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Gas Sector Report

Growth in Pipeline

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Executive Summary

Concerns are currently being voiced the world-over regards adequate supply of energy at affordable prices. Soaring oil prices coupled with supply disruptions due to geo-political tensions are expected to take a toll on the global economy. Demand for energy is increasing by the day but resources are drying up. In the recent past, we have not come across any significant oil and gas discoveries and major production facilities have either peaked or are reaching peak production in the near term. The distance between global crude production and spare capacity has also narrowed down and almost diminished owing to the frequent supply disruptions. Hence, production is struggling to keep pace with the rising demand for energy.

The quest has then been to look out for alternative resources of energy due to the spiraling crude oil prices and supply concerns thereof. Hence, natural gas has now become the fuel of choice and demand for the same has been surging. Bio-fuels have also found high acceptance and are gaining momentum in developed countries. More and more sugar and corn are also being diverted for Bio-fuels. But, this is giving rise to food inflation.

Back home, India being a coal-rich country, its primary energy demand is met by coal and is expected to remain so in the near future too. Natural gas usage, as an industrial fuel and transportation fuel, has also been gaining momentum on account of environmental issues and soaring crude prices. Though currently natural gas constitutes a smaller proportion in the country's Energy basket, it is poised to grow significantly over the next two decades. It is against this backdrop that we find the Natural Gas Sector promising and a sound investment avenue going ahead.

Outlook

We believe the Gas story in India is poised to take off from hereon. Currently, in India, the Natural Gas demand-supply gulf is quite high (demand twice the supply). However, we believe by 2012, this gap is expected to narrow down substantially, though some gap will continue to remain owing to the benefits derived from natural gas. Domestic gas supplies are likely to double in FY2009 given availability of gas from RIL's KG basin and other discoveries from the KG basin. This along with higher output from the existing fields will give a fillip to the overall domestic gas availability. Global LNG availability is also expected to double by 2010, which will boost India's LNG imports. As for the gas prices are concerned (both global and domestic), we expect it to remain firm in the near future on account of the incessant rise in crude oil prices. Huge investments are proposed for infrastructure development in the gas sector, which will benefit user industries like Power, Fertilisers, Petrochemicals and City Gas Distribution (CGD) businesses. The Regulatory issues have been addressed by the PNGRB Regulator, which has laid down guidelines for the CGD business. Guidelines for transmission networks are expected to follow shortly. Overall, we expect the Gas sector companies to gain from these positive developments. Hence, we are positive on the overall growth prospects of these companies.

The four companies in our universe are expected to benefit from the favourable scenario in the Gas sector.

- **Gujarat Gas (Gujgas) -** Gujgas is a 65% subsidiary of British Gas (BG, UK), involved in the CGD business in Surat, Ankleshwar, Bharuch and nearby industrial areas in Gujarat. The company procures gas at market rates and distributes it to the industrial retail, CNG and domestic customers. Gujarat Gas currently distributes about 3.0mmscmd gas through its 2,100km pipeline network and 25 CNG stations.

- **Indraprastha Gas (IGL) -** IGL has been promoted by GAIL and BPCL for distributing CNG and PNG in the National Capital Region (NCR) of Delhi. The company is now expanding its reach to nearby areas like Greater Noida, Ghaziabad, etc. Currently, the company distributes over 1.7mmscmd gas through its 1,200km pipeline network and 166 CNG stations to about 1,60,000 vehicles and 1,10,000 households.

- **Petronet LNG (Petronet) -** Petronet has been promoted by GAIL, BPCL, IOC and ONGC each holding 12.5% each. It is a LNG Regasification company with 6.5mmtpa regasification capacity located at Dahej. The company is expanding its Dahej regasification capacity to 12.5mmtpa in a phased manner from July 2008 along with setting up a green-field capacity of 2.5mmtpa (expandable to 5.0mmtpa) at Kochi. Petronet is also diversifying into Power Generation, Solid Cargo Port and LNG truck loading facility. Being a Regasification player, it is not subject to the vagaries of natural gas prices.

- **Gujarat State Petronet (GSPL) -** GSPL is a 38% subsidiary of Gujarat State Petroleum Corporation (GSPC). It is a natural gas transmission player with 1,130km of transmission network, the second largest network in India after GAIL. Currently, the company transmits around 17mmscmd gas through its pipeline network in Gujarat and has secured long-term gas transmission contracts of over 33mmsmcd.

Exhibit 1: Comparative Valuation

		Price	MCap	Target	P/E (x)			EV/EBITDA (x)			Avg RoE (%)			Avg RoCE(%)		
Company	Recos	(Rs)	(Rs cr)	Price (Rs)	FY08E	FY09E	FY10E	FY08E	FY09E	FY10E	FY08E	FY09E	FY10E	FY08E	FY09E	FY10E
Gujarat Gas*	Buy	260	1,670	340	11.0	12.0	9.2	6.5	6.6	4.8	30.2	22.3	24.2	32.1	24.4	27.7
GSPL	Buy	67	3,754	107	41.7	27.0	16.5	13.8	9.4	6.9	8.6	11.9	18.0	9.2	12.1	16.6
IGL	Neutral	122	1,702	-	9.9	9.8	8.3	5.4	4.8	3.9	32.6	27.4	27.0	42.2	36.3	35.5
Petronet	Buy	76	5,674	90	12.0	10.3	9.8	7.6	6.8	5.4	32.8	30.2	25.6	12.8	11.3	11.0

*Source: Company, Angel Research, Note: * Ratios for CY07, CY08E and CY09E*

Global Energy Sector

Asian economies including India and China are anticipated to account for a larger pie of the total incremental energy demand

Global primary energy demand is anticipated to increase by 53% to 17,095 million tonnes of oil equivalent (mtoe) in 2030 from 10,879mtoe in 2006. Oil will remain the dominant source of energy among other fuels, growing at a CAGR of 1.3% with 33% share in primary energy by 2030. However, Natural Gas is expected to grow at a much more rapid CAGR of 2.0% over 2004-2030 and will account for over 23% of the total energy demand by 2030. In absolute terms, demand for natural gas is anticipated to grow at a much faster clip of 68% to 3,869mtoe in 2030 (2,586mtoe in 2006). The developing economies are expected to account for 70% of the incremental natural gas demand. Asian economies including India and China are anticipated to account for a larger pie of the total incremental energy demand. Globally, cumulative investments of over US $20trillion are expected to augment the energy supply infrastructure during 2005-2030.

Exhibit 2: World Primary Energy demand (mtoe)

Resource	1980	2004	2010	2015	2030	2004-2030* (%)
Coal	1,785	2,773	3,354	3,666	4,441	1.8
Oil	3,107	3,940	4,366	4,750	5,575	1.3
Natural Gas	1,237	2,302	2,686	3,017	3,869	2.0
Nuclear	186	714	775	810	861	0.7
Hydro	148	242	280	317	408	2.0
Biomass & waste	765	1,176	1,283	1,375	1,645	1.3
Other renewables	33	57	99	136	296	6.6
Total	**7,261**	**11,204**	**12,842**	**14,071**	**17,095**	**1.6**

*Source: IEA World Energy Outlook 2006; * CAGR*

Natural Gas Market

Declining consumption in the US and EU was offset by the strong growth witnessed in Russia and China

During 2006, world gas consumption grew by 2.5% yoy to 2,851 billion cubic metres (bcm) (2,780bcm). Declining consumption in the US and EU was offset by the strong growth witnessed in Russia and China. Natural gas supplies moved in tandem with the global demand and clocked 3.0% yoy growth during 2006 to 2,865bcm (2,780bcm). Although the Middle East and Africa form a smaller pie of the total supplies, the yoy increase in supplies during 2006 was significant. Russia, which has one of the largest natural gas reserves in the world, clocked 2.4% yoy growth and accounted for over 22% of the total natural gas supplies.

Going ahead, global natural gas consumption is expected to increase from 2,851bcm in 2006 to 4,663bcm in 2030

Exhibit 3: World Natural Gas supplies in 2006 (bcm)

Region	2005	2006	% chg
North America	736.9	754.4	*2.3*
South & Central America	137.9	144.5	*4.7*
Europe & Eurasia	1,060.0	1,072.9	*1.2*
Middle East	317.5	335.9	*5.8*
Africa	164.8	180.5	*9.5*
Asia Pacific	362.6	377.1	*4.0*
Total World	**2,779.7**	**2,865.3**	***3.0***

Source: BP Statistical Review 2007

Going ahead, global natural gas consumption is expected to increase from 2,851bcm in 2006 to 4,663bcm in 2030. Although the biggest increase in volume terms is anticipated to occur in the Middle East (from 290bcm in 2006 to 636bcm in 2030), growth in percentage terms is expected to be at a much faster pace in India, China and Africa. This incremental demand would be backed by huge investments of over US $3.9trillion during 2005-2030, to augment the gas supply infrastructure with over 56% of total investments going towards upstream development.

Exhibit 4: World Natural Gas demand (bcm)

	1980	2004	2010	2015	2030	2004-2030* (%)
OECD	**959**	**1,453**	**1,593**	**1,731**	**1,994**	**1.2**
North America	659	772	830	897	998	1.0
United States	*581*	*626*	*660*	*704*	*728*	*0.6*
Canada	*56*	*94*	*109*	*120*	*151*	*1.8*
Mexico	*23*	*51*	*62*	*74*	*118*	*3.3*
Europe	265	534	592	645	774	1.4
Pacific	35	148	171	188	223	1.6
Transition economies	**432**	**651**	**720**	**770**	**906**	**1.3**
Russia	n.a.	420	469	503	582	1.3
Developing countries	**121**	**680**	**932**	**1,143**	**1,763**	3.7
Developing Asia	36	245	337	411	622	3.7
China	*13*	*47*	*69*	*96*	*169*	*5.1*
India	*1*	*31*	*43*	*53*	*90*	*4.2*
Indonesia	*6*	*39*	*56*	*65*	*87*	*3.2*
Middle East	36	244	321	411	636	3.7
Africa	14	76	117	140	215	4.1
North Africa	*13*	*63*	*88*	*104*	*146*	*3.3*
Latin America	36	115	157	180	289	3.6
Brazil	*1*	*19*	*28*	*31*	*50*	*3.8*
World	**1,512**	**2,784**	**3,245**	**3,643**	**4,663**	**2.0**
European Union	*n.a.*	*508*	*560*	*609*	*726*	*1.4*

*Source: IEA World Energy Outlook 2006; * CAGR*

Demand from China and India will grow at a CAGR of 5.1% and 4.2% over 2004-2030, respectively

Although, the global natural gas demand is expected to rise at a CAGR of 2.0% during 2004-2030, the rise in demand is expected to grow at a faster CAGR of 3.7% in developing economies during 2004-2030. Moreover, demand from China and India will grow at a much faster CAGR of 5.1% and 4.2% during the period, respectively. Hence, overall we believe the Indian Gas Sector is poised to grow hereon.

World over the proved natural gas reserves are estimated at 181 trillion cubic metres (tcm) with over 55% of the reserves being in just three countries Russia, Iran and Qatar. Currently, Russia is active in gas trades and now Iran and Qatar are also gearing up for global gas trades through LNG and cross-country gas pipelines. India accounts for a meagre 0.6% of the total proved reserves at 1.08tcm. But, the recent domestic discoveries prove there exists further potential for domestic natural gas discoveries.

LNG market

During 2006, total LNG trades stood at 154 million metric tonnes (mmt) of which Asia accounted for over 64% of total imports

Currently, global gas trade is carried out both through cross country pipelines and LNG. However, owing to geo-political issues, cross-country pipelines have taken a backseat and LNG trade is blooming. LNG trade is gaining momentum following strong demand from the developed and developing countries. During 2006, total LNG trades stood at 154 million metric tonnes (mmt) of which Asia accounted for over 64% of total imports. Japan was the largest importer with 60mmt imports, accounting for 39% of total LNG trade. India accounted for a smaller amount of LNG imports of about 6mmt ie., 3.9% of total LNG trade. Qatar played a dominant role in LNG exports accounting for 15% of total exports while Indonesia and Malaysia came in closer at 14% and 13% of total LNG exports, respectively.

Exhibit 5: World LNG Imports and Exports (mmt) - 2006

Country	Total LNG Imports
North America	12.8
South & Central America	0.7
Europe	41.9
Asia Pacific	98.7
China	0.7
India	5.8
Japan	59.8
South Korea	24.9
Taiwan	7.4
Total	**154.1**

Country	Total LNG Exports
Trinidad & Tobago	11.9
Oman	8.4
Qatar	22.7
Algeria	18.0
Egypt	10.9
Nigeria	12.8
Australia	13.2
Indonesia	21.6
Malaysia	20.5
Others	14.1
Total	**154.1**

Source: BP Statistical Review 2007

Total LNG capacities will almost double to about 345mmtpa by 2010

Higher global LNG demand has attracted huge investments in liquefaction capacities. A total of about 167mmtpa of new liquefaction capacities, which are currently under construction are slated to come on-stream by 2010 at a substantial investment of US $73bn. If all the capacities become operational by 2010, the total LNG capacities will almost double to about 345mmtpa from the current around 175mmtpa. Qatar, which is actively participating in the LNG trade, is expected to treble its capacity to about 77mmtpa by 2010 from around 25mmtpa.

Exhibit 6: Liquefaction projects to be commissioned by 2010

Country	Operator	Capacity (mmtpa)
Algeria	*Sonatrach*	*5.9*
Total Algeria		9.9
Australia	*Chevron, Gorgon*	*10.1*
Total Australia		29.8
Qatar	*RasGas (QPC & ExxonMobil)*	*20.6*
Total Qatar		51.6
Indonesia		15.2
Iran		19.6
Nigeria		38.1
Russia		13.1
Others		48.7
Planned, Engg. & Constn.		**166.8**
Proposed		**59.2**
World		**226.0**

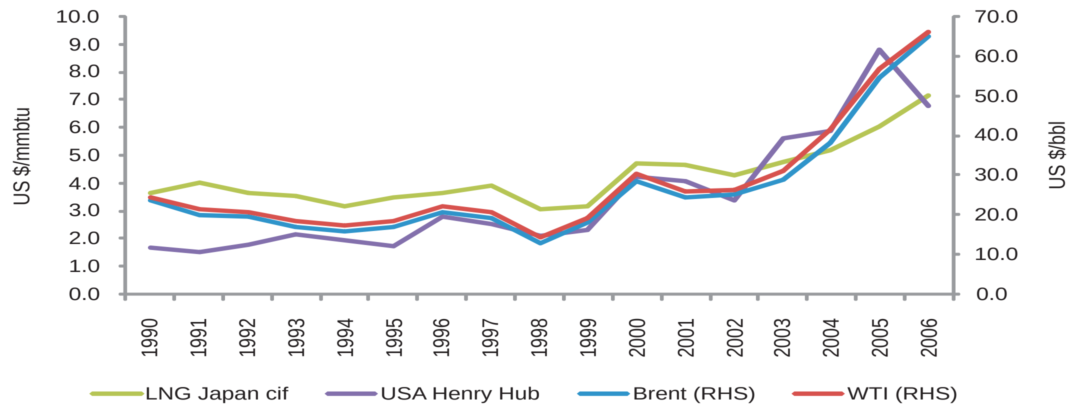
Source: IEA World Energy Outlook 2006

We believe the LNG capacity expansion bodes well for India as the Indian LNG players are negotiating with different overseas players for long-term LNG supplies. For instance, Petronet, which has 7.5mmtpa long-term contracts with RasGas, Qatar, is actively negotiating with Sonatrach, Algeria, Chevron's Gorgon project, Australia and RasGas, Qatar for long-term LNG supplies. Even IOC and Shell are scouting for long-term LNG supplies for their upcoming projects.

Natural Gas price trend

Historically, natural gas prices have been primarily driven by the demand-supply economics. During the 1990-2000 decade, producer countries utilised natural gas for domestic purposes and hence the prices remained range bound. From 2000 onwards, LNG trade gained momentum, which in turn aided the natural gas prices. Crude prices have started spiraling since 2004 and the natural gas prices have tracked the trend albeit at a lower pace.

