Oil, Gas & Consumable Fuels

India

Sector View: **Neutral** NIFTY-50: **24,287** **July 03, 2024**

The curious case of rising capex among O&G PSUs

O&G PSUs' capex has increased at a rapid pace, and was up over 3X during FY2019-24 (versus FY2005-09). However, returns have been weak. In upstream, despite large capex, oil/gas production and reserves are declining. In refining, there is surplus capacity, and creation of new capacity is questionable. Petchem is a new focus area for PSUs, but their track-record has been dismal. High capex has led to low FCF relative to PAT for PSUs. Recently, PSUs have benefited from higher realizations, yet FCF remains weak. The market seems to be giving generous multiples to near-term elevated earnings and ignoring large capex with likely weak returns. Maintain cautious view on oil PSUs.

Capex of O&G PSUs: On a continued upward trajectory

Oil & gas PSUs' large and rising capex is one of key reason for our cautious stance. Conventional O&G is a sunset sector, and returns have been low. With pricing interventions, and weak outlook, the private investment has slowed. However, PSUs' capex continues to rise. Compared with the average annual capex of Rs340 bn over FY2005-09, top 10 O&G PSUs' capex rose 2X to ~Rs700 bn in 2009-14, 2.7X to ~Rs930 bn over FY2014-19 and 3.2X to Rs1.1 tn in FY2019-24. With plans aggressive in core areas, most are diversifying into petchem, renewable, and new energy, where returns will be weaker. Thus, capex will likely keep rising, while returns will likely get weaker for O&G PSUs.

Market giving high multiples to elevated ST earnings, ignoring large capex

Most PSUs have benefitted recently with higher prices, realizations or margins.

- **Upstream:** Net crude oil realizations (post wind-fall tax, royalty, cess) for FY2022-24 are ~50% higher versus FY2016-21 average. Similarly, APM gas prices are nearly 100% higher versus FY2016-22 average.
- **OMCs:** GRMs have been a puzzle and too good to believe. Reported GRMs have been at very high premium to benchmarks, or what their product slate suggests, accounting for Russian crude and better distillate cracks. While prices of petrol/diesel are frozen, the OMCs marketing margins have been elevated.
- **GAIL:** GAIL is realizing ~15% higher-than-approved tariffs for its integrated pipeline. In addition, due to elevated spreads on ~50% of HH linked US LNG, sold on oil-linked basis (primarily to fertilsers companies), earnings have been elevated.

Our near-term earnings estimates are optimistic (and not much below consensus estimates), as we assume generous prices/margins. However, in the past earnings have been volatile both on macro environment and government policies. Despite the strong run-up of PSUs, the Street seems to be giving high multiples, and, in our view, ignores large capex with likely weak returns.

Maintain cautious view on oil & gas PSUs and Petronet LNG

We have a cautious view on oil & gas PSUs. We have SELL ratings on IOC, BPCL, HPCL, GAIL and Oil India, with a REDUCE rating on ONGC. For Petronet LNG as well, we have a SELL rating. We have kept our ratings and FVs unchanged.

Company data and valuation summary

Company	Rating	Price (Rs) 03-Jul-24	Fair Value (Rs)	Upside (%)
Oil, gas and consumable fuels				
ONGC	REDUCE	275	275	0
Oil India	SELL	495	333	(33)
BPCL	SELL	307	255	(17)
HPCL	SELL	330	190	(42)
IOCL	SELL	169	105	(38)
Gas Utilities				
GAIL (India)	SELL	220	150	(32)
Petronet LNG	SELL	334	230	(31)

Source: Bloomberg, Company data, Kotak Institutional Equities estimates

Prices in this report are based on the market close of July 03, 2024

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Anil Sharma
anil.sharma2@kotak.com
+91-22-4336-0875

Aditya Bansal
aditya.bansal@kotak.com
+91-22-4336-0876

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Overview

Upstream: Rising capex, but declining production and 1P reserves

There is a need to raise domestic E&P production as India's import dependence is high (~88% for crude oil and ~50% for natural gas) and rising. But India is not well-endowed with resources. We note that, excluding overseas & domestic M&As, upstream PSUs have incurred a capex of over Rs5 tn in the last 15 years (ONGC: ~Rs4.4 tn, Oil India: ~Rs600 bn). However, in this period, ONGC/OIL's combined gas production has declined by ~10% and oil production by a higher ~20%.

In the last 15 years, out of ONGC's nearly Rs1.4 tn exploration capex (~1/3rd of the overall capex of Rs4.4 tn), nearly Rs1.2 tn, or 87%, has been written off. For 18 consecutive years now, ONGC has reported reserve replacement ratio (RRR) of more than one. Yet, 1P reserves have been declining. Also, despite declining production, the R/P ratios have been declining.

Refining: Surplus capacity, slowing demand; not much need to add capacity

India has been a surplus refining capacity country for nearly two decades now. For key diesel/petrol, net exports are 25-28% of domestic production. Demand growth has been slowing for all key products. More importantly, global peak demand is not far away. There is not much rationale to invest in new capacities that have a life of 40-50 years or higher. Despite this, based on announced capacities, India is expected to add over 50 mmtpa of refining capacity (excluding OMCs planned 60-mmtpa mega refinery in JV with a strategic partner), with likely investment of Rs3 tn by 2030 to take total capacity to over 300 mmtpa.

Most of the new capacity addition projects have seen large cost overruns. For example, for HPCL's Rajasthan refinery, costs are up by nearly 69% to Rs730 bn from October 2017 when the project took-off (costs are much higher when the project was first envisaged around 2006-10). Based on the last five-year prices the Rajasthan refinery's GRMs will be only about US$10-17/bbl. The required GRM, with 16% pre-tax return on equity, is nearly US$26/bbl, on our ball-park estimates.

Gas pipelines: Networks underutilized; more capacity being added

With large new pipeline construction and upgrades, GAIL's capital employed in the gas transmission business has increased by ~3.5X to Rs450 bn since FY2012. In contrast, its gas transmission volumes are largely flat (FY2024: 120 mmscmd, FY2012: 118 mmscmd). It's network utilization was ~52% in FY2024. Several pipelines have below 30-35% utilization and are likely loss-making.

With GAIL adding ~40 mmscmd new capacity, we expect the utilization to remain around 50%. Further, with transmission EBIT flat in the next few years and capital employed rising, the post-tax ROCE for the transmission business will likely decline.

Petchem is new focus for most oil PSUs (and their related entities too)

Most oil PSUs either directly or through their subsidiaries or JVs have announced new petchem capex plans. In our view, compared to upstream, refining, or gas/LNG businesses, the petrochemical business is more complicated. Despite India having a significant deficit in most petchem products (and thus premium pricing versus global levels), PSUs' track record has been dismal.

- The profitability of both IOC and GAIL's petchem businesses has been weak (both reported EBIT losses in FY2023 and FY2024). Since, GAIL doubled its PE capacity in FY2015, it has not reached profitability seen prior to expansion.
- OPaL's (ONGC and GAIL co-promoters) project was delayed by over five years, and capex more than doubled to nearly Rs290 bn. Since the commercial start, OPaL has reported losses each year and has accumulated losses of ~Rs170 bn.
- GAIL's recently announced 1.5 mmtpa ethane project is overall smaller and less complex (versus OPaL project). GAIL's indicated capex of Rs600 bn is over 2X of OPaL's eventual capex.
- For its under-construction PDH-PP project at Usar and PP project at Pata, GAIL has revised the capex estimate by 43-44%. At the announced capex of Rs207 bn for its 750kta PDH (500 kta PP), Petronet LNG's project is even more expensive (versus GAIL). Based on average spreads for the last 5-10 years, we believe these new projects will unlikely be profitable unless the cycle really revives.

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PSU capex keeps rising; market ignoring its futility?

Indian oil & gas PSUs capex has seen significant increases over the years. Also, most PSU projects see time/cost over-runs. With pricing interventions, and weak outlook, private investment has waned. For upstream/R&M, recently end-prices (while controlled) are higher, and profitability is better in recent years. Still, FCF remains low, and FCF/PAT has been weak. Our earnings are not much below consensus, but market seem to be giving generous multiples to near-term elevated earnings and ignoring large capex with likely weak returns.

Our cautious view on Indian oil and gas PSUs' mainly stems from their large and increasing capex amid a global environment in which the conventional energy business (in particular upstream and refining) is being seen as a sunset sector and incrementally higher investments are being made to reduce CO2 emissions and increase renewable energy use.

Even in India, investments by the private sector in upstream and refining seem to have slowed down. In upstream, while KG-D6 field has seen new investments, most of the discoveries were made over a decade ago. The private sector has not added any greenfield refining capacity for more than a decade now. Similarly, the private sector has not added any new large gas pipeline. Over the last decade, meaningful private investment, apart from the KG-D6 block, has happened or is ongoing mainly in petchem (mainly Reliance) and in LNG terminals and CGD.

In contrast, PSUs' capex has seen sharp increases in conventional oil & gas. We note that compared to average annual capex of Rs340 bn over FY2005-09, top 10 PSUs' capex rose 2X to ~Rs700 bn in 2009-14, 2.7X to ~Rs930 bn over FY2014-19, and 3.2X to Rs1.1 tn in FY2019-24. In our view, apart from continuing capex in core areas, most oil & gas PSU are diversifying into petchem, renewables and new energy. Thus, we believe capex will keep rising.

Compared to 2005-09 period, PSU capex had doubled over 2010-14, and is up over 3X in last five years

Exhibit 1: Oil PSUs trend of capital expenditures, March-end fiscal years, 2005 onward (Rs bn)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Upstream																				
ONGC	107	114	133	177	218	236	283	292	295	325	300	301	280	724	287	301	264	266	292	346
OVL	43	63	58	45	161	50	57	80	109	354	72	68	184	62	60	54	54	48	27	33
Oil India	9	10	16	12	16	16	17	17	29	94	38	36	105	84	37	37	128	42	51	54
Upstream	159	187	206	234	396	301	357	390	433	772	409	405	569	870	385	392	446	357	370	432
Gas mid-stream																				
GAIL	5	11	18	13	28	37	52	68	60	41	16	15	22	36	60	44	56	70	83	104
Oil refining and marketing																				
IOC	51	42	39	51	103	123	98	98	90	167	143	115	219	203	265	283	272	296	352	387
BPCL	6	9	17	8	20	31	23	16	38	44	69	83	168	82	101	103	107	114	115	110
HPCL	4	15	26	17	13	31	31	26	29	26	27	14	59	71	117	138	140	162	138	138
OMCs	62	66	81	77	136	184	152	140	158	237	239	212	446	356	483	523	519	573	606	635
PSU refiners																				
MRPL	1	3	2	1	3	14	40	39	21	14	27	15	6	13	11	13	22	6	6	15
CPCL	2	1	1	2	4	9	7	5	3	2	5	13	13	10	12	10	6	6	6	6
NRL	1	1	1	1	1	2	1	1	2	4	1	1	5	4	5	5	10	34	66	86
PSU refiners	4	6	4	3	8	25	48	45	25	20	33	28	24	26	27	28	38	46	79	107
Total	**229**	**270**	**310**	**327**	**568**	**548**	**609**	**642**	**675**	**1,070**	**697**	**661**	**1,061**	**1,289**	**955**	**988**	**1,059**	**1,045**	**1,137**	**1,278**
Average			**341**					**709**					**933**					**1,101**		

Source: PPAC. MoP&NG, Kotak Institutional Equities

Most PSU projects see time and cost overruns

One reason for the increase in PSUs' capex is that the majority of their large projects see large time and cost overruns. The below exhibit shows that many large ongoing projects are seeing time and/or cost overruns. In a few cases, despite the large time-overruns, the capex estimates have not yet been revised to reflect that. Consequently, we will not be surprised even if the capex estimates for such delayed projects are also revised upward.

PSUs annual average capex has trebled in the last 5-years versus 2005-09; BPCL/HPCL capex up 9-10X!

Exhibit 2: PSU capex trend in 5-year blocks; March-end fiscal years, 2005 onward (Rs bn)

	2005-09	2010-14	2015-19	2020-24	Last 5 years vs 2005-09 (x)
Upstream					
ONGC	749	1,431	1,892	1,469	2.0
OVL	370	649	446	215	0.6
Oil India	63	173	300	312	5.0
Upstream	1,182	2,252	2,638	1,997	1.7
Gas mid-stream					
GAIL	76	257	149	356	4.7
Oil refining and marketing					
IOC	287	576	946	1,590	5.5
BPCL	61	151	502	549	**9.1**
HPCL	74	143	288	717	**9.7**
OMCs	422	871	1,736	2,856	6.8
PSU refiners					
MRPL	10	129	72	63	6.1
CPCL	10	25	52	33	3.2
NRL	5	10	15	201	38.3
PSU refiners	26	164	139	297	11.5
Total	**1,705**	**3,544**	**4,663**	**5,506**	**3.2**
Average / year	**341**	**709**	**933**	**1,101**	

Source: PPAC. MoP&NG, Kotak Institutional Equities

Most of the ongoing large projects of PSUs seeing large time and/or cost overruns

Exhibit 3: Oil PSU's select ongoing projects time/cost overrun details (months, Rs bn, %)

Company	Project	Approval	Completion Original	Completion Likely	Delay (months)	Capex (Rs bn) Original	Capex (Rs bn) Likely	Change (%)
Upstream								
ONGC	KG-DWN-98-2 Cluster II development	Mar-16	Jun-20	May-24	**47**	340	340	–
ONGC	Mumbai High (North Redevelopment Phase iV)	Apr-19	Mar-22	Jun-24	**27**	32	40	**23**
ONGC	Mumbai High/Heera fields (life extension of wall platforms)	Dec-15	Apr-18	May-26	**97**	32	34	**6**
Refining and petrochemicals								
IOC	Panipat refinery expansion (15 to 25 mmtpa)	Feb-21	Sep-24	Dec-25	**15**	329	362	**10**
IOC	Petchem and Lubes integration (Gujarat refinery)	Sep-20	Aug-24	Dec-25	**16**	150	189	**26**
IOC	Acrylics or Oxo-Alcohol project (Gujarat refinery)	Nov-19	May-23	Jul-24	**14**	53	59	**12**
IOCL	Integrated PX and PTA at Paradip	Jul-20	Jan-24	Apr-25	**15**	138	138	–
IOCL	Barauni refinery expansion		Apr-23	Dec-24	**20**	138	148	**7**
HPCL	Vishak Refinery modernisation	Jul-16	Jul-20	Jun-24	**47**	209	263	**25**
RRL (HPCL JV)	Rajasthan refinery	Oct-17	Oct-22	Mar-25	**29**	431	729	**69**
NRL	Numaligarh refinery expansion (3 to 9 mmtpa)	Jan-19	Oct-24	Jul-25	**9**	124	190	**53**
CPCL	Cauvery Basin refinery	Sep-21	Mar-24	Jul-25	**16**	294	330	**12**
GAIL	500 kta PDH-PP at Usar	May-19	Apr-25	Oct-25	**6**	78.2	113	**44**
GAIL	60 kta PP plant at Pata	Mar-19	Jan-24	Mar-25	**14**	9.1	13	**43**
Pipelines								
GAIL	Kochi-Koottanad-Bangalore-Mangalore	Jun-09	Dec-12	Nov-24	**143**	29	59	**103**
GAIL	Durgapur - Haldia	Mar-17	Dec-20	Jun-24	**42**	17	24	**40**
GAIL	Dhamra - Haldia	Mar-20	Nov-22	Jun-24	**19**	10	10	–
GAIL	Srikakulam - Angul	Sep-19	Jul-20	Jul-24	**48**	27	27	–
GAIL	Mumbai - Nagpur - Jharsugda	Jun-20	May-23	Oct-24	**17**	78	78	–
IOCL	Ennore -Thiruvallur - Bengaluru - Madurai - Tuticorin	May-16	Dec-18	Dec-24	**72**	45	60	**34**
Indradhanush Ga	North-East Gas Grid	Nov-20	Mar-24	Mar-25	**12**	93	93	–

Source: Company, Ministry of Statistics and Programme Implementation, Kotak Institutional Equities

FCF have been weak, will likely get weaker

As oil & gas PSUs capex has been on a rise, it has resulted in low FCF relative to PAT for most companies. As we discuss below, in recent years PSUs earnings have been relatively stronger on higher prices and margins, which may not sustain. Still, FCF/PAT has been low. Going forward, apart from their core business, most oil & gas PSUs will increasingly spend on petchem, renewables and new energy, where returns will likely be weak. We think FCF generation will remain weak for most oil & gas PSUs.

FCF/PAT conversion has been weak for most

Exhibit 4: FCF and PAT of Oil PSUs and PLNG, March fiscal year-ends, 2016-26E (Rs bn)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025E	2026E	2016-22	2016-26E
BPCL													
PAT	71	84	79	71	21	141	88	30	280	100	118	555	1,084
FCF	14	(30)	34	(10)	(42)	210	112	13	215	(15)	7	287	506
FCF/PAT (%)	**20**	**(36)**	**43**	**(14)**	**(205)**	**149**	**126**	**43**	**77**	**(15)**	**6**	**52**	**47**
HPCL													
PAT	37	66	64	60	11	113	63	(90)	147	61	74	413	606
FCF	20	42	32	(22)	(99)	34	13	(177)	65	(53)	(27)	19	(172)
FCF/PAT (%)	**54**	**63**	**50**	**(37)**	**(913)**	**30**	**21**	**NM**	**44**	**(86)**	**(37)**	**5**	**(28)**
IOCL													
PAT	107	264	195	170	(36)	237	242	82	396	200	218	1,178	2,075
FCF	70	88	78	(132)	(242)	215	(38)	(114)	253	37	83	38	296
FCF/PAT (%)	**65**	**33**	**40**	**(78)**	**NM**	**91**	**(16)**	**(139)**	**64**	**18**	**38**	**3**	**14**
ONGC													
PAT	178	197	217	314	162	156	476	465	509	532	556	1,700	3,762
FCF	71	82	270	240	144	67	352	330	445	235	414	1,225	2,649
FCF/PAT (%)	**40**	**42**	**124**	**76**	**89**	**43**	**74**	**71**	**88**	**44**	**74**	**72**	**70**
Oil India													
PAT	24	25	28	33	22	11	38	68	75	70	74	182	468
FCF	19	18	14	34	34	(87)	44	50	54	39	29	76	248
FCF/PAT (%)	**79**	**71**	**51**	**104**	**155**	**(782)**	**115**	**73**	**72**	**56**	**39**	**42**	**53**
GAIL													
PAT	22	38	46	63	59	48	104	53	88	90	91	380	703
FCF	31	38	57	23	(1)	37	40	(44)	27	23	23	225	255
FCF/PAT (%)	**142**	**100**	**125**	**37**	**(1)**	**77**	**38**	**(83)**	**31**	**26**	**25**	**59**	**36**
PLNG													
PAT	9	17	21	23	26	29	30	26	33	37	37	156	289
FCF	22	13	26	19	24	30	28	8	34	(27)	(30)	162	147
FCF/PAT (%)	**237**	**77**	**127**	**83**	**91**	**102**	**93**	**32**	**103**	**(71)**	**(83)**	**104**	**51**

Source: Companies, Kotak Institutional Equities estimates

Recent earnings elevated as realization better

The oil & gas PSUs earnings recently have been elevated compared to historical levels. The realization across upstream, refining & marketing, gas trading and transmission have been better. Our earnings forecasts are optimistic and assume significant benefits to continue. But, do note that there is risk, if such benefits were to decline.

- **Upstream: oil and gas net realizations have been higher**

As oil prices moved up post-pandemic, upstream's net oil realizations (post statutory levies and taxes) had moved up in FY2022. As prices further moved up post Russia-Ukraine conflict, government had imposed windfall taxes from July-2022. With windfall taxes, while government takes away all the benefit of oil prices over ~US$75/bbl, yet upstream companies' net realization is higher at about US$50-55/bbl.

For ONGC, compared to average US$37/bbl over FY2016-21, net crude oil realizations (post windfall tax, statutory levies) are significantly higher at average US$56/bbl over FY2022-24. Similarly, for Oil India, net oil realizations have moved up from US$35/bbl over FY2016-21 to nearly US$52/bbl over FY2022-24.

Similarly, upstream's realization on APM gas have sharply increased over last two years. With the earlier APM price formula (linked to four regional hubs), average APM prices had increased nearly 2.8x in FY2023 to US$7.3/mmbtu. The formula was revised from April-2023. Price in now linked to oil prices (10% of previous month's Brent price) with a ceiling price (US$6.5/mmbtu for FY2024-25, US$0.25/cent annual increase thereafter). Still current prices are nearly 2x of average APM prices over FY2016-22.

OMCs: Too good GRMs; Retail prices frozen, but marketing margins elevated

In recent years, OMCs elevated GRMs have perplexed us. For details, please refer to our April 2024 note (OMCs: The GRM puzzle).

Compared to significant discount to regional Singapore complex benchmark, in recent years OMCs have reported large premiums. While there are benefits of improved middle distillate cracks, and usage of cheaper Russian crudes, the gap between OMCs reported GRM based and implied GRMs (based on reported production, and RM costs adjusted for ethanol costs) has widened. with overall throughput of 130mmtpa for three OMCs, each US$1/bbl higher margin leads to a gain of ~US$1 bn for OMCs.

For nearly 80% of domestic sales volumes, currently OMCs do not have pricing power. Prices are changed infrequently and are not completely based on international prices. Thus, OMCs are cushioning all the impact of the variation in oil price, product cracks, logistics costs, exchange rate variations and more. For petrol and diesel, based on current retail prices, OMCs' breakeven prices are ~US$100-101/bbl of international prices for gasoline/diesel. With the product crack margins in the range of US$15-20/bbl, implied breakeven prices for oil are US$80-85/bbl.

Before the Rs2/liter retail price cut in March-2024, this break-even price was US$104-105/bbl on international gasoline/diesel prices (and ~US$85-90/bbl on oil prices). Oil price has been lower than these levels (except FY2023), OMCs have been making higher than normative marketing margins on petrol/diesel. We also note if one were to assume lower refining GRMs (versus reported), the implied marketing margins would be even higher.

GAIL: Realizing higher tariff versus approved; elevated oil index versus HH spreads

For GAIL's integrated pipeline network that was formed after combining nine separate networks (tariffs were decided separately earlier), regulator had approved a new tariff of Rs58.6/mmbtu. This tariff was ~22% higher versus earlier weighted average tariff. However, GAIL has been realizing 15-16% higher tariff versus approved tariff. This is due to favorable zonal volume distribution versus distribution it submitted for zonal tariff determination of INGPL and subsequent unified tariff determinations.

In the current regulatory mechanism, when tariffs are trued-up (for actual costs and others), no adjustment will be made for entities realizing higher (or lower) revenue due to changes in the zonal volume mix. While in our view, this methodology is flawed (will encourage entities to game zonal tariff), GAIL will likely keep making higher tariff until the next tariff revision.

GAIL's earnings in gas trading/marketing business have also been elevated. This is mainly driven by elevated spread on nearly 50% of HH linked US LNG volumes (less than 10% of overall volumes), that is sold to customers (mainly fertilizer plants that buy LNG on Qatar contract formula) on oil linked pricing. Spread have been as high as US$2.5-3/mmbtu, in our view, such spreads cannot sustain for long, Also, buyers could opt for HH linked formula itself. However, for our earnings estimates, we assume marketing EBIT of ~Rs50 bn which is higher than company's guidance of ~Rs40-45 bn.

We also note that gas trading/marketing segment has accounted for over 50% GAIL's EBIT in both FY2023/24. In our view, such earnings can not sustain for long, and should get lower multiples. However, we think market is ignoring this, and is giving higher multiples.

In recent years, upstream's net oil/gas price realization are higher; OMC's refining margins are too strong (and too good to believe), and marketing margins are higher; GAIL's marketing earnings strong on US volumes, and INGPL tariff higher versus approved.

