23 June 2024

Vedanta

Capacity expansion, cost reduction to be key focus areas

Rating: **Not Rated**

Share Price: Rs.471

On its 3.1m-tonne expanded capacity, Vedanta's aluminium EBITDA margin is expected to sharply increase to $1,350/tonne. The vertical is expected to boost EBITDA to $4bn-4.2bn, aided by better raw-material integration, increase in alumina and hot-metal capacities and greater share of value-added products (VAP) by FY27. Hindustan Zinc (HZ) plans to raise capacity from 1.2m tonnes to 2m tonnes, focusing on the Rampura Agucha (R-AG) and Sindesar Khurd (SK) mines. It plans to increase silver capacity to 1,000 tonnes in the near term using the fumer route and eventually to 1,500 tonnes. Cairn Oil & Gas plans to raise its production potential to 300kboepd by FY30-FY31, the contribution of RSC blocks to >40% and the proportion of gas in the product mix to 50% (from 20% now).

We visited Vedanta's aluminium smelter at Jharsuguda (Odisha), HZ's SK mine and Dariba smelter (Rajasthan) and the Mangala processing terminal (MPT) at Barmer (Rajasthan) to understand the processes and operations. The Jharsuguda smelter is the largest single location aluminium smelter in the world and has consistently been placed in the first quartile of the global aluminium cost curve. Similarly, the SK mine is the largest UG zinc mine in the world and the MPT is India's largest on-shore discovery in oil & gas, and houses the world's largest polymer flood project.

The company plans to hive off its business verticals into six independent pure play "asset-owner" companies. The 'simple vertical' split aims to unlock stake-holder value, attract investment, raise competencies and ensure transparency. Most lender approvals have been received and we expect the hiving off to be concluded by Feb-Mar'25. Vedanta will remain listed and include the newly proposed display, stainless and electronic verticals while functioning as the holding company for HZ.

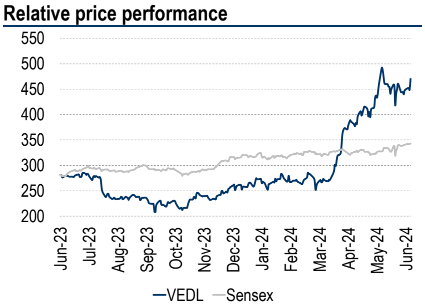
The company with world-class, low-cost assets is well set to capitalise on India's economic growth story and has potential to deliver $6.5bn-7bn EBITDA in FY25, and >$10bn in the near term. Its operations in various independent verticals give it an edge with an unparalleled and irreplaceable asset base of >$50bn.

Debt levels at Vedanta Resources (the holding company) have consistently shrunk q/q from $9.7bn in Mar'22 to $6bn in Mar'24. The HoldCo has repaid $3.7bn in the last two years, re-structured $4.1bn near-term debt and spread maturities from one year to over three years. This would help spread the HoldCo's exposure over FY25-FY29, leading to a balanced risk structure. The cash flow (pre-growth capex) of $3.5bn-4bn should suffice HoldCo's secured debt maturities, with asset monetisation/refinancing as additional options.

Key data	VEDL IN / VDAN BO
52-week high / low	Rs507 / 208
Sensex / Nifty	77210 / 23501
3-m average volume	$88.9m
Market cap	Rs1747bn / $20884m
Shares outstanding	3717m

Shareholding pattern (%)	Mar`24	Dec'23	Sep'23
Promoters	61.9	63.7	63.7
- of which, Pledged	99.9	99.9	99.9
Free float	38.1	36.2	36.2
- Foreign institutions	8.8	7.7	7.8
- Domestic institutions	13.2	11.2	10.6
- Public	16.1	17.3	17.8

Relative price performance



Source: Bloomberg

Parthiv Jhonsa
Research Analyst

Quick Glance – Financials & Valuations (Consolidated)

Fig 1 – Income statement (Rs bn)

