MT per annum and the potential to release 1.5 to 2 million connections per year, according to the data provided by the Confederation of Indian LPG Industry (CILI). In 1993, more than 35 companies were interested in this market. But by 1999, private marketers were only able to sign up about one million customers while the public sector companies signed up over 14 million customers.

Private LPG turned out to be too expensive for the price-sensitive Indian market. LPG distributed by public oil companies retails for \$5.09 (Rs 241) a cylinder (of 14.2 kg) in Delhi while a 12 kg cylinder from a private company costs \$8.44 (Rs 400). (Private companies may only sell LPG in 12 and 17 kg cylinders.) As long as the government subsidizes the public companies and private companies pay import duties as high as 23%, the private LPG players cannot establish themselves in the market. Currently, only about 30% of private LPG capacity is being utilized.

Private investment will add another 2 MT of LPG annually to the 2.3 MT produced in India once the Jamnagar refinery starts production. Many private LPG companies now are cutting costs or changing tack altogether. Mumbai-based Bharat Shell a joint venture between UK-based Shell International and Bharat Petroleum, has decided to focus on its 15,000+ residential customers rather than bulk clients. Anjani and Shri Shakti are focusing on the rural market while SHV has shifted from the domestic to the industrial market. Shell Gas has no approved plans for LPG in India.

In December 2002, the Indian government announced the sale of majority stakes in two of the largest state-owned downstream oil companies, Hindustan Petroleum (HPCL) and Bharat Petroleum (BPCL). HPCL is slated to be sold off to a "strategic" buyer - another major oil company. BPCL's shares will be offered through a public stock offering. The Indian federal government currently owns 51% of HPCL and 66% of BPCL. But so far, no significant progress has been made and opposition from some politicians and bureaucrats as well as some employees remains strong.

Also, the recent failure of Essar, a fairly new entrant into the downstream sector, to import refined products to sell through its own retail outlets shows the difficulty of private participation in this sector. The government denied Essar import authority on the grounds that all products had to be imported through the Indian Oil Corporation (owned by the state).

CILI also sought a reduction in the customs duty on LPG along with the continuation of the process of reducing the subsidy on domestic LPG provided by state companies. The confederation had called upon the government to carry out the phased program of reducing the subsidy over a three-year period without bringing about any changes into the program. This move, the association believes, would help restore the anomalous situation currently being witnessed by the industry.

Public Sector Participation

As with any subsidized commodity, the public and, as a result, the politicians have been concerned about the removal of subsidies. Accordingly, the media (through a variety of

publications, TV, radio and the internet) followed the discussions closely, reporting regularly on price adjustments as well as reform policies. Research centers such as Tata Energy and Resources Institute (TERI) provided for outreach and analysis. The government also disseminated information through its officials.

As a part of the government's response to the oil crisis of the early seventies, the Petroleum Conservation Research Association (PCRA) was set up in 1976. PCRA sponsors R&D activities for the development of fuel-efficient equipment. Along with oil marketing companies, PCRA also organizes multi-media campaigns for creating mass awareness for the conservation of petroleum products through various media such as TV, Radio, Press, printed literature, outdoor publicity. Publicity vans of the Government Field Publicity Department of the states are used extensively to reach consumers in the semi-urban and rural areas.

The success of the first Oil Conservation Week organized in January, 1991 has led to its continuance in subsequent years and an extension to Oil Conservation Fortnights since 1997. These are organized by the entire oil sector in close coordination with the concerned Ministries and Departments of the Union and State Governments, Public Sector Undertakings, Chambers of Commerce etc., with PCRA acting as the coordinating agency.

Sources:

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