

EPCA report number 11 (December 2004)

**Report on the expansion of the CNG programme in the NCR towns of Faridabad,
Gurgaon, Noida and Greater Noida**

(In the matter of W.P.(C) No.13029 of 1985; M.C. Mehta v/s UOI & others)

**Environment Pollution (Prevention & Control) Authority
for the National Capital Region**

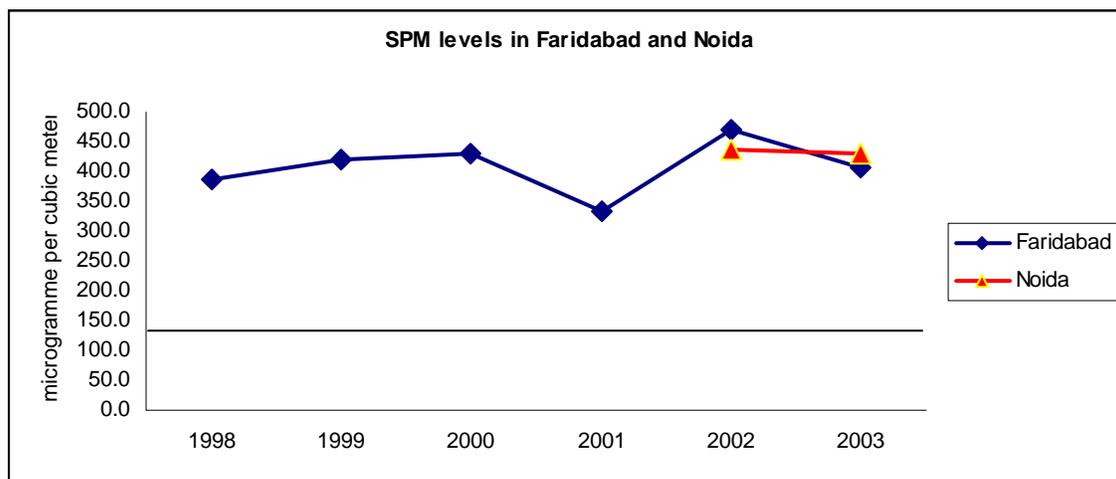
1. The CNG programme

Delhi's Compressed Natural Gas (CNG) programme, which was implemented under the directions of the Hon'ble Supreme Court, has become a role model for Asian cities, which are looking for options to reduce air pollution. Since its inception the programme has expanded and evolved. Today, with 122 CNG stations and roughly 90,000 CNG vehicles, it is one of the largest programmes in the region. The average CNG sales are to the tune of 8.02-lakh kg/day.

However, the CNG infrastructure is restricted only to the National Capital Territory of Delhi and does not extend to the neighbouring towns, in spite of increasing pollution imperatives.

Currently, the neighbouring towns like Faridabad, Gurgaon, Noida and Greater Noida are unable to capitalise on this existing infrastructure. As CNG is not available in these towns, it also becomes very difficult for smoother flow of vehicles across the region. It is also important that benefits of the cleaner fuels should also be made available to the towns in the National Capital Region (NCR) of Delhi.

For instance, pollution levels in Faridabad shows alarming trends. Average PM 10 levels in 2003 at two locations in Faridabad- regional office, Haryana Pollution Control Board (PCB) and at Shivalic Global Industries were 217 $\mu\text{g}/\text{cum}$ (microgramme per cubic meter) and 214 $\mu\text{g}/\text{cum}$ respectively, thus exceeding the residential standard by nearly 3.5 times. Similarly, the NO_x levels are showing an increasing trend. Average PM 10 levels at the M/s GEE PEE station in Noida was 194 $\mu\text{g}/\text{cum}$, exceeding the residential standard by nearly 3 times. PM 10 is not even monitored in Gurgaon.



Source: Computed from National Ambient Air Quality Statistics, 1998-2003, Central Pollution Control Board, New Delhi

2. The city expansion plans

EPCA has held the view that once the Delhi CNG market matures; the benefits of CNG programme should be extended to the NCR towns. This would only facilitate the overall development of CNG network in the NCR and improve air quality in the region. Currently, the non-availability of gas in the neighbouring towns, leads to increased pollution in Delhi as diesel vehicles continue to ply from those cities into Delhi.

It is also important to note that Indraprastha Gas Limited (IGL) has already developed a huge CNG infrastructure in Delhi, which can be easily extended to these towns. In April 2004, the Ministry of Petroleum and Natural Gas (MoPNG) has also allocated gas for these towns. EPCA is bringing this matter to the Hon'ble Court for directions so that the programme can be expedited.