Exhibit 5: Few of the relevant operating metrices for oil & gas PSUs, March-end fiscal years, 2016 onwards

	2016	2017	2018	2019	2020	2021	2022	2023	2024	Comment
Upstream										
Net crude realisation (US$/bbl)										
ONGC	31	35	40	48	41	30	55	57	54	Despite windfall tax, net crude realisation 47-48% higher versus FY2016-21
Oil India	28	31	37	45	40	29	53	54	49	
APM gas price (US$/mmbtu)	4.7	3.1	3.0	3.6	4.3	2.3	2.6	7.3	6.5	APM prices up over 100%
Oil Marketing companies										
Refining GRM (US$/mmbtu)										
IOC	5.1	7.8	8.5	5.4	0.1	5.6	11.3	19.5	12.1	For FY2022-24 (versus FY2016-21) SG complex up US$2.6/bbl. GRM increases much higher (US$4.4/bbl for HPCL, US$9-9.5/bbl for IOC/BPCL).
BPCL	6.6	5.3	6.9	4.6	2.5	4.1	9.1	20.3	14.1	
HPCL	6.7	6.2	7.4	5.0	1.0	3.9	7.0	12.1	9.1	
Singapore complex	7.5	5.8	7.2	4.9	3.3	0.5	4.9	10.8	6.6	
Premium/(discount) to SG complex										
IOC	(2.4)	1.9	1.3	0.5	(3.2)	5.1	6.4	8.7	5.5	For 2016-21, on average OMCs reported discounts to SG complex; Now they report large premiums.
BPCL	(0.9)	(0.6)	(0.4)	(0.3)	(0.8)	3.6	4.1	9.5	7.5	
HPCL	(0.8)	0.4	0.2	0.1	(2.2)	3.4	2.0	1.3	2.5	
Marketing margins										
Diesel (Rs/liter)	1.8	1.8	1.7	2.6	2.8	5.1	3.7	(7.0)	4.9	Except in 2023 (diesel, petrol), 2022 (petrol), marketing margins far higher versus past.
Petrol (Rs/lter)	2.2	2.0	1.9	2.9	2.5	4.9	1.6	0.9	7.0	
GAIL										
Transmission tariff (Rs/mmbtu)										
Realised tariff	31	33	34	39	42	42	42	45	62	GAIL's realised tariff for Integrated networks are ~14-15% higher due to better zonal mix versus used for deciding zonal tariffs.
INGPL tariff **							44	48	67	
Approved INGPL tariff									58.6	
Marketing business										
Volume (mmscmd)	74	81	85	97	96	89	96	95	101	GAIL is making windfall gains on ~50% of US volumes (less than 10% of overall) due to high spreads on oil indexed sale prices and HH linked purchase price.
Marketing margin (Rs/mmbtu)	14	12	11	21	16	(6)	39	26	48	
Marketing EBIT (Rs bn)	14	13	13	29	22	(7)	49	31	61	
Marketing EBIT share (%)	40	23	18	31	29	(13)	37	56	53	

Note:

(a) Upstream net crude realisation are post- windfall tax, royalty, and cess.

(b) Diesel/petrol marketing margins are our estimates.

(c) GAIL's Integrated network tariff are our estimates.

Source: Company, Kotak Institutional Equities

Our earnings estimates are not much below street; for OMCs street likely to cut numbers post weak 1QFY25

Exhibit 6: KIE versus consensus estimates

	Standalone EBITDA (Rs bn)						Stand-alone PAT (Rs bn)					
	KIE		Consensus		KIE versus consensus (%)		KIE		Consensus		KIE versus consensus %	
	2025E	2026E	2025E	2026E	2025E	2026E	2025E	2026E	2025E	2026E	2025E	2026E
Upstream												
ONGC	758	808	742	781	2	3	384	386	424	445	(9)	(13)
Oil India	101	109	102	111	(1)	(1)	70	74	76	83	(8)	(11)
OMCs												
IOC	429	464	457	498	(6)	(7)	200	218	211	232	(5)	(6)
BPCL	200	230	237	252	(16)	(9)	100	118	129	138	(23)	(14)
HPCL	143	170	166	188	(14)	(10)	61	74	80	92	(24)	(19)
Gas utilities												
GAIL	145	150	141	156	2	(4)	90	91	91	100	(0)	(9)
PLNG	57	58	53	58	7	(0)	37	37	35	38	6	(3)

Source: Visible Alpha, Kotak Institutional Equities estimates

2

Upstream: Rising capex but declining production

Over last 15-years, even as upstream PSUs have spent nearly Rs5 tn in domestic E&P, combined gas production has declined by ~10% and oil production by ~20%. Despite ONGC reporting reserve replacement ratio (RRR) of >1 for many years, proved (1P) reserves have been on a decline. Compared to ONGC, Oil India has seen increases in gas reserves as more contracts have been tied-up. Proved reserve to production ratio has been declining for both. Both companies guide for rising capex in conventional E&P. Also, both ONGC (directly and via OPAL) and Oil India (via NRL) are also diversifying in petrochemicals.

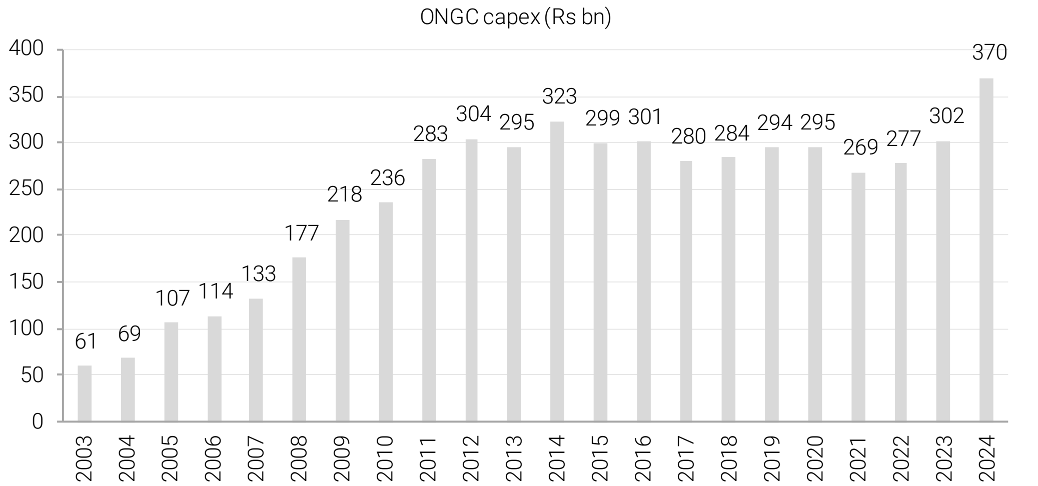
Although India's oil consumption has been rising consistently, domestic oil production has been on a declining path, with the import dependency for oil increasing from ~80% in FY2010 **to 88% now**. Similarly, the share of LNG in gas consumption has increased from ~30% in FY2012 to nearly 50% currently. Certainly, with rising import dependence, there is a case to invest in domestic E&P. However, unfortunately, India does not have significant oil and gas resources. We note that there were some major discoveries in the East Coast deep-water during 2002-06. However, there have not been any major large-scale discoveries for nearly 15-years now.

Exhibit 7 shows ONGC's domestic capex since FY2003, excluding large M&A expenses (e.g., HPCL or GSPC's East Coast block acquisition in FY2018). From just ~Rs60-70 bn over FY2003/04, ONGC annual capex had increased each year to ~Rs300 bn in FY2012. In the last 15 years, since FY2010, ONGC's domestic capex has averaged ~Rs300 bn, with a total capex of nearly Rs4.4 tn over this period. Despite this increased rate of capex, FY2024 gas/oil production was ~15%/24% lower versus FY2012 levels.

ONGC: Rising capex, yet production and reserves on a declining trend

In the last 15 years (since FY2010), ONGC's total capex was ~Rs4.4 tn (annual average ~Rs300 bn)

Exhibit 7: ONGC's stand-alone capex, March-end fiscal years, 2003-onward (Rs bn)

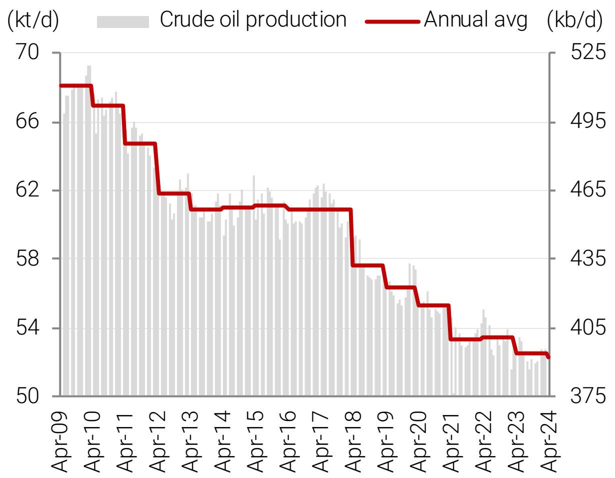


Notes:
(a) The above capex excludes M&A like HPCL, and GSPC's east coast block acquisitions

Source: Company, Kotak Institutional Equities

In last 15 years, ONGC's oil production has declined by ~24%

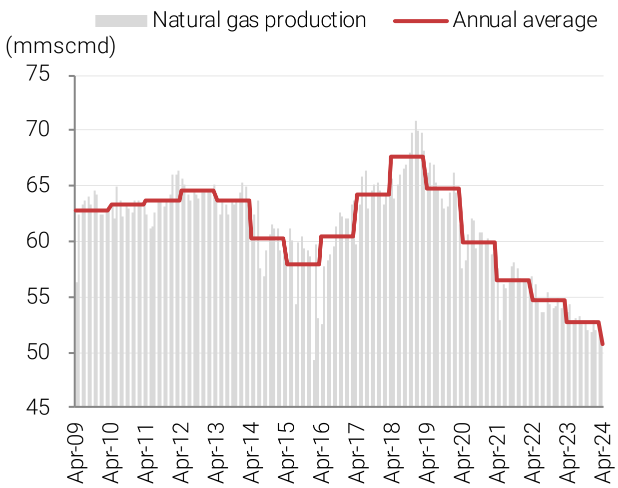
Exhibit 8: ONGC's domestic oil production, April-2009 onward (kt/d, kb/d)



Source: Company, MoP&NG, Kotak Institutional Equities

… gas production has also declined by ~15%

Exhibit 9: ONGC's natural gas production trend, April-2009 onward (mmscmd)



Source: Company, MoP&NG, Kotak Institutional Equities

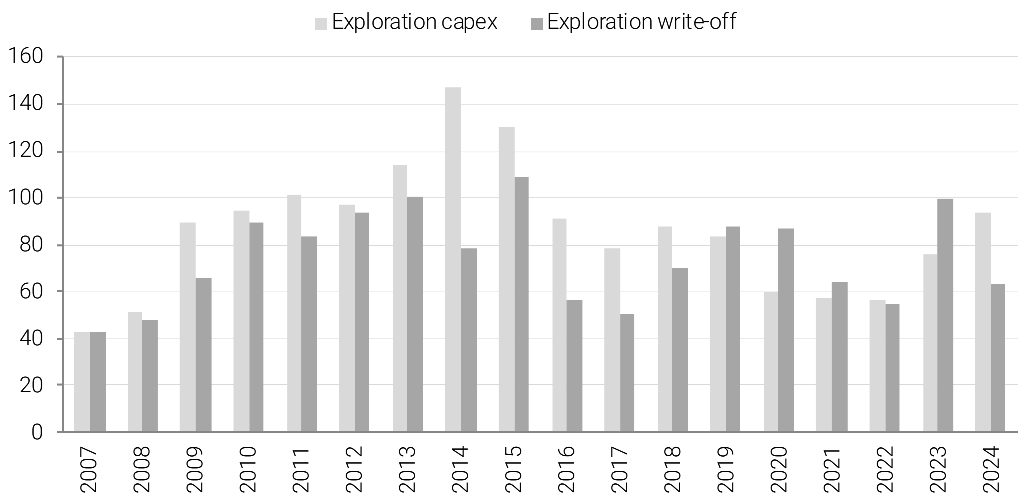
Exhibit 10 below shows ONGC's exploration capex and write-off trends. For exploration efforts that do not result in success, the expenses are usually written off. Write-offs are not done if there are discoveries. However, if discoveries are found not to be commercially viable, they are also written off.

Since FY2010, ONGC has incurred nearly Rs1.4 tn in survey and new exploration wells. This is nearly 1/3rd of its domestic E&P expenses. We also note that during this period, the survey/drilling write-off is nearly Rs1.2 tn, or 87%. Thus, bulk of exploration expenses seem to have been written off.

We note that for 18-consecutive years now, ONGC has reported that its 2P reserve replacement ratio (RRR) has been greater than one. Earlier (prior to FY2011) ONGC reported RRR based on 3P reserves, and now it reports these on 2P basis. In recent years, 2P RRR has been trending down.

In the last 15 years, ONGC's exploration capex is ~Rs1.4 tn (~1/3rd of overall capex), with write-off of Rs1.2 tn, so bulk (~87%) of it seems written off

Exhibit 10: ONGC's domestic exploration capex and write-off, March fiscal-year ends, 2007 onward (Rs bn)



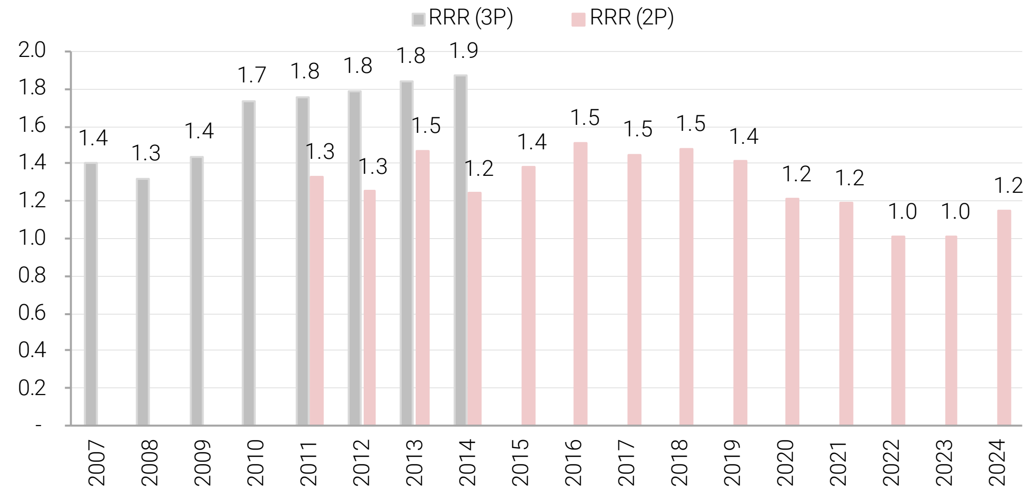
Notes:

(a) Exploration capex (or write-off) includes reported survey/exploration drilling capex (or write-offs).

Source: Company, Kotak Institutional Equities

ONGC has reported RRR (2P) higher than 1.0 for 18 consecutive years; this hasn't translated into rising production or even rising 1P reserves.

Exhibit 11: ONGC's reserve replacement ratio (RRR), March-end fiscal years, 2011 onward (number)

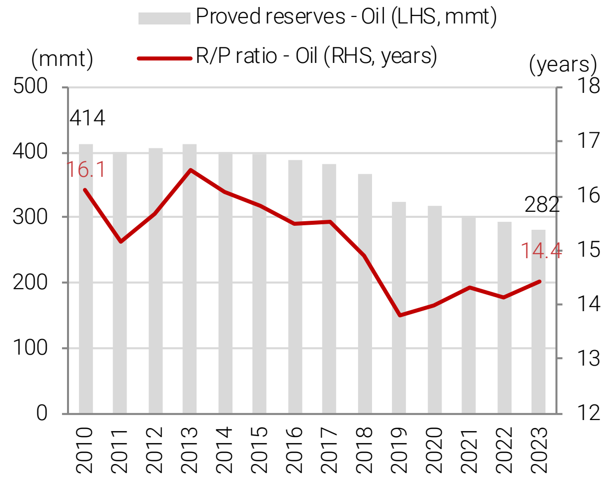


Source: Company, Kotak Institutional Equities

However, we note that despite RRR being more than 1 for a long period, proved reserve have been on a declining trend. In addition, despite lower oil & gas production (lower denominator), reserve to production (R/P) has declined for both oil and gas.

With proved reserve accretion not keeping pace, ONGC R/P ratios

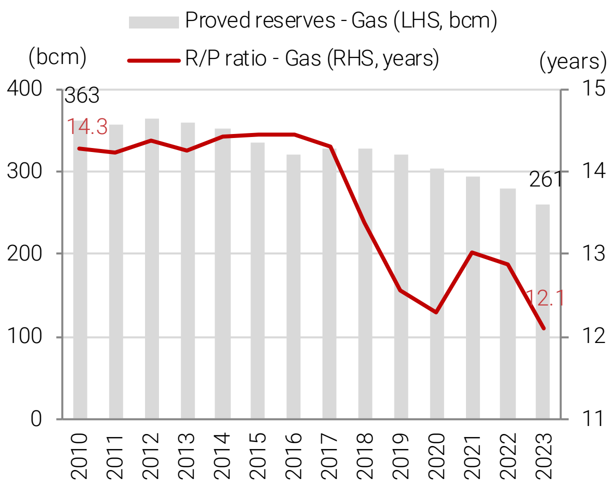
Exhibit 12: ONGC's proved oil reserves and R/P ratio, March-end fiscal years, 2010 onward (mmt, year)



Source: Company, Kotak Institutional Equities

… declining for oil/gas despite lower production

Exhibit 13: ONGC's proved gas reserves and R/P ratio, March-end fiscal years, 2010 onward (bcm, years)



Source: Company, Kotak Institutional Equities

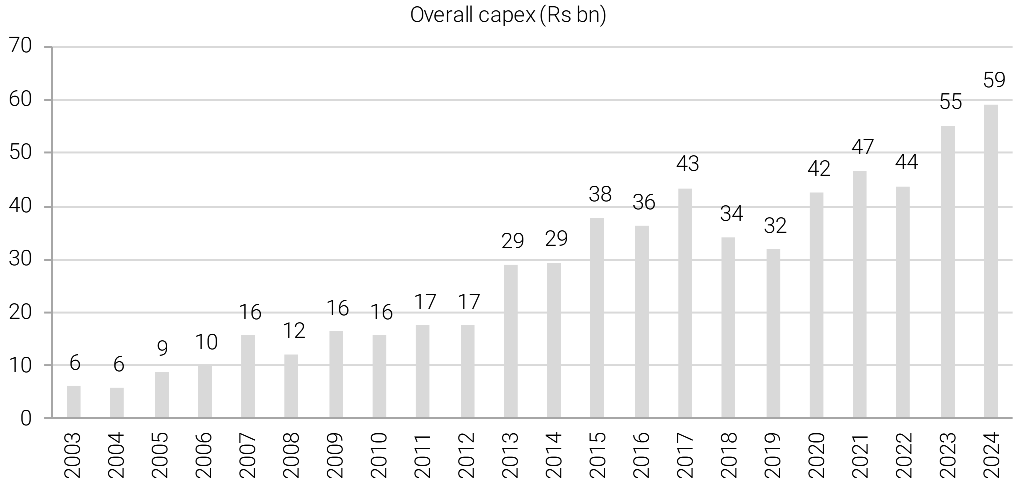
OIL India: Capex also higher but oil production decline lower; gas production has increased

Similar to ONGC, Oil India's capex has also seen a rising trend. In the last 15 years, OIL spent nearly Rs600 bn (~Rs 40 bn annually), excluding the NRL stake acquisition. Despite increased capex, similar to ONGC, Oil India has also seen oil production declines, though the decline has been lower.

For Oil India, historically, gas production was constrained by limited gas demand in the North East. With the completion of the Indradhanush gas grid (will link all capitals of the North East states and connect to the national gas grid) and the expansion of the NRL refinery, the production is likely to see an increase in the next few years.

In last 15 years, Oil India's capex is ~Rs608 bn, with annual average of Rs40 bn (higher in recent years)

Exhibit 14: OIL's stand-alone capex, March-end fiscal years, 2003-onward (Rs bn)



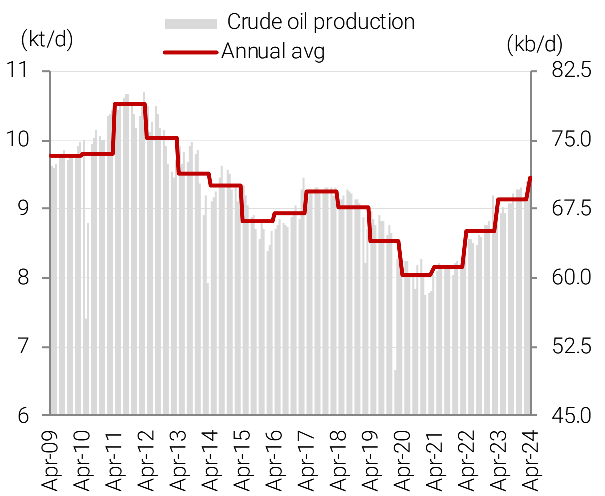
Notes:

(a) The above capex excludes overseas and NRL acquisition capex

Source: Company, Kotak Institutional Equities

Despite recent recovery, OIL's FY2024 oil production ~7% lower versus FY2010 (declines lower versus ONGC)

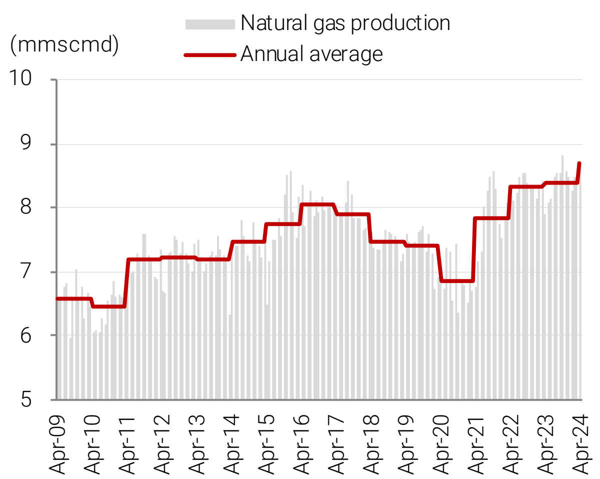
Exhibit 15: OIL's domestic oil production, April-2009 onward (kt/d, kb/d)



Source: Company, MoP&NG, Kotak Institutional Equities

OIL's gas production up ~2.2 mmscmd (28%) versus FY2010

Exhibit 16: OIL's natural gas production trend, April-2009 onward (mmscmd)

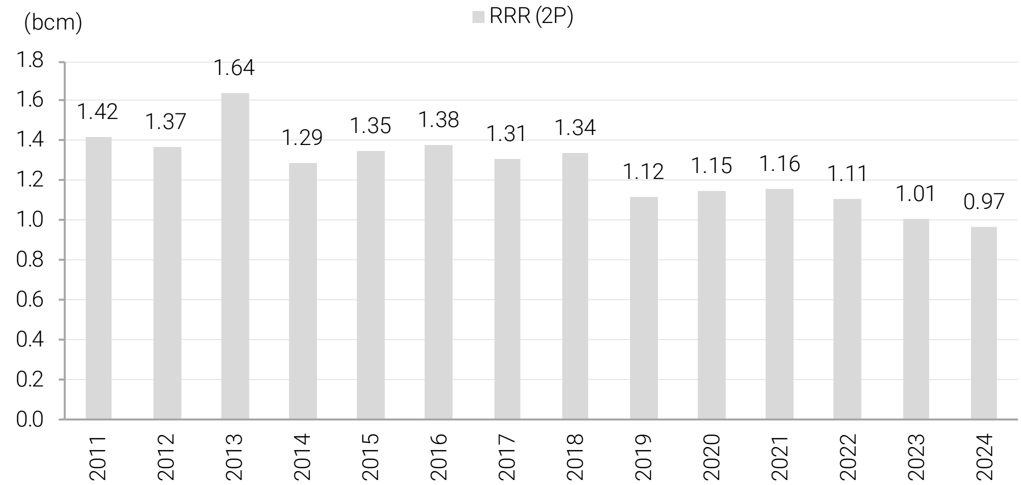


Source: Company, MoP&NG, Kotak Institutional Equities

Similar to ONGC, Oil India has been reporting an RRR of over 1 for a long period, although these have been trending down. Still, its 1P reserves have seen declines. However, with more contracts being tied-up, it has reported a rising trend of gas reserves in recent years.

