

Indian City Gas Sector

19 August 2019

Sector

Transition to open access may cap city gas companies' valuations

Initiating on Mahanagar Gas with Sell; Downgrading IGL from Buy to Accumulate

We are taking a negative stance on the Indian city gas sector, as it enters a transition phase that will bring current networks in Delhi and Mumbai under open access subject to regulated tariff, even as end-consumer prices of compressed natural gas (CNG) and piped gas (PNG) are left free. Given the risk of tempered earnings and returns under the regulated tariff regime post open access (once marketing exclusivity ends), we are downgrading Indraprastha Gas (IGL) from Buy to Accumulate with our DCF-based TP of Rs320 (-2.6% from CMP) estimated using our regulated tariff model (RTM). We also initiate coverage on Mumbai-based city gas distributor Mahanagar Gas (MGL) with a Sell rating with our DCF-based TP of Rs702 derived using our RTM. Our key concerns on MGL include (i) limited space for expanding its infrastructure further in Mumbai, where MGL also faces the prospect of its infrastructure exclusivity ending by 2020 (ii) MGL owns only 30% of its 240 CNG outlets (Q1FY20) in Mumbai - the rest are located at petrol pumps operated by PSU oil companies (OMCs). This in our view leaves MGL vulnerable to losing market share post open access in Mumbai and (iii) MGL also does not have presence in markets other than Mumbai, Thane and Raigad, with Mumbai remaining the key driver. IGL on the other hand has a more robust track record with higher volume growth in CNG and PNG (10.54%/13.7% CAGR over FY15-FY19) than MGL (5.26%/6% CAGR over FY15-FY19). Further, IGL has diversified its footprint outside Delhi with 50% equity stakes in two profitable city gas entities, besides having also won 3 geographic areas (GAs) in the last bidding round. IGL also faces a lower risk of losing CNG market share vs. MGL, as the former owns a higher proportion of its CNG stations in Delhi. The city gas sector as a whole should get a fillip from (i) policy advocacy for gas - a green fuel (ii) preferential allotment of domestic gas at government price (APM gas) and (iii) clarity on regulations for city gas network tariffs post open access. These should aid growth in city gas networks in new GAs awarded by the Petroleum and Natural Gas Regulatory Board (PNGRB) in the past 10 bidding rounds.

Mahanagar Gas – Initiating with Sell with DCF-based TP of Rs702

We are initiating coverage on MGL with a Sell rating with our DCF-based TP of Rs702 (-13% downside from CMP). Our DCF model uses normal earnings for FY19-24 and our regulated tariff model for FY24-29, assuming 25% of MGL's Mumbai network comes under open access, once the regulator terminates marketing exclusivity. Our TP for MGL implies a PE of 10.7x and EV/E of 6.1x and P/BV of 2.2x on FY21E, which in our view is fair given the likely transition from a free monopoly to regulated returns post open access. Once MGL's marketing exclusivity ends, we believe that its earnings growth as well as returns are likely to be lower than in the past and as a consequence the stock's valuation multiple would also have to be lowered. Hence the Sell.

Indraprastha Gas - Downgrading from Buy to Accumulate with DCF-based TP of Rs320

We are downgrading IGL from Buy to Accumulate based on our revised earnings model and valuation methodology. Based on these changes we are cutting our TP from Rs411 (based on FY21E PE of 25x) to our DCF-based TP of Rs320. The new TP is based on our DCF model that estimates FCFF from normal earning for FY19-24 and regulated tariff model for FY24-29, assuming 25% of IGL's Delhi network comes under open access, once the regulator terminates marketing exclusivity.

We believe that IGL offers a relatively stronger city gas franchise given its higher growth rates vs. MGL. Also IGL owns close to 45% of its CNG stations vs. just 30% in the case of MGL, which make IGL less vulnerable to losing CNG market share under open access.

View : Negative

Sector: Oil & Gas		
	MGL*	IGL**
CMP Rs:	807	328
Target Price Rs:	702	320
Rating:	SELL	ACCUMULATE

*Initiating coverage; **Downgrade from BUY to ACC.

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Key Data	MGL	IGL
Current Shares O/S (mn)	98.8	700.0
Mkt Cap (Rsbn/US\$bn)	77.6/1.1	217.7/4.1
52 Wk H / L (Rs)	1,067/754	351/215
Daily Vol. (3M NSE Avg.)	405,286	2,000,428

One Year Indexed Stock Performance for MGL, IGL and NIFTY



Source: Bloomberg

Bloomberg Consensus FY21E	MGL	IGL
Revenue Rs bn	38.5	70.5
Net Profit Rs bn	6.2	11.5
EPS Rs	63.1	16.5

Company	Rating	Market cap.		CMP (Rs)	Target price (Rs)		EPS (Rs)			P/E (x)			RoE (%)		
		Rs Bn	US\$bn		price (Rs)	Down (%)	FY19	FY20E	FY21E	FY19	FY20E	FY21E	FY19	FY20E	FY21E
IGL	ACC.	217.7	4.1	328	320	(2.6)	12.03	15.63	17.58	27.3	21	18.7	21.2	21.6	22.4
MGL	SELL	77.6	1.1	807	702	(13)	55	59	65	14.59	13.61	12.33	24.3	22.8	21.9

Source: Nirmal Bang Institutional Equities Research

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Rating Rationale

Indian city gas markets are at crossroads. On the one hand the government is giving a boost to the spread of city gas infrastructure following the award of several geographical areas under the 10th CGD Bidding Round concluded by the regulator PNGRB. With the conclusion of 10th Bidding round, CGD network would be created across 402 districts spread over 27 States and Union Territories covering approx. 70% of India's population. This would lead to a 2.4x increase in the no of CNG stations from 1491 (as of 2017) to 5069, 5.6x growth in domestic PNG connections from 3.6mn to 23.9m nos. and steel pipeline by 58,177 km over the next 10 years.

On the other hand, existing incumbents, including IGL (which operates a legacy court directed city gas network in Delhi since 1997) and MGL (city gas operator in Mumbai and surrounding areas) are likely to see their networks being thrown open to third parties under regulated tariffs, as the marketing exclusivity has ended for both these companies.

Exhibit 1: GA's allocated in the 10th CGD Bidding Round

Name of Bidder	No. of Geographical Areas
Adani Gas Resources Ltd	2
Bharat Gas Resources Limited	2
Consortium of LNG Marketing Pte. Ltd. & Atlantic Gulf & Pacific Company of Manila Inc.	9
Consortium of Think Gas Investments Pte. Ltd & Think Gas Distribution Pvt. Ltd.	1
GAIL Gas Limited	4
Gujarat Gas Limited	6
Hindustan Petroleum Corporation Limited	9
Indian Oil Corporation Limited	9
Indian Oil Adani Gas Private Limited	1
Indraprastha Gas Limited	3
Rajasthan State Gas Limited	1
Torrent Gas Private Limited	3

Source: PNGRB

Exhibit 2: Year-wise phasing of the creation of infrastructure post 10th CGD round

Period	No. of PNG connections	No. of CNG stations	Pipeline Km
March 2020	-	-	2,909
March 2021	2,029,276	526	8,727
March 2022	2,029,276	526	11,635
March 2023	2,029,276	526	11,635
March 2024	2,029,276	526	5,818
March 2025	3,959,552	526	5,818
March 2026	3,959,552	526	5,818
March 2027	3,959,552	358	5,817
March 2028	99,000	22	-
March 2029	198,000	42	-
Total	20,292,760	3578	58,177

Source: PNGRB

Existing no. of PNG connections as on 2017 is 3.6mn and no. of CNG stations 1491

Implications of transition to open access once marketing exclusivity ends in Mumbai and Delhi

This implies that part of the network will be open for third parties to bring gas and sell CNG and PNG using the incumbents' infrastructure (read IGL's in Delhi and MGL's in Mumbai) after paying the tariff to be fixed by the PNGRB. The Indian watchdog is in the process of going through the modalities of public consultation to decide on the methodology for fixing the tariff for the city gas network under open access based on the 'common carrier' principle. (for details please refer Annexure 2). The regulator may adopt either of two options proposed in the consultation paper floated to get public comments (i) the cost of service method, which is based on a return on capital employed of 14% post-tax or (ii) allow the operator to fix tariff on auction method based on bids submitted by shippers of gas.

To illustrate this –

Let us assume Company 'A' has a city gas network investment of Rs1bn on capital employed and gas volume of 10mmscmd

The Company A will earn just the fixed tariff on volume or capacity earmarked for third party assumed at 2.5mmscmd equivalent to 25% of total volume or capacity. This part of the volume or network will be subject to either a regulated tariff to yield 14% RoCE post tax or the tariff may be determined based on competitive bidding among interested third parties who wish to collectively use the 25% capacity to be offered on open access post the termination of marketing exclusivity.

On the balance 7.5mmscmd Company A will be able to earn the normal unregulated margins as at present. And if Company A wants to sell more than 7.5mmscmd to meet its obligations or grow its business, it can invest in additional infrastructure subject to regulatory approval as long as at any point, the open access for 25% of capacity is made available for third parties.

This situation poses the following challenges for investors in MGL and IGL

- 1) There is now a state of fluidity as to (a) when the open access will kick in (b) what is the method to be followed for tariff calculation and (c) what will be the amount of actual network tariff under open access?
- 2) Assuming we use the cost of service method based on post-tax ROCE of 14% - we still are not in a situation to precisely predict the exact tariff because the regulator's assessment of the value of the assets that go into estimating capital employed could be lower than the book value stated in published accounts or submitted by the company. The regulator has in the past notified tariffs much below that expected by gas transportation major GAIL (Unrated).
- 3) And finally there is no clarity on the timeframe over which the regulator would announce the tariff for MGL or IGL and the effective date for such a tariff to become applicable – the latter could be a function of whether the regulator will allow an extension of the marketing exclusivity that is permissible under the PNGRB Act. In turn, the PNGRB wishes to get related issues clarified through a public consultation, including the definition of 'public interest' and other situations under which, such extension may be granted.

IGL's case is further complicated by Indian Courts questioning the powers of PNGRB

In IGL vs. PNGRB case the Supreme Court Of India in 2015 upheld the Delhi High Court's ruling quashing PNGRB's 2012 order fixing regulated tariffs and prices for CNG and PNG sold by IGL on its city gas network in Delhi, and ruled that PNGRB does not have any powers to fix either network tariffs or gas prices for IGL's network in Delhi. In 2016, PNGRB issued a fresh order on IGL, notifying that IGL's marketing exclusivity has been terminated. However, IGL has thus far maintained that this PNGRB order terminating the company's marketing exclusivity in Delhi is subject to the review of the Delhi High Court. With due respect to the powers that be, this situation gives rise to the question as to how PNGRB expects to enforce its regulated tariffs post the end of marketing exclusivity. There have been reports in the media that the government is looking into the PNGRB regulations to ensure that the regulator can enforce its policies and regulations. We along with industry and investors are awaiting clarity on this aspect in the absence of which, it is difficult to assess the exact fundamentals and risk-reward for the city gas sector, which we believe offers healthy volume growth prospects for CNG and PNG across the country.

We are taking a negative stance on incumbents MGL and IGL as regulated tariffs imply lower pricing power and hence a tempering of valuation expectations.

Much as the timeline for open access being introduced in the city gas networks of IGL and MGL remains uncertain, in our view it is only appropriate that we estimate cash flows and valuations assuming regulated tariffs for 25% of the capacity (or volumes) likely to be brought under open access. Therefore, we have estimated the free cash flow to firm (FCFF) for MGL and IGL using a DCF model over FY20-29 based on the following:

For the first five years (FY20-FY24), we assume margins under status quo i.e. free pricing, without any fixed tariffs and for the next five years (FY25-29), we estimate FCFF assuming regulated tariffs for 25% of the overall volumes. And then we estimate terminal value of the FY29 FCFF by using the formula as given below.

Terminal value $TV = \frac{FCFF_x(1+g)}{Kc-g}$ where g = terminal growth rate, kc- weighted average cost of capital

We then estimate the target Enterprise Value (EV) = PV of FCFF FY20-24 + PV of FCFF FY25-29 + PV of TV, where PV is the present value.

We use the WACC as the discount rate to estimate the PV of the FCFF in the above equation.

The target equity value of the firm is the target EV less net debt.

DCF is superior to target multiple method to value the city gas stocks

Despite the limitations of the DCF method, which depend on assumptions regarding WACC calculations and the terminal growth that can be contested, we believe this is superior to using a PE or EV/E multiple for the following reasons:

The city gas business is an annuity business that generates free cash year after year once it reaches scale and hence the DCF model is suitable to value the annuity cash flows.

The PE or EV/E multiples involve taking a call on the target multiple based on past averages. Since the business itself is undergoing a transition from free margins to a regulated model, the past multiples do not capture the likely compression in multiples under tempered and regulated earnings post open access. It is also difficult to estimate to the extent of compression in multiples (or derating). Hence, we decided to value MGL and IGL using the DCF method.

We estimate the tariffs based on cost of service method pending a final decision by the PNGRB, which is weighing this option against the one of allowing the operator to arrive at the tariff through an auction process. In our view, the auction method is unlikely to result in a tariff that will offer a return lower than that envisaged under the cost of service method (post tax ROCE of 14%) – please refer Annexure 2

Exhibit 3: Tariff calculation using Cost of Service method

Rs Mn	MGL	IGL
Post Tax ROCE (FY24)	14%	14%
Pre Tax ROCE (FY24)	21.4%	21.3%
Net Fixed Asset plus WIP FY24	24,170	35,099
Working Capital	3,702	11,140
Total Capital Employed	27,872	46,239
Pre-tax ROCE	5,977	9,856
Depreciation	2,224	3,473
Interest	3	46
EBITDA	8,204	13,375
Operating Cost	8,349	22,337
Gross Margin	16,553	35,712
VOLUMES mmscm - 100% common carrier	1,522	3,559
tariff Rs/scm	10.87	10.03
\$/mmbtu	5	4.64
Rs/mmbtu	388	357.89
25% on open access	4,138	8,928
Volume (mmscm)	380.57	889.7
tariff on volume on open access Rs/scm	10.87	10.03
PNGRB discount on tariff	-	-

Source: Nirmal Bang Institutional Equities Research

We have harmonized assumptions related to calculation of WACC using a risk free rate of 6.5%, one year stock beta and market risk premium of 5%. We have however sought to give a marginal premium to IGL by assuming a 5% terminal growth vs. 4% for MGL to estimate the terminal value, as we believe the IGL has a more diversified market and has more control over its CNG stations (50%) vs MGL (30%).

Our DCF model assuming regulated tariff as above results in an

equity value of Rs 69.3bn and valuation of Rs702/sh for MGL and equity value of Rs 223.7bn and valuation of Rs 320/sh for IGL

Exhibit 4: DCF Valuation Summary

	MGL	IGL
WACC -Cost of equity %	10.80	10.66
Terminal Multiple	3.0	4.6
Terminal Year growth %	4	5
Terminal value Rs Mn	91,428	344,465
Present value of FCFF Rs Mn	32,779	87,424
PV of terminal value Rs Mn	33,087	125,075
Enterprise Value Rs Mn	65,866	212,500
Net Debt Rs Mn	(3,487)	(11,241)
Equity Value Rs Mn	69,354	223,741
Shares outstanding Mn	99	700
Equity value Rs per share	702	320
CMP Rs	807	328
% upside/ (downside)	(13)	(2.6)

Source: Nirmal Bang Institutional Equities Research

Exhibit 5: Impact of terminal growth/WACC on DCF model (Equity Value per share in Rs) for MGL

MGL	WACC	Base case Terminal Growth (TG) 4%	Base case TG -1% = 3%	Base case TG + 1% = 5%
Base case WACC	10.8	702	657	763
Base case WACC+1%	11.8	620	588	662
Base case WACC -1%	9.8	812	746	905

IGL	WACC	Base case Terminal Growth(TG) 5%	Base case TG less 1%=4%	Base case TG+1%=6%
Base case WACC	10.7	320	291	360
Base case WACC+ 1%	11.7	272	253	298
Base case WACC-1%	9.7	382	339	448

Source: Nirmal Bang Institutional Equities Research

Exhibit 6: Impact of PNGRB fixing lower tariffs on MGL and IGL valuation

MGL	Rs/SCM	Equity value Rs per share
NB Base case tariff Rs/SCM	10.87	702
bas case less 10%	9.79	681
bas case less 20%	8.70	661
bas case less 50%	5.44	598

IGL	Rs/SCM	Equity value Rs per share
NB Base case tariff Rs/SCM	10.03	320
bas case less 10%	9.03	312
bas case less 20%	8.03	304
bas case less 50%	5.02	282

Source: Nirmal Bang Institutional Equities Research

City gas stock performance in charts

Exhibit 7: MGL and IGL stock price chart vs. Nifty

1 month 3 month 1 year

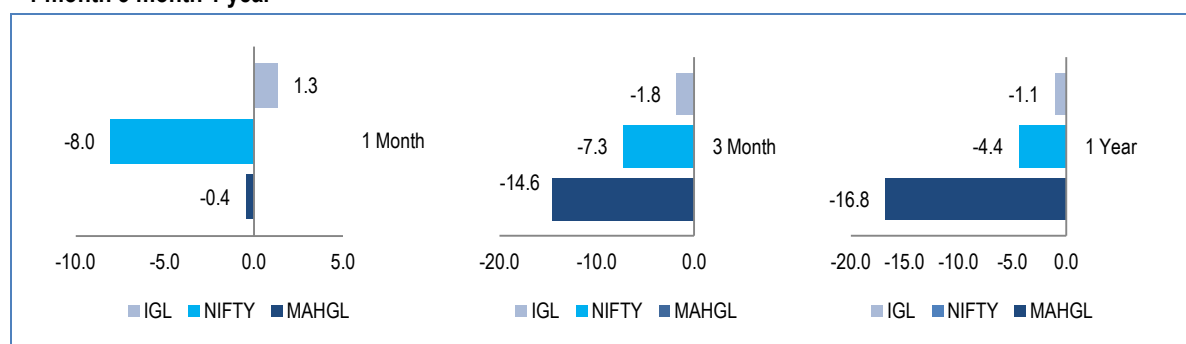
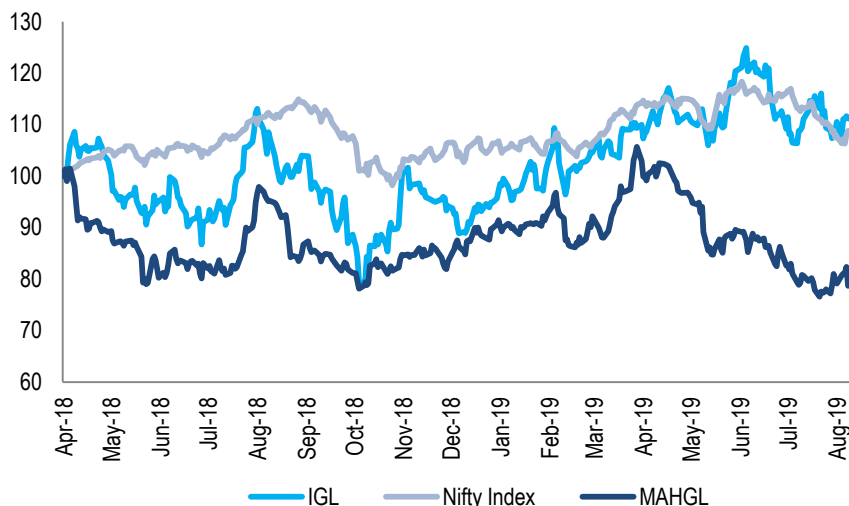
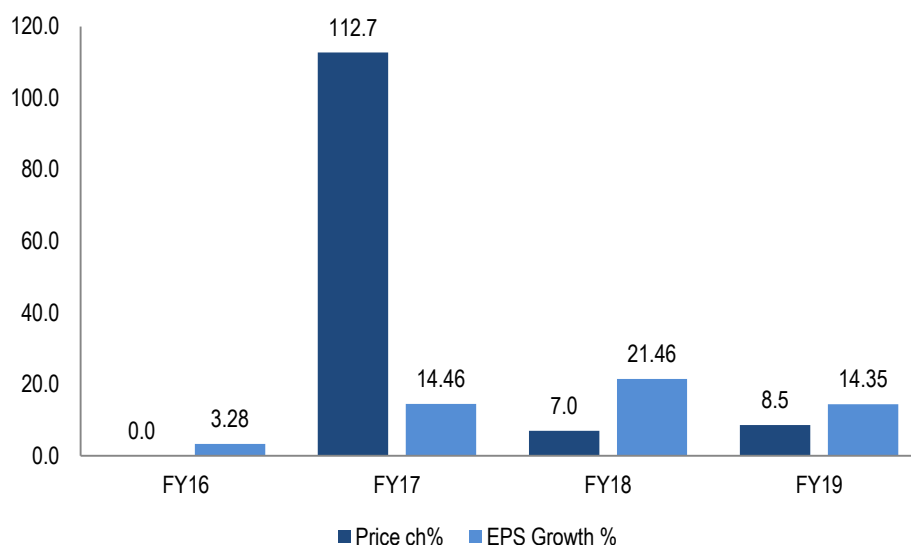