Year-end: Mar	FY20	FY21	FY22	FY23	FY24
Revenue	844	880	1,327	1,473	1,437
Revenue growth (%)	*-8.2*	*4.2*	*50.8*	*11.0*	*-2.4*
Expenses	638	607	879	1,129	1,085
EBITDA	207	273	448	344	352
EBITDA growth (%)	*-10.4*	*32.1*	*64.1*	*-23.2*	*2.3*
EBITDA margins (%)	*24.5*	*31.0*	*33.8*	*23.4*	*24.5*
Depreciation	91	76	89	106	107
Other income	25	34	26	29	26
Interest expenses	50	52	48	62	95
PBT before excep. items	91	179	337	205	176
Exceptional items	-174	-7	-8	-2	28
PBT after exceptional items	-83	172	330	203	204
Effective tax	-35	22	93	58	128
PAT (before Ass. / (Mino.)	-47	150	237	145	75
+ Associates / (Minorities)	-19	-34	-49	-39	-33
Reported PAT	-67	116	188	106	42
Adj. PAT	107	123	196	108	14
Adj. PAT growth (%)	*59.0*	*14.5*	*59.4*	*-44.9*	*-86.7*

Fig 2 – Balance sheet (Rs bn)

Year-end: Mar	FY20	FY21	FY22	FY23	FY24
Share capital	4	4	4	4	4
Net worth	543	619	650	391	304
Debt	498	417	534	665	722
Minority interest	171	151	173	100	113
DTL / (Assets)	-100	-96	-69	-78	-8
Others	89	90	95	95	93
Capital employed	**1,205**	**1,185**	**1,388**	**1,176**	**1,228**
Net tangible assets	1,049	1,033	1,062	1,110	1,170
Net intangible assets	26	35	31	42	48
Investments	1	2	2	5	10
Other non-current assets	57	107	92	63	51
Inventory	113	99	143	150	130
Accounts receivable	27	35	49	40	36
Invst. (incl. bank balance)	320	283	241	150	124
Cash	51	49	87	69	28
Other current assets	63	96	166	196	201
Current liabilities	502	554	485	650	571
Capital deployed	**1,205**	**1,185**	**1,388**	**1,176**	**1,228**

Fig 3 – Cash-flow statement (Rs bn)

Year-end: Mar	FY20	FY21	FY22	FY23	FY24
EBITDA	207	273	448	344	352
+ other adj.	7	17	6	4	16
- Incr. / (decr.) in WC	-9	-30	-48	46	16
Others incl. taxes	-11	-21	-57	-64	-27
CF from op. activity	**193**	**240**	**350**	**331**	**357**
- Capex (tang. + intang.)	-77	-67	-103	-137	-166
Free cash-flow	116	173	247	194	191
Others	18	-0	81	130	29
CF from inv. activity	**-59**	**-68**	**-23**	**-7**	**-137**
- Div. (incl. buyback & taxes)	-14	-91	-193	-411	-205
+ Debt raised	-87	-26	-43	126	44
Others	-54	-59	-53	-55	-100
CF from fin. activity	**-155**	**-176**	**-289**	**-341**	**-261**
Closing cash balance	-22	-3	38	-17	-41
Closing bal. (incl. bank bal.)	51	49	87	69	28