Exhibit 7: Price trend of Crude oil and Natural gas

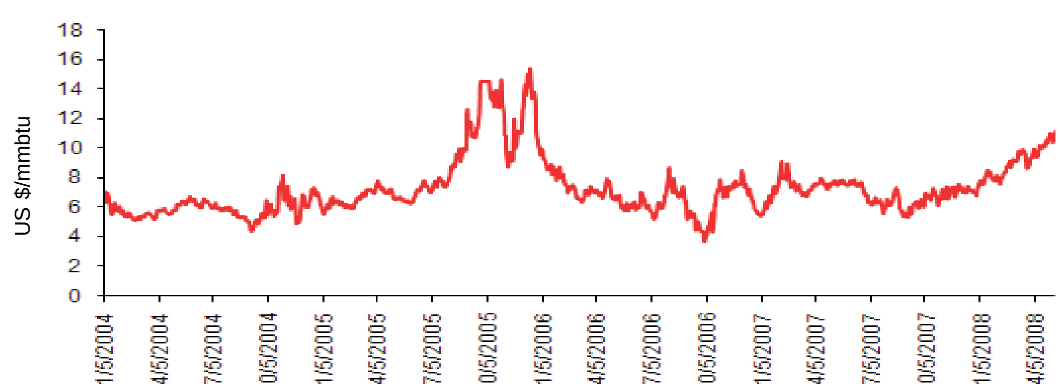


Source: BP Statistical Review 2007

Natural gas prices have been strongly following the spike in crude prices and are currently hovering at around US $10/ mmbtu

Henry Hub natural gas prices had shot up significantly during December 2005 over supply concerns post hurricane *Katrina*. Thereafter, the prices have been on a decline amidst volatile trades. However, lately, the prices have been strongly following the spike in crude prices and are currently hovering at around US $10/ mmbtu. Heightened LNG demand from the Asian economies had moved up the Spot LNG prices to over US $17-18/mmbtu some time back. The Spot LNG prices have cooled a bit now and are hovering at about US $15/mmbtu. Even the long-term contracted prices, which were in the range of US $3-6/mmbtu, have shot up significantly and some of the Asian consumers have contracted long-term LNG supplies even at US $10/mmbtu levels.

Exhibit 8: Henry Hub Natural gas price trend



Source: Bloomberg, Angel Research

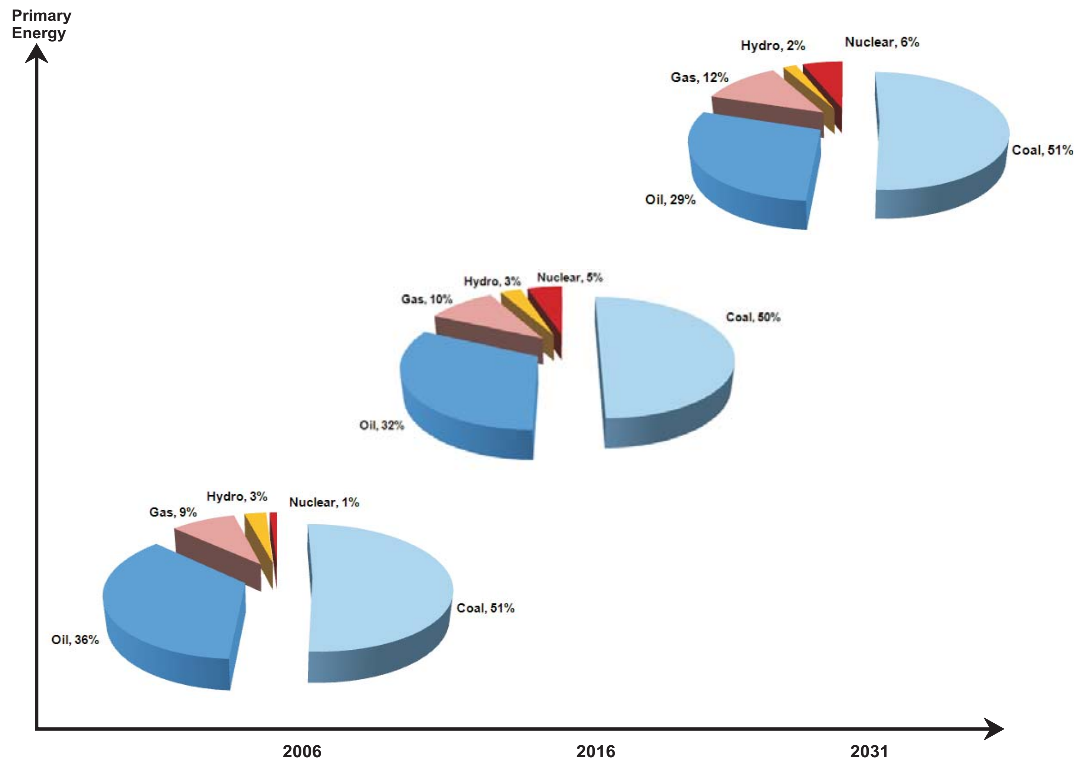
With Crude quoting at high levels, we believe natural gas prices would also rule firm. Nevertheless, natural gas being a cost-competitive substitute for crude oil, demand for it will not subside.

India's Energy Sector

India's energy consumption is all set to grow at an accelerated pace on the back of strong GDP growth

India's primary energy consumption has grown by around 4.8% CAGR over the past 10 years and accounts for about 3.9% share in the global energy consumption. Going ahead, energy consumption is all set to grow at an accelerated pace on the back of strong GDP growth. Currently, natural gas accounts for about 9% of the total energy basket. Domestic gas reserves, as per the Ministry of Petroleum and Natural Gas (MoPNG), have risen from 24trillion cubic feet (tcf) in 1990 to about 38tcf in 2006. Of these, around 74% reserve accretion comes from offshore basins while the balance comes from onland sedimentary basins. We believe the share and quantum of natural gas in the country's Energy basket is all set to grow on the back of domestic availability and LNG imports.

Exhibit 9: India's expanding Primary Energy basket



Source: Crisil

During 2006, natural gas accounted for about 9% of the total Indian Energy basket and is expected to spurt to 10% by 2016 and further to 12% by 2031. Domestic natural gas availability is the primary impetus for such an exponential growth. LNG sourcing is also expected to rise, which will improve overall availability of natural gas in India.

Demand-Supply scenario in India

Exhibit 10: India - Natural gas Demand (mmscmd)

	2007-08	2008-09	2009-10	2010-11	2011-12
Power	79.7	91.2	102.7	114.2	126.6
Fertilizer	41.0	42.9	55.9	76.3	76.3
City Gas Distribution	12.1	12.9	13.8	14.8	15.8
Industrial	15.0	16.1	17.2	18.4	19.7
Petrochem/ Refineries/ Int. Consump	25.4	27.2	29.1	31.1	33.3
Sponge Iron/ Steel	6.0	6.4	6.9	7.4	7.9
Total	**179.2**	**196.7**	**225.6**	**262.2**	**279.6**

Source: Working Group Report on Petroleum and Natural Gas - XI Plan

The current projected demand is about 180mmscmd while supplies are short by 80 - 85mmscmd

Currently, natural gas demand outstrips supply and the gap is expected to continue till 2012. The current projected demand is about 180mmscmd while supplies are short by 80 - 85mmscmd. Demand primarily emanates from the Power Sector, which currently accounts for about 44% of the total natural gas demand. The Fertiliser industry is next in the line accounting for 23% of the demand owing to the use of natural gas in lieu of the high-priced naphtha. Going ahead too these two sectors are likely to consume a larger proportion of the total natural gas supplies. Apart from these two sectors, natural gas is also used as captive fuel by the Petrochemical, Steel and Sponge Iron industries. Pertinently, in the last few years, natural gas has assumed importance as a transportation as well as cooking fuel primarily in Delhi, Mumbai and Gujarat. Hence, demand from the CGD companies has increased substantially on account of being cost effective and lower pollution. With rise in availability, demand from the CGD segment is expected to increase significantly to about 13% of the total natural gas demand in 2017 (approx. 350mmscmd).

Exhibit 11: India - Natural gas Supply (mmscmd)

Sources	2007-08	2008-09	2009-10	2010-11	2011-12
ONGC+OIL (A)	57.28	58.42	55.69	54.67	51.08
Pvt./JVs (As per DGH) (B)	23.26	61.56	60.28	58.42	57.22
Projected Domestic Supply (A+B)	80.54	119.98	115.97	113.09	108.3
Additional Gas Anticipated (C)	-	-	74	84	94
Total Projected Supply Scenario 1 (A+B)	**80.54**	**119.98**	**115.97**	**113.09**	**108.3**
Total Projected Supply Scenario 2 (A+B+C)	**80.54**	**119.98**	**189.97**	**197.09**	**202.3**

Source: Working Group Report on Petroleum and Natural Gas - XI Plan

The gas supply scenario is expected to undergo a sea change once gas from the RIL KG basin starts flowing

State-run companies like ONGC and Oil India supply over 70% of the domestic natural gas. However, supplies from their fields have peaked and even declined in some cases. These companies are investing to extend the plateau production. The gas supply scenario is expected to undergo a sea change once gas from the RIL KG basin starts flowing. A conservative scenario takes into account 40, 60, 70 and 80mmscmd KG basin gas in 2008-09, 2009-10, 2010-11 and

2011-12, respectively. But, as per the recent announcements by RIL, the company is expected to produce about 90mmscmd from 2009-10 onwards. Hence, the demand-supply gap will narrow down to that extent.

LNG imports

Currently, LNG imports stand at about 8-8.5mmtpa from Petronet LNG, Dahej and Shell, Hazira

To bridge the burgeoning gap between natural gas demand and supply, India started importing LNG few years back. Petronet LNG set up its first LNG terminal at Dahej with an initial capacity of 5.0 million tonnes per annum (mmtpa). There are two other terminals viz., Shell, Hazira, operational with 2.5mmtpa and Ratnagiri Gas and Power Pvt. Ltd. (RGPPL), Dabhol, with 5.0mmtpa, which is non-operational. Currently, LNG imports stand at about 8-8.5mmtpa from Petronet LNG, Dahej and Shell, Hazira. Despite the recent big gas discoveries domestically, the demand-supply gap is likely to persist and hence Petronet LNG is expanding its LNG capacity along with Shell. Added to this, there are quite a few new LNG terminals, which are expected to be built over the next 4-5 years.

Exhibit 12: Existing and proposed LNG terminals in India

Company	Location	Capacity (mmtpa)	Supply Source
Existing			
Petronet LNG	Dahej, Gujarat	6.5	Ras Gas, Qatar
Shell	Hazira, Gujarat	2.5	Merchant basis
Ratnagiri Gas & Power Private Ltd (RPPL)	Dabhol, Maharashtra	5.0	Awaiting Source tie-up
Proposed			
Petronet LNG	Dahej	6.0	Qatar
Shell	Hazira	2.5	Shell's various liquefaction terminals
Petronet LNG	Kochi, Kerala	5.0	Qatar/ Australia
Indian Oil Corporation	Ennore, Tamil Nadu	2.5	Iran
ONGC	Mangalore, Karnataka	5.0	Qatar/Australia/Malaysia

Source: Industry, Company

Trans-national pipelines

Indian government is confident of striking trans-national pipeline deals with gas-rich nations like Iran, Turkmenistan and Myanmar however, we believe it's still a distant dream

Various transnational pipelines have also been proposed for the supply of gas to India. These pipelines will transport gas from the gas-rich nations like Iran, Turkmenistan and Myanmar. The government is talking with these nations for the pipeline projects involving billions of dollars of investments but nothing has yet been finalized primarily due to geo-political issues involving cross-border pipelines. Recently, the Indian government announced that it is in advanced talks with Iran for Iran-Pakistan-India (IPI) pipeline involving total investment of over US $7bn and expects it to be operational by 2015. Although the government is confident of striking the deals with these countries, we believe it's still a distant dream.

Exhibit 13: Proposed Trans-national pipelines
Iran-Pakistan-India (IPI)
Turkmenistan-Afghanistan-Pakistan-India (TAPI)
Myanmar-India

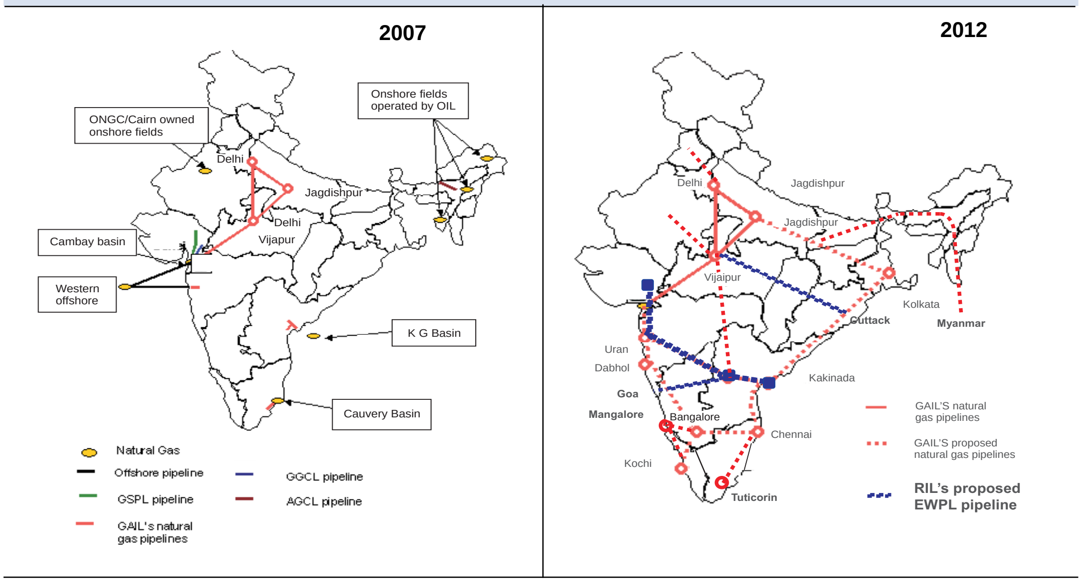
Source: Industry

Pipeline Infrastructure development

Over Rs30,000cr+ investments are envisaged for the development of pipeline network by 2012

Natural gas is primarily transported through a network of pipelines. Pipeline infrastructure involves two types of pipelines viz., the transmission pipelines for bulk transportation of gas from the source to a receiving station or bulk consumer; and distribution pipelines, which transport the gas from a receiving station to the domestic consumers, retail fuel outlets and small and medium enterprises. In the Indian context, GAIL has the largest transmission pipeline network of about 6,800km while GSPL stands second with over 1,130km of network. The gas distribution network is currently present only in a few cities including Mumbai, Delhi, Surat, Baroda, Ankleshwar, etc. CGD players like Mahanagar Gas (MGL), Indraprastha Gas (IGL), Gujarat Gas, etc., are involved in the gas distribution activity.

Exhibit 14: Pipeline Infrastructure Expansion



Source: GAIL

Currently, over 80% gas is transmitted through GAIL's pipeline network. GAIL has planned investments of over Rs20,000cr to augment its pipeline network from the current 6,800km to 12,000km by 2012. GSPL has also planned significant investments to expand its transmission network in Gujarat with over 2,200km+ network over the next couple of years. With the rise in gas availability, the CGD activity is expected to cover many more cities (about 50-60) over the next five years from the current 15+. Total investments envisaged in the CGD business are over Rs9,000cr. Over Rs30,000cr+ investments are envisaged for the development of pipeline network by 2012.

Natural Gas price trend

There exists a wide disparity between the prices paid to the NOCs for their APM gas v/s gas produced by other players

According to the natural gas price data, there exists a wide disparity between the prices paid to the National Oil Companies (NOCs) for their Administered Price Mechanism (APM) gas v/s gas produced by other players. APM gas is supplied by ONGC and Oil India while non-APM gas is supplied by ONGC (new finds) and consortium of private players like Cairn, RIL, British Gas, etc. This APM gas is primarily allocated to priority sectors like power and fertilizer.

