Oil & Gas Sector

December 08, 2023

Power and CGD boost Oct'23 gas demand

Key Points

- India's Oct'23 gas consumption at 198.1mmscmd was up 30.6%/6.2% YoY/MoM. YTDFY24 (till Oct'23) gas consumption at 184.6mmscmd was up 17.7% YoY and 16.5% vs FY20-FY23 average of 158.5mmscmd. Please recall that 2QFY24 gas consumption at 190mmscmd was up 18.5%/8.9% YoY/QoQ.
- India's Oct'23 LNG consumption at 94.8mmscmd was up 51.5%/10.2% YoY/MoM. YTDFY24 (till Oct'23) LNG consumption at 87.1mmscmd was up 19.9% YoY. LNG's share in total gas consumption in Oct'23/YTDFY24 stood at 47.9%/47.2% vs 41.3%/46.4% in Oct'22/YTDFY23. 2QFY24 LNG share was at 44.6%.
- Key segments driving Oct'23 YoY growth: Fertilizers – 7.8%, Power – 29.8%, CGD – 34.6%, Refining –100%, Petchem– 121.4% and Others –40.4%.
- CNG vehicle registration growth (Vahan data) at 36.4% YoY/24% YoY in Oct'23-Nov'23/YTDFY24 is encouraging and it is likely to show up in improved growth in CNG volume, albeit with a lag.
- We pitch GGL and IGL (on dips) as key CGD stock picks as they offer good value post the 13.1% and 7.2% YoY correction, respectively - FY24E-26E EPS CAGR: GGL-29.6%; IGL-16.6%.

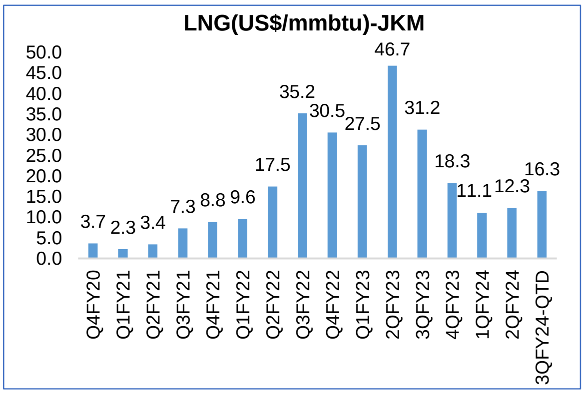
CRISIL foresees healthy CGD outlook despite long term EV overhang

- Medium term FY24-FY28E CAGR in CGD is estimated at 13-15% vs. FY16-FY20 CAGR of 18% and FY20-FY23 CAGR of 6%.
- The CGD industry panel was positive about growth outlook and believes that the worst is over as gas prices are likely to remain soft; it believes that increase in domestic gas production will improve security of gas supply for the CGD sector.
- However, one panelist did caution that 10-12% cut in APM gas supply is likely in Dec'23, but was hopeful this will be temporary.
- In the long term, the CGD sector has to be prepared for reduction in gas supply at APM price.
- On EV competition, the panel believes that CNG can maintain its share at its current working target of 18-20% of transportation fuels. The LCV/CV segment will also sustain growth as the EV penetration is likely to be low - CRISIL sees this rising from 0.5% to 1-6% over the next four years.