2.A Progress so far

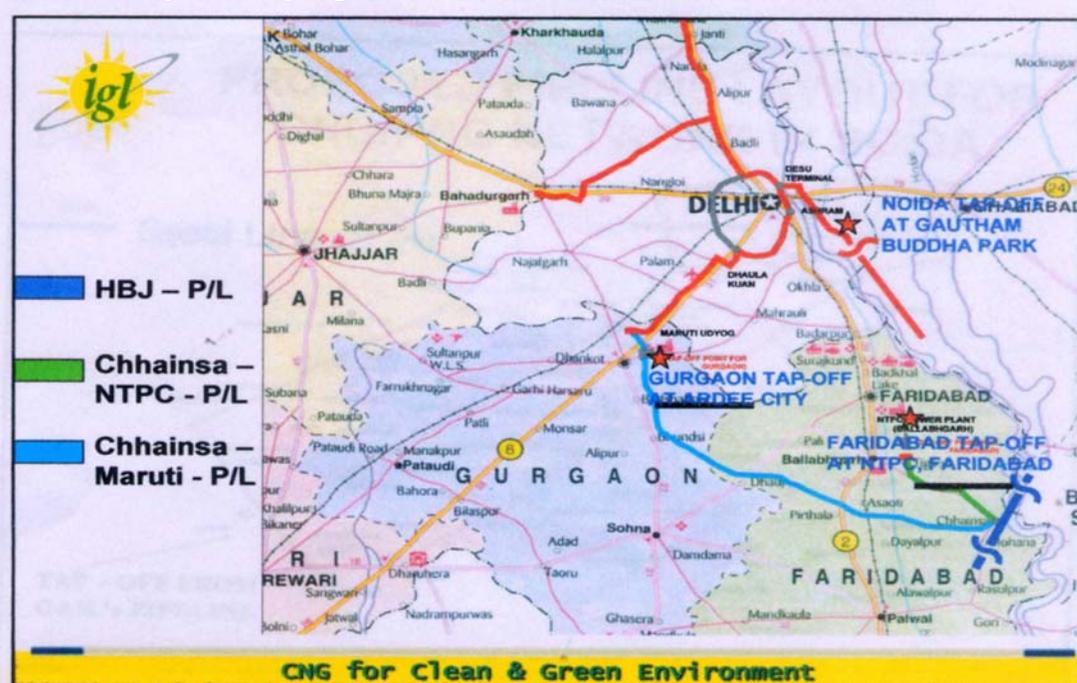
EPCA began its discussions with IGL on the expansion of the CNG programme in December 2002, after the implementation of programme in Delhi. The Chairman, EPCA wrote to IGL asking to expand the city gas distribution network to include neighbouring towns of NCR. The issue since then has been on the agenda of IGL and they have been working towards the CNG expansion programme.

In this context EPCA have held various meetings with both IGL and Gas Authority of India Limited (GAIL) to assess their plans for expanding the CNG network in the country in general and NCR towns in specific. While IGL is working to implement the city gas distribution projects in the NCR towns of Faridabad, Gurgaon, Noida and Greater Noida, GAIL is actively pursuing its projects in Kanpur and Pune, among other cities.

EPCA met the representatives of IGL on May 15, 2004 to assess the CNG expansion plans in the NCR towns. EPCA again held a meeting on July 31, 2004 and so also on November 4, 2004 to review progress. EPCA assessed the plans of IGL for expanding the CNG network in these various meetings and also desired that in the long run the whole NCR should be under the ambit of the CNG network. On requests of the EPCA, IGL has also plans for including Ghaziabad in the CNG expansion programme. It has already applied to the MoPNG for gas allocation for the Ghaziabad region.

In July 2003, IGL had applied for gas allocation to the Ministry of Petroleum and Natural Gas (MoPNG). Consequently in April 2004, MoPNG allocated 0.7 million standard cubic metres per day (MMSCMD) of natural gas for the NCR towns of Faridabad, Gurgaon, Noida and Greater Noida.

The CNG expansion programme in the NCR



2.B Key elements of the programme

IGL has prepared Detail Feasibility Report (DFR) for these NCR towns. The IGL Board subsequently has also approved the DFR. According to the information given from the IGL it seems that almost all categories of vehicles would be targeted to run on CNG. IGL has also estimated the total project cost and the number of CNG stations that would be built under the CNG expansion programme (See table: Project cost (crores) and CNG stations).

Project cost (crores) and CNG stations

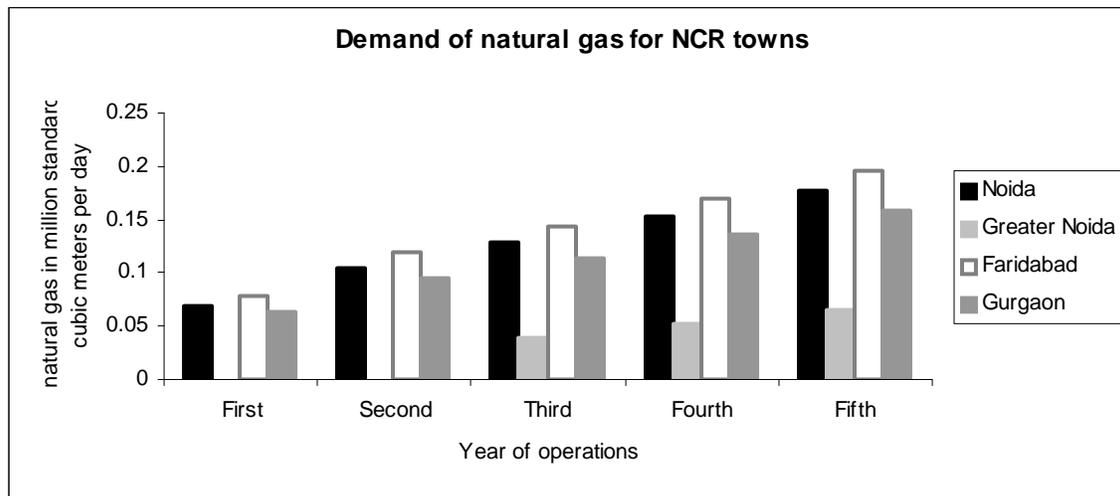
Cities	Phase one first 3 years	Phase two 4 and 5 th year	Total	CNG stations in Phase one
Faridabad	51.11	12.91	64.02	6
Gurgaon	51.04	11.30	62.34	6
Noida	42.59	10.89	53.48	5
Greater Noida	21.64	5.58	27.22	3
Total	166.38	40.68	207.06	20