Similar to ONGC, OIL also consistently reporting >1 RRR; while oil reserves have been declining, though gas reserves have increased in recent years

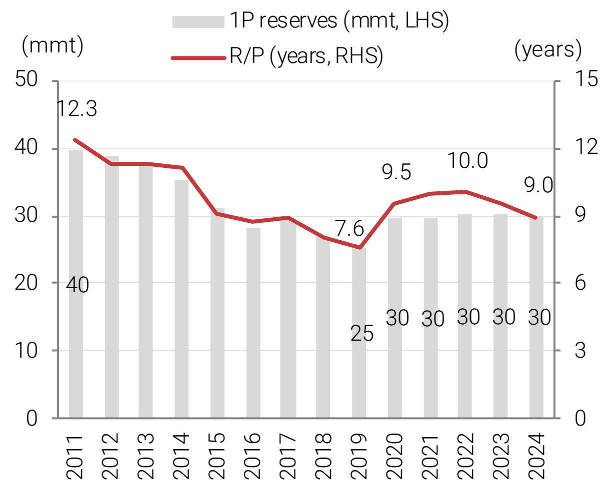
Exhibit 17: OIL's reserve replacement ratio (RRR), March-end fiscal years, 2011 onward (number)



Source: Company, Kotak Institutional Equities

Despite increase in FY2020, OIL's 1P reserves have declined by 25% from FY2011 levels; R/P declined to below 10 years

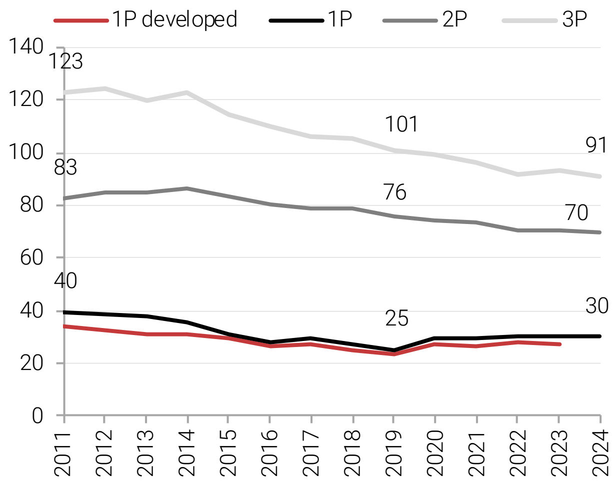
Exhibit 18: Oil India 1P oil reserves and reserve to production (R/P), March-end fiscal years (mmt, years)



Source: Company, Kotak Institutional Equities

While 1P reserves higher versus FY2019, with no large discovery both 2P/3P oil reserves remain on a decline

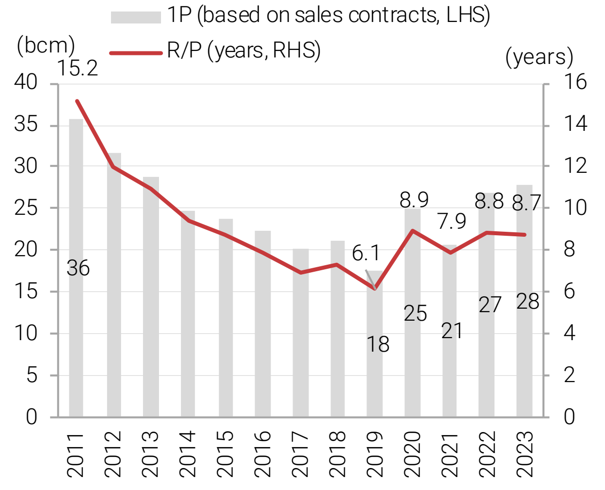
Exhibit 19: OIL's crude oil reserves, March-end fiscal years, 2011 onward (mmt)



Source: Company, Kotak Institutional Equities

As OIL has tied-up new sales contract, it has increased its reserve estimates

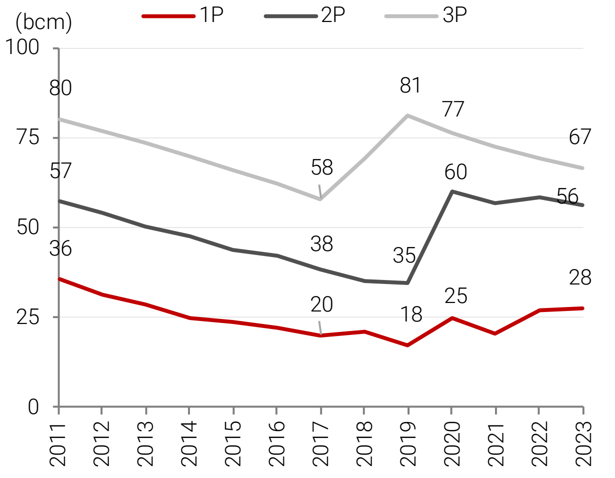
Exhibit 20: Oil India 1P gas reserves (based on sales contracts) and R/P, March-end fiscal years (bcm, years)



Source: Company, Kotak Institutional Equities

After upward revision in FY2019/20, both 2P/3P gas reserves (based on sales contracts) have declined

Exhibit 21: OIL's gas reserves (based on sales contracts), March-end fiscal years, 2011 onward (bcm)



Source: Company, Kotak Institutional Equities

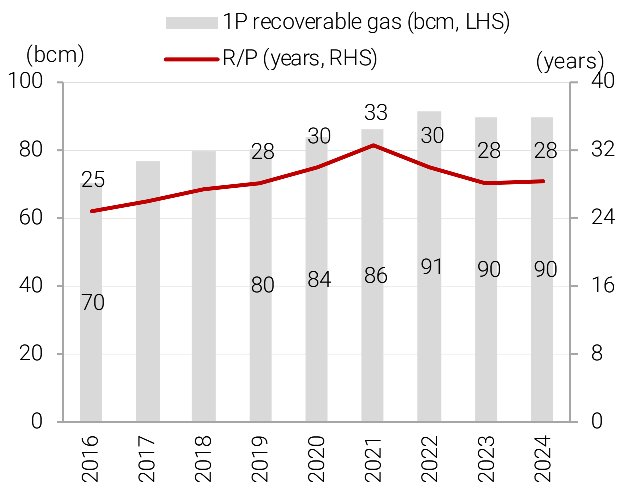
Since FY2016, Oil India has been reporting overall gas reserves (irrespective of the sales agreement), in addition to estimates of gas reserves based on sales contracts. These reserve estimates have seen increase for all three categories (1P/2P/3P).

OIL's management has reiterated its guidance of increasing oil production to 4 mmt (~20% higher versus 3.4 mmt in FY2024) and 5 bcm of gas production (~57% higher versus 3.2 bcm in FY2024). As incremental production will be from infill wells and IoR/EoR efforts in existing mature fields (rather than any new large discovery), we are skeptical about this optimistic guidance.

Since FY2016, Oil India's reports reserves (1P/2P/3P) are overall gas reserve numbers, and not based on tied-up with sales contracts in line with the earlier practice. Although Oil India separately also provides gas reserve estimates based on sales contracts as well.

OIL's total gas reserves (including no sales contracts) have seen increases since it started reporting these in FY2016

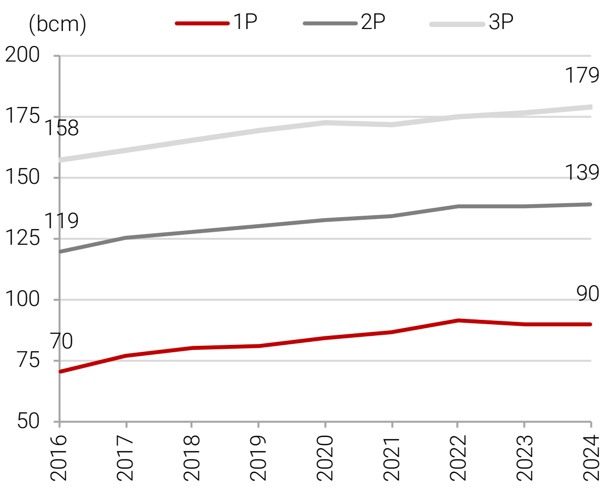
Exhibit 22: OIL's 1P gas reserves and (R/P), March-end fiscal years (bcm, years)



Source: Company, Kotak Institutional Equities

Gas reserves (including no sales contracts) have seen increase; the key will be commercial development of these

Exhibit 23: OIL's gas reserves trend, March-end fiscal years, 2016 onward (bcm)



Source: Company, Kotak Institutional Equities

3

Refining: Surplus capacity, slowing demand, but capacity additions continue

India has been a surplus refining capacity country for nearly two decades now. For key products diesel/petrol, net exports are 25-28% of domestic production. Demand growth has been slowing for all key products. More importantly, global peak demand is not far away. There is not much rationale to invest in new capacities that have a life of 40-50 years or higher. Despite this, based on announced capacities, India is expected to add over 50 mmtpa of refining capacity (excluding OMCs planned 60-mmtpa mega refinery in JV with a strategic partner), with likely investment of Rs3 tn by 2030 to take total capacity to over 300 mmtpa. Also, most new refining projects see large time/cost over-runs, and profitability will likely be weak.

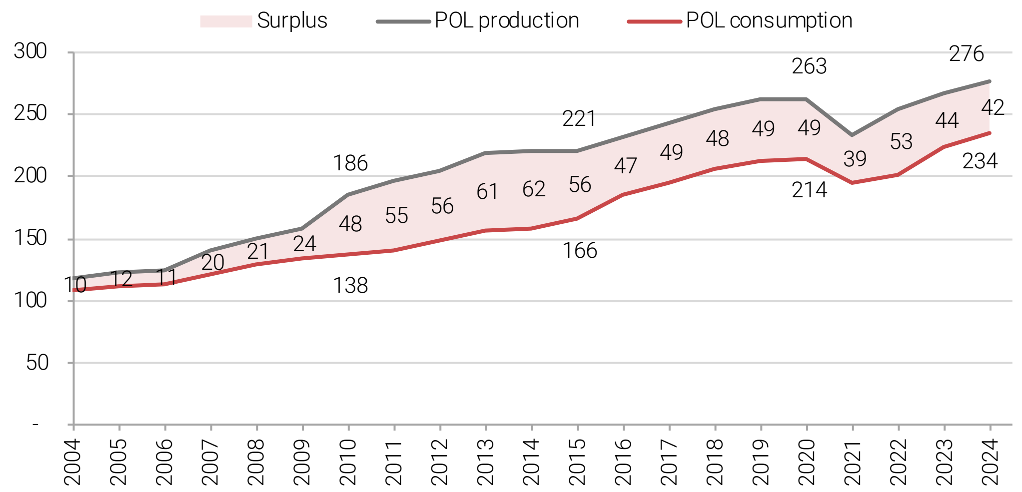
India has surplus refining capacity for nearly two decades as of now. The current Indian refining capacity is nearly 257-mmtpa, with 23 refineries. Of these, three are in the private sector (two of Reliance and one of Nayara Energy, all located in Jamnagar, Gujarat), one is a JV (HMEL, a JV of HPCL with Arcelor Mittal group). The remaining refineries are all owned by PSUs.

Many of the refineries have operating rates exceeding 100%. In FY2024, as per PPAC India's total petroleum output (including fractionator output and bio-ethanol production) was nearly 276 mmt. Against this, domestic petroleum consumption was ~234 mmt, implying a surplus of nearly 42 mmt (18%). For key diesel/petrol, net exports are 25-28% of domestic production.

The demand growth has been slowing for all key products. More importantly, global peak demand is not very distant. Hence, there is not much rationale to invest in new capacities that have a life of 40-50 years or higher.

India is refining capacity surplus for over two decades, with a large surplus in the last 15 years

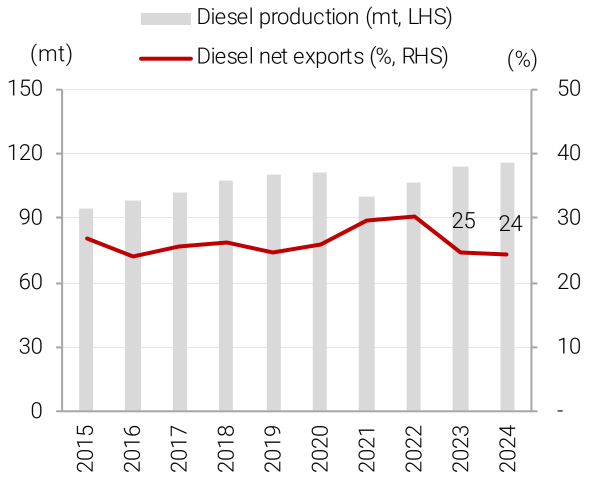
Exhibit 24: India's petroleum products (POL) production, consumption and surplus, March-end fiscal years, 2010 onward (mmtpa)



Source: PPAC, MoP&NG, Kotak Institutional Equities

Nearly 1/4th of India's diesel output is exported

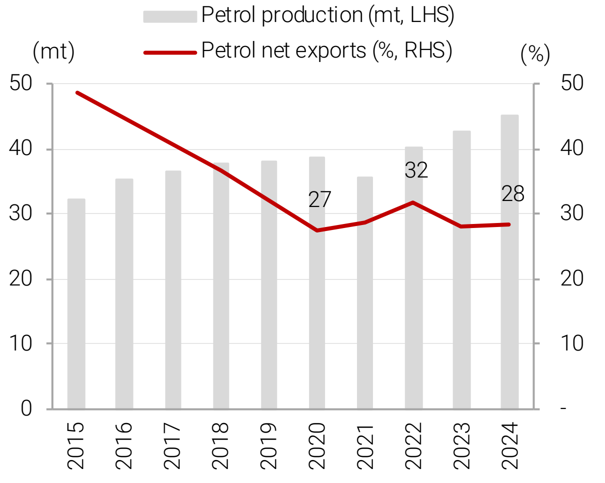
Exhibit 25: India's annual diesel production and exports, March-end fiscal years (mn ton, %)



Source: PPAC, Kotak Institutional Equities

Gasoline net exports are more than 1/4th of refinery output

Exhibit 26: India's annual petrol production and exports, March-end fiscal years, 2015 onward (mn ton, %)



Source: PPAC, Kotak Institutional Equities

India's petroleum products (POL) consumption growth is slowing

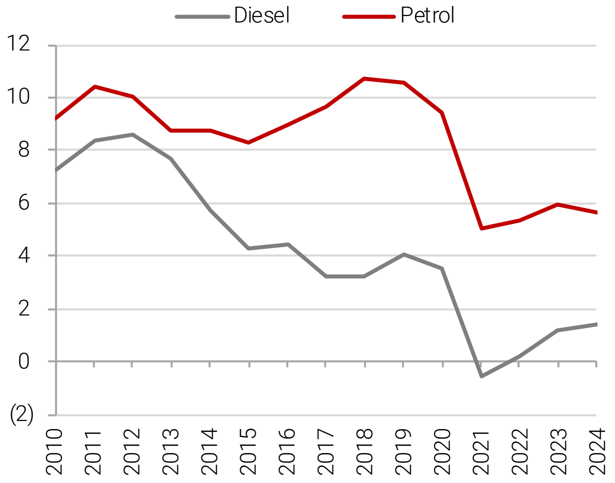
Exhibit 27: Indian petroleum product consumption CAGR, March-end fiscal years, 2004 onward (%)

	2004-09	2009-14	2014-19	2019-24
Diesel	6.9	5.7	4.1	1.4
Petrol	7.3	8.8	10.6	5.6
LPG	5.6	6.0	8.9	3.6
ATF	12.2	4.5	8.6	(0.1)
Naphtha	3.2	(4.1)	4.6	(0.5)
FO	(0.6)	(13.1)	1.0	(0.1)
Lubes	7.0	10.6	2.1	2.2
Others	0.6	3.5	7.7	0.6
Total	**4.4**	**3.5**	**6.1**	**1.9**

Source: PPAC, Kotak Institutional Equities

Diesel growth has considerably slowed as subsidies were reduced and BS-VI implemented; petrol also slowing now

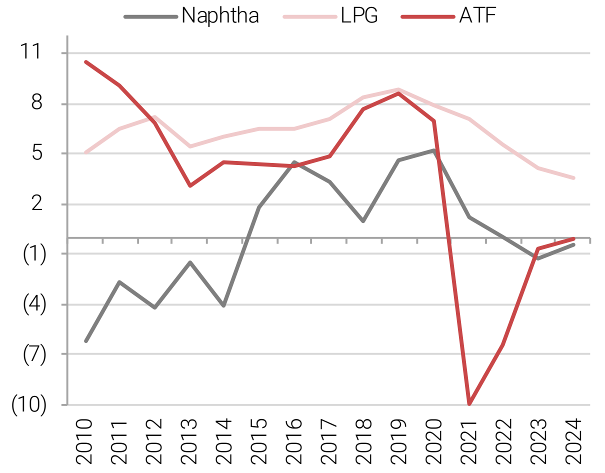
Exhibit 28: India's diesel/petrol consumption 5-year rolling CAGR, March-end fiscal years, 2010 onward



Source: PPAC, Kotak Institutional Equities

Driven by Ujjwala scheme, LPG consumption was strong until 2020, but slowing now; Naphtha/ATF growth also subdued now

Exhibit 29: LPG/Naphtha/ATF consumption 5-year rolling CAGR, March-end fiscal years, 2010 onward



Source: PPAC, Kotak Institutional Equities

Exhibit 30 shows the likely refinery capacity addition in the next few years. Of these, except for BPCL's new greenfield refinery, works is already ongoing for other refining capacity additions. The likely ~55-mmtpa refinery capacity addition would entail an investment of nearly Rs3 tn (of this nearly over Rs900 bn has already been spent until April 2024).

This capacity increase does not include OMCs planned 60-mmtpa mega refinery project with a foreign strategic partner (such as Saudi Aramco). The projected capex for this project was nearly Rs3 tn in 2018. The progress on this project seems to have stalled due to site selection and land acquisition issues (Indian Express: In a limbo). However, we note that the Indian government has a vision to have 450-mmtpa refining capacity. Thus, this project could be revived or more new capacity additions by PSU refiners could be announced.

Nearly 55-mmtpa refining capacity with over Rs3 bn capex is likely by 2030; this will take India's capacity to nearly 310 mmtpa; the government's vision is to have an even higher 450 mmtpa capacity by 2030

Exhibit 30: Upcoming and likely new refining capacity, timeline, and likely cost (Rs bn)

	Current mmtpa	Addition mmtpa	Project cost Rs bn	Incurred till April-2024 Rs bn	Comment
IOC					
CPCL- Cauveri Basin refinery	1.0	9.0	330	11	Old refinery decommissioned; IOC/CPCL to have 25% stake with rest by strategic partner
Panipat expansion	15.0	10.0	362	112	Project cost includes petchem cost of Rs32.5 bn
Gujarat expansion	13.7	4.3	189	82	Includes petchem capex of Rs33 bn
Barauni expansion	6.0	3.0	148	87	Includes petchem capex of Rs19 bn
BPCL					
Bina expansion + petchem	7.8	2.2	490		Board approval in May 2023
Greenfield refinery (AP, UP or Gujarat)	—	12.0	500		Actively considering a greenfield refinery; Final decision not taken yet
HPCL					
Rajasthan refinery	—	9.0	729	460	Set up by JV with Rajashtan government (HPCL 74%); project to have 26% petchem yields
NRL					
Numaligarh refinery expansion	3.0	6.0	280	173	Project supported by viablity gap funding from Central government
Total		**55.5**	**3,029**	**924**	

Notes:
(a) In addition, a mega 60 mmtpa JV refinery of IOC/BPCL/HPCL with Saudi Aramco is being considered on West Coast. But progress seems stalled.

Source: Company, MO&NG, Kotak Institutional Equities

Most under-construction refinery projects seeing time and cost overruns

Exhibit 31: Under-construction refineries, time and cost over runs (Rs bn, %)

	Completion date		Delay	Project cost (Rs bn)		Change
	Original	Revised	Months	Original	Revised	(%)
Rajasthan refinery	Oct-22	Mar-25	29	431	729	69.2
Cauveri Basin refinery	Mar-24	Jul-25	16	294	330	12.5
Panipat expansion	Sep-24	Dec-25	15	329	362	10.0
Gujarat expansion	Aug-24	Dec-25	16	150	189	26.2
Barauni expansion	Apr-23	Dec-24	20	138	148	7.4
Numaligarh expansion				226	280	24.0
- 6 mmtpa refinery	Oct-24	Dec-25	14	124	190	53.4
- Crude terminal and pipeline	Oct-24	Sep-25	11	102	91	(11.4)

Source: Company, Ministry of Statistics and Programme Implementation, Kotak Institutional Equities

Rajasthan refinery: GRM likely ~US$10-13/bbl based on recent price trends; required ~US$25-26/bbl

The Rajasthan refinery project has seen much delays and cost overruns. The initial plan was for ONGC to set up a 4.5-6 mmtpa well-head refinery at Barmer, which could be expanded to 9-12 mmtpa. Apart from the assured availability of crude, ONGC was seeking concessions from the Rajasthan government. As per media reports, in addition to the project cost of Rs120 bn, the consortium led by ONGC was seeking concessions worth Rs260 bn from the Rajasthan government (August 2010 news report). Later, ONGC shelved the plan.

The project was later revived by HPCL. HPCL Rajasthan refinery Limited (HRRL), a JV of HPCL (74% stake) and the Rajasthan government, is setting up a 9-mmtpa integrated refinery and petrochemical complex. At the time when project took off in FY2018, the projected capex was Rs431 bn, with likely start of October 2022. Due to pandemic and other reasons, the project has seen delays. With ~80% physical progress so far, the project is likely to be complete by March 2025. The estimated capex has sharply increased by nearly 69% to nearly Rs730 bn (US$9 bn).

With the integration of petrochemical capacities (including ~ 1-mmtpa of PE/PP each), the project envisages to have 26% petrochemical yields. With Nelson complexity index of 17.0, the project will be by far the most complex refining/petchem project by any PSU in India (Exhibit 32). HPCL has guided for expected GRM of nearly US$21/bbl. HPCL has given the indicative product slate for the project. Due to inclusion of large downstream petrochemical capacity, the fuel & loss for this project is likely to be much higher at about 15% versus 8-10% for typical refineries (Exhibit 32).

In Exhibit 33, we estimate the required GRM for Rajasthan refinery. We assume 70% project debt, 8% interest rate and operating costs of US$6/bbl, with required pre-tax equity returns of 16%. Based on our estimate, the required GRM would be nearly US$25-26/bbl.

In Exhibit 34, we have estimated likely GRM for HRRL based on indicated product slate, average prices for the last few years and also HPCL's reported RM costs (excluding ethanol). Based on prices in the last three years, our estimates of likely GRMs is lower at ~US$10-13/bbl. We do note that based on prices in FY2017-18 (when oil prices were lower, and petchem prices higher), the likely margin would have been higher at ~US$23/bbl.

Our interactions with HPCL also suggest that its expected GRM of ~US$21/bbl is optimistic and is based on the assumption of better petchem prices (versus currently prevailing prices). We do note that compared with FY2017-18 (when decision to go ahead on the project was taken), spreads of PE/PP have significantly weakened. In our view, compared to operating costs of existing refineries at US$3-3.5/bbl, for a newly set-up integrated refinery complex the operating cost is also likely to be much higher at US$6-7/bbl.

Rajasthan refinery will be fairly complex, but F&L will also be much higher at ~15%.