Exhibit 8: MGL IGL indexed vs. nifty -1 year chart



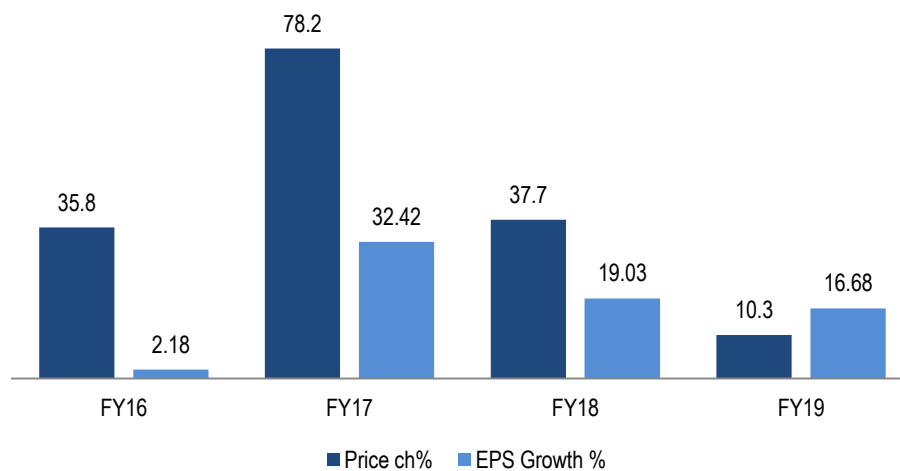
Source: Nirmal Bang Institutional Equities Research

Exhibit 9: MGL Earnings Growth % vs. Stock Price Change % trend



Source: Nirmal Bang Institutional Equities Research

Exhibit 10: IGL Earnings Growth % vs. Stock Price Change % trend



Source: Nirmal Bang Institutional Equities Research

CNG and PNG business model

The CNG and PNG business involves following:

- Creating and maintaining the pipeline network to receive gas from a nearby landfall point or trunk pipeline and
- pump gas through the network
- Set up CNG compression facilities to maintain pressure at the CNG filling stations
- Set up CNG filling stations
- Create last mile connecting pipelines linked to the network to supply PNG to B2C and B2B customers who use gas as cooking and industrial fuel or as feedstock for steam/power generation or process heat
 - a. Households – B2C: a common spur line to a housing society or township – can be existing or a new township. Usually a refundable deposit is collected for each household connection to fund the amenities like piping, metering and billing. This is collected as a connection fee as fixed by the regulator in countries like China. Each household typically draws 0.3-0.4scmd or 9-12scmd per month or 110-150 scmd/year.
 - b. Commercial–B2B: usually draw 1000-5000scmd for commercial users like restaurants, bakeries and small businesses for cooking and heating and
 - c. Industrial customers- B2B: Draw at least 50,000-100,000scmd.

City Gas Distribution (CGD) Infrastructure

CGD network

It is the interconnected network of pipelines to supply natural gas to domestic, industrial and commercial premises. Petroleum and Natural Gas Regulatory Board (PNGRB) was established by the Government in 2007 to regulate transportation, distribution and marketing of natural gas to develop the CGD network among many other functions. The CGD sector includes Compressed Natural Gas (CNG) (primarily used as auto fuel) and Piped Natural Gas (PNG) (used in domestic, commercial and industrial segments). There are 31 CGD entities operating in 81 Geographical Areas (GA) in the country. Of the natural gas available domestically, priority allocation is given to domestic PNG and CNG (transportation).

CNG Filling stations

Natural gas received from steel pipelines is compressed up to a pressure of around 250 bar and dispensed into the CNG vehicles. A typical CNG filling station comprises reciprocating compressors of a capacity of 750 or 1200 scmh, CNG storage cascades and dispensers.

Types of CNG stations:

Mother station: Connected to the natural gas pipeline and can compress natural gas for its supply to daughter booster stations through vehicle mounted cascades. These cascades are filled and then moved to daughter stations for dispensation.

Online station: These stations are similar to mother stations but are not equipped to support the mobile cascade filling facility.

Daughter booster station: Not connected to natural gas pipeline and receives natural gas through vehicle mounted cascades filled at mother stations.

The cost of gas and margins vary for each segment. The government policy gives preferential allocation of cheap domestic gas at government price (APM gas) for CNG and PNG for households. For other PNG customers, the city gas distribution company has to buy gas from other sources like JV fields (including PMT gas), or import LNG. To the extent that the cost of gas from sources other than APM is usually higher, the pricing power and margins for commercial and industrial segments tend to be relatively less under the control of the city gas company.

If there is a shortage of domestic or 'APM' gas for CNG or household PNG, the city gas company can swap gas from another source but will need to pay only the price notified for domestic gas as applicable for CNG and household segments.

Exhibit 11: Cost of Gas

Cost of Natural gas	\$/mmbtu	GCV or NCV	Price adj. to NCV \$/mmbtu
Domestic gas (APM gas)	3.69	GCV/NCV	4.059
Panna Mukta Tapti Gas	5.73	NCV	5.73
CBM	7.38	GCV/NCV	8.118
LNG SPOT -Europe/Asia	3.9-4.275	Asia	-
LNG Qatar Export	5.78	-	-
LNG Japan Import price from Qatar	8.2	-	-

Note: Notes: GCV -Gross calorific value; NCV - Net calorific value; CBM- Coal-bed Methane

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Policy support and allocation of gas at government notified price (APM gas)

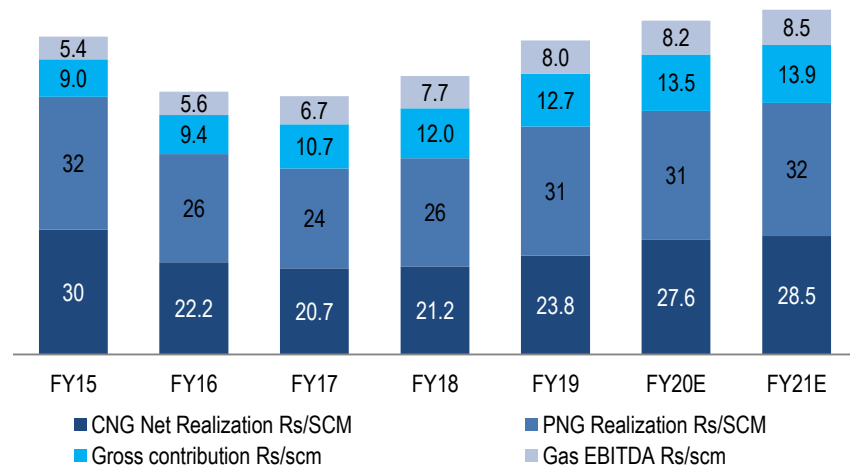
The Indian city gas companies, including MGL have a favorable policy and regulatory environment that offers the following:

1. The petroleum and natural gas regulatory board (PNGRB) oversees the legacy networks, including that of MGL and new geographical areas (GA) identified and awarded through a transparent bidding process. So far the Board has awarded 50 GAs in the last 10 bidding rounds. MGL has yet to win a new GA, but has stated its intent to bid in future rounds in order to expand its CGD footprint within and outside its current area of operation.
2. The PNGRB has laid down the city gas transportation network tariff and usage policy. According to this, the CGD company has 25 years of exclusivity on CNG and PNG transportation infrastructure and 5 years of marketing exclusivity. After this exclusivity period, third party access is allowed on city gas transportation network up to a third of the capacity and for selling city gas in the area of operation concerned.
3. The network tariff is likely to be fixed to yield a 14% ROCE if the proposed cost of service method is adopted, while marketing of city gas across CNG and PNG segments is at free pricing.
4. The government has decided to allocate all the available domestic gas at "APM" price, which is in essence government notified price (effective 2014), to meet the entire gas requirement for CNG and PNG used as cooking fuel in the home segment on a priority basis. As a result, all the Indian city gas companies, including MGL are getting the entire gas required for CNG and PNG for home segment at the APM notified rate of US\$3.69/mmbtu (gross calorific value basis). This is the equivalent of Rs 9.3/scm and supports healthy margins and returns for established CGD companies like MGL and IGL.

Please note that the actual delivered cost of this gas is in the range of Rs13-15.8/scm after adding other elements, including transportation tariff, re-gasification charges in the case of LNG, excise duty, VAT if applicable in that state of consumption and inter-state tax based on VAT applicable to natural gas in Gujarat for gas transported out of that state.

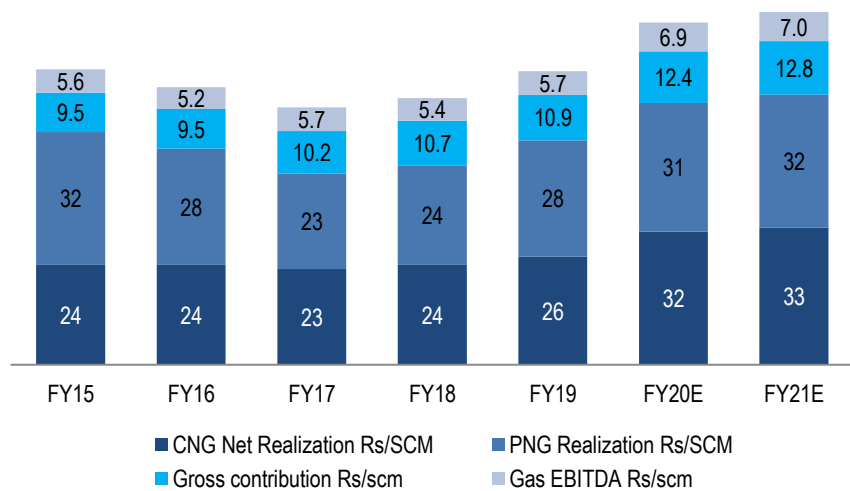
For CNG and PNG – households, as long as the retail price is fixed at a discount to competing fuels on a common denominator like running cost /km for CNG vs MS and HSD or monthly gas bill for households, the city gas company enjoys pricing power and healthy margins. Since they have been monopolies without any regulation, city gas companies like MGL and IGL have so far been able to pass on any increase in gas price, operating cost or taxes and maintain healthy returns.

Exhibit 12: CNG net realization, PNG net realization vs Gross Contribution and EBITDA /scm for MGL



Source: Company, Nirmal Bang Institutional Equities

Exhibit 13: CNG net realization, PNG net realization vs Gross Contribution and EBITDA /scm for IGL



Source: Company, Nirmal Bang Institutional Equities

High oil prices and differential taxes favor CNG and PNG

The only deterrent to excess profiteering is the fact that they are run by PSU promoters and the healthy margins in the business even when CNG is priced at -46.7% to -73.7% discount (in running cost/ km) to competing fuels like MS and HSD. And this has been possible given the increase in oil prices combined with higher taxes on competing fuels like MS and HSD.

CNG has an excise duty of 14% and no VAT in Delhi – MS has an excise duty of 19.63/lit (27% on current retail price) and VAT of 27% in Delhi HSD has an excise duty of Rs15.83/lit (24%) and VAT of 16.75%

Open access may lead to shift in market share but not lower consumer prices

The regulator's objective in introducing open access once marketing exclusivity ends is to bring in competition in the interest of consumers. In our view, open access may result in some shift in market share from the incumbents like MGL and to a lesser extent in IGL in CNG, but it is unlikely to result in lower prices considering that (a) gas is in short supply and (b) input costs and operating costs are unlikely to be significantly lower for third parties compared with that of incumbents for any meaningful competition on retail CNG or PNG prices.

Competitive value proposition of CNG and PNG relative to petroleum alternatives compelling

CNG retails at Rs51.99/KG in Mumbai while PNG sells at between 31.79/scm to 37.39/scm for the three consumption linked slabs.

At current Brent crude price of US\$61.14/bbl and petrol (MS) and diesel (HSD) retail prices, CNG is 46.7% (Mumbai) and 48.5% (Delhi) cheaper vs. petrol and 73.7% (Mumbai) and 75.3% (Delhi) cheaper vs. diesel.

Exhibit 14: CNG competitiveness in Mumbai and Delhi

Mumbai	unit	Rs/unit	Km/unit of fuel	Rs/km	Cost of CNG Vs other fuels/km (%)
CNG	kg	52.0	10	5.2	0
MS	lit	78.0	8	9.7	-46.7
HSD	lit	69.1	3.5	19.7	-73.7
Delhi	unit	Rs/unit	Km/unit of fuel	Rs/km	Cost of CNG Vs other fuels/km (%)
CNG	kg	46.6	10	4.66	0
MS	lit	72.4	8	9.05	-48.5
HSD	lit	65.9	3.5	18.8	-75.3

Source: Brent price www.macrotrends.net; Other fuel prices www.mypetrolprice.com; Note: Prices are daily spot

PNG competes with LPG in home segment and commercial and fuel oil in the industrial segment. In both cases, PNG offers a cheaper option based on our analysis:

Gradual phasing of subsidy by the Govt. will make PNG more attractive over LPG with savings up to 41% in the home segment.

Exhibit 15: PNG vs. Non Subsidized LPG

Rs/Year	No. of subsidized/Non subsidized cylinders			
	12/0	9/3	6/6	0/12
LPG	6,061	7,286	8,511	10,962
PNG	6,424	6,424	6,424	6,424
PNG vs. LPG (%)	6	-12	-25	-41

Source: MAHGL November 2018, Nirmal Bang Institutional Equities

At current PNG and commercial LPG prices, PNG offers 15% savings against commercial PNG.

Exhibit 16: Commercial PNG favorably priced vs. Alternate fuels

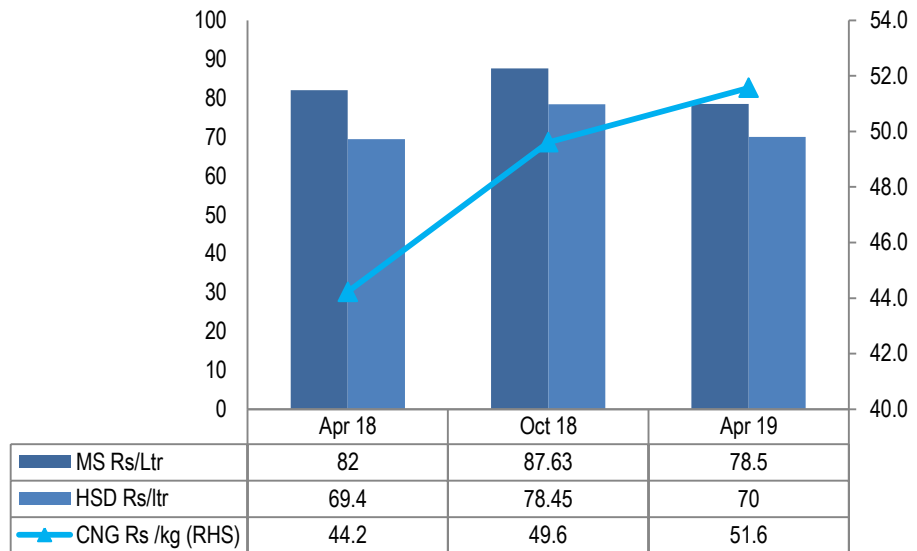
Particulars	Unit	Rs/unit	Rs/MMBTU	Cost of PNG Vs other fuels /MMBTU (%)
PNG	Rs/scm	45.06	1,336	
Commercial LPG	Rs/kg	77	1,568	-15

Source: MAHGL November 2018, Nirmal Bang Institutional Equities Research

Tailwinds from rising oil prices favoring city gas over petroleum fuels may subside

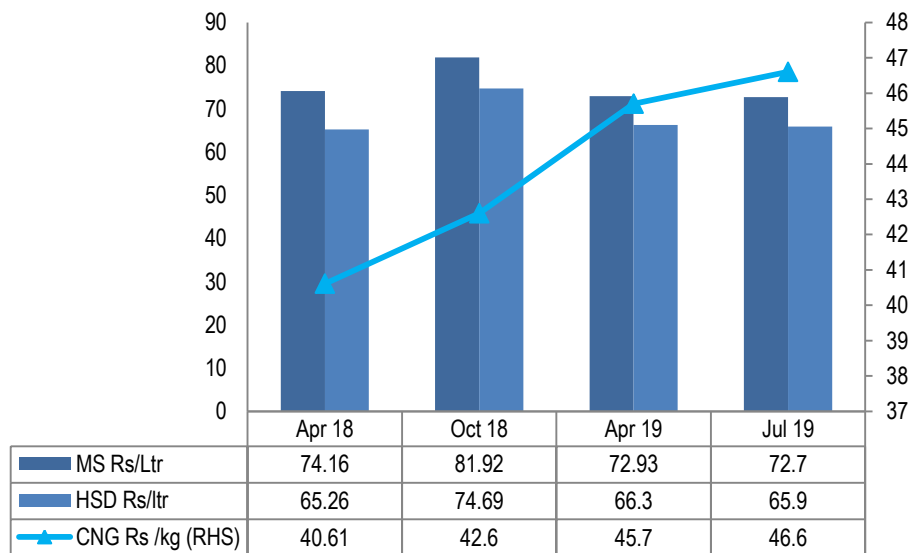
IGL and MGL have been able to increase consumer prices of CNG and PNG and sustain healthy margins against the backdrop of increasing global crude oil prices in the past 3-4 years from the lows of US\$30-35/bbl in FY08. This tailwind is likely to wane in the coming months given the subdued outlook for global oil demand and ample supplies based on data available from global oil industry watchdogs IEA and US DOE's EIA.

Exhibit 17: Indian MS HSD retail prices vs. CNG prices in Mumbai



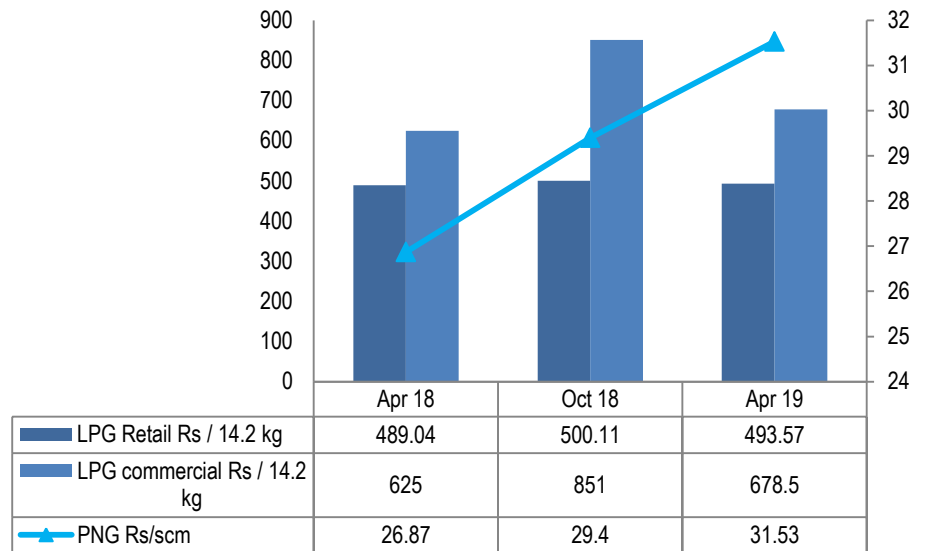
Source: IOCL, Company, Nirmal Bang Institutional Equities Research; Note: Monthly average for MS and HSD prices, CNG prices as on date

Exhibit 18: Indian MS HSD retail prices vs. CNG prices in Delhi



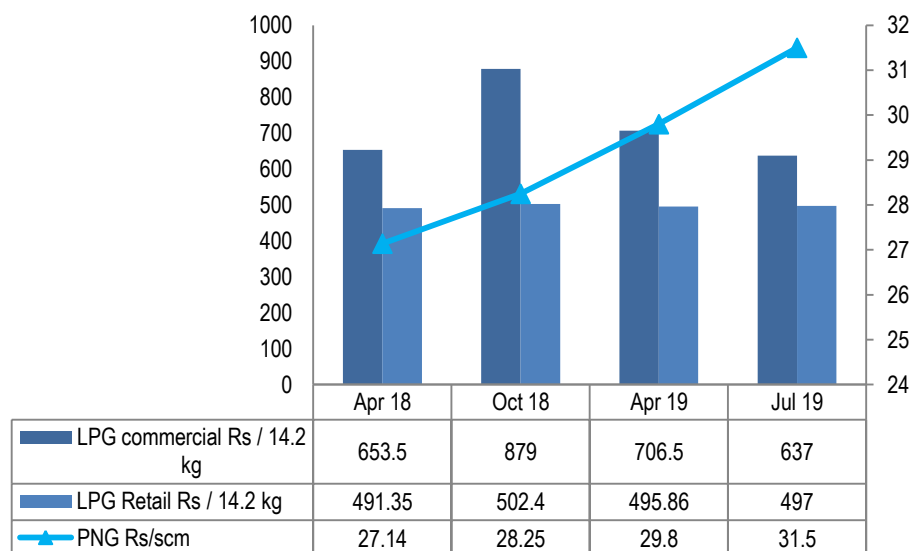
Source: IOCL, Company, Nirmal Bang Institutional Equities Research; Note: Monthly average for MS and HSD prices, CNG prices as on date

Exhibit 19: LPG prices-commercial and retail vs. PNG prices in Mumbai



Source: IOCL, Company, Nirmal Bang Institutional Equities Research; Note: 1 cylinder weighs 14.2kg

Exhibit 20: LPG prices-commercial and retail vs. PNG prices in Delhi



Source: IOCL, Company, Nirmal Bang Institutional Equities Research; Note: 1 cylinder weighs 14.2kg

In fact, we believe this is an element of commodity risk that is not yet widely recognized as this has so far been impacting only the PNG – commercial and industrial segments. If oil prices were to correct to around US\$50, we could see the city gas companies being forced to cut consumer prices, which could to some extent erode their ability to pass on inflation in input gas costs and operating expenses, which do not necessarily track global oil prices.