Exhibit 15: Domestic gas prices from different sources

Gas Supplier	$/mmbtu	Rs/'000 scm
APM Gas		
Producer price payable to ONGC & OIL	1.97	3,200
Small consumers, City Gas Distribution	2.36	3,840
Non-APM Gas		
Ravva Main	3.50	5,694
Ravva Satellite	4.30	6,966
Panna-Mukta & Tapti (PMT) (Depending on customer)	4.08-5.70	6,638-9,274
RLNG, Ex-Dahej		
Existing	4.02	6,540
Spot (approx.)	9.50	15,500
Pooling	5.47	8,900

Source: www.indianpetro.com, Note: prices frozen at 1US$=Rs45, 1SCM=36,000BTUs, we expect revision soon

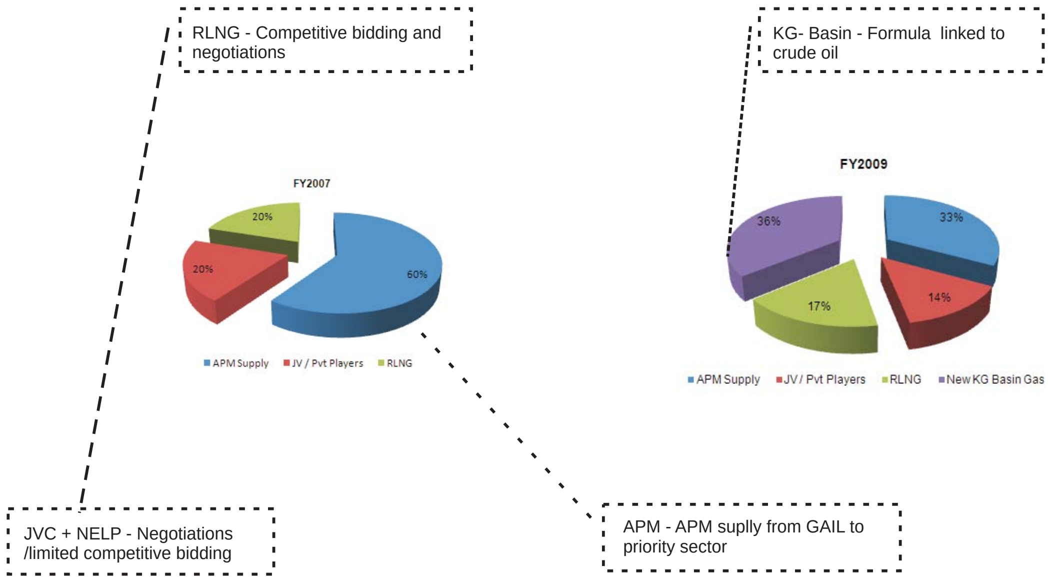
APM gas to be replaced by market priced gas

With KG basin gas making its way into the Indian natural gas sector, the price dynamics are expected to change dramatically

Currently, over 60% of the total gas available in India is marketed under APM gas. While 20% is regasified LNG (RLNG) where the long-term prices are negotiated, the rest is sold at market price. With KG basin gas making its way into the Indian natural gas sector, the price dynamics are expected to change dramatically. The government has fixed the KG basin price at US $4.20/mmbtu for a period of five years, after which it will be benchmarked with the international crude oil prices. The government has also indicated that any new gas coming on stream from any operator ie., private or NOCs, will be marketed at market determined prices. This comes as a big relief for the NOCs, which are losing money on the APM priced gas.

APM gas is likely to get replaced by market priced gas over the next few years

Exhibit 16: Future of APM gas



Source: Crisil

With the decline in production from the aging fields, APM gas is likely to get replaced by market priced gas over the next few years. Also, contribution from different domestic sources and LNG is likely to go up substantially in the near future consequently reducing the proportion of APM gas in the entire gas pie.

Petroleum and Natural Gas Regulatory Board (PNGRB)

In India, the upstream sector is governed by The Directorate General of Hydrocarbons (DGH), but till 2006 there was no regulator to govern the downstream sector. This gave rise to the genesis of the Petroleum and Natural Gas Regulatory Board (PNGRB) to regulate the refining, processing, storage, transportation, distribution, marketing and sale of petroleum, petroleum products and natural gas. The PNGRB Act came into existence in March 2006 and circulated the draft regulations on CGD network authorisation in November 2007. The regulations suggested level-playing field for the different players, keeping in mind the huge investments made by the existing players, curb on network tariffs to avoid extraneous profiteering, etc. Final regulations were announced in April 2008.

PNGRB Regulations

Selection criteria

The entities planning to roll out a CGD network would have to meet the following criteria:

- Natural gas availability with the entity/ possible connectivity with the natural gas source.
- The entity has laid and built either a hydrocarbon or CGD pipeline network in the past of more than 300km.
- The entity along with a JV partner (having more than 11% stake in the JV) has laid and built either a hydrocarbon or CGD pipeline network in the past of more than 300km.
- The entity is operating a CGD network since the past one year.
- The entity along with a JV partner (having more than 11% stake in the JV) is operating a CGD network since the past one year.

Bidding criteria

The Regulator has assigned weightage to four different parameters based on which the authorisation would be given.

- Lowest of network tariff over the life of the asset (25 years from the date of authorisation) - 40%.
- Lowest compression charge for CNG over the life of the asset - 10%.
- Highest inch-km of steel pipeline proposed to be laid during the exclusivity period - 20%.
- Highest number of domestic customers proposed to be connected through PNG during the exclusivity period - 30%.

Exclusivity

Being a capital intensive business, the regulator has allowed certain exclusivity for the entities operating CGD network or who wish to enter the CGD business viz.,

- Newer entities shall be allowed exclusivity for a period of five years from the date of authorisation by the regulator.
- For the existing entities:
  - Entities operating CGD network for more than three years shall be allowed exclusivity for three years from the date of issue of letter by the regulator.
  - Entities operating CGD network for less than three years shall be allowed exclusivity for five years from the date of issue of letter by the regulator.

Tariff determination

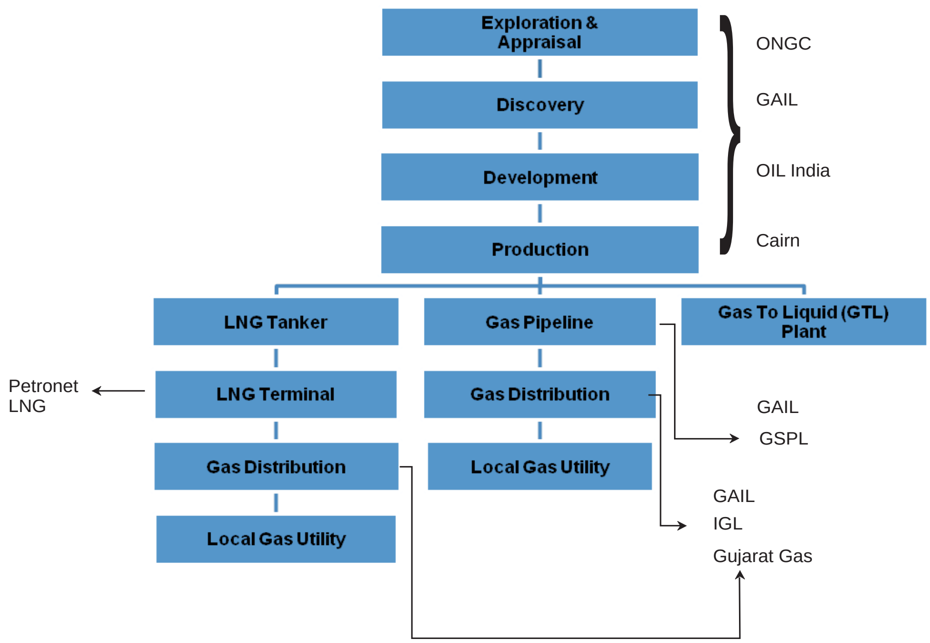
The network tariff and compression charge for CNG shall be calculated using 'Discounted Cash Flow' methodology, considering reasonable rate of return. The tariff shall be applicable for the economic life of the project, subject to periodic review.

- *Reasonable Rate of Return:* 14% post-tax rate of return on capital employed (RoCE) is fixed taking into account the rate of return on long-tem risk-free government securities and the need to incentivise investments in the creation of CGD infrastructure. The pre-tax rate of return considering the current corporate tax rate (34%) works out to 21.2%. The rate shall remain fixed for the entire economic life of the project.
- *Return on Capital Employed (RoCE) and compression charge for CNG:* The reasonable rate of return shall be applied to the total capital employed in the CGD network, CGD stations and related facilities. The total capital employed shall be equal to the Gross Fixed Assets less accumulated Depreciation plus Normative Working Capital (equal to twenty days of operating cost excluding Depreciation).
- Gross fixed assets shall be equal to actual historical cost of acquisition (including cost of any replacement or improvement or modification) or normatively assessed by the board, whichever is lower.
- Operating costs shall be computed for operation and maintenance of CGD network and compressor facilities, on an actual basis or based on a normative assessment by the Board.
- *Volume for determination of unit network tariff:* The volume used for network tariff determination is actual volume of gas transported through the network and actual volume of gas compressed as CNG.
- *Economic life:* The economic life of the project is considered as 25 years from the date of authorization.
- *Review of network tariff and compression charges:* Tariff review will be carried out normally over a period of five years or during the two tariff periods by the Board at its own discretion or at the entity's request.

Natural Gas Value Chain

The natural gas value chain starts from Exploration and Production (E&P) till Distribution. However, we are focusing on the entities involved in Transmission, LNG Regasification and Distribution.

Exhibit 17: Natural Gas Value Chain



Source: Industry, Angel Research

City Gas Distribution - A long way to go

We believe the rise in availability of natural gas in India is likely to benefit the expansion of CGD network in many cities

CGD primarily started as a pollution controlling initiative in metros like Delhi and Mumbai. But, it gained momentum in Gujarat owing to the availability of natural gas on the West coast. To-date, around 15 cities are covered under CGD network, with most of them located in Gujarat. Although the primary motive of using natural gas was to lower the pollution levels, natural gas has an inherent advantage of being a cost-effective fuel vis-à-vis LPG, Petrol and Diesel. We believe the rise in availability of natural gas in India is likely to benefit the expansion of CGD network in many cities. GAIL itself has plans to cover over 230+ cities over the next 5-7 years.

Exhibit 18: CNG activities in India

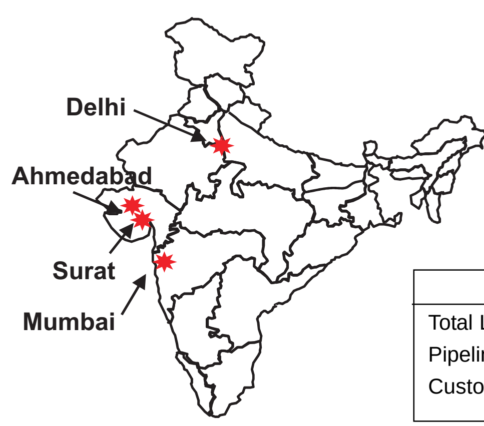
Company	IGL	MGL	GAIL	GGCL	Others	Grand Total
City of operation	Delhi	Mumbai	Vadodara	Surat, Ankleshwar	*	
Station Type						
Mother	67	4	1	0	5	77
Online	42	110	0	20	3	175
Daughter Booster	38	13	1	0	11	63
Daughter	6	0	0	0	1	7
Total	**153**	**127**	**2**	**20**	**20**	**322**
No. of Vehicles						
Cars$	41,079	52,252	700	11,996	531	1,06,558
Autos	70,976	1,24,487	2,500	35,423	10,027	2,43,413
LCV/RTVs	5,374	1,523	0	0	26	6,923
Buses	11,200	592	22	136	312	12,262
Others	350	866	0	402	4,817	6,435
Total	**1,28,979**	**1,79,720**	**3,222**	**47,957**	**15,713**	**3,75,591**

*Source: MoPNG, Note: $ - Includes taxis, * - Luckhnow, Agra, Kanpur, Vijaywada, Hyderabad, Agartala; as on April 1, 2007*

The current CGD throughput is estimated at 7.0mmscmd while the total customer base including CNG and PNG customers is 1mn+

Year 2007 saw significant progress in terms of expansion of the CGD network in the cities of Gujarat. Adani Energy too rolled out its CGD business in Ahmedabad. GSPC Gas set up its network in Rajkot, Morbi, Ganganagar, etc. As on date, total number of CNG stations in India stand at about 375+. The total steel pipeline network for the CGD business is envisaged at around 1,800km while the polyethylene (PE) pipeline network is envisaged at 12,000km. The current CGD throughput is estimated at 7.0mmscmd while the total customer base (including CNG and PNG customers) is 1mn+.

Exhibit 19: CGD penetration in India



	India National Distribution grid
Total Land Area (Sq Km)	2,973,190
Pipelines [kms]	5,500
Customers	600,000

Source: Crisil, Angel Research

Going ahead, higher availability of domestic gas will aid CGD network expansion in the country

Exhibit 20 : CGD penetration in UK

	UK National Distribution Grid	Scotland
Total Land Area (Sq Km)	2,44,820	78,722
Pipelines [kms]	126,000	23,000
Customers	1,00,00,000	17,00,000

Source: Crisil, Angel Research

Statistics indicate that the CGD network covers only a fraction of the total area of India. In contrast, geographically smaller counties like UK and Scotland have a much bigger CGD network and a large customer base. In India, the primary deterrent for CGD expansion was the lower natural gas availability. Going ahead though, higher availability of domestic gas will aid CGD network expansion in the country.

Key Concerns

Execution delays

The wide gulf in the demand-supply of natural gas is expected to narrow down significantly by 2012 on account of the new supplies coming on-stream and LNG imports. However, any execution delays could hamper growth of the sector per se as well the players in the sector. Pertinently, our growth assumption for GSPL and Gujarat Gas is based on the fact that the KG basin gas will start flowing as per schedule. We also expect some incremental production from the Panna-Mukta and Tapti fields and the Cambay basin, which will also benefit Gujarat-based companies. Any delays due to rig shortages, cost escalations, etc., will impact availability of domestic gas, which comparatively is a cheap source.

Significant LNG Regasification capacities are slated to come on-stream in India over the next five years. Currently, the global LNG market is tight with almost no one committing long-term supplies but the situation is expected to improve once new liquefaction capacities come on-stream. Any execution delays in liquefaction capacities will impact LNG availability, in turn hurting the companies.

Regulations may hamper returns

The recently rolled out CGD regulations have been complementary to the existing and new players. The regulator has yet to decide about the transmission regulations. Any adverse regulations like cap on RoEs, RoCEs, etc., will hamper the sector growth. We believe that the recently laid out regulations are encouraging and expect future regulations to complement growth of the gas sector.

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Companies

Gujarat Gas

Company Update

BUY

Price	**Rs260**
Target Price	**Rs340**
Investment Period	**12 Months**

Stock Info

Sector	Gas
Market Cap (Rs cr)	1,670
Beta	0.57
52 Week High / Low	379/215
Avg Daily Volume	17914
Face Value (Rs)	2

BSE Sensex	16,737
Nifty	4,983

BSE Code	523477
NSE Code	GUJRATGAS
Reuters Code	GGAS.BO
Bloomberg Code	GGAS IN

Shareholding Pattern (%)	
Promoters	65.1
MF / Banks / Indian FIs	8.1
FII / NRIs / OCBs	16.0
Indian Public / Others	10.8

Abs.	3m	1yr	3yr
Sensex (%)	(4.2)	21.4	158.2
Guj. Gas (%)	(17.5)	(12.4)	32.6

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Primed to grow

Gujarat Gas (Gujgas), a 65% subsidiary of British Gas, UK, currently distributes over 3.0mmscmd gas in Gujarat. Retail sales comprising Industrial Retail, CNG and PNG together are likely to drive 15-20% volume growth for the company. Past and ongoing investments in infrastructure and CNG stations are expected to start offering returns over the next couple of years. CGD regulations have come as a breather and will not impact OPMs. We believe Gujgas is a safe bet on the Gas sector offering consistent returns. The stock is available at 9.2.x CY2009E EPS of Rs28.4. ***We are positive on Gujgas' growth prospects and maintain a Buy on the stock, with a revised Target Price of Rs340.***

- **Retail gas sales to drive future growth:** Over the past few years, Gujgas has been consistently reporting over 20% yoy volume growth in its high-Margin Retail Segment. A rising customer base has aided higher gas sales volumes. We believe the company would continue to achieve 15-20% growth in Retail volumes over the next 2-3 years. Both, the existing and newer geographies will fuel this growth. The retail prices of CNG and Domestic PNG are expected to rise marginally while the price rise for Industrial Retail customers will be in line with the rise in the market price of gas.

- **Margins back on track:** OPMs had slipped in CY2006 (15.7%) primarily due to the floods in Gujarat and rise in gas purchase price, which were back on track in CY2007 (20.4%). There was a looming concern last year over the impending PNGRB regulations, which turned out to be neutral for Gujgas. The Regulation has capped the Post-Tax RoCE on network infrastructure and compression charge to 14%, which results into Pre-Tax RoCE of 21% for Gujgas. The company's current RoCEs are a combination of RoCEs on infrastructure and marketing margins. Since the company is free to charge marketing margins, the regulation will not materially impact it. Hence, we believe Gujgas is well within the purview of the regulations and will be able to maintain its OPMs at 19-20% levels.

- **Investments to start bearing fruits:** Over the last 2-3 years, Gujgas has been investing heavily to augment its infrastructure and proposes to continue to do so in the future as well. We believe this expansion will help boost the company's industrial Retail sales and CNG sales across geographies.

