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Indraprastha Gas Limited: Overcoming the Odd-even challenge

Amandeep Singh Narang, Vivek Pani Gumparthi, and Prof Somanth Chakrabarti wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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On December 7, 2015, Ashim Batra, the head of Marketing at Indraprastha Gas Ltd. (IGL), headquartered in Delhi, India, was in a pensive mood. IGL was the sole supplier of compressed natural gas (CNG) in Delhi, the capital of India. The entire IGL marketing team under Batra’s leadership was busy chalking out a strategy to overcome a peculiar business problem. On December 4, 2015, the Government of Delhi had announced a radical step of introducing the odd-even scheme to overcome pollution and traffic congestion problems in Delhi. According to the scheme, for the period from January 1, 2016, to January 15, 2016, private vehicles with licence plate numbers ending in odd numbers would be allowed to travel on the roads of Delhi on odd dates, and those vehicles with licence plate numbers ending in even numbers would be allowed to travel on even dates. The announcement did not have any exemption for vehicles running on clean fuels.[[1]](#footnote-1)

CNG sales for the private car segment constituted nearly one-third of its total sales, and this announcement would affect half of IGL’s CNG sales in the private car segment. The company was already facing a slow growth in CNG sales, and this announcement added to the woes of the marketing team (see Exhibit 1). Batra was equally concerned about the long-term sustainability of its product, CNG, as the Government of Delhi was expected to carry out the odd-even scheme on a regular basis (except on Sundays). Batra also felt that this situation raised questions regarding how IGL’s stakeholders perceived the company’s value offering—CNG. Despite CNG being a clean fuel, vehicles that operated on CNG were being regarded as the same as cars that ran on petrol and diesel. The team realized that they needed to act quickly to contain the downfall in sales and to position CNG among policy-makers as a clean fuel so that future policy decisions concerning the transport sector could take the right perspective.

IGL was a city gas distribution (CGD) company incorporated in 1998. It supplied CNG to the transport sector and piped natural gas (PNG) initially to the domestic, industrial, and commercial sectors in Delhi and, over the years, gradually expanded to the Delhi National Capital Territory (NCT), which meant it also covered the additional nearby areas of Noida, Greater Noida, and Ghaziabad. CNG was a safe, economical, and environment-friendly fuel for the transport sector. It was a safer fuel because of its narrow range of flammability. The low operational costs of CNG, compared with conventional fuels (see Exhibit 2), made it the most economical fuel to run transport in Delhi. CNG was also considered to be an environment-friendly fuel (or green fuel) due to the absence of lead and sulphur, which also improved the life of spark plugs fitted in the vehicles. It was replacing traditional fossil fuels such as petrol and diesel.

At the turn of the century, CNG had been introduced in Delhi due to the environmental concerns, and the judiciary had taken a firm stand on the concerns.[[2]](#footnote-2) For example, the intervention of the judiciary to counter alarming pollution levels in the national capital had led to the incorporation of IGL and the introduction of CNG as the fuel for public transport. In response to a public interest litigation filed by environment activist and lawyer M. C. Mehta in 1996, which alleged that emissions from vehicles were causing air pollution and posing serious health risks to the residents of Delhi, the Supreme Court of India in 1998 issued a directive calling for all buses, taxis, and three-wheelers in Delhi to convert to CNG. Over the years, the setting up of a CNG refuelling infrastructure by IGL and promotion of its usage in the transport sector had started to reduce and control the city’s pollution levels.[[3]](#footnote-3) IGL had invested significantly to create a world-class CNG fuelling infrastructure, which risked being underutilized during the odd-even scheme, as per the initial announcement from the Government of Delhi. It was embarrassing for an organization such as IGL, which had been built to overcome environmental issues, to lose out during the implementation of a policy initiative aimed at curbing environmental pollution.

