

# Metals & Mining

India

Sector View: **Cautious**

NIFTY-50: **22,570**

April 26, 2024

## Aluminum: Demand recovery pushes the market into deficit

Aluminum demand in 1QCY24 has surprised expectations, mainly led by China, whereas ex-China demand is showing signs of bottoming out. A combination of better demand and rigid supply, due to power shortages in China, pushes the market balance into a deficit in CY2024/25E from a surplus earlier. Metal prices further rallied in April 2024 on the news of sanctions on Russia by the US/UK. However, we do not see it as structurally impacting demand-supply as it should just realign trade flows. We upgrade our Ali price forecast by 6%/8% for FY2025/26E, and thus raise earnings/FV for HNDL, VEDL and NACL. HNDL remains our preferred pick and NACL is our top SELL.

### Demand showing early signs of recovery

Subdued demand expectations at the start of 2024 led to low metal stocks by consumers and distributors. However, demand in 1QCY24 has shown tangible signs of recovery, leading to restocking ahead of a seasonally strong 2QCY24. CRU estimates China demand at +9% yoy, outpacing supply at +3.9% yoy in 1QCY24E. World, ex-China, demand continues to be muted, with 1QCY24E growth of 0.3%; however, the sequential improvement suggests a potential bottoming-out of demand. We upgrade our global demand estimates to 2.6%/1.5% yoy in CY2024/25E from 1.2%/0.6% earlier, mainly led by China.

### Rigid supply pushes the market into a deficit

Smelter restarts in Yunnan, China, have been slower than expected. Forecasts of a deficit in the Yunnan power market in 2024 pose a risk of curtailments coming back in mid-2024. Further, the majority of new capacities in China are replacements of old plants, and only a few smelters are looking to restart in Europe. We estimate global production growth of 1.4%/1.3% yoy to underperform demand, resulting in a deficit of 0.4/0.5 mn tons in CY2024/25E. A deficit market should keep prices much above the cost curve. We upgrade our LME price forecast to US\$2,500/2,600/ton (+6%/8%) for FY2025/26E versus spot at US\$2,591/ton.

### Sanctions on Russian metal should just realign trade flows; rally is unjustified

Aluminum prices have rallied by 6% in the last two weeks on the news of sanctions on new Russian supply by the US/UK and the risk of similar sanctions being imposed by Europe. We believe that the rally is not justified, as history has shown that such sanctions do not impact demand-supply. We note that: 1) Russian aluminum exports to the US/Europe have been declining; (2) Russian exports would continue to get realigned to non-US/UK countries such as China (38% of total Russian exports in CY2023 versus just ~10% in CY2021); and 3) existing Russian stock in LME (~90% of total stock) is exempt from these sanctions.

### Maintain ADD on HNDL and SELL on NACL and VEDL

We build in a higher aluminum price forecast and significantly upgrade earnings and FV for HNDL, VEDL and NACL (refer to Exhibit 1). HNDL is our preferred play on aluminum given reasonable valuations and the improvement in end-market demand outlook at Novelis. NACL remains our top SELL on expensive valuations.

### Company data and valuation summary

Ticker	P/B (x)		P/E (x)		EV/EBITDA (x)	
	2025E	2026E	2025E	2026E	2025E	2026E
VEDL	4.3	4.0	13.8	12.2	6.6	6.0
HNDL	1.8	1.5	12.3	11.6	6.3	5.8
NACL	2.2	2.0	13.5	12.7	8.1	7.7
HZ	11.6	11.6	17.7	17.6	10.4	10.2

Ticker	Mcap (Rs Bn)	CMP(Rs)	FV (Rs)	Upside	Rating
VEDL	1,416	381	320	-16%	SELL
HNDL	1,453	647	675	4%	ADD
NACL	346	188	130	-31%	SELL
HZ	1,739	412	310	-25%	SELL

Source: Bloomberg, Company data, Kotak Institutional Equities estimates

Prices in this report are based on the market close of April 25, 2024

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**We increase earnings across aluminum coverage universe factoring in recent price trends**

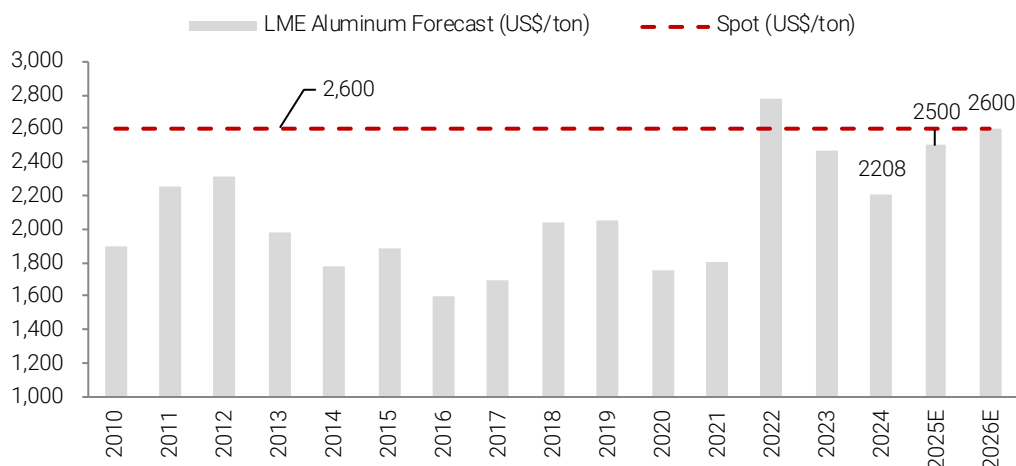
Exhibit 1: Changes in estimates for aluminum coverage, March fiscal year-ends, 2025-26E

	Fair Value			EBITDA Change (%)		EPS Change (%)	
	New	Old	% chg.	FY2025E	FY2026E	FY2025E	FY2026E
VEDL	320	255	25.5	14	17	35	34
NACL	130	90	44.4	50	55	67	75
HNDL	675	535	26.2	10	11	18	21

Source: Kotak Institutional Equities estimates

**We expect aluminum prices to have peaked over the medium term**

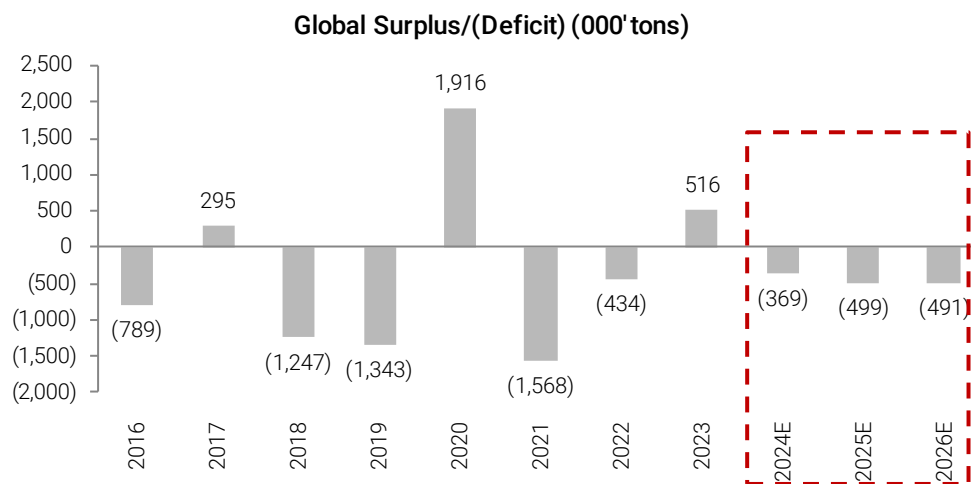
Exhibit 2: LME aluminum annual price and forecast, March fiscal year-ends, 2010-26E (US\$/ton)