Exhibit 32: Rajasthan refinery, indicated production (ktpa, %)

	ktpa	%
MS	995	11.1
HSD	4,035	44.8
PP	1,073	11.9
LLDPE	479	5.3
HDPE	479	5.3
Butadiene	146	1.6
Benzene	134	1.5
Toluene	104	1.2
Sulphur	157	1.7
Fuel & loss	1,398	15.5
Total	**9,000**	**100.0**

Source: Company, Kotak Institutional Equities

To recover costs, and for 16% pre-tax return on equity, Rajasthan refinery will require GRM of ~US$26/bbl

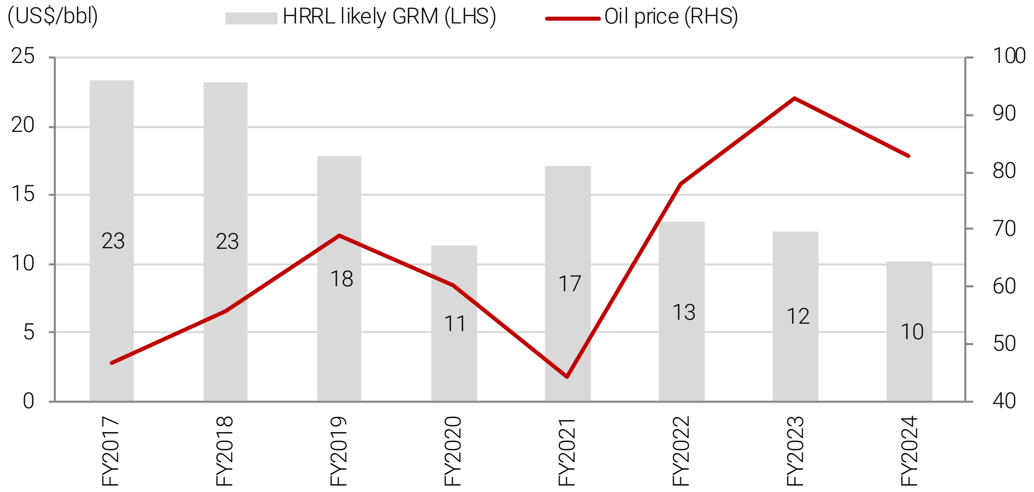
Exhibit 33: HRRL's – indicative working for required gross margins (US$/bbl)

	Annual (Rs bn)	US$/bbl
Interest cost	40.9	7.4
Depreciation	36.5	6.6
Opex (US$6/bbl)	33.1	6.0
Equity return (16% pre-tax)	35.1	6.4
Gross margin required	**145.5**	**26.4**

Source: Company, Kotak Institutional Equities

HRRL's GRM would be ~US$10-13/bbl on recent prices; margins higher on FY2017-18 prices (when oil price was low)

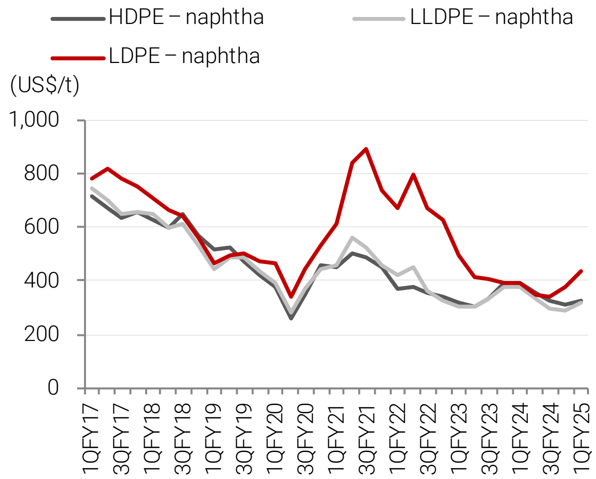
Exhibit 34: Exhibit 31: HRRL's likely GRM based on indicated slate, and HPCL's RM costs, March-end fiscal years (US$/bbl)



Source: Company, Kotak Institutional Equities

PE - naphtha spread have been weak in the last two years

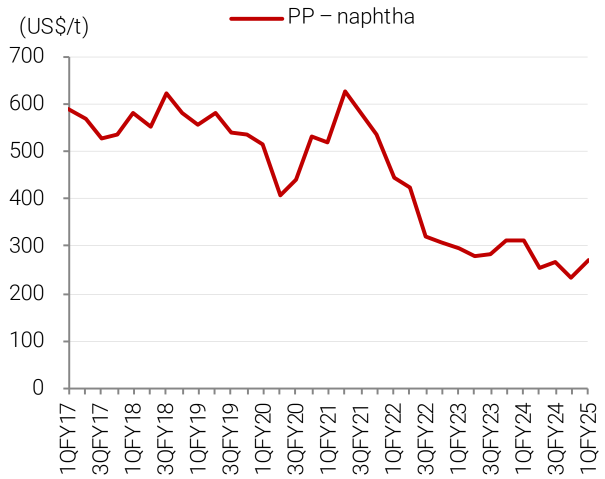
Exhibit 35: Polymer to Naphtha spread, March-end fiscal years, 1QFY17 onward (US$/ton)



Source: Platts, Bloomberg, Kotak Institutional Equities

PP-naphtha spread also have been very weak

Exhibit 36: Polymer to Naphtha spread, March-end fiscal years, 1QFY17 onward (US$/ton)



Source: Platts, Bloomberg, Kotak Institutional Equities

4

Gas pipelines: Large capacity additions but weak volume growth

GAIL owns and operates nearly 3/4th of India's long distance gas pipeline network. Its capital employed in the gas transmission business has increased by ~3.5X to Rs450 bn since FY2012. In contrast, its gas transmission volumes are largely flat. Its network utilization was ~52% in FY2024. Several pipelines have below 30-35% utilization and are likely loss-making. With GAIL adding ~40 mmscmd new capacity, we expect the utilization to remain around 50%. Further, with transmission EBIT flat in the next few years and capital employed rising, the post-tax ROCE will likely decline.

As key central government PSU in gas chain, GAIL shoulders most responsibility for creating nation-wide gas transmission network. It owns and operates nearly 3/4th of long-distance gas transmission network in the country.

As expectation of gas consumption growth in India have grown over last 14-15 years, driven by both domestic gas production and rising LNG imports, GAIL has made significant investment in gas pipeline network. Since FY1012, GAIL's capital employed in gas transmission business has increased by ~3.5X to Rs450 bn since FY2012.

However, gas consumption growth has not improved much. Despite sharp 17% growth in gas consumption in FY2024 to 188 mmscmd, India's gas consumption over FY2012-24 has grown at CAGR of just 1%. GAIL's gas transmission volumes have been flat (FY2024: 120 mmscmd, FY2012: 118 mmscmd) over this period.

On our estimates, GAIL's network utilizations was just ~52% in FY2024. Many of its pipelines have below 30-35% utilization, and are likely loss-making. With GAIL adding ~40 mmscmd new capacity soon, we expect utilization to remain around ~50%. Further, with transmission EBIT flat in the next few years, and capital employed rising, for transmission business post-tax ROCE will likely decline.

In our view, after the completion of the ongoing Kochi-Bangalore, JHBDPL and Barauni-Guwahati networks of GAIL, along with the Indradhanush grid in the North East, nation-wide gas grid will be largely complete. There will not be much case for adding new large pipelines (except recently announced Gurdaspur-Jammu network).

Except DUDP, GAIL's all pipelines have below 75% utilization (necessary for 12% returns); several pipelines have below 30-35% utilization (likely loss-making); overall utilization only about 50-52%

Exhibit 37: GAIL's key gas transmission pipelines, capacity, volumes and utilization, March-end fiscal years, 2022 onward (km, mmscmd, %)

	Length	Capacity	Volumes (mmscmd)			Utilisation (%)		
	(km)	(mmscmd)	2022	2023	2024	2022	2023	2024
Integrated Network (INGPL)								
Integrated HVJ	6,725	107	72.6	72.5		67.8	67.8	
Dahej-Uran-Dabhol-Panvel (DUDP)	943	20	16.8	16.3		84.6	82.1	
Jagdishpur-Haldia-Bokaro-Dhamra (JHBD)	2,383	7	1.6	5.2		21.8	70.0	
Dadri-Bawana-Nangal (DBN)	909	31	7.0	7.5	107.6	22.5	24.2	
Chainsa-Jhajjar-Hissar (CJH)	442	35	1.4	1.7		3.9	5.0	
Dabhol-Bangalore	1,148	16	1.7	1.9		10.6	11.6	
Mumbai Regional	125	7	4.5	4.4		63.4	62.5	
Total INGPL * (ex-common volumes)	12,675	159	97.0	94.2	107.6	60.9	59.1	67.5
Total INGPL (no exclusions)		223	105.5	109.6	**124.9**	**47.2**	**49.1**	**55.9**
Other networks								
KG Basin network	917	16	3.8	3.8	4.8	23.8	23.9	30.2
Cauvery Basin Network	272	4.3	2.0	1.9	2.3	46.4	42.7	52.2
Agartala network	65	2.0	1.1	1.0	1.1	54.5	49.5	54.0
Kochi-Koottanad-Bangalore-Mangalore (KKBM)	642	12	3.9	3.3	4.2	32.3	27.4	34.8
Gujarat network (ex-Baroda)	615	8.3	3.1	3.1	1.4	37.8	37.2	16.6
Total other networks	2,511	43	13.9	13.1	13.7	**32.7**	**30.6**	**32.2**
Reported volumes			**111.0**	**107.3**	**120.5**			
Average utiisation (no exclusions)	15,186	**266**	119.4	122.6	138.6	**44.9**	**46.1**	**52.1**
Common volumes (on multiple pipelines)			8.5	15.4	18.2			

Notes:

* For INGPL's capacity determination, capacities of networks that do not have independent source of gas, are excluded. This leads to capacity utilization looking optically high.

Source: MoP&NG, PNGRB, Company, Kotak Institutional Equities

With several pipelines completing soon, GAIL will add nearly 38 mmscmd capacity (capacity to rise to over 300mmscmd) with investment of nearly Rs300 bn

Exhibit 38: GAIL's recently completed/upcoming pipelines, length, capacity and capex (km, mmscmd, Rs bn)

Major pipelines	Length (km)	Capacity (mmscmd)	Likely completion	Approved cost (Rs bn)
Recently completed/ongoing				
JHBDPL phase II	**1,580**	**8.6**		**88**
Dhamra-Angul (JHBDPL 2A)	413		Commissioned	25
Bokaro-Angul (JHBDPL 3A)	620		Commissioned	29
Durgapur-Haldia (JHBDPL 3B)	294		Mar-25	24
Dhamra - Haldia	253		Mar-25	10
Barauni Guwahati (BGPL)	717	2.5	Commissioned	40
KKBMPL - II (ongoing)	900	4.0	Nov-24	59
Srikakulam-Angul	744	6.7	Sep-24	27
Mumbai-Nagpur-Jharsuguda	1,755	16.5	Oct-24	78
Total addition by March 2025	**5,696**	**38.2**		**292**
Recently announced				
Gurdaspur - Jammu	152	3.1	Jul-26	5
Total	**5,848**	**41.3**		**297**

Notes:

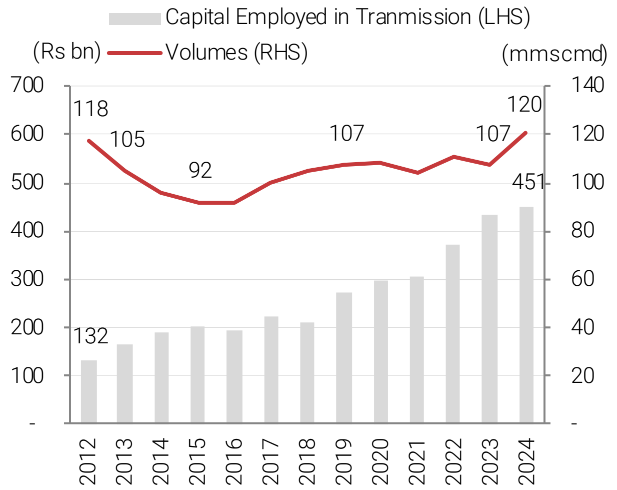
(a) For JHBDPL phase - 1 (already operational and included in unified tariff) the capacity taken is 7.4 mmscmd. Post completion of phase - II of 8.56 mmscmd capacity JHBDPL will rise to 16 mmscmd.

(b) For KKBMPL the total capacity will be 16 mmscmd. Already Kochi - Mangalore section (12 mmscmd capacity) operational.

Source: PNGRB, Company, Kotak Institutional Equities

Over FY2012-24, GAIL's capital employed in transmission was up ~3.5X, but volumes were nearly flat

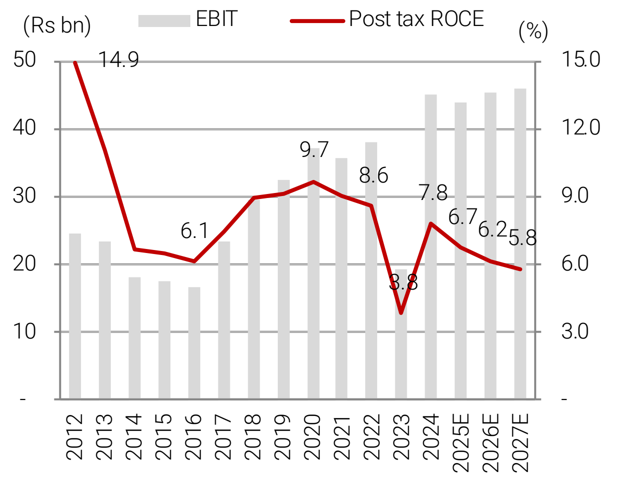
Exhibit 39: GAIL gas transmission capital employed versus volumes, March fiscal-year ends (Rs bn, mmscmd)



Source: Company, Kotak Institutional Equities

After rising to ~8% in FY2024 (versus 12% as per regulation), transmission business post-tax RoCE likely to decline to ~6%

Exhibit 40: GAIL's gas transmission EBIT and post-tax RoCE, March fiscal year-ends (Rs bn, %)



Source: Company, Kotak Institutional Equities

After strong growth in FY2024, we assume gas consumption CAGR of ~4% over FY2024-30E, which we believe is optimistic

Exhibit 41: India gas supply and consumption trends and forecasts, March fiscal year-ends (mmscmd)

													Change 2024 to 2030	
	2012	2015	2018	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	mmscmd	CAGR %
Supply															
Total domestic sales	**117**	**78**	**70**	**63**	**83**	**88**	**99**	**102**	**104**	**103**	**100**	**97**	**94**	**(5.8)**	**(1.0)**
ONGC	55	49	53	48	46	46	47	52	54	55	54	52	50	3.3	1.1
Oil India	6	6	7	6	7	7	7	7	7	7	7	7	7	(0.1)	(0.3)
Private / JV	56	22	10	8	31	35	45	42	42	40	38	37	36	(9.0)	(3.6)
LNG imports	**49**	**51**	**75**	**91**	**85**	**73**	**88**	**94**	**99**	**107**	**118**	**129**	**141**	**53.8**	**8.3**
Total supply	**166**	**129**	**145**	**154**	**168**	**161**	**187**	**196**	**203**	**210**	**218**	**226**	**235**	**48.0**	**3.9**
yoy change %															
Domestic gas					33	5	13	2	2	(1)	(3)	(3)	(3)		
LNG imports					(7)	(14)	20	8	5	8	10	10	9		
Total					10	(5)	16	5	4	3	4	4	4		
Consumption															
Fertilizers	38	42	40	49	50	53	58	61	62	62	63	63	63	4.6	1.3
Power	62	29	33	30	28	22	25	25	26	26	27	27	28	2.4	1.5
CGD	15	15	24	25	33	33	36	39	41	43	46	50	53	16.7	6.5
Refineries	12	13	18	22	15	11	15	16	16	17	17	17	18	2.4	2.5
Petchem	5	8	11	8	8	5	7	8	8	8	8	8	9	1.2	2.5
Others	34	22	19	20	35	36	44	47	50	53	57	61	65	20.7	6.6
Total demand	**166**	**129**	**145**	**154**	**168**	**161**	**188**	**200**	**210**	**219**	**218**	**226**	**235**	**47.5**	**3.8**

Source: PPAC, Company, Kotak Institutional Equities estimates

At ~145 mmscmd volumes in FY2027E, network utilization will decline to below 50%; we forecast muted EBIT over FY2024-27E

Exhibit 42: Key assumptions for GAIL's transmission business, March fiscal year-ends, 2018-27E

	2018	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Natural gas transmission (mmscmd)	105	107	108	104	111	107	120	**130**	**138**	**145**
yoy (%)	5	2	1	(4)	7	(3)	12	**7.9**	**6.2**	**5.1**
Integrated Network tariff (Rs/mmbtu)	34	39	43	44	44	48	67	**68**	**68**	**68**
yoy (%)	3	15	10	—	—	9	40	1	—	—
Other pipelines	34	36	26	25	27	25	24	22	21.6403	22
Blended tariffs (Rs/mmbtu)	34	39	42	42	42	45	62	**63**	**63**	**63**
Blended tariffs (Rs/scm)	1.3	1.5	1.6	1.6	1.6	1.7	2.3	2.4	2.4	2.4
yoy (%)	3.0	13.8	6.7	(0.5)	0.8	7.8	37.2	1.1	0.5	0.4
Transmission EBITDA	37,137	40,894	46,590	45,890	49,000	31,200	62,430	**64,037**	**73,517**	**77,817**
yoy (%)	17	10	14	(2)	7	(36)	100	**2.6**	**14.8**	**5.8**
Transmission EBIT	30,009	32,539	37,258	35,819	38,058	19,197	45,101	**44,047**	**45,421**	**46,113**
yoy (%)	23	8	15	(4)	6	(50)	135	**(2.3)**	**3.1**	**1.5**

Source: Company, Kotak Institutional Equities estimates

5

Petchem new focus for most oil PSUs (and their related entities)

Most oil PSUs either directly or through their subsidiaries or JVs have announced new petchem capex plans. In our view, compared to upstream, refining, or gas/LNG businesses, the petrochemical business is more complicated. Despite India having a significant deficit in most petchem products (and thus premium pricing versus global levels), PSUs' track record has been dismal. With new project planned at further elevated costs, outlook is weak for most.

With not much success in domestic E&P for upstream, and already surplus capacities in refining, gas pipelines, and LNG terminals, petrochemicals are new focus for oil PSUs. Most oil PSUs either directly or through their subsidiaries or JVs have announced new petchem capex plans. Exhibit 43 shows key petchem capacities that is already under construction or has been recently announced

Most oil PSUs have announced petchem plans either directly or via subsidiaries or JVs

Exhibit 43: India's ongoing and planned petchem capacity addition by oil PSUs and their subsidiaries/JVs

Company	Location	Product(s)	Capacity (kta)	Likely start	Comments
Under-construction / firm announcements					
HMEL (HPCL JV)	Bhatinda	HDPE	450	Commissioned in FY2024	1.2 mmtpa multi-feed cracker; commissioned in FY2024, now ramping up; total capex ~US$3 bn
		HD/LLDPE swing	750		
		PP	500		
Rajasthan Refinery (HPCL JV)	Barmer	HD/LLDPE swing	1,000	FY2026	Integrated with refinery project with total capex of over Rs 730bn
		PP	1,000		
IOC	Barauni	PP	200	Dec-24	Ongoing expansion includes Rs20 bn petchem facility
	Panipat	PP	450	FY2025	Integrated with refinery
		Styrene	387	FY2026	
		PBR	60	FY2026	Revised capex of Rs21 bn (earlier Rs14.6 bn)
	Koyali	PP	500	FY2026	
		Acrylics/Oxo-alcohol			Likely completion July 2024, with capex of Rs59 bn
	Paradip	PX- PTA	1,200	FY2026	Planned capex of Rs138 bn
		PVC, Phenol, IPA, Polymers	3,000		Board approval for Rs610 bn investment in 3 mmtpa petchem complex
GAIL	Usar (Maharashtra)	PP	500	FY2026	Capex up by 44% to Rs113 bn (earlier Rs78 bn); likely completion Oct-2025 (earlier April-2025)
	Pata UP	PP	60	FY2025	Capex up by 43% to Rs13 bn; delayed to March-2025 (earlier April-2024)
	Mangalore	PTA	1,250	FY2027	JBF acquistion cost Rs 21bn; further capex needed Rs 23-24 bn
BPCL	Bina	C2 cracker	1,200		Board approval for Rs490 bn for Ethylene cracker project with downstream petchem and expansion of refinery capacity
		HD/LLDPE swing	650		
		HDPE	500		
		PP	500		
		Butene	50		
	Kochi	PP	400		Tie-up with WR Grace of PP technology and catalysts in June-2024
Petronet LNG	Dahej	PP	750		PDH-PP plant; 750 kta propylene (500 kta PP, 250 kta sales) with likely capex of Rs207 bn
CPCL	Chennai	PP	475	FY2025	Developing integrated petchem facility as part of new refinery
NRL (Oil India subsidiary)	Numaligarh	PP	360	FY2028	Planned investment Rs70 bn; Oil India board approval March-2022; Construction to commence in 2H2024.
Recently announced / Board approval pending					
GAIL	Ashta (Sehore, MP)	PE	1,500		Planned investment of Rs600 bn; requested MP government to provide enables; Land acquisition commenced
ONGC					Plan of investing over Rs1,000 bn in two petchem projects by 2028-30. Plan to take current portfolio of 3 mmtpa (via OPAL and MRPL) to nearly 8.6 mmtpa.

Source: Company, Industry/media articles, Kotak Institutional Equities

Oil PSUs petchem track record has been dismal

For most key petrochemicals, with robust domestic growth, historically there has been domestic capacity shortage, and India is a net importer for most key petchem products both in the olefin and aromatic chain. As per capita consumption of petchem products in India is low, and as Indian economy grows, petchem demand is only likely to grow further, and thus petchem capacity short-fall is likely to increase. Thus, unlike E&P, refining, gas pipelines or LNG terminals, new investments in petchem can be justified.

However, the track record of most Indian players and particularly oil PSUs has been very weak. As such, in our view, compared to the upstream, refining, and gas value chain, petrochemical plants are far more complicated. Indian PSUs have historically struggled in the petrochemical business, and their profitability has been weak too (unless the cycle has been very strong or there was feedstock cost advantage, like for GAIL before FY2015).

In recent years, significant capacity additions by China across key petchem has made going even more difficult. In the last two years, oil PSUs that report petchem financials separately (IOC, GAIL, and OPaL) have reported losses. In our view, even for others like BPCL's petchem capacity at Kochi, or HMEL Bhatinda, profitability will be weak. We also note oil PSUs past investments in petchem have seen significant cost and time overruns. Even the capacity that is under-construction is also seeing significant cost-time overruns.

OPaL: Large time and cost overruns; losses since beginning

ONGC Petro-additions Limited (OPaL), incorporated in 2006, had the ambitious vision of becoming a leading world-class petrochemical company with a dominant Indian market share. It was promoted by ONGC (with a 26% stake and control stake) and GSPC (5%) stake. Later, GAIL became a co-promoter. The current shareholding is ONGC 49.4%, GAIL 49.2% and GSPC 1.4%.

The project's key advantage was its feedstock flexibility, as its dual feed-stock cracker could use naphtha, or natural gas (including LPG). It has exclusive arrangement for extracting C2/C3 from imported LNG from RasGas contract from the near-by Dahej facility. There is a dedicated pipeline from ONGC's Hazira facility for continuous and stable supply of naphtha. In addition, there is dedicated LPG pipeline from near-by Dahej port. A port location also provided it even connectivity to both domestic and overseas markets.

However, this project has struggled since beginning. Compared with the initial plan of completion by Oct-2012, the commercial start happened only in March 2017. The project cost had more than doubled. Further, despite the feedstock advantages, the project has struggled, and has reported losses each year since commercial operations began. With cumulative losses exceeding Rs168bn, ONGC has announced a restructuring of the project. After government approvals, ONGC will infuse Rs184 bn, and its stake will rise to nearly 95%. ONGC plans to turn around the project, and it eventually wants to bring a strategic partner.

As per ONGC, apart from reviving OpaL, it is considering two additional petrochemical projects with investment of over Rs1,000 bn.

OPaL has1.4 mmtpa polymers & 500 ktpa chemicals capacities

Exhibit 44: OPaL key capacities (kta)

Polymers	1,400	ktpa
Ethylene	1,100	ktpa
LLDPE/HDPE swing	2*360	ktpa
HDPE	1*340	ktpa
Propylene	400	ktpa
PP	340	ktpa
Chemical	500	ktpa
Benzene	150	ktpa
Butadiene	115	ktpa
Pygas	165	ktpa
CBFS	70	ktpa

Source: Company, Kotak Institutional Equities

OPaL had due feedstock configuration with assured availability

Exhibit 45: Feedstock configuration for OPaL

Recovery from 5-mmtpa LNG		
Ethane	465	ktpa
Propane	225	ktpa
Butane	155	ktpa
Naptha (from ONGC and imports)		
Aromatic rich naphta (ARN)	1,200	ktpa
Low Aromatic Naphta (LAN)	300	ktpa

Source: Company, Kotak Institutional Equities

OPaL's petchem project saw time/cost overruns; capex more than doubled; cumulative losses Rs168 bn

Exhibit 46: OPaL petchem project key timelines and project capex (Rs bn)

	Project Capex Rs bn	Comment
Nov-2006	135	OPAL incorporated (ONGC 26% stake and control, GSPC 5%)
Jun-2008	124	Project reconfigured; site develoment contracts awarded
FY2009	124	GAIL to take 19% stake; Rs68 bn EPC contracts for dual feed cracker awarded; **Scheduled completion Oct-2012**
Jan-2011	195	GAIL formally becomes co-promoter; to market portion of OPAL output; project completion 1Q 2013
Mar-2012	214	Lenders agree for debt equity of 70:30 post Dec-2014 (earlier 60:40); Scheduled start January 2014
Jul-2014	270	Debt: Equity of 58:42 post Dec-2015; Project progress 90%
Jun-2015	270	95% mechanical completion; PP commercial production starts; Capex so far Rs214 bn
Mar-2016	270	Cumulative capex Rs251 bn; 98.6% progress
Mar-2017	289	**Commercial start March-2017**
FY2024		Cumulative losses Rs168 bn; ONGC announces capital restructuring (to infuse Rs184 bn; stake to rise to ~95%)

Source: Company, Kotak Institutional Equities

OPaL has reported loss each year since start of operations in FY2018, with accumulated loss of Rs168 bn and outstanding debt of Rs303 bn

Exhibit 47: OPAL's reported plant utilization and key financials, March-end fiscal years, 2018 onward (%, Rs bn)

	2018	2019	2020	2021	2022	2023	2024
Plant utilisation (%)	46	70	88	86	95	82	92
Key financials (Rs bn)							
EBITDA	3	8	8	28	25	5	(5)
Depreciation	(12)	(12)	(12)	(13)	(14)	(16)	(15)
EBIT	(8)	(4)	(4)	15	12	(12)	(20)
Interest expenses	(17)	(18)	(21)	(17)	(19)	(28)	(29)
Other income	0.2	0.5	0.2	0.5	0.2	0.4	0.2
Exceptionals	—	—	(6)	(8)	—	—	—
PBT	(25)	(22)	(31)	(8)	(7)	(39)	(48)
PAT	(19)	(14)	(21)	(8)	(5)	(42)	(35)
Reserve & Surplus	(11)	(19)	(71)	(83)	(89)	(130)	**(168)**
Outstanding debt	214	221	248	240	237	269	**303**

Source: Company, Kotak Institutional Equities

IOC: Largest PSU player with ambitious plans but petchem profitability has been weak

With a petchem capacity of 4.1 mmtpa across several sites, IOC has largest petchem capacity among PSUs and is second-largest petchem player in India (after Reliance).