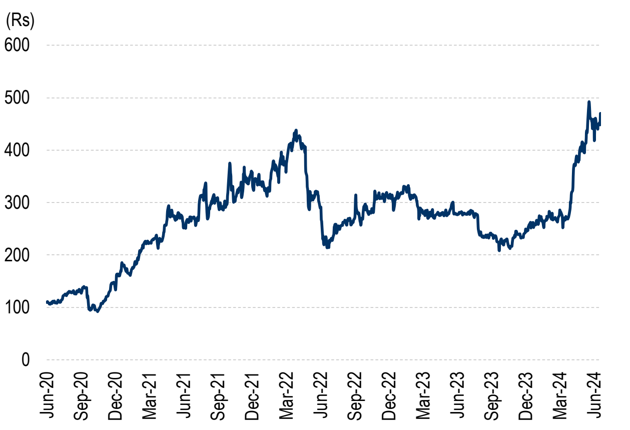
Source: Company, Anand Rathi Research

Fig 4 – Ratio analysis

Year-end: Mar	FY20	FY21	FY22	FY23	FY24
EPS (Rs)	28.8	33.0	52.6	29.0	3.9
P/E (x)	16.3	14.2	8.9	16.2	121.8
P/BV (x)	3.2	2.8	2.7	4.5	5.8
EV / EBITDA (x)	9.1	6.7	4.4	6.4	6.6
EV / Sales (x)	2.2	2.1	1.5	1.5	1.6
RoE (%)	NA	18.7	28.9	27.1	14.0
RoCE (%)	9.6	16.6	25.9	20.3	19.9
DPS (Rs)	3.9	9.5	45.0	101.5	29.5
Net debt / EBITDA (x)	0.6	0.3	0.5	1.3	1.6
Inventory (days)	48	41	39	37	33
Debtors (days)	11	14	13	10	9
Payable (days)	72	65	58	60	63
EBITDA margins (%)	24.5	31.0	33.8	23.4	24.5
PBT margins (%)	10.8	20.3	25.4	13.9	12.2
APAT margins (%)	12.7	14.0	14.7	7.3	1.0

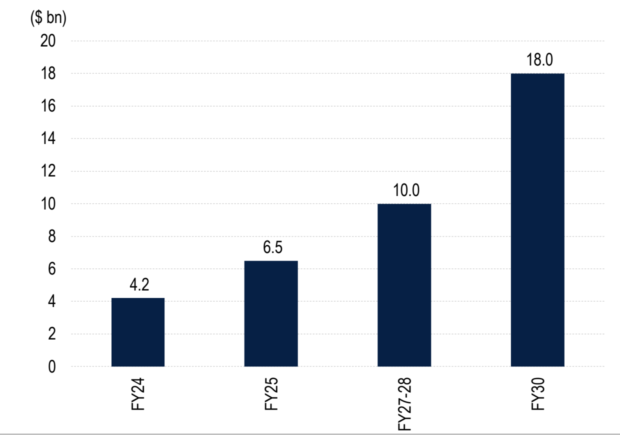
Source: Company, Anand Rathi Research

Fig 5 – Price movement



Source: Bloomberg

Fig 6 – Consolidated EBITDA to reach $18 bn by FY30



Source: Company, Anand Rathi Research

Aluminium highlights

Situated in the vicinity of its mines, the aluminium capacity is on track to be increased from 2.3m to 3.1m tonnes. The on-going capex aims to strengthen vertical integration by setting up coal and bauxite mines, increasing alumina and hot-metal capacities and the share of VAP. On ramping up the expanded capacity, the EBITDA margin of the aluminium business is expected to sharply increase, to $1,350/tonne, with an EBITDA potential of $4bn-4.2bn (subject to the LME price of $2,700/tonne and a premium of $300/tonne. However, if the LME price falls to ~$2,450-2,500 and the premium holds at FY24 levels, EBITDA would work out to ~$3.3bn-3.5bn).

For FY25, the company guided aluminium volumes of 2.3m-2.4m tonnes, and ~$1,650/tonne CoP, from $1,796 in FY24. Lower costs of power ($75/tonne) and reduction in alumina consumption cost ($70) would help reduce CoP.

On completion, the capex would catapult the company to the sixth largest global aluminium manufacturer and the third largest excluding China. Post-expansion, the company would be <200k tonnes short of Rio Tinto and <700k tonnes short of Rusal. As India enters a nation-building phase, demand for VAP is expected to grow rapidly. After the on-going capex, the share of VAP is expected to rise from 61% to 90% (~2.79m tonnes)

Vertically integrated operations make the company one of the lowest-cost aluminium producers in the world and consistently place it in the first quartile of the global cost curve. The focus on vertical expansion is expected to drive down costs by the 1.5m tonne Train 2 and debottlenecking at the Lanjigarh alumina refinery (increase capacity from 3.5m to 6m tonnes), the commissioning of the bauxite mine at Sijimali, Odisha (12m tonnes), the commissioning of coal mines at Jamkhani, Kuraloi, Ghogharpalli, Radhikapur and Barra with R&R of ~950m tonnes and PRC of ~40m tonnes and the greater proportion of RE in aluminium production from 6% to 20% by FY27-29.