Trend in Brent and crack spreads

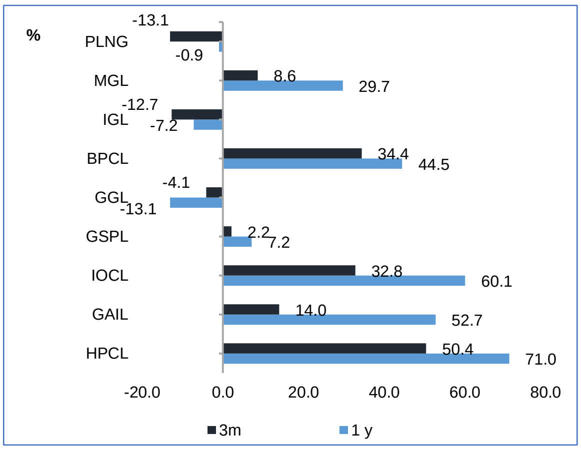
US$/bbl	4QFY23	1QFY24	2QFY24	3QFY24 (QTD)	3QFY23	FY23	5-year avg
Brent	81.3	78.4	86.7	84.1	88.7	95.3	71.78
Dubai Fateh	80.1	77.4	83.7	87.4	86.3	92.8	70.3
MS spread	15.6	15.5	15.2	8.7	6.9	17.0	10.95
HSD spread	28.2	15.1	25.9	27.45	37.8	36.1	16.6
Singapore HC GRM	6.8	4.7	10.0	6.0	4.5	8.5	4.43

Source: Bloomberg; Nirmal Bang Institutional Equities Research; HC - hydrocracker



Source: Bloomberg; Nirmal Bang Institutional Equities Research

Key pick	RATING	TP (Rs)	PE (x) Sep'25E
GGL	BUY	506	19.6



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Ramesh Sankaranarayanan
Research Analyst
ramesh.s@nirmalbang.com
+91-22-6273 8145

Sanjay Agarwal
Research Associate
sanjay.agarwal@nirmalbang.com
+91 9163511617

KTAs from recent CRISIL CGD webinar

Panel discussion with senior management personnel from MGL, IOC, Adani Total Gas (Unlisted), Adani Total Gas, Torrent Gas (Unlisted) and newly listed IRM Energy (Not Rated)

Gas price outlook:

- The worst is behind for CGD and gas prices are likely to remain soft.
- Increase in domestic gas production and likely increase in gas on auction from ONGC (5-6mmscmd) in the next 7-8 months is improving visibility on gas supply - implies increase in allocation/supply of gas for CNG and D-PNG
- There has been a 10-12% shortage of APM gas vs priority allocation - likely to be met through higher supply from HTHP Gas via auction and gas exchange
- Long term allocation of APM gas to decline for CGD sector, which implies increase in non-APM gas and hence potential increase in blended gas cost

Growth outlook:

Double-digit growth potential in the next two years – although CGD industry has to strike a balance between volume growth and passing on cost increases

MWP targets for new CGD projects:

- This is stiff – and there are challenges in D-PNG additions
- This requires work on changing customer behaviour/awareness to speed up customer on-boarding and improve infrastructure such as prepaid metering and new digital features.
- If the value, convenience and safety demonstrated at pilot stage can be scaled up to achieve the tipping point in the number of customers, the pace of D-PNG connections growth can be expedited

Penalty:

On the delay in D-PNG, the government is supportive and understands the challenges and hence the CGD industry may get some relief - although one has to wait and see.

EV penetration:

The CGD industry has to adapt to this trend in the long run. But, the CGD industry is not targeting more than 18-20% of transportation segment - this is unlikely to change even with increase in EVs.

Further, CNG enjoys an edge in the CV/LCV segment with high payload, running long distances without fixed routes - EVs are unlikely to threaten this. Also, low end PVs - entry level and hatchbacks – are unlikely to see much competition from EVs.

LNG as auto fuel:

This looks promising based on longer distances possible on a single fill and reduced pollution vs diesel, but for converting CV fleet the owner requires time and effort – it is in its infancy and may take concerted effort by CGD and other companies to develop this model.

M&A:

Over 2-3 years, consolidation is possible once the new GAs reach scale and certain maturity as smaller players exit in favour of larger more serious groups.

PE investment is also likely to see increasing traction: The sector is already seeing interest from Japanese investors.

Open access: Industry should accept this in the long run as this cannot be wished away. This is good as it will remove complacency and gives a better deal in terms of customer service and value.

GST on gas: This is required to harmonise the selling price across the country for CNG and PNG. But some states which get large revenue from MS/HSD may oppose this - if it is clubbed with GST on gas and MS/HSD. Gas by itself can be brought under GST if the government can implement this.