It has set a target to double the capacity to 8.2 mmtpa by FY2027. IOC has longer-term target to increase its petchem capacity to 15-mmtpa. This will enable its petchem intensity to rise to nearly 15% (versus ~6% in FY2023). IOC is currently executing several refinery expansions projects that are integrated with petrochemical capacities, with overall investment exceeding Rs1,000 bn.

With 4+ mmtpa capacity, IOC has largest petchem capacity amongst PSUs and second largest overall

Exhibit 48: IOC's key petchem capacities

	Capacity (kta)
Panipat	
Naphtha cracker	1,700
PX / PTA	553
Paradip	
PP	680
Ethylene Glycol	357
Butadiene + SBR	258
Gujarat	
LAB	162

Source: Company, Kotak Institutional Equities

IOC targeting 8.2 mmtpa petchem capacity by FY2027E

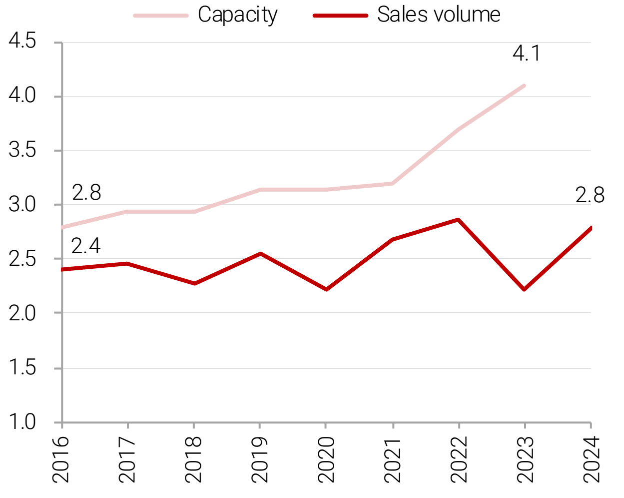
Exhibit 49: IOC's key upcoming capacities

		Capacity kta	Capex Rs bn
Barauni	PP	200	20
Panipat	PP	450	
	Styrene	387	
	PBR	60	21
Koyali	PP	500	
	Acrylics/Oxo-alcohol		59
Paradip	PX- PTA	1,200	138
	PVC, Phenol, IPA, Polymers	3,000	610

Source: Company, Kotak Institutional Equities

Compared to capacity growth, sales volume growth muted

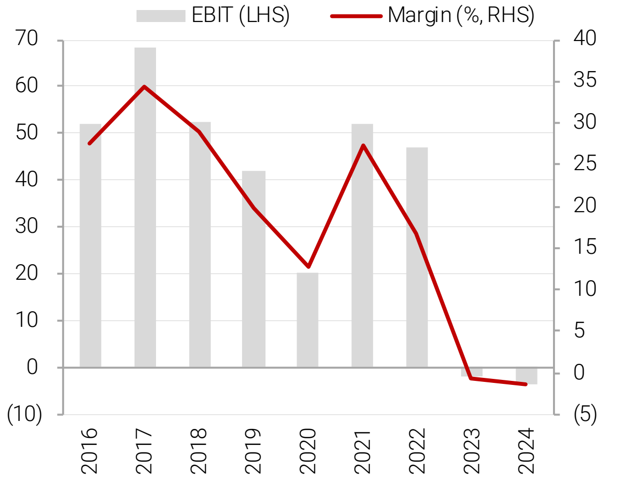
Exhibit 50: IOC's petchem: Sales and year-end capacities, March-end fiscal years, 2016 onward (mmt, mmtpa)



Source: Company, Kotak Institutional Equities

IOC's petchem segment has struggled for several years; EBIT losses both in FY2023 and FY2024

Exhibit 51: IOC's petchem segment EBIT and EBIT margin, March-end fiscal years (Rs bn, %)



Source: Company, Kotak Institutional Equities

GAIL: Weak track record in petchem; seems most aggressive on plans

GAIL's petchem segment has been in stress for long. Prior to FY2015, GAIL was benefitting from using domestic gas (APM, PMT or KG basin). However, with a decline in domestic gas production, the availability of domestic gas reduced and GAIL was forced to use expensive LNG. As a result, its gas costs moved up sharply.

In FY2015, GAIL had doubled its capacity at its Pata petrochemical complex to 810 kta. However, in all of the past 10 years, segment EBIT has been lower than prior to the expansion over FY1012-14. During FY2021-22 (PE demand was strong and LNG prices low due to Covid-19), segment profitability had recovered, but it weakened subsequently. In both FY2023-24, GAIL reported segment EBIT loss.

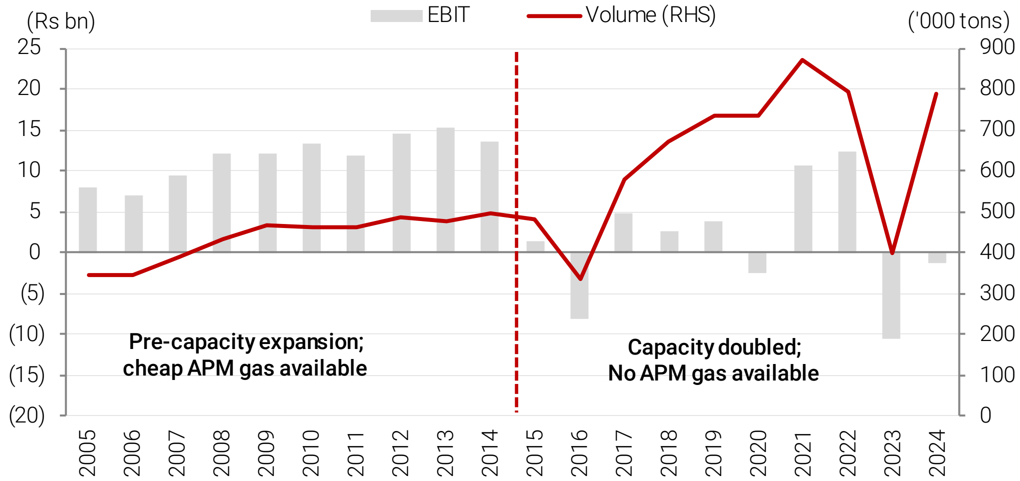
For Indian markets, while prices are benchmarked to international prices, domestic prices typically have premiums over international prices (apart from import duty and logistics costs for imports). Over FY2018-19, as significant new capacity in India was added/ramped-up, the domestic markets had become less import dependent. The premiums were narrow at about 17% in FY2019.

However, in the past few years, as PE demand has been rising and new domestic capacity additions slowed, premiums had expanded to nearly 40-45%. However, last year, as HMEL's new 1.2 mmt capacity ramped up, domestic premiums contracted.

After losses for five consecutive quarters, the petchem segment recovered to profitability in 2HFY24, driven by lower feedstock costs. With weak HH prices, GAIL had locked higher US LNG volumes for usage in the petchem segment. While lower costs bring some relief, segment profitability is likely to be weak unless PE prices recover strongly.

Despite doubling capacity in 2015, GAIL's petchem profits lower in last 10-year (versus pre-expansion)

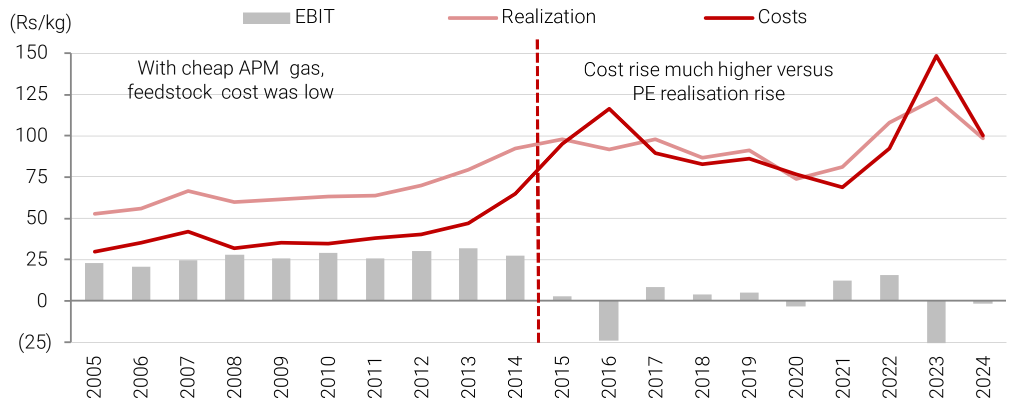
Exhibit 52: GAIL's petchem volumes and EBIT, March fiscal year-ends, 2005 onward (Rs mn, '000 tons)



Source: Company, Kotak Institutional Equities

With no APM gas, and higher fixed costs post expansion, EBIT margins have been squeezed.

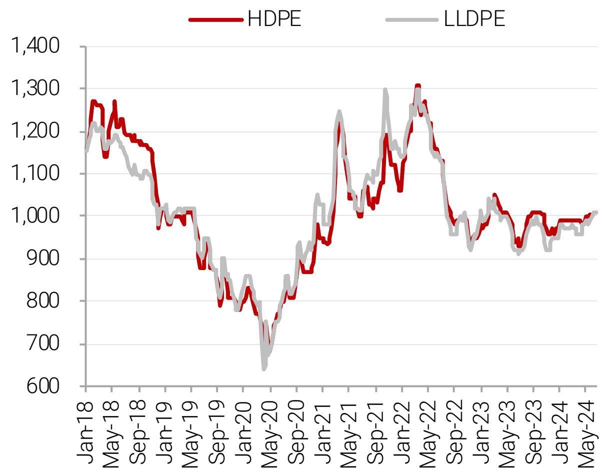
Exhibit 53: GAIL's Petchem realization, costs, and margins; March fiscal year-ends, 2005 onward (Rs/kg)



Source: Company, Kotak Institutional Equities

PE remains in downcycle, uptick in prices in last few weeks

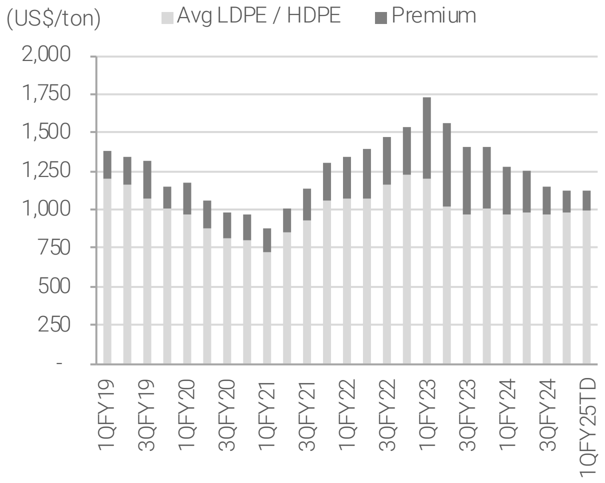
Exhibit 54: International HDPE/LLDPE price, January 2018 onward (US$/ton)



Source: Source: Platts, Refinitiv, Kotak Institutional Equities

With HMEL capacity ramp-up, domestic PE premiums declined in last few quarter

Exhibit 55: GAIL's premium versus average HDPE/LLDPE prices, 1QFY1 onward (US$/ton)



Source: Source: Platts, Refinitiv, Kotak Institutional Equities

GAIL's petchem plans are rather aggressive

GAIL is currently implementing two poly-propylene (PP) projects that were announced in 2019. Both these projects have seen delays, and likely capex has increased by 43-44% from initial estimates.

A 60 kta facility is coming up at its exiting petchem facility at Pata, based on propane feedstock that is already available (post recovery of LPG from rich domestic gas).

In addition, it is setting up a 500 ktpa PP facility with propane de-hydrogenation at Usar in Maharashtra. At this site, GAIL earlier operated an LPG plant, which was shut due to the unavailability of C3/C4 in domestic gas. For the PDH-PP facility, GAIL will import propane and has already tied-up with BPCL.

In our view, with GAIL importing key feedstock for PDH-PP facility, there is no competitive advantage for GAIL. With its elevated costs, in our view, project profitability will be weak. For the smaller facility at Pata, while there will be synergies from existing facility, the size is small, and imported LNG prices are high. Similar to existing PE facility, we believe profitability will be weak.

New petchem capacity is being built at three sites with capex of over Rs170 bn; firm announcement of adding new 1.5 mmtpa with capex of ~Rs600 bn in MP seems very likely soon

Exhibit 56: GAIL's upcoming and planned petchem capacities and likely capex (kta, Rs bn)

	Key product	Capacity (kta)	Likely capex (Rs bn)	Likely completion	Comment
Usar (Maharashtra)	PP	500	113	Oct-25	Capex up by 44% to Rs113 bn (earlier Rs78 bn); likely completion Oct-2025 (earlier April-2025)
Pata (UP)	PP	60	13	Mar-25	Capex up by 43% to Rs13 bn; delayed to March-2025 (earlier April-2024)
Mangalore (Karnataka)	PTA	1,250	45	FY2026	JBF acquistion cost Rs 21bn; further capex needed Rs 23-24 bn
Ashta (Sehore, MP)	PE	1,500	600		Planned investment of Rs600 bn; requested MP government to provide enablers; Land acquisition commenced
Total		**3,310**	**771**		

Source: Company, Ministry of Statistics and Programme Implementation, Kotak Institutional Equities

JBF acquisition had perplexed us, no synergies with existing petchem business

In FY2023, under the insolvency resolution process, GAIL made the highest bid and acquired JBF Petrochemicals. The facility has been renamed GAIL Mangalore Petrochemical, a 100% subsidiary. Apart from the initial acquisition cost (~Rs21 bn), to complete and commission the 1.25 mmtpa PTA capacity, GAIL will further incur a capex of Rs23-24 bn.

We see no synergies for the PTA business with GAIL's existing PE or the planned PP business. We note that JBF Petchem plan was to sell PTA to its parent (JBF Associates) that had polyester capacities. These capacities have been separately sold to RIL. We also note that Reliance Industries, which was a bidder for JBF Petrochemicals, is building a much larger 3 mmtpa single-train PTA capacity. At this stage, in our understanding, GAIL does not have much of this new capacity tied up for sales to downstream customers.

Planned new PE capacity too expensive to start with

For over a year now, GAIL has been considering setting up a green-field PE capacity based on imported ethane. With weak gas prices in the US and ample ethane feedstock availability, it is looking to import ethane feedstock from the US (similar to Reliance). Last year, it was considering plant location at Dabhol in Maharashtra (adjacent to GAIL's LNG terminal) as a potential location. It had indicated that the likely cost for 1.5 mmtpa ethane cracker and downstream PE facility would be ~Rs400 bn (media article, our May-2023 note).

In June 2024, GAIL announced that it intends to set up this 1.5 mmtpa ethane cracker project at Ashta, District Sehore in Madhya Pradesh (MP). GAIL has submitted its request to the MP government to provide suitable enablers. As per GAIL, about 800-hectare land will be provided by MP Industrial Development Corporation (MPIDC, a MP government entity); the process has commenced. **GAIL now estimates that this project will entail investment of Rs600 bn (~50% higher versus initial guidance).**

In our view, while the final board approval is pending, with company already making an announcement, and state government starting the land acquisition process, the likelihood of GAIL going ahead with this project is very high.

In our view, while configuration is different, GAIL's planned project (1.5 mmtpa ethane cracker) is comparable to OPaL's petchem project. Compared to GAIL's, OPaL's petchem project is more complex and bigger. OPaL cracker has the ability to handle dual-feed (naphtha and gas/LPG). While OPaL's facility has a lower 1.1 mmpta PE capacity (GAIL plans 1.5 mmtpa), it also has 340 kta PP facility. In addition, OPaL has 500 kta of other chemicals capacities (benzene, butadiene, etc.) (refer to Exhibit 44).

We note that after over 100% cost overrun, OPaL's project capex was ~Rs290 bn. GAIL's indicated capex of Rs600 bn for similar sized project seems too high to start with. We note that with its investment of Rs9.95 bn, GAIL currently has a 49.2% stake in OPaL (post the planned capital infusion by ONGC and re-structuring GAIL's stake in OPaL will decline to below 5%). Despite being a co-promoter of OPaL for long, and seeing its struggles over the years, GAIL's decision to go ahead with similar size and even more expensive project is surprising to us.

Petronet LNG's decision to put petchem capacity also baffled us

While technically a private company, Petronet LNG is promoted by four oil & gas PSUs (ONGC, IOC, BPCL and GAIL each have 12.5% stake). In October 2023, it had made announced a board approval to go ahead with a PDH-PP project with estimated capex of Rs207 bn (+/- 10%). We note this indicated capex was 50-60% higher than initial guidance of Rs130-140 bn.

This project is similar to GAIL's PDH-PP project at Usar and will be based on imported propane. While the Propane de-hydrogenation (PDH) plant capacity will be higher (750 kta), the PP capacity will be similar (500 kta). PLNG plans to sell remainder 250 kta propylene in the market.

As we noted that for its PDH-PP plant (500 kta capacity each), GAIL's cost has increased by nearly 43% to Rs113 bn. The indicated capex by PLNG for its PDH-PP plant (750 kta PDH, 500 kta PP), **the indicated capex is nearly 83% higher at Rs 207 bn compared to GAIL's revised costs.** We note that while PDH capacity for PLNG is 50% higher, PP capacity is similar to GAIL's capacity.

Required spreads much higher versus historical spreads for GAIL, PLNG's new greenfield plants

In Exhibit 57 below, we estimate the required product spread based on projected capex and capacities for GAIL and PLNG's recently announced petchem projects. We assume 70% project debt, 8% interest rate, and conservative operating costs of US$200/ton (~Rs16/kg), and required pre-tax equity returns of 16%.

Based on our estimates, at indicative project cost of Rs600 bn for GAIL's new ethane cracker, the required delta over imported ethane (including all logistics costs) over PE will be nearly US$940/bbl. We note that last five-year average international prices of HDPE/LLDPE have been ~US$980/ton, and ~US$1140/ton for LLDPE. As we noted earlier, there is a premium pricing in the domestic markets, but with large planned capacity increases these should remain moderate, in our view.

Similarly, we note that for GAIL's PDH-PP plants, the required spreads on our estimates over imported propane are nearly US$620/ton for GAIL, and higher US$770/ton for Petronet LNG. In comparison, for the last five years, the average prices of PP have been about US$1,000/ton, and the average prices of Saudi Aramco's monthly propane prices (the benchmark used for all propane/butane imports) have been about ~US$570/ton. Including the logistic costs on imported propane, the five-year average delta would be only about US$400/ton, much lower than required spread.

We estimate required deltas for > US$900/ton GAIL's ethane cracker, >US$600/750 per ton for GAIL/PLNG's PDH-PP projects

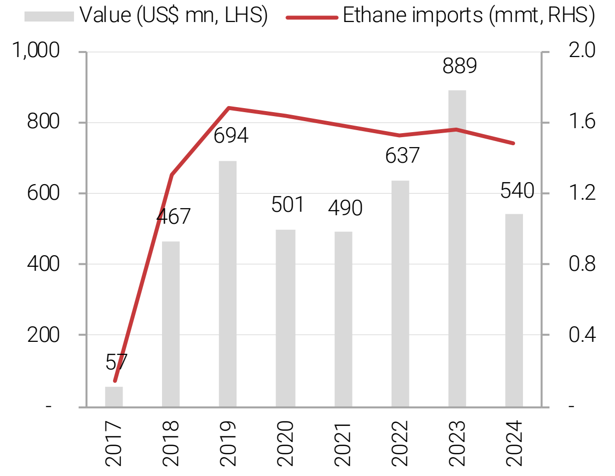
Exhibit 57: Indicative estimates of required PE/ethane or PP/propane for GAIL/PLNG's new petchem projects based on announced capacity and capex estimates (Rs/kg, US$/ton)

		Ethane cracker	PDH-PP	
Entity		**GAIL**	**GAIL**	**Petronet LNG**
Location		Sehore, MP	Usar, MH	Dahej, Gujarat
Capacity				
Cracker/PDH	kta	1,500	500	750
PE/PP	kta	1,500	500	500
Estimated capex				
Capex	**Rs bn**	**600**	**113**	**207**
	US$ bn	7.2	1.4	2.5
Annual costs				
Interest cost	Rs bn	34	6	12
Depreciation	Rs bn	30	6	10
Opex (US$200/ton)	Rs bn	25	8	8
Equity return (16% pre-tax)	Rs bn	29	5	10
Required spread	Rs bn	117	26	40
PE/PP delta over ethane/propane	Rs/kg	78	52	64
	USD/ton	**938**	**617**	**771**

Source: Company, Kotak Institutional Equities estimates

India imports nearly 1.5 mmt ethane from US (mainly Reliance)

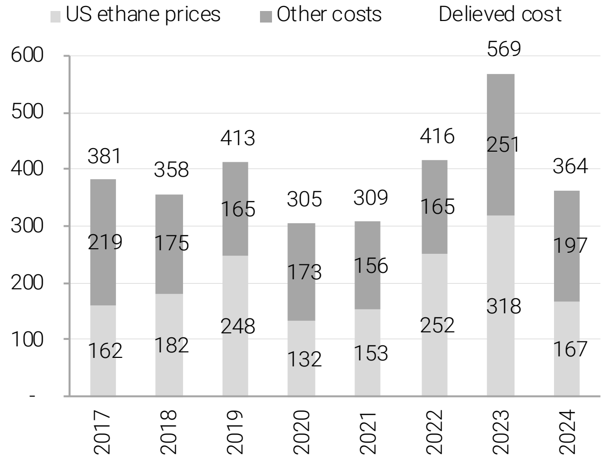
Exhibit 58: India's ethane import from US, March-end fiscal years, 2017 onward (US$ mn, mmt)



Source: Commerce Ministry, Kotak Institutional Equities

Logistics costs to deliver US ethane to India have averaged at over US$190/ton since FY2017

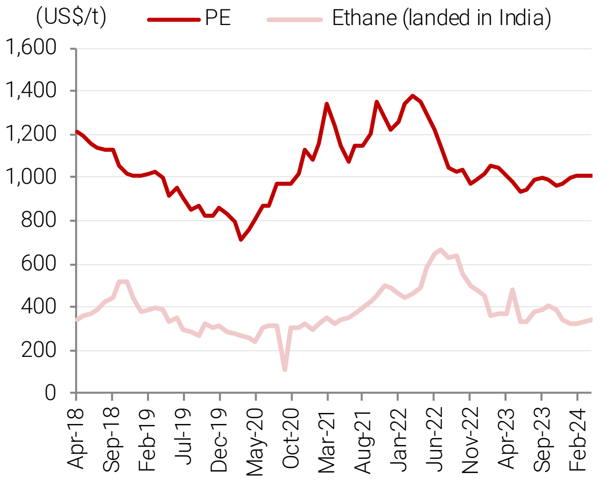
Exhibit 59: US ethane: delivered cost in India versus prices in US (US$/ton)



Source: Commerce Ministry, Kotak Institutional Equities

PE – ethane spreads have recovered from 2022 lows

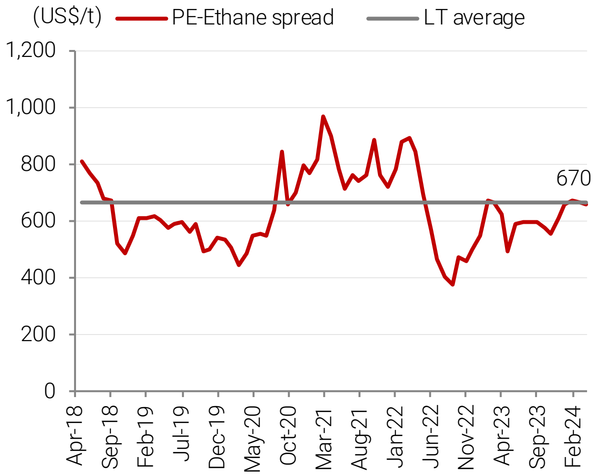
Exhibit 60: Trend of PE and landed ethane prices, April 2018 onward (US$/ton)