The dilemma

Because Delhi’s pollution levels had reached disproportionate levels, the government had decided to implement the odd-even policy, which was aimed at reducing the number of vehicles on the road to counter environmental pollution.[[4]](#footnote-4) This policy was not expected to be a temporary phenomenon but was slated to be a regular feature to decrease Delhi’s pollution levels.[[5]](#footnote-5) Many countries had introduced similar road-rationing policies from time to time. For example, in 2008, in an attempt to improve air quality before the Olympic Games, Beijing, the capital of China, had implemented a road-rationing scheme based on the last digit of licence plate numbers.[[6]](#footnote-6) Policy-makers there had strictly forbidden any exemptions.[[7]](#footnote-7) Mexico City had also implemented a similar road-rationing policy in the 1980s, whereby cars were not allowed to be on the road on one weekday based on the number on their licence plates. Bogota, the capital of Colombia had implemented a road-rationing scheme called “Pico Y Placa,” whereby vehicles were banned from roads during the peak hours of a day, and violators were fined up to 15 per cent of their daily minimum wage. Paris, had also implemented road-rationing schemes twice—once in 1997 and the second time in 2015. During these periods, public transportation in Paris was free.[[8]](#footnote-8)

IGL management was concerned with both the potential loss of approximately one-sixth of the company’s total CNG sales and the long-term sustainability of the product. As the proposed odd-even scheme was a clear threat to business continuity and long-term sustainability, IGL’s top management sought viable solutions for this issue. The foremost objective of team IGL was to protect its potential loss of sales in the private car segment, during the odd-even period. The company was already facing the challenge of a decline in growth of CNG. Customers preferred to buy diesel vehicles because of lower fuel running costs (see Exhibit 2). In 2015, IGL’s CNG sales were not increasing as desired. The slow growth was attributed to a lack of a significant advantage for the vehicle owners in running CNG vehicles as compared with running diesel vehicles. Due to these cost dynamics, IGL’s CNG sales were almost stagnant (i.e., had non-existent growth) in the previous two years. Additionally, due to technical reasons, diesel cars (unlike petrol cars) could not be retrofitted with CNG kits, as they required significant modifications to their engines. Also, the gross turnover of the company had decreased by 6 per cent from ₹43.19 billion[[9]](#footnote-9) in financial year (FY) 2013–14 to ₹40.49 billion in FY 2014–15, mainly on account of a substantial reduction in the selling prices of CNG and PNG-Domestic due to the allocation of additional domestic gas to the CGD sector. The result was a lower input cost of gas, which was passed on to customers by reducing the selling price of CNG and PNG-Domestic.[[10]](#footnote-10)

The threat to IGL’s sales was immediate but the impending danger was regarding the weak positioning of CNG among its key stakeholders. The team felt that IGL’s key stakeholders of IGL needed to perceive CNG as a clean fuel, which emphasized that the team needed to work on the positioning of IGL’s flagship offering (i.e., CNG).

Background

In 1998, IGL was incorporated as a joint venture of two blue-chip public sector units—Gas Authority of (India) Ltd. (GAIL) and Bharat Petroleum Corporation Ltd. (BPCL) along with the participation of the Government of Delhi. Over the years, IGL had come a long way to become the largest CNG distribution company in India. The organization had started in 1999 with just nine CNG stations and 1,000 PNG consumers in Delhi. By December 2015, IGL had spread its operations with 340 CNG stations in the Delhi NCT.

Natural gas was the cleanest burning fossil fuel, and its environmentally friendly characteristics made it very popular. IGL was playing an increasing role in the attainment of India’s national goals of a cleaner environment, energy security, and a more competitive economy. India was witnessing consistent growth in demand for energy resources. The primary energy mix of India was also set to alter because of the substitution of oil with natural gas, which was emerging as an essential component in the total energy basket. The share of natural gas was expected to increase significantly in the coming years. It was also expected that with an increase in allocation of domestic gas to CGD firms, the price differential between CNG and alternative liquid fuel would continue to drive the conversion of petrol-driven private vehicles to CNG mode. The introduction of more CNG variant models by car manufacturers was also expected to add to CNG volumes.[[11]](#footnote-11)

IGL Business

The anchor load in IGL’s business came from CNG, which occupied 77 per cent of its total sales volume, making it a cornerstone for IGL. The PNG business contributed 17 per cent of total sales volume, of which 11 per cent came from supplying industrial and commercial establishments, while domestic usage contributed 6 per cent of the sales volume. IGL also sold natural gas to other CGDs, which amounted to 6 per cent of the company’s total sales volume.