Hydrogen blending: This is still to be tested to establish the feasibility of the efficacy, besides issues in storage, transportation and handling. Hydrogen as a fuel has also yet to be proven as a scalable and practical option given the challenges in handling this gas apart from the cost of green hydrogen.

IOC's experiment in blending hydrogen found some success in reducing some pollutants (Sox/NOx), but could not get approval from the Auto sector trade body SIAM to establish its credentials at the commercial scale.

CRISIL's view on CGD sector outlook

- FY24E demand growth: CGD - 14-16%; CNG - 8-20%, I&C-PNG - 13-15% and D-PNG - 13-15%
- Medium term FY24-FY28E CAGR in CGD estimated at 13-15% vs. FY16-FY20 CAGR of 18% and FY20-FY23 CAGR of 6%
- I&C segment to grow at more than 10% despite competition from alternative fuels
- CGD sector margins per unit are likely to improve in FY24/FY25E on softer input gas cost - mainly due to the revised APM gas formula resulting in reduction in APM gas price

Exhibit 1: EBITDA/SCM for CRISIL CGD rating universe

Yr end Mar	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Rs/scm	5.7	5.9	6.5	8	7.3	7.9	8-9	8-9

Source CRISIL, Nirmal Bang Institutional Equities

CNG to sustain for 4-5 years as EV penetration more a long term threat

- CNG growth is likely to remain intact for 4-5 years as larger footprint in CNG stations - more than 6,000 as at the end of FY23 - that can service 17mn+ CNG vehicles in 200 GAs
- No of CNG stations to expand by 200% to 18,000+ in the next 4-5 years
- On road cost of EV is 1.4-1.5x that of CNG PV (excluding battery replacement cost)
- Eventually, EVs may see increase in penetration in 3Ws from 10-11% to 30-35% by FY27E; In PVs, the increase in EV penetration is likely to be much less – from 1.5-2% to 5-10%; and in LCVs, it is estimate to rise from under 0.5% to 1-6%

Share of domestic gas in CGD gas sourcing to touch 35% by FY27E

- Increase in domestic gas production from 94MMSCMD in FY23 to 102/112/116 in FY24E/FY25E/FY27E, as per CRISIL (FY26E data not available in webinar PPT)
- This is likely to boost share of domestic gas in CGD sector at the expense of LNG (in the CNG/domestic PNG D-PNG) – from 26% in FY23 to 32% in FY25E and 35% in FY27E.

- LNG's share in CGD to decline from 43% in FY22 to 26% in FY23; to 23% by FY24E, 20-25% by FY25E and 25-30% in FY27E

Exhibit 2: Share of domestic gas in CGD

Yr end Mar	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Share %	14%	16%	18%	17%	20%	26%	30%	32%

Source CRISIL, Nirmal Bang Institutional Equities

Watchlist

Faster-than-expected EV adoption, capex cost escalation and PNGRB imposing penalties for not meeting MWP targets

Power and CGD sector boost Oct'23 gas demand

- Noteworthy is the sustained YoY growth in gas demand from the Power sector for the 11th month in a row in Oct'23 after 15 consecutive months of decline until Nov'22.
- The CGD sector growth of 34.6% YoY is likely to be driven more by new GAs while this could also be driven partly by listed CGD stocks under NBIE coverage universe - GGL, IGL and MGL together had 59.5% market share in 1HFY24 in India CGD sales volume. Please see analysis in Exhibit 3 on page 4
- The CNG vehicle registration growth (Vahan data) at 36.4% YoY/24% YoY in Oct'23-Nov'23/YTDFY24 is encouraging and is likely to show up in improved growth in CNG volume, albeit with a lag.

