

Appendix – A

Transcribed Focus Group Discussion Output

- **Moderator** : Narendra Kumar (*Research Scholar*)
- **Respondent-1** : Ashim Batra (*Marketing*)
- **Respondent-2** : R.N. Mittal (*Safety*)
- **Respondent-3** : Vikas Bansal (*Pipelines*)
- **Respondent-4** : Amit Mathur (*Regulatory Affairs*)
- **Respondent-5** : R.S. Velumurgan (*Training and R&D*)
- **Respondent-6** : Achint Gupta (*Strategic Affairs*)

Moderator: Good afternoon I am Narendra Kumar. I am carrying out a research on the topic Development of Conceptual Framework for establishment of Natural Gas Storage for City Gas Distribution in India at UPES Dehradun.

As a part of research, I need to identify the factors and variables influencing the establishment of Natural Gas Storage for City Gas Distribution in India. With the help of extensive literature review and expert opinion, I have jotted down certain variables. The variables have been concluded in the form of factors. Now I am developing a conceptual framework through this focus group discussion on the said topic. You are experts in different fields and have lot of experience in Oil & Natural Gas Industry. Therefore your rich inputs will be really helpful for carrying out this research work. I request you to give your opinion on certain questions on the subject topic. My first question is –

How CGD Industry can influence deteriorating polluting environment especially in medium and large cities in India?

Respondent 1: We can take the example of Delhi City Gas Distribution Network as here Natural Gas has played a big role in controlling the environmental

pollution. According to a survey, 65% of the pollutants are coming from the transport sector and in that context the CNG network was set up. We have seen that over the years that how CNG has combatted this grave pollution problem. Diesel is a major contributor in polluting the environment. CNG by its economic advantage over alternate fuels as well as the environment friendly nature has emerged out as a clean replacement of conventional fuels. We have also seen that if we are successful in creating the CGD network then people tend to choose CNG over other fuels which again help in controlling the environmental pollution.

Apart from this, many industries operating in the city also contribute largely towards environmental pollution. If natural gas can substitute the polluting fuels then automatically it will help in reducing the environmental pollution.

Respondent 2: I would like to add that apart from transport sector rural population which cooks from coal, wood and other polluting fuels contributes largely towards environmental pollution. So CGD can play a very important role in controlling pollution in large and medium cities.

Respondent 4: This is very critical point as pollution is directly affecting our health. So natural gas commonly referred to as green fuel is rightly being used as a substitute of conventional fuels as it is not affecting our health. That way I feel that CGD plays a very important role in controlling environmental pollution.

Moderator: Do you think present Government's emphasis to connect large number of households with Piped Natural Gas (PNG) and developing green highways by building CNG infrastructure along the highways will improve environment?

Respondent 1: Yes the Government emphasis will play a major role. Recently Natural Green Tribunal order stated that lot of long distance trucks entering in to the city are big contributors to city pollution. If we can develop a green corridor

along the highways we can convert these long distance trucks to cleaner fuel as well. Secondly as Respondent 2 pointed out that rural area using coal and wood as cooking fuels are contributing towards environmental pollution. By the virtue of Government's emphasis on the one crore PNG connections mission mode, these rural areas can also be converted into the clean and green replacement. Moreover, this increases awareness regarding the CGD scenario in India.

Respondent 4: Environment is not a closed room phenomena. This Government emphasis does not focus itself to the big cities only but it is a pan India mission for promoting natural gas as a clean fuel. Pollution from neighboring small cities around Delhi will also increase over time so all the cities need to be connected with Natural Gas as the dynamic air is travelling to other cities and polluting them as well. So this Prime Minister Mission mode will help in protecting the environment.

Moderator: In changing gas scenario world over and its effect on gas price volatility, do you feel gas storage can play an important role for Indian Natural Gas industry, especially in CGD sector?

Respondent 1: Pricing is really very important for a CGD consumer. If one finds huge fluctuation in the price of certain item, the person would tend to avoid that item. So we must have stability for pricing in the CGD industry. Price stability is very important for any product to be successful in the market. So, if City Gas Distribution industry is able to control the price fluctuation through gas storage then it will be very beneficial for the customers as well as the operating industry.