Source: Anon 2004, Expansion of CNG infrastructure to NCR towns, Indraprastha Gas Limited, Submission made to the EPCA on November 4

IGL estimates that at the cost of around Rs 207 crore it would implement the CNG expansion programme in the NCR towns. The expansion programme of IGL is to be carried out in two phases once the projects gets underway. Phase one will include the first three years of operation, which would cost around Rs 166 crore and around 20 CNG stations would be set up. The CNG stations are estimated only for the Phase I of the

programme, which would last for the first three years. More stations would also be set up in the second phase of the project which includes 4 and 5th year, based on the demand for CNG in these NCR towns.

Similarly IGL has also estimated the demand for natural gas in these NCR towns. Faridabad region is having the highest demand for natural gas, followed by Noida and Gurgaon. The total utilisation of the natural gas in the fifth year of operations is expected to be around 0.5975 mmscmd.



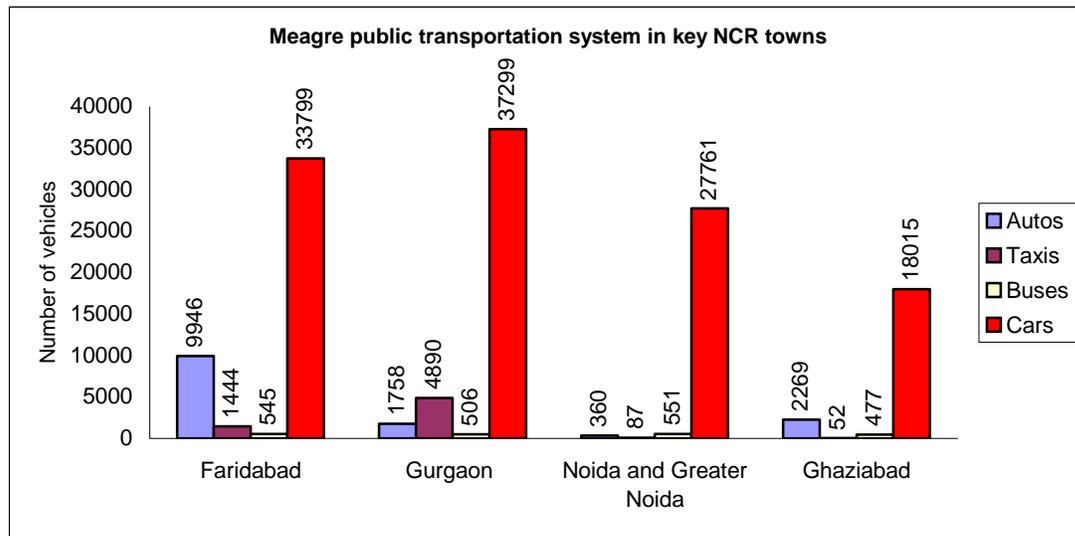
Source: Anon 2004, Expansion of CNG infrastructure to NCR towns, Indraprastha Gas Limited, Submission made to the EPCA on November 4

2.C Vehicle profile of the towns

The key issue of concern however is that the vehicle profile in this region shows that the number of buses is limited. Most cities have roughly 500 or less registered buses and the number on the roads may be even less. The number of registered taxis and autos is also few, which could well mean that the numbers of unregistered vehicles are higher. It is difficult to estimate real numbers.

This is an issue of concern for the expansion of the CNG programme, as the demand for gas will be limited. It will be recalled that the key success in the Delhi programme was the fact that the Hon'ble Supreme Court directed for an increase in the bus fleet and that this bus fleet should be run on clean fuel, namely CNG. This expansion of the bus fleet lead to an viable demand for CNG, which is essential for the infrastructure creation in these cities.