Key Financials

Y/E Dec (Rs cr)	CY2006	CY2007	CY2008E	CY2009E
Net Sales	**968.5**	**1,244.6**	**1,251.5**	**1,559.4**
% chg	*29.7*	*28.5*	*0.6*	*24.6*
Net Profit	**87.5**	**152.9**	**140.2**	**183.1**
% chg	*(10.8)*	*74.8*	*(8.3)*	*30.6*
EPS (Rs)	**13.5**	**23.7**	**21.7**	**28.4**
EBITDA Margin (%)	15.7	20.4	19.4	20.0
P/E (x)	19.2	11.0	12.0	9.2
ARoE (%)	21.6	30.2	22.3	24.2
ARoCE (%)	21.2	32.1	24.4	27.7
P/BV (x)	3.8	2.9	2.4	2.0
EV/ Sales (x)	1.7	1.3	1.3	1.0
EV/ EBITDA (x)	10.9	6.5	6.6	4.8

Source: Company, Angel Research

Investment Argument

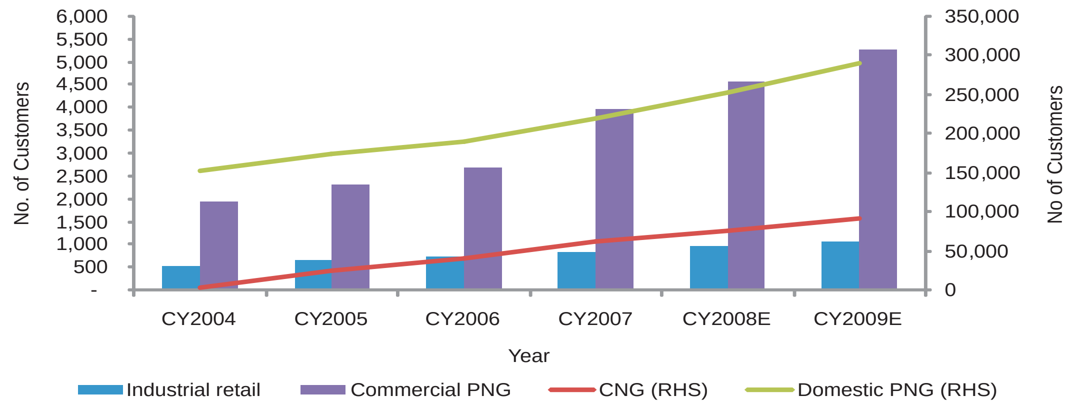
Gujarat Gas (Gujgas) is a 65% subsidiary of British Gas (BG, UK), involved in the CGD business in Surat, Ankleshwar, Bharuch and nearby industrial areas in Gujarat. The company procures gas at market rates and distributes it to the industrial retail, CNG and domestic customers. Gujarat Gas currently distributes about 3.0 million standard cubic metres per day (mmscmd) gas through its 2,100km pipeline network and 25 CNG stations.

Retail gas sales to drive future growth

We believe the company would continue to achieve over 15-20% growth in Retail volumes over the next 2-3 years

Over the past few years, Gujarat Gas has been consistently reporting over 20% yoy volume growth in its high-Margin Retail Segment. This Segment primarily caters to the small and mid-size industrial units, CNG vehicles and PNG for domestic and commercial customers. Awareness and economies of natural gas over the conventional fuels have been the primary factors for the strong growth clocked by this Segment. Average gas sales from Retail Segment in CY2007 stood at 2.5mmscmd.

Exhibit 1: Growing Customer base



Source: Company, Angel Research

Industrial Retail

Gujgas' Industrial Retail Segment accounted for over 65% of total volumes during CY2007 wherein CNG accounted for over 6% and PNG (both domestic and commercial) accounted for over 5%. Expansion into newer geographies and development of newer applications for industries like diamond cutting, yarn processing, etc., has given a fillip to the company's Industrial Retail sales.

CNG

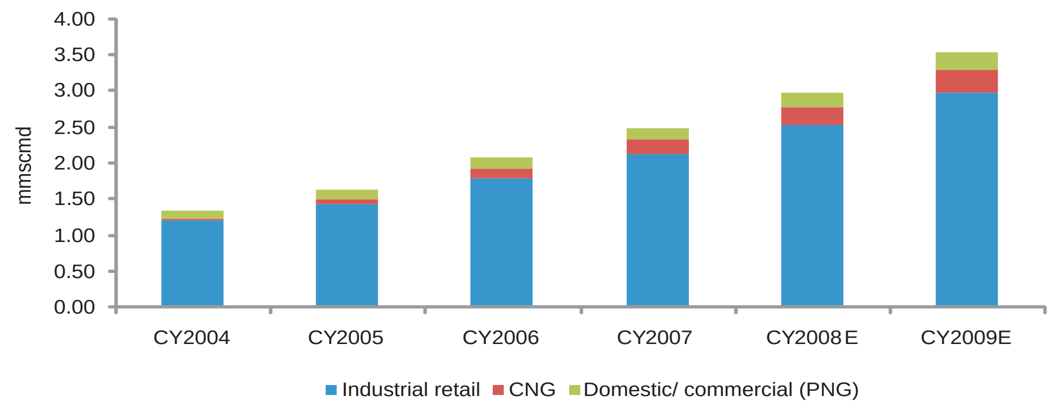
Although CNG is a small part of Gujgas' business, it has been the fastest growing segment over the past few years clocking over 49% yoy jump in CNG sales at 70mmscm (47mmscm) in CY2007. Over 67,000 vehicles are running on CNG in the areas of Gujgas' operation. In CY2007 itself, about 22,000 vehicles were converted to CNG. Currently, the company is witnessing over 1,500+

cars/ month conversion rate. During CY2007, Gujgas added three new CNG stations (upgraded two stations) taking the total number to 25. Over the next couple of years, the company plans to add another 5-6 stations pa.

PNG

In CY2007, the company reported a remarkable progress in expanding its PNG network, with the addition of over 40,000 new PNG connections (yoy jump of 21%) taking the total to 2,30,000 PNG customers.

Exhibit 2: Rising customer base = Growth in gas sales volumes



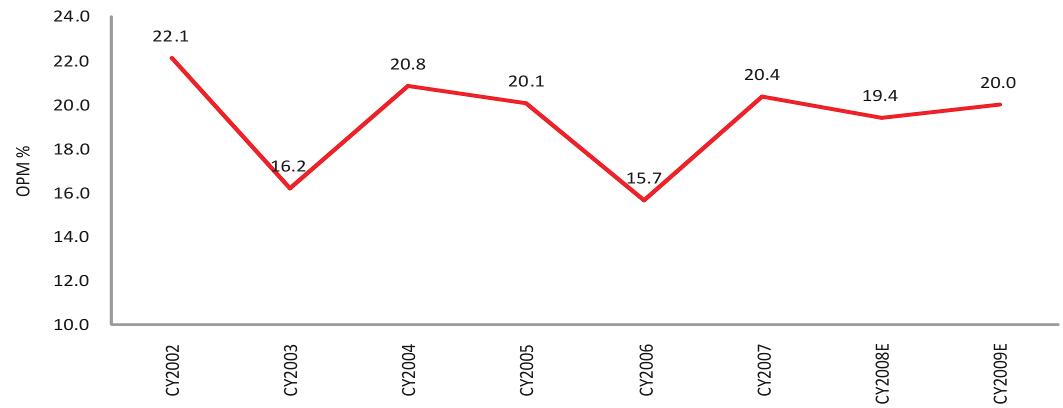
Source: Company, Angel Research

A rising customer base has aided higher gas sales volumes. We believe the company would continue to achieve over 15-20% growth in Retail volumes over the next 2-3 years. Both, the existing and newer geographies will fuel this growth. The retail prices of CNG and Domestic PNG are expected to rise marginally while the price rise for Industrial Retail customers will be in line with the rise in the market price of gas.

Margins back on track

Operating Margins slipped during CY2006 (15.7%) primarily due to the floods in Gujarat and rise in gas purchase price, were back on track in CY2007 (20.2%). During January and February 2007, Gujgas revised its CNG, PNG prices and prices for its Industrial Retail customers owing to the rise in purchase price of gas. As the gas purchase price is Dollar denominated, Gujgas also gained from a favourable Rupee-Dollar exchange rate during CY2007.

Exhibit 3: OPM Trend



Source: Company, Angel Research

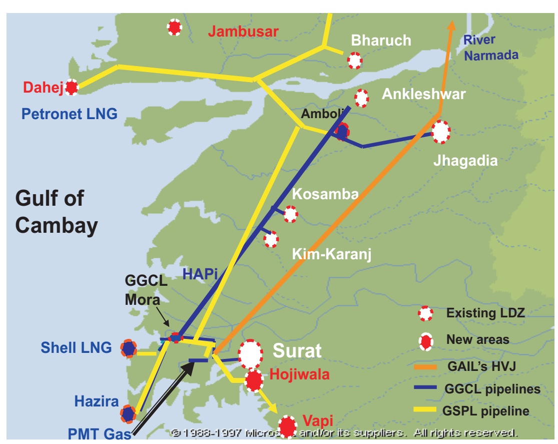
PNGRB Regulations - Not a threat

Gujgas is well within the purview of the regulations and future Margins are also not likely to get pruned; going ahead, we expect Gujgas to maintain OPMs at 19-20% levels

There was a severe concern last year over the impending PNGRB regulations, which were conveyed to the industry on 1 April 2008. The most important regulation pertaining to Gujgas is the cap on RoCEs. Gujgas has been reporting average blended RoCEs (pre-tax) in excess of 25%+ over the past few years and for CY2007 the blended RoCE was 31.4% (due to significant OPM expansion in CY2007). The long-term sustainable RoCEs are expected to hover at 24-27% levels. The Regulation has capped the Post-Tax RoCE on network infrastructure and compression charge to 14%, which results into Pre-Tax RoCE of 21% for Gujgas. Current RoCEs are a combination of RoCEs on infrastructure and marketing margins. Since, the company is free to charge marketing margins, the regulation will not materially impact the company. Hence, we believe, Gujgas is well within the purview of the regulations and future Margins are also not likely to get pruned. Going ahead, we expect Gujgas to maintain its OPMs at 19-20% levels.

Investments to start bearing fruits

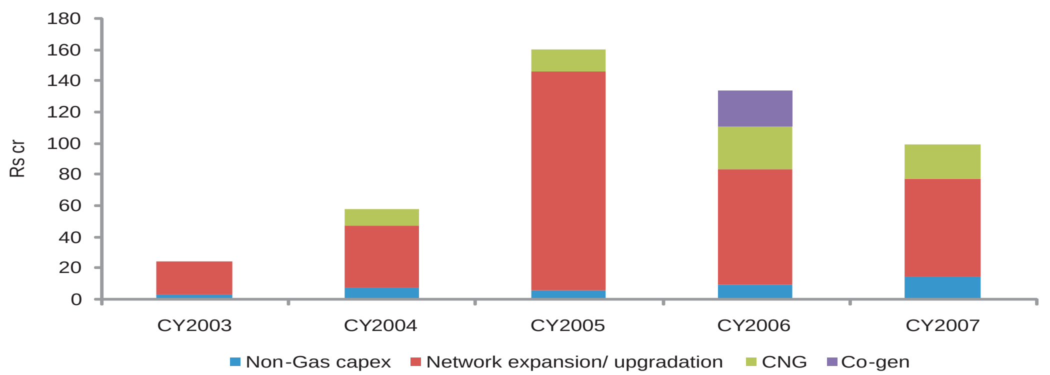
Exhibit 4: Existing and future operation areas



Source: Company

Gujgas expanded its operations to Kim-Karanj, Jhagadia and Kosamba during CY2007, while Surat, Ankleshwar and Bharuch still remain the primary consuming centres. The newer territories also offer significant potential, as currently Gujgas is supplying 4,00,000scm/ day gas to Jhagadia and has signed contracts for further 4,00,000scm/ day gas supplies. It has also short-listed few more industrial pockets, which offer significant potential. The company has already expanded its network to Vapi and plans to tap areas like Hojiwala, Jambusar and Dahej.

Exhibit 5: Heavy capex to augment infrastructure



Source: Company

We expect the company to continue the trend of heavy capex going forward also and incur over Rs100-120cr capex pa., over the next 2-4 years

Over the last 2-3 years, Gujgas has been investing heavily to augment its infrastructure. In CY2007, the company invested around Rs100cr to expand its pipeline network and to upgrade/ add new CNG stations. We expect the trend to continue going forward with over Rs100-120cr capex pa., henceforth. Majority of the capex will be incurred for expanding its pipeline network and setting up CNG stations in new geographies. This expansion will help boost the company's industrial retail sales and CNG sales across geographies.

Key Concerns

Supply side worries persist

During CY2006, Gujgas signed an agreement for 1.65mmssmd of gas supplies from BG Exploration and Production India (BGEPIL) (BG's share in PMT gas). The gas supplies commenced towards end 3QCY2007. In November 2007, the government appointed GAIL as the sole nominee for PMT gas from April 1, 2008. The government also directed that the PMT gas will be provided to the priority sectors like fertilisers, power, CGD, etc., post which it would be diverted to other players. Due to government's this decision, all the previous gas contracts stood null and void. Hence, the concern of Gujgas' supplies loomed large, particularly because it was drawing close to 2.8-2.9mmscmd supplies from PMT gas. The company was negotiating with GAIL in this regard and on April 1, 2008, successfully got allocation of 2.13mmscmd of gas supplies from GAIL. Although, these supplies are over 25% lesser than the earlier supplies, for the time being the concern has been negated.

Exhibit 6: Current Gas Supply contracts

Gas supplies (mmscmd)	Pre-April 2008	Post-April 2008
GAIL - Ankleshwar	0.04	0.04
GAIL - Surat	0.10	0.10
GAIL - PMT	0.00	2.13
Cairn	0.30-.35	0.30-.35
Niko	0.23	0.23
PMT JV	1.50	0
PMT JV - BGEPIL share	1.30	0
GSPC /GAIL	Spot Gas	Spot Gas

Source: Company

Gujgas' parent BGEPIL is actively looking at sourcing LNG to partially mitigate the supply worries. But, currently we are witnessing a tight LNG market where Spot gas is available at anywhere between US $15-18/mmbtu. Such high gas prices would be a deterrent for Gujgas' marginal customers. We believe that the KG basin gas which would start flowing in the latter half of 2008, will partially offset the supply concerns, as Gujgas' growth is dependent on incremental gas volumes. Petronet's incremental capacity is also coming up by December 2008, which would also provide access to Spot supplies. Currently, Gujgas has sufficient gas supplies to take care of incremental growth and we expect the company to tie up for more supplies from the upcoming sources. We expect the company will be able to tie up for about 0.5-1.0mmscmd supplies from these sources, which will be sufficient for volume growth over the next couple of years.

PNGRB Regulations - Capped RoCEs, Need to take authorization for expanding into newer areas

The recently published CGD regulations by PNGRB are likely to act as a short-term hindrance for all the existing CGD players. As we've discussed earlier, the capped RoCEs will not hamper Gujgas significantly as the CGD player is allowed to charge marketing Margins on gas sales. The Regulator has restricted the existing players from expanding into newer areas, which requires authorisation. Also, the newer areas will be allotted through a competitive bidding process. Due to the government intervention, the authorisation and bidding process is likely to take some time thus hampering the company's current expansion plans.

Outlook and Valuation

We believe CY2008 will be a challenging year for Gujarat Gas as gas supplies would continue to be a concern. However, we expect Gujgas to secure supplies of about 0.5-1.0mmscmd from different sources like the RIL KG basin gas, Petronet Spot LNG and incremental volumes from PMT fields. Gujgas' parent British Gas is actively seeking Spot LNG for Gujarat Gas, which we believe will ease out the concerns about gas supplies. Demand remains robust in current operational areas and expansion into newer territories will provide further impetus to gas sales.