Respondent 4: In CGD industry demand varies from time to time like seasonal variations etc. Currently we getting APM (Administered Price Mechanism) gas from Government, but we should not consider it insurance for next 25 years. CGD industry should be prepared for a scenario where availability of cheaper domestic gas is curtailed. So we must have the gas storage facilities because it will be very

helpful in those times we have low/ high demand, fluctuating high gas price or limited gas availability. Considering the case of industrial customers as well, there are times when spot gas is very cheap, it can be stored at that time to utilize at a later time when the gas prices are peaking.

Respondent 5 : Few economic factors I feel will be very critical for establishment of gas storage. First, is the fluctuation in the gas price. Another factor what I feel is creation of storage facilities helps in increasing the customer satisfaction level as we are ensuring uninterrupted gas supply to the users. That is possible if we have some strategic gas storage.

Respondent 3: Public transport being mandated by the Government will use natural gas only. But private vehicles owners switched to Natural Gas because of its economic viability only. So to make it more lucrative we need to ensure uninterrupted supply at economic price which can be ensured by means of storing of gas at strategic times.

Respondent 5 : One more point I would like to add as a question that will the availability of Shale gas, CBM, gas hydrates, etc. in coming future as it will also increase the importance of gas storage.

Respondent 3: Yes, whenever the buffer is available we can use and store the extra gas.

Moderator: Do you feel customer satisfaction is linked with setting up of gas storage in India in any way?

Respondent 6: Yes I completely agree that customer satisfaction is linked with setting up of gas storage in India. For me as a customer my foremost priority will be uninterrupted supply. Now imagine a scenario what will happen if input source line gets affected because of any reason may it be war, natural calamity, terrorist attack, third party damage, major leakage etc. Being connected only one source, 6 lac housing holds in Delhi will be deprived of home cooked food. Alternate

option is the restaurants, but majority of the restaurants are connected with Natural gas as well. Moreover public transport, DTC services will completely be halted as they run on natural gas only because of Government mandate. The whole city will come to a standstill. At this situation gas storage will prove to be very crucial and a life line.

Respondent 2: Yes I completely agreed with Respondent 6 point. The restaurants in Delhi will not be able to serve even the one percent of total Delhi population. It will be a very tough situation.

Respondent 1: Yes because the public transport is in single fuel mode people will be stranded on roads with no mean of public commute available.

Respondent 2 : In my recent discussion with some of the colleagues I found out that people are very happy with the introduction of Natural Gas as a fuel for cooking and transport purpose because of many advantages like uninterrupted supply convenience, cheap, etc. Now to maintain this trust, CGD industry needs to be geared up to face all the challenges. Now imagine the situation if the input gas supply is cut whole CGD industry will be stranded and the trust of the people will come down drastically. So we have to ensure that supply of Natural Gas to the CGD consumers is full proof under any circumstance. So storing of gas is very important in this regard.

Moderator: What can be the reason / causes which can disrupt gas supplies to CGD industry which will lead to stoppage of gas to CNG, PNG, industrial and commercial customers?

Respondent 6: There might be many reasons - natural disasters like earth quake, hurricane and unforeseen conditions like war terrorist attack etc., third party damage or maintenance requirement in the pipeline might completely halt the input gas to a CGD network. And there is no contingency or backup plan for this kind of scenario. Here gas storage will be a life saver.

Respondent 2: Storage will definitely help in boosting the morale of the people as they will be at peace that the CGD Company is ensuring continuous supply under any circumstance.

Moderator: What way CGD industry will get benefitted after setting up gas storage individually or collectively in India?

Respondent 4: There will be many advantages for setting up the gas storage both individually and collectively in India. Firstly, huge employment opportunities will be created. It will ensure continuous supply in case of any disruption in the trans-national pipeline as this uninterrupted supply is the USP (unique selling proposition) of the pipeline network. The same can be ensured through storage only. People will become more aware about the Natural Gas as suitable replacement of conventional fuels.

Respondent 5: Apart from this we need to discuss certain areas of concern as well. Land availability and land requirement will be major challenge for establishment of gas storage facility. Further we need to address certain technical factors like proper design with advance technology of gas storage. In case of Interruption in trans-national pipelines in future due to geo political reasons, storage will prove to be very handy.

Respondent 4: I believe there is a need to develop a framework for setting up of gas storage facilities. We are discussing the advantages and disadvantages but at the same time we need to discuss regarding the framework to be developed as well. We need to get the source of technology, enhance the technical skills of labor available, and promote the investment from MNCs. There is no doubt that it will be costly affair initially, therefore some funding from Government will also be required so that some seeding is done for the work and later on with the help of in-house research and development team, we can build up on the progress.