The current vehicle profile of NCR towns

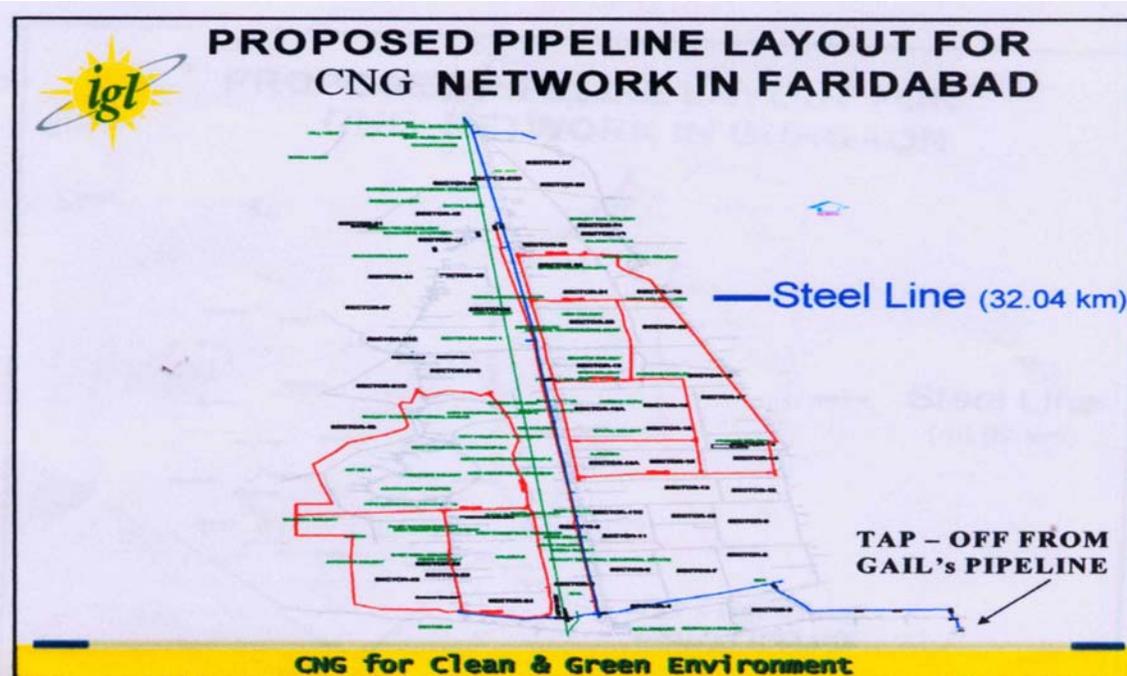


Source: Anon 2004, Expansion of CNG infrastructure to NCR towns, Indraprastha Gas Limited, Submission made to the EPCA, November 4, New Delhi

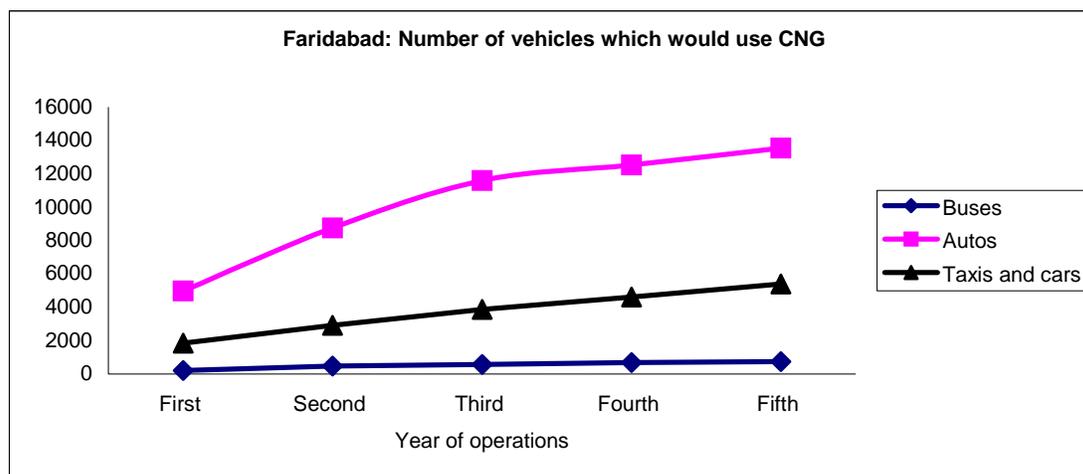
3. Details of proposed city programmes

3.1 Faridabad

Faridabad is under the jurisdiction of the Haryana state government. In March 2004, IGL DFR estimated its vehicle population as 45,734 vehicles; 9,946 autos and 1,444 taxis, which could be the prime target for conversion to CNG. The common problem, which plagues all the NCR towns, is the meagre number of buses. Faridabad has only around 500 registered buses. Public transportation system thus in this region is virtually non-existent forcing people to rely on private mode of transport.



IGL has also estimated the number of vehicles, which would be converted in Faridabad region. At the end of the fifth year, around 19,661 vehicles would be converted to run on CNG in the Faridabad region, with around 13,531 autos among the total. Faridabad is thus looking at the three-wheelers as their prime customers.