Compressed Natural Gas Business

As of March 31, 2015, more than 800,000 vehicles were estimated to be running on CNG in the Delhi NCT, including approximately 550,000 private vehicles (see Exhibit 3). During FY 2014–15, IGL had augmented its CNG distribution infrastructure by enhancing the installed compression capacity, from 6.681 million kilograms (kg)/day in March 2014 to 6.850 million kg/day in March 2015.[[12]](#footnote-12) On March 31, 2015, the total number of CNG stations was 326, which included 280 stations in Delhi and 46 stations in the remaining areas of the Delhi NCT.

Piped Natural Gas Business

During FY 2014–15, IGL provided 59,029 PNG connections in Delhi and another 42,256 PNG connections in the remaining areas of the Delhi NCT. The total number of connections increased from 459,467 in March 2014 to 560,752 in March 2015.[[13]](#footnote-13) It was noteworthy that IGL broke its own record of highest number of connections in FY 2014–15 by providing 101,285 domestic PNG connections.

Indraprastha Gas Limited’s Vision

IGL highlighted its vision “to be the leading clean energy solutions provider, committed to stakeholder value enhancement, through operational excellence and customer satisfaction.”[[14]](#footnote-14) This vision statement signified five significant attributes of the organization: (1) its commitment to the environment; (2) its offer of complete energy solutions, thereby going beyond offering CNG for transport and PNG for cooking; (3) the offering of enhanced value for stakeholders, including customers, shareholders, and employees; (4) a commitment to achieving excellence in its operations; and (5) providing satisfaction to its customers.

The Growth Drivers for CNG

In FY 2014–15, CNG sales contributed approximately 77 per cent to IGL’s sales volume mix. As growth in the public transport segment depended mostly on the decisions of the government authorities, the private car segment had, over the years, been the significant growth driver in the CNG segment. The number of private cars using CNG had risen steadily over the years, with savings of approximately 55 per cent in running costs of CNG cars, compared with petrol vehicles (see Exhibit 2). In FY 2014–15, the operating costs of vehicles that ran on CNG was approximately 58 per cent cheaper than vehicles that ran on petrol and 17 per cent cheaper than vehicles that ran on diesel.[[15]](#footnote-15)

After the mandatory conversion of public transport in Delhi to “clean fuel” in the early years of the new century, CNG caught the fancy of private car owners of the region due to the favourable cost economics and easy availability through the refuelling infrastructure set up by IGL across the length and breadth of the Delhi NCT (see Exhibit 4).

Safety and customer satisfaction were critical aspects of the business for any fuel company. IGL, therefore, made efforts to educate its customers about the safe use of fuel, including the need for having a CNG retrofit done only at authorized workshops. IGL also tried to ensure that CNG cylinders were hydro-tested every three years, as mandated by Gas Cylinder Rules, 2014. The marketing team at IGL also explored the business potential of CNG for two-wheelers. In collaboration with a renowned market player in Iran, IGL introduced retrofitting CNG kits for two-wheelers on a pilot basis.

The idea was that if this option became sustainable, it would open new avenues of growth for the company. IGL had also participated in the bidding for new geographies, a process administered by India’s Petroleum and Natural Gas Regulatory Board, and it had received a letter of intent for setting up a CGD network in nearby Rewari, Haryana (approximately 90 km from Delhi). The company had planned to continue to participate in the bidding for new geographies, which would lead to business expansion. In its presentation to the investors, IGL had put forward its growth strategy aimed at improving and augmenting CNG infrastructure and CNG stations in the Delhi NCT to meet the additional demand. The goal was to cater to the growing conversion of private cars to CNG and the improvement undergoing in the public transport systems.

While IGL was making multi-pronged efforts to expand its business reach, the sudden announcement of the odd-even policy put IGL’s marketing team in a very delicate situation. The team wanted to not only save the company from the crisis but also use this situation to its favour and promote its clean fuels. The team firmly committed itself to follow the vision of the organization.

Amandeep Singh Narang and Vivek Pani Gumparthi are doctoral scholars at Indian Institute of Management Kashipur. Professor Somnath Chakrabarti is an associate professor at Indian Institute of Management Kashipur.