Respondent 1: Adding to your point we need Government to step in to create the framework and relevant regulations and policies pertaining to that.

Respondent 6: We need to have a process of the single window clearance from the statutory authorities as well. This will definitely ensure speeding up the proceedings.

Moderator: Is role of Central Government, Local Government, Regulator and other statutory organizations like Forest Department, Explosive Department and Fire Department clear for undertaking this initiative in India?

Respondent 4: Yes definitely, Government and regulatory bodies will play an important role. The PNGRB Act gives the power to the regulator to create regulation regarding gas storage. But currently any such thing is completely missing. Government need to step up as well by creating Natural Gas Storage Policy. So there is need of developing the framework involving all the major stakeholders like Government, Regulator, Investors, Academia, CGD Industries, etc.

Respondent 2 : Currently the clarity is missing in terms of role play in the gas storage market. The same need to be formulated properly.

Respondent 4: Yes at the same time we need to generate awareness among the people of the country not only to the individuals but also to the authorities. They may be helped by implementing the policies used across the globe. This will bring the CGD to remote areas as well where pipeline is not connected.

Respondent 5 : When we talk about awareness people will feel the importance of storage as well. It will help in generating employment opportunities to the people. As Amit rightly said location will also play an important role in setting up of gas storage. At the same time we need to ensure the safety as well. It will be a very big and challenging task and Government bodies like PESO, CCOE and Fire

Department will play a very important in the development of framework for gas storage for CGD in India.

Moderator: In your opinion, what should be the conceptual frame work for setting up gas storage in India?

Respondent 1: Most important factors are public awareness, participation of central government and other statutory bodies, investments, research& developments etc. These all factors need to be brought on the same page by the virtue of conceptual framework. This will define the role of all stake holders involved in the gas storage. First and foremost is the development and communication of gas storage policy. Government may develop the said policy. Then the role of PNGRB will come. They need to provide the master plan regarding the establishment of gas storage. Land requirement need to be backed up by government. Then the awareness among the people of Indian will play an important role so they will also be a part of this conceptual framework.

Moderator: How opportunities can be generated by setting up gas storage in India?

Respondent 4: Whenever we are bringing in new technology more and more employment will be generated. Any new technology may not be indigenous and we may need some support from foreign countries as well.

Respondent 6: Gas storage being a high stake task will attract huge investments from international bodies. In house research and development pertaining to CGD will be strengthened. Using the technology available in foreign countries where Gas storage is developed might be really helpful. Availability of skilled labour having some expertise in the desired area for construction operation of gas storage facility will also be very crucial. Further advanced technology and high quality

material procurement will also play an important role. R&D will play an important role so academia needs to step in for the same.

Respondent 2: Safety will be a concern while developing and operating gas storage facilities. As OISD has developed certain standards pertaining to safety, the same need to be extended for gas storage as well. So that accidents, incidents, near misses may be avoided as they bring bad name to the industry. Apart from this, it will development confidence among all the stake holders that gas storage is safe to operate and maintain. Storage will help expand CGD network all over India. Increased availability of natural gas in form of Shale gas, CBM, Gas hydrates, etc. will definitely increase the requirement of gas storage facilities.

Respondent 3: We need to optimize everything like the pipeline diameter etc. to sustain high pressure in the pipe line network and ensure cost effectiveness at the same time. Manufacturers need to be trained in developing high quality materials. For storing gas temperature gets very low so material need to have the capability to cope with extremely low temperature.

Respondent 2: One very important point we should look into is “what should be the storage capacity for a particular kind of city”. Capacity determination will also be a challenging task for the development of storage.

Respondent 4: We can have a concept like where we are having an aggregator collecting the gas for many CGD industries nearby. It will be very costly affair for small CGD companies so this aggregator concept may be very helpful.

Respondent 2: Location of gas storage facility near the consumer market will play an important role. Storage capacity of gas storage is of primary concern.

Respondent 1: This might become a very interesting business proposition as well. The concept of aggregator is excellent where a single company stores the gas, which is strategically located near the market. It can start buying and storing at low rate and provide the gas catering the fluctuating seasonal and Peak gas

demand. It will also be very fruitful to balance the supply and demand scenario in India.

Respondent 6: PNGRB can formulate separate regulations in line with the Government policy for establishment of gas storage.

Moderator: Respondent 4 as you are in interaction with the regulator, do you feel there is any clear relevant policy for gas storage in India?