Source: Bloomberg, Kotak Institutional Equities estimates

**We expect Aluminum market to shift to deficit in CY2024-26E**

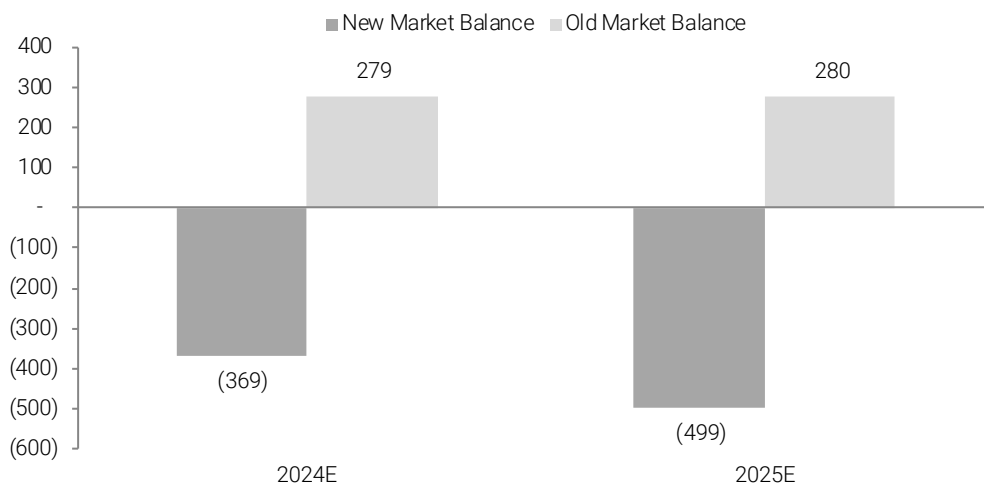
Exhibit 3: Aluminum market balance - surplus/(deficit), December year-ends, 2016-26E ('000 tons)



Source: Industry Data, Bloomberg, Kotak Institutional Equities estimates

**We estimate a deficit in CY2024-25E versus surplus in our previous estimate**

**Exhibit 4: Aluminum market balance - surplus/(deficit), December year-ends, 2024-25E ('000 tons)**



Source: Industry Data, Bloomberg, Kotak Institutional Equities estimates

**We have increased our demand estimates whereas supply has been unable to keep pace**

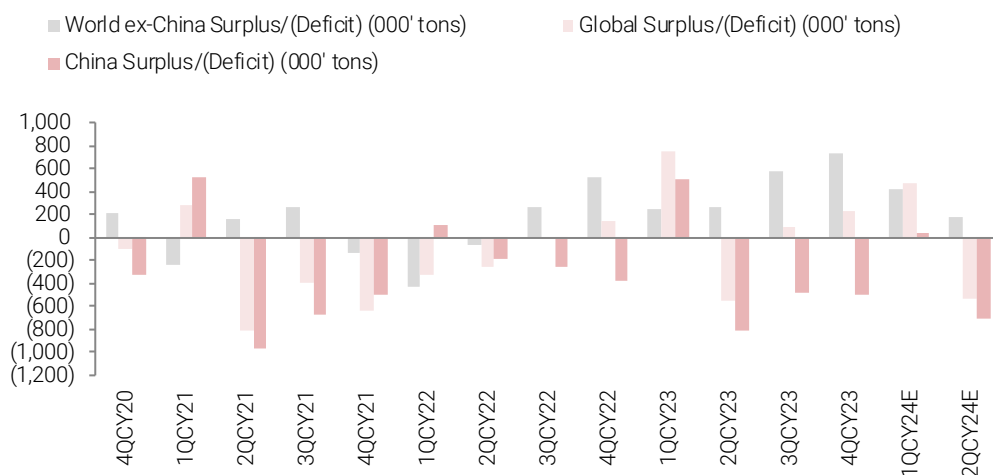
**Exhibit 5: Change in estimates for Aluminum market balance, December year-ends, 2024-26E ('000 tons)**

Aluminum D-S CY (000 tons, %)	New			Old		Change	
	2024E	2025E	2026E	2024E	2025E	2024E	2025E
World ex-China production	29,454	29,748	30,194	29,261	29,480	0.7	0.9
World ex-China demand	27,858	28,693	29,124	28,349	28,774	(1.7)	(0.3)
China production	42,114	42,746	42,959	41,367	41,574	1.8	2.8
China demand	44,079	44,299	44,521	42,000	42,000	5.0	5.5
Global production	71,568	72,494	73,154	70,628	71,054	1.3	2.0
Global demand	71,937	72,993	73,645	70,349	70,774	2.3	3.1
<b>Global Surplus/(Deficit) (000' tons)</b>	<b>(369)</b>	<b>(499)</b>	<b>(491)</b>	<b>279</b>	<b>280</b>	<b>(648)</b>	<b>(779)</b>

Source: Industry Data, Bloomberg, Kotak Institutional Equities estimates

**Aluminum market to be in deficit in 2QCY24E**

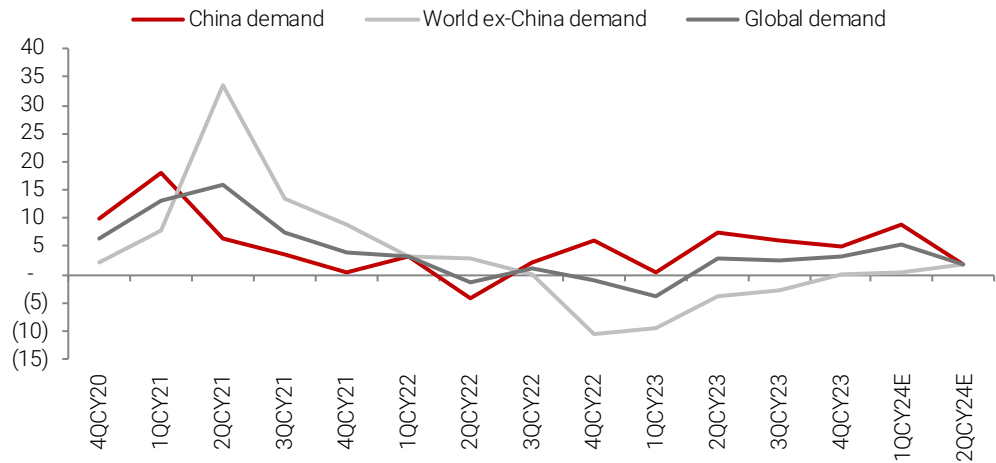
**Exhibit 6: China/World Ex-China, Global aluminum surplus, December year-ends, 4QCY20-2QCY24E (mtpa)**



Source: Industry Data, Bloomberg, Kotak Institutional Equities estimates

**Strong China and bottoming out of ex-China demand to lead to deficit in aluminum market**

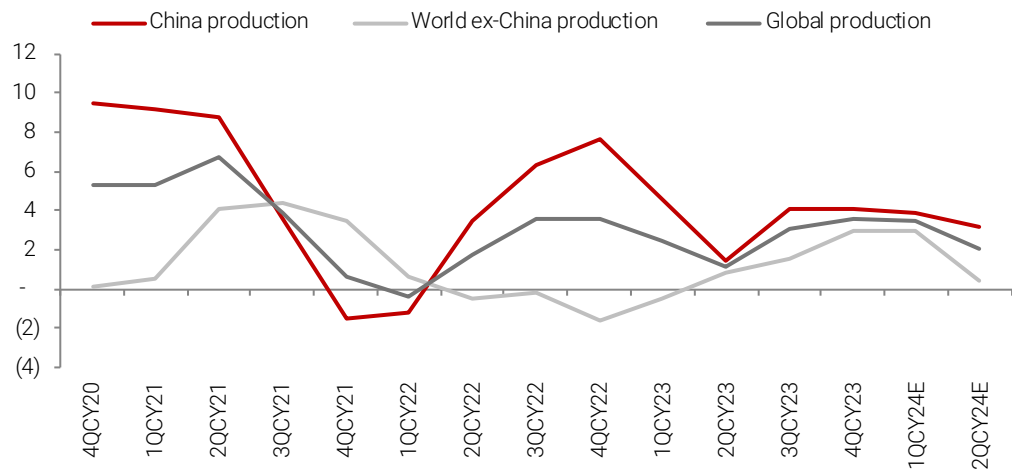
**Exhibit 7: China/World Ex-China, Global aluminum demand, December year-ends, 4QCY20-2QCY24E (% yoy)**