PNG does not offer GST input credit available for fuel oil consumers in industrial segment

In fuel oil, the industrial consumer gets input GST credit, as fuel oil is covered under GST (@ 18%), while PNG is still subject to VAT and not under GST. The industrial consumer has to forfeit the GST input credit if it switches from fuel oil to PNG. This could reduce the competitiveness of PNG as an alternative to fuel oil for industrial users, especially under falling oil prices, which will also result in lower fuel oil prices.

At current fuel oil of Rs30.08/scm, the GST credit for industrial consumers of fuel oil works out Rs4.58/scm

Potential risk of declining alternative fuel pricing reducing competitiveness of gas vs. other fuels

Indian city gas distribution companies price CNG and PNG to yield a discount to competing petroleum fuels on a common denominator. We have discussed the attractiveness of CNG and PNG vs gasoline (MS) and diesel (HSD) in the sector section under competitiveness of city gas. Similarly, for PNG the comparison is with domestic LPG for household cooking gas and with fuel oil for industrial use.

This competitiveness is a function of the Indian gas price which sets the input gas cost and the global benchmark oil prices (Brent crude), which in turn influence the petroleum fuel prices based on the spread for these fuels over Brent.

We have analyzed the impact of the relative attractiveness Indian gas vs various competing fuels under three cases - assuming Brent close to current levels at US\$60/bbl, 10% increase in Brent and 10% fall in Brent.

If Brent crude falls 10%, there is a 300bps decline in the competitiveness of gas relative to diesel, and 400bps decline in that vs petrol.

In absolute terms, the discount enjoyed by gas is still material. However, the point here is that given a certain price point for CNG and PNG, a fall in global crude oil price can lower the price of competing fuels and to that extent hurt the pricing power.

This in turn could cap margins on CNG and PNG under falling oil prices. This is a distinct possibility in the next 6 to 12 months given the weak demand outlook for oil and ample supplies as indicated by global watchdogs – IEA and the US govt.'s EIA.

Exhibit 21:

Mumbai

	Brent crude price \$/bbl				Lower crude oil price \$/bbl			
	60				50			
	Current price (Rs/unit)	Volumes (kg equivalent of CNG)	Effective price (Rs per kg of CNG equivalent)	CNG relative to alternatives premium / (discount)	Price (Rs/unit)	Volumes (kg equivalent of CNG)	Effective price (Rs per kg of CNG equivalent)	CNG relative to alternatives premium / (discount)
CNG (per kg)	51.99	1.0	51.99	-	51.99	1.0	51.99	-
Petrol (per litre)	78	0.7	109.20	(52.4)	71.74	0.7	100.44	(48.2)
Diesel (per litre)	69.1	0.8	82.92	(37.3)	62.60	0.8	75.12	(30.8)

Source: Nirmal Bang Institutional Equities Research

PNG for households

Current crude prices				
Rs /cylinder	Current price (Rs/unit)	Volumes (scm equivalent of PNG)	Effective price (Rs per kg of CNG equivalent)	CNG relative to alternatives premium / (discount)
PNG (Rs/scm)	31.53	1.0	31.53	-
492 LPG (Rs/kg)	34.65	1.3	26.18	20.4

Source: Nirmal Bang Institutional Equities Research

PNG for Commercial customers

	Brent crude prices -US\$60/bbl				\$50/bbl Brent crude oil				\$70/bbl Brent crude oil			
	Current price	Volumes	Effective price	CNG relative to alternatives	Current price	Volumes	Effective price	CNG relative to alternatives	Current price	Volumes	Effective price	CNG relative to alternatives
	(Rs/unit)	(scm equivalent of PNG)	(Rs per kg of CNG equivalent)	premium / (discount)	(Rs/unit)	(scm equivalent of PNG)	(Rs per kg of CNG equivalent)	premium / (discount)	(Rs/unit)	(scm equivalent of PNG)	(Rs per kg of CNG equivalent)	premium / (discount)
PNG (per scm)	31.53	1.0	31.53	-	31.53	1.0	31.53	-	31.53	1.0	31.53	-
LPG (per kg)	47.57	1.3	35.95	(12.3)	38.64	1.3	29.20	8.0	54.88	1.3	41.47	(24.0)
FO	27.264		27.264	15.6	22.105		22.105	42.6	31.485		31.485	0.1

Source: Nirmal Bang Institutional Equities Research

Impact of Change in Brent crude on Gas competitiveness

	Fuel-Brent spread \$/bbl	Gas relative to petroleum fuel +/-	Gas relative to petroleum fuel +/-	Gas relative to petroleum fuel +/-	Gas relative to petroleum fuel +/-
		Brent crude - \$60/bbl	Brent crude up 10%	Brent crude down 10%	Brent crude down 10% and Indian gas up 10%
Brent Crude oil		-59.4	-63.1	-54.9	-50.4
LPG	-6	-54.9	-59.41	-49.3	-44.2
Naphtha	-10	-51.3	-56.5	-44.7	-39.1
Gasoline	6	-63.1	-66.2	-59.4	-55.4
Diesel	14	-67.1	-69.6	-64.2	-60.6
Fuel oil	-10	-51.3	-56.5	-44.7	-39.1

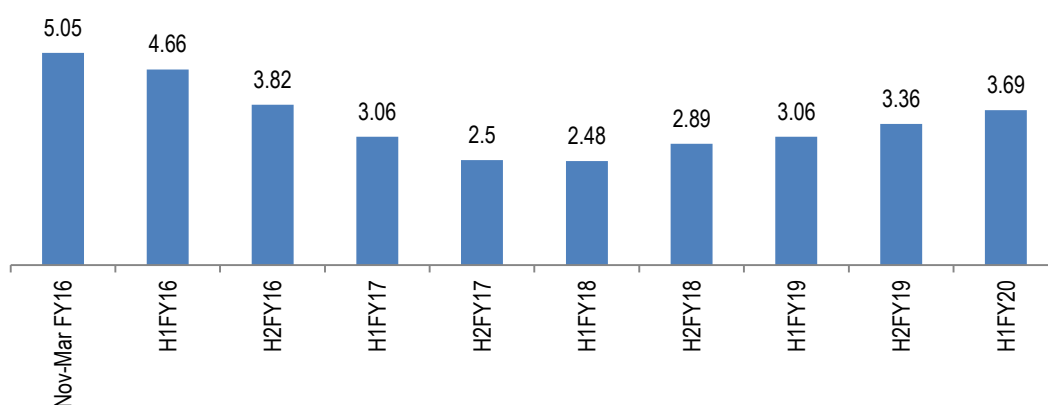
Source: Nirmal Bang Institutional Equities Research

Note: the above analysis is based on market prices without considering add-ons like duties and taxes or inland transportation. The key differentiator to this analysis is the substantial excise duty differential between gas and MS/HSD (loaded against the latter).

Potential increase in Indian gas price also poses a risk on the margin

Similarly, the price of Indian domestic gas is set based on four benchmarks - namely Henry Hub in US (daily average), Alberta Gas Price in Canada monthly average, UK National Balancing Point Price (daily average) and Russian Gas Price (monthly average). If the benchmark gas prices increase, the Indian gas price can increase. This can also dent the competitiveness of Indian gas vs petroleum fuels.

Exhibit 22: Domestic Natural Gas Price trend (GCV) in \$/mmbtu



Source: Nirmal Bang Institutional Equities Research

In the longer run of 5-10 year timeframe, given the increase in fuel switching, there could be an increase in global gas prices once the current surplus in US shale gas is absorbed. This could be accompanied by a fall in the price of auto fuels like MS and HSD due to gas and EVs taking market share from these two fuels. Such a situation could also have negative implications for the pricing power of city gas companies like MGL.

	Gas relative to petroleum fuel +/-	Gas relative to petroleum fuel +/-	Gas relative to petroleum fuel +/-
	Brent crude - \$60/bbl Gas price up 10%	Brent crude - \$60/bbl Gas up 50%	Brent crude - \$60/bbl Gas up 100%
Crude oil Brent	-55.4	-39.1	-18.8
LPG	-50.4	-32.4	-9.8
Naphtha	-46.4	-26.9	-2.6
Gasoline	-59.4	-44.7	-26.2
Diesel	-63.8	-50.6	-34.2
Fuel oil	-46.4	-26.9	-2.6

Source: Nirmal Bang Institutional Equities Research

We believe this would be mitigated by the differential taxation that already exists between city gas and petroleum fuels. And in fact differential taxation could be used by government as a policy tool of intervention to favour city gas vs. petroleum fuels even as incentives are being rolled out for electric vehicles as a zero emission option.

Exhibit 23: Indirect taxes on Gas vs. petroleum fuels

Fuel	Excise duty %	VAT %
CNG	14%	Gujarat – 15 Maharashtra –13.5 UP-5
PNG	nil	Gujarat – 6 Maharashtra – 13.5 UP -5 Delhi - Nil
MS	Rs19.63/ltr	Gujarat – 17 Maharashtra – 26 UP – 23.78 Delhi - 27
HSD	Rs15.83/ ltr	Gujarat – 17 Maharashtra – 24 UP – 14.05 Delhi – 16.75
LPG		GST - 5
Fuel oil		GST -18

Source: PPAC February 2019

Annexure -1 – Industry overview

Natural gas when burned releases up to 50% less CO₂ than coal and 20-30% less than oil, and when used in power generation, it emits as much as 50% less CO₂ than coal, according to IEA data. The global transition to clean energy makes natural gas a clean energy alternative.

Exhibit 24: Natural Gas vs. Other fuels as a cleaner fuel

fuel Emissions	LPG	Diesel	Gas
CO ₂ (Kg / MMBTU)	61.71	70.22	53.07
N ₂ O (g / MMBTU)	0.6	0.6	0.1
Methane (Kg / MMBTU)	3	3	1

Source: USEPA, Nirmal Bang Institutional Research

Four basic forms of natural gas:

Liquefied Natural Gas (LNG) - Natural gas is liquefied at (Minus) 160 degree Centigrade to facilitate transportation in large volumes in cryogenic tankers across sea. It's used as transportation fuel for road and marine transport. And now LNG is being considered for railway transport in its liquid form after a successful experimental run with CNG conducted on 21 trains. Trains running on CNG can result in 8-11% savings against diesel but the gas storage cylinders are as large as 1/3rd of a coach. LNG is preferred to CNG as it occupies less storage space and offer higher mileage for the same quantity of fuel.

Re-gasified Liquefied Natural Gas (RLNG) - Imported LNG re-gasified before transporting to consumers through pipelines used as fuel, feedstock and raw material. The re-gasified LNG is the same as the gas produced in offshore and onshore oil & gas fields – either associated or free. Please note that irrespective of the source, the gas produced in fields or LNG may initially contain mainly lean Methane gas or contain higher hydrocarbon gas fractions – ethane, propane or butane that can be extracted and used as petrochemical feedstock offering higher value.

Compressed Natural Gas (CNG) – Natural gas compressed to a pressure of 200-250 kg/cm² used as fuel for transportation.

Piped Natural Gas (PNG) – Natural gas distributed through a pipeline network to the domestic sector for cooking and heating / cooling applications.

India is the fourth largest importer of LNG after Japan, China and Korea, and imported 26.11bcm in FY18, up 6.6% yoy in FY18. Govt has allowed 100% FDI in the natural gas segment of the energy sector to reduce its dependence on imported crude oil. Prime Minister Narendra Modi has set a target to reduce dependency on imported oil by 10% by 2022.

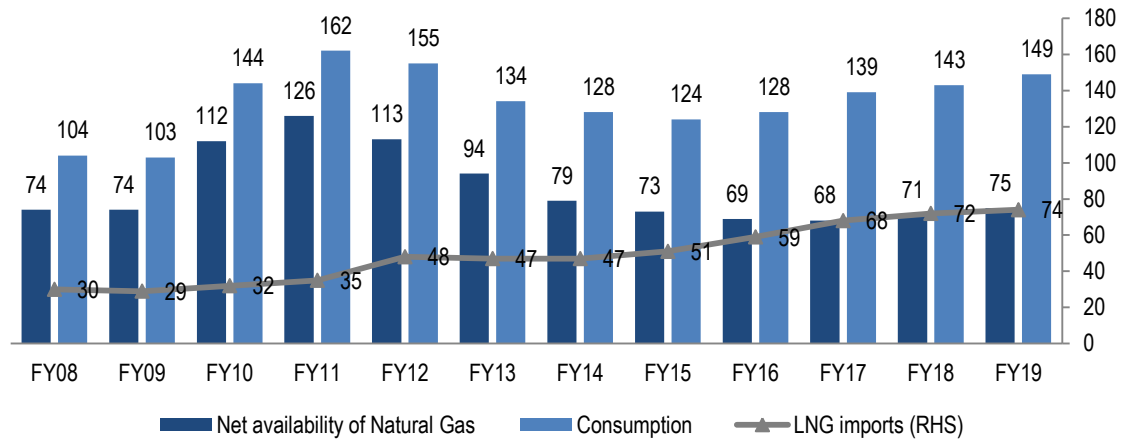
India is the third largest energy consumer in the world after US and China. It is expected that India will increase its share in global energy basket but not all the increase in demand will be satisfied from traditional fuels; share of natural gas for India is expected to go up from 6% to 15% in the coming years.

Exhibit 25: Current mix of fuel consumption across countries

Region	Oil%	Natural Gas%	Coal%	Nuclear Energy%	Hydro Electric %	Renewable %	MTOE
World	34.2	23.4	25.4	4.40	6.80	3.60	13,511
OECD	39.4	25.7	15.9	7.9	5.6	5.4	5,605
Non OECD	30.5	21.7	35.9	1.9	7.6	2.3	7,906
Asia Pacific	28.6	11.5	48.4	1.9	6.5	3	5,744
China	19.4	6.6	60.4	1.8	8.3	3.4	3,132
India	29.5	6.2	56.3	1.1	4.1	2.9	754
Bangladesh	22.7	69.4	7	-	0.6	0.3	33
Pakistan	36.1	43.3	8.8	2.2	8.7	1	81

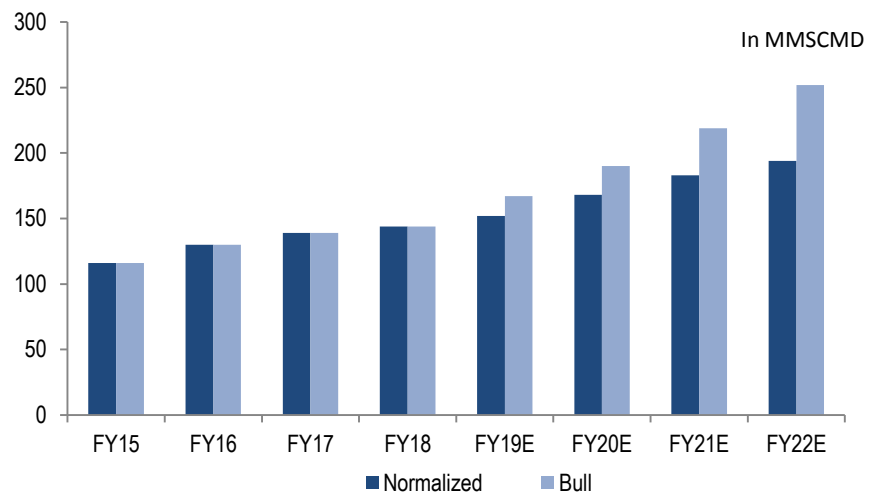
Source: BP Statistical World Energy Review, 2018; MTOE – million tonne of oil equivalent

Exhibit 26: Historical production and consumption pattern in India (MMSCMD)



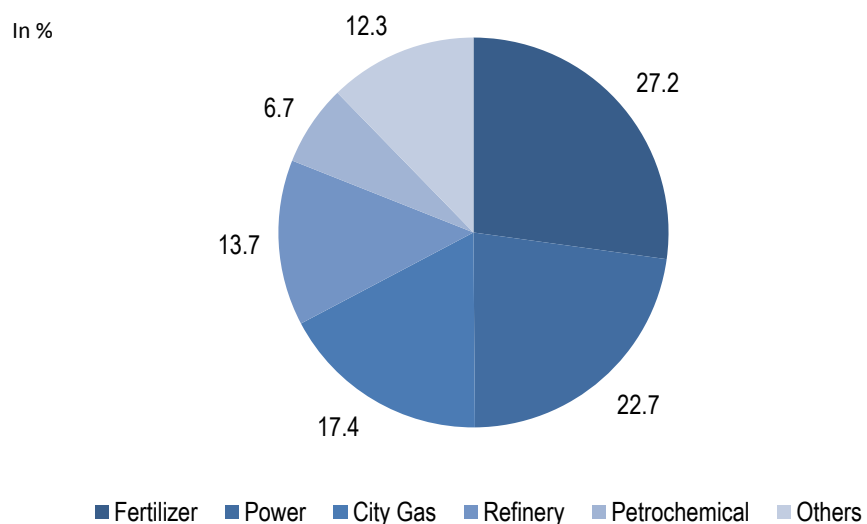
Net Availability of Domestic Gas is 18 approx. 98% of gross production; Source: PPAC

Exhibit 27: Natural gas demand in India



Source: PNGRB, PPAC, MS Research

Exhibit 28: Sectoral consumption of natural gas in May



Source: PPAC

Exhibit 29: Indian annual natural gas consumption trend across sectors- MMSCM

Sector	FY12	FY13	FY14	FY15	FY16	FY17	FY18P
Power	22,628	16,078	11,284	10,720	10,889	11,616	12,028
Industrial	284	269	156	395	401	688	873
Manufacture	30	-	105	138	144	106	126
Road Transport	-	-	66	-	-	-	1
City or Local Natural Gas Distribution Network	5,599	5,780	5,838	5,415	5,464	7,350	8,585
Tea Plantation	175	182	196	180	187	183	189
Internal Consumption for Pipeline System	385	387	372	351	410	471	496
Refinery	4,257	3,891	3,968	4,575	5,077	5,374	6,533
Miscellaneous	9,064	7,976	7,479	5,941	4,112	3,746	3,226
Fertilizer Industry	14,003	14,733	15,869	15,190	16,135	15,429	14,676
Petrochemical	1,858	2,486	2,405	2,890	3,733	4,170	4,024
Sponge Iron	1,333	1,106	274	154	544	885	1,278
LPG Shrinkage	1,068	1,027	982	1,005	754	759	798
Total Indian gas consumption/year MMSCM	60,684	53,915	48,994	46,955	47,850	50,778	52,832
Total Indian gas consumption/day- MMSCMD	166	148	134	129	131	139	145
City gas share of gas consumption %	9.23	10.72	11.92	11.53	11.42	14.47	16.25
City gas consumption growth rate Y/Y	-	16.2	11.1	-3.2	-1.0	26.8	12.3
Overall gas consumption growth – Y/Y- %	-	-11.2	-9.1	-4.2	1.9	6.1	4.0

MMSCM – million standard cubic meter; mmscmd – million standard cubic meter per day

P=Provisional

Source: Ministry of Petroleum and Natural Gas

Natural gas is primarily sourced from Mumbai Offshore, Cambay Basin, Ravva Offshore, KG Basin, Cauvery Basin and through imports of LNG. Three main companies engaged in natural gas transportation across India are GAIL, RGIL/RGPL and GSPL. Natural gas is transported by these companies to various consumption centres, including the respective CGD entities, which distribute the gas as CNG or PNG through their city gas distribution networks.