LNG price and trade

- LNG prices have surged by 30.9% QoQ to US$16.1/mmbtu, although they are still down 48.4% YoY. The warmer than expected winter and comfortable near-full gas storage in Europe are likely to weigh on LNG prices, unless there is a dramatic increase in LNG demand from China, Japan and South Korea.
- The US has taken the lead in LNG exports – CY23 exports is estimated at 11.8bn cubic ft/day (bcfd) as EIA - the US' share of global LNG trade is up from 20% in CY21 and 22% in CY23.

Exhibit 3: NBIE CGD universe growth vs Indian CGD growth

CGD volume mmscmd	3QFY23	1QFY24	2QFY24	3QFY24E	QoQ	YoY
IGL						
CNG	6.1	6.2	6.2	6.4	2.1	5.0
PNG	2.0	2.0	2.1	2.1	2.3	2.7
Total	**8.1**	**8.2**	**8.3**	**8.5**	2.1	4.4
% share	**25.8**	**23.6**	**23.1**	**20.7**		
GGL						
CNG	2.4	2.6	2.6	2.7	3.9	12.0
PNG	4.9	6.6	6.7	6.5	-2.4	34.5
Total	**7.3**	**9.2**	**9.3**	**9.3**	-0.7	27.0
% share	**23.1**	**26.6**	**25.9**	**22.6**		
MGL						
CNG	2.5	2.5	2.6	2.7	1.3	7.1
PNG	0.9	0.9	1.0	1.0	-1.7	4.0
Total	**3.4**	**3.4**	**3.6**	**3.6**	0.4	6.3
% share	**10.8**	**9.8**	**10.0**	**8.9**		
MMSCMD	**3QFY23**	**1QFY24**	**2QFY24**	**Oct-23**	**QoQ**	**YoY**
CGD Sector (mmscm)	2901	3157	3311	1269	-	-
CGD Sector(mmscmd)	31.5	34.7	36.0	40.9	13.7	29.8
CGD sector volume MMSCMD						
IGL MGL &GGL	18.8	20.8	21.2	21.4	-	-
Other CGD entities implied	12.7	13.9	14.8	19.6	-	-
Combined share of GGL, IGL &MGL %	59.7	60.0	59.0	52.2		

Source: Company,PPAC, Nirmal Bang Institutional Equities Research

- The implied volume of other CGD companies is likely to change depending on the actual volume sold by IGL, MGL and GGL (NBIE CGD trio). If the latter three deliver higher sales than our current estimates in 3QFY24, it would imply tempering of the share of CGD sales from other entities.
- However, other CGD entities may still enjoy a significantly higher growth than possible from the NBIE CGD trio due to the low base volume for the former. To that extent, we should see CGD segment remain a high growth segment and support overall growth in Indian gas demand for the foreseeable future as we see the ramp-up in new GAs.
- Also, IGL, GGL and eventually MGL (once it starts work on expanding Unison Enviro CGD network) are likely to see growth in excess of 25-30% in their new emerging GAs – please recall that IGL had reported in the 2QFY24 call that the new GAs are growing at 60%. This is likely to become more visible as the gas sales volume attain a more meaningful size

Exhibit 4: CNG vehicle registration trend

Period	Oct-Nov'23	Oct-Nov'22	Ch YoY %	1QFY24	1QFY23	Ch YoY %	2QFY24	2QFY23	Ch YoY %	YTDFY24	YTD FY23	Ch YoY %
Nos	197224	144560	36.4	207200	166425	24.5	259791	170532	52.3	664215	481517	37.9

Source: https://vahan.parivahan.gov.in, Nirmal Bang Institutional Equities Research