The Kuraloi and Radhikapur coal blocks are expected to come on-stream by Q4 FY25, the Ghogharpalli coal block by early FY26. The Sijimali bauxite mine has received a letter of allocation and mine-plan approval; it is expected to commence operations by Q4 FY25/ Q1 FY26. The company is expected to have coal capacity of ~38m tonnes and bauxite of ~12m tonnes by FY26-27.

BALCO is the only entity in India adding primary smelting capacity. A 435,000-tonne capacity expansion is underway, expected to take installed capacity to 1.01m tonnes. The facility is expected to come on-stream by Q4 FY25; the added benefits are expected from FY26.

We visited the world's largest single-site aluminium smelter at Jharsuguda, Odisha

The smelter, of 1.762m-tonne capacity, is the largest in the world. It is also the largest producer of wire rods and aluminium billets in the world (excl. China) and has become the first primary smelter in India to supply hot metal to downstream industries.

The Jharsuguda facility houses the largest CPP in India having capacity of 3,015MW (total power plant capacity 3,615MW). Of the 4x600 MW P-2 power plant, the company utilises 1,800MW and power generated at the fourth facility (600MW) is sold to the grid.

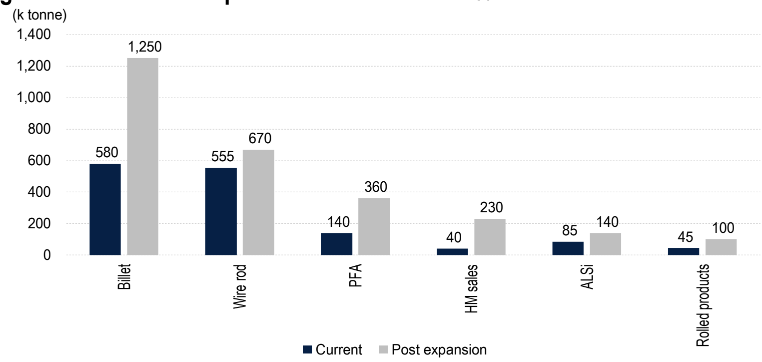
The facility has two smelters, of 1.762m tonnes. Smelter-1 (manufacturing wire rods, billets, slab casting, T-ingots, etc.) has two lines with 608pots of 500k-tonne capacity. Smelter-2 (manufacturing wire rods, billets, 10kg PFA cast bar, SoW ingots, etc.) has four lines with 1,322pots of >1.2m-tonne capacity.

The facility is in the vicinity of coal mines (~50km distance), water sources (the Hirakud reservoir), the Lanjigarh facility and is well connected to ports (400-750km).

As the facility is operating at 103% capacity, a 200k tonne expansion is planned at Jharsuguda.

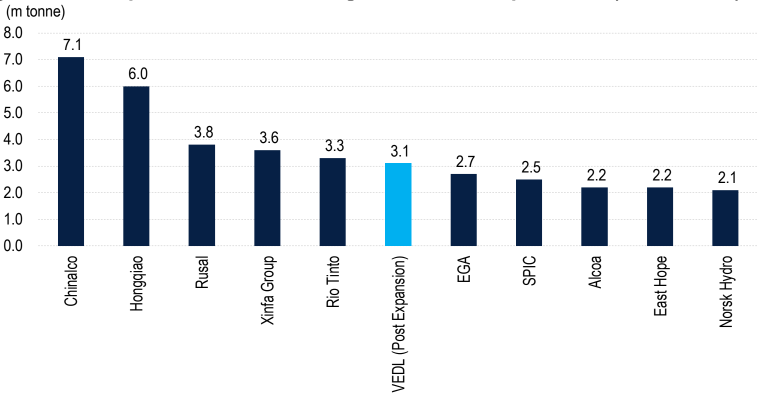
The facility has manufactured India's first low-carbon green aluminium 'Restora'. As the company widens its operations, the focus on green metal is expected to increase. It is expected to produce 180k tonnes of green aluminium in FY25, and grow to 600k tonnes by FY27-29.