Source: Industry Data, Bloomberg, Kotak Institutional Equities estimates

**Supply growth has been restricted by power shortages in China and smelter shutdowns in Europe**

**Exhibit 8: China/World Ex-China, Global aluminum supply, December year-ends, 4QCY20-2QCY24E (% yoy)**



Source: Industry Data, Bloomberg, Kotak Institutional Equities estimates

**We expect aluminum market balance to remain in deficit over CY2024-26E versus a surplus in CY2023**

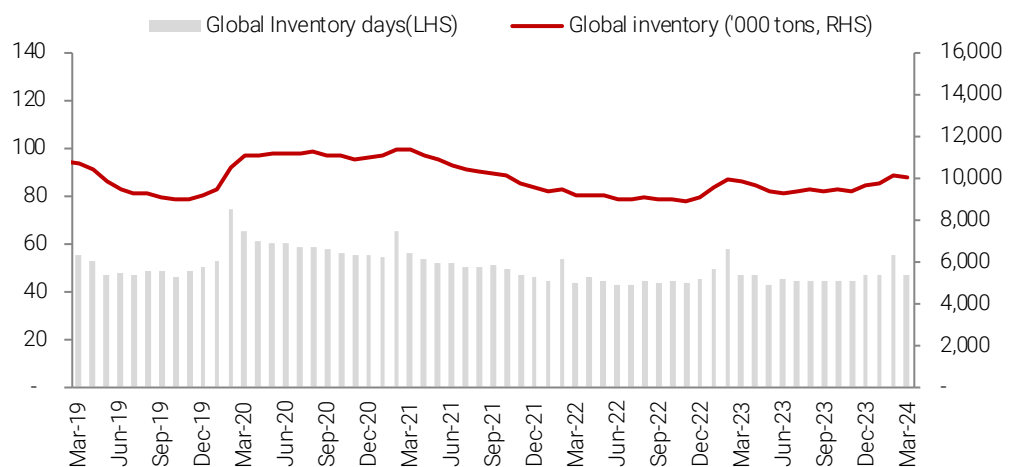
**Exhibit 9: Aluminum demand-supply for China and World ex-China, December year-ends, 2016-26E ('000 tons)**

	2016	2017	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E
China capacity	41,611	44,682	43,770	41,168	42,318	43,348	44,146	44,545	44,545	44,545	44,545
World ex-China capacity	32,105	31,995	32,136	32,613	32,852	33,380	33,889	33,993	34,593	34,593	34,593
<b>Global capacity ('000 tons)</b>	<b>73,716</b>	<b>76,676</b>	<b>75,906</b>	<b>73,781</b>	<b>75,169</b>	<b>76,728</b>	<b>78,035</b>	<b>78,538</b>	<b>79,138</b>	<b>79,138</b>	<b>79,138</b>
World ex-China production ('000' tons)	26,917	27,242	27,681	27,934	28,007	28,878	28,757	29,104	29,454	29,748	30,194
World ex-China consumption ('000' tons)	27,935	28,788	29,310	28,353	25,114	28,826	28,464	27,285	27,858	28,693	29,124
<b>World ex-China Surplus/(Deficit) ('000' tons)</b>	<b>(1,018)</b>	<b>(1,547)</b>	<b>(1,629)</b>	<b>(419)</b>	<b>2,893</b>	<b>52</b>	<b>293</b>	<b>1,820</b>	<b>1,596</b>	<b>1,055</b>	<b>1,071</b>
China production ('000' tons)	32,069	36,382	36,317	35,352	36,737	38,516	40,077	41,492	42,114	42,746	42,959
China consumption ('000' tons)	31,839	34,540	35,934	36,276	37,714	40,136	40,804	42,795	44,079	44,299	44,521
<b>China Surplus/(Deficit) ('000' tons)</b>	<b>230</b>	<b>1,841</b>	<b>382</b>	<b>(924)</b>	<b>(977)</b>	<b>(1,620)</b>	<b>(727)</b>	<b>(1,304)</b>	<b>(1,965)</b>	<b>(1,554)</b>	<b>(1,562)</b>
Global production ('000' tons)	58,986	63,623	63,998	63,286	64,743	67,394	68,835	70,596	71,568	72,494	73,154
Global consumption ('000' tons)	59,774	63,329	65,244	64,629	62,827	68,962	69,268	70,080	71,937	72,993	73,645
<b>Global Surplus/(Deficit) ('000' tons)</b>	<b>(789)</b>	<b>295</b>	<b>(1,247)</b>	<b>(1,343)</b>	<b>1,916</b>	<b>(1,568)</b>	<b>(434)</b>	<b>516</b>	<b>(369)</b>	<b>(499)</b>	<b>(491)</b>
Utilization rates (%)											
Utilization—world ex-China (%)	84	85	86	86	85	87	85	86	85	86	87
Utilization—China (%)	77	81	83	86	87	89	91	93	95	96	96
Utilization—World (%)	80	83	84	86	86	88	88	90	90	92	92
Growth rates (%)											
World ex-China production	2.3	1.2	1.6	0.9	0.3	3.1	(0.4)	1.2	1.2	1.0	1.5
World ex-China demand	2.8	3.1	1.8	(3.3)	(11.4)	14.8	(1.3)	(4.1)	2.1	3.0	1.5
China production	4.3	13.4	(0.2)	(2.7)	3.9	4.8	4.1	3.5	1.5	1.5	0.5
China demand	8.6	8.5	4.0	1.0	4.0	6.4	1.7	4.9	3.0	0.5	0.5
Global production	3.4	7.9	0.6	(1.1)	2.3	4.1	2.1	2.6	1.4	1.3	0.9
Global demand	5.9	5.9	3.0	(0.9)	(2.8)	9.8	0.4	1.2	2.6	1.5	0.9
China capacity growth rate	9%	7%	-2%	-6%	3%	2%	2%	1%	0%	0%	0%
WEC capacity growth rate	-2%	0%	0%	1%	1%	2%	2%	0%	2%	0%	0%
Global Inventory	11,495	11,808	10,562	9,211	10,991	9,548	9,115	9,631	9,262	8,763	8,272
Inventory - Consumption Weeks	10.0	9.7	8.4	7.4	9.1	7.2	6.8	7.1	6.7	6.2	5.8
LME Aluminum Prices (US\$/ton)	1,594	1,689	2,042	2,050	1,750	1,807	2,777	2,468	2,208	2,500	2,600

Source: Industry Data, Bloomberg, Kotak Institutional Equities estimates

**Aluminum inventory has come off peaks in muted ex-China demand environment**

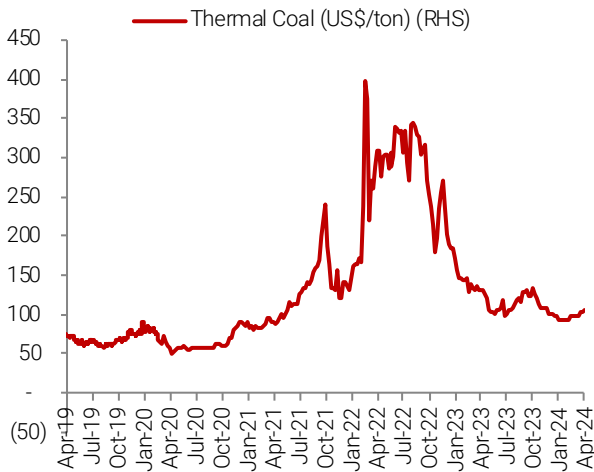
**Exhibit 10: Global aluminum Inventory days (LHS), Global inventory ('000 tons) (RHS), March 2019-24**



Source: Industry Data, Bloomberg, Kotak Institutional Equities estimates

**Spot thermal coal prices remain rangebound**

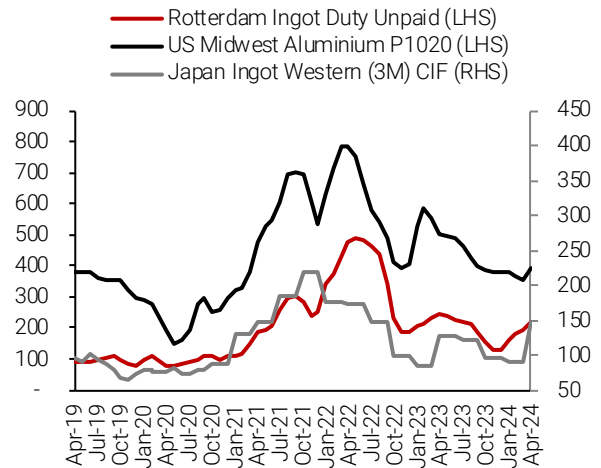
Exhibit 11: RB1 thermal coal prices, April 2019-24