Natural gas infrastructure consists of gas gathering, processing and receiving terminals, gas pipelines, LNG terminals for import, receipt and re-gasification of imported LNG and City Gas Distribution (CGD) networks. Out of 15000km additional natural gas pipeline identified to develop CGD network, 14500 km has already been authorized for development by the PNGRB.

Exhibit 30: Existing Natural Gas Pipelines

Name of Entity	Name of pipeline	Length in KM	% share	Capacity (MMSCMD)
GAIL	HVJ-GREP-DVPL	4554	27.9	53
	GREP DVPL Upgradation	1385	8.5	54
	CJHPL	310	1.9	5
	DUPL-DPPL	928	5.7	19.9
	DBNPL	852	5.2	31
	DHABOL-BANGALORE PIPELINE	1116	6.8	16
	KKBMP	48	0.3	6
	Tripura	60	0.4	2.3
	Rajasthan	151	0.9	2.35
	Gujarat#	685	4.2	15.42
	Mumbai	131	0.8	7.03
	KG Basin (including RLNG+RIL)	884	5.4	16
	Cauvery Basin	306	1.9	8.66
Reliance	East- West Pipeline (RGTL)	1480	9.1	80
Reliance	Shahdol-Phulpur Pipeline (RGPL)	304	1.9	3.5
GSPL	GSPL network including spur lines	2692	16.5	43
AGCL/DNPL	Assam Regional Network	297	1.8	3.24
IOCL	Dadri-Panipat	140	0.9	10
Total		16,324	100.0	356

Source: PPAC Monthly Reckoner June, 2019

#GAIL's Ahmedabad, Bharuch and Vadodara pipelines have been clubbed under Gujarat network

Uran -Trombay of ONGC is for internal consumption (24km);

RLNG

India has been sourcing LNG from Qatar, which is the largest source of the material in the global LNG trade. More recently, India has added Russia, USA and Australia as additional sources of LNG imports. The import of LNG is allowed under Open General License (OGL) and the imported RLNG is being supplied at market determined prices as per supplier – buyer agreement. There are 4 LNG terminals with total re-gasification capacity of 26.3MMTPA (95MMSCMD) operating on the western coast of the country.

Exhibit 31: LNG terminals

Developers	Terminal	Capacity (MMTPA)
Petronet LNG Ltd.	Dahej	17.5
Petronet LNG Ltd.	Kochi	5
Petronet LNG Ltd.	Total	22.5
Royal Dutch Shell	Hazira	5
GAIL, NTPC	Dabhol	5
IOCL	Ennore	5
Total LNG capacity in operation		37.5
GSPC, Adani	Mundra	5
Total construction completed		
H Energy	Jaigarh	4
Adani	Dhamra	5
Total under construction		9
Total		51.5

Source: Petronet LNG Ltd. June 19

Exhibit 32: Details of CNG stations and vehicles across states in India

State	Company name	No. of CNG stations	No. of CNG vehicles
Andhra Pradesh	Bhagyanagar Gas Ltd, Godavari Gas Pvt.Ltd., Megha Engineering & Infrastructures Ltd.	44	19,794
Bihar	GAIL (India) Ltd.	2	0
Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	5	7,500
Daman and Diu	Indian Oil-Adani Gas Pvt. Ltd.	3	1,000
Delhi/NCR	Indraprastha Gas Ltd .	482	10,65,603
Gujarat & Dadra Nagar Haveli	Sabarmati Gas Ltd, Gujarat Gas Ltd, Adani Gas Ltd, Vadodara Gas Ltd,Hindustan Petroleum Corporation Ltd, Charotar Gas Sahakari Mandal Ltd,IRM Energy Ltd.	548	9,25,286
Haryana	Haryana City Gas Distribution Ltd, Adani Gas Limited,GAIL Gas Ltd.,Indraprastha Gas Ltd. , Indian Oil-Adani Gas Pvt. Ltd.	66	1,59,783
Karnataka	Gail Gas Ltd., Megha Engineering & Infrastructures Ltd.	13	1,093
Kerala	Indian Oil-Adani Gas Pvt. Ltd.	4	900
Madhya Pradesh	Aavantika Gas Ltd, GAIL Gas Ltd	43	35,996
Maharashtra	Mahanagar Gas Ltd, Maharashtra Natural Gas Ltd, Gujarat Gas Limited,Mahesh Gas Ltd, Unison Enviro Private Limited	313	9,22,439
Odisha	GAIL (India) Ltd.	6	2,640
Punjab	IRM Energy Pvt. Ltd., GSPL	6	2,202
Rajasthan	Rajasthan State Gas Limited	5	8,438
Telangana	Bhagyanagar Gas Ltd.	45	24,980
Tripura	Tripura Natural Gas Co. Ltd	9	11,688
Uttar Pradesh	GAIL Gas Ltd, Sanwariya Gas Ltd, Green Gas Ltd, Central U.P. Gas Ltd, Siti Energy Ltd, Adani Gas Ltd, Indian Oil-Adani Gas Pvt. Ltd.,Torrent Gas Pvt Ltd., GAIL (India) Ltd.	128	1,54,091
Uttarakhand	Indian Oil-Adani Gas Pvt. Ltd.	1	100
West Bengal	Great Eastern Energy Corporation Ltd.	7	3,756
All India	-	1,730	33,47,289

Source: PPAC Monthly Reckoner June, 2019

Exhibit 33: Trend in CNG sales across key states in India

CNG Sales in India (TMT)	No. of Cos. FY19	FY15	FY16	FY17	FY18	FY19P	No. of CNG Vehicles
AP/Telangana	3	26	27	29	32	31	44,774
Chandigarh	1	-	-	0	5	15	7,500
Daman and Diu	1	-	-		1	2	1,000
Delhi/NCR	1	717	738	804	1016	1144	10,65,603
Gujarat & Dadra Nagar Haveli	7	476	503	546	612	662	9,25,286
Haryana	5	72	75	109	144	179	1,59,783
Karnataka	2	-	-	0	0	0.3	1,093
Kerala	1	-	-	-	-	-	900
MP	2	17	19	22	25	31	35,996
Maharashtra	5	531	565	593	630	702	9,22,439
Odisha	1	-	-	-	0	1	2,640
Punjab	2	-	-	-		1	2,202
Rajasthan	1	3	4	4	5	7	8,438
Tripura	1	10	11	12	13	15	11,688
UP	9	185	212	245	153	282	1,54,091
Uttarakhand	1	-	-	-	-	0.1	100
West Bengal	1	1	1	2	2	3	3,756
Total		2038	2155	2366	2638	3075	33,47,289

Source: Ministry of Petroleum and Natural Gas June 2019

P=Provisional

Exhibit 34: Details of PNG customers (nos.) across segments in various states in India

State	Geographical area/city covered	Entity	PNG connections		
			Domestic	Commercial	Industrial
Andhra Pradesh	Vijaywada	Bhagyanagar Gas Limited	5,658	10	0
	Kakinada	Bhagyanagar Gas Limited	20,573	85	1
	West /East Godavari	Godavari Gas Pvt.Ltd.	322	6	0
	Krishna District excl. area already authorized	Megha Engineering & Infrastructures Ltd.	2,882	19	3
	Total		29,435	120	4
Assam	Upper Assam GA	Assam Gas Company Limited	32,469	1,074	402
		Total	32,469	1,074	402
Bihar	Patna district	GAIL (India) Ltd.	0	0	0
		Total	0	0	0
Chandigarh	Chandigarh GA	Indian Oil-Adani Gas Pvt. Ltd.	9,598	0	1
		Total	9,598	0	1
Daman and Diu	Daman	Indian Oil-Adani Gas Pvt. Ltd.	506	22	9
		Total	506	22	9
Delhi/NCR	National Capital Territory of Delhi (including Noida & Ghaziabad)	Indraprastha Gas Limited	10,92,223	2,561	1,751
		Total	10,92,223	2,561	1,751
Gujarat and Dadra & Nagar Haveli	Ahmedabad City & Daskroi area excl. Already authorized area	Adani Gas Ltd.	3,73,525	2,490	821
	Vadodara rural	Adani Gas Ltd.	561	1	90
	Anand area incl. Kanjari and Vadtal villages GA	Charotar Gas Sahakari Mandali Ltd	27,994	641	118

	Surat-Bharuch-Ankleswar GA, Nadiad GA, Navsari GA, Rajkot GA, Surendranagar GA, Hazira GA, Valsad GA, Jamnagar GA, Bhavnagar GA, Kutch (West) GA, Amreli District GA, Dahej Vagra Taluka GA, Dahod District GA, Panchmahal District GA, Anand (excluding area authorised) district GA	Gujarat Gas Limited	13,51,340	12,275	3,523
	Ahmedabad district GA	HPCL (Only CNG)	0	0	0
	Banaskantha / Palanpur district	IRM Energy Pvt. Ltd.	9,250	31	4
	Gandhinagar, Mehsana & Sabarkantha GA	Sabarmati Gas Ltd.	1,51,309	725	326
	Patan district GA	Sabarmati Gas Ltd.	3,629	0	0
	Vadodara District	Vadodara Gas Limited (Previously Vadodara Mahanagar Seva Sadan) VMSS	1,21,273	2,538	0
	Dadra & Nagar Haveli GA	Gujarat Gas Limited	2,676	18	15
		Total	20,41,557	18,719	4,897
Haryana	Faridabad district	Adani Gas Limited	61,468	115	281
	Sonipat district	Gail Gas Limited	8,252	27	87
	Gurugram district	Haryana City Gas Distribution Ltd	17,801	133	68
	Panipat district	Indian Oil-Adani Gas Pvt. Ltd.	1,484	1	5
	Gurugram district	Indraprastha Gas Limited	6,209	5	1
	Rewari district	Indraprastha Gas Limited	3,679	0	19
	Nuh and Palwal districts	Adani Gas Limited	0	0	25
		Total	98,893	281	486
Karnataka	Bengaluru rural and urban district GA	Gail Gas Ltd.	11,076	84	61
	Tumkur district GA	Megha Engineering & Infrastructures Ltd.	3,676	25	9
	Belgaum district GA	Megha Engineering & Infrastructures Ltd.	2,108	15	5
	Dharwad district	Indian Oil-Adani Gas Pvt. Ltd.	0	0	0
		Total	16,860	124	75
Kerala	Ernakulam district	Indian Oil-Adani Gas Pvt. Ltd.	1,032	10	1
		Total	1,032	10	1
Madhya Pradesh	Indore GA incl. Ujjain city	Aavantika Gas	37,967	77	157
	Gwalior GA	Aavantika Gas	13,236	36	2
	Dewas	Gail Gas Ltd.	4,907	20	30
	Vijaipur	Gail Gas Ltd.	0	0	0
		Total	56,110	133	189
Maharashtra	Pune City including Pimpri Chinchwad along with adjoining contiguous areas of Hinjewadi, Chakan & Talegaon GA	Maharashtra Natural Gas Limited	1,69,407	302	185

	Mumbai, Greater Mumbai, Thane Urban, Mira Bhayender, Navi Mumbai, Ambernath, Bhiwandi, Kalyan, Dombivli, Badlapur, Ulhasnagar, Panvel, Kharghar & Taloja, Raigarh District GA excl area already authorized	Mahanagar Gas Limited	12,83,284	3,754	71
	Palghar district and Thane rural GA	Gujarat Gas Limited	188	8	3
	Pune excluding areas already authorized	Mahesh Gas Ltd.	0	0	1
	Ratnagiri	Unison Enviro Pvt Ltd.	23	0	0
		Total	14,52,902	4,064	260
Odisha	Khorda district GA	GAIL (India) Ltd.	225	0	0
	Cuttack district GA	GAIL (India) Ltd.	0	0	0
		Total	225	0	0
Punjab	Fatehgarh Sahib district	IRM Energy Pvt. Ltd.	400	1	11
	Amritsar	GSPL	0	0	0
		Total	400	1	11
Rajasthan	Kota	Rajasthan State Gas Limited	2,160	11	14
	Neemrana & Kukas	Rajasthan State Gas Limited	0	1	0
		Total	2,160	12	14
Telangana	Hyderabad	Bhagyanagar Gas Limited	10,579	12	17
		Total	10,579	12	17
Tripura	Agartala	Tripura Natural Gas Company Limited	39,743	415	49
		Total	39,743	415	49
	Khurja GA	Adani Gas Ltd.	11,309	3	139
	Kanpur GA	Central UP Gas Ltd	39,316	140	55
	Bareilly GA	Central UP Gas Ltd	17,290	102	15
	Meerut	Gail Gas Ltd.	8,243	20	31
	Firozabad (TTZ) GA	Gail Gas Ltd.	916	0	340
	Lucknow district	Green Gas Ltd	34,917	45	10
Uttar Pradesh	Agra	Green Gas Ltd	32,442	50	19
	Allahabad GA	Indian Oil-Adani Gas Pvt. Ltd.	2,778	1	0
	Mathura	Sanwaria Gas Ltd	4,345	67	36
	Moradabad GA	SITI Energy Limited	3,847	59	6
	Dibiyapur	Gail Gas Ltd.	0	0	0
	Varanasi district	GAIL (India) Ltd.	2,100	8	0
	Auraiya, Kanpur Dehat & Etawah districts	Torrent Gas Pvt Ltd	0	0	0
		Total	1,57,503	495	651
Uttarakhand	Udham Singh Nagar district	Indian Oil-Adani Gas Pvt. Ltd.	773	3	6
	Haridwar district GA	HNGPL	220	0	0
		Total	993	3	6
West Bengal	Kultora, Asansol, Raniganj, Durgapur	Great Eastern Energy Corporation Limited	0	0	0
		Total	0	0	0
		Grand Total	50,43,188	28,046	8,823

Source: PPAC Monthly Reckoner June, 2019

PNGRB city gas regulations overview

Infrastructure Exclusivity

Infrastructure exclusivity is the right to lay, build, expand and operate a CGD network in the licensed GA. It is awarded for 25 years from the date of authorization and can be extended for 10 more years as per the PNGRB regulations. Under infrastructure exclusivity, a new operator in the existing operator's area of operation will only have to use the existing operator's distribution network upon payment of transportation tariff.

Marketing Exclusivity

Marketing exclusivity gives the CGD entities to exclusively conduct operations in the awarded GAs without any competition. Marketing exclusivity is awarded for 5 years from the date of authorization (can be extended to between 8 and 10 years) but the actual operating period works out to be much shorter as network construction itself takes two to three years. Marketing margins are not regulated and are subject competition only from alternative fuels. Post the expiration of the exclusivity, the regulator is likely to fix network tariffs for about 25% of the network capacity opened up for third party access on a common carrier principle.

Exhibit 35: Marketing Exclusivity Rights

	Geographical Areas (GAs)	Expiration Year
	Mumbai and Greater Mumbai	2012
MGL	Thane District	2014
	Raigad District	2020
	Delhi	2012
IGL	Rewari, Dharuhera and Bawal	2021
	Karnal	2023

Source: MoPNG

PNG competes with subsidized LPG (capped at 12 cylinders of 14.2kg each) in home cooking fuel segment and commercial segments, while PNG competes with fuel oil in the industrial segment. In both cases, PNG offers a cheaper option based on our analysis:

Gradual phasing of subsidy by the Govt. will make PNG more attractive over LPG with savings up to 41% in the home segment.

Annexure -2

PNGRB Concept Paper on Approach to City Gas Network Tariff – Extract

Two methods proposed by the PNGRB for the determination of transportation rate are:

- 1) **Cost of Service** - Defined as the amount of revenue a regulated CGD entity must collect from rates charged to users of the network to recover the cost of doing business. These costs include operating cost, depreciation expense and a reasonable return on its investment. A cost-of-service is a measure of a CGD entity's annual "revenue requirement" that will provide opportunity to operate profitably and attract capital for future growth.

Normative Operating Cost + Depreciation + Return on Capital employed

Return on CE - Consists of Net Fixed Assets and Normative Working Capital (NWC) employed in the Regulated Business of City Gas Distribution.

The financing of the Capital Employed will be on a normative basis at 30% out of Equity (including Free Reserves) and balance 70% out of Borrowed Funds.

Normative Rate of return on Equity shall be 14% post-tax and Borrowing Rate will also be allowed on a normative basis, i.e., Average SBI MCLR for 3 years plus 3%, to be applied for each year on normative borrowings.

- 2) **Online Bidding**

Variant -I

Auction common or contract carrier capacity based on the reserve price determined by the PNGRB. The reserve price will be set by the PNGRB at Rs30 per MMBtu for transportation rate for CGD network and Rs2 per kg for transportation rate for CNG. WPI escalations as applicable will adjust the reserve price on a year to year basis.

Variant –II

Auction common or contract carrier capacity based on the reserve price self-determined by the CGD entity. Entities will self-determine the reserve price for transportation rate for the CGD network and transportation rate for CNG in accordance with the cost of service approach prescribed by the PNGRB. This reserve price will be self-certified and duly audited by statutory auditors.

Under the process of bidding, entities seeking access to common or contract carrier capacity will submit bids to the authorized entities on their online portal. The authorized entity shall evaluate the bids by using weights for calculating the composite score. The common or contract carrier capacity will be assigned in descending order of magnitude of the composite score, which will be computed as a sum and product of the score for each bidding criterion and the respective weights assigned to them.

Take-aways from the meeting with Mr. D.K. Saraf – Chairman PNGRB

1. Open access to city gas marketing – regulations on tariffs will be announced post consultation on the concept paper on city gas tariffs. The proportion of volume available on open access (common carrier basis) to be decided.
 - a. The objective is to bring in competition
2. Move to open access will take some time - extension of marketing exclusivity to be decided on public interest – the definition of which is to be decided based on consultation paper to be issued in coming weeks.
3. End of infrastructure exclusivity - means any one can set up and operate pipeline - This will also be based on approval and extension on public interest.
4. City gas for CNG and EVs shall coexist - it is not one or the other.

5. Gas allocation at lower price fixed for domestic gas (cheaper domestic gas or APM gas) will continue for all city gas networks – first priority for allocation of domestic gas to city gas followed by fertilizers.
6. Response to city gas areas awarded in the past 10 rounds has been good.
7. Marketing exclusivity – pre PNGRB is five years – for new areas given on bidding under the PNGRB – 5 years extendable up to 8-10 years.
8. The PNGRB can only fix network tariffs – no powers to fix consumer prices for CNG or PNG - This is contestable in our view since the Supreme Court had ruled in 2015 in the IGL vs PNGRB case that the latter has no powers to fix tariffs or prices. – IGL also maintains that the end of marketing exclusivity in its network in Delhi is subject to the review of the high court.

Final comments by the PNGRB Chairman on the progress expected on city gas business/regulations:

- Gas trading hub and exchange in 6-12 months
- Enforce third party access in a stringent manner
- Finalize regulations on tariffs on networks under open access post end of marketing exclusivity
- First set of networks likely to come out of marketing exclusivity over the next six months

Company Section

Indraprastha Gas

19 August 2019

Reuters: IGAS.NS; Bloomberg: IGL IN

Downgrading to Accumulate on regulatory concerns

We are downgrading our rating on Delhi-based city gas company Indraprastha Gas (IGL) from Buy to Accumulate following a 22% cut in our PE-based TP of Rs411 to our new DCF-based TP of Rs320 based on our regulated tariff model (RTM). Our cautious view on IGL stems from the following concerns: (i) The transition to open access in IGL's Delhi city gas network once the marketing exclusivity ends will imply lower margins and returns on 25% of the company's volume (ii) This is likely to cap IGL's hitherto buoyant valuation akin to that of a growth stock - the transition to regulated returns will result in lowering of the trading multiple that could weigh on the stock price performance and (iii) Potential risk of erosion in CNG's competitiveness in the wake of likely fall in petrol and diesel prices in response to weaker global oil demand in the medium term over the next 6-12 months. The slowdown in CNG vehicle registration by 5.12% YoY in Q1FY20 and regulator fixing lower-than-expected tariffs post open access are added concerns.