Fig 7 – Share of VAP expected to increase to 90%



Source: Company, Anand Rathi Research

Fig 8 – Post-expansion, the third largest aluminium producer (excl. China)

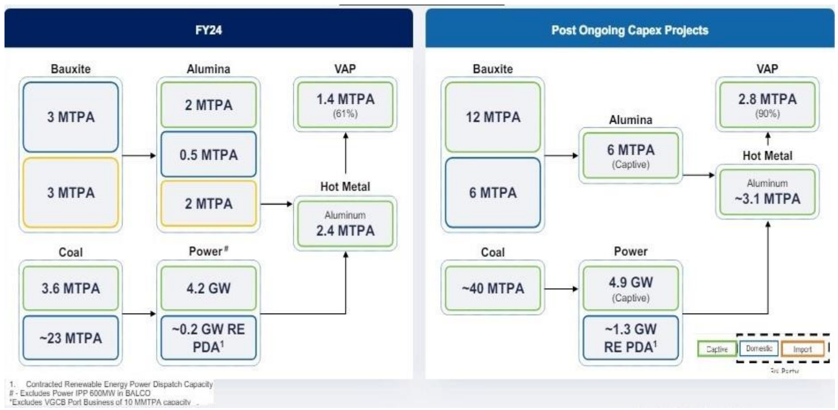


Source: Company, Anand Rathi Research

Fig 9 – Aluminium smelting facilities are in proximity to mines, alumina refinery

Source: Company

Fig 10 – Post expansion, installed smelting capacity would be 3.1m tonnes



Source: Company

Fig 11 – Captive mines

COAL MINES

	Jamkhani	Kuraloi
MINEABLE RESOURCE (MnT)	120	150
CAPACITY (MTPA)	3	8

	Ghogharpalli	Radhikapur
MINEABLE RESOURCE (MnT)	600	130
CAPACITY (MTPA)	20	6

	Barra*	Total
MINEABLE RESOURCE (MnT)	TBC	~950
CAPACITY (MTPA)	6	~40

BAUXITE MINES

	Sijimali	OMC/Others
MINEABLE RESOURCE (MnT)	300	70
CAPACITY (MTPA)	12	3-6

	Total
MINEABLE RESOURCE (MnT)	~370
CAPACITY (MTPA)	15-18

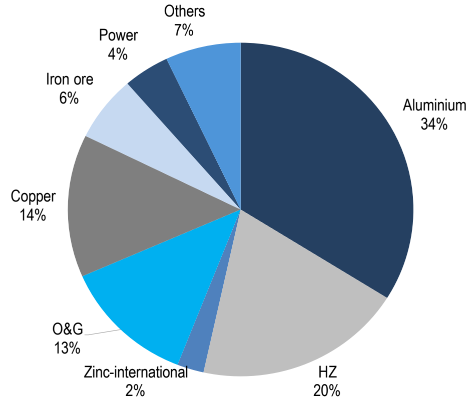
Bauxite 18 MnT Volume
Coal 40 MnT Volume