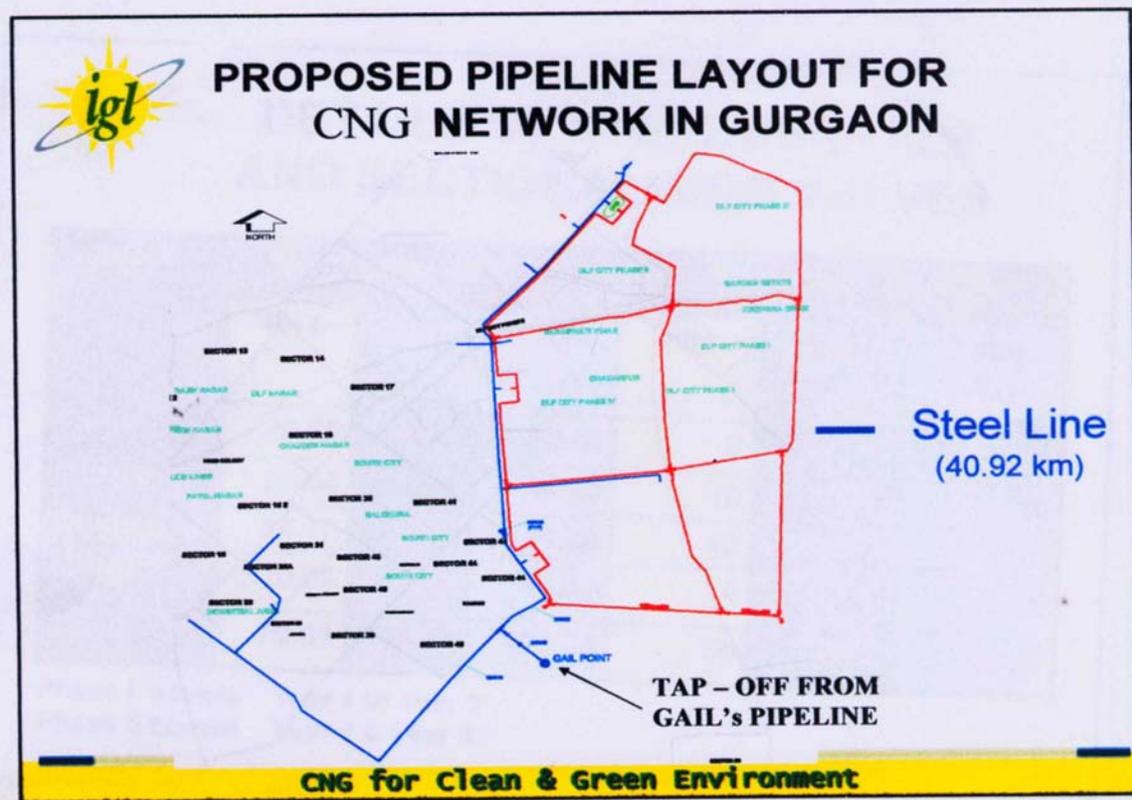


Source: Anon 2004, Expansion of CNG to Faridabad, Noida, Gurgaon & Ghaziabad, Indraprastha Gas Limited, Submission made to the EPCA on July 31

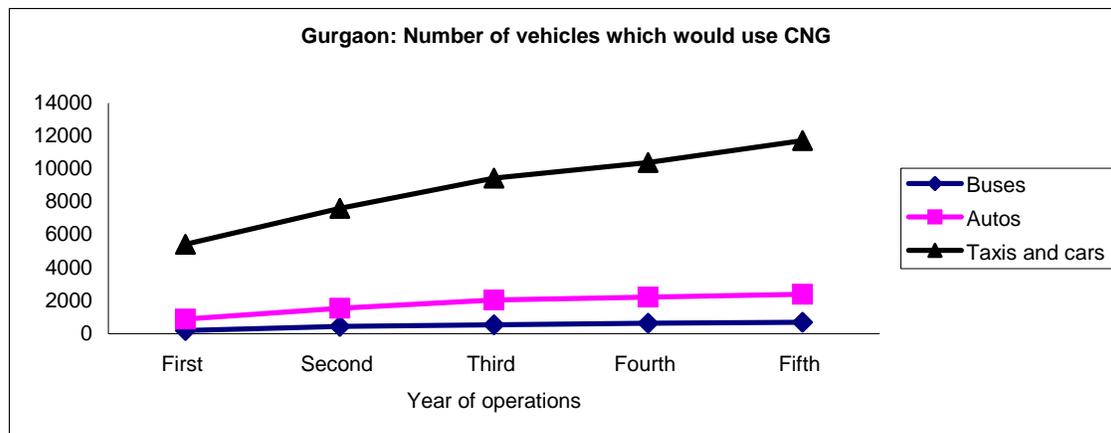
3.2 Gurgaon

Gurgaon is another city under the Haryana state government, which would be covered under the IGL's CNG expansion programme in the NCR towns. As of March 2004 it has

around 44,453 vehicles, out of which around 1,758 are autos and around 4,890 taxis. Like all the NCR towns, which are going to be covered under the programme, it also has just 506 buses.



IGL has estimated the number of vehicles, which would be covered, and the resultant demand for CNG in Gurgaon. It is estimated that at the end of fifth year, that is second phase of the programme, the number of vehicles that would be converted to CNG would be around 14,807, with an estimated CNG demand of 1,43,516 SCMD. Gurgaon as opposed to Faridabad is looking at taxis and cars as their prime customer of CNG. Taxis and cars would be main driver of CNG market in this region.