The stock has recently corrected significantly on the bourses over concerns about the CGD Regulations and gas supplies. CGD regulations are not likely to impact Gujgas' performance and the company has successfully tied up supplies with GAIL. Owing to these developments, we have revised our numbers and assigned the stock a lower multiple. The stock is available at 9.2x CY2009E EPS of Rs28.4. **We are positive on the company's growth prospects and maintain a Buy on the stock, with a revised Target Price of Rs340 (Rs396).**

Profit & Loss Statement

Rs crore

Y/E December	CY2006	CY2007	CY2008E	CY2009E
Net Sales	**968.5**	**1244.6**	**1251.5**	**1559.4**
% chg	*29.7*	*28.5*	*0.6*	*24.6*
COGS	729.8	879.3	894.8	1102.7
Total operating expenditure	816.8	990.9	1008.7	1247.8
EBITDA	**151.7**	**253.7**	**242.8**	**311.6**
EBITDA Margin (%)	*15.7*	*20.4*	*19.4*	*20.0*
Other Income	16.1	17.5	20.0	22.5
Depreciation & Amortisation	31.9	38.4	46.5	52.5
Interest	2.2	0.1	1.0	1.0
Deferred revenue exp. w/o	2.5	2.4	0.0	0.0
PBT	**131.3**	**230.2**	**215.3**	**280.6**
PBT Margin (%)	*13.3*	*18.2*	*16.9*	*17.7*
Total Tax	42.2	75.7	73.2	95.4
% of PBT	*32.2*	*32.9*	*34.0*	*34.0*
FBT	0.9	0.8	1.2	1.4
PAT	**88.2**	**153.7**	**140.9**	**183.8**
Minority Interest	0.6	0.7	0.7	0.7
Adj. PAT	**87.5**	**152.9**	**140.2**	**183.1**
% chg	*(10.8)*	*74.8*	*(8.3)*	*30.6*

Balance Sheet

Rs crore

Y/E December	CY2006	CY2007	CY2008E	CY2009E
SOURCES OF FUNDS				
Equity Share Capital	12.8	12.8	12.8	12.8
7.5% Preference capital	14.4	14.4	14.4	14.4
Reserves & Surplus	431.2	560.3	673.0	821.1
Misc. expenditure	3.3	2.0	2.0	2.0
Shareholder's Funds	**455.1**	**585.6**	**698.3**	**846.4**
Total Loans	2.9	0.0	0.0	0.0
Deposits	86.5	111.9	111.9	111.9
Minority Interest	3.1	3.7	4.4	5.1
Deferred Tax Liab./ (Asset)	46.5	45.3	45.3	45.3
Total Liabilities	**594.2**	**746.5**	**859.9**	**1008.7**
APPLICATION OF FUNDS				
Gross Block	626.9	710.1	891.3	1017.3
Less: Accu. Depreciation	183.8	219.7	266.2	318.7
Less: Lease terminal adj. a/c	26.3	25.5	26.3	26.3
Net Block	**416.8**	**464.9**	**598.8**	**672.3**
Capital Work-in-Progress	105.9	111.1	47.5	42.5
Investments	**139.9**	**235.0**	**235.0**	**235.0**
Current Assets	140.5	166.7	215.5	349.7
Current Liabilities	208.9	231.1	236.9	290.8
Net Current Assets	**(68.4)**	**(64.5)**	**(21.4)**	**58.9**
Total Assets	**594.2**	**746.5**	**859.9**	**1008.7**

Cash Flow Statement

Rs crore

Y/E December	CY2006	CY2007	CY2008E	CY2009E
Profit Before Tax	131.3	230.2	215.3	280.6
Depreciation	31.9	38.4	46.5	52.5
Deferred revenue expenditure w/o	2.5	2.4	0.0	0.0
(Inc.)/ Dec. in Working Capital	(4.5)	(2.5)	4.9	24.1
Direct taxes paid	(39.5)	(77.9)	(74.4)	(96.8)
Cash Flow from Operations	**121.6**	**190.7**	**192.4**	**260.5**
(Inc.)/ Dec. in Fixed Assets	(137.6)	(88.4)	(117.6)	(121.0)
Free Cash Flow	**(15.9)**	**102.3**	**74.8**	**139.5**
(Inc.)/ Dec. in Investments	55.1	(95.1)	0.0	0.0
Inc./ (Dec.) in Capital	14.4	0.0	0.0	0.0
Inc./ (Dec.) in Loans	(50.1)	(2.9)	0.0	0.0
Inc./ (Dec.) in Deposits	18.7	25.4	0.0	0.0
Dividend paid (Incl. tax)	(19.8)	(24.3)	(27.5)	(35.0)
Others	(3.0)	(3.9)	0.7	0.0
Cash Flow from Financing	**15.4**	**(100.9)**	**(26.8)**	**(35.0)**
Inc./ (Dec.) in Cash	(0.6)	1.5	48.0	104.4
Opening Cash balances	16.7	16.1	17.6	65.5
Closing Cash balances	16.1	17.6	65.5	170.0

Key Ratios

Y/E December	CY2006	CY2007	CY2008E	CY2009E
Per Share Data (Rs)				
EPS	13.5	23.7	21.7	28.4
CEPS	18.6	29.8	29.1	36.7
DPS	2.5	3.0	3.5	4.5
Book Value	69.2	89.4	107.0	130.0
Operating Ratios (%)				
Inventory (days)	6.8	7.2	7.0	7.0
Debtors (days)	30.6	28.2	30.0	30.0
Creditors (days)	85.7	73.5	75.0	75.0
Returns (%)				
ARoNW	21.6	30.2	22.3	24.2
ARoCE	21.2	32.1	24.4	27.7
Dividend Payout	18.3	12.6	16.0	15.8
Valuation Ratios (x)				
P/ E (x)	19.2	11.0	12.0	9.2
P/ CEPS (x)	14.0	8.7	8.9	7.1
P/ BV (x)	3.8	2.9	2.4	2.0
EV/ Total Sales (x)	1.7	1.3	1.3	1.0
EV/ EBITDA (x)	10.9	6.5	6.6	4.8

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Gujarat State Petronet

Company Update

BUY

Price	**Rs67**
Target Price	**Rs107**
Investment Period	**12 months**

Stock Info

Sector	Gas
Market Cap (Rs cr)	3,754
Beta	1.14
52 Week High / Low	114/50
Avg Daily Volume	1509553
Face Value (Rs)	10

BSE Sensex	16,737
Nifty	4,983

BSE Code	532702
NSE Code	GSPL
Reuters Code	GSPT.BO
Bloomberg Code	GUJS IN

Shareholding Pattern (%)	
Promoters	37.8
MF / Banks / Indian FIs	25.0
FII / NRIs / OCBs	15.8
Indian Public / Others	21.4

Abs.	3m	1yr	3yr#
Sensex (%)	(4.2)	21.4	65.3
GSPL (%)	(3.3)	27.7	71.8

Note: # Since listing on February 16, 2006

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Transmission Gains

Transmission volumes of GSPL, the second largest transmission player in India, are slated to go up by over 35% pa., over the next couple of years. Growth is expected to arise from the network expansion from the current 1,130km, with additional 1,000km reaching North Gujarat till the Rajasthan border, South Gujarat till the Pipavav port and West Gujarat till Mundra and Okha over the next couple of years. Higher transmission volumes will keep OPMs firm at 85-86% levels. Strategic stakes in CGD ventures will also add value over the next couple of years. Overall, we expect Earnings' CAGR of 37% over FY2007-09E. ***We remain positive over the prospects of GSPL and maintain a Buy, with a revised Target Price of Rs107.***

- **Transmission volumes to pick up from FY2009:** Although GSPL is currently handling about 17-18mmscmd gas volumes, it has secured over 33-34mmscmd contracts with different players. GSPL, which operates the second largest gas transmission network in India after GAIL, currently boasts of wide pipeline network of over 1,130km. It plans to expand its network by another 1,000km over the next couple of years. The potential demand in Gujarat as envisaged by Crisil is over 90mmscmd, which is almost double the current consumption, giving significant volume growth visibility over the next 2-4 years.

- **OPMs to sustain going forward:** Expansion in transmission volumes has a direct co-relation with operating efficiency. We have witnessed a gradual uptrend in gas volumes over the past few quarters, which aided the improvement in OPMs. Currently, OPMs are hovering at 85-86% levels, which we believe are sustainable going ahead.

- **CGD venture to complement Transmission business:** GSPL has forayed into the city gas distribution (CGD) business through its strategic stakes in three CGD ventures viz., Krishna Godavari Gas Networks, AP and GSPC Gas Company & Sabarmati Gas in Gujarat. GSPC Gas Company and Sabarmati Gas are currently operating with over 10-11 CNG stations and distributing about 1.5mmscmd gas in their areas of operation. Over the next couple of years, we expect GSPL's CGD venture to be EPS accretive.

Key Financials

Y/E March (Rs cr)	FY2007	FY2008E	FY2009E	FY2010E
Net Income	**317.6**	**416.2**	**608.6**	**811.0**
% chg	*20.5*	*31.1*	*46.2*	*33.3*
Net Profit	**89.4**	**89.9**	**138.7**	**227.7**
% chg	*91.5*	*0.6*	*54.2*	*64.2*
EPS (Rs)	**1.6**	**1.6**	**2.5**	**4.1**
FDCEPS (Rs)	3.5	4.5	6.5	8.7
EBITDA Margin (%)	84.3	86.4	86.0	86.1
P/E (x)	42.0	41.7	27.0	16.5
P/CEPS (x)	19.5	14.8	10.3	7.7
ARoE (%)	9.7	8.6	11.9	18.0
ARoCE (%)	10.0	9.2	12.1	16.6
P/BV (x)	3.8	3.3	3.1	2.8
EV/ Sales (x)	14.0	11.9	8.1	5.9
EV/ EBITDA (x)	16.6	13.8	9.4	6.9

Source: Company, Angel Research

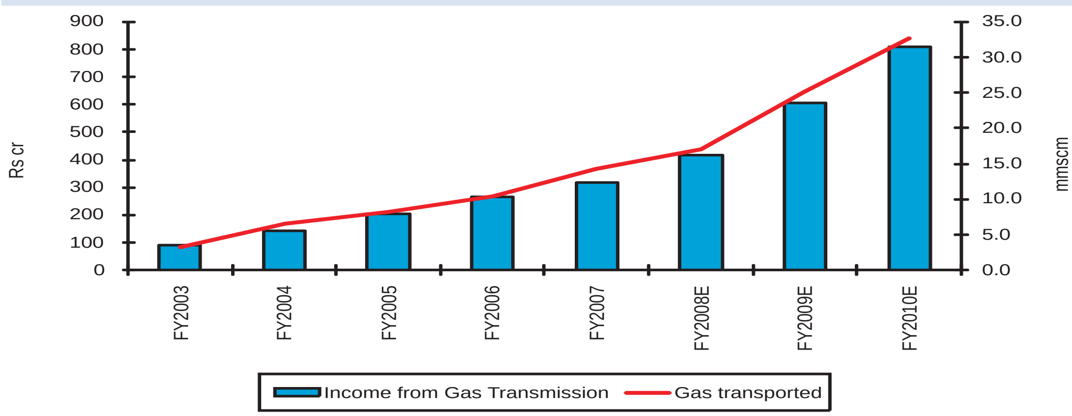
Investment Argument

GSPL is a 38% subsidiary of Gujarat State Petroleum Corporation (GSPC). It is a natural gas transmission player with 1,130km of transmission network, second largest network in India after GAIL. Currently, the company transmits around 17mmscmd gas through its pipeline network in Gujarat. The company has long-term gas transmission contracts of over 33mmsmcd.

Transmission volumes to pick up from FY2009

Gujarat State Petronet (GSPL) is a pure Gas Transmission player, which is not subject to the vagaries in gas prices. The company transmits gas on an 'Open Access' basis to consumers and has a seamless network with bi-directional capability. Due to availability of gas on the West Coast, transmission volumes have been rising and during 9MFY2008, GSPL' s transmission volumes jumped 17.7% yoy to 16.5mmscmd (14mmscmd). Average realisations also improved by around 9.3% yoy to Rs0.66/mmscm (Rs0.61/mmscm) in the mentioned period. Realisations improved primarily due to better connectivity to the newer areas.

Exhibit 1: Transmission volumes on the rise



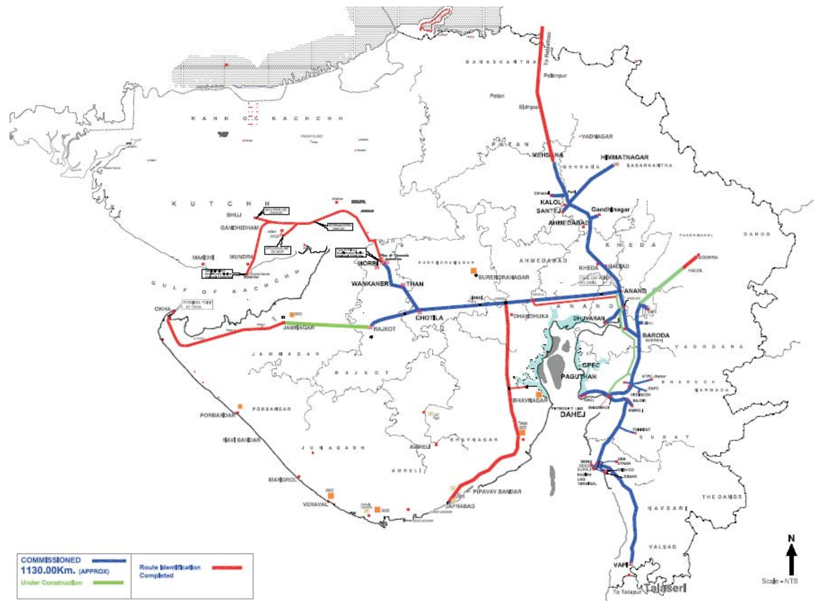
Source: Company, Angel Research

Although GSPL is currently handling about 17-18mmscmd gas volumes, it has secured over 33-34mmscmd contracts with different players

Although GSPL is currently handling about 17-18mmscmd gas volumes, it has secured over 33-34mmscmd contracts with different players. Also, it is currently transmitting about 5-6mmscmd R-LNG through its network.

- GSPL has secured a 15-year contract with RIL for transmitting 11mmscmd gas from Bharuch to Jamnagar for which it has invested over Rs800cr (220km pipeline). The gas will start flowing from 3QFY2009 in a phased manner.
- It has also secured a 20-year contract with Torrent Power for transmitting 4.5mmscmd gas, which will start from 1QFY2009 in a phased manner. Initially the volume will be 0.9mmscmd and slowly ramp up to 4.5mmscmd in a year's time.

Exhibit 2: Gas grid in Gujarat



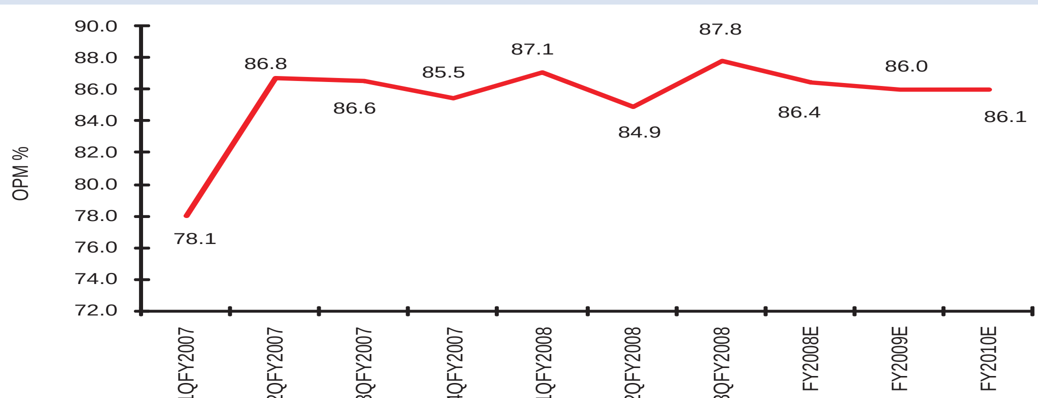
Source: Company

GSPL currently boasts of wide pipeline network of over 1,130km and plans to expand its network by another 1,000kms over the next couple of years

GSPL, which operates the second largest gas transmission network in India after GAIL, currently boasts of wide pipeline network of over 1,130km. GSPL is well connected to all the major supply points i.e. Hazira, Dahej, etc. With rising gas demand as well as availability, the company has chalked out ambitious expansion plans. It plans to expand its network by another 1,000km to North Gujarat reaching the Rajasthan border, in south Gujarat till the Pipavav port and in West Gujarat till Mundra and Okha over the next couple of years. The potential demand in Gujarat as envisaged by Crisil is over 90mmscmd, which is almost double the current consumption, giving a significant volume growth visibility over the next 2-4 years.

Operating Margins to sustain going forward

Exhibit 3: OPM Trend



Source: Company, Angel Research

OPMs are hovering at 85-86% levels, which we believe are sustainable going ahead

Expansion in transmission volumes has a direct co-relation with operating efficiency. We have witnessed a gradual uptrend in gas volumes over the past few quarters, which aided the increase in OPMs. With a further expansion in network, we do not foresee any threat to the company's OPMs. Currently, OPMs are hovering at 85-86% levels, which we believe are sustainable going ahead.

CGD venture to complement Transmission business

GSPL has forayed into the city gas distribution (CGD) business by acquiring strategic stakes in three CGD ventures viz.,

- Krishna Godavari Gas Networks, Andhra Pradesh
- GSPC Gas Company, Gujarat
- Sabarmati Gas, Gujarat

GSPL has a strong parentage GSPC, which is actively involved in the development of gas assets. GSPC has made a significant discovery in the prolific KG Basin, development of which will begin soon. Gas is expected to arrive onshore over the next 3-4 years, which will add to the overall availability of gas in India. We believe that a part of the gas will be allocated to the CGD ventures, which are subsidiaries of GSPC and will indirectly benefit GSPL, which holds strategic stakes in the CGD ventures.

Over the next couple of years, we expect GSPL's CGD venture to be EPS accretive

GSPC Gas Company and Sabarmati Gas are currently operating with over 10-11 CNG stations and distributing about 1.5mmscmd gas in their areas of operation. The Regulator recently announced CGD regulations, which we believe will not impact GSPL's CGD ventures. Over the next couple of years, we expect GSPL's CGD venture to be EPS accretive.

80 IA status to benefit future expansions

In Budget 2007-08, the government extended infrastructure status to companies involved in laying and operating cross-country natural gas distribution networks. It stated that projects which have commenced operations after April 1, 2007 would be allowed a 10-year tax holiday. GSPL falls under the purview of gas Transmission Companies and hence would be a beneficiary of 80 IA status.