Respondent 4: Right now there is no clarity, but storage is definitely in PNGRB scope as in it is mentioned in the PNGRB Act as an important function. We can take this as an opportunity and sensitize PNGRB in this regard and facilitate the process of formulation as it is the need of the hour.

Respondent 2: Cost and availability of land in urban area will play an important role in gas storage in CGD in India. This need to be followed by strict safety considerations because in city third party damages will be higher and the CGD entity will need to be prepared for that as the consequences of any incident will be devastating.

Moderator: What difficulties CGD industry can face while setting up gas storage?

Respondent 6: Availability of skilled labor in India for construction, operation & maintenance of gas storage facilities will be a big challenge. Land availability and strategic land location will be an area of concern as well.

Respondent 4: We can think regarding the difficulties in two tiers- initially we need to focus on best technology availability and on a long term basis we look for incentivisation from Government and other MNCs. Then we need to focus upon the development of gas policy. To start we can have tie ups with any international company having sound experience in gas storage as it will be instrumental in development of first of its kind project in our country. Then finally all the other

issues like availability of land, skilled labor, strategic location, etc. need to be focused.

Moderator: *Thank you very much as you all have participated in this very important topic. As you know that there is no gas storage concept in India, so in future your inputs and valuable feedback will be very helpful.*

Appendix – B

Variable identified from literature review and expert opinion

VARIABLE	SOURCE
War	Study 15
Natural calamities like earthquake, hurricane etc.	Study 1, 15
Pipeline design to withstand high pressure	Study 4, 5
Injection/Deliverability rate	Study 2, 6
Pipeline damage	Study 1
Land requirement	Study 1, 11, 15
Land availability	Study 1
Platform breakdown/shutdown	Study 15
Terrorist attack	Study 15
Third party damages	Study 15
Price fluctuations	Spot pricing VS Long term pricing
Availability of alternate fuel	Expert Opinion
Interruptions in trans-nations pipelines due to geo political reasons	Expert Opinion
Supply and demand	Study 3, 7, 15
Storage Capacity	Study 2, 7, 13, 14, 17, 18
Investment	Study 7, 8, 13, 15
Non utilization of cushion gas	Study 10, 12

Safety	Study 1, 16
Government policies and regulations	Study 6, 7
Geology and geography	Study 2, 19, 20
Production of Shale gas, CBM etc. in India	Expert Opinion
Environment	Study 9, 16
Connectivity with pipeline infrastructure	Study 8
Employment	Expert Opinion
Awareness	Expert Opinion
Consumer's satisfaction	Expert Opinion
Experience	Study 20
Skilled labor	Study 11
Technology	Study 9, 11, 13, 14

Appendix- C

Questionnaire

Developing conceptual framework for establishment of Natural Gas Storage for City Gas Distribution in India

(Note: This information is purely for the purpose of research and will never be disclosed to anyone anywhere.)

Name:

Designation:

Gender: Male/Female

Age: yrs.

Mobile No:

Organization:

Experience:

Please consider the following while filling the questionnaire:

Level of Agreement	Strongly Agree	Agree	Somewhat Agree	Can't Say	Somewhat Disagree	Disagree	Strongly Disagree
Points	7	6	5	4	3	2	1

Serial No.	Particulars	7	6	5	4	3	2	1
1	People are aware about the CGD scenario in India.							
2	People acknowledge CNG & PNG as suitable replacement of							

	conventional fuels.							
3	People are aware about the gas storage and the purpose it is solving worldwide.							
4	Gas storage concept will get the support from Government bodies & local authorities.							
5	Establishment of gas storage facilities by CGD companies will increase the revenue generation of CGD companies.							
6	Gas storage will help in maintaining adequate level of price of gas at the time of gas price fluctuations.							
7	Establishment of gas storage facility will add value to the customers' satisfaction by ensuring continuous availability of gas to them.							
8	Developing gas storage facilities will help in creating employment opportunities.							
9	Prior experience is required for the establishment of gas storage facility.							
10	Gas storage should be promoted considering the current and future supply and demand scenario of natural gas in India.							
11	International bodies like MNCs will invest in the establishment of gas storage facility in India.							