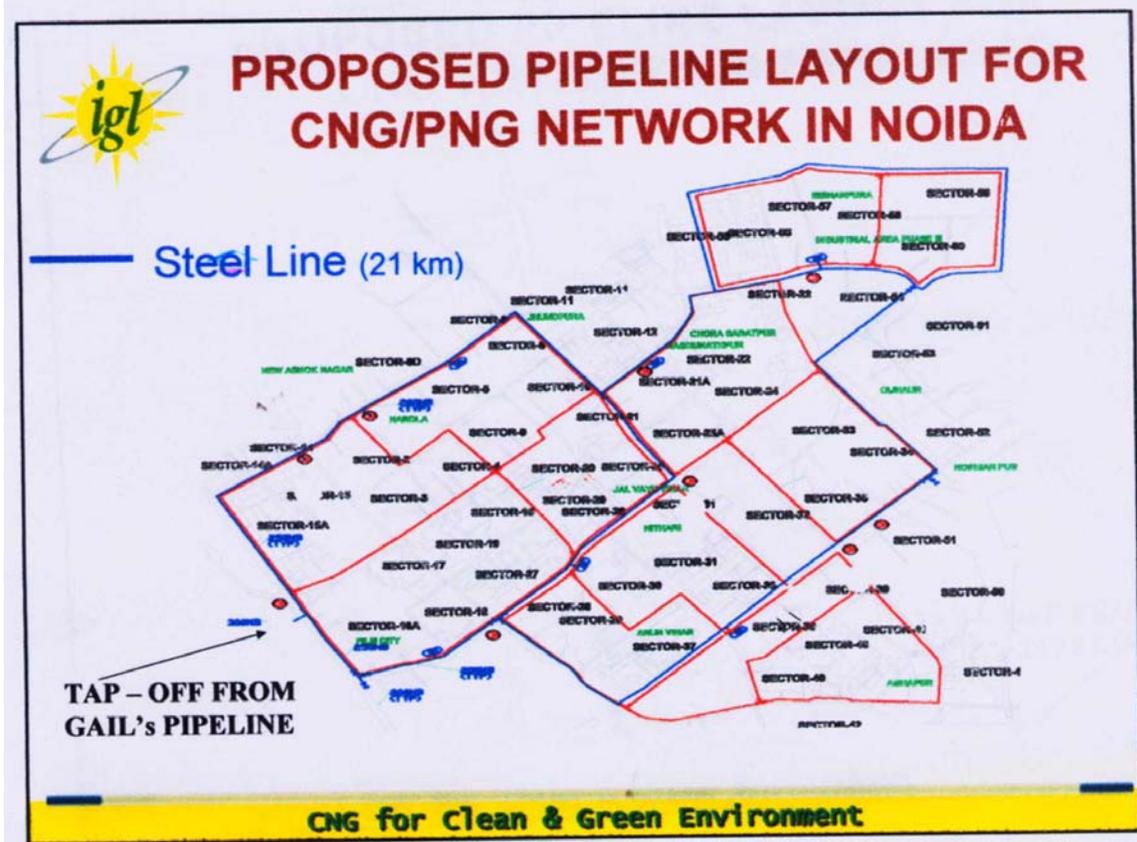


Source: Anon 2004, Expansion of CNG to Faridabad, Noida, Gurgaon & Ghaziabad, Indraprastha Gas Limited, Submission made to the EPCA on July 31

Given the exhaustive plan of IGL for the cities of Faridabad and Gurgaon in the state of Haryana, it is surprising to note that the Haryana government hasn't moved as yet. IGL has already initiated the process of discussions with the Haryana state government and have held various meetings with key state officials. Deliberations have also been made with senior state government officials. But as yet the Haryana state government has not granted the clearance to IGL for commencing the work on the CNG programme in both these cities, which fall under the Haryana government. The state government is still thinking as to which corporate would implement the CNG programme in both the cities.

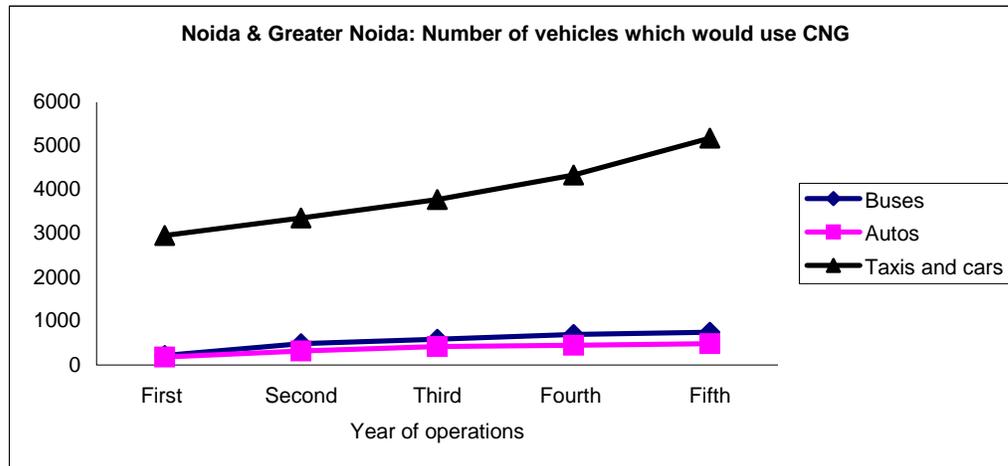
3.3 Noida and Greater Noida

Both Noida and Greater Noida come under the jurisdiction of the Uttar Pradesh government. Noida and Greater Noida share a very distinctive position, as the number of vehicles is very meagre. The total number of vehicles at around 28,000 is much less than Faridabad and Gurgaon. It has just around 87 taxis and only around 550 buses.