As of now, the company is following an accelerated depreciation policy, where it is depreciating its pipelines in 12 years (straight-line method), although the useful life of the asset is 30 years. Since, it is a highly capital-intensive business, it leads to depressed profitability. We believe it's prudent to consider the cash profits to counter this situation. Profits would surge if the company adopts the 30-year Depreciation Policy.

Key Concerns

Adverse PNGRB regulations

Recently, the PNGRB regulator chalked out the regulations for the CGD networks, which capped RoCEs on distribution infrastructure. However, the oil and gas transmission networks do not come under the ambit of CGD networks. Nevertheless, we expect the transmission regulations to be announced soon. Since, GSPL is still in investment mode, the RoCEs are currently depressed but they will jump FY2010E onwards. We expect similar kind of treatment like a cap on RoCEs for transmission players like the CGD players by the regulator. Anything beyond the cap on returns will be a surprise and could dampen profitability.

Delay in gas supplies from different sources

Although GSPL is not subject to gas availability as its transmission contracts are secured through a 'Take or Pay' agreement with customers, volume growth is primarily dependant on future gas availability. Hence, any delays in gas supplies from the different sources will lead to delay in Earnings. Primary kicker is expected from the RIL KG Basin gas and we believe gas production will commence as per schedule. Gas availability at the West Coast is also expected to increase substantially along with incremental supplies coming from PMT, Cambay, RIL KG basin gas and re-gasified LNG from Petronet LNG as well as Shell. Hence, we do not envisage it as a major threat though a slight delay in supplies cannot be ruled out.

Outlook and Valuation

GSPL is likely to be one of the prime beneficiaries of the increased gas availability from the KG basin as well as from the West Coast. Pipeline expansion is expected to drive future growth for the company. Strategic stakes in CGD ventures are likely to add value over the next couple of years. We have valued GSPL using DCF methodology, Cost of Equity - 15.6%, WACC - 10.1% and Terminal growth rate - 2.5%. Due to higher volatility we have assigned higher risk premium to the company and subsequently downgraded our Target Price. **We remain positive over the prospects of GSPL and maintain a Buy, with a Target Price of Rs107 (Rs133).**

Profit & Loss Statement

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Net Income	**317.6**	**416.2**	**608.6**	**811.0**
% chg	*20.5*	*31.1*	*46.2*	*33.3*
Total operating expenditure	49.8	56.5	84.9	113.1
EBITDA	**267.7**	**359.7**	**523.7**	**697.9**
EBITDA Margin (%)	*84.3*	*86.4*	*86.0*	*86.1*
Other Income	17.8	25.6	10.0	10.0
Depreciation & Amortisation	102.6	163.9	225.4	259.4
Interest	45.7	82.3	97.2	102.0
PBT	**137.3**	**139.2**	**211.2**	**346.5**
PBT Margin (%)	*40.9*	*31.5*	*34.1*	*42.2*
Total Tax	47.5	48.8	71.8	117.8
% of PBT	*34.6*	*35.1*	*34.0*	*34.0*
FBT	0.3	0.5	0.7	1.0
PAT	**89.4**	**89.9**	**138.7**	**227.7**
Extraordinary Items	0.0	0.0	0.0	0.0
Adj. PAT	**89.4**	**89.9**	**138.7**	**227.7**
% chg	*91.5*	*0.6*	*54.2*	*64.2*

Balance Sheet

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
SOURCES OF FUNDS				
Equity Share Capital	542.8	561.5	561.5	561.5
Reserves & Surplus	423.1	568.6	641.6	770.7
Misc. expenditure	9.3	6.3	3.3	0.3
Shareholder's Funds	**956.6**	**1,123.8**	**1,199.8**	**1,331.9**
Total Loans	863.8	1,279.3	1,336.6	1,407.9
Deferred Tax Liab.	91.9	103.9	103.9	103.9
Total Liabilities	**1,912.3**	**2,507.0**	**2,640.2**	**2,843.7**
APPLICATION OF FUNDS				
Gross Block	1,888.9	2,329.7	2,979.7	3,429.7
Less: Accu. Depreciation	322.8	486.7	712.1	971.5
Net Block	**1,566.1**	**1,843.0**	**2,267.6**	**2,458.3**
Capital Work-in-Progress	136.8	600.0	250.0	150.0
Investments	**0.0**	**0.0**	**0.0**	**0.0**
Current Assets	393.7	270.0	410.4	627.2
Current Liabilities	184.5	206.2	288.0	391.9
Net Current Assets	**209.3**	**63.8**	**122.4**	**235.3**
Deferred Tax Asset	0.2	0.2	0.2	0.2
Total Assets	**1,912.3**	**2,507.0**	**2,640.2**	**2,843.7**

Cash Flow Statement

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Profit Before Tax	137.3	139.2	211.2	346.5
Depreciation	102.6	163.9	225.4	259.4
Amounts written off	3.0	3.0	3.0	3.0
(Inc.)/ Dec. in Working Capital	(105.8)	28.8	52.7	81.3
Direct taxes paid	(7.0)	(37.3)	(72.5)	(118.8)
Cash Flow from Operations	**130.1**	**297.6**	**419.8**	**571.4**
Inc./ (Dec.) in Fixed Assets	440.1	904.0	300.0	350.0
Free Cash Flow	**(310.0)**	**(606.4)**	**119.8**	**221.4**
Inc./ (Dec.) in Investments	0.0	0.0	0.0	0.0
Issue of equity	0.8	107.1	0.0	0.0
Inc./(Dec.) in loans	285.2	415.5	57.3	71.3
Dividend paid (incl. tax)	31.8	32.8	65.7	98.5
Other non-cash Exp/(Inc)	(0.3)	0.0	(0.0)	0.0
Cash Flow from Financing	**254.0**	**489.8**	**(8.4)**	**(27.3)**
Inc./(Dec.) in Cash	(56.1)	(116.6)	111.4	194.1
Opening Cash balances	237.2	181.1	64.5	175.9
Closing Cash balances	181.1	64.5	175.9	369.9

Key Ratios

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Per Share Data(Rs)				
FDEPS	1.6	1.6	2.5	4.1
FDCEPS	3.4	4.5	6.5	8.7
DPS	0.5	0.5	1.0	1.5
BookValue	17.6	20.0	21.4	23.7
Operating Ratios (%)				
Inventory (days)	50.1	46.3	40.5	35.0
Debtors (days)	39.6	20.0	22.0	22.0
Creditors (days)	172.4	146.8	100.0	75.0
Returns (%)				
ARoNW	9.7	8.6	11.9	18.0
ARoCE	10.0	9.2	12.1	16.6
Dividend Payout	30.4	31.2	40.5	37.0
Valuation Ratios (x)				
P/E (x)	42.0	41.7	27.0	16.5
P/CEPS (x)	19.5	14.8	10.3	7.7
P/BV (x)	3.8	3.3	3.1	2.8
EV/Total Sales (x)	14.0	11.9	8.1	5.9
EV/EBITDA (x)	16.6	13.8	9.4	6.9

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Indraprastha Gas

Company Update

NEUTRAL

Price	Rs122
Target Price	-
Investment Period	-

Stock Info	
Sector	Gas
Market Cap (Rs cr)	1,702
Beta	0.59
52 Week High / Low	183/98
Avg Daily Volume	186679
Face Value (Rs)	10

BSE Sensex	16,737
Nifty	4,983

BSE Code	532514
NSE Code	IGL
Reuters Code	IGAS.BO
Bloomberg Code	IGL IN

Shareholding Pattern (%)	
Promoters	45.0
MF / Banks / Indian FIs	21.5
FII / NRIs / OCBs	18.3
Indian Public / Others	15.2

Abs.	3m	1yr	3yr
Sensex (%)	(4.2)	21.4	158.2
IGL (%)	(12.4)	24.1	20.3

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Out of Gas

CNG, which is growing by 12-13% pa., (in volume terms) and which constitutes 90% of IGL's total revenues is expected to drive its future growth. PNG being a small part of the business is also picking up. Firm gas allocation of 2.25mmscmd negates any supply concerns for the company. CGD regulations will not hurt the high (over 42%) OPM of IGL in the near term as the company is free to charge marketing margins. Although the regulations will not hurt the performance of the company in the near future, we are little skeptical about the excessive Margins charged by the company. ***Hence, we remain Neutral on the stock.***

- **CNG - Primary growth driver:** During the past couple of years, CNG sales clocked a CAGR of 14.3% through a combination of spike in CNG volumes and realisations. Going ahead, realisations are expected to rise slowly while volumes are expected to pick up given the high pace of private car conversion and introduction of CNG operative buses for the upcoming Commonwealth Games. Given the car conversion rate and expansion of CNG stations (in Delhi, Noida and Greater Noida), we expect IGL to clock a CAGR of 13% in CNG volumes over FY2007-10. We expect PNG volumes to clock a CAGR of about 16% over FY2007-10 owing to the network expansion in newer geographies.

- **Network expansion to tap virgin areas:** IGL added 13 new CNG stations since April 2007 taking the total to current 166 stations (FY2007 - 153 CNG stations). During early 2007, IGL finalised five sites for setting up CNG stations in Greater Noida and two are expected to come on-stream in 2QFY2009. The remaining will come on stream during 2HFY2009. For FY2008, IGL has earmarked around Rs65cr for expanding its CNG network and Rs70cr for PNG expansion. The company expects to invest similar amount over the next couple of years to expand its coverage in newer geographies like Greater Noida, Ghaziabad, Panipat and Sonipat, as well.

- **Firm gas allocation from GAIL; no near-term supply threat:** IGL currently has firm allocation of 2.0mmscmd gas from GAIL. Recently, it got allocation of 0.2mmscmd for Noida from GAIL, which will be APM-priced gas. We expect the gas requirement to exceed the 2.0mmscmd mark during FY2010, but with about 2.25mmscmd firm allocation we do not foresee any supply constraints.

Key Financials

Y/E March (Rs cr)	FY2007	FY2008E	FY2009E	FY2010E
Net Sales	**614.1**	**704.0**	**791.3**	**909.7**
% chg	*17.9*	*14.6*	*12.4*	*15.0*
Net Profit	**138.0**	**171.2**	**174.6**	**204.2**
% chg	*29.7*	*24.1*	*2.0*	*17.0*
EPS (Rs)	**9.9**	**12.2**	**12.5**	**14.6**
EBITDA Margin (%)	41.7	42.7	41.2	41.0
P/E (x)	12.3	9.9	9.8	8.3
ARoE (%)	32.6	32.6	27.4	27.0
ARoCE (%)	42.6	42.2	36.3	35.5
P/BV (x)	3.6	2.9	2.5	2.1
EV/ Sales (x)	2.7	2.3	2.0	1.6
EV/ EBITDA (x)	6.5	5.4	4.8	3.9

Source: Company, Angel Research

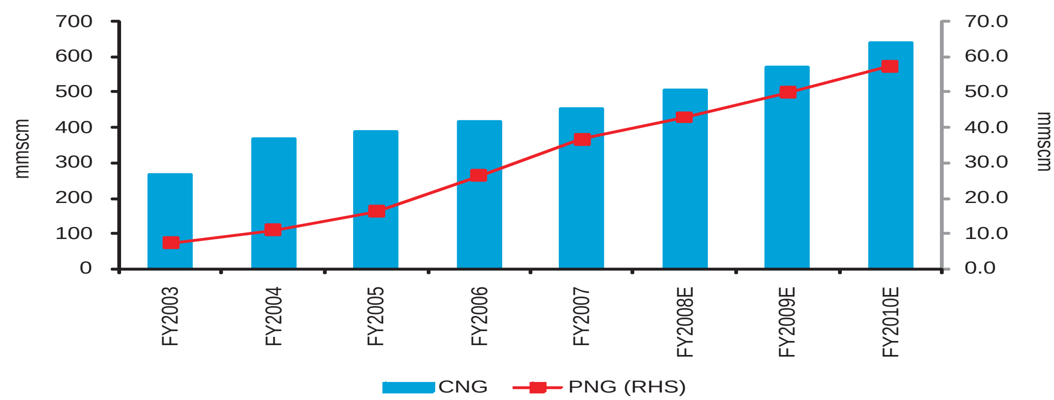
Investment Argument

Indraprastha Gas (IGL) has been promoted by GAIL and BPCL for distributing CNG and PNG in the National Capital Region (NCR) of Delhi. The company is now expanding its reach to nearby areas like Greater Noida, Ghaziabad, etc. Currently, the company distributes over 1.7mmscmd gas through its 1,200km pipeline network and 166 CNG stations to about 1,60,000 vehicles and 1,10,000 households.

CNG - Primary growth driver

IGL currently operates 166 CNG stations in and around NCR of Delhi. CNG accounted for over 91% of the total sales generated during 9MFY2008 and is likely to remain at about 90% levels over the next 2-3 years. Hence, we believe growth would primarily come from higher CNG volumes. During 9MFY2008, IGL reported 12.3% yoy jump in its CNG volumes while realisations improving by 1.7% yoy.

Exhibit 1: Rising CNG and PNG volumes (mmscm)



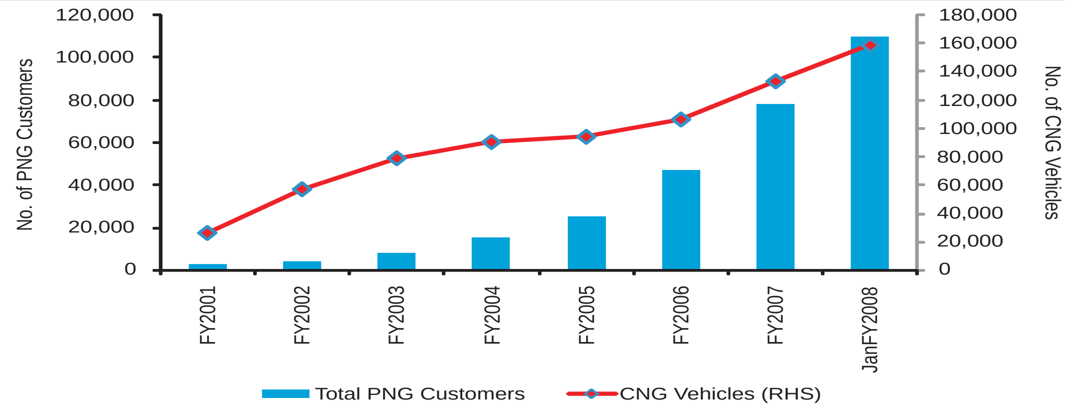
Source: Company, Angel Research

During the past couple of years, CNG sales clocked a CAGR of 14.3% through a combination of spike in CNG volumes and realisations. Going ahead, realisations are expected to rise slowly while volumes are expected to pick up given the high pace of private car conversion and introduction of CNG operative buses for the upcoming Commonwealth Games.

Given the robust car conversion rate and expansion of CNG stations (in Delhi, Noida and Greater Noida), we expect IGL to clock a CAGR of 13% in CNG volumes over FY2007-10

The rate of private car conversion along with newer CNG run vehicles (cars, LCVs, etc.,) gained significant momentum during 9MFY2008, with an average rate of over 2,800cars/month. Although this rate is on the higher side, we expect a stable car conversion rate of 2,000-2,500 cars/ month in the future. The government directive that only the LCVs running on CNG will be registered and permitted to operate in the NCR of Delhi from July 1, 2007 is also expected to give a fillip to CNG sales. Also, introduction of CNG variants by car manufacturers like Tata Motors, Hyundai, etc., is expected to fuel CNG sales growth going ahead. Given the robust car conversion rate and expansion of CNG stations (in Delhi, Noida and Greater Noida), we expect IGL to clock a CAGR of 13% in CNG volumes over FY2007-10.

Exhibit 2: CNG vehicles and PNG customers



Source: Company, Angel Research

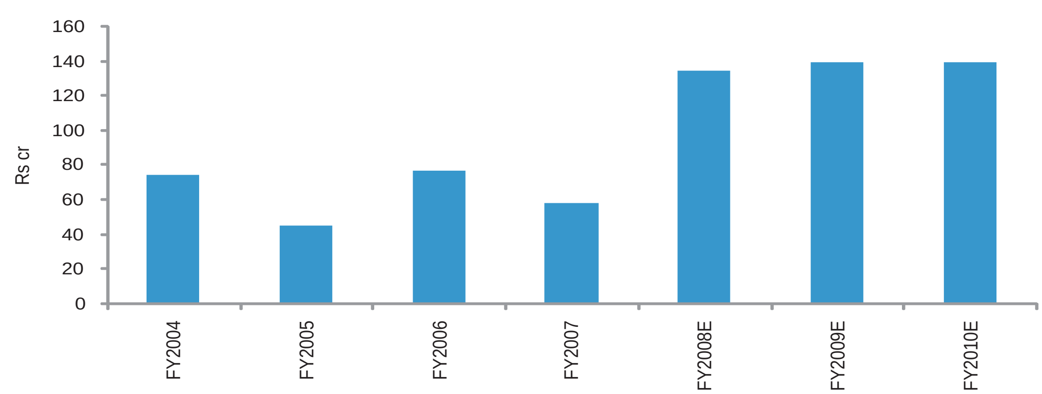
PNG, which is a smaller part of the company's business, has been growing at a much faster pace in the last couple of years. However, now on a larger base, growth is expected to slow down. Nevertheless, we expect PNG volumes to clock a CAGR of about 16% over FY2007-10 owing to the network expansion in newer geographies.