Exhibit 1: Gas Sales in Delhi’s National Capital Territory (in millions of standard cubic metres)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **FY 2011** | **FY 2012** | **FY 2013** | **FY 2014** | **FY 2015** | **CAGR**  **Last Five Years** |
| Compressed Natural Gas | 818 | 936 | 1,005 | 1,028 | 1,073 | 6% |
| Piped Natural Gas | 180 | 282 | 333 | 356 | 330 | 13% |
| Total Sales | 998 | 1,218 | 1,338 | 1,384 | 1,403 | 7% |
| Daily Average Sale | 2.73 | 3.34 | 3.67 | 3.79 | 3.84 | 7% |

Note: FY = financial year; CAGR = compound annual growth rate

Source: Indraprastha Gas Limited, *IGL Investor Presentation,* 7, May 28, 2015, accessed June 19, 2018, www.iglonline.net/english/Default.aspx?option=article&type=single&id=35&mnuid=220&prvtyp=site.

Exhibit 2: Cost Dynamics Petrol/Diesel versus Compressed Natural Gas (As on December 1, 2015, Midnight)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Conventional Fuel—Petrol/Diesel** | | | | **Compressed Natural Gas** | | |  |
| Vehicle Category | Approximate Mileage | Price of Fuel | Cost of Running | Approximate Mileage | Price of Fuel | Cost of Running | Cost Saving with CNG |
| Unit | km/litre | ₹/litre | ₹/km | km/kg | ₹/kg | ₹/km | (%) |
| Car (Petrol) | 15 | 60.48 | 4.03 | 20.85 | 37.2 | 1.78 | 55.7 |
| Auto Rickshaw (Petrol) | 25 | 60.48 | 2.42 | 34.75 | 37.2 | 1.07 | 55.7 |
| Bus (Diesel) | 3.5 | 46.55 | 13.3 | 3.5 | 37.2 | 10.63 | 20.1 |

Note: CNG = compressed natural gas; km = kilometres; ₹ = INR = Indian rupee; US$1 = ₹66.51 on December 1, 2015; kg = kilogram

Source: Indraprastha Gas Limited internal company records.

Exhibit 3: NUMBER of Compressed Natural Gas-fuelled Vehicles in Delhi National Capital Territory, 2012–2015

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | March 2012 | March 2013 | March 2014 | March 2015 | June2015 | CAGR in Last Five Years |
| Buses | 18,839 | 18,826 | 19,566 | 19,421 | 19,639 | 7% |
| Auto/LGV | 159,123 | 193,852 | 206,352 | 228,002 | 233,072 | 16% |
| RTV | 13,307 | 14,062 | 14,039 | 13,538 | 13,434 | 19% |
| Cars/Taxi | 359,176 | 460,926 | 514,801 | 556,156 | 569,794 | 21% |
| Total | 550,445 | 687,666 | 754,758 | 817,117 | 835,939 | 19% |

Note: LGV = large good vehicle; RTV = rough terrain vehicle; CAGR = compound annual growth rate

Source: Indraprastha Gas Limited, *IGL Investor Presentation,* August 26, 2015, accessed June 19, 2018, www.iglonline.net//english/Default.aspx?option=article&type=single&id=35&mnuid=220&prvtyp=site.

Exhibit 4: Compressed Natural Gas Fuelling Infrastructure in Delhi National Capital Territory, 2011–2015

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **March 2011** | **March 2012** | **March**  **2013** | **March**  **2014** | **March**  **2015** | **June**  **2015** |
| Number of CNG Stations | 278 | 308 | 324 | 325 | 326 | 326 |
| Compression Capacity (Thousand kg/day) | 5,113 | 5,956 | 6,383 | 6,617 | 6,849 | 6,849 |
| Average Daily CNG Sale (Thousand kg/day) | 1,671 | 1,915 | 2,072 | 2,120 | 2,207 | 2,220 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **March 2011** | **March 2012** | **March**  **2013** | **March**  **2014** | **March**  **2015** | **June**  **2015** |
| Number of CNG Stations | 278 | 308 | 324 | 325 | 326 | 326 |
| Compression Capacity (Thousand kg/day) | 5,113 | 5,956 | 6,383 | 6,617 | 6,849 | 6,849 |
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Note: CNG = compressed natural gas; kg = kilograms

Source: Indraprastha Gas Limited, *IGL Investor Presentation,* 10, August 26, 2015, accessed June 19, 2018, www.iglonline.net//english/Default.aspx?option=article&type=single&id=35&mnuid=220&prvtyp=site.

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9. ₹ = INR = Indian rupee; all currency amounts are in ₹ unless otherwise specified; US$1 = ₹66.75 on December 7, 2015. [↑](#footnote-ref-9)
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