Indian gas sector numbers

Exhibit 5: India's segment-wise monthly gas consumption trend – mmscmd

Segment	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep'23	Oct' 23
Fertiliser	54.3	55.8	56.7	56.5	51.9	54.1	57.4	53.3	53.7	57.4	53.8	53.7	57.3	58.9	61.1
Power	21.2	20.5	19.5	21.6	21.8	21.2	21.1	21.0	24.4	26.5	27.6	23.3	31.6	27.4	25.3
City gas	34.8	32.0	30.4	31.9	32.3	32.0	34.4	35.4	34.7	34.6	34.8	35.6	36.1	36.3	40.9
Refinery	11.5	8.9	8.0	10.0	9.5	9.8	9.9	10.1	11.2	15.3	14.4	15.9	16.7	15.9	15.9
Petchem	4.0	4.9	3.3	4.4	6.1	5.6	5.5	8.0	8.5	8.0	5.6	7.1	7.3	6.9	7.4
Other+ losses	34.5	33.6	33.8	32.9	32.2	35.4	32.7	35.9	34.9	34.6	43.3	44.0	49.0	47.2	47.4
Total	**160.2**	**155.7**	**151.7**	**157.3**	**153.8**	**158.1**	**161.0**	**163.7**	**167.4**	**176.4**	**179.5**	**179.5**	**197.9**	***192.7***	***198.1***

Source: PPAC, Nirmal Bang Institutional Equities Research

Exhibit 6: India's segment-wise monthly gas consumption growth rate YoY (%)

Segment Growth YoY %	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
Fertiliser	10.4	6.3	16.7	12.4	8.0	-2.0	13.0	30.7	5.6	5.4	3.3	2.6	-2.7	5.5	5.6	7.8
Power	-20.6	-33.6	-26.6	-32.0	-0.9	8.3	12.3	8.4	4.5	31.8	31.5	35.7	9.2	49.2	34.0	29.8
City gas	8.9	25.9	-9.8	-11.5	-11.7	-13.7	-11.0	-8.4	-7.7	1.1	2.7	-1.6	2.4	3.7	13.4	34.6
Refinery	-33.7	-14.4	-36.0	-40.8	-19.0	-17.6	-3.2	-19.0	-20.1	-12.7	27.8	12.8	30.5	44.7	78.4	100.0
Petchem	-25.2	8.8	-37.7	-57.4	-43.4	-27.1	-29.4	-29.9	43.6	197.7	30.0	90.9	13.5	81.5	40.1	121.4
Other+ losses	0.9	0.8	-7.0	-5.4	-5.3	-5.3	4.4	-2.2	15.1	15.1	4.4	41.5	24.4	42.1	40.7	40.4
Total	***-4.3***	***-1.9***	***-7.9***	***-11.0***	***-4.7***	***-6.4***	***2.2***	***4.2***	***3.4***	***11.8***	***9.8***	***16.2***	***8.8***	***23.5***	***23.8***	***30.6***

Source: PPAC, Nirmal Bang Institutional Equities Research

Exhibit 7: Trend in LNG's share in gas consumption in each sector

LNG Share (%)	1QFY23	1QFY24	2QFY23	2QFY24	Oct'22	Oct '23	FY22	FY23
Fertilizer	72.1	85.5	72.7	85.3	77.5	85.5	68.4	78.9
Power	27.1	31.4	12.3	35.8	8.9	30.6	29.9	15.1
Citygas	41.1	21.1	37.3	22.7	14.8	26.2	43.0	26.3
Refineries	62.4	66.7	59.6	57.2	55.9	61.9	73.9	62.3
Petchem	75.8	55.3	56.5	48.5	27.2	55.3	88.3	57.0
others Incl losses	28.2	21.3	20.0	19.3	20.8	21.5	25.4	18.9
India gas consumption	**49.9**	**48.0**	**44.6**	**46.3**	**41.3**	**47.9**	**49.8**	**43.9**

Source: PPAC, Nirmal Bang Institutional Equities Research

Exhibit 8: Trend in Indian gas demand

Segment	Vol. (mmscmd)		Growth YoY	Vol. (mmscmd)		Growth YoY	mmscmd	Growth YoY
	FY22	FY23	(%)	1HFY23	1HFY24	(%)	YTD FY24	(%)
Fertilizer	49.5	53.2	7.3	54.0	55.8	3.2	56.6	3.9
Power	24.5	22.3	-8.7	20.3	26.8	31.8	26.6	31.5
Citygas	33.4	33.0	-1.2	34.2	35.3	3.5	36.2	7.5
Refinery	14.6	10.7	-26.4	11.7	14.9	27.5	15.1	35.0
Petchem	7.8	5.4	-31.6	4.5	7.2	59.5	7.2	66.4
Other+ losses	35.4	36.3	2.7	32.9	42.2	28.0	42.9	29.9
Total	**165.1**	**160.8**	**-2.6**	**157.7**	**182.3**	**15.6**	**184.6**	**17.7**