Source: Bloomberg, Kotak Institutional Equities estimates

**Physical premiums have seen a recovery in recent weeks**

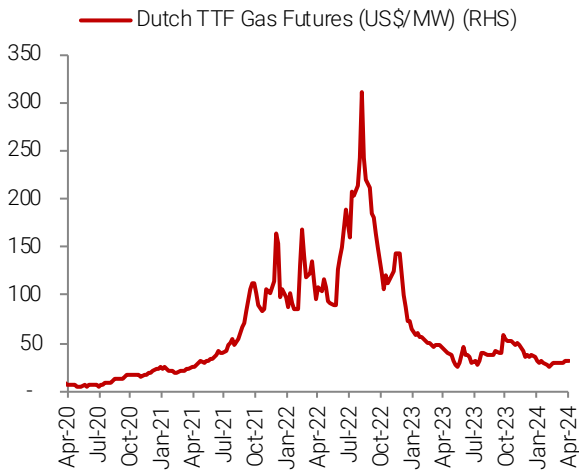
Exhibit 12: Japan, EU & US physical premium, April 2019-24



Source: Industry data, Bloomberg, Kotak Institutional Equities estimates

**Europe natural gas prices remain volatile, at much lower levels**

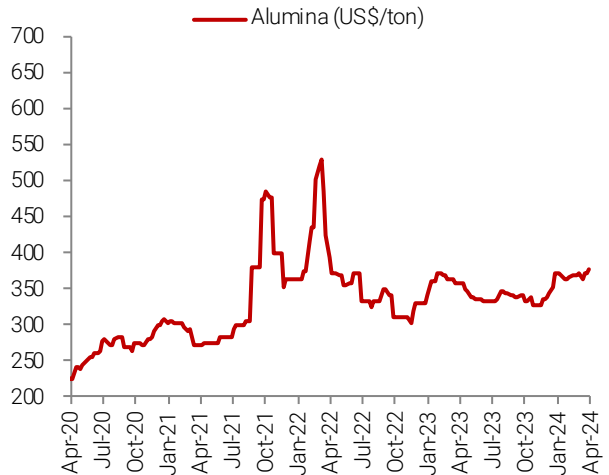
Exhibit 13: Dutch TTF Gas Futures, April 2020-24 (US\$/ton)



Source: Bloomberg, Kotak Institutional Equities estimates

**Alumina prices have remained rangebound in recent months**

Exhibit 14: Alumina prices, April 2020-24 (US\$/ton)



Source: Bloomberg, Kotak Institutional Equities estimates

Company Section

**NALCO (NACL)**

Exhibit 15: NACL, changes in estimates, March fiscal year-ends, 2024-26E (Rs mn)

	Revised estimates			Previous estimates			Change (%)		
	2024E	2025E	2026E	2024E	2025E	2026E	2024E	2025E	2026E
Net sales	128,735	147,086	157,689	130,872	137,904	142,389	(2)	7	11
EBITDA	27,867	40,927	44,749	25,210	27,230	28,880	11	50	55
PAT	16,901	25,686	27,234	14,914	15,352	15,560	13	67	75
<b>EPS (Rs)</b>	<b>9.2</b>	<b>14.0</b>	<b>14.8</b>	<b>8.1</b>	<b>8.4</b>	<b>8.5</b>	<b>13</b>	<b>67</b>	<b>75</b>
<b>Aluminium</b>									
LME price (US\$/ton)	2,208	2,500	2,600	2,250	2,350	2,400	(2)	6	8
Volumes (mn tons)	0.5	0.5	0.5	0.5	0.5	0.5	—	—	—
EBITDA (US\$/ton)	460	700	720	381	411	439	21	70	64
<b>Alumina</b>									
Alumina price (US\$/ton)	320	363	377	326	341	348	(2)	6	8
Volumes (mn tons)	1.3	1.3	1.4	1.3	1.3	1.3	—	—	7
EBITDA (US\$/ton)	97	132	145	100	106	109	(3)	25	33

Source: Company, Kotak Institutional Equities estimates

Exhibit 16: NACL, key assumptions, March fiscal year-ends, 2019-26E

	2019	2020	2021	2022	2023	2024E	2025E	2026E
Re/US\$ rate	70.1	70.9	74.2	74.5	80.7	82.8	83.1	84.3
<b>Aluminium</b>								
LME aluminium price (US\$/ton)	2,050	1,750	1,807	2,777	2,468	2,208	2,500	2,600
Sales ('000 tons)	440	377	452	457	464	460	460	460
Realization (US\$/ton)	2,288	1,958	2,001	3,018	2,764	2,460	2,821	2,926
Costs (US\$/ton)	1,980	2,016	1,771	2,076	2,270	2,000	2,122	2,206
<b>EBITDA/ton (US\$)</b>	<b>308</b>	<b>(58)</b>	<b>231</b>	<b>942</b>	<b>494</b>	<b>460</b>	<b>700</b>	<b>720</b>
EBITDA (Rs mn)	9,501	(1,631)	7,232	32,066	18,478	17,530	26,744	27,887
<b>Alumina</b>								
Alumina Australia FoB (US\$/ton)	461	308	274	360	348	320	363	377
Production ('000 tons)	2,153	2,161	2,086	2,122	2,123	2,166	2,166	2,257
Sales ('000 tons)	1,318	1,304	1,228	1,233	1,247	1,290	1,290	1,381
Costs (US\$/ton)	276	237	190	214	288	223	230	232
<b>EBITDA (US\$/ton)</b>	<b>185</b>	<b>71</b>	<b>84</b>	<b>146</b>	<b>60</b>	<b>97</b>	<b>132</b>	<b>145</b>
EBITDA (Rs mn)	17,109	6,523	7,677	13,439	6,003	10,337	14,183	16,862
<b>Consolidated EBITDA (Rs mn)</b>	<b>26,610</b>	<b>4,892</b>	<b>14,908</b>	<b>45,505</b>	<b>24,481</b>	<b>27,867</b>	<b>40,927</b>	<b>44,749</b>

Source: Company, Kotak Institutional Equities estimates

**We revise our Fair Value to Rs130 on higher earnings led by improved prices**

Exhibit 17: NACL, valuation details, March 2026E (Rs/share)

	(Rs mn)	Multiple (X)	EV (Rs mn)	Rs/share
EBITDA	44,749	5	221,954	121
Net Debt			(19,426)	(11)
<b>Equity value</b>			<b>241,380</b>	<b>130</b>
<b>Fair Value (Rs/share)</b>				<b>130</b>