- Gas sales volume CAGR of 8.9% over FY19-21E vs. 4 year CAGR of 11.3% over FY15-19; CNG volume CAGR of 6.24% over FY19-21 vs. 10.53% 4 year CAGR. Key drivers: organic conversion of existing petrol and diesel cars and taxis to CNG; PNG volume to sustain CAGR at 16.2% over FY19-21 vs. 4 year CAGR of 13.7%.
- The High Court ruling last year banning the use of petcoke and coal by industry in Delhi would give a fillip to industry switching over to gas as a green fuel.
- We expect revenue growth of 27.2% in FY20E and 14.9% in FY21E and average EBITDA margins 21.7% over FY20-FY21E (Rs 7/scm in FY21E) that will support earnings CAGR of 18.6% over FY19-21E.
- We expect RoCE of 26.8% and 25.7% in FY20E and FY21E respectively vs. last 3 years average of 25.8%
- Our DCF model uses normal earnings for FY19-24 and regulated tariff beyond FY24 - a reasonable assumption given the timeframe involved on enforcing regulations on tariff post open access. This implies a PE of 18.2x and EV/E of 11.8x and P/BV of 3.8x on FY21E. This in our view is fair given the transition from a free monopoly to regulated returns post open access to about 25% of the capacity on IGL's Delhi network. This implies that earnings growth as well as returns are likely to be lower than in the past and as a consequence the stock's valuation multiple would also have to be lowered. Hence, the downgrade to Accumulate.
- We expect healthy absolute growth prospects even under a regulated regime post open access. And the company has the ruling of Supreme Court in its favour as India's apex court had in 2015 upheld the Delhi High Court's verdict that the PNGRB had no powers to fix tariffs or prices for IGL's Delhi city gas network. Even on the PNGRB notification ending IGL's marketing exclusivity in Delhi, the company has been maintaining that the issue of marketing exclusivity is pending review of the Delhi High Court. This legal tangle adds to the regulatory uncertainty in the case of IGL.
- IGL trades at 18.7xPE vs. Asian city gas peers trading at 16.2x PE on FY21E

Y/E March (Rsmn)	FY17	FY18	FY19	FY20E	FY21E
Revenues	38,148	45,355	57,648	73,307	84,217
EBITDA	9,638	11,165	12,570	16,152	17,979
Consolidated Net Profit Adj	6,063	7,217	8,421	10,944	12,305
EV/FCF (x)	19.6	30.5	18.4	129.6	124.3
EPS (Rs)	8.66	10.31	12.03	15.63	17.58
EPS gr (%)	32.4	19.0	16.7	30.0	12.4
EBITDA Margin (%)	25.3	24.6	21.8	22.0	21.3
P/E	37.9	31.8	27.3	21.0	18.7
EV/EBITDA	22.7	19.6	17.4	13.5	12.1
Net Debt (cash)/Equity (X)	-0.13	-0.19	-0.26	-0.30	-0.41
Pre-tax RoCE (%)	26.6	26.1	24.6	26.8	25.7
RoE (%)	21.7	21.7	21.2	21.6	22.4

Source: Company, Nirmal Bang Institutional Equities Research

ACCUMULATE

Sector: Oil & Gas

CMP: Rs328

Target Price: Rs320

Downside: 2.6%

Amit Agarwal

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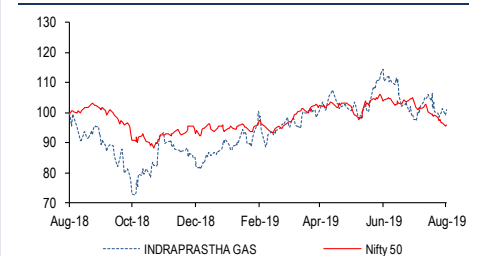
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Key Data

Current Shares O/S (mn)	700.0
Mkt Cap (Rsbn/US\$bn)	217.7/4.1
52 Wk H / L (Rs)	351/215
Daily Vol. (3M NSE Avg.)	2,000,428

Share holding (%)	1QFY20	4QFY19	3QFY19
Promoter	51.0	51.0	51.0
Public	49.0	49.0	49.0
Others	-	-	-

One Year Indexed Stock Performance



Price Performance (%)

	1-M	6-M	1-Yr
Indraprastha Gas	0.2	13.7	7.2
Nifty Index	(3.8)	2.6	(2.8)

Source: Bloomberg

Rating Rationale

Key reasons for downgrading from Buy to Accumulate

We are downgrading IGL from Buy to Accumulate on the following concerns:

The transition to open access in IGL's Delhi network once marketing exclusivity ends implies that new entrants could nibble away at IGL's CNG market share. Open access would allow new companies to sell gas to retail customers in Delhi by using IGL's distribution and compression facilities to the extent of about 25% of IGL's current sales volume. The competition would most likely be restricted to CNG business, which is easier for competition to enter and scale up.

We see this putting about 1.09mmscmd of IGL's CNG business at risk assuming 25% of its overall CNG sales volume of 4.39mmscmd in FY19.

Based on our analysis of IGL's financials on per unit of gas sale (Rs26.6/scm), 20% IGL's FY19 earnings (Rs2/sh) is at risk (based on overall net profit of Rs3.5/scm).

The end of marketing exclusivity implies that part of the network will be open for third parties to bring gas and sell CNG and PNG using IGL's infrastructure after paying the tariff to be fixed by the PNGRB. The regulator is in the process of going through the modalities of public consultation to decide on the methodology for fixing the tariff for the city gas network under open access under the 'common carrier' principle. (for details pl refer approach to tariff methodology). The regulator may adopt either (i) The cost of service method, which is based on a Return on Capital Employed of 14% post-tax or (ii) Allow the operator to fix tariff on auction method based on bids submitted by shippers of gas.

Once IGL's Delhi network comes under open access (to the extent of 25% of its capacity or volume), the company will not earn unregulated margins as at present; it will earn only the regulated tariff on its city gas and compression infrastructure on this 25% portion of the network thrown open to third parties under open access. IGL will continue to earn full margins and returns without any fetters on the remaining 75% of the network/capacity for CNG and PNG. Please also note that the final consumer price for CNG and PNG – that is sold by the network operator or the third party - will not be regulated by this tariff mechanism.

To illustrate this –

Company A has a city gas network investment of Rs1bn on capital employed and gas volume of say 10mmscmd

Company A will earn just the fixed tariff on say volume or capacity earmarked for third party at 2.5mmscmd equivalent to 25% of total volume or capacity.

On the balance 7.5mmscmd, Company A will be able to earn the normal unregulated margins as at present.

And if Company A wants to sell more than 7.5mmscmd to meet its obligations or grow its business, it can invest in additional infrastructure, subject to regulatory approval as long as at any point, the open access for 25% of capacity is made available for third parties.

This situation poses the following challenges for investors in IGL

- 1) There is now a state of fluidity as to (a) when the open access will kick in (b) what is the method to be followed for tariff calculation and (c) what will be the amount of actual network tariff under open access?
- 2) Assuming we use the cost of service method based on post-tax ROCE of 14% - we still are not in a situation to precisely predict the exact tariff because the regulator's assessment of the value of the assets that go into estimating capital employed could be lower than the book value stated in published accounts or submitted by the company. The regulator has in the past notified tariffs much below that expected by gas transportation major GAIL (Unrated).
- 3) And finally, there is no clarity on the timeframe over which the regulator would announce the tariff for IGL and the effective date for such a tariff to become applicable – the latter could be a function of whether the regulator will allow an extension of the marketing exclusivity that is permissible under the PNGRB Act. In turn, the PNGRB wishes to get related issues clarified through a public consultation like the definition of 'public interest' and other situations under which, such extension may be granted.

We have decided to value IGL using a 10-year DCF model:

FY19-24E cash flows assuming normal unregulated earnings as it prevails at present and

FY24E-29E cash flows assuming current unregulated model for 75% of volume and regulated tariff for 25% of volume

The tariff is worked out to give 14% ROCE post-tax on our estimates.

Based on this DCF model, we estimate the PV of FCFF at Rs125bn, PV of terminal value at Rs87.4bn, EV at Rs212.5bn and equity value at Rs223.7bn. This underpins our TP of Rs320.

Please see details under valuation for details.

Exhibit 1: DCF Valuation Summary

WACC Calculations		Valuation parameters	
Risk free rate %	6.5	Cost of equity %	10.66
Market return %	11.5	Terminal Multiple	4.6
Beta of the Stock -	0.83	Terminal Year growth %	5
WACC %	10.7	Terminal value Rs Mn	344,465
Stable growth rate	5	PV of terminal value Rs Mn	87,424
Discounting period	10	PV of FCFF FY20-FY29E Rs Mn	125,075
		Enterprise Value Rs Mn	212,500
		Less Net Debt Rs Mn	(11,241)
		Equity Value Rs Mn	223,741
		Shares outstanding Mn	700
		Equity value Rs per share	320
		CMP Rs	328
		Downside %	(2.6)

Source: Company, Nirmal Bang Institutional Equities Research

IGL less vulnerable to ceding CNG market share

We understand from our channel checks with industry that post open access, OMCs with retail outlets and access to their own gas are likely to enter IGL's CNG markets in Delhi. IGL is less vulnerable to such competition compared to MGL in Mumbai because IGL controls nearly 45% of its 507 CNG stations, whereas in MGL's case more than 60% of its CNG stations are based on infrastructure shared with OMCs. This means that IGL faces a lower risk of losing CNG volume to competition from new entrants, including OMCs who are the most likely challengers to incumbent city gas operators post open access.

Exhibit 2: IGL owns 43.6% of CNG stations

	MGL	IGL
Total No of CNG stations	240	507*
CNG stations controlled- Nos	70	223*
CNG stations of OMCs-Nos	170	284*
Total CNG volumes mmscmd	2.17	4.39
CNG volumes/Total Gas sales %	73.5	74.3

Source: IGL Presentation May 2019*, Nirmal Bang Institutional Equities Research

Note: No. of CNG stations as on June 2019 for IGL is 507

CNG market share, not margins at risk post open access

It is not clear what extent of competition we could have on consumer prices of CNG. Industry sources believe that the attrition on pricing is likely to be on the margin for two reasons – (i) we are dealing with natural gas – a commodity in short supply in India, which imports close to 50% of its overall natural gas requirement and (ii) the CNG segment is not very price sensitive, especially in the four-wheeler market. So, under open access, the incumbent operator could see a loss of market share, but margins are unlikely to be under a serious threat.

Post open access competition in PNG business more likely in B2B

We understand that post open access the focus of new competitors will be on the CNG business; the PNG business is unlikely to be see much interest. This is based on two factors: (i) The CNG business is easier to start and scale up quickly from day 1, once a potential competitor has the gas supply in place and (ii) In PNG, one has to displace the operator from several housing societies as the new supplier of piped gas – this is a time-consuming process and one needs to attain a certain no of households to attain economic size. The effort in capturing new PNG households in untapped societies also entails investments and logistics in laying last mile pipeline, metering and billing, which are quite painstaking and entail a certain lead time.

In PNG therefore the competition may focus on large industrial customers with gas demand of at least 50,000scmd - the B2B category. Here access to gas and the ability to offer gas of a consistent quality and at a competitive pricing on a regular basis could be the differentiator. This is also a segment where IGL could see some marginal attrition in market share post open access.

Exhibit 3: Post open access impact on IGL

Market	Price competition	Market share loss	Key competitors likely	Remarks
CNG	Negligible	Possible but on a limited scale	OMCs	IGL controls close to 50% of its CNG stations
PNG – homes	Negligible	Negligible	Likely to evolve over time	Too time consuming to scale up
PNG – Industrial	Possible	Possible	BPCL, and others	IGL has no gas of its own - However its parents GAIL and BPCL have their own gas supplies. So the support of its promoters could help IGL thwart competition to an extent in the B2B PNG segment

Source: Company, Nirmal Bang Institutional Equities Research

Higher growth vs. MGL

IGL has enjoyed a higher growth rate in underlying volume of CNG and PNG compared with MGL. In terms of earnings growth IGL had earnings CAGR of 17.08% vs. MGL's 16.07% over the last 4 years.

We expect IGL's CNG and PNG volume to grow at a faster clip than MGL's given the latter's infrastructure constraints and the IGL's own robust track record in the past.

Exhibit 4: MGLvs.IGL

Rsmn	MGL	IGL
Revenue FY19	27,911	57,648
Net Profit FY19	5464	8421
RoCE %	30.96	24.63
CNG volume CAGR FY15-19 %	5.26	10.54
PNG volume CAGR FY15-19 %	6.01	13.78
Revenue CAGR FY15-19 %	7.44	11.87
Net Profit CAGR FY15-19 %	16.07	17.08

Source: Company, Nirmal Bang Institutional Equities Research

The above comparison shows that IGL has a more robust city gas franchise although both have equally reputed promoters.

As a result, we have used a marginally higher terminal growth of 5% for IGL vs the 4% terminal growth in the case of MGL for our DCF models for these two stocks.

Lower-than-expected tariff poses further downside of 2.38 % to 11.9%

Exhibit 5: Impact of PNGRB tariff under open access on IGL's DCF value

Tariff assumption case	PNGRB Tariff for open access Rs/scm	TP Rs/sh	% downside to TP
NB Base case tariff	10.03	320	0
Base case less 10%	9.03	312	(2.38)
Base case less 20%	8.03	304	(4.77)
Base case less 50%	5.02	282	(11.91)

Source: Company, Nirmal Bang Institutional Equities Research

On our base case DCF model we have analyzed the impact of reduction (ranging from 10% cut to 50% cut) in the value of the underlying capital employed (CE or NFA as defined by the regulator) for the calculation of tariffs.

This implies a downside of 2.38% to 11.9% on our base case TP.

Exhibit 6: NB open access network tariff estimation model using Cost of Service method

Rs Mn	
Post Tax ROCE (FY24)	14%
Pre Tax ROCE (FY24)	21.3%
Net Fixed Asset plus WIP FY24	35,099
Working Capital	11,140
Total Capital Employed	46,239
Pre-tax ROCE	9,856
Depreciation	3,473
Interest	46
EBITDA	13,375
Operating Cost	22,337
Gross Margin	35,712
Volumes (mmscm) - 100% common carrier	3,559
tariff Rs/scm	10.03
\$/mmbtu	4.64
Rs/mmbtu	357.89
25% on open access	8,928
Volume (mmscm)	889.7
tariff on vol. on open access	10.03
	-

Source: Nirmal Bang Institutional Equities Research

Risk to competitiveness of IGL's CNG and PNG business

IGL's city gas business prices CNG and PNG to yield a discount to competing petroleum fuels on a common denominator. We have discussed the attractiveness of CNG and PNG vs. gasoline (MS) and diesel (HSD) in the sector section under competitiveness of city gas. Similarly, for PNG the comparison is with domestic LPG for household cooking gas and with fuel oil for industrial use.

Assuming a certain price point for CNG and PNG, a fall in global crude oil price can lower the price of competing fuels and to that extent hurt the pricing power of city gas companies like IGL. For details, please refer to discussion under the heading "**Risk of declining alternative fuel pricing reducing competitiveness of gas vs. other fuels**" in the city gas sector section.

IGL -Operating assumptions and financials in charts

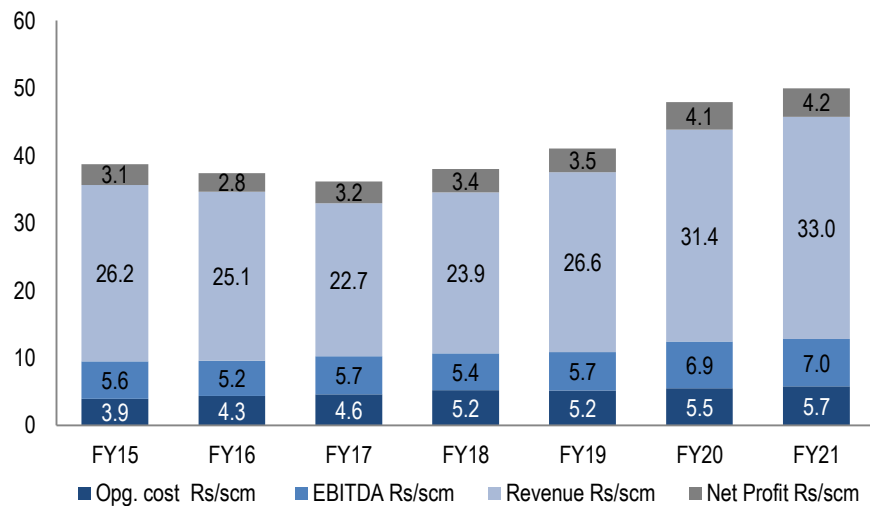
Exhibit 7: Operating assumptions

	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
CNG volumes (MMSCM)	1,073	1,123	1,269	1,412	1,602	1,694	1,808
CNG Net Realization Rs/SCM	24	24	23	24	26	32	33
CNG Net Revenue	26,234	27,006	28,793	33,496	41,640	53,690	60,177
PNG Volumes (MMSCM)	330	342	406	479	553	640	747
PNG Realization Rs/SCM	32	28	23	24	28	31	32
PNG Revenues	10,460	9,730	9,190	11,650	15,760	19,618	24,040
Total Net Revenue	36,694	36,736	37,983	45,146	57,400	73,307	84,217
Growth estimates							
Total CNG vehicles gr%	-	6.3	11.9	5.8	5.8	5.7	6.7
PNG consumer nos. -gr %							
Homes	-	13.4	16.7	20.2	23.5	23.0	23.0
Commercial/Industrial	-	12.57	11.24	25.19	20.71	20.00	21.00
Total PNG consumer gr %	-	13.4	16.6	20.2	23.5	23.0	23.0
Gas revenues	-	0.1	3.4	18.9	27.1	27.7	14.9
EBITDA growth	-	-2.3	24.4	15.8	12.6	28.5	11.3
EPS growth	-	2.2	32.4	19.0	16.7	30.0	12.4

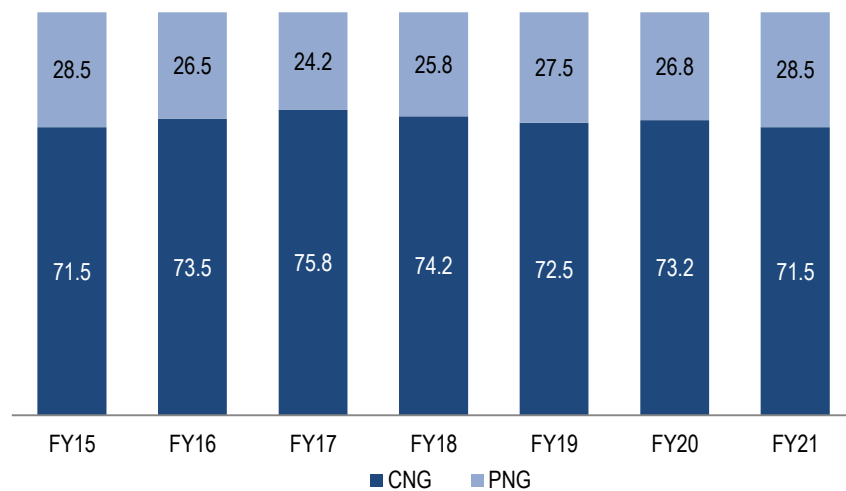
Source: Company, Nirmal Bang Institutional Equities Research

IGL financials in Rs per SCM

Exhibit 8: IGL financials Rs/scm of gas sold



Source: Company, Nirmal Bang Institutional Equities Research; Note: Net Profit excludes share of profit from Associates

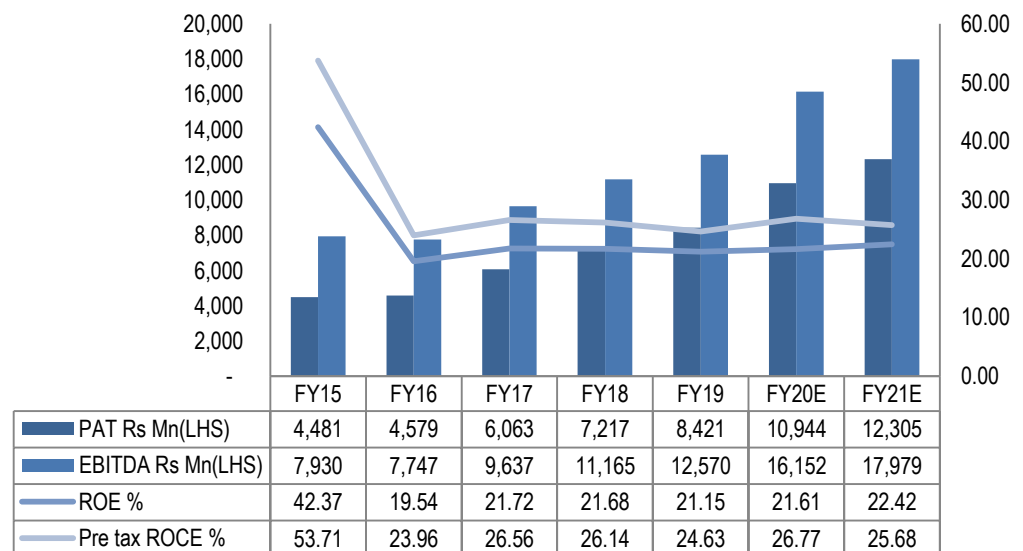
Exhibit 9: CNG -PNG share in IGL Revenue %


Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 10: Key Financials

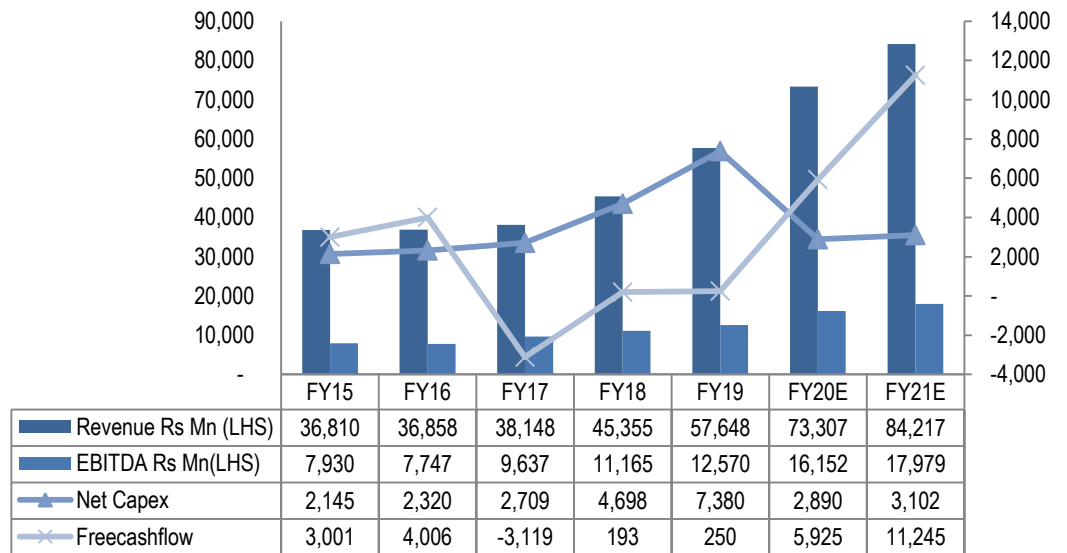
	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
Total gas sales volumes mmscm	1,403	1,465	1,675	1,891	2,155	2,334	2,555
Revenues Rs mn	36,810	36,858	38,148	45,355	57,648	73,307	84,217
EBITDA Rs mn	7,930	7,747	9,637	11,165	12,570	16,152	17,979
Consolidated Net profit Rs mn	4,481	4,579	6,063	7,217	8,421	10,944	12,305

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 11: Trend in profits and returns


Source: Company, Nirmal Bang Institutional Equities Research; Note: PAT includes share of profit from Associates

Exhibit 12: FCFF Trend



Source: Company, Nirmal Bang Institutional Equities Research

Valuations

Exhibit 13: DCF Valuation

WACC Calculations		Valuation parameters	
Risk free rate %	6.5	Cost of equity %	10.66
Market return %	11.5	Terminal Multiple	4.6
Beta of the Stock	0.819	Terminal Year growth %	5.0
WACC %	10.6	Terminal value Rs Mn	344,465
Stable growth rate	5	PV of terminal value Rs Mn	87,424
Discounting period	10	PV of FCFF (FY20-FY29E) Rs Mn	125,075
		Enterprise Value Rs Mn	212,500
		Net Debt Rs Mn	(11,241)
		Equity Value Rs Mn	223,741
		Shares outstanding Mn	700
		Equity value Rs per share	320
		CMP Rs	328
		Downside %	(2.6)

Source: Nirmal Bang Institutional Equities Research

We are valuing IGL based on our DCF model estimating FCFF over 10 years between FY19 and FY29 and estimating the terminal value of FCFF at the end of this period, assuming a terminal growth of 5% in line with our expectation of long-term rate of inflation. This involves:

- FY19-24E cash flows assuming normal unregulated earnings as it prevails at present and
- FY24E-29E cash flows assuming current unregulated model for 75% of volume and regulated tariff for 25% of volume
- The tariff is worked out to give 14% ROCE post-tax on our estimates

Based on this DCF model, we estimate the PV of FCFF at Rs125bn, PV of terminal value at Rs87.4bn, EV at Rs212.5bn and equity value at Rs223.7bn. This underpins our TP of Rs320/sh.

Implied EV/E and PE on TP and how it compares with benchmarks:

Our DCF-based TP implies FY21E PE of 18.2x, EV/E of 11.8x and P/BV of 3.8x. The implied PE is 4.7% below the 5-year median PE of 19.1x

This compares with 5-year median PE of 19.1x, Asian peer group average of 16.2x on CY20E.

We have analyzed the impact of changes in WACC and terminal assumptions on our TP estimate.

Exhibit 14: Impact of terminal growth/WACC on DCF model (Equity Value per share in Rs)

	WACC	Base case Terminal Growth (TG) 5%	Base case TG less 1% = 4%	Base case TG + 1% = 6%
Base case WACC	10.7	320	291	360
Base case WACC + 1%	11.7	272	253	298
Base case WACC -1%	9.7	382	339	448

Source: Nirmal Bang Institutional Equities Research

We have also analyzed the impact of gas volumes and margins on our TP estimate on

Exhibit 15: Sensitivity Analysis

Sensitivity analysis -IGL	Base case		Case 1 10% change in CNG volumes				Case 2 10% change in CNG Realization				Case 3 10% change in PNG volumes				Case 4 10% change in PNG Realization			
	FY20	FY21	FY20	Ch %	FY21	Ch %	FY20	Ch %	FY21	Ch %	FY20	Ch %	FY21	Ch %	FY20	Ch %	FY21	Ch %
CNG volumes mmscm	1,694	1,808	1,863	10	1,989	10	1,694	0.0	1,808	0.0	1,694	0.0	1808	0.0	1,694	-	1,808	0.0
CNG realisation Rs	32	33	32	0	33	0.0	35	10	37	10	32	0.0	33	0.0	32	0.0	33	0.0
PNG volumes mmscm	640	747	640	0.0	747	0.0	640	0.0	747	0.0	704	10	822	10	640	0.0	747	0.0
PNG realisation Rs	31	32	31	0.0	32	0.0	31	0.0	32	0.0	31	0.0	32	0.0	34	10.0	35	10
Revenue Mn	73,307	84,217	78,676	7.3	90,235	7.1	78,676	7.3	90,235	7.1	75,269	2.7	86,621	2.9	75,269	2.7	86,621	2.9
EBITDA margin %	22	21	22	-32	21	-47	27.4	532.1	26.6	524	18	-386	18	-377	24	203	24	218
EPS Rs	15.6	17.6	16.5	5.5	18.4	4.6	20.6	32.0	23.2	31.9	13.3	-14.8	15.0	-14.6	17.5	11.7	19.8	12.8
Roe %	21.6	22.4	22.5	92.9	23.1	65.2	26.7	507.5	26.9	447.8	19.0	-258.6	20.1	-235	23.5	193	24.4	194
Valuation																		
DCF Value																		
Blended TP Rs		320			326	1.9			400	25.2			285	-10.9			359	12.4

Source: Nirmal Bang Institutional Equities Research

Note: Case-2 is a Bull Case, Case-3 is a Bear Case, Case-1 and Case-4 are Neutral

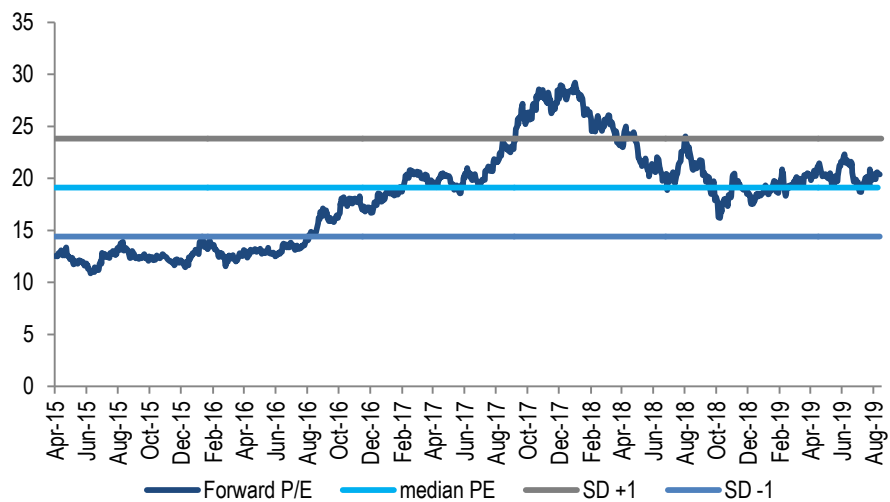
FCF Yield

On our FY21E IGL offers an FCF yield on EV of 0.8%

We see the company's net cash increasing from Rs712mn in FY19 to 16.2bn by FY21

PE BAND

Exhibit 16: Five Year Median PE Band



Source: Nirmal Bang Institutional Equities Research

Exhibit 17: Global peer group financials and valuation

India Rs		CMPS	Cons EPS est. FY21E	PE FY21E	EV/EBITDA FY21
IGL	IGL IN Equity	328	16.5	18.3	12.3
MAHGL	MAHGL IN Equity	807	63.1	12.8	7.1
GUJGA	GUJGA IN Equity	184	10.7	17.0	8.4
Average			31.5	16.2	9.1
China \$					
China Gas Holdings Ltd	384 HK Equity	32	0.3	14.0	11.5
Hong Kong and China Gas Co Ltd	3 HK Equity	17	0.1	30.3	23.2
Towngas China Co Ltd	1083 HK Equity	5	0.1	10.1	9.4
China Resources Gas Group Ltd	1193 HK Equity	39	0.3	15.5	8.5
ENN Energy Holdings Ltd	2688 HK Equity	83	0.7	14.4	8.8
Average			0.3	16.7	12.3
Japan \$					
Tokyo Gas Co Ltd	9531 JP Equity	2,703	1.8	13.4	7.5
Osaka Gas Co Ltd	9532 JP Equity	1,947	1.3	13.7	7.8
Toho Gas Co Ltd	9533 JP Equity	4,070	1.6	24.0	8.9
Average			1.6	17.0	8.0
US \$					
Sempra Energy	SRE US Equity	139	7.0	19.1	13.1
New Jersey Resources Corp	NJR US Equity	44	2.2	22.1	17.2
South Jersey Industries Inc	SJI US Equity	31	1.6	20.4	13.0
Duke Energy Corp	DUK US Equity	89	5.2	17.0	12.1
CMS Energy Corp	CMS US Equity	61	2.7	22.2	12.3
Atmos Energy Corp	ATO US Equity	109	4.6	23.5	13.5
Average			3.9	20.6	13.6

Source: Bloomberg, Nirmal Bang Institutional Equities Research; December year end for all peers except GHCL Ltd. - March year end

Risks:

- Regulatory risk as the PNGRB decides the extension of Infrastructure and Marketing exclusivity rights and regulates the tariff among many other functions
- Delay in pipeline connectivity with the trunk pipeline (pipeline used to transport natural gas across countries or within states) and limited bargaining power of the CGD entities with the trunk pipeline owners
- Competition from new operators post the expiry of exclusivity contracts
- Price risk – increase in gas cost (usually this is passed on) or decline in prices of competing fuels
- Availability of gas

Upside risk to Our call:

Our downgrade from Buy to Accumulate is predicated on the transition to regulated earnings and the subdued growth assumptions. If the transition to open access is delayed and IGL gets extension in marketing exclusivity, the regulatory risk will to that extent get postponed and this is will result in upside to our DCF-based FCFF estimates and TP. To put this in context, we see IGL valuation improving to Rs 435/sh assuming current unregulated earnings on our DCF model; this implies 36% upside to our base case TP and offers 32.6% upside from CMP. Given the legal verdict favoring IGL in the case against the PNGRB's order seeking to impose tariffs and terminate IGL's marketing exclusivity for its Delhi city gas network, we believe that the company may get an extension in marketing exclusivity for another 3-5 years. This could sustain the stock's current premium valuation and revive investor interest in IGL, which we believe offers a robust growth stock in the city gas space, in a situation without any regulatory overhang.

Our call could also be at risk, if IGL is able to achieve higher volume growth in CNG and PNG than our expectations or if there is an overall revival in CNG demand and industry gas demand above our expectations (possible based on any stimulus measures that revive industrial/GDP growth).

For a 10% upside to CNG volume from our base case assumptions we see valuation improving 1.9% to Rs 326/sh. Pl refer the exhibit 15 for the sensitivity analysis on our earnings estimates and TP.

If oil prices rally on a sustainable basis, it will improve the pricing power and margins for CNG and PNG. For 10% rise in CNG prices we see the valuation improving 25% to Rs400/sh

We also see the stock being valued at a higher TP of Rs435 on our DCF model if earnings and cash flows are estimated based on the current unregulated model. This represents the bull case for the stock

Exhibit 18: Bull case DCF valuation summary

WACC Calculations		Valuation parameters	
Risk free rate %	6.5	Cost of equity %	10.66
Market return %	11.5	Terminal Multiple	9.0
Beta of the Stock	0.83	Terminal Year growth %	6.0
WACC %	10.7	Terminal value Rs Mn	410,591
Stable growth rate	6	PV of terminal value Rs Mn	45,705
Discounting period	5	PV of FCFF (FY20-FY29E) Rs Mn	247,413
		Enterprise Value Rs Mn	293,118
		Net Debt Rs Mn	(11,241)
		Equity Value Rs Mn	304,359
		Shares outstanding Mn	700
		Equity value Rs per share	435
		CMP Rs	328
		Upside %	32.6

Source: Nirmal Bang Institutional Equities Research

Annexure – IGL Company background

Genesis of IGL

IGL was set up in 1997 to create city gas distribution infrastructure in Delhi city – then named National Capital Territory (NCT). The move resulted from a court ruling mandating the conversion all public transport in the National Capital Territory in Delhi to CNG as the only fuel. IGL's efforts and growth over the years has been based on creating and expanding the CNG and PNG network and its ability to sell CNG and PNG at a discount to petroleum alternatives to the respective customer segments.

Developed infrastructure that saw the CNG vehicle fleet rise 32.47% CAGR to 1mn by FY19

Over the years, IGL also received support by way of government policies that mandated fitting new taxis sold post April 2005 with CNG engines and the city transport operator in Delhi also ordering CNG buses.

As a result, the number of vehicles rose from 5,200 nos. in the year FY2000 to 344,250 by FY2010, and 1,087,450 by FY2019. This boosted CNG sales volume from 4mmscm in the year FY2000 to 695mmscm by FY2010, and 1,602mmscm by FY19

As a result,

the CNG vehicle fleet in Delhi enjoyed a long-term CAGR of 32.47% (FY00-FY19) and 4-year CAGR of 7.4% in and the CNG sales volume Delhi enjoyed a long-term CAGR of 37.08% (FY00-FY19) and 4-year CAGR of 10.54%

	FY00	FY10	FY19	4-CAGR %
No. of vehicles	5,200	344,250	1,087,450	7.4
Sales Volume MMSCM	4	695	1,602	10.54

The number of CNG stations has increased from 30 nos. in FY2000 to 241 by FY2010 and 500 by FY2019

And CNG compression capacity has risen from 0.02mn kg/day in FY2000 to 3.64mn kg/day by FY2010 and 8.43mn kg/day by FY2019

	FY00	FY10	FY19
No. of CNG stations	30	241	500
CNG Compression capacity (mn kg/day)	0.02	3.64	8.43

Interim Results

Exhibit 19: Quarterly performance

Interim Results (Rs Mn)	Q1 FY19	Q1 FY20	Ch YoY (%)	Q4 FY19	Ch QoQ (%)
Gross Sales	14,224	17,441	22.6	17,011	2.5
Excise Duty	1,350	1,680	24.5	1,585	6.0
Net Revenue	12,874	15,761	22.4	15,426	2.2
Cost of Natural Gas and Traded Items	7,421	9,219	24.2	9,057	1.8
Changes in Inventories	-3	-2	-33.3	2	-205.3
COGS	7,418	9,217	24.3	9,058	1.8
Contribution	5,456	6,544	19.9	6,368	2.8
Employee Benefits Expense	311	367	17.9	466	-21.3
Other Expenses	2,195	2,593	18.1	2,590	0.1
Total Expenses	9,924	12,177	22.7	12,114	0.5
EBITDA	2,951	3,585	21.5	3,312	8.2
Depreciation and Amortization Expenses	473	605	28.0	522	15.8
EBIT	2,478	2,980	20.3	2,790	6.8
Other Income	262	354	34.9	513	-31.0
Finance Costs	6	16	191.1	0	8050.0
PBT	2,735	3,318	21.3	3,303	0.5
total tax	976	1,203	23.3	1,048	14.9
PAT reported	1,759	2,115	20.2	2,255	-6.2
Adjusted PAT	1,759	2,115	20.2	2,255	-6.2
Associates inc/loss(+/-)	190	336	76.8	175	91.9
Consolidated Net Profit	1,920	2,450	27.6	2,430	0.8

Source: Nirmal Bang Institutional Equities Research

Exhibit 20: Key shareholders

	%
BPCL	22.5
Gail India	22.5
LIC of India	7.6
Government of NCT of Delhi	5
Kotak Mahindra Asset Management	2.82
HDFC Life Insurance	1.88
UTI Asset Management	1.17
Sundaram Asset Management	0.76

Source: Nirmal Bang Institutional Equities Research

Financials -Consolidated

Exhibit 21: Income statement

Y/E March (Rs mn):	FY17	FY18	FY19	FY20E	FY21E
Net Revenue	38,148	45,355	57,648	73,307	84,217
y/y	3.50	18.89	27.11	27.16	14.88
Raw Material Expenses	20,837	24,914	33,973	44,385	51,551
RM/Sales %	54.6	54.9	58.9	60.5	61.2
Employee cost	917	1,061	1,426	1,639	1,885
Other expenses	6,756	8,215	9,680	11,132	12,802
EBITDA	9,638	11,165	12,570	16,152	17,979
Depreciation	1,671	1,813	2,011	2,629	2,818
EBIT	7,967	9,352	10,559	13,523	15,161
y/y	28.81	17.38	12.91	28.07	12.11
Interest Expense	12	17	21	26	31
Other Income	459	906	1,285	1,204	1,346
PBT (adjusted)	8,414	10,241	11,823	14,702	16,477
Income Tax Expense	2,976	3,742	4,272	5,101	5,717
Associates inc./loss(+/-)	625.3	718.9	869.6	1344	1545.6
Consolidated Net Profit Adj.	6,063	7,217	8,421	10,944	12,305
EPS (Rs)	8.66	10.31	12.03	15.63	17.58

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 23: Balance sheet

Y/E March (Rs Mn)	FY17	FY18	FY19	FY20E	FY21E
Equity Share Capital	1,400	1,400	1,400	1,400	1,400
Reserves and Surplus	28,717	35,070	41,757	49,251	57,735
Employee benefit obligations	203	128	-	-	-
Deferred Tax Liabilities [Net]	2,024	2,596	3,159	3,659	4,219
Other Long term liab.	-	8	209	209	209
Trade Payables	2,740	3,386	4,885	3,915	4,537
Security deposits	4,826	5,447	5,447	6,699	8,240
Payable towards PPE	1,431	2,242	2,242	2,242	2,242
Other Financial Liab.	232	289	2,089	506	581
Other current liab.	356	400	645	552	632
Total Capital And Liabilities	41,930	50,965	61,833	68,433	79,795
Net Block	21,172	24,320	28,769	30,921	30,993
Capital Work-In-Progress	3,518	3,860	4,781	2,890	3,102
Investments under equity method	3,661	4,264	4,921	4,921	4,921
Income tax assets	18	150	150	150	150
Long term loans and advances	78	84	115	115	115
Other Non-Current Assets	184	460	674	674	674
Current Investments	4,179	8,896	12,859	12,859	12,859
Inventories	517	524	509	1,004	1,154
Trade Receivables	2,014	2,261	2,215	3,013	3,461
Cash And Cash Equivalents	1,256	2,037	712	5,758	16,238
Bank balances other than cash	4,830	3,544	5,359	5,359	5,359
Other financial assets	214	278	444	444	444
Security Deposits	-	-	-	-	-
Short term loans and advances	25	65	38	38	38
Other Current Assets	266	222	288	288	288
Total Assets	41,930.2	50,965	61,833	68,433	79,795