Network expansion to tap virgin areas

IGL expects to invest Rs120-130cr over the next couple of years to expand its coverage in newer geographies like Greater Noida, Ghaziabad, Panipat and Sonipat

IGL has been investing in augmenting its pipeline network and adding new CNG stations. It added 13 new CNG stations since April 2007 taking the total to 166 stations (FY2007 - 153 CNG stations). During early 2007, IGL finalised five sites for setting up CNG stations in Greater Noida and two are expected to come on-stream in 2QFY2009. The remaining will come on stream during 2HFY2009. For FY2008, IGL has earmarked around Rs65cr for expanding its CNG network and Rs70cr for PNG expansion. The company expects to invest similar amount over the next couple of years to expand its coverage in newer geographies like Greater Noida, Ghaziabad, Panipat and Sonipat.

Exhibit 3: Heavy investments for network expansion



Source: Company, Angel Research

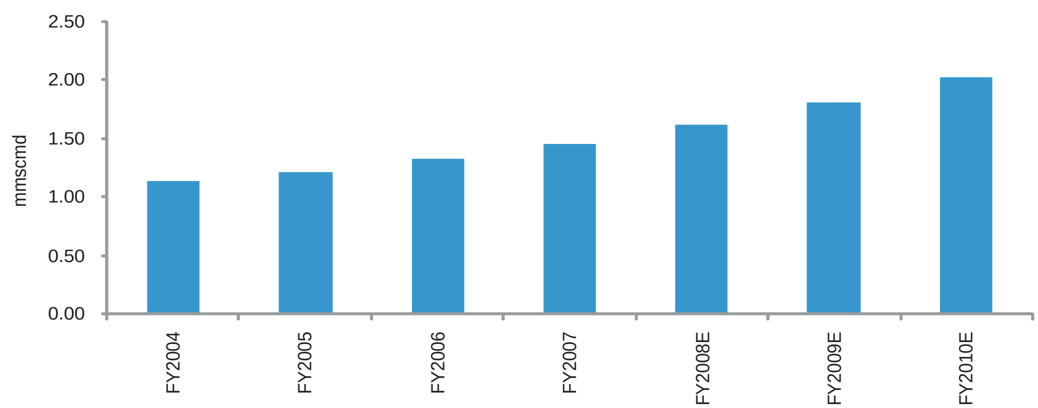
To avoid long queues and faster CNG dispensation, IGL has invested in augmenting its compression capacity, which now stands at 20.5lakh kgs/ day while the average daily CNG sales are about 10.5lakh kgs/ day. Apart from opening new CNG outlets, IGL is also converting its daughter booster stations to on-line stations thereby improving productivity.

Firm gas allocation from GAIL; no near term supply threat

IGL currently has firm allocation of 2.0mmscmd APM gas and recently received allocation of 0.2mmscmd APM gas for Noida

The company currently has a firm allocation of 2.0mmscmd gas from GAIL. CNG being the priority segment as indicated by the government, IGL will receive priority in case of supply disruptions. The company also sources 25,000scm/day of re-gasified LNG from BPCL, which it supplies to the commercial customers. Recently, it received allocation of 0.2mmscmd for Noida from GAIL, which will be APM-priced gas.

Exhibit 4: Gas Purchases (mmscmd)



Source: Company, Angel Research

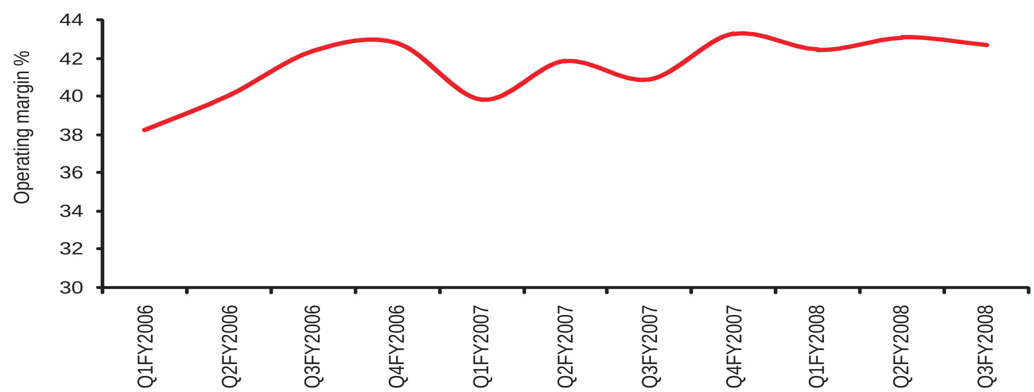
During 9MFY2008, the company procured around 1.58mmscmd gas from GAIL and BPCL. We expect the gas requirement to exceed the 2.0mmscmd mark during FY2010, but with about 2.25mmscmd firm allocation we do not foresee any supply constraints. Further, concerns regards availability of gas will partially ease by 2010 as RIL's KG basin gas will start flowing, the quantity of re-gasified LNG will increase, and production from the Western offshore fields is also set to rise. Being a priority segment, gas allocation will not be a concern. But, incremental gas is expected to be priced at market rates. Overall, we do not foresee gas supplies as a major concern for IGL, but we do expect the gas price to rise.

Key Concerns

PNGRB Regulations - No immediate impact

As of now, IGL is not likely to get impacted by the proposed cap on RoCEs by the PNGRB Regulator. IGL procures gas from GAIL at APM prices and sells CNG and PNG at market rates, which fetches it healthy Operating Margins of 40-42%. IGL has been reporting average RoCE (pre-Tax) in the range of 38-40% (inclusive of marketing margins), which are very high. Current regulations put a cap of 21.2% pre-Tax RoCE on its infrastructure network (pipelines, CNG stations). But, the company is free to charge marketing margin to its customers.

Exhibit 5: Quarterly OPM Trend



Source: Company, Angel Research

IGL has been consistently fetching over 40-42% OPMs over the past several quarters while the competitors have been clocking over 19-20% OPMs. Since the company is free to charge marketing margins, we believe there will be no immediate impact on the company's overall Margins. Although this is not an immediate concern, we believe that the Regulator is likely to put some cap on the marketing margins in the future and which may hit IGL's OPMs.

PNGRB authorisation may delay expansion initiatives

As per the PNGRB regulations, it is mandatory to take authorisation from the Regulator for any new initiatives. The company has chalked out plans to enter the Greater Noda, Gaziabad, Panipat and Sonipat regions. But with the PNGRB directive of seeking authorisation before entering any new geography may delay these expansion initiatives.

Outlook and Valuation

IGL is expected to register healthy volume growth in its CNG segment over the next couple of years on the back of the upcoming Commonwealth Games in 2010. The number of PNG consumers has also grown significantly over the past couple of years, and is expected to report healthy addition over the next 2-3 years also owing to geographical expansion. We believe the PNGRB regulations putting a cap on RoCE will not materially impact IGL's Earnings in the near term. Although IGL is free to charge marketing margins, we are little skeptical over the high OPMs and blended RoCE it is commanding. **Hence, we remain Neutral on the stock.**

Profit & Loss Statement

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Net Sales	**614.1**	**704.0**	**791.3**	**909.7**
% chg	*17.9*	*14.6*	*12.4*	*15.0*
COGS	267.7	300.9	350.7	406.4
Total operating expenditure	358.1	403.2	465.7	536.9
EBITDA	**256.0**	**300.8**	**325.7**	**372.8**
EBITDA Margin (%)	*41.7*	*42.7*	*41.2*	*41.0*
Other Income	10.2	20.0	20.0	27.5
Depreciation & Amortisation	59.8	63.8	80.5	90.0
Interest	0.8	0.0	0.0	0.0
PBT	**205.6**	**257.1**	**265.2**	**310.3**
PBT Margin (%)	*32.9*	*35.5*	*32.7*	*33.1*
Total Tax	67.4	85.7	90.2	105.5
% of PBT	*32.8*	*33.3*	*34.0*	*34.0*
FBT	0.2	0.3	0.4	0.6
PAT	**138.0**	**171.2**	**174.6**	**204.2**
Extraordinary Items	0.0	0.0	0.0	0.0
Adj. PAT	**138.0**	**171.2**	**174.6**	**204.2**
% chg	*29.7*	*24.1*	*2.0*	*17.0*

Balance Sheet

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
SOURCES OF FUNDS				
Equity Share Capital	140.0	140.0	140.0	140.0
Reserves & Surplus	327.5	441.9	551.6	682.8
Shareholder's Funds	**467.5**	**581.9**	**691.6**	**822.8**
Total Loans	0.0	5.0	5.0	5.0
Deferred Tax Liability	30.2	28.2	28.2	28.2
Deposits from customers	5.4	5.4	5.4	5.4
Total Liabilities	**503.1**	**620.5**	**730.3**	**861.5**
APPLICATION OF FUNDS				
Gross Block	613.1	739.1	879.1	1019.1
Less: Accu. Depreciation	249.7	313.5	394.0	484.0
Net Block	**363.4**	**425.7**	**485.2**	**535.2**
Capital Work-in-Progress	31.0	40.0	40.0	40.0
Investments	**127.6**	**127.6**	**127.6**	**127.6**
Current Assets	106.1	164.7	239.0	342.3
Current Liabilities	125.1	137.5	161.5	183.6
Net Current Assets	**(19.0)**	**27.2**	**77.5**	**158.7**
Total Assets	**503.1**	**620.5**	**730.3**	**861.5**

Cash Flow Statement

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Profit Before Tax	205.6	257.1	265.2	310.3
Depreciation	59.8	63.8	80.5	90.0
(Inc.)/ Dec. in Working Capital	28.7	4.1	15.0	12.4
Direct taxes paid	(72.6)	(87.9)	(90.6)	(106.1)
Cash Flow from Operations	**221.5**	**237.1**	**270.1**	**306.6**
Inc./ (Dec.) in Fixed Assets	58.5	135.0	140.0	140.0
Free Cash Flow	**163.0**	**102.1**	**130.1**	**166.6**
Inc./ (Dec.) in Investments	85.1	0.0	0.0	0.0
Issue of equity	0.0	0.0	0.0	0.0
Inc./(Dec.) in loans	0.0	5.0	0.0	0.0
Dividend paid (incl. tax)	49.1	56.8	64.9	73.0
Others	0.7	0.0	0.0	0.0
Cash Flow from Financing	**(133.6)**	**(51.8)**	**(64.9)**	**(73.0)**
Inc./(Dec.) in Cash	29.4	50.3	65.2	93.6
Opening Cash balances	11.0	40.4	90.8	156.0
Closing Cash balances	40.4	90.8	156.0	249.6

Key Ratios

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Per Share Data(Rs)				
EPS	9.9	12.2	12.5	14.6
Cash EPS	14.1	16.8	18.2	21.0
DPS	2.5	3.0	3.5	4.0
BookValue	33.4	41.6	49.4	58.8
Operating Ratios (%)				
Inventory (days)	28.0	28.7	29.3	30.0
Debtors (days)	11.0	12.3	13.0	13.0
Debt / Equity (x)	0.0	0.0	0.0	0.0
Return Ratios (%)				
ARoNW	32.6	32.6	27.4	27.0
ARoCE	42.6	42.2	36.3	35.5
Dividend Payout	30.4	28.6	32.1	30.9
Valuation Ratios (x)				
P/E (x)	12.3	9.9	9.8	8.3
P/CashEPS (x)	8.6	7.2	6.7	5.8
P/BV (x)	3.6	2.9	2.5	2.1
EV/Total Sales (x)	2.7	2.3	2.0	1.6
EV/EBITDA (x)	6.5	5.4	4.8	3.9

BUY

Price	**Rs76**
Target Price	**Rs90**
Investment Period	**12 Months**

Stock Info

Sector	Gas
Market Cap (Rs cr)	5,674
Beta	1.2
52 Week High / Low	122/45
Avg Daily Volume	2327715
Face Value (Rs)	10

BSE Sensex	16,737
Nifty	4,983

BSE Code	532522
NSE Code	PETRONET
Reuters Code	PLNG.BO
Bloomberg Code	PLNG IN

Shareholding Pattern (%)	
Promoters	50.0
MF / Banks / Indian FIs	1.6
FII / NRIs / OCBs	20.4
Indian Public / Others	28.0

Abs.	3m	1yr	3yr
Sensex (%)	(4.2)	21.4	158.2
Petronet (%)	1.5	68.3	88.0

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Time to Refill

Petronet LNG, the sole Indian re-gasification player, is slated to expand its LNG re-gasification capacity three-folds by 2012. Demand for LNG is expected to rise owing to the soaring crude oil prices and Petronet is all geared up to take advantage of the favourable situation. Growth is expected to arise from higher volumes including high-Margin spot volumes. Apart from the legacy re-gasification business, Petronet's diversification move is likely to create value in the future. We remain positive on LNG's growth prospects as it would be the key beneficiary in India. The stock is currently available at 9.8x FY2010E EPS of Rs7.7. Based on our DCF valuation, ***we upgrade the stock to Buy, with a Target Price of Rs90.***

- **Re-gasification capacity to expand substantially:** The Dahej terminal, which commenced operations at an initial capacity of 5.0mmtpa, has been de-bottlenecked and is currently running at 6.5mmtpa. Petronet is further expanding capacity of this unit to 12.5mmtpa in a phased manner. The expanded capacity will help Petronet process higher LNG volumes including high-Margin spot volumes.

- **Re-gasification Margins to remain firm:** Petronet's LNG re-gasification Margins are safeguarded by a five per cent escalation per year clause. During January, the company increased its re-gasification Margins by 5% to Rs28.8/mmbtu. Apart from long-term contracted supplies, the company is sourcing Spot cargoes from the market, which is expected to continue going forward as well. The company also clocks decent marketing margins on Spot volumes, which in turn boosts overall Margins of the company. We expect Petronet's LNG processing volumes to clock a CAGR of over 15% over the next couple of years. This steady growth in LNG volumes will in turn help keep OPMs stable.

- **Diversification to create Value:** Apart from augmenting its LNG re-gasification capacity, Petronet plans to diversify into power generation, port development, LNG truck loading facility and a second LNG jetty at Dahej. These initiatives, though still at a nascent stage, are expected to create value for the company over a period of time.

Key Financials

Y/E March (Rs cr)	FY2007	FY2008E	FY2009E	FY2010E
Net Sales	**5,509**	**6,555**	**8,605**	**10,320**
% chg	*43.6*	*19.0*	*31.3*	*19.9*
Net Profit	**313.3**	**474.7**	**551.3**	**578.8**
% chg	*60.7*	*51.5*	*16.1*	*5.0*
EPS (Rs)	**4.2**	**6.3**	**7.4**	**7.7**
EBITDA Margin (%)	11.8	13.2	12.2	11.9
P/E (x)	18.1	12.0	10.3	9.8
ARoE (%)	26.7	32.8	30.2	25.6
ARoCE (%)	11.0	12.8	11.3	11.0
P/BV (x)	4.4	3.5	2.8	2.3
EV/ Sales (x)	1.2	1.0	0.8	0.6
EV/ EBITDA (x)	10.4	7.6	6.8	5.4

Source: Company, Angel Research

Investment Argument

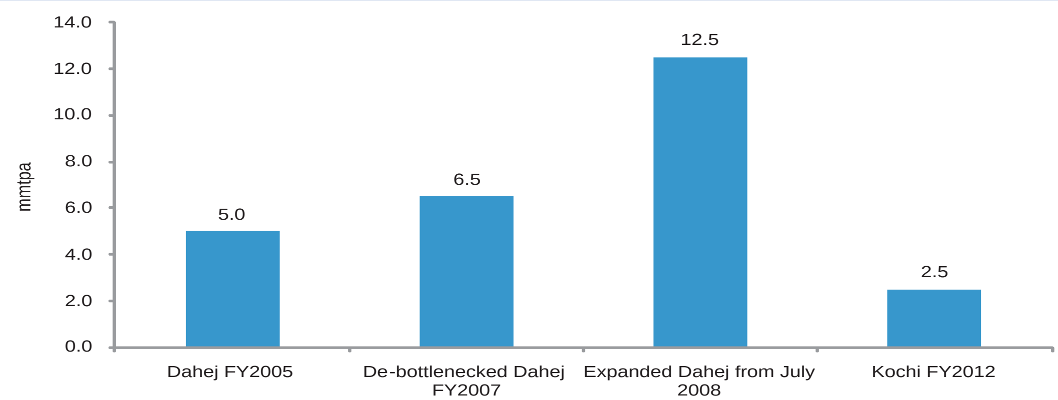
Petronet has been promoted by GAIL, BPCL, IOC and ONGC each holding 12.5% each. It is a LNG Regasification company with 6.5mmtpa Regasification capacity located at Dahej. The company is expanding its Dahej Regasification capacity to 12.5mmtpa in a phased manner along with setting up green-field capacity of 2.5mmtpa (expandable to 5.0mmtpa) at Kochi. Petronet is also diversifying into Power Generation, Solid Cargo Port and LNG truck loading facility. Being a Regasification player it is not subjected to the vagaries of natural gas prices.