Source: Company, Kotak Institutional Equities estimates

**Exhibit 18: NACL, profit model, balance sheet and cash flow model, March fiscal year-ends, 2019-26E (Rs mn)**

	2019	2020	2021	2022	2023	2024E	2025E	2026E
<b>Profit model (Rs mn)</b>								
Net sales	114,993	84,718	89,558	142,146	142,549	128,735	147,086	157,689
<b>EBITDA</b>	<b>26,610</b>	<b>4,892</b>	<b>14,908</b>	<b>45,505</b>	<b>24,481</b>	<b>27,867</b>	<b>40,927</b>	<b>44,749</b>
Other income	3,259	2,726	1,466	2,641	2,356	2,012	2,075	2,015
Interest	(24)	(57)	(71)	(231)	(129)	(100)	(1,100)	(2,100)
Depreciation	(4,761)	(5,298)	(6,058)	(5,955)	(7,158)	(7,184)	(7,562)	(8,255)
<b>Profit before tax</b>	<b>25,083</b>	<b>2,262</b>	<b>10,245</b>	<b>41,960</b>	<b>19,550</b>	<b>22,594</b>	<b>34,340</b>	<b>36,409</b>
Current tax	(10,075)	(880)	(1,777)	(10,518)	(2,944)	(5,694)	(8,654)	(9,175)
Deferred tax	–	–	1,607	489	(1,161)	–	–	–
<b>Net profit</b>	<b>17,324</b>	<b>1,362</b>	<b>12,994</b>	<b>29,520</b>	<b>15,445</b>	<b>16,901</b>	<b>25,686</b>	<b>27,234</b>
<b>Adjusted net profit</b>	<b>15,796</b>	<b>1,382</b>	<b>10,076</b>	<b>31,931</b>	<b>15,445</b>	<b>16,901</b>	<b>25,686</b>	<b>27,234</b>
Earnings per share (Rs)	8.5	0.7	5.5	17.4	8.4	9.2	14.0	14.8
<b>Balance sheet (Rs mn)</b>								
Equity	104,845	99,881	106,790	125,546	132,385	142,525	157,937	174,277
Deferred tax liability	11,307	10,606	8,937	8,682	9,578	9,578	9,578	9,578
Current liabilities	28,383	27,304	20,414	33,131	28,489	27,871	28,074	29,368
Other current liabilities	6,267	7,582	10,487	7,322	6,458	6,458	6,458	6,458
<b>Total liabilities</b>	<b>151,470</b>	<b>145,496</b>	<b>147,089</b>	<b>174,888</b>	<b>177,387</b>	<b>186,432</b>	<b>212,047</b>	<b>239,681</b>
Net fixed assets	79,533	83,517	84,982	87,654	96,613	105,929	131,867	157,112
Investments	2,566	3,323	5,599	3,773	4,708	4,708	4,708	4,708
Cash	34,964	19,805	17,498	37,061	21,175	21,840	21,210	21,638
Other current assets	20,983	25,223	23,082	27,100	30,331	29,395	29,702	31,664
Other non current assets	13,425	13,629	15,928	19,302	24,559	24,559	24,559	24,559
<b>Total assets</b>	<b>151,470</b>	<b>145,496</b>	<b>147,089</b>	<b>174,888</b>	<b>177,387</b>	<b>186,432</b>	<b>212,047</b>	<b>239,681</b>
Net debt	(35,104)	(20,232)	(19,521)	(37,494)	(22,153)	(23,296)	(12,666)	(3,094)
<b>Free cash flow (Rs mn)</b>								
Operating cash flow excl. working capital	20,153	4,431	17,762	38,911	17,908	22,173	32,274	35,574
Working capital changes	3,935	(7,917)	4,228	1,585	(8,825)	318	(105)	(667)
Net finance cost/ income	2,678	2,246	906	1,019	702	1,912	975	(85)
<b>Cash flow from operations</b>	<b>26,766</b>	<b>(1,239)</b>	<b>22,896</b>	<b>41,515</b>	<b>9,784</b>	<b>24,403</b>	<b>33,144</b>	<b>34,821</b>
Capital expenditure (Rs mn)	(7,409)	(8,336)	(9,265)	(11,782)	(13,054)	(16,500)	(33,500)	(33,500)
<b>Free cash flow (Rs mn)</b>	<b>46,123</b>	<b>(10,814)</b>	<b>36,526</b>	<b>29,732</b>	<b>(3,270)</b>	<b>7,903</b>	<b>(356)</b>	<b>1,321</b>
<b>Ratios</b>								
P/B (X)	3.3	3.5	3.2	2.8	2.6	2.4	2.2	2.0
P/E (X)	22.2	254.1	26.6	11.7	22.4	20.5	13.5	12.7
EV/EBITDA (X)	11.9	67.7	21.9	6.8	13.2	11.6	8.1	7.7
FCF Yield (%)	13.1	(3.1)	10.6	8.6	(0.9)	2.3	(0.1)	0.4
Cash Per Share	18.7	10.6	9.5	20.2	11.5	11.9	11.5	11.8
Net debt/EBITDA (X)	(1.3)	(4.1)	(1.3)	(0.8)	(0.9)	(0.8)	(0.3)	(0.1)
Net debt/equity (X)	(0.3)	(0.2)	(0.2)	(0.3)	(0.2)	(0.2)	(0.1)	(0.0)
Book value (Rs/share)	56	54	58	68	72	78	86	95
RoAE (%)	15.1	1.4	9.8	27.5	12.0	12.3	17.1	16.4
<b>RoACE (%)</b>	<b>12.4</b>	<b>(0.2)</b>	<b>8.4</b>	<b>25.9</b>	<b>10.6</b>	<b>11.3</b>	<b>16.3</b>	<b>15.4</b>

Source: Company, Kotak Institutional Equities estimates



**HINDALCO (HNDL)**

**Exhibit 19: HNDL, changes in estimates, March fiscal year-ends, 2024-26E (Rs mn)**

	Revised estimate			Previous estimate			Change (%)		
	2024E	2025E	2026E	2024E	2025E	2026E	2024E	2025E	2026E
<b>Domestic Aluminum (including Utkal)</b>									
Aluminium metal sales (mn tons)	1.35	1.35	1.35	1.35	1.35	1.35	—	—	—
LME aluminum price (US\$/ton)	2,208	2,500	2,600	2,250	2,350	2,400	(1.9)	6.4	8.3
Net revenues (Rs bn)	305	332	351	306	306	318	(0.5)	8.3	10.3
EBITDA (Rs bn)	86	103	115	87	81	92	(1.6)	27.5	25.7
EBITDA (US\$/ton)	767	916	1,010	785	719	806	(2.3)	27.3	25.3
<b>Domestic Copper</b>									
Sales (mn tons)	0.43	0.43	0.45	0.43	0.43	0.45	—	—	—
EBITDA (Rs bn)	25	25	26	24	25	26	0.5	0.2	(0.7)
EBITDA (US\$/ton)	697	710	681	698	709	688	(0.2)	0.1	(1.0)
<b>Novelis (includes Aleris)</b>									
Shipments (tons)	3,676	3,860	3,976	3,676	3,860	3,976	—	—	—
EBITDA (Rs bn)	152	174	188	151	169	179	1.0	3.0	5.0
EBITDA (US\$ mn)	1,841	2,093	2,236	1,836	2,034	2,136	0.3	2.9	4.7
EBITDA (US\$/ton)	501	542	562	499	527	537	0.3	2.9	4.7
<b>Consolidated</b>									
Net revenues (Rs bn)	2,123	2,321	2,483	2,121	2,230	2,355	0.1	4.1	5.4
EBITDA (Rs bn)	253	292	320	253	265	287	0.1	10.3	11.2
PAT (Rs bn)	98	117	124	98	99	102	(0.0)	18.3	21.2
EPS (Rs)	44.0	52.6	55.7	44.0	44.5	45.9	(0.0)	18.3	21.2
INR:USD	82.8	83.1	84.3	82.2	83.0	84.0	0.7	0.1	0.3

Source: Company, Kotak Institutional Equities estimates

**Exhibit 20: HNDL, key assumptions, March fiscal year-ends, 2019-26E**

	2019	2020	2021	2022	2023	2024E	2025E	2026E
<b>India aluminum</b>								
India aluminum volumes (000 tons)	1,274	1,290	1,250	1,302	1,350	1,353	1,353	1,353
LME aluminum prices (US\$/ton)	2,050	1,750	1,807	2,777	2,475	2,208	2,500	2,600
<b>Aluminum EBITDA (including Utkal) (Rs)</b>	<b>51</b>	<b>35</b>	<b>47</b>	<b>121</b>	<b>77</b>	<b>86</b>	<b>103</b>	<b>115</b>
EBITDA/ton (Including Utkal) (US\$/ton)	575	385	512	1,250	705	767	916	1,010
<b>Implied production cost (US\$/ton)</b>	<b>1,475</b>	<b>1,365</b>	<b>1,295</b>	<b>1,527</b>	<b>1,770</b>	<b>1,441</b>	<b>1,584</b>	<b>1,590</b>
<b>Copper</b>								
India copper volumes (000 tons)	359	335	313	405	439	425	425	450
TCRC margin (cents/lb)	21	16	16	16	17	15	15	15
<b>EBITDA (Rs bn)</b>	<b>17</b>	<b>12</b>	<b>7</b>	<b>14</b>	<b>23</b>	<b>25</b>	<b>25</b>	<b>26</b>
EBITDA/ton (US\$/ton)	669	495	308	461	638	697	710	681
<b>Novelis</b>								
Rolled product volumes (000 tons)	3,274	3,273	3,575	3,858	3,790	3,676	3,860	3,976
Adjusted EBITDA (US\$ mn)	1,368	1,472	1,714	2,045	1,811	1,841	2,093	2,236
EBITDA/ton (US\$/ton)	418	450	479	530	478	501	542	562
<b>Adjusted EBITDA (Rs bn)</b>	<b>96</b>	<b>104</b>	<b>127</b>	<b>152</b>	<b>146</b>	<b>152</b>	<b>174</b>	<b>188</b>
INR:US\$	70.1	70.9	74.2	74.5	80.5	82.8	83.1	84.3
<b>Consolidated</b>								
<b>EBITDA (Rs bn)</b>	<b>155</b>	<b>143</b>	<b>176</b>	<b>287</b>	<b>229</b>	<b>253</b>	<b>292</b>	<b>320</b>
<b>Net debt (Rs bn)</b>	<b>391</b>	<b>394</b>	<b>474</b>	<b>391</b>	<b>340</b>	<b>343</b>	<b>382</b>	<b>410</b>
Net debt/EBITDA	2.5	2.8	2.7	1.4	1.5	1.4	1.3	1.3