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 22: Cash flow

Y/E March (Rs mn)	FY17	FY18	FY19	FY20E	FY21E
PBT	9,039	10,959	11,823	14,702	16,477
Add depreciation	1,671	1,813	2,011	2,629	2,818
Other expenses/(Income)	(1,006)	(1,518)	(1,264)	(1,179)	(1,316)
Change in W/C	1,003	(590)	(3,257)	3,939	(179)
Income tax	2,687	3,303	3,703	4,602	5,157
Cash flow from Operations (A)	8,021	7,363	12,124	7,611	13,001
Capex	2,709	4,698	7,380	2,890	3,102
Purchase/(Sale) of Current Investments	4,825	(1,325)	3,963	0	0
Purchase/(Sale) of Investments	4,179	4,717	0	0	0
Ch in Bank deposits not considered cash	0	38	1,816	0	0
interest /Dividend received on Investments	457	752	0	0	0
Other Income	116	206	1,285	1,204	1,346
Total Investments	11,140	7,170	11,874	1,685	1,756
Operating Free cash	(3,119)	193	250	5,925	11,245
Cash flow from Investing (B)	(11,140)	(7,170)	(11,874)	(1,685)	(1,756)
Security deposits from vendors	575	620	0	1,253	1,541
Payable towards PPE	868	811	0	0	0
Increase/(Decrease) in DTL	0	0	564	0	0
Dividends (including tax) paid	(1,601)	(842)	(2,022)	(2,106)	(2,275)
Interest expense	0	0	(21)	(26)	(31)
Cash flow from Financing (C)	(158)	589	(1,479)	(879)	(765)
Adjustments	0	0	(96)	0	0
Ch in Cash and Cash equiv	(3,277)	781	(1,325)	5,046	10,480
opening cash	4,533	1,256	2,037	712	5,758
closing cash	1,255	2,037	712	5,758	16,238

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 24: Key ratios

Y/E March	FY17	FY18	FY19	FY20E	FY21E
Profitability & return ratios					
EBITDA margin (%)	25.3	24.6	21.8	22.0	21.3
EBIT margin (%)	20.9	20.6	18.3	18.4	18.0
Net profit margin (%)	15.9	15.9	14.6	14.9	14.6
RoE (%)	21.7	21.7	21.2	21.6	22.4
Pre-tax RoCE (%)	26.6	26.1	24.6	26.8	25.7
RoIC (%)	19.1	18.5	17.5	19.0	17.8
Working capital ratios					
Receivables (days)	21.6	17.2	14.2	15.0	15.0
Inventory (days)	5	4	3	5	5
Payables (days)	21	25	26	25	25
Cash conversion cycle	6.1	-3.3	-8.7	-5.0	-5.0
Leverage ratios					
Net debt (Rs Mn)	-4,007	-6,788	-11,241	-15,035	-23,974
Net Debt (cash)/Equity (X)	-0.13	-0.19	-0.26	-0.30	-0.41
Net Debt/EBITDA	-0.42	-0.61	-0.89	-0.93	-1.33
Valuation ratios					
EV/sales (x)	5.72	4.81	3.79	2.98	2.59
EV/EBITDA (x)	22.66	19.56	17.37	13.52	12.15
EV/FCF	19.60	30.45	18.39	129.55	124.34
P/E (x)	37.87	31.81	27.27	20.98	18.66
P/BV (x)	7.62	6.30	5.32	4.53	3.88
FCF Yield (%)	5.10	3.28	5.44	0.77	0.80
Dividend Yield (%)	0.30	0.61	0.73	0.76	0.82
Per share ratios					
EPS	8.66	10.31	12.03	15.63	17.58
Cash EPS	11.05	12.90	14.90	19.39	21.60
BVPS	43.02	52.10	61.65	72.36	84.48
DPS	1.00	2.00	2.40	2.50	2.70

Source: Company, Nirmal Bang Institutional Equities Research

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Mahanagar Gas

19 August 2019

Reuters: MGAS.NS; Bloomberg: MAHGL IN

Regulatory headwinds ahead - Initiating with SELL

We initiate coverage on Mumbai-based city gas distributor Mahanagar Gas (MGL) with a Sell based on our regulated tariff model and DCF-based TP of Rs702. Our negative stance on an otherwise well managed gas operation stems from the following concerns, which would weigh on the MGL stock: (i) MGL owns only 30% of its 240 CNG outlets (Q1FY20) in Mumbai - the rest are located on petrol pumps operated by PSU oil companies (OMCs). This in our view leaves MGL vulnerable to losing market share post open access in Mumbai (ii) Limited space for expanding its infrastructure further in Mumbai, where MGL also faces the prospect of its infrastructure exclusivity ending by 2020 (iii) MGL also does not have the presence in markets other than Mumbai and (iv) Potential risk of erosion in CNG's competitiveness in the wake of likely fall in petrol and diesel prices in response to weaker global oil demand over the next 6-12 months. The slowdown in CNG vehicle registration by 5.12% YoY in Q1FY20 and regulator fixing lower-than-expected tariffs post open access are added concerns.

- Gas sales volume CAGR of 7.8% over FY19-21 vs. CAGR of 5.4% over FY15-19; CNG volume CAGR of 7.8% over FY19-21 vs. CAGR of 15.2% over FY15-19. Key drivers: organic conversion of existing petrol and diesel cars and taxis to CNG, mandatory switch to CNG cars by taxi aggregators, as per Maharashtra government policy, PNG volume to sustain CAGR at 7.6% over FY19-21 vs. CAGR of 6% over FY15-19. We expect revenue CAGR of 15.2% (FY19-FY21) and average EBITDA margin of 30% (FY19-FY21) that will support earnings CAGR of 8.7% over FY19-21.
- We expect ROCE of 29.6%/28.6% over FY20/21 vs. last 3 years average of 30.2%
- Our DCF model uses normal earnings for FY19-24 and regulated tariff beyond FY24, which we believe is appropriate, given the timeframe involved in enforcing regulations on tariff post open access. This implies a PE of 10.7x and EV/E of 6.1x and P/BV of 2.2x on FY21E. This in our view is fair given the transition from a free monopoly to regulated returns post open access to about 25% of the capacity on MGL's Mumbai network. This implies that earnings growth as well as returns are likely to be lower than in the past and as a consequence the stock's valuation multiple would also have to be lowered. Hence the Sell. This is notwithstanding the healthy volume growth prospects likely for CNG and PNG even under a regulated regime post open access.
- MGL trades at 12.3x PE vs. Asian city gas peers trading at 15.9x PE on FY21E.

Y/E March (Rsmn)	FY17	FY18	FY19	FY20E	FY21E
Revenues	20,340	22,330	27,911	33,727	36,991
EBITDA	6,442	7,801	8,855	9,881	10,833
Reported PAT	3,934	4,778	5,464	5,856	6,462
EV/FCF (x)	55.1	59.8	36.9	15.3	14.5
EPS (Rs)	39.83	48.37	55.32	59.29	65.42
EPS gr (%)	14.5	21.5	14.3	7.2	10.3
EBITDA Margin (%)	31.7	34.9	31.7	29.3	29.3
P/E	20.2	16.7	14.6	13.6	12.3
EV/EBITDA	11.8	9.8	8.6	7.7	7.0
Net Debt (cash)/Equity (x)	(0.08)	(0.11)	(0.15)	(0.22)	(0.28)
Pre-tax RoCE (%)	28.5	31.2	31.0	29.6	28.6
RoE (%)	22.0	24.3	24.3	22.8	21.9

Source: Company, Nirmal Bang Institutional Equities Research

SELL

Sector: Oil & Gas

CMP: Rs807

Target Price: Rs702

Downside: 13%

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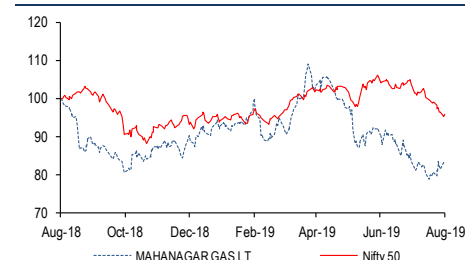
+91-22-6273 8145

Key Data

Current Shares O/S (mn)	98.8
Mkt Cap (Rsbn/US\$bn)	77.6/1.1
52 Wk H / L (Rs)	1,067/754
Daily Vol. (3M NSE Avg.)	405,286

Share holding (%)	1QFY20	4QFY19	3QFY19
Promoter	42.5	42.5	42.5
Public	57.5	57.5	57.5
Others	-	-	-

One Year Indexed Stock Performance



Price Performance (%)

	1-M	6-M	1-Yr
Mahanagar Gas	(2.4)	(10.3)	(17.0)
Nifty Index	(3.8)	2.6	(2.8)

Source: Bloomberg

Rating Rationale

MGL has been in existence since 1995. It got listed in 2017 to allow the original promoter British Gas to reduce its stake from 49.75% to 35% as per the JV agreement between BG and GAIL. Current promoters are GAIL (Not Rated) with a stake of 32.5% and BG, which still holds 10%.

The company is currently operating in Mumbai and Thane districts. It has 236 CNG stations catering to over 690,000 vehicles, which consume 2.17mmcmd of CNG (FY19) and over 950,000 customers across the household and B2B segments that account for 0.78mmcmd of the company's PNG sales.

Key reasons to sell:

Transition to open access once marketing exclusivity ends in Mumbai

This implies that part of the network will be open for third parties to bring gas and sell CNG and PNG using MGL's infrastructure after paying the tariff to be fixed by the PNGRB. The regulator is in the process of going through the modalities of public consultation to decide on the methodology for fixing the tariff for the city gas network under open access based on the 'common carrier' principle. (for details please refer approach to tariff methodology). The regulator may adopt either (i) the cost of service method, which is based on a ROCE of 14% post-tax or (ii) allow the operator to fix tariff on auction method based on bids submitted by shippers of gas.

Once MGL's Mumbai network comes under open access (to the extent of 25% of its capacity or volume), the company will not earn unregulated margins as at present; it will earn only the regulated tariff on its city gas and compression infrastructure on this 25% portion of the network thrown open to third parties under open access. MGL will continue to earn full margins and returns without any fetters on the remaining 75% of the network/capacity for CNG and PNG. Please also note that the final consumer price for CNG and PNG – that is sold by the network operator or the third party - will not be regulated by the this tariff mechanism.

This situation poses the following challenges for investors in MGL

- 1) There is now a state of fluidity as to (a) when the open access will kick in (b) what is the method to be followed for tariff calculation and (c) what will be the amount of actual network tariff under open access?
- 2) Assuming we use the cost of service method based on post-tax ROCE of 14% we still are not in a situation to precisely predict the exact tariff because the regulator's assessment of the value of the assets that go into estimating capital employed could be lower than the book value stated in published accounts or submitted by the company. The regulator has in the past notified tariffs much below that expected by gas transportation major GAIL (Unrated).
- 3) And finally there is no clarity on the timeframe over which the regulator would announce the tariff for MGL and the effective date for such a tariff to become applicable – the latter could be a function of whether the regulator will allow an extension of the marketing exclusivity that is permissible under the PNGRB Act. In turn, the PNGRB wishes to get related issues clarified through a public consultation like the definition of 'public interest' and other situations under which, such extension may be granted.

We have decided to value MGL using a 10-year DCF model:

FY19-24E cash flows assuming normal unregulated earnings as it prevails at present and

FY24E-29E cash flows assuming current unregulated model for 75% of volume and regulated tariff for 25% of volume

The tariff is worked out to give 14% ROCE post-tax on our estimates.

Based on this DCF model, we estimate our TP for MGL at Rs702.

Please see details under Valuation for details

Exhibit 1: DCF Valuation Parameters

WACC	10.8
Terminal Growth	4
PV of terminal value Rs Mn	32,779
PV of FCFF FY20-FY29E Rs Mn	33,087
Enterprise Value Rs Mn	65,866
Net Debt Rs Mn	(3,487)
Equity Value Rs Mn	69,354
Equity value Rs per share	702
CMP	807
% downside	(13)

Source: Nirmal Bang Institutional Equities Research

MGL vulnerable to poaching

We understand from our channel checks with industry that post open access, OMCs with retail outlets and access to their own gas are likely to enter the MGL's CNG markets in Mumbai. MGL is more exposed to such competition in Mumbai compared to IGL in Delhi because MGL controls only about 30% of its 236 CNG stations, whereas IGL owns close to 45% of its 507 CNG stations.

This means that MGL could in theory lose market share in CNG from day one under open access.

Exhibit 2: MGL owns only 30% of CNG stations

	MGL	IGL
Total No of CNG stations	240	507*
CNG stations controlled- Nos	70	223*
CNG stations of OMCs-Nos	170	284*
Total CNG volumes mmscmd	2.17	4.39
CNG volumes/Total Gas sales %	73.5	74.3

Source: IGL Presentation May 2019*, Nirmal Bang Institutional Equities Research

Note: No. of CNG stations as on June 2019 for IGL is 507

CNG market share, not margins at risk post open access

It is not clear what extent of competition we could have on consumer prices of CNG. Industry sources believe that the attrition on pricing is likely to be on the margin for two reasons – (i) we are dealing with natural gas – a commodity in short supply in India, which imports close to 50% of its overall natural gas requirement and (ii) the CNG segment is not very price sensitive, especially in the four-wheeler market. So, under open access, the incumbent operator could see a loss of market share, but margins are unlikely to be under a serious threat.

Post open access competition in PNG business more likely in B2B

We understand that post open access the focus of new competitors will be on CNG business; the PNG business is unlikely to see much interest. This is based on two factors: (i) the CNG business is easier to start and scale up quickly from day one, once a potential competitor has the gas supply in place (ii) in PNG, one has to displace the operator from several housing societies as the new supplier of piped gas – this is a time-consuming process and one needs to attain a certain no of households to attain economic size. The effort in capturing new PNG households in untapped societies also entails investments and logistics in laying last mile pipeline, metering and billing, which are quite painstaking and entail a certain lead time.

In PNG therefore the competition may focus on large industrial customers with gas demand of at least 50,000scmd - the B2B category. Here access to gas and the ability to offer gas of a consistent quality and at a competitive pricing on a regular basis could be the differentiator. This is also a segment where MGL could see some marginal attrition in market share post open access.

Exhibit 3: Post open access impact on MGL

Market	Price competition	Market share loss	Key competitors likely	Remarks
CNG	Negligible	Likely	IOC, BPCL, HPCL,	MGL depends on OMC outlets for 176 CNG stations
PNG – homes	Negligible	Negligible	Likely to evolve over time	Too time consuming to scale up
PNG – Industrial	Possible	Possible	BPCL, and others	MGL has no gas of its own - However its parent GAIL has its own gas supplies. So GAIL's support could help MGL thwart competition to an extent in the B2B PNG segment

Source: Company, Nirmal Bang Institutional Equities Research

Lower growth vs. IGL

IGL on its own has a reasonable track record with CNG and PNG volumes growing at a faster pace than MGL. In terms of earnings growth, MGL had earnings CAGR of 16.07% vs. IGL's 17.08% over the last 4 years.

We expect MGL's CNG and PNG volumes to grow at a slower pace than IGL's given the infrastructure constraints and the past track record.

Exhibit 4: MGL vs. IGL

Rs mn	MGL	IGL
Revenue FY19	27,911	57,648
Net Profit FY19	5464	8421
RoCE %	30.96	24.63
CNG volume CAGR FY15-19 %	5.26	10.54
PNG volume CAGR FY15-19 %	6.01	13.78
Revenue CAGR FY15-19 %	7.44	11.87
Net Profit CAGR FY15-19 %	16.07	17.08

Source: Company, Nirmal Bang Institutional Equities Research

The above comparison shows that IGL has a more robust city gas franchise although both have equally reputed promoters.

As a result, we have used a marginally lower terminal growth of 4% for MGL vs. IGL's 5% for our DCF models for these two stocks.

Lower-than-expected tariff poses further downside of 2.9% to 14.8%

Exhibit 5: Impact of PNGRB tariff under open access on MGL's DCF value

Tariff assumption case	PNGRB Tariff for open access Rs/scm	TP Rs/sh	% downside to TP
NB Base case tariff	10.87	702	0
Base case less 10%	9.79	681	(2.9)
Base case less 20%	8.70	661	(5.8)
Base case less 50%	5.44	598	(14.8)

Source: Company, Nirmal Bang Institutional Equities Research

On our base case DCF model we have analyzed the impact of reduction (ranging from 10% cut to 50% cut) in the value of the underlying capital employed (CE or NFA as defined by the regulator) for the calculation of tariffs.

This implies a downside of 2.9% to 14.8% on our base case TP.

Exhibit 6: NBIE open access network tariff estimation model using Cost of Service Method

Rs Mn	
Post Tax ROCE (FY24)	14.00
Pre Tax ROCE (FY24)	21.44
Net Fixed Asset plus WIP FY24	24,170
Working Capital	3,702
Total Capital Employed	27,872
Pre-tax ROCE	5,977
Depreciation	2,224
Interest	3
EBITDA	8,204
Operating Cost	8,349
Gross Margin	16,553
VOLUMES mscm - 100% common carrier	1,522
tariff Rs/scm	10.87
\$/mmbtu	5
Rs/mmbtu	388
25% on open access	4,138
Volume (m mscm)	380.57
tariff on volume on open access – Rs/scm	10.87

Source: Nirmal Bang Institutional Equities Research

Risk to competitiveness of MGL's CNG and PNG business

MGL's city gas business prices CNG and PNG to yield a discount to competing petroleum fuels on a common denominator. We have discussed the attractiveness of CNG and PNG vs gasoline (MS) and diesel (HSD) in the sector section under competitiveness of city gas. Similarly, for PNG the comparison is with domestic LPG for household cooking gas and with fuel oil for industrial use.

Assuming a certain price point for CNG and PNG, a fall in global crude oil price can lower the price of competing fuels and to that extent hurt the pricing power of city gas companies like MGL. For details, please refer to discussion under the heading "**Risk of declining alternative fuel pricing reducing competitiveness of gas vs. other fuels**" in the city gas sector section.

The duty differential works in favour of gas in CNG and PNG except that when PNG is pitted against fuel oil for industrial segment. Fuel oil is subject to GST of 18% that can be claimed as input credit by industries using fuel oil. In the case of PNG, which is subject to VAT in all states, such input is not available for industrial users. This aspect to some extent dents the competitiveness of PNG against fuel oil in the industrial segment.