**Barra mine still being explored*
Source: Company

Fig 12 – Mine development timeline

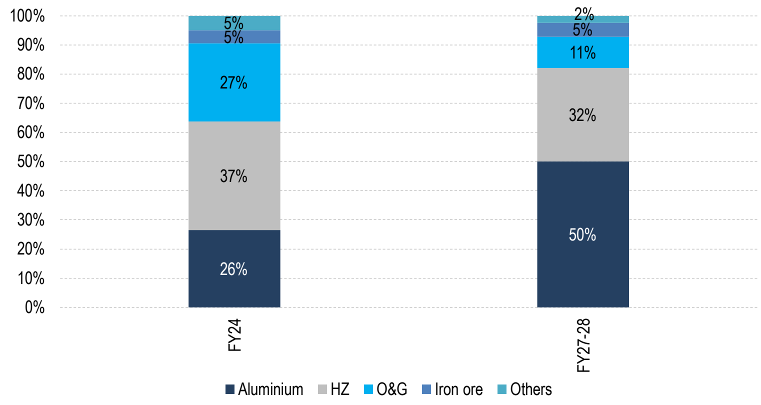
Source: Company

Fig 13 – FY24 revenue mix (Rs bn.) – excl. inter-segment revenue



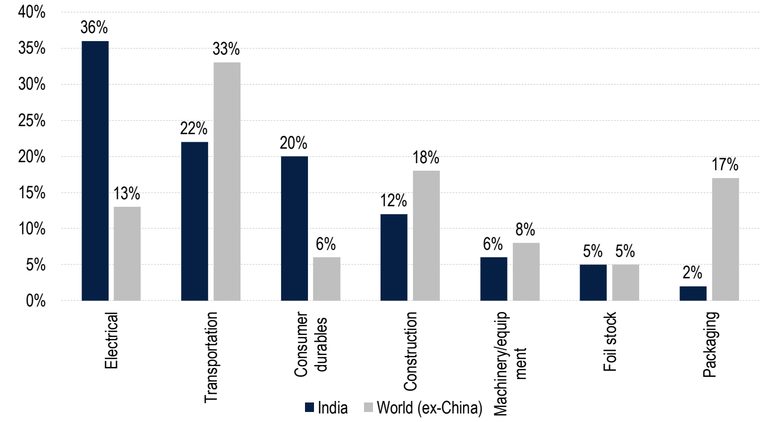
Source: Company, Anand Rathi Research

Fig 14 – Potential for $6.5bn-7bn EBITDA in FY25, >$10bn in the near term



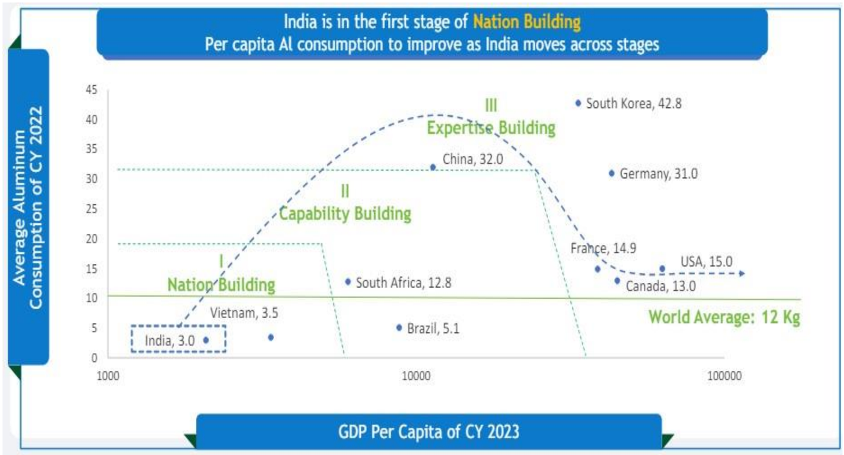
Source: Company, Anand Rathi Research

Fig 15 – Most demand for aluminium in India comes from the electrical sector, transportation commands the largest share globally