Source: Company, Kotak Institutional Equities estimates

**Exhibit 21: HNDL, valuation details, March 2026E (Rs/share)**

	(Rs mn)	Multiple	Value	
		(X)	(Rs mn)	(Rs/share)
Hindalco EBITDA	131,276	5.0	656,379	296
Novelis EBITDA	188,413	6.5	1,224,686	552
<b>Total Enterprise Value</b>	<b>319,689</b>	<b>5.9</b>	<b>1,881,065</b>	<b>847</b>
Less: Net debt (adj. for dividends)	(370,540)		(370,540)	(167)
CWIP (0.6 mtpa GF plant in US, Novelis)			35,805	16
Pension Deficit			(46,788)	(21)
<b>Arrived market capitalization</b>				<b>675</b>
<b>Fair value (Rs)</b>				<b>675</b>

Source: Company, Kotak Institutional Equities estimates

Exhibit 22: HNDL, profit model, balance sheet and cash flow model, March fiscal year-ends, 2019-26E (Rs mn)

	2019	2020	2021	2022	2023	2024E	2025E	2026E
<b>Profit model (Rs mn)</b>								
Net sales	1,305,423	1,180,440	1,319,850	1,950,590	2,232,020	2,123,291	2,320,772	2,482,663
<b>EBITDA</b>	<b>154,998</b>	<b>143,060</b>	<b>176,480</b>	<b>286,570</b>	<b>228,850</b>	<b>253,350</b>	<b>292,362</b>	<b>319,689</b>
Other income	11,271	11,860	12,220	11,360	12,570	7,173	7,930	8,736
Interest	(37,780)	(41,970)	(37,380)	(37,680)	(36,460)	(39,329)	(38,841)	(43,899)
Depreciation	(47,662)	(51,911)	(67,400)	(70,390)	(73,050)	(78,286)	(87,867)	(100,603)
<b>Profit before tax</b>	<b>80,826</b>	<b>61,039</b>	<b>83,920</b>	<b>189,860</b>	<b>131,910</b>	<b>142,908</b>	<b>173,584</b>	<b>183,924</b>
Extraordinaries	–	(1,800)	(4,920)	5,820	410	–	–	–
Taxes	(25,880)	(21,570)	(27,230)	(53,730)	(31,440)	(45,250)	(56,878)	(60,437)
<b>Profit after tax</b>	<b>54,946</b>	<b>37,669</b>	<b>51,770</b>	<b>141,950</b>	<b>100,880</b>	<b>97,657</b>	<b>116,706</b>	<b>123,486</b>
<b>Reported net income</b>	<b>54,946</b>	<b>37,669</b>	<b>51,820</b>	<b>142,010</b>	<b>100,970</b>	<b>97,740</b>	<b>116,789</b>	<b>123,570</b>
<b>Adjusted net income</b>	<b>54,946</b>	<b>39,469</b>	<b>56,740</b>	<b>136,190</b>	<b>100,560</b>	<b>97,740</b>	<b>116,789</b>	<b>123,570</b>
<b>Fully diluted EPS (Rs)</b>	<b>24.8</b>	<b>17.8</b>	<b>25.6</b>	<b>61.3</b>	<b>45.3</b>	<b>44.0</b>	<b>52.6</b>	<b>55.7</b>
Equity	575,010	583,170	665,330	781,910	948,060	1,036,026	1,141,136	1,252,350
Deferred tax liability	45,260	46,710	44,930	56,310	86,500	86,500	86,500	86,500
Borrowings	524,040	672,220	659,780	667,240	595,630	666,451	698,117	690,802
Current liabilities	297,990	283,740	413,810	622,470	523,280	606,904	655,724	694,264
Other long term liabilities	86,090	109,340	113,040	102,580	94,590	94,590	94,590	94,590
<b>Total liabilities</b>	<b>1,528,480</b>	<b>1,695,280</b>	<b>1,896,990</b>	<b>2,230,620</b>	<b>2,248,170</b>	<b>2,490,498</b>	<b>2,676,011</b>	<b>2,818,365</b>
Net fixed assets	641,850	660,670	710,380	766,880	788,900	787,175	844,403	1,129,712
Capital work in progress	40,971	77,210	100,130	47,270	73,400	157,727	231,439	71,645
Goodwill	185,750	231,060	293,990	303,830	320,760	320,760	320,760	320,760
Investments	90,350	94,330	171,540	141,400	141,360	141,360	141,360	141,360
Cash	97,870	215,690	88,090	173,920	153,680	221,412	213,538	178,595
Other current assets	402,630	383,240	492,500	756,990	680,860	772,854	835,301	887,083
Other non current assets	60,299	23,980	31,490	28,260	75,930	75,930	75,930	75,930
<b>Total assets</b>	<b>1,528,480</b>	<b>1,695,280</b>	<b>1,896,990</b>	<b>2,230,620</b>	<b>2,248,170</b>	<b>2,490,498</b>	<b>2,676,011</b>	<b>2,818,366</b>
<b>Net debt</b>	<b>390,570</b>	<b>393,740</b>	<b>474,030</b>	<b>390,960</b>	<b>339,590</b>	<b>342,680</b>	<b>382,219</b>	<b>409,846</b>
<b>Free cash flow (Rs mn)</b>								
Operating cash flow excl. working capital	129,118	121,490	149,250	232,840	197,410	208,100	235,484	259,252
Working capital changes	(16,830)	(11,780)	15,200	(91,320)	(4,570)	(8,371)	(13,627)	(13,241)
Net finance cost/ income	(26,509)	(30,110)	(25,160)	(26,320)	(23,890)	(32,156)	(30,911)	(35,163)
<b>Cash flow from operations</b>	<b>85,778</b>	<b>79,600</b>	<b>139,290</b>	<b>115,200</b>	<b>168,950</b>	<b>167,573</b>	<b>190,946</b>	<b>210,848</b>
Capital expenditure	(59,680)	(67,070)	(55,170)	(54,260)	(98,420)	(160,889)	(218,806)	(226,119)
<b>Free cash flow</b>	<b>26,098</b>	<b>12,530</b>	<b>84,120</b>	<b>60,940</b>	<b>70,530</b>	<b>6,684</b>	<b>(27,860)</b>	<b>(15,271)</b>
<b>Ratios</b>								
P/E	26.1	36.4	25.3	10.5	14.3	14.7	12.3	11.6
P/B	3.7	4.1	3.9	3.0	2.3	2.0	1.8	1.5
EV/EBITDA	11.8	12.8	10.8	6.4	7.8	7.0	6.2	5.8
FCF Yield (%)	2.1	1.6	5.8	5.9	4.2	0.5	(1.9)	(1.1)
Net debt/equity (X)	0.7	0.7	0.7	0.5	0.4	0.3	0.3	0.3
Net debt/EBITDA (X)	2.5	2.8	2.7	1.4	1.5	1.4	1.3	1.3
RoAE (%)	9.8	6.8	9.1	18.8	11.6	9.9	10.7	10.3
<b>RoACE (%)</b>	<b>7.1</b>	<b>5.6</b>	<b>6.0</b>	<b>10.5</b>	<b>7.3</b>	<b>7.1</b>	<b>7.4</b>	<b>7.5</b>