Source: Refinitiv, Saudi Aramco, Kotak Institutional Equities

PE-Ethane spreads averaged US$670/mt since April-2018, much lower versus required US$900+/mt for GAIL's cracker

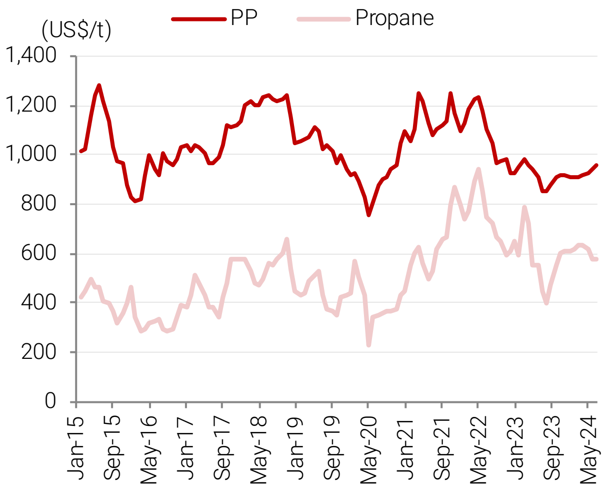
Exhibit 61: PE – landed ethane price, April 2018 onward (US$/ton)



Source: Commerce Ministry, Kotak Institutional Equities

In the last few years while propane prices have firmed, PP prices have been weak

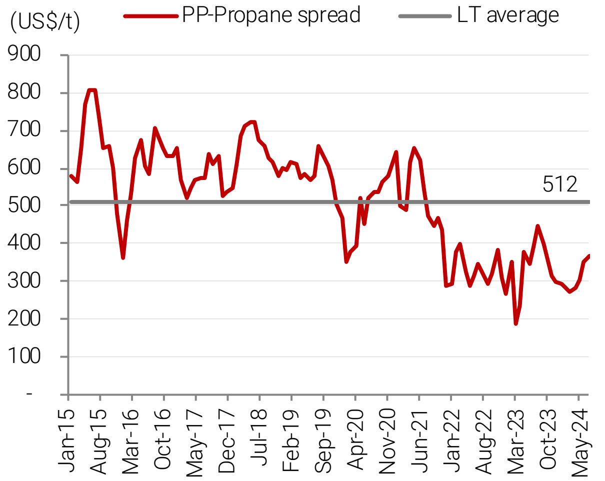
Exhibit 62: Trend of PP and propane prices, January 2015 onward (US$/ton)



Source: Refinitiv, Saudi Aramco, Kotak Institutional Equities

Current PP-Propane deltas ~US$300/ton (LT US$510/ton); much lower versus required for GAIL/PLNG plants

Exhibit 63: PP-propane delta, January 2015 onward (US$/ton)



Source: Commerce Ministry, Kotak Institutional Equities

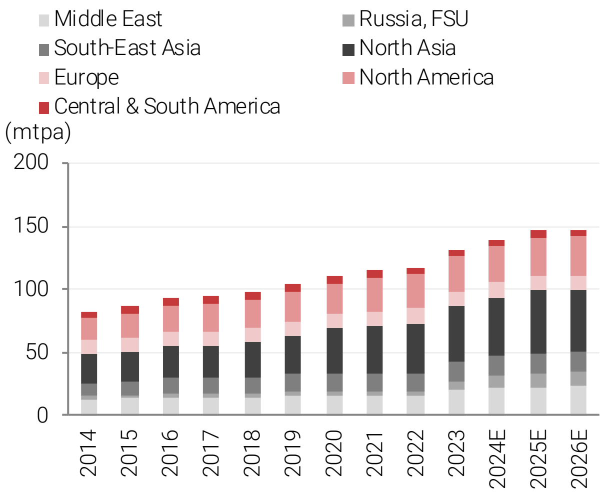
Petchem: Chinese capacity adds keeping prices/margins in check

In the last few years, China has been at the forefront of adding large capacities across most key petrochemical products. Unlike oil and refined products where demand was impacted during the pandemic, key petrochemicals such as olefins had seen a robust demand, driven by higher demand for packaging, logistics, and health applications such as PPE.

After the pandemic, the capacities have further increased, whereas demand growth has slowed. For key petchem products, margins have been subdued. In our view, the recovery will be slow, and there will be an overhang of upcoming new capacities, including in India.

In the last five years, global PE capacity up by 34 mmt (35%); nearly 50% capacity additions in North Asia (mainly China)

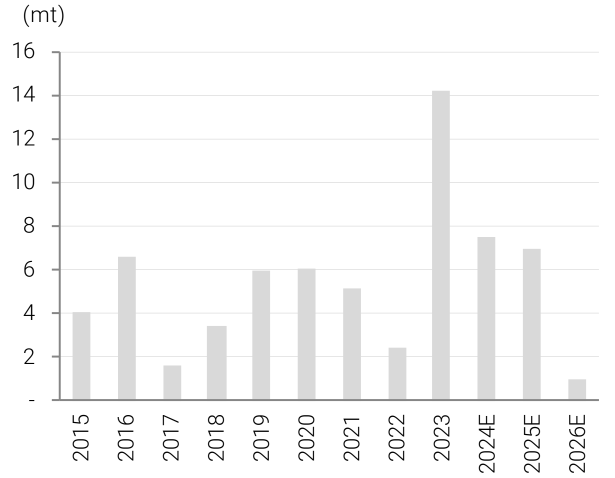
Exhibit 64: Global PE capacity trends and forecasts, 2015 onward



Source: Refinitiv, Kotak Institutional Equities estimates

Capacity addition pace was strong in 2023, likely strong in 2024/25 as well

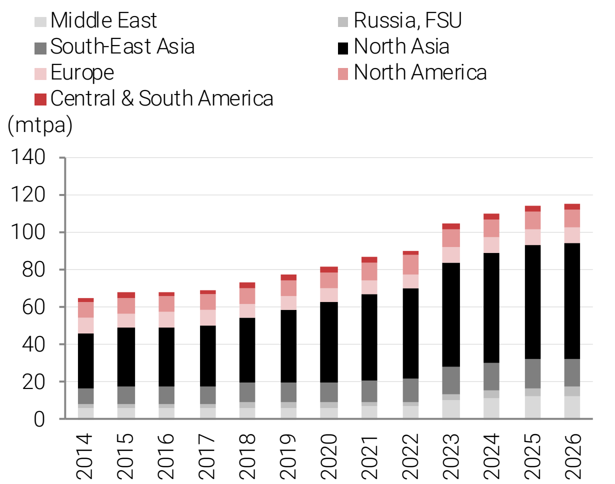
Exhibit 65: Global PE annual capacity additions, 2015 onward



Source: Refinitiv, Kotak Institutional Equities estimates

In the last five years, global PP capacity increased 31 mmt (43%), with 70% additions in North Asia

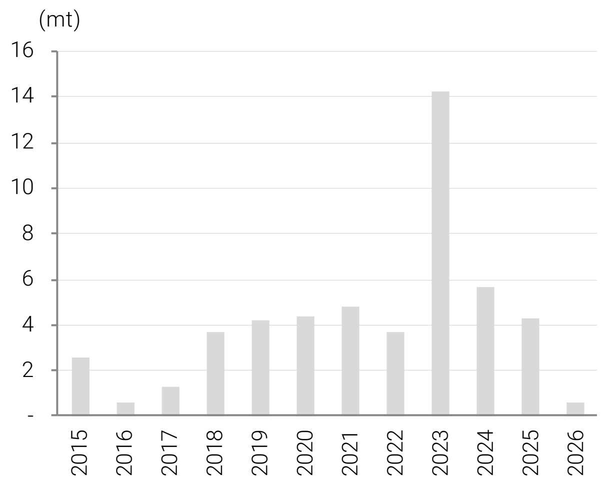
Exhibit 66: Global PP capacity trends and forecasts, 2015 onward



Source: Refinitiv, Kotak Institutional Equities estimates

PP also saw very large capacity additions in 2023

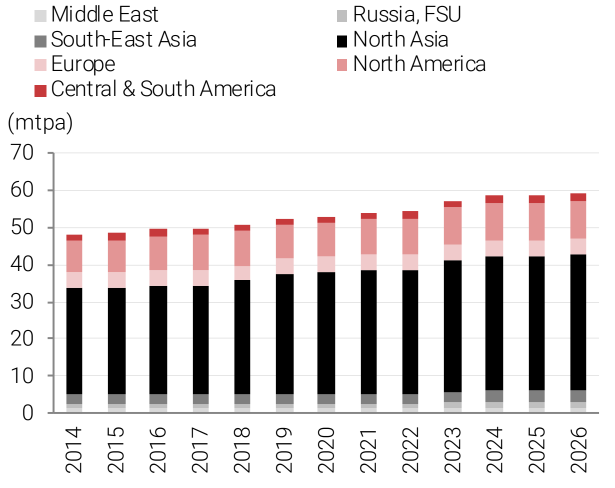
Exhibit 67: Global PP annual capacity additions, 2015 onward



Source: Refinitiv, Kotak Institutional Equities estimates

PVC capacity adds relatively lower – up 13% over 2018-23

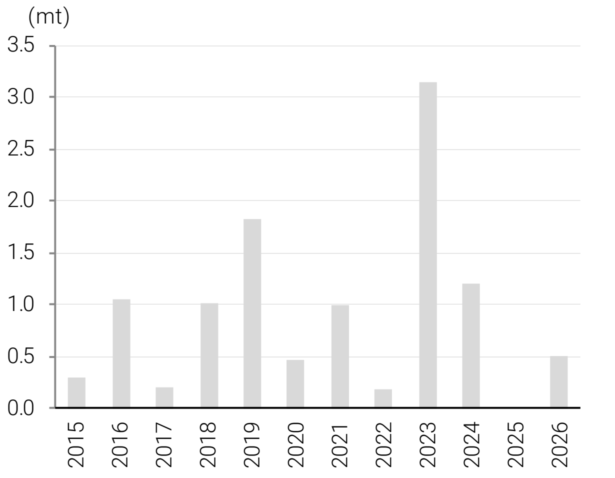
Exhibit 68: Exhibit 35: Global PVC capacity trends and forecasts, 2015 onward



Source: Refinitiv, Kotak Institutional Equities estimates

PVC capacity adds were also elevated in 2023

Exhibit 69: Exhibit 36: Global PVC annual capacity additions, 2015 onward



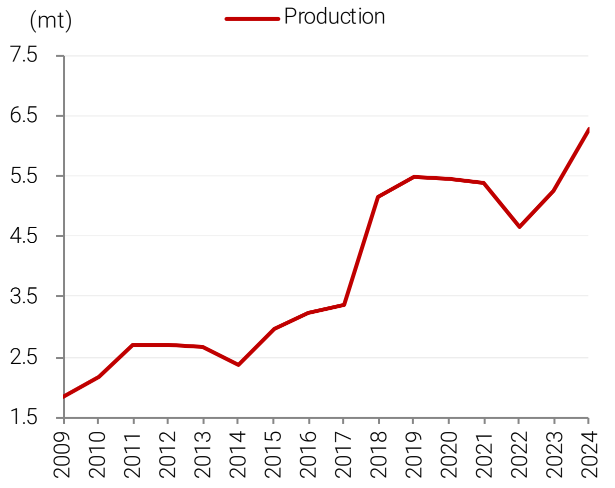
Source: Refinitiv, Kotak Institutional Equities estimates

India's resilient growth leading to new petchem capacity additions

For most key petchem products, Indian demand has been relatively robust at 6-8% CAGR and the share of imports has been rising, as shown in below exhibits.

PE domestic production has been inching up over past few years

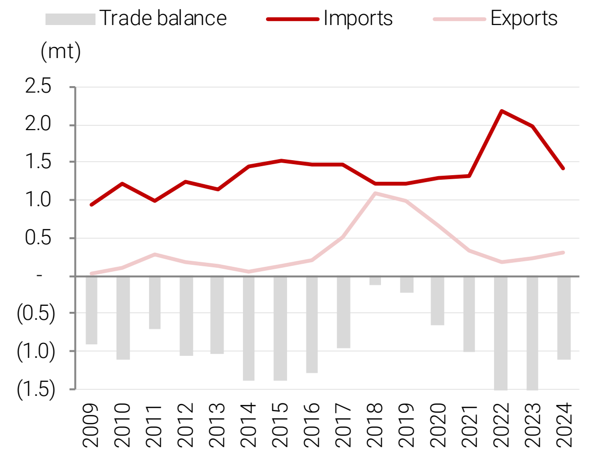
Exhibit 70: Exhibit 47: PE domestic production trends for India, 2009 onward



Source: Refinitiv, Kotak Institutional Equities estimates

Yet, India remains a net importer of PE

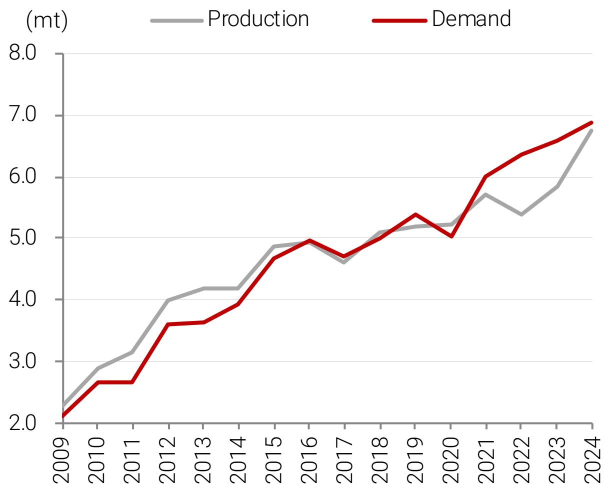
Exhibit 71: Exhibit 48: India PE imports, exports and trade balance, 2009 onward



Source: Refinitiv, Kotak Institutional Equities estimates

With PP production increasing, demand-supply will get narrower

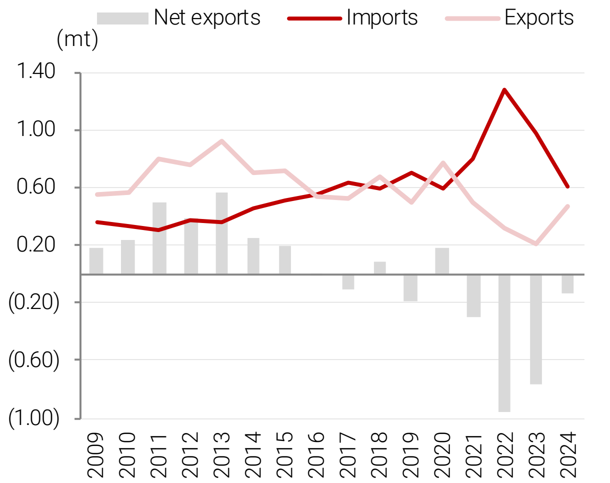
Exhibit 72: India PP production and demand trends, 2009 onward



Source: Refinitiv, Kotak Institutional Equities estimates

PP imports likely to reduce in 2024

Exhibit 73: India PP imports, exports and trade balance, 2009 onward



Source: Refinitiv, Kotak Institutional Equities estimates

Companies

ONGC: Maintain REDUCE with a Fair Value of Rs275

After multi-year decline, we expect oil and gas production to recover over FY202

Exhibit 74: Key assumptions, March fiscal year-ends, 2019-27E

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Macro assumptions									
Exchange rate (Rs/US$)	69.9	70.8	74.2	74.5	80.4	82.8	83.5	84.0	84.5
Pricing and volumes assumptions									
Crude price									
Crude price, Dated Brent (US$/bbl)	70.2	60.9	44.8	80.0	95.5	83.0	85.0	80.0	80.0
Gross realized crude price, India (US$/bbl)	70.2	60.5	44.1	79.1	94.8	83.4	82.9	77.8	77.8
Subsidies	—	—	—	—	—	—	—	—	—
Government taxes (excl windfall tax)	22.5	19.5	13.7	23.6	27.8	21.7	22.0	21.1	20.0
Windfall tax (US$/bbl)	—	—	—	—	9.7	7.5	8.9	3.7	3.7
Net realized crude price, India (US$/bbl)	47.8	41.0	30.4	55.4	57.4	54.1	52.0	53.0	54.1
Natural gas price									
Natural gas price, India (Rs/cu m)	9.9	11.9	6.9	7.7	23.4	21.3	22.1	23.4	24.5
Natural gas price, India (US$/mn BTU)	3.6	4.3	2.3	2.6	7.3	6.5	6.7	7.0	7.3
Sales volumes—Domestic fields									
Crude oil - own fields (mn tons)	18.5	18.0	17.7	17.4	16.9	17.0	**17.6**	**18.2**	**18.2**
Crude oil - JV (mn tons)	4.0	3.4	3.0	3.6	2.9	2.1	2.1	2.1	2.0
Natural gas - own fields (bcm)	19.6	18.5	17.0	15.9	15.5	14.9	**16.0**	**18.2**	**18.4**
Natural gas - JV (bcm)	0.9	0.9	0.7	0.9	1.2	1.0	1.0	1.0	1.0
Sales volumes—Overseas fields									
Crude oil (mn tons)	9.6	9.2	8.1	7.5	5.2	5.4	5.6	5.6	5.6
Natural gas (bcm)	4.7	5.2	4.5	3.2	2.6	3.0	3.0	3.0	3.0
Total sales									
Crude oil (mn tons)	32.1	30.6	28.8	28.5	25.0	24.5	25.3	25.9	25.7
Natural gas (bcm)	25.2	24.6	22.2	19.9	19.3	19.0	20.1	22.2	22.4
Total sales (mn toe)	**54.9**	**52.8**	**48.8**	**46.4**	**42.3**	**41.6**	**43.3**	**45.9**	**45.9**
Total sales (mn boe)	**400**	**385**	**356**	**339**	**309**	**304**	**316**	**335**	**335**
Crude oil (%)	59	58	59	61	59	59	58	56	56
Natural gas (%)	41	42	41	39	41	41	42	44	44

Source: Company, Kotak Institutional Equities estimates

We compute Fair Value of ONGC at Rs275/share

Exhibit 75: Fair Value of ONGC, March 2026E (Rs/share)

Mar 2026E EPS	**44.2**
Less: income from investments valued separately	2.4
Mar 2026E EPS (adjusted)	41.8
P/E (X)	6.5
Valuation of operating business	272
Acquisition cost for 16% stake in Mozambique block	27
Write-off of acquisition cost for Mozambique block	(13)
Valuation of investments	17
IOCL	11
PLNG	3
GAIL	3
Fair value	**275**

Source: Kotak Institutional Equities estimates

Exhibit 76: Consolidated financials of ONGC, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Profit model (Rs mn)									
Net sales	4,213,853	4,250,014	3,605,723	5,317,618	6,848,292	6,430,370	5,952,112	5,833,947	5,972,766
EBITDA	**854,946**	**611,687**	**566,015**	**857,668**	**885,799**	**1,086,460**	**1,090,470**	**1,157,760**	**1,095,725**
Other income	81,488	85,316	93,230	74,376	80,741	122,219	131,268	139,268	153,409
Finance cost	(58,367)	(69,998)	(50,790)	(56,960)	(78,894)	(101,942)	(89,984)	(91,406)	(97,099)
Depreciation, depletion and amortization	(348,767)	(356,583)	(326,740)	(327,763)	(347,380)	(345,733)	(382,459)	(438,176)	(460,816)
Pretax profits	**529,299**	**270,422**	**281,715**	**547,321**	**540,266**	**761,005**	**749,295**	**767,446**	**691,219**
Extraordinary items	(15,529)	(90,285)	9,188	(21,049)	110,099—	16,364—	—	—	—
Effective tax	(209,183)	(75,080)	(87,662)	(47,971)	(102,732)	(197,592)	(180,456)	(177,290)	(150,810)
Net profits	**304,587**	**105,057**	**203,241**	**478,301**	**327,436**	**547,048**	**568,840**	**590,156**	**540,408**
Share of associates/minority interest	363	4,014	(40,754)	(23,080)	26,969	(54,834)	(36,435)	(34,432)	(23,295)
Adjusted net profits after minority	**314,156**	**161,726**	**156,068**	**476,270**	**464,504**	**508,578**	**532,405**	**555,724**	**517,114**
Adjusted EPS (Rs)	**25.0**	**12.9**	**12.4**	**37.9**	**36.9**	**40.4**	**42.3**	**44.2**	**41.1**
Balance sheet (Rs mn)									
Equity	2,181,408	2,069,677	2,209,810	2,595,029	2,806,473	3,370,702	3,749,534	4,151,009	4,534,891
Minority interest	181,062	178,128	216,158	238,249	206,077	280,203	316,638	351,070	374,365
Deferred tax liability	473,668	461,382	454,005	382,624	328,935	381,910	406,698	431,747	482,079
Borrowings	1,021,064	1,036,579	1,098,197	1,077,758	1,291,856	1,197,554	1,324,056	1,331,884	1,641,112
Other liabilities	1,099,819	1,293,215	1,454,477	1,560,833	1,511,946	1,871,560	1,839,856	1,805,734	1,791,903
Total liabilities and equity	**4,957,021**	**5,038,981**	**5,432,646**	**5,854,493**	**6,145,287**	**7,101,930**	**7,636,782**	**8,071,446**	**8,824,349**
Cash and equivalent	51,034	57,041	71,923	68,409	291,403	366,896	549,935	792,025	846,656
Fixed and intangible assets	2,187,779	2,149,357	2,142,935	2,275,861	2,245,887	2,598,201	2,851,857	3,063,747	3,299,483
Capital WIP	690,564	838,324	1,003,320	1,067,192	1,139,446	1,105,374	1,165,627	1,225,080	1,276,995
Other assets	1,358,453	1,487,668	1,379,053	1,527,809	1,412,234	1,777,399	1,790,303	1,686,534	2,052,483
Investments	669,190	506,592	835,415	915,222	1,056,316	1,254,059	1,279,059	1,304,059	1,348,733
Total assets	**4,957,021**	**5,038,981**	**5,432,646**	**5,854,493**	**6,145,287**	**7,101,930**	**7,636,782**	**8,071,446**	**8,824,349**
Free cash flow (Rs mn)									
Operating cash flow, excl. working capital	672,518	537,784	472,728	697,534	697,549	897,633	844,818	914,113	898,147
Working capital	(99,639)	133,674	(39,238)	36,707	83,223	1,357	(44,609)	69,648	(379,780)
Capital expenditure	(445,542)	(595,722)	(425,847)	(455,142)	(505,219)	(534,654)	(696,367)	(709,519)	(748,467)
Other income	112,837	68,293	59,337	72,837	54,119	80,787	131,268	139,268	153,409
Free cash flow	**240,173**	**144,029**	**66,980**	**351,936**	**329,671**	**445,122**	**235,111**	**413,510**	**(76,691)**
Ratios (%)									
Debt/equity	51.0	54.8	55.1	45.7	49.7	38.7	38.6	35.1	39.4
Net debt/equity	48.5	51.8	51.5	42.8	38.5	26.9	22.6	14.2	19.1
RoAE	**14.9**	**7.6**	**7.3**	**19.8**	**17.2**	**16.5**	**15.0**	**14.1**	**11.9**
RoACE	**9.3**	**5.2**	**6.0**	**13.3**	**10.6**	**12.9**	**11.6**	**11.0**	**9.3**