12	Gas storage will help in catering fluctuating seasonal and peak gas demand.							
13	Alternate source of gas production in India like shale gas, CBM, gas hydrates etc. will increase the requirement of gas storage facilities.							
14	Availability of alternate fuels in the future will impact the establishment of natural gas storage facilities.							
15	In case of any disruption in the pipeline like burst/leak/third party damages gas storage will prove to be a viable option for storing gas.							
16	In case of interruption in trans-national pipelines in future due to geo-political reason, storage will prove to be very handy.							
17	CGD companies can find adequate technology in India for the establishment of the gas storage.							
18	There is an availability of skilled labor in India for construction, operation, maintenance and management of gas storage facilities.							
19	In establishment of gas storage facilities injection rate (rate at which gas is injected in a gas storage facility on a daily basis) and							

	delivery rate (rate at which gas can be taken out when it is needed on a daily basis) will be an issues of concern.							
20	The need of cushion gas (minimum amount of gas which must remain in the field to maintain pressure and deliverability rate) in underground gas storage facilities will impact the decision in establishing gas storage facility.							
21	Storage capacity of gas storage is of primary concern.							
22	Land requirement will be a concern for the establishment of gas storage facilities.							
23	Land availability and acquisition can create a problem for establishment of gas storage facilities.							
24	Location of the gas storage facility near the consumer market will play an important role.							
25	Environment will be adversely affected by the establishment of Gas Storage facilities.							
26	Safety will be a concern while developing and operating gas storage facilities.							

27	If gas is stored in a pipeline, then the pipeline design should be optimized to sustain high pressure.							
28	In case of natural calamities like Hurricane, earthquakes etc. gas storage facilities will prove to be a good option.							
29	In unforeseen conditions like war, terrorist attack etc. which may lead to disruption in supply, gas storage may play an important role.							

Q1- As per your opinion which type of storage(s) is more feasible for Indian CGD industry. (More than one options can be selected)

Underground Gas Storage- Depleted Reservoir	
Underground Gas Storage- Salt Caverns	
Underground Gas Storage- Aquifers	
Aboveground Gas Storage- Gas Holders	
Aboveground Gas Storage- LNG Storage	
Storage in Pipeline- Line Pack	
Can't say	

Q2- In your opinion, why gas storage is necessary for CGD companies in India?

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Appendix- D (Response Summary Organization-wise)

S.NO	Name of the organization	Category	Responses
1	GAIL	Midstream	68
2	IOCL		
3	Indraprastha Gas Limited	Downstream	217
4	Mahanagar Gas Limited		
5	Maharashtra Natural Gas Limited		
6	Central UP Gas Limited		
7	Adani Gas Limited		
8	Bhagyanagar Gas Limited		
9	Green Gas Limited		
10	Gulf Oil Lubricants India		
11	Nandan Petrochemicals		
12	EngineerS India Limited		
13	Kline and Company		
14	Infosys		
15	Feedback Infra Private Limited		
16	Markets and Markets		
17	Mount Meru Petroleum Limited		
18	Evalue serve		
19	GD Research Center Private Limited		
20	Tractebel Engineering Limited		
21	Wood Group Kenny		
22	ICF International		
23	Bhotika Pipeline Service Limited		
24	PWC		
25	KPMG		
26	Resonance Energy		
27	UPES	Academia	69

28	IIT Delhi		
29	TU Eindhoven		
30	Rajiv Gandhi Institute of Petroleum Technology		
31	Banking	Misc.	7
32	Online retailer		
33	Osnar Paints and Contracts		
34	PNGRB (Regulator)		
35	Int. Certification Services		
TOTAL			395

Appendix – E

Papers presented on Gas Storage for CGD in India

Paper -1

Factors Influencing the Establishment of Natural Gas Storage for CGD Industry in India

Narendra Kumar *, Dr.Anirban Sengupta**, Dr. Neeraj Anand ***

* Managing Director, Indraprastha Gas Limited, New Delhi **Dean - College of Management & Economic Studies (CoMES), UPES, Dehradun *** Professor and HOD- LSCM & Operations (CoMES), UPES, Dehradun

*#Energy Infrastructure and Transport Challenges and Way Forward, ICMI, 2016
UPES Dehradun*

Paper-2

Developing Conceptual Framework for establishment of Natural Gas Storage for City Gas Distribution in India

*Narendra Kumar, **Dr. Anirban Sengupta, *** Dr. Neeraj Anand

*Managing Director, Indraprastha Gas Limited, New Delhi **Dean College of Management & Economic Studies UPES, Dehradun ***Professor and HOD- LSCM and Operations and Professor at UPES, Dehradun