MGL -Operating assumptions and financials in charts

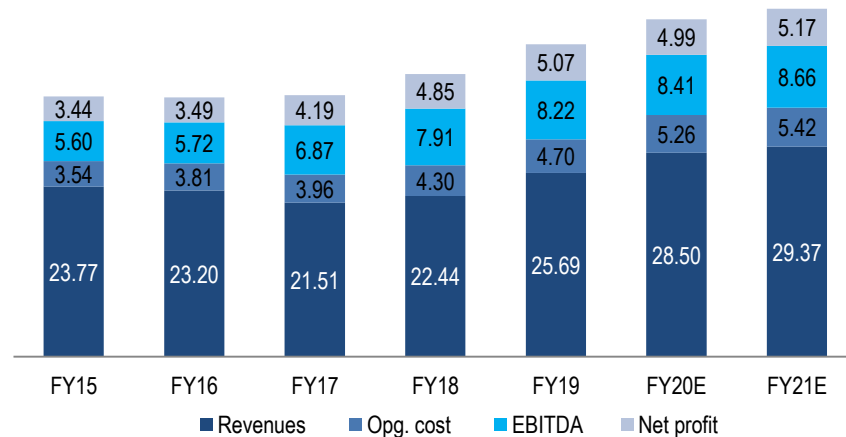
Exhibit 7: Operating assumptions

	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
CNG volumes (MMSCM)	450	660	693	724	791	868	920
CNG Net Realization Rs/SCM	30	22.2	20.7	21.2	23.8	27.6	28.5
CNG Net Revenue Rs Mn	13,500	14,669	14,336	15,368	18,827	23,984	26,186
PNG Volumes (MMSCM)	226	230	244	262	286	306	331
PNG Realization Rs/SCM	32	26	24	26	31	31	32
PNG Revenues Rs Mn	7,300	5,978	5,840	6,764	8,828	9,488	10,550
Total Revenue Rs Mn	20,800	20,647	20,176	22,132	27,656	33,472	36,736
Growth estimates							
Total CNG vehicles gr%	-	11.68	15.95	11.69	13.58	6.00	6.00
PNG consumer nos. -gr %							
Homes	-	6.15	12.05	12.24	19.46	10.00	10.00
commercial	-	12.24	9.98	9.91	5.17	5.00	6.00
Industrial	-	-	-	8.06	19.40	8.00	8.00
Total PNG consumer gr %	-	6.17	12.05	12.24	19.41	9.98	9.99
Gas revenues	-	-0.74	-2.28	9.69	24.96	21.03	9.75
EBITDA growth	-	4.00	26.48	21.10	13.51	11.6	9.6
EPS growth	-	3.28	14.46	21.46	14.35	7.18	10.35

Source: Nirmal Bang Institutional Equities Research

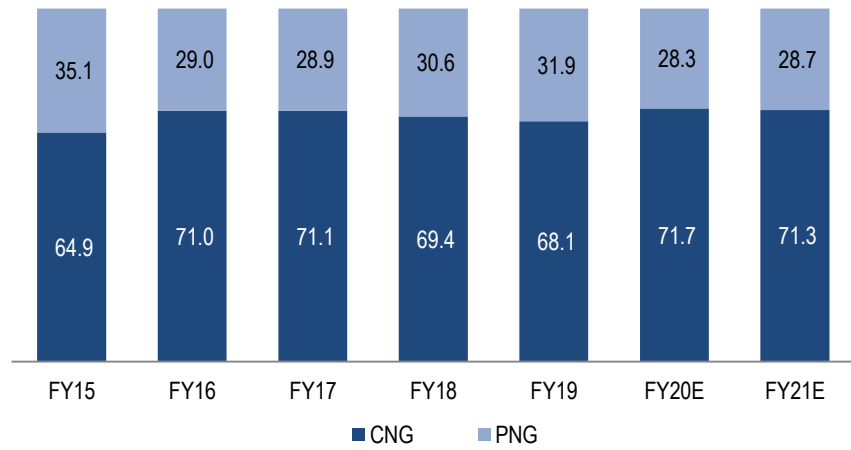
MGL financials in Rs per SCM

Exhibit 8: MGL financials Rs/scm of gas sold



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 9: CNG -PNG share in MGL Revenue %

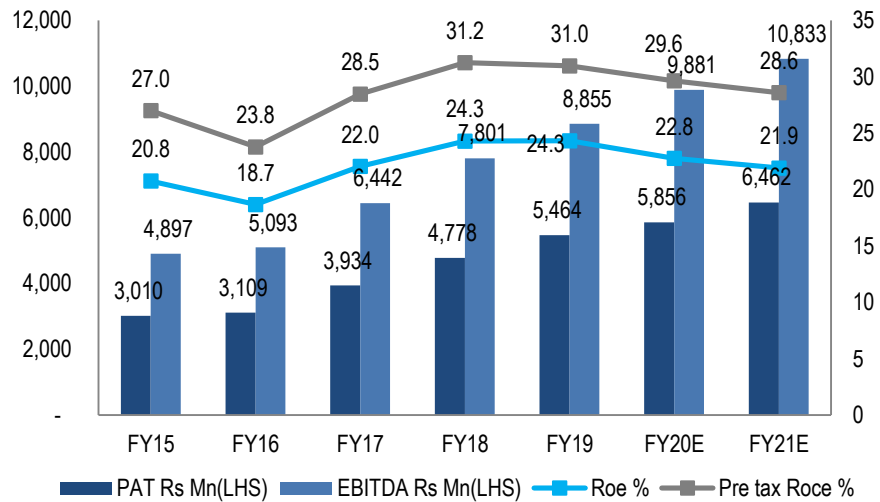


Source: Company, Nirmal Bang Institutional Equities Research

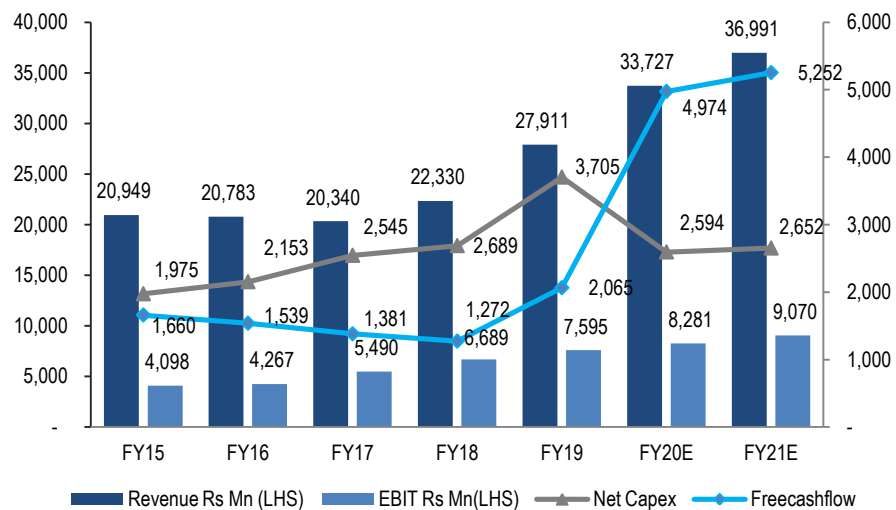
Exhibit 10: Key Financials

	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
Total gas sales volumes mmscm	874	890	938	986	1,077	1,174	1,251
Revenues Rs mn	20,949	20,783	20,340	22,330	27,911	33,727	36,991
EBITDA Rs mn	4,897	5,093	6,442	7,801	8,855	9,881	10,833
Net profit Rs mn	3,010	3,109	3,934	4,778	5,464	5,856	6,462

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 11: Trend in profits and returns


Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 12: FCFF Trend


Source: Company, Nirmal Bang Institutional Equities Research

Valuations

We are valuing MGL based on our DCF model estimating FCFF over 10 years between FY19 and FY29 and estimating the terminal value of FCFF at the end of this period assuming a terminal growth of 4%, in line with our expectation of long-term rate of inflation. This involves:

- FY19-24E cash flows assuming normal unregulated earnings as it prevails at present and
- FY24E-29E cash flows assuming current unregulated model for 75% of volume and regulated tariff for 25% of volume
- The tariff is worked out to give 14% ROCE post-tax on our estimates.

Based on this DCF model, we estimate the PV of FCFF at Rs33bn, PV of terminal value at Rs32.7bn, EV at Rs65.8bn and equity value at Rs69bn. This underpins our TP of Rs702.

Exhibit 13: DCF Valuation

WACC Calculations		Valuation parameters	
Risk free rate %	6.5	Cost of equity %	10.8
Market return %	11.5	Terminal Multiple	3
Beta of the Stock	0.858	Terminal Year growth %	4
WACC %	10.8	Terminal value Rs Mn	91,428
Stable growth rate	4	PV of terminal value Rs Mn	32,779
Discounting period	10	PV of FCFF (FY20-FY29E) Rs Mn	33,087
		Enterprise Value Rs Mn	65,866
		Net Debt Rs Mn	(3,487)
		Equity Value Rs Mn	69,354
		Shares outstanding Mn	99
		Equity value Rs per share	702
		CMP Rs	807
		% downside	(13)

Source: Nirmal Bang Institutional Equities Research

Implied EV/E and PE on TP and how it compares with benchmarks:

Our DCF-based TP implies FY21E PE of 10.7x, EV/E of 6.1x and P/BV of 2.2x. These may look cheap under current unregulated earnings. However, we believe that these implied multiples are reasonable assuming the transition to open access that would entail regulated margins on the 25% of volume opened up for third party access. This compares with 4 year median PE of 16.3x, and Asian peer group average of 15.9 on CY20E.

We have analyzed the impact of changes in WACC and terminal assumptions on our TP estimate.

Exhibit 14: Impact of terminal growth/WACC on DCF model (Equity Value per share in Rs)

	WACC	Base case Terminal Growth (TG) 4%	Base case TG -1% = 3%	Base case TG + 1% = 5%
Base case WACC	10.8	702	657	763
Base case WACC + 1%	11.8	620	588	662
Base case WACC -1%	9.8	812	746	905

Source: Nirmal Bang Institutional Equities Research

We have also analyzed the impact of gas volumes and margins on our TP estimate

Exhibit 15: Sensitivity Analysis

Sensitivity analysis -MGL	Base case		Case 1- 10% change in CNG volumes				Case 2- 10% change in CNG Realization				Case 3- 10% change in PNG volumes				Case 4- 10% change in PNG Realization			
	FY20	FY21	FY20	Ch %	FY21	Ch %	FY20	Ch %	FY21	Ch %	FY20	Ch %	FY21	Ch %	FY20	Ch %	FY21	Ch %
CNG volumes mmscm	868	920	955	10.0	1,012	10.0	819.9	-5.6	869.1	-5.6	819.9	-5.6	869.1	-5.6	819.9	-5.6	869.1	-5.6
CNG realization Rs	27.6	28	28	0.0	28	0.0	30.4	10.0	31.3	10.0	27.6	0.0	28.5	0.0	27.6	0.0	28.5	0.0
PNG volumes mmscm	306	331	306	0.0	331	0.0	306.2	0.0	330.6	0.0	336.8	10.0	363.6	10.0	306.2	0.0	330.6	0.0
PNG realization Rs	31.0	32	31	0.0	32	0.0	31.0	0.0	31.9	0.0	31.0	0.0	31.9	0.0	34.1	10.0	35.1	10.0
Revenue Rs Mn	33,727	36,991	36,125	7.1	39,609	7.1	36,125	7.1	39,609	7.1	34,676	2.8	38,046	2.9	34,676	2.8	38,046	2.9
EBITDA margin %	29	29	28	-124.9	28	-126.7	34.0	469.4	34.0	467.5	25.7	-358.8	25.7	-356.7	31.2	193.5	31.2	196.1
EPS Rs	59.3	65.4	61.0	2.8	67.2	2.8	75.1	26.7	83.1	27.1	52.9	-10.8	58.3	-10.8	65.6	10.6	72.6	10.9
Roe %	22.8	21.9	23.3	56.4	22.3	41.6	28.0	523.4	25.7	380.5	20.6	-220.0	20.2	-170.0	24.9	210.8	23.5	161.4
Valuation																		
DCF Value																		
Blended TP Rs		702			719	2.4			888	26.5			629	(10.4)			782	11.4

Source: Nirmal Bang Institutional Equities Research

Note: Case-2 is a Bull Case, Case-3 is a Bear Case, Case-1 and Case-4 are Neutral

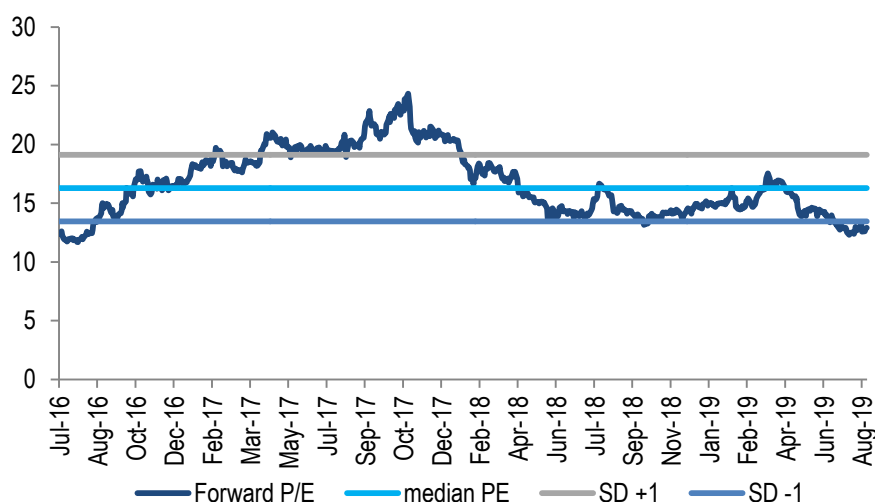
FCF Yield

On our FY21E, MGL offers an FCFF yield on EV of 6.89%.

We see the company's net cash increasing from Rs265mn in FY19 to Rs4.8bn by FY21.

PE BAND

Exhibit 16: Median PE Band



Source: Nirmal Bang Institutional Equities Research

Exhibit 17: Global peer group financials and valuation

India Rs		CMPS	Cons EPS est. FY21E	PE FY21E	EV/EBITDA FY21
IGL	IGL IN Equity	328	16.5	18.3	12.3
MAHGL	MAHGL IN Equity	807	63.1	12.8	7.1
GUJGA	GUJGA IN Equity	184	10.7	17.0	8.4
Average			31.5	16.2	9.1
China \$					
China Gas Holdings Ltd	384 HK Equity	32	0.3	14.0	11.5
Hong Kong and China Gas Co Ltd	3 HK Equity	17	0.1	30.3	23.2
Towngas China Co Ltd	1083 HK Equity	5	0.1	10.1	9.4
China Resources Gas Group Ltd	1193 HK Equity	39	0.3	15.5	8.5
ENN Energy Holdings Ltd	2688 HK Equity	83	0.7	14.4	8.8
Average			0.3	16.7	12.3
Japan \$					
Tokyo Gas Co Ltd	9531 JP Equity	2,703	1.8	13.4	7.5
Osaka Gas Co Ltd	9532 JP Equity	1,947	1.3	13.7	7.8
Toho Gas Co Ltd	9533 JP Equity	4,070	1.6	24.0	8.9
Average			1.6	17.0	8.0
US \$					
Sempra Energy	SRE US Equity	139	7.0	19.1	13.1
New Jersey Resources Corp	NJR US Equity	44	2.2	22.1	17.2
South Jersey Industries Inc	SJI US Equity	31	1.6	20.4	13.0
Duke Energy Corp	DUK US Equity	89	5.2	17.0	12.1
CMS Energy Corp	CMS US Equity	61	2.7	22.2	12.3
Atmos Energy Corp	ATO US Equity	109	4.6	23.5	13.5
Average			3.9	20.6	13.6

Source: Bloomberg, Nirmal Bang Institutional Equities Research; December year end for all peers except GHCL Ltd.- March year end

Risks:

- Regulatory risk as the PNGRB decides the extension of infrastructure and marketing exclusivity rights and regulates the tariff among many other functions
- Delay in pipeline connectivity with the trunk pipeline (pipeline used to transport natural gas across countries or within states) and limited bargaining power of the CGD entities with the trunk pipeline owners
- Competition from new operators post the expiry of exclusivity contracts
- Price risk – increase in gas cost (usually this is passed on) or decline in prices of competing fuels
- Availability of gas

Upside risk to Sell call:

Our Sell call is predicated on the transition to regulated earnings and the subdued growth assumptions. If the transition to open access is delayed and MGL gets extension in marketing exclusivity, the regulatory risk will to that extent get postponed and this will result in upside to our DCF-based FCFF estimates and TP. To put this in context, we see MGL valuation improving to Rs983/sh assuming current unregulated earnings on our DCF model; this implies 40% upside to our base case TP and offers 22% upside from CMP.

Our call could also be at risk if MGL is able to achieve higher volume growth in CNG and PNG than our expectations or if there is an overall revival in CNG demand and industry gas demand above our expectations (possible based on any stimulus measures that revive industrial/GDP growth).

For a 10% upside to CNG volume from our base case assumptions we see valuation improving 2.42% to Rs 719/sh. Pl refer the exhibit 15 for the sensitivity analysis on our earnings estimates and TP.

If oil prices rally on a sustainable basis, it will improve the pricing power and margins for CNG and PNG. For 10% rise in CNG prices we see the valuation improving 26.5% to Rs 880/sh.

We estimate bull case valuation at Rs983/sh

We see the stock being valued at a higher TP of Rs983 on our DCF model if earnings and cash flows are estimated based on the current unregulated model. This represents the bull case for the stock

Exhibit 18: Bull case DCF valuation of MGL excluding regulatory risk

WACC Calculations		Valuation parameters	
Risk free rate %	6.5	Cost of equity %	10.8
Market return %	11.5	Terminal Multiple	6.8
Beta of the Stock	0.858	Terminal Year growth %	5
WACC %	10.8	Terminal value Rs Mn	123,257
Stable growth rate	5	PV of terminal value Rs Mn	73,802
Discounting period	5	Enterprise Value Rs Mn	93,590
		Net Debt Rs Mn	(3,487)
		Equity Value Rs Mn	97,078
		Shares outstanding Mn	99
		Equity value Rs per share	983
		CMP Rs	807
		% upside	22

Source: Nirmal Bang Institutional Equities Research

ANNEXURE –Company information

MGL background

MGL has a long history of pioneering the concept of city gas distribution (CGD) in India. It was set up in the year 1995 to create CGD infrastructure in Mumbai city to market PNG to industrial customers as well as CNG as an environmentally cleaner alternative auto-fuel aimed at the cities taxis and buses on an experimental basis. This was based on the allocation of gas produced by PSU oil major ONGC (Not Rated) - from its Mumbai High and South Basin offshore fields - at govt. regulated prices (APM gas). This decision was made as part of the auto-fuel and city gas policy adopted by the Indian government in 2005. Please note this was much before the inception of its larger peer IGL in 1997 that resulted from a court ruling mandating the conversion all public transport in the National Capital Territory in Delhi to CNG as the only fuel. MGL's efforts and growth over the years have been based on creating and expanding the CNG and PNG network and its ability to sell CNG and PNG at a discount to petroleum alternatives to the respective customer segments.

It entered the Thane district in 2008 and is now looking to enter the Raigad district (awarded in the 4th CGD bid round) in addition to expanding the existing network.

Developed infrastructure that saw the CNG vehicle fleet rise 15.9% CAGR to 6,90,000 by FY19

Over the years, MGL also received support by way of government policies that mandated fitting new taxis sold post April 2005 with CNG engines and the city transport operator BEST also ordering CNG buses.

As a result, the number of vehicles rose from 285,500 nos. in FY13 to 692,000 by FY2019. This boosted CNG sales volumes from 1.52mmscmd in FY13 to 2.16mmscmd by FY19

As a result,

the CNG vehicle fleet in Mumbai enjoyed a long-term CAGR of 15.9% and 4 year CAGR of 13.2% in and

the CNG sales volume in Mumbai enjoyed a long-term CAGR of 5.95% and 4 year CAGR of 5.26%

Exhibit 19: Trend in MGL's CNG sales volumes and CNG vehicles

	FY13	FY19	4-CAGR %
No. of vehicles	285,500	692,000	13.2
CNG Sales Volume MMSCMD	1.52	2.16	5.26

Source: Nirmal Bang Institutional Equities Research

The number of CNG stations have increased from 180 nos. in FY15 to 236 nos. by FY19. And CNG compression capacity has risen from 2.5mn kg/day in FY15 to 3.37mn kg/day by FY19.

Exhibit 20: Growth in CNG infrastructure

	FY15	FY19
No. of CNG stations	180	236
CNG Compression capacity (mn kg/day)	2.5	3.37

Source: Nirmal Bang Institutional Equities Research

The distribution network for piped gas was initially set up for industrial customers as a cheaper and cleaner alternative to fuel oil. Over the years, MGL developed the concept to selling PNG as an alternative to subsidized cooking gas and LPG with a view to reduce dependence on imported petroleum fuels and the subsidy burden on government as well as to reduce pollution.

The PNG pipeline infrastructure has risen from 4,426kms in FY15 to 5,310km by FY19. PNG customers increased from 643,000 nos. in FY13 to 1,140,000 nos. by FY19.

This resulted in PNG sales volumes rising from 0.56mmscmd in FY13 to 0.78mmscmd by FY19.

Exhibit 21: Growth in PNG Customers and sales volumes

	FY13	FY19
No. of Customers	643,000	1,140,000
Sales Volume MMSCMD	0.56	0.78

Source: Nirmal Bang Institutional Equities Research

Interim results

Exhibit 22: Quarterly Performance

Rs Mn	Q1 FY19	Q1 FY20	QoQ %	Q4 FY19	YoY %
Gross Sales	6,763	8,312	22.9	7,932	4.8
Excise Duty	569	737	29.5	707	4.2
Net Revenue	6,193	7,575	22.3	7,225	4.8
Cost of Natural Gas and Traded Items	2,930	3,482	18.8	3,665	-5.0
Changes in Inventories	-1	-0	-90.0	1	-120.0
COGS	2,929	3,482	18.9	3,665	-5.0
Contribution	3,264	4,093	25.4	3,560	15.0
Employee Benefits Expense	169	244	44.6	185	31.7
Other Expenses	986	1,080	9.6	1,235	-12.6
Total Expenses	4,084	4,807	17.7	5,086	-5.5
EBITDA	2,109	2,768	31.2	2,140	29.4
Depreciation and Amortization Expenses	295	372	26.0	329	13.1
EBIT	1,814	2,396	32.1	1,811	32.3
Other Income	153	203	32.6	238	-14.6
Finance Costs	1	14	2,183.3	1	2,640.0
PBT (before exceptional and prior period adj.)	1,967	2,586	31.5	2,049	26.2
PBT reported -X=P+E	1,967	2,586	31.5	2,049	26.2
Current	612	808	32.1	605	33.5
Deferred	72	76	5.0	109	-30.5
total tax -T	684	884	29.2	714	23.8
PAT reported-X-T+Y	1,283	1,702	32.7	1,335	27.6

Source: Nirmal Bang Institutional Equities Research

Exhibit 23: Key shareholders

	%
GAIL India	32.5
Government of NCT of Delhi	10
L&T mutual fund	2.64
SBI Life insurance	2.21
Aditya Birla Sunlife	1.33
Aditya Birla Sunlife Asset Management	0.86

Source: Nirmal Bang Institutional Equities Research

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