Source: Company, Kotak Institutional Equities estimates

IOC: Maintain SELL with a Fair Value of Rs105

Exhibit 77: Key assumptions for IOC, March fiscal year-ends, 2019-27E

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Refining assumptions									
Exchange rate (Rs/US$)	69.9	70.8	74.2	74.7	80.4	82.8	83.1	84.3	85.0
Crude throughput (mn tons)	71.8	69.4	62.4	67.7	72.4	73.3	73.8	74.0	75.0
Refining margin (US$/bbl)	5.4	0.1	5.6	11.3	19.5	12.1	9.0	9.0	9.0
Refining EBITDA (Rs bn)	**82.5**	**(122.7)**	**66.0**	**269.4**	**656.4**	**349.6**	**212.7**	**212.6**	**213.5**
Petchem assumptions									
Volumes (mn tons)	2.6	2.3	2.7	3.0	3.1	3.1	3.2	3.2	3.2
Petchem EBITDA (Rs bn)	**51.6**	**26.8**	**61.4**	**41.7**	**7.8**	**6.5**	**23.8**	**32.3**	**34.0**
Pipeline assumptions									
Volumes (mn tons)	88.5	85.4	76.0	83.2	96.7	97.3	97.8	98.3	98.8
Pipeline EBITDA (Rs bn)	**64.4**	**63.0**	**57.5**	**63.3**	**76.4**	**68.9**	**68.9**	**68.9**	**68.9**
Marketing assumptions									
Sales volume (mn tons)	81.8	80.4	71.2	77.4	91.3	90.8	93.9	97.1	100.4
Marketing margin on auto fuels (Rs/liter)	2.7	2.7	5.0	3.1	(4.7)	5.5	3.0	3.5	3.5
Total auto fuels over/(under)-recoveries (Rs bn)	—	—	—	—	(517)	167	0	35	37
Implied marketing EBITDA (Rs bn)	**146.6**	**158.9**	**204.2**	**73.1**	**(458.2)**	**269.0**	**123.6**	**149.8**	**150.0**

Source: Company, Kotak Institutional Equities estimates

We compute a Fair Value of Rs105 for IOC

Exhibit 78: Fair Value computation of IOC (Rs/share)

EV/EBITDA based valuation	Rs bn	Rs/share
Refining and marketing business		
Mar-2026E standalone EBITDA	464	
EV/EBITDA (X)	5.0	
EV of standalone business (A)	**2,318**	**164**
Investments (B)	387	27
Net debt (C)	1,220	86
Total equity value (A) + (B) - (C)	**1,484**	**105**
FV based on Mar 2026E		**105**

Source: Kotak Institutional Equities estimates

Exhibit 79: Profit model, balance sheet, cash model of IOC, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023E	2024	2025E	2026E	2027E
Profit model (Rs mn)									
Net sales	5,265,377	4,856,296	3,780,576	5,981,637	8,394,722	7,743,486	7,423,066	7,557,979	7,873,482
EBITDA	**339,352**	**68,532**	**389,102**	**432,438**	**222,526**	**694,008**	**429,024**	**463,508**	**466,393**
Other income	31,285	35,714	45,507	43,243	62,352	47,808	59,694	59,394	59,094
Interest	(43,110)	(59,795)	(30,939)	(48,291)	(69,303)	(73,278)	(65,587)	(67,216)	(65,518)
Depreciation	(75,143)	(87,661)	(98,043)	(110,059)	(118,594)	(145,096)	(153,350)	(161,234)	(177,044)
Pretax profits	**252,384**	**(43,209)**	**305,627**	**317,330**	**96,981**	**523,442**	**269,781**	**294,452**	**282,925**
Extraordinary items	(1,115)	6,268	(24,354)	—	—	—	—	—	—
Current tax	(51,009)	1,659	(51,727)	(69,130)	(4,428)	(116,152)	(58,292)	(63,956)	(60,209)
Deferred tax	(31,318)	4,331	(11,186)	(6,360)	(10,135)	(11,101)	(11,851)	(12,601)	(13,351)
Net profits	168,941	13,132	218,360	241,841	82,418	396,188	199,638	217,894	209,365
Adjusted net profits after minority interests	**169,691**	**(36,203)**	**237,267**	**241,841**	**82,418**	**396,188**	**199,638**	**217,894**	**209,365**
Adjusted earnings per share (Rs)	**12.0**	**(2.6)**	**16.8**	**17.1**	**5.8**	**28.1**	**14.1**	**15.4**	**14.8**
Balance sheet (Rs mn)									
Total equity	1,086,575	937,689	1,105,000	1,312,864	1,347,575	1,767,150	1,883,514	2,010,520	2,132,554
Deferred tax liability	158,231	114,131	129,642	142,388	146,130	166,371	178,222	190,824	204,175
Total borrowings	863,587	1,165,450	1,023,275	1,194,628	1,415,500	1,258,667	1,363,667	1,363,667	1,363,667
Currrent liabilities	1,048,684	893,636	1,082,623	1,233,512	1,290,355	1,380,219	1,356,422	1,360,853	1,378,353
Total liabilities and equity	**3,157,077**	**3,110,906**	**3,340,541**	**3,883,391**	**4,199,561**	**4,572,406**	**4,781,825**	**4,925,863**	**5,078,749**
Cash	914	5,891	16,683	8,830	7,730	8,322	66,798	58,445	1,756
Current assets	1,235,542	1,079,433	1,073,143	1,383,346	1,471,877	1,453,879	1,410,529	1,354,874	1,380,348
Total fixed assets	1,423,068	1,634,196	1,764,521	1,913,349	2,144,761	2,399,324	2,591,117	2,796,663	2,978,262
Investments	497,554	391,386	486,194	577,866	575,193	710,882	713,382	715,882	718,382
Total assets	**3,157,077**	**3,110,906**	**3,340,541**	**3,883,391**	**4,199,561**	**4,572,406**	**4,781,825**	**4,925,863**	**5,078,749**
Free cash flow (Rs mn)									
Operating cash flow, excl. working capital	241,067	(1,927)	338,690	303,530	219,938	525,994	297,032	323,440	330,988
Working capital changes	(143,945)	35,303	107,680	(135,387)	(73,243)	81,086	19,553	60,086	(7,974)
Capital expenditure	(234,240)	(303,944)	(222,574)	(211,868)	(312,505)	(352,091)	(337,030)	(357,885)	(348,965)
Investments	(25,197)	(8,033)	(38,857)	(35,934)	(8,218)	(43,769)	(2,500)	(2,500)	(2,500)
Other Income	30,363	36,228	29,902	41,408	59,696	41,551	59,694	59,394	59,094
Free cash flow	**(131,951)**	**(242,372)**	**214,841**	**(38,251)**	**(114,331)**	**252,771**	**36,749**	**82,535**	**30,642**
Ratios (%)									
Debt/equity	69.4	110.8	82.9	82.1	94.8	65.1	66.1	61.9	58.4
Net debt/equity	69.3	110.2	81.5	81.5	94.2	64.7	62.9	59.3	58.3
RoAE	**13.8**	**(3.2)**	**20.8**	**18.0**	**5.6**	**23.1**	**10.0**	**10.2**	**9.2**
RoACE	**10.2**	**0.6**	**11.7**	**11.4**	**5.1**	**14.8**	**7.5**	**7.7**	**7.1**

Source: Company, Kotak Institutional Equities estimates

BPCL: Maintain SELL with a Fair Value of Rs255

Exhibit 80: Key assumptions for BPCL, March fiscal year-ends, 2019-27E

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Refining assumptions									
Exchange rate (Rs/US$)	69.9	70.9	74.2	74.5	80.3	82.8	83.1	84.3	85.0
Crude throughput (mn tons)	31.0	31.9	26.4	30.1	38.5	39.9	40.0	40.3	40.3
Refining margin (US$/bbl)	4.6	2.5	4.1	9.1	20.3	14.1	9.0	9.0	9.0
Refining EBITDA (Rs bn)	**39.2**	**5.6**	**26.2**	**112.0**	**378.8**	**256.8**	**133.8**	**136.0**	**137.0**
Marketing assumptions									
Sales volume (mn tons)	45.0	45.7	40.7	44.6	50.1	52.2	54.1	56.1	58.1
Marketing margin on auto fuels (Rs/liter)	2.8	2.7	5.0	3.0	(4.2)	5.5	3.0	3.5	3.5
Total auto fuels (under)/over-recovery	—	—	—	—	(295)	105	0	23	24
LPG compensation					56				
Marketing and other segments EBITDA (Rs bn)	**85.7**	**85.0**	**114.9**	**24.3**	**(234.7)**	**184.7**	**66.2**	**94.2**	**101.6**

Source: Company, Kotak Institutional Equities estimates

We ascribe a Fair Value of Rs255 to BPCL

Exhibit 81: Fair Value computation of BPCL (Rs/share)

EV/EBITDA based valuation	Rs bn	Rs/share
Refining and marketing business		
Mar-2026 standalone EBITDA	230	
EV/EBITDA (X)	5.0	
EV of standalone business (A)	**1,151**	**270**
Investments (B)	178	42
Net debt (C)	242	57
Total equity value (A) + (B) - (C)	**1,087**	**255**
FV based on Mar 2026E		**255**

Source: Kotak Institutional Equities estimates

Exhibit 82: Profit model, balance sheet, cash model of BPCL, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Profit model (Rs mn)									
Net sales	2,972,751	2,843,830	2,325,451	3,622,768	4,731,247	4,480,132	4,308,788	4,294,880	4,469,333
EBITDA	**119,643**	**55,585**	**185,603**	**161,928**	**109,566**	**441,571**	**200,063**	**230,181**	**238,710**
Other income	29,836	30,813	43,445	24,124	21,840	24,125	26,119	26,969	26,707
Interest	(13,190)	(21,819)	(13,284)	(18,605)	(32,165)	(24,730)	(20,783)	(23,503)	(22,844)
Depreciation	(31,893)	(37,869)	(39,781)	(47,543)	(63,475)	(67,501)	(71,006)	(74,156)	(79,440)
Pretax profits	**104,396**	**26,710**	**175,983**	**119,905**	**35,767**	**373,464**	**134,394**	**159,492**	**163,133**
Extraordinary items	—	6,138	61,507	(771)	(13,600)	(17,980)	—	—	—
Current tax	(20,790)	(2,010)	(51,348)	(26,580)	(3,522)	(94,121)	(39,467)	(45,405)	(45,836)
Deferred tax	(12,286)	(4,007)	4,274	(4,667)	56	5,372	4,872	4,372	3,872
Adjusted net profits	**71,320**	**20,694**	**141,101**	**88,456**	**30,174**	**280,226**	**99,799**	**118,459**	**121,168**
Adjusted EPS (Rs)	**16.7**	**4.9**	**33.1**	**20.8**	**7.1**	**65.8**	**23.4**	**27.8**	**28.5**
Balance sheet (Rs mn)									
Total equity	367,377	332,144	545,446	496,698	519,963	746,748	813,084	891,823	972,364
Deferred taxation liability	64,245	60,001	52,970	62,987	70,683	66,706	61,834	57,463	53,591
Total borrowings	290,993	486,236	339,169	327,171	447,751	278,806	293,806	318,806	343,806
Currrent liabilities	433,658	386,309	468,460	618,271	569,642	637,669	643,226	633,314	640,101
Total liabilities and equity	**1,156,273**	**1,264,690**	**1,406,045**	**1,505,126**	**1,608,040**	**1,729,930**	**1,811,950**	**1,901,406**	**2,009,861**
Cash	954	1,158	70,535	8,345	21,204	44,907	10,979	3,014	3,369
Current assets	459,864	438,394	444,784	566,166	537,456	597,293	609,652	599,229	604,769
Total fixed assets	535,539	664,556	713,885	728,246	910,656	943,151	1,044,739	1,150,584	1,256,143
Investments	159,916	160,582	176,841	202,368	138,724	144,580	146,580	148,580	145,580
Total assets	**1,156,273**	**1,264,690**	**1,406,045**	**1,505,126**	**1,608,040**	**1,729,930**	**1,811,951**	**1,901,407**	**2,009,861**
Free cash flow (Rs mn)									
Operating cash flow, excl. working capital	99,718	45,230	153,262	145,491	78,060	344,531	137,219	161,273	170,030
Working capital changes	(34,022)	5,081	35,716	38,404	(610)	(13,000)	(6,803)	512	1,247
Capital expenditure	(90,568)	(94,603)	(60,790)	(61,503)	(68,223)	(85,819)	(170,000)	(180,000)	(185,000)
Investments	(5,699)	(19,223)	50,067	(15,060)	(2,007)	(34,808)	(2,000)	(2,000)	3,000
Other income	20,901	21,186	31,437	4,309	5,831	3,673	26,119	26,969	26,707
Free cash flow	**(9,671)**	**(42,328)**	**209,693**	**111,643**	**13,050**	**214,577**	**(15,465)**	**6,754**	**15,984**
Ratios (%)									
Debt/equity	79.2	146.4	62.2	65.9	86.1	37.3	36.1	35.7	35.4
Net debt/equity	78.9	146.0	49.3	64.2	82.0	31.3	34.8	35.4	35.0
RoAE	**17.3**	**6.5**	**38.4**	**15.2**	**3.3**	**38.0**	**11.8**	**13.0**	**12.3**
RoACE	**11.9**	**4.7**	**16.7**	**11.2**	**6.0**	**28.0**	**10.2**	**11.2**	**10.5**

Source: Company, Kotak Institutional Equities estimates

HPCL: Maintain SELL with a Fair Value of Rs190

Exhibit 83: Key assumptions for HPCL, March fiscal year-ends, 2019-27E

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Refining assumptions									
Exchange rate (Rs/US$)	69.9	70.8	74.2	74.5	80.4	82.8	83.1	84.3	85.0
Effective tariff protection (%)	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Crude throughput (mn tons)	18.4	17.2	16.4	14.0	19.1	22.3	24.5	25.4	25.4
Gross refining margin (US$/bbl)	5.0	1.0	3.9	7.0	12.1	9.1	9.0	9.0	9.0
Refining EBITDA (Rs bn)	**22.5**	**(18.1)**	**12.1**	**32.1**	**101.5**	**81.7**	**88.5**	**92.7**	**94.1**
Marketing assumptions									
Sales volume (mn tons)	39.9	39.6	36.6	39.1	43.5	46.8	48.6	50.5	52.5
Marketing margin on auto fuels (Rs/liter)	2.7	2.6	5.0	2.9	(4.1)	5.2	3.0	3.5	3.5
Total auto fuels over/(under)-recovery (Rs bn)	—	—	—	—	(252)	82	0	20	21
Assumed compensation (Rs bn)	—	—	—	—	56	—	—	—	—
Marketing EBITDA (Rs bn)	**91.5**	**81.0**	**100.2**	**69.7**	**(176.4)**	**166.6**	**54.4**	**76.9**	**80.0**

Source: Company, Kotak Institutional Equities estimates

We assign a Fair Value of Rs190 to HPCL

Exhibit 84: Fair Value computation of HPCL (Rs/share)

EV/EBITDA based valuation	Rs bn	Rs/share
Refining and marketing business		
Mar 2026E standalone EBITDA	170	
EV/EBITDA (X)	5.0	
EV of standalone business (A)	**848**	**399**
Investments (B)	214	100
Net debt (C)	657	309
Total equity value (A) + (B) - (C)	**405**	**190**
FV based on Mar 2026E		**190**

Source: Kotak Institutional Equities estimates

Exhibit 85: Profit model, balance sheet, cash model of HPCL, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Profit model (Rs mn)									
Net sales	2,751,974	2,687,664	2,329,968	3,496,829	4,404,030	4,335,249	4,258,048	4,252,634	4,427,824
EBITDA	**114,420**	**41,205**	**167,667**	**101,759**	**(75,222)**	**248,390**	**142,952**	**169,616**	**174,083**
Other income	16,352	18,382	27,887	29,697	20,691	23,822	27,618	28,618	28,618
Interest	(7,259)	(10,817)	(9,147)	(9,727)	(21,319)	(25,157)	(26,461)	(28,356)	(30,089)
Depreciation	(30,126)	(33,044)	(35,527)	(39,691)	(43,300)	(55,524)	(62,062)	(70,278)	(77,360)
Pretax profits	**93,387**	**15,726**	**150,881**	**82,037**	**(119,149)**	**191,531**	**82,048**	**99,601**	**95,252**
Extraordinary items	—	—	(8,413)	1,566	—	—	—	—	—
Current tax	(27,277)	(1,670)	(35,696)	(15,100)	0	(8,144)	11,776	3,996	2,159
Deferred tax	(5,620)	(3,165)	(134)	(4,677)	29,409	(36,449)	(32,804)	(29,524)	(26,572)
Prior-period adjustment	—	15,481	—	—	—	—	—	—	—
Adjusted net profits	**60,491**	**10,891**	**112,936**	**62,631**	**(89,740)**	**146,938**	**61,019**	**74,073**	**70,839**
Earnings per share (Rs)	**28.4**	**5.1**	**53.1**	**29.4**	**(42.2)**	**69.1**	**28.7**	**34.8**	**33.3**
Balance sheet (Rs mn)									
Total equity	281,748	289,624	361,861	386,770	277,134	410,298	453,011	504,862	554,449
Deferred tax liability	71,648	54,915	55,111	59,783	30,110	69,899	102,704	132,228	158,799
Total borrowings	272,397	430,209	429,159	465,906	680,051	641,195	719,195	784,195	849,195
Currrent liabilities	411,716	365,398	466,261	589,152	557,555	616,438	581,195	581,367	588,352
Total liabilities and equity	**1,037,509**	**1,140,145**	**1,312,392**	**1,501,611**	**1,544,850**	**1,737,830**	**1,856,105**	**2,002,652**	**2,150,796**
Cash	956	1,132	2,372	1,310	5,386	3,524	10,688	26,165	35,779
Current assets	413,614	359,557	418,752	481,868	423,943	522,750	488,819	483,064	491,633
Total fixed assets	504,752	654,341	741,340	838,996	903,414	954,775	1,074,817	1,186,643	1,291,603
Investments	118,186	125,116	149,928	179,437	212,107	256,781	281,781	306,781	331,781
Total assets	**1,037,509**	**1,140,145**	**1,312,392**	**1,501,611**	**1,544,850**	**1,737,830**	**1,856,105**	**2,002,652**	**2,150,796**
Free cash flow (Rs mn)									
Operating cash flow, excl. working capital	117,169	33,620	133,397	85,682	(78,556)	227,564	126,163	143,153	143,832
Working capital changes	(24,776)	8,607	28,182	56,504	13,860	(26,846)	(1,312)	5,927	(1,584)
Capital expenditure	(112,571)	(137,847)	(111,770)	(110,811)	(89,900)	(97,167)	(180,000)	(180,000)	(180,000)
Investments	(8,231)	(9,319)	(22,450)	(27,051)	(32,306)	(46,951)	(25,000)	(25,000)	(25,000)
Other income	6,125	5,509	6,938	9,040	10,206	8,722	27,618	28,618	28,618
Free cash flow	**(22,285)**	**(99,430)**	**34,297**	**13,363**	**(176,697)**	**65,322**	**(52,530)**	**(27,301)**	**(34,134)**
Ratios (%)									
Debt/equity	77.1	124.9	102.9	104.3	221.3	133.5	129.4	123.1	119.1
Net debt/equity	76.8	124.5	102.4	104.0	219.6	132.8	127.5	119.0	114.0
RoAE	**18.4**	**7.6**	**28.0**	**14.8**	**(23.8)**	**37.3**	**11.8**	**12.4**	**10.5**
RoACE	**11.4**	**0.6**	**14.8**	**8.0**	**(7.8)**	**15.8**	**6.7**	**7.1**	**6.2**

Source: Company, Kotak Institutional Equities estimates

GAIL: Maintain SELL with a Fair Value of Rs150

Exhibit 86: Key assumptions behind GAIL model, March fiscal year-ends, 2019-27E

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Tranmission									
Natural gas transmission (mmscmd)	107	108	104	111	107	120	130	138	145
Integrated Network tariff (Rs/mmbtu)	39	43	44	44	48	67	68	68	68
yoy tariff change %	15	10	—	—	9	40	1	—	—
Other pipelines	36	26	25	27	25	24	22	22	22
Blended tariffs (Rs/mmbtu)	**39**	**42**	**42**	**42**	**45**	**62**	**63**	**63**	**63**
Blended tariffs (Rs/scm)	1.47	1.57	1.57	1.58	1.70	2.33	2.36	2.37	2.38
yoy tariff change %	13.8	6.7	(0.5)	0.8	**7.8**	**37.2**	**1.1**	**0.5**	**0.4**
LPG transmission ('000 tons)	3,975	3,909	4,163	4,199	4,335	4,360	4,385	4,410	4,435
Transmission tariff(Rs/kg)	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7
Gas marketing									
Natural gas sales (mmscmd)	96.9	96.3	89.2	96.2	94.9	101.5	108.0	117.0	124.0
Blended margins (Rs/scm)	0.81	0.61	(0.22)	1.46	0.99	1.82	1.27	1.17	1.12
LPG/LHC ('000 tons)									
Production ('000 tons)	1,341	1,264	1,137	1,004	929	999	1,000	1,000	1,000
LPG price (US$/ton)	542	473	390	649	746	614	685	650	650
LPG price (Rs/kg)	38	33	29	48	60	51	57	55	55
Petrochemicals ('000 tons)									
Total petrochemicals	735	738	872	792	400	787	810	810	810
Polyethylene, HDPE (US$/ton)	1,108	863	894	1,063	998	947	960	1,000	1,043
PE realisation (Rs/kg)	91	74	81	108	123	99	100	110	115
Other assumptions									
Exchange rate (Rs/US$)	69.9	70.8	74.3	74.7	80.4	82.8	83.0	84.0	84.0
APM gas price (GCV, US$/mmbtu)	**3.2**	**3.5**	**2.1**	**2.4**	**7.4**	**6.5**	**6.5**	**6.8**	**7.0**

Source: Company, Kotak Institutional Equities estimates

Exhibit 87: Segment-wise breakdown of GAIL's EBITDA and EBIT, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
EBITDA									
Gas transportation	40,894	46,590	45,890	49,000	31,200	61,610	69,506	73,517	77,817
LPG transportation	3,586	3,909	4,120	3,970	4,350	4,000	4,128	4,225	4,400
Gas marketing	28,591	21,562	(7,023)	51,200	34,330	67,560	50,005	50,030	50,692
LPG production	25,986	16,726	13,880	29,850	13,270	8,710	14,144	10,023	8,598
Petrochemicals	8,148	2,043	15,190	17,300	(5,080)	4,200	16,949	22,538	24,975
Others / unallocable	(15,180)	(5,275)	(7,606)	(13,029)	(11,081)	(12,252)	(10,000)	(10,000)	(10,000)
Total	**92,024**	**85,554**	**64,451**	**138,291**	**66,989**	**133,828**	**144,731**	**150,334**	**156,482**
EBIT									
Gas transportation	32,539	37,258	35,819	38,058	19,197	45,101	44,047	45,421	46,113
LPG transportation	3,014	3,309	3,514	3,350	3,687	3,171	3,478	3,549	3,697
Gas marketing	28,591	21,562	(7,023)	49,322	30,788	60,673	50,005	50,030	50,692
LPG production	25,465	15,806	13,035	28,997	12,284	7,695	13,166	9,006	7,540
Petrochemicals	3,849	(2,455)	10,649	12,453	(10,609)	(1,366)	11,391	16,758	18,964
Others / unallocable	(12,922)	(8,287)	(10,621)	(15,001)	(13,238)	(14,754)	(14,413)	(14,590)	(14,773)
Total	**80,535**	**67,194**	**45,372**	**117,179**	**42,109**	**100,520**	**107,674**	**110,175**	**112,233**

Source: Company, Kotak Institutional Equities estimates

We value GAIL's stock at Rs150 per share, based on March 2026E estimates

Exhibit 88: Sum-of-the-parts valuation of GAIL (Rs bn, Rs/share)

	Valuation base (Rs bn)		Multiples (X)		EV (Rs bn)		Valuation
	Other	EBITDA	Other	EV/EBITDA	Other	EBITDA basis	(Rs/share)
Utility							
Natural gas transportation		**68.5**		**7.0**		**480**	**72**
LPG transportation		4.2		6.0		25	4
Total utility businesses		**72.7**				**505**	**76**
Commodity							
Natural gas marketing		48.5		4.0		194	29
LPG/LHC production		7.5		6.0		45	7
Petrochemicals		21.5		6.0		129	19
Total commodity businesses		**77.6**				**368**	**55**
Investments							
IGL	69		0.8		55		8
Petronet LNG	59		0.8		48		7
MGL	42		0.8		33		5
China Gas	13		0.8		10		2
ONGC	86		0.8		69		10
Others	135		0.8		108		16
Investments	**404**				**324**		**49**
Total enterprise value					**1,197**		**180**
Net debt/(cash)					197		30
Equity value					**1,000**		**150**

Note:

For SOTP segment EBITDA includes proportionate share of other/unallocables

Source: Company, Kotak Institutional Equities estimates

Exhibit 89: Profit model, balance sheet, cash model of GAIL, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Profit model (Rs mn)									
Net sales	749,933	720,570	567,302	916,265	1,442,497	1,305,731	1,411,442	1,528,956	1,614,991
EBITDA	**96,038**	**85,554**	**64,451**	**138,290**	**66,989**	**133,828**	**144,731**	**150,334**	**156,482**
Other income	15,712	14,168	19,085	20,469	26,847	22,079	25,434	25,434	25,434
Interest	(1,385)	(1,085)	(1,559)	(1,744)	(3,117)	(6,972)	(11,336)	(12,707)	(14,957)
Depreciation	(15,502)	(18,360)	(19,079)	(21,112)	(24,881)	(33,308)	(37,057)	(40,159)	(44,249)
Pretax profits	**94,862**	**80,277**	**62,898**	**135,903**	**65,838**	**115,626**	**121,772**	**122,902**	**122,711**
Current tax	(24,386)	(20,600)	(15,496)	(32,484)	(12,775)	(26,022)	(30,139)	(30,417)	(30,370)
Deferred tax	(6,205)	—	540	221	(48)	(1,159)	(1,218)	(1,229)	(1,227)
Net profits	60,257	66,206	48,902	103,640	53,015	88,445	90,416	91,256	91,114
Adjusted net profits	**62,919**	**59,459**	**48,167**	**103,640**	**53,015**	**88,445**	**90,416**	**91,256**	**91,114**
Adjusted EPS (Rs)	**9.3**	**8.8**	**7.2**	**15.6**	**8.1**	**13.5**	**13.8**	**13.9**	**13.9**
Balance sheet (Rs mn)									
Total equity	440,929	439,711	466,112	555,868	556,537	641,794	692,759	741,277	786,365
Deferred taxation liability	59,477	44,972	45,022	47,673	46,628	49,558	50,776	52,005	53,232
Total borrowings	10,011	56,174	61,730	76,558	157,295	192,105	214,590	264,590	314,590
Current liabilities	133,369	144,479	160,241	183,307	200,856	211,828	240,166	250,662	258,042
Total liabilities and equity	**643,786**	**685,336**	**733,104**	**863,405**	**961,316**	**1,095,285**	**1,198,290**	**1,308,533**	**1,412,229**
Cash	12,147	8,039	13,618	20,850	4,020	7,032	13,344	43,653	78,977
Other current assets	133,472	163,831	146,514	207,920	270,091	300,700	323,193	341,873	352,832
Total fixed assets	402,886	438,481	475,734	513,427	559,318	612,413	686,615	747,868	805,281
Investments	95,282	74,985	97,238	121,209	127,888	175,139	175,139	175,139	175,139
Total assets	**643,786**	**685,336**	**733,104**	**863,405**	**961,316**	**1,095,285**	**1,198,290**	**1,308,533**	**1,412,229**
Free cash flow (Rs mn)									
Operating cash flow, excl. working capital	74,922	64,677	53,655	116,093	53,208	102,024	101,997	105,798	109,494
Working capital changes	2,425	3,073	22,210	(29,737)	(30,932)	5,548	5,845	(8,185)	(3,577)
Capital expenditure	(59,942)	(54,620)	(42,619)	(53,616)	(74,191)	(70,513)	(110,000)	(100,000)	(100,000)
Investments	(4,823)	(32,993)	(10,163)	(6,012)	(10,586)	(9,948)	—	—	—
Other income	10,399	19,049	14,040	13,153	18,469	300	25,434	25,434	25,434
Free cash flow	**22,981**	**(816)**	**37,123**	**39,881**	**(44,032)**	**27,411**	**23,276**	**23,047**	**31,350**
Ratios (%)									
Debt/equity	2.0	11.6	12.1	12.7	26.1	27.8	28.9	33.4	37.5
Net debt/equity	(0.4)	9.9	9.4	9.2	25.4	26.8	27.1	27.9	28.1
ROAE (%)	12.7	13.4	9.8	18.6	8.8	13.7	12.6	11.9	11.2
ROACE (%)	**13.0**	**11.5**	**8.9**	**16.8**	**7.7**	**11.4**	**10.7**	**10.0**	**9.2**

Source: Company, Kotak Institutional Equities estimates

Oil India: Maintain SELL with a Fair Value of Rs333

We assume oil and gas prices to remain elevated in the near term

Exhibit 90: Key assumptions, March fiscal year-ends, 2019-27E

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Macro assumptions									
Exchange rate (Rs/US$)	69.9	70.8	74.2	74.5	80.4	82.8	83.5	84.0	84.5
Crude/natural gas prices									
Crude price									
Crude price, Dated Brent (US$/bbl)	70.2	60.9	44.8	77.8	95.7	83.0	85.0	80.0	80.0
Gross realized crude price, India (US$/bbl)	68.5	60.8	44.0	79.0	95.7	83.5	84.8	79.7	79.7
Royalty and cess (US$/bbl)	23.3	20.9	14.7	25.9	31.4	27.6	26.9	26.3	26.4
Windfall tax (US$/bbl)	—	—	—	—	10.8	7.3	7.8	2.7	2.7
Net realized crude price, India (US$/bbl)	45.2	39.8	29.3	53.1	53.5	48.6	50.1	50.7	50.6
Natural gas price									
Natural gas price, India (Rs/cu m)	9.9	10.8	6.9	7.7	23.4	21.3	22.2	23.3	24.5
Natural gas price, India (US$/mn BTU)	3.6	3.8	2.3	2.6	7.3	6.5	6.7	7.0	7.3
Production volumes—Domestic fields									
Crude oil (mn tons)	3.3	3.1	3.0	3.0	3.2	3.4	3.6	3.8	3.8
Natural gas (bcm)	2.9	2.8	2.6	3.0	3.2	3.2	3.6	3.9	4.0
Sales volumes—Domestic fields									
Crude oil (mn tons)	3.2	3.1	2.9	2.9	3.1	3.3	3.5	3.7	3.7
Natural gas (bcm)	2.5	2.4	2.3	2.5	2.5	2.6	2.7	3.1	3.2
Total sales (mn toe)	**5.5**	**5.2**	**4.9**	**5.1**	**5.3**	**5.7**	**6.0**	**6.5**	**6.6**
Total sales (mn boe)	**40**	**38**	**36**	**38**	**39**	**41**	**44**	**47**	**48**
Crude oil (%)	59	59	59	57	58	58	59	57	56
Natural gas (%)	41	41	41	43	42	42	41	43	44

Source: Company, Kotak Institutional Equities estimates

We assign a Fair Value of Rs333 to OIL India

Exhibit 91: Fair Value computation of OIL, March 2026 (Rs/share)

March 2026E EPS	45.4
Less: income from investments valued separately	10.1
March 2026E EPS (adjusted)	35.3
P/E (X)	6.5
Valuation of domestic operations	**230**
Investment for 4% stake in Area 1, Mozambique	58
50% write-off from investments in Area 1, Mozambique	**(29)**
Value of investments	**132**
Numaligarh Refinery Limited	73
IOCL	45
Other equity investments	15
Fair value	**333**

Source: Kotak Institutional Equities estimates

Exhibit 92: Standalone profit model, balance sheet, cash model of OIL, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Profit model (Rs mn)									
Net sales	137,350	121,285	86,184	145,302	232,726	221,298	239,233	246,648	253,304
EBITDA	**57,519**	**46,397**	**19,184**	**53,999**	**96,908**	**92,588**	**100,699**	**109,156**	**108,822**
Other income	14,350	11,987	19,431	18,975	14,853	23,845	21,710	21,960	22,210
Interest	(4,795)	(4,988)	(4,987)	(7,831)	(7,242)	(7,601)	(7,651)	(7,914)	(8,007)
DD&A	(17,383)	(22,064)	(21,575)	(16,294)	(15,949)	(17,751)	(20,819)	(23,896)	(27,184)
Pretax profits	**49,692**	**31,332**	**12,052**	**48,848**	**88,570**	**91,081**	**93,939**	**99,306**	**95,840**
Extraordinary	(10,268)	4,907	7,095	1,017	—	(23,627)	—	—	—
Current tax	(10,709)	(7,568)	(1,483)	(11,232)	(18,977)	(18,604)	(23,072)	(24,394)	(23,539)
Deferred tax	(2,552)	(3,266)	83	241	(1,490)	6,669	(939)	(993)	(958)
Net income	**26,163**	**25,406**	**17,747**	**38,873**	**68,104**	**55,519**	**69,928**	**73,920**	**71,343**
Adjusted net income	**32,977**	**21,965**	**11,171**	**38,080**	**68,104**	**74,965**	**69,928**	**73,920**	**71,343**
Adjusted EPS (Rs)	**20.3**	**13.5**	**6.9**	**23.4**	**41.9**	**46.1**	**43.0**	**45.4**	**43.9**
Balance sheet (Rs mn)									
Total equity	277,452	243,867	262,106	298,905	343,653	441,225	488,426	536,473	582,846
Deferred tax liability	34,127	24,929	25,279	26,188	28,139	27,855	28,795	29,788	30,746
Liability for abandonment cost	2,126	2,515	2,635	2,580	3,130	20,380	20,380	20,380	20,380
Total borrowings	74,146	88,851	157,180	116,356	111,613	113,410	113,410	113,410	113,410
Currrent liabilities	86,803	68,252	59,044	54,047	55,098	48,169	50,211	51,822	52,913
Total liabilities and equity	**474,653**	**428,414**	**506,244**	**498,076**	**541,633**	**651,038**	**701,221**	**751,872**	**800,294**
Cash	61,358	35,769	10,668	6,567	13,512	30,702	43,076	42,181	39,938
Current assets	59,312	60,294	79,981	55,847	74,218	58,433	55,296	56,449	57,485
Total fixed assets	133,954	148,463	151,452	155,736	170,696	190,570	227,339	273,532	318,937
Investments	220,029	183,887	264,143	279,926	283,207	371,334	375,509	379,709	383,934
Total assets	**474,653**	**428,414**	**506,244**	**498,076**	**541,633**	**651,038**	**701,221**	**751,872**	**800,294**
Free cash flow (Rs mn)									
Operating cash flow, excl. working capital	42,877	45,231	23,017	62,185	86,981	85,566	67,476	74,348	74,775
Working capital changes	3,893	2,989	(10,368)	(7,913)	(16,064)	(14,504)	5,179	457	55
Capital expenditure	(24,941)	(27,590)	(116,297)	(27,692)	(34,137)	(39,164)	(55,089)	(67,589)	(70,089)
Other income	12,475	13,420	16,310	17,369	13,001	21,950	21,710	21,960	22,210
Free cash flow	**34,303**	**34,049**	**(87,338)**	**43,950**	**49,781**	**53,849**	**39,276**	**29,177**	**26,952**
Ratios (%)									
Debt/equity	23.8	33.1	54.7	35.8	30.0	24.2	21.9	20.0	18.5
Net debt/equity	4.1	19.7	51.0	33.8	26.4	17.6	13.6	12.6	12.0
RoAE	10.6	7.6	4.0	12.4	19.5	17.8	14.2	13.6	12.1
RoACE	**7.7**	**5.0**	**2.0**	**7.4**	**13.7**	**13.1**	**10.7**	**10.5**	**9.4**

Source: Company, Kotak Institutional Equities estimates

Petronet LNG: Maintain SELL with a Fair Value of Rs230

Exhibit 93: Key assumptions for Petronet LNG, March fiscal year-ends, 2019-27E

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Volume assumptions (mn tons)									
Contract LNG volumes	9.1	8.6	8.5	8.9	9.1	8.8	8.8	8.8	8.8
Spot LNG volumes	0.5	0.6	0.5	0.4	0.2	0.3	0.5	0.5	0.9
Tolling volumes	7.1	9.0	8.6	7.3	5.5	9.1	9.0	8.4	8.3
Total volumes	16.6	18.2	17.6	16.6	14.8	18.2	18.3	17.8	18.0
Dahej	16.1	17.4	16.7	15.5	14.0	17.1	17.2	16.5	16.4
Kochi	0.5	0.8	0.9	1.0	0.8	1.1	1.2	1.3	1.6
Total volumes	16.6	18.2	17.6	16.5	14.8	18.2	18.3	17.8	18.0
Price assumptions (US$/mn BTU)									
LNG purchase price (FOB)	9.5	8.6	5.7	10.0	13.0	11.3	11.3	10.7	10.7
Landed cost (incl. import tariff)	10.1	9.1	6.2	10.6	13.7	11.9	11.9	11.3	11.3
Re-gasification charges for Dahej	0.68	0.70	0.71	0.74	0.72	0.74	0.77	0.80	0.82
Re-gasification charges for Dahej (Rs/mn BTU)	**47.5**	**49.9**	**52.4**	**55.0**	**57.7**	**61.1**	**64.1**	**66.9**	**69.3**
Tolling contract charges for Dahej	0.64	0.66	0.66	0.69	0.68	0.69	0.72	0.75	0.78
Tolling contract charges for Dahej (Rs/mn BTU)	**44.7**	**46.9**	**49.2**	**51.7**	**54.3**	**57.0**	**59.8**	**62.8**	**66.0**
Re-gasification charges for Kochi	1.42	0.99	0.99	1.03	1.01	1.03	1.07	1.12	1.16
Re-gasification charges for Kochi (Rs/mn BTU)	**99.6**	**70.0**	**73.5**	**77.2**	**81.0**	**85.1**	**89.3**	**93.8**	**98.5**
Blended sales price	10.8	9.9	7.0	11.3	14.5	12.7	12.7	12.2	12.2
Other assumptions									
Exchange rate (Rs/US$)	69.9	70.8	74.2	74.7	80.4	82.8	83.5	84.0	84.8

Source: Company, Kotak Institutional Equities estimates

We value PLNG at Rs230 using DCF methodology

Exhibit 94: Calculation of equity value using discounted cash flow analysis for PLNG (Rs mn)

	2024	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E
Volumes (mn tons)												
Dahej	16.7	17.2	16.5	16.4	16.3	16.4	16.5	16.6	16.8	16.9		
Kochi	0.9	1.2	1.3	1.6	1.7	1.8	1.9	2.0	2.0	2.1		
Total	18.2	18.3	17.8	18.0	18.0	18.2	18.5	18.6	18.8	19.0		
DCF valuation												
EBITDA	49,545	56,722	57,767	62,603	63,722	64,880	66,183	66,956	67,770	68,107		
Adjusted tax expense	(12,093)	(11,329)	(11,300)	(12,981)	(12,937)	(12,335)	(12,649)	(12,596)	(12,585)	(12,514)		
Change in working capital	5,909	(17,740)	(710)	(3,466)	(3,407)	(2,891)	(3,014)	(2,248)	(3,071)	(2,882)		
Operating cash flow	43,361	27,653	45,757	46,157	47,378	49,655	50,520	52,112	52,113	52,710		
Capital expenditure	(8,408)	(45,483)	(66,476)	(67,938)	(92,618)	(8,956)	(9,157)	(9,363)	(9,574)	(10,007)		
Free cash flow	34,954	(17,830)	(20,718)	(21,782)	(45,240)	40,699	41,362	42,749	42,539	42,703	42,703	42,703
Discounted cash flow-now		(16,224)	(16,832)	(15,800)	(29,291)	23,528	21,349	19,701	17,499	15,684		
Discounted cash flow-1 year forward			(18,852)	(17,696)	(32,816)	26,351	23,911	22,065	19,604	17,566	15,684	
Discounted cash flow-2 year forward				(19,820)	(36,754)	29,522	26,781	24,713	21,957	19,680	17,566	15,684

	Now	+1-year	+2-years
Discount rate (%)	12.0%	12.0%	12.0%
Total PV of free cash flow	19,613	55,817	99,328
Terminal value assumption			
Growth in perpetuity	0.0%	0.0%	0.0%
FCF in terminal year	42,703	42,703	42,703
Exit FCF multiple (X)	8.3	8.3	8.3
Exit EV/EBITDA multiple (X)	5.2	5.2	5.2
Terminal value	355,858	355,858	355,858
PV of terminal value	130,699	130,699	130,699
Total company value	150,311	186,515	230,027
Net debt	(29,463)	(42,676)	(17,539)
Equity value	179,775	229,192	247,566
Shares outstanding (mn)	1,500	1,500	1,500
Equity value of regasification business (Rs)	**120**	**153**	**165**
Equity value of 26% stake in Dahej Port (Rs)	12	13	15
Ascribed value to petchem investments (at 0.5x investments)	44	49	55
Fair value of PLNG, including dividends (Rs)	**176**	**230**	**253**

Sensitivity of 12-month fair value to WACC and perpetual growth

		Perpetual growth (%)				
		-2.0%	**-1.0%**	**0.0%**	**1.0%**	**2.0%**
WACC (%)	**11.0%**	222	229	238	249	262
	11.5%	219	226	234	244	255
	12.0%	216	223	**230**	239	250
	12.5%	214	220	227	235	245
	13.0%	212	217	224	231	240

Source: Kotak Institutional Equities estimates

Exhibit 95: Profit model, balance sheet, cash model for PLNG, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023	2024	2025E	2026E	2027E
Profit model (Rs mn)									
Net sales	383,954	354,520	260,229	427,376	590,505	521,184	535,694	515,126	542,127
EBITDA	**34,425**	**43,515**	**46,995**	**48,213**	**40,069**	**49,545**	**56,722**	**57,767**	**62,603**
Other income	4,503	3,726	3,882	3,073	5,736	6,167	5,254	4,284	4,435
Interest	(989)	(4,032)	(3,360)	(3,173)	(3,305)	(2,897)	(2,372)	(3,377)	(6,406)
Depreciation	(4,112)	(7,761)	(7,841)	(7,685)	(7,643)	(7,766)	(8,829)	(9,093)	(10,185)
Pretax profits	33,826	35,447	39,677	40,428	34,856	45,051	50,774	49,580	50,448
Extraordinary items	(1,490)	(581)	—	4,310	8,489	2,520	(5,644)	(6,049)	(3,050)
Current tax	(7,895)	(8,600)	(10,250)	(11,692)	(12,220)	(13,040)	(12,011)	(11,510)	(12,493)
Deferred tax	(2,887)	710	67	477	1,274	832	154	150	147
Reported net profits	**21,554**	**26,976**	**29,494**	**33,524**	**32,399**	**35,362**	**33,274**	**32,172**	**35,052**
Adjusted net profits	**22,547**	**26,456**	**29,494**	**30,294**	**26,054**	**32,842**	**37,435**	**36,642**	**37,307**
Earnings per share (Rs)	**15.0**	**17.6**	**19.7**	**20.2**	**17.4**	**21.9**	**25.0**	**24.4**	**24.9**
Balance sheet (Rs mn)									
Total equity	100,661	109,530	116,495	134,255	149,347	169,628	195,402	223,824	251,375
Deferred taxation liability	13,360	8,883	8,806	8,324	7,031	6,172	6,018	5,867	5,721
Total borrowings	18,195	11,170	10,170	9,566	7,423	6,448	5,515	34,581	78,648
Currrent liabilities	18,632	57,407	53,856	59,046	60,424	68,511	54,304	53,642	54,300
Total liabilities and equity	150,848	186,990	189,326	211,191	224,226	250,759	261,238	317,914	390,043
Cash and equivalents	29,603	44,320	43,423	43,178	56,800	74,097	44,389	43,635	53,887
Current assets	31,220	62,165	57,343	87,071	81,181	97,849	101,382	101,430	105,553
Total fixed assets	80,133	77,014	74,709	72,184	77,548	78,813	115,466	172,849	230,603
Investments	9,893	3,491	13,852	8,758	8,697	—	—	—	—
Total assets	150,848	186,990	189,326	211,191	224,226	250,759	261,238	317,914	390,043
Free cash flow (Rs mn)									
Operating cash flow, excl. working capital	25,175	26,209	32,572	35,115	34,941	36,271	36,695	36,831	40,654
Working capital	(4,907)	(1,843)	(1,746)	(6,340)	(15,943)	5,909	(17,740)	(710)	(3,466)
Capital expenditure	(1,628)	(408)	(730)	(723)	(10,577)	(8,408)	(45,483)	(66,476)	(67,938)
Free cash flow	**18,640**	**23,958**	**30,096**	**28,053**	**8,421**	**33,773**	**(26,528)**	**(30,355)**	**(30,750)**
Investments	867	7,294	(11,456)	(12,096)	(3,742)	(7,314)	—	—	—
Other income	1	2,524	2,913	2,186	2,952	5,107	5,254	4,284	4,435
Ratios (%)									
Debt/equity	16	9	8	7	5	4	3	15	31
Net debt/equity	(10)	(28)	(27)	(24)	(32)	(38)	(19)	(4)	10
RoAE	19.4	23.2	24.2	25.0	21.7	21.3	17.6	14.9	14.4
RoACE	23.5	31.2	36.5	34.5	26.2	34.6	33.1	28.2	26.5
Adjusted CROCI	23.3	34.1	36.4	29.4	25.3	27.9	25.1	22.6	21.0
Dividend yield	4.8	5.2	4.8	5.2	4.6	4.6	2.3	1.2	2.3
FCF yield	6.0	6.6	8.4	8.5	2.6	10.4	(8.2)	(9.4)	(9.5)

Source: Company, Kotak Institutional Equities estimates

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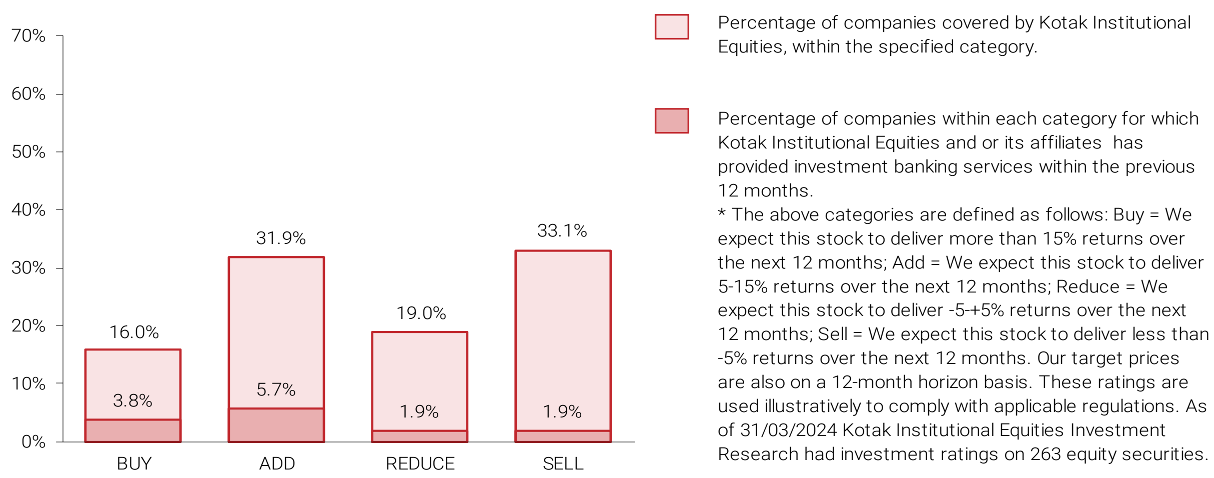

Source: Kotak Institutional Equities

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Corporate Office

Kotak Securities Ltd.
27 BKC, Plot No. C-27, "G Block" Bandra Kurla Complex, Bandra (E) Mumbai 400 051, India
Tel: +91-22-43360000

Overseas Affiliates

Kotak Mahindra (UK) Ltd
8th Floor, Portsoken House
155-157 Minories, London EC3N 1LS
Tel: +44-20-7977-6900

Kotak Mahindra Inc
PENN 1,1 Pennsylvania Plaza,
Suite 1720, New York, NY 10119, USA
Tel: +1-212-600-8858

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Kotak Securities Limited. Registered Office: 27 BKC, C 27, G Block, Bandra Kurla Complex, Bandra (E), Mumbai 400051. CIN: U99999MH1994PLC134051, Telephone No.: +22 43360000, Fax No.: +22 67132430. Website: www.kotak.com / www.kotaksecurities.com. Correspondence Address: Infinity IT Park, Bldg. No 21, Opp. Film City Road, A K Vaidya Marg, Malad (East), Mumbai 400097. Telephone No: 42856825. SEBI Registration No: INZ000200137(Member of NSE, BSE, MSE, MCX & NCDEX), AMFI ARN 0164, PMS INP000000258 and Research Analyst INH000000586. NSDL/CDSL: IN-DP-629-2021. Compliance Officer Details: Mr. Hiren Thakkar. Call: 022 - 4285 8484, or Email: ks.compliance@kotak.com

Details of	Contact Person	Address	Contact No.	Email ID
Customer Care/ Complaints	Mr. Ritesh Shah	Kotak Towers, 8th Floor, Building No.21, Infinity Park, Off Western Express Highway, Malad (East), Mumbai, Maharashtra - 400097	18002099393	ks.escalation@kotak.com
Head of Customer Care	Mr. Tabrez Anwar		022-42858208	ks.servicehead@kotak.com
Compliance Officer	Mr. Hiren Thakkar		022-42858484	ks.compliance@kotak.com
CEO	Mr. Shripal Shah		022-42858301	ceo.ks@kotak.com

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