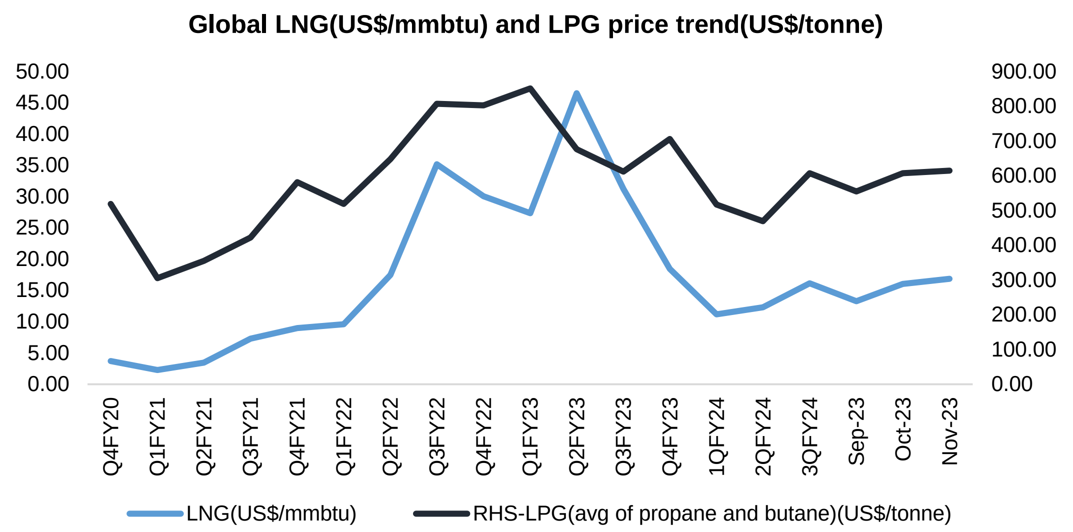
Source: PPAC, Nirmal Bang Institutional Equities Research

Exhibit 9: Trend in segment share in total LNG consumption

Segment	Segment share in Indian LNG consumption %			
	Oct'22	Oct'23	1HFY23	1HFY24
Fertilizer	70.2	55.1	52.6	55.5
Power	2.8	8.2	5.3	10.5
Citygas	7.2	11.3	18.0	9.0
Refinery	7.1	10.4	9.6	10.7
Petchem	1.4	4.3	4.0	4.4
Other+ losses	11.2	10.8	10.6	9.9
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: PPAC, Nirmal Bang Institutional Equities Research

Exhibit 10: Global LNG and LPG price trend



Source: Bloomberg, Nirmal Bang Institutional Equities Research

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Team Details:			
Name		**Email Id**	**Direct Line**
Rahul Arora	CEO	rahul.arora@nirmalbang.com	-
Krishnan Sambamoorthy	Head of Research	krishnan.s@nirmalbang.com	+91 22 6273 8210
Dealing			
Ravi Jagtiani	Dealing Desk	ravi.jagtiani@nirmalbang.com	+91 22 6273 8230, +91 22 6636 8833
Michael Pillai	Dealing Desk	michael.pillai@nirmalbang.com	+91 22 6273 8102/8103, +91 22 6636 8830

Nirmal Bang Equities Pvt. Ltd.

Correspondence Address

B-2, 301/302, Marathon Innova,
Nr. Peninsula Corporate Park,
Lower Parel (W), Mumbai-400013.
Board No. : 91 22 6273 8000/1; Fax. : 022 6273 8010