Source: Company, Kotak Institutional Equities estimates

**Vedanta (VEDL)**

**Exhibit 23: VEDL, changes in estimates, March fiscal year-ends, 2025-27E (Rs mn)**

	Revised estimate			Previous estimate		Change (%)	
	2025E	2026E	2027E	2025E	2026E	2025E	2026E
<b>Prices (US\$/ton)</b>							
Aluminum (LME prices)	2,500	2,600	2,600	2,350	2,400	6	8
Zinc (LME prices)	2,700	2,625	2,550	2,500	2,500	8	5
Lead (LME prices)	2,106	2,100	2,040	1,938	1,938	9	8
<b>Vedanta Consolidated</b>							
Net sales	1,570,976	1,703,615	1,747,540	1,380,862	1,461,877	14	17
EBITDA	396,052	434,950	438,214	346,230	372,368	14	17
PAT	102,556	113,804	116,016	76,041	84,636	35	34
<b>EPS (Rs)</b>	<b>27.6</b>	<b>30.6</b>	<b>31.2</b>	<b>20.5</b>	<b>22.8</b>	<b>35</b>	<b>34</b>
<b>EBITDA</b>							
VAL	96,882	111,707	115,629	75,987	85,106	27	31
Talwandi Sabo	8,625	9,288	9,288	8,625	9,288	—	—
Sterlite Energy	1,759	1,649	1,589	1,759	1,649	—	—
Iron ore	21,139	23,140	22,260	17,554	20,249	20	14
Copper	(254)	(164)	(61)	(244)	(258)	4	(36)
Steel	5,921	8,189	10,259	7,414	9,495	(20)	(14)
Zinc International	14,313	17,590	20,335	15,312	17,523	(7)	0
Cairn India	43,139	36,770	33,143	38,254	28,351	13	30
Vedl Standalone	186,523	203,168	207,441	159,660	166,405	17	22
Hindustan Zinc	166,800	171,280	171,568	152,694	159,399	9	7
BALCO	42,729	60,502	59,205	33,875	46,564	26	30
<b>Attributable Vedl</b>	<b>316,568</b>	<b>345,185</b>	<b>348,983</b>	<b>276,035</b>	<b>293,603</b>	<b>15</b>	<b>18</b>
Re/ US\$ rate	83.1	84.3	85.1	83.5	84.5	(0.5)	(0.3)

Source: Company, Kotak Institutional Equities estimates

**Exhibit 24: VEDL, key assumptions, March fiscal year-ends, 2019-27E**

	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E
<b>Commodity assumptions (US\$/ton)</b>									
Zinc	2,743	2,410	2,425	3,260	3,287	2,483	2,700	2,625	2,550
Lead	2,121	1,950	1,867	2,280	2,104	2,122	2,106	2,100	2,040
Copper	6,750	6,750	6,750	9,703	8,535	8,535	9,655	9,655	9,655
Aluminium LME	2,050	1,760	1,807	2,777	2,468	2,208	2,500	2,626	2,600
Aluminium All-in	2,175	1,885	1,907	2,927	2,598	2,317	2,650	2,750	2,750
Iron Ore (Rs/ton)	2,016	2,549	3,690	6,167	3,903	3,315	2,594	2,635	2,648
Brent Crude (US\$/bbl)	70	61	45	80	96	83	85	85	80
USD:INR	69.9	70.9	74.2	74.5	80.7	82.8	83.1	84.3	85.1
<b>Volumes (K tons)</b>									
Zinc	707	680	724	777	821	817	859	894	908
Lead	198	180	216	192	211	216	221	232	237
Zinc Interational	144	204	175	195	274	209	239	294	344
Copper	118	101	109	133	164	197	149	149	149
Aluminium	1,977	1,922	1,982	2,269	2,285	2,403	2,430	2,580	2,630
Balco	589	579	582	582	564	586	680	830	880
VAL	1,388	1,343	1,400	1,687	1,721	1,817	1,750	1,750	1,750
Silver (HZL) (tons)	674	586	735	647	714	746	768	804	813
Cairn India ('000 boe/d)- Gross	189	173	162	161	143	128	124	128	122
Iron ore	3,800	6,600	6,300	6,800	5,700	6,200	10,500	11,335	11,727
Steel (ESL)	1,185	1,179	1,231	1,275	1,257	1,394	1,425	1,950	2,400

Source: Company, Kotak Institutional Equities estimates

Exhibit 25: VEDL, valuation details, March 2026E (Rs/share)

	EBITDA (Rs bn)	Multiple (X)	EV (Rs bn)	Net debt (Rs bn)	Implied M Cap (Rs bn)	Vedanta's stake (%)	Holdco Discount %	Contribution Rs/ share
<b>Partially owned Subsidiary</b>								
Hindustan Zinc (at CMP)	171	7.0	1,199	(16)	1,215	65	20	170
BALCO	61	5.0	303	(1)	303	51	20	33
Oil & gas (DCF based value)								48
Other (Iron ore, Copper, Power, Steel, VAL, Zinc International)	166	5.0	832	579	253	100		68
<b>Vedanta share price (Rs/share)</b>								<b>320</b>
<b>Fair Value of Vedanta (Rs/share)</b>								<b>320</b>

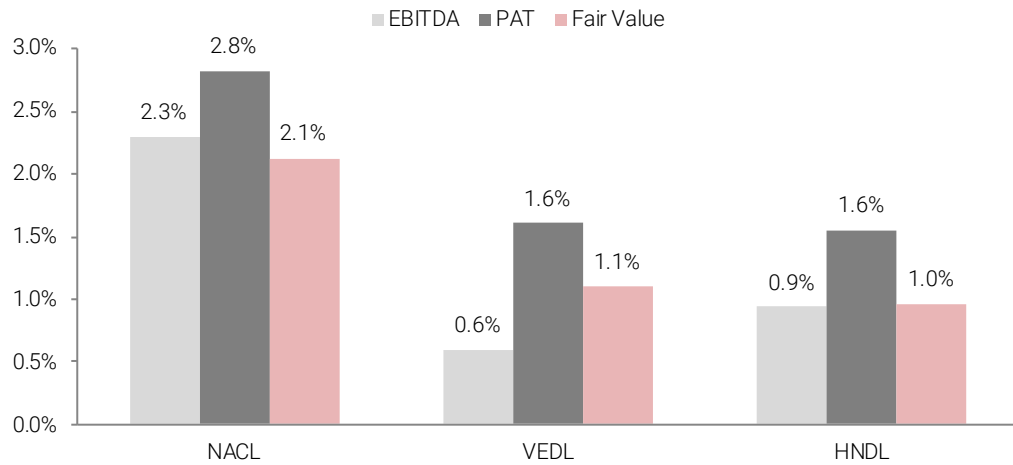
Source: Company, Kotak Institutional Equities estimates

Exhibit 26: VEDL, profit model, balance sheet and cash flow model, March fiscal year-ends, 2019-27E (Rs mn)