*#Energy Infrastructure and Transport Challenges and Way Forward, ICMI, 2016
UPES Dehradun*

Appendix – F

List of Codes from Focus Group Methodology

- Natural Gas has played a big role in controlling the environmental pollution.
- 65% of the pollutants are coming from the transport sector
- CNG has combatted this grave pollution problem
- Diesel is a major contributor in polluting the environment
- CNG by its economic advantage over alternate fuels
- CNG over other fuels which again help in controlling the environmental pollution.
- CGD can play a very important role in controlling pollution in large and medium cities
- CGD plays a very important role in controlling environmental pollution.
- Government emphasis will play a major role
- green corridor along the highways
- Government's emphasis on the one crore PNG connections mission mode
- Pollution from neighbouring small cities around Delhi
- Prime Minister Mission mode will help in protecting the environment.
- Pricing is really very important for a CGD consumer.
- Stability for pricing in the CGD industry.
- control the price fluctuation through gas storage
- CGD industry demand varies from time to time like seasonal variations
- CGD industry should be prepared for a scenario where availability of cheaper domestic gas is curtailed
- fluctuating high gas price or limited gas availability
- when spot gas is very cheap, it can be stored at that time to utilize at a later time
- economic factors

- fluctuation in the gas price
- storage facilities helps in increasing the customer satisfaction
- ensuring uninterrupted gas supply to the users
- ensure uninterrupted supply at economic price
- storing of gas at strategic times
- availability of Shale gas, CBM, gas hydrates, etc
- customer satisfaction is linked with setting up of gas storage in India
- Source line gets affected because of any reason may it be war, natural calamity, terrorist attack, third party damage, major leakage etc.
- Gas storage will prove to be very crucial and a life line.
- The restaurants in Delhi will not be able to serve even the one per cent of total Delhi population
- CGD industry needs to be geared up to face all the challenges
- if the input gas supply is cut whole CGD industry will be stranded
- natural disasters like earth quake, hurricane and unforeseen conditions like war terrorist attack etc.,
- third party damage or maintenance requirement in the pipeline
- no contingency or backup plan for this kind of scenario
- huge employment opportunities
- ensure continuous supply in case of any disruption in the trans-national pipeline
- Land availability and land requirement
- Proper design with advance technology of gas storage.
- Interruption in trans-national pipelines
- need to develop a framework for setting up of gas storage facilities
- source of technology
- enhance the technical skills of labour available
- Promote the investment from MNCs.
- funding from Government
- help of in-house research and development team

- Government to step in to create the framework and relevant regulations and policies
- single window clearance from the statutory authorities
- Government and regulatory bodies will play an important role
- PNGRB Act gives the power to the regulator
- Natural Gas Storage Policy.
- major stakeholders like Government, Regulator, Investors, Academia, CGD Industries, etc
- Implementing the policies used across the globe.
- awareness people will feel the importance of storage as well
- generating employment opportunities
- need to ensure the safety as well
- challenging task and Government bodies like PESO, CCOE
- Fire Department will play a very important in the development of framework
- public awareness,
- participation of central government and other statutory bodies
- investments, research & developments
- conceptual framework
- role of all stake holders involved in the gas storage
- development and communication of gas storage policy
- master plan regarding the establishment of gas storage
- Land requirement need to be backed up by government.
- awareness among the people of Indian will play an important role
- Gas storage being a high stake task will attract huge investments
- technology available in foreign countries
- Availability of skilled labour
- advanced technology and high quality material procurement
- Safety will be a concern while developing and operating gas storage facilities

- OISD has developed certain standards pertaining to safety
- gas storage is safe to operate and maintain.
- Storage will help expand CGD network all over India
- Increased availability of natural gas in form of Shale gas, CBM, Gas hydrates, etc.
- optimise everything like the pipeline diameter
- Manufacturers need to be trained in developing high quality materials
- Capacity determination will also be a challenging task for the development of storage.
- aggregator collecting the gas for many CGD industries nearby
- Location of gas storage facility near the consumer market
- interesting business proposition
- buying and storing at low rate and provide the gas catering the fluctuating seasonal and Peak gas demand.
- balance the supply and demand scenario in India
- PNGRB can formulate separate regulations
- Cost and availability of land in urban area will play an important role
- Third party damages will be higher and the CGD entity will need to be prepared for that as the consequences
- Availability of skilled labour in India
- Land availability and strategic land location
- tie ups with any international company having sound experience in gas storage