Re-gasification capacity to expand substantially

Petronet is currently running at 6.5mmtpa and is further expanding capacity to 12.5mmtpa in a phased manner

The Dahej terminal, which commenced operations at an initial capacity of 5.0mmtpa, has been de-bottlenecked and is currently running at 6.5mmtpa. Petronet is further expanding capacity to 12.5mmtpa in a phased manner. The expansions are slated to come on stream July 2008 onwards. Total investment for the expansion is envisaged at Rs1,600cr, which is being funded through a mix of Debt and Equity (in 77:23 ratio). Petronet is currently sourcing 5.0mmtpa LNG from RasGas, Qatar through a 25-year long-term contact. It is also sourcing 1.5mmtpa LNG through a short-term contract executable till September 2009. This additional quantity is dedicated for Ratnagiri Gas and Power Pvt. Ltd. (RGPPL), Dabhol. Petronet had earlier secured 2.5mmtpa LNG for its Kochi terminal also, but since this terminal is delayed, this LNG would be diverted to Dahej. The 2.5mmtpa long-term LNG supplies are expected to commence October 2009 onwards. The expanded capacity will help Petronet process higher LNG volumes including high Margin spot volumes.

Exhibit 1: Re-gasification capacity (mmtpa)



Source: Company, Angel Research

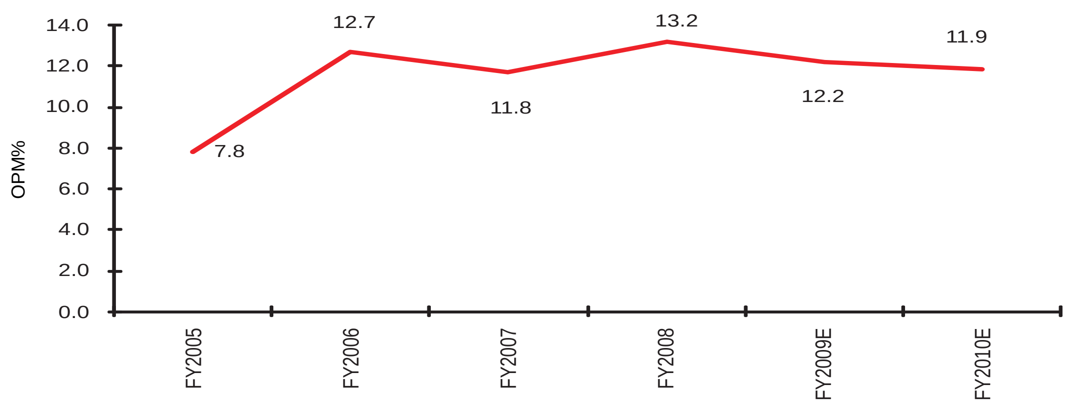
Work on Kochi LNG terminal has been delayed primarily pending environment clearances from the state, etc., and is now expected to commence operations from 1QCY2012 onwards. Petronet is aggressively hunting for long-term LNG for this terminal and is in advance talks with the Exxon's share in the Australian Gorgon project. It is also negotiating with the Algerian LNG player, Sonatrach, for long term LNG supplies.

Re-gasification margins to remain firm

Petronet's LNG Re-gasification Margins are safeguarded by a five per cent escalation per year clause

Petronet's LNG Re-gasification Margins are safeguarded by a five per cent escalation per year clause. During January, the company increased its Re-gasification Margins by 5% to Rs28.8/ mmbtu. It is also clocking decent marketing margin on RGPPL sales. We believe that the company will freeze its Re-gasification margins over the next couple of years and will focus only on volume growth thereafter. Also, it is difficult to book the entire capacity through long-term contracts hence there will always be some spare capacity available which will be utilised for processing spot volumes. The company clocks decent marketing margins on spot volumes too, which boosts overall Margins of the company.

Exhibit 2: Operating Margins Trend



Source: Company, Angel Research

During FY2008, Petronet processed 6.2mmt (5.5mmt) of LNG, yoy higher by 13.5%. The 1.5mmtpa RGPPL supplies are expected to continue till September 2009 post which the 2.5mmtpa contracted supplies from RasGas, Qatar will commence. The company is sourcing Spot cargoes from the market, which is expected to continue going forward as well. Hence, we expect Petronet's LNG processing volumes to clock a CAGR of over 15% over the next couple of years. This steady growth in LNG volumes will in turn help keep OPMs stable.

Diversification to create value

Apart from augmenting its LNG re-gasification capacity, Petronet is planning to diversify into power generation, port development, etc. These initiatives, though still at a nascent stage, are expected to create value for the company over a period of time. The new initiatives planned include:

- ✓ 1,200MW gas-based Power Plant
- ✓ Solid Cargo Port at Dahej
- ✓ LNG Truck loading facility
- ✓ Second LNG Jetty at Dahej

Apart from augmenting its LNG re-gasification capacity, Petronet is planning to diversify into power generation, port development, etc

1,200MW Power Plant: Petronet has received in-principle approval from the Board for setting up a 1,200MW gas-based power plant at Dahej at a total investment of Rs3,000cr (approx. US $750mn). Petronet expects to achieve 10% higher energy efficiency arising out of harnessing cold energy of LNG. The project is however, still at a nascent stage. Currently, Petronet is scouting for long-term LNG for this project as well without which the project would not be feasible.

Solid Cargo Port at Dahej: Petronet has formed a 50:50 joint venture (JV) with the Adani group to execute a Solid Cargo Project at Dahej. The port will be executed in two phases with a capacity of 18mmtpa of cargoes per year. Total investment for the project is estimated at Rs1,150cr, which would be funded through a mix of Debt and Equity (70:30). First phase is scheduled to commence operations by November 2009 and the second phase by September 2010. We have not factored in any revenues from this project in our estimates.

LNG Truck loading facility: Petronet would be commissioning a Truck loading facility at Dahej in August 2009 as a pilot project. Currently, the company is supplying LNG through truck loading to 2 customers each in Gujarat and Maharashtra. The facility can handle over 2,500 loadings per year and is currently loading 2-3 trucks per day. Several customers have approached Petronet for offtake of LNG in liquid form for industrial and city gas use.

Second LNG Jetty at Dahej: Petronet proposes to have another jetty at Dahej with capacity to handle 12.5mmtpa LNG.

All these projects are still at a nascent stage but hold good potential for the company in the future. The Solid Cargo port will kick-start next year while the others follow subsequently. We expect such diversification moves to favour Petronet in the longer term.

Key Concerns

Scarce LNG supplies

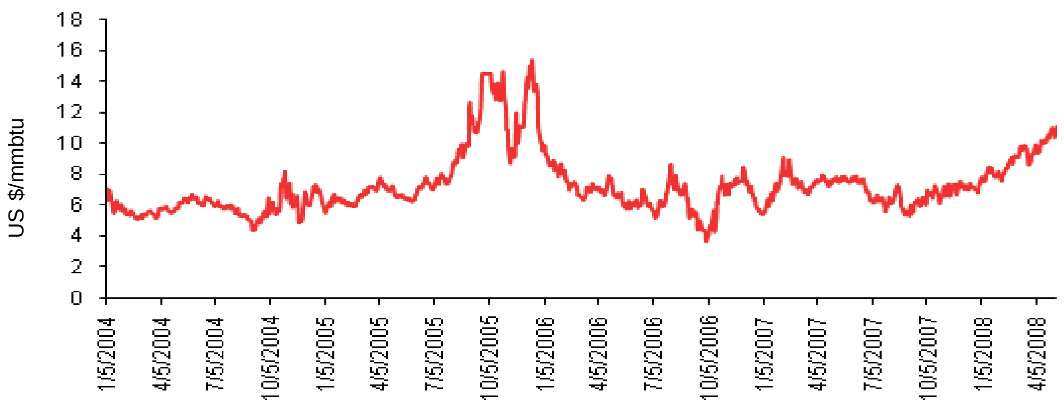
LNG being a cheaper substitute for crude oil has developed a huge demand across the globe. But, the world is currently facing big concerns over availability of LNG and is primarily available with the Middle East nations like Algeria, Qatar, Iran etc. Since, the newer supplies are expected to hit the market only after 2012, the current LNG market is pretty tight. This has resulted in Spot LNG prices surging and touched US $17-18/mmbtu.

Petronet has been vying for long-term LNG supplies since the past couple of years for its expanded Dahej terminal and for its Kochi terminal (supplies of which are diverted to Dahej). The company was able to get only 1.5mmtpa of short-term supplies from RasGas, Qatar for the RGPPL plant till September 2009. We believe that Petronet will be able to secure some long-term supplies for its Kochi terminal as it is aggressively looking at tapping Exxon Mobil's share in the Australian Gorgon project and also Algerian supplies.

Escalating Natural gas prices

The Henry Hub natural gas prices have been volatile over the past couple of years, which are currently hovering at about US $10/ mmbtu. The Spot LNG prices are currently hovering at about US $15/mmbtu and during 4QFY2008 Petronet purchased one such high price Spot cargoes. Rising LNG prices may put some pressure on the demand from consumers. Even the long-term contracted prices have shot up significantly and consumers are contracting long-term LNG supplies even at US $10/mmbtu.

Exhibit 3: Henry Hub Natural gas prices



Source: Bloomberg, Angel Research

Natural gas prices have shot up in tandem with the sharp rise in crude oil prices, and this is likely to continue. But, with natural gas being a cost-competitive substitute for crude oil, the demand for it will not subside.

Outlook and Valuation

Dahej expansion to 12.5mmtpa (current 6.5mmtpa) is slated to come on stream July onwards in a phased manner. Expanded capacity will help Petronet process more Spot volumes till the 2.5mmtpa contracted supplies from Qatar commence October 2009 onwards. For the next 2-3 years, growth will primarily be driven by Spot LNG and the expanded capacity will benefit from the situation.

The company is now also diversifying into different segments like power, port development, etc., which is expected to generate value over a period of time. We have valued Petronet on DCF methodology with a Cost of Equity of 15.2% (high as it is a high beta stock), Cost of Debt - 10% and WACC - 9.2%. The stock is currently available at 9.8x FY2010E EPS of Rs7.7. **Based on our DCF valuation model, we upgrade the stock to a Buy, with a Target Price of Rs90.**

Profit & Loss Statement

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Net Sales	**5,509**	**6,555**	**8,605**	**10,320**
% chg	*43.6*	*19.0*	*31.3*	*19.9*
COGS	4,746	5,566	7,402	8,916
Total Operating Expenditure	4,861	5,689	7,553	9,097
EBITDA	**648**	**866**	**1,052**	**1,224**
EBITDA Margin (%)	*11.8*	*13.2*	*12.2*	*11.9*
Other Income	37	54	40	35
Depreciation & Amortisation	102	102	124	187
Interest	107	102	131	193
PBT	**476**	**715**	**837**	**879**
PBT Margin (%)	*8.6*	*10.8*	*9.7*	*8.5*
Total Tax	162	240	285	299
% of PBT	*34.0*	*33.6*	*34.0*	*34.0*
FBT	0.6	0.5	1.1	1.3
PAT	**313**	**475**	**551**	**579**
Extraordinary Items	0	0	0	0
Adj. PAT	**313**	**475**	**551**	**579**
% chg	*60.7*	*51.5*	*16.1*	*5.0*

Balance Sheet

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
SOURCES OF FUNDS				
Equity Share Capital	750	750	750	750
Reserves & Surplus	526	869	1,288	1,735
Shareholder's Funds	**1,276**	**1,619**	**2,038**	**2,485**
Total Loans	1,383	1,577	2,428	2,277
Deferred Tax Liability	247	225	225	225
Total Liabilities	**2,906**	**3,421**	**4,692**	**4,988**
APPLICATION OF FUNDS				
Gross Block	1,946	1,974	3,587	3,594
Less: Accu. Depreciation	302	404	528	715
Net Block	**1,644**	**1,571**	**3,059**	**2,880**
Capital Work-in-Progress	483	480	5	5
Investments	**278**	**547**	**547**	**547**
Current Assets	1,088	1,183	1,466	1,961
Current Liabilities	588	360	385	405
Net Current Assets	**501**	**823**	**1,081**	**1,556**
Total Assets	**2,906**	**3,421**	**4,692**	**4,988**

Cash Flow Statement

Rs crore

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Profit before tax	476	715	837	879
Depreciation	102	102	124	187
(Inc.)/ Dec. in Working Capital	(13)	(11)	(10)	(53)
Direct taxes paid	(1)	(219)	(286)	(300)
Cash Flow from Operations	**564**	**587**	**665**	**713**
Inc./ (Dec.) in Fixed Assets	366	26	1,138	8
Free Cash Flow	**197**	**562**	**(472)**	**706**
Inc./ (Dec.) in Investments	121	269	0	0
Issue of equity	0	0	0	0
Inc./(Dec.) in loans	123	194	851	(151)
Dividend paid (Incl. tax)	0	110	132	132
Others	(109.8)	(65.9)	0.0	0.0
Cash Flow from Financing	**(107.6)**	**(250.8)**	**719.8**	**(282.7)**
Inc./(Dec.) in Cash	90	311	248	423
Opening Cash balances	251	340	652	899
Closing Cash balances	340	652	899	1,322

Key Ratios

Y/E March	FY2007	FY2008E	FY2009E	FY2010E
Per Share Data(Rs)				
EPS	4.2	6.3	7.4	7.7
Cash EPS	5.5	7.7	9.0	10.2
DPS	1.3	1.5	1.5	1.5
BookValue	17.0	21.6	27.2	33.1
Operating Ratios (%)				
Inventory (days)	15.9	8.6	7.1	7.2
Debtors (days)	21.6	10.6	9.0	8.9
Debt / Equity (x)	1.1	1.0	1.2	0.9
Return Ratios (%)				
ARoNW	26.7	32.8	30.2	25.6
ARoCE	11.0	12.8	11.3	11.0
Dividend Payout	29.9	23.7	20.4	19.4
Valuation Ratios (x)				
P/E (x)	18.1	12.0	10.3	9.8
P/CashEPS (x)	13.7	9.8	8.4	7.4
P/BV (x)	4.4	3.5	2.8	2.3
EV/Total Sales (x)	1.2	1.0	0.8	0.6
EV/EBITDA (x)	10.4	7.6	6.8	5.4

Glossary

APM = Administered Price Mechanism

bcf = Billion Cubic Feet

bcm = Billion Cubic Metre

BP = British Petroleum

CGD = City Gas Distribution

CNG = Compressed Natural Gas

IEA = International Energy Agency

KG = Krishna Godavari

LNG = Liquefied Natural Gas

mmbtu = Million British Thermal Unit

mmscm = Million Standard Cubic Metre

mmscd = Million Standard Cubic Metre per Day

mmt = Million Tonnes

mmtpa = Million Tonnes per annum

MoPNG = Ministry of Petroleum & Natural Gas

mtoe = Million Tonnes of Oil Equivalent

NELP = New Exploration Licensing Policy

NOCs = National Oil Companies

OECD = Organisation for Economic Co-operation & Development

PMT = Panna-Mukta and Tapti

PNG = Piped Natural Gas

RGPPL = Ratnagiri Gas & Power Pvt. Ltd.

RLNG = Regasified LNG

tcm = Trillion Cubic Metre

Conversion Factors

Crude Oil

1 metric tonne	= 7.33 barrels
	= 1.165 cubic metres (kilolitres)
	= 1,111 cubic metres Natural Gas
	= 39,200 cubic feet Natural Gas
	= 0.805 tonnes LNG
	= 4,04,00,000 btu

Natural Gas

1bcm	= 35.3bcf
	= 0.73mmt LNG
	= 36 trillion btu
	= 0.90mtoe
	= 6.29mboe

CNG

1kg	= 1.244scm Natural Gas
	= 1.391 litres of Petrol
	= 1.399 litres of HSD

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Ratings (Returns) :	Buy (Upside > 15%)	Accumulate (Upside upto 15%)	Neutral (5 to -5%)
	Reduce (Downside upto 15%)	Sell (Downside > 15%)	

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