As for the other cities, IGL has also carried out the demand estimation and the number of vehicles that would be covered under the CNG programme. Thus at the end of Phase II around 6,417 vehicles would be converted to run on CNG. EPCA would like to point

out that interestingly though Noida has a very meagre number of vehicles, which would be converted to run on CNG, the demand of natural gas from this region is second highest. Very similar to the strategy applied in Gurgaon, Noida is also looking at taxis and cars as their prime target.



Source: Anon 2004, Expansion of CNG to Faridabad, Noida, Gurgaon & Ghaziabad, Indraprastha Gas Limited, Submission made to the EPCA on July 31

The common problem which plagues the NCR towns is the virtual lack of good public transportation system. The overbearing numbers of private vehicles are the principal source of vehicular pollution, so also old three-wheelers, which ply on diesel. The total number of vehicles in these towns adds up to around 1,18,946. The disquieting part though is the fact that cars constitute a whopping 83 per cent of the total vehicles in these regions. These would thus call for a comprehensive public transport policy for these NCR towns. Unless a good public transportation strategy is not in place, it would be very difficult for these towns to gain the benefits of a gaseous fuel strategy.

4. EPCA's observation

EPCA welcomes the initiative by IGL to expand its network to the NCR towns of Noida, Greater Noida, Gurgaon and Faridabad. EPCA notes that IGL has already prepared the DFR for the NCR towns of Faridabad, Gurgaon, Noida and Greater Noida. The IGL Board subsequently has also approved the DFR and thus they are now waiting for the final approval from the state governments to commence the work on the CNG programme in specific towns.

EPCA feels that the expansion of the CNG programme would be very beneficial to the environment and will also help consumers, as there would be a very wide network of CNG stations across the NCR. EPCA strongly feels that in the long run the total NCR should be brought under the CNG expansion programme of IGL. This would facilitate movement of vehicles throughout the NCR and would go a long way in reducing pollution levels.

However, for the timely and successful implementation of the programme, the following is needed:

4.1 State governments should expedite implementation of the city gas projects

EPCA takes a very stern note of the fact that none of the state governments has mandated IGL to implement the city gas distributions projects. This is really disquieting; given the fact the MoPNG has made the gas allocation to IGL to implement the city gas distribution projects in the NCR towns.

EPCA would like to point out that even after various meetings and presentations to both the state governments, IGL has not been given the mandate to go ahead with its plans and governments are reportedly now looking at the option of awarding the city gas distribution projects to other parties. State governments of Uttar Pradesh and Haryana are exploring the possibility of bringing in private firms for gas stations. It is not clear why this delay should take place, given that the MoPNG in September 2004, has made it clear to the Haryana government that gas allocation was made to IGL for implementing CNG programme in these NCR towns.

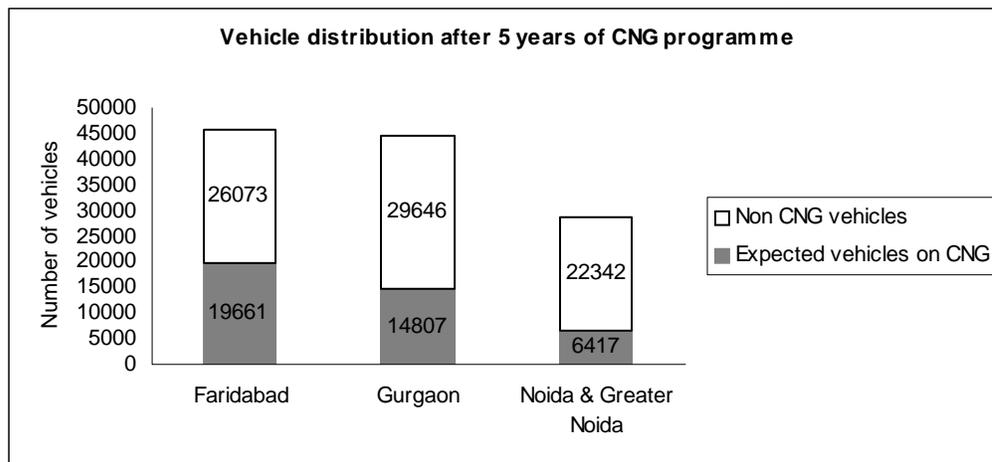
EPCA would also like to point out that on March 25, 2004 the Hon'ble Court in its opinion, on the Gujarat Gas (Regulation of Transmission Supply and Distribution) Act 2001, on which a reference was made by the President of India under Article 143 (1) of the Constitution of India, clearly pointed out, "Natural Gas including Liquefied Natural Gas (LNG) is a Union subject covered by Entry 53 of List 1 and the Union has exclusive legislative competence to enact laws natural gas." Further the court stated, "States have no legislative competence to make laws on the subject of natural gas and liquefied natural gas under Entry 25 of List of the Seventh Schedule to the Constitution."