	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E
<b>Profit model (Rs mn)</b>									
Net sales	920,480	844,470	880,210	1,327,320	1,473,080	1,437,270	1,570,976	1,703,615	1,747,540
<b>EBITDA</b>	<b>231,030</b>	<b>206,870</b>	<b>273,180</b>	<b>448,240</b>	<b>344,220</b>	<b>351,980</b>	<b>396,052</b>	<b>434,950</b>	<b>438,214</b>
Other income	29,770	25,100	34,210	26,000	28,510	25,500	25,896	14,542	15,279
Interest	(56,890)	(49,770)	(52,100)	(47,970)	(62,250)	(94,650)	(94,888)	(91,300)	(87,712)
Depreciation	(81,920)	(90,930)	(76,380)	(88,950)	(105,550)	(107,230)	(112,983)	(119,002)	(125,022)
<b>Profit before tax</b>	<b>121,990</b>	<b>91,270</b>	<b>178,910</b>	<b>337,320</b>	<b>204,930</b>	<b>175,600</b>	<b>214,077</b>	<b>239,190</b>	<b>240,759</b>
Extraordinaries	13,610	(90,910)	(6,780)	(7,680)	(2,170)	28,030	-	-	-
Current tax	(26,770)	(17,880)	(20,660)	(92,550)	(57,700)	(128,260)	(64,223)	(71,757)	(72,228)
Deferred tax	(11,850)	(29,910)	(1,140)	-	-	-	-	-	-
<b>Net income before minorities</b>	<b>96,980</b>	<b>(47,430)</b>	<b>150,330</b>	<b>237,090</b>	<b>145,060</b>	<b>75,370</b>	<b>149,854</b>	<b>167,433</b>	<b>168,531</b>
Minority interest	(26,330)	(19,200)	(34,300)	(49,080)	(39,290)	(33,000)	(47,298)	(53,629)	(52,515)
Net income	70,650	(66,630)	116,030	188,010	105,770	42,370	102,556	113,804	116,016
<b>Adjusted net income</b>	<b>57,040</b>	<b>24,270</b>	<b>122,800</b>	<b>195,690</b>	<b>107,910</b>	<b>14,360</b>	<b>102,556</b>	<b>113,804</b>	<b>116,016</b>
<b>EPS adjusted (Rs)</b>	<b>15.3</b>	<b>6.5</b>	<b>33.0</b>	<b>52.6</b>	<b>29.0</b>	<b>3.9</b>	<b>27.6</b>	<b>30.6</b>	<b>31.2</b>
<b>Balance sheet (Rs mn)</b>									
Shareholder's funds	622,970	546,350	622,780	653,830	394,230	307,220	328,464	355,565	385,656
Preference shares	-	-	-	-	-	-	-	-	-
Borrowings	722,430	681,320	652,930	641,020	661,820	717,580	717,580	717,580	717,580
Minority Interest	152,270	171,120	151,380	173,210	100,040	113,470	126,221	145,192	164,101
Deferred tax liability	44,840	28,850	22,150	44,350	59,220	101,520	101,520	101,520	101,520
Current liabilities	477,920	408,580	407,730	471,410	738,460	668,280	677,671	686,987	690,073
<b>Total liabilities</b>	<b>2,020,430</b>	<b>1,836,220</b>	<b>1,856,970</b>	<b>1,983,820</b>	<b>1,953,770</b>	<b>1,908,070</b>	<b>1,951,456</b>	<b>2,006,844</b>	<b>2,058,929</b>
Net fixed assets	955,150	880,220	894,290	919,900	937,680	967,150	1,004,167	1,035,165	1,060,143
Capital work-in-progress	249,590	185,850	163,140	142,300	172,730	203,310	283,310	283,310	283,310
Goodwill	8,820	8,820	10,410	14,760	19,760	22,480	22,480	22,480	22,480
Cash and cash equivalents	392,690	377,610	326,140	324,950	218,900	152,090	60,767	67,608	88,903
Current assets	414,181	383,720	462,990	581,910	604,700	563,040	580,731	598,281	604,093
<b>Total assets</b>	<b>2,020,430</b>	<b>1,836,220</b>	<b>1,856,970</b>	<b>1,983,820</b>	<b>1,953,770</b>	<b>1,908,070</b>	<b>1,951,456</b>	<b>2,006,844</b>	<b>2,058,929</b>
Net debt	329,740	303,710	326,790	316,070	442,920	565,490	656,813	649,972	628,677
<b>Free cash flow (Rs mn)</b>									
Operating cash flow excl. working capital	204,260	188,990	252,520	355,690	286,520	223,720	331,829	363,193	365,986
Working capital changes	21,280	(9,390)	(15,710)	(47,660)	45,990	15,520	(8,300)	(8,234)	(2,727)
Net finance cost/ income	(27,120)	(24,670)	(17,890)	(21,970)	(33,740)	(69,150)	(68,993)	(76,758)	(72,433)
<b>Cash flow from operations</b>	<b>198,420</b>	<b>154,930</b>	<b>218,920</b>	<b>286,060</b>	<b>298,770</b>	<b>170,090</b>	<b>254,537</b>	<b>278,202</b>	<b>290,826</b>
Capital expenditure	(88,170)	(76,690)	(67,180)	(103,050)	(136,540)	(165,570)	(230,000)	(150,000)	(150,000)
<b>Free cash flow</b>	<b>110,250</b>	<b>78,240</b>	<b>151,740</b>	<b>183,010</b>	<b>162,230</b>	<b>4,520</b>	<b>24,537</b>	<b>128,202</b>	<b>140,826</b>
<b>Ratios</b>									
EV/EBITDA (Attributable)	9.5	10.2	8.1	4.8	6.6	6.8	6.6	6.0	6.0
P/E	24.8	58.4	11.5	7.2	13.1	98.6	13.8	12.4	12.2
P/B	2.3	2.6	2.3	2.2	3.6	4.6	4.3	4.0	3.7
Net debt/EBITDA	1.4	1.5	1.2	0.7	1.3	1.6	1.7	1.5	1.4
FCF yield (%)	6.3	4.5	8.4	13.7	9.8	6.5	(0.1)	8.0	8.9
Dividend yield (%)	4.9	1.0	2.5	11.8	26.6	7.7	5.7	6.1	6.1
Debt/equity (X)	1.2	1.2	1.0	1.0	1.7	2.3	2.2	2.0	1.9
Net debt/equity (X)	0.5	0.6	0.5	0.5	1.1	1.8	2.0	1.8	1.6
RoE (%)	9.1	4.2	21.0	30.7	20.6	4.1	32.3	33.3	31.3
Book Value	168	147	168	176	106	83	88	96	104

Source: Company, Kotak Institutional Equities estimates

**Exhibit 27: Sensitivity of EBITDA/PAT/Fair value to aluminum prices for Indian non-ferrous coverage**



Source: Kotak Institutional Equities estimates

**Exhibit 28: Indian non-ferrous coverage – valuation snapshot**

Company	CMP (Rs)	Fair	Rating	EPS (Rs)				P/E (X)			
	26-Apr	value (Rs)		2023	2024E	2025E	2026E	2023	2024E	2025E	2026E
Hindustan Zinc	412	310	SELL	24.9	18.4	23.3	23.4	16.5	22.4	17.7	17.6
Vedanta	381	320	SELL	29.0	3.9	27.6	31.1	13.1	98.6	13.8	12.2
Hindalco Industries	647	675	ADD	45.3	44.0	52.6	55.7	14.3	14.7	12.3	11.6
National Aluminium Co.	188	130	SELL	8.4	9.2	14.0	14.8	22.4	20.5	13.5	12.7

Company	EV/EBITDA (X)				Price/BV (X)				RoE (%)			
	2023	2024E	2025E	2026E	2023	2024E	2025E	2026E	2023	2024E	2025E	2026E
Hindustan Zinc	9.6	12.6	10.4	10.2	13.6	11.6	11.6	11.6	44.7	55.7	65.4	65.6
Vedanta	6.6	6.8	6.6	6.0	3.6	4.6	4.3	4.0	20.6	4.1	32.3	33.7
Hindalco Industries	7.8	7.1	6.3	5.8	2.3	2.0	1.8	1.5	11.6	9.9	10.7	10.3
National Aluminium Co.	13.2	11.6	8.1	7.7	2.6	2.4	2.2	2.0	12.0	12.3	17.1	16.4

Notes:

(a) EV/EBITDA for Vedanta is on attributable basis.

Source: Company data, Kotak Institutional Equities estimates

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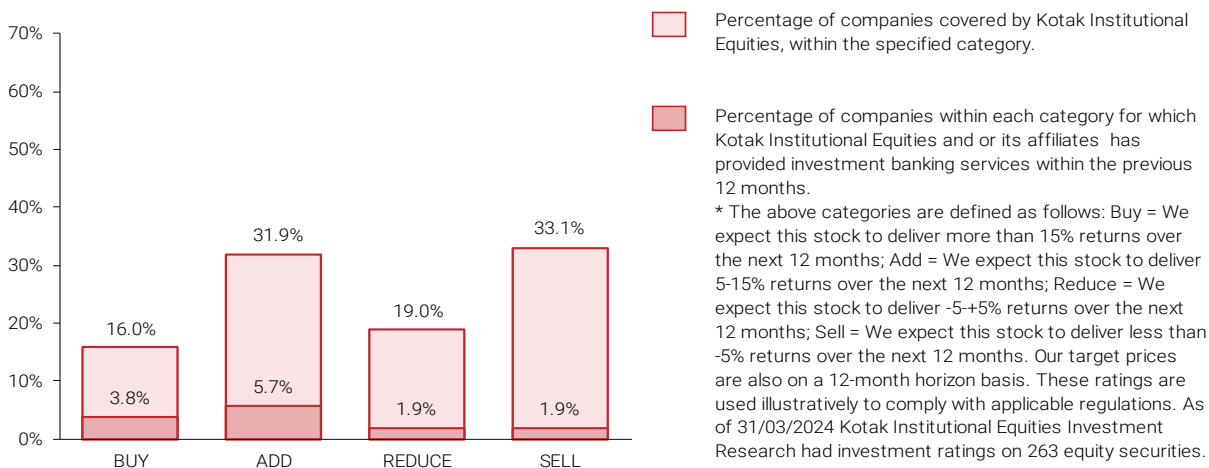
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