This opinion from the Hon'ble court should be a reason enough for both the state governments to go ahead and give the CNG expansion mandate to IGL.

4.2 Expand the ambit of vehicle coverage in the CNG programme

EPCA has reviewed the expansion plans of IGL and takes firm note of the fact that even after the Phase II of the programme, the targeted number of vehicles, which IGL is looking, is not adequate (See Graph: Number of vehicles which would be converted are inadequate). For instance at the end of five years after the programme commences, Noida and Greater Noida will have only around 6,500 vehicles – buses, taxis and autos -- which would use CNG. These figures are based on the survey conducted by the IGL. If these figures are to be taken as correct, then the numbers are very inadequate.

Number of vehicles which would be converted are inadequate



Source: Anon 2004, Expansion of CNG to Faridabad, Noida, Gurgaon & Ghaziabad, Indraprastha Gas Limited, Submission made to the EPCA on July 31

The state governments of Uttar Pradesh and Haryana will thus have to step in and frame a policy to phase out old vehicles and introduce clean fuels in these cities. Unless the government doesn't intervene it would be very difficult to implement the CNG programme. EPCA feels that the government has to create enabling policies for the consumers to switch over to cleaner fuels and for greatly enhancing public transportation system to take advantage of the CNG programme.

4.3 Rationalise taxes on natural gas

EPCA would like to point out that taxation is a very important fiscal tool for encouraging clean fuels in India. The Delhi government does not levy any sales tax on CNG, as it is a clean fuel. This helps to keep a check on the CNG price, which has to be very competitive to the conventional fuel. Unfortunately the Uttar Pradesh government levies a 20 per cent tax on natural gas used as CNG in Noida. This would increase the price of CNG by 20 per cent. For instance, while the existing price of CNG in Delhi is Rs 16.88, the same CNG in Noida would cost Rs 20.69, a difference of Rs 4 per kg.

EPCA recommends that it would be more prudent to have a uniform sales tax regime in the NCR as a whole. This would create a uniform CNG market in the NCR, without any region losing business as a result of higher taxes. Accordingly EPCA recommends that the state government should withdraw the sales tax on CNG.

4.4 Augment the public transport system

EPCA would like to point out that all the NCR towns have a meagre public transportation system in place. For instance the number of buses in each of the NCR towns barely exceeds 500. Similarly even three-wheelers, which acts, as an intermediate mode of public transport is virtually non-existent. Noida and Greater Noida have just around 350 three-wheelers.

Lack of clear policy has resulted in spurt of private vehicles in these towns. Unless proactive measures are not taken, in few years the situation would be very deplorable, with ever growing congestion. As congestion increases, emissions from these slow

moving vehicles would only increase. This would only add to the already higher air pollution levels.

EPCA strongly feels that the CNG expansion programme in these NCR towns should be linked to the augmentation of the public transport in the city. This would create enabling conditions for weaning away people from private mode of transport to public mode and also create additional demand for the CNG in these towns making the CNG programme more viable. Many cities in the country, which are opting for a gaseous fuel programme, are implementing this strategy. NCR towns should thus look at augmenting the public transport system as part of the CNG implementation programme.

EPCA would like to point out that the Haryana Roadways is in the process of adding around 1,000 new buses to its fleet. EPCA would like to point out that these new investments should be made in clean gaseous fuel, namely CNG. EPCA would like to point out that currently Haryana roadways, does not have a single CNG bus in their fleet. Meanwhile EPCA welcomes the Haryana government's move to issue permits to ply 28 CNG buses between Gurgaon and Delhi.

Similarly, the Uttar Pradesh government is also considering buying new luxury buses. EPCA would like to point out that these investments should also be made in CNG buses. Any further investments in buses in NCR towns should be on CNG. This would complement the current CNG implementation plan of the Uttar Pradesh government.

5. Directions sought from the Hon'ble Supreme Court

EPCA seeks following directions from the Hon'ble Court:

A. Directions for the state governments of Uttar Pradesh and Haryana:

1. Direct the state governments of Uttar Pradesh and Haryana to mandate IGL to implement the city gas distribution projects in their respective cities. The state governments be directed to expedite the full implementation of the project within a timebound schedule, but no later than December 2006.
2. Direct IGL to implement the CNG programme in NCR towns within two years from the date they get the necessary clearance from the state government, but no later than December 2006.
3. Direct the state governments to have a uniform taxation policy to create a single CNG market for the NCR and to ensure that CNG as a clean fuel is priced and taxed cheaper than polluting fuels.
4. Direct the state governments to increase their public transportation bus fleet within a timebound schedule. The state governments should present their plans for upgradation of the bus fleet to the Hon'ble Supreme Court within 3 months. The plans must consider that, like the Delhi experience, the implementation of the CNG programme in the NCR towns should be linked with the augmentation of public transport in these towns.