Source: Company, Anand Rathi Research

Fig 16 – Significant potential as India enters nation-building phase



Source: Company

Fig 17 – Global demand expected at 122m tonnes by CY30

Source: Company

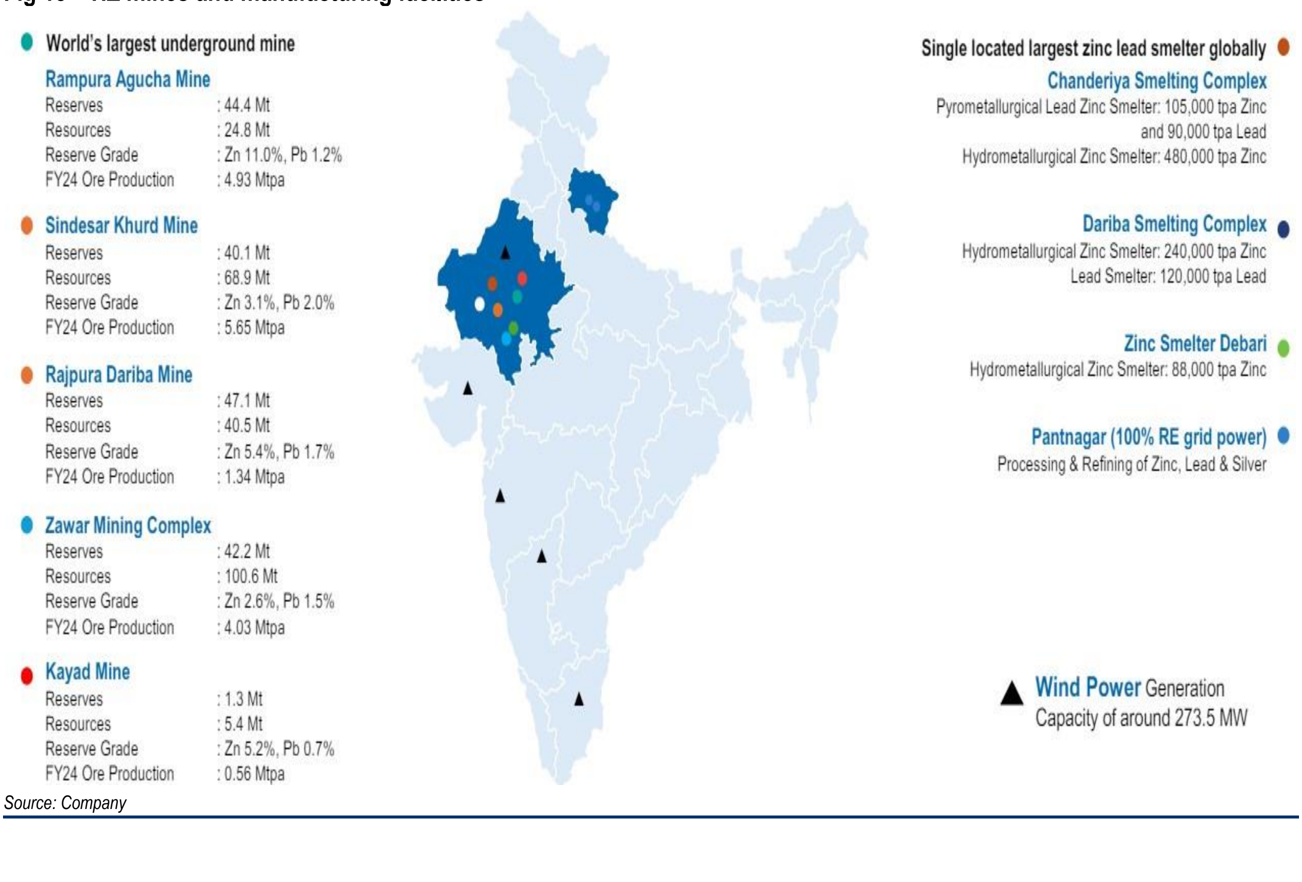
Hindustan Zinc highlights

HZ is the world's second largest integrated zinc and third largest silver producer and the only fully integrated zinc-lead-silver producer in India, with the second highest R&R globally of >456m tonnes of an average grade of ~7% and more than 25 years of mine life.

HZ commands a 75% market share in India's primary zinc market and has undertaken techno-commercial study to increase capacity from 1.2m to 2m tonnes. The expansion would be via UG mining, preference given to the R-AG and SK mines. As steel capacity increases to 300m tonnes by FY31, demand for zinc is expected to rise to >3m tonnes. The proposed capacity expansion to be undertaken by HZ augers well to capture the growing zinc market in India.

For FY25, mined metal production is expected to be ~1.1m-1.125m tonnes, finished metal ~1.075m-1.1m tonnes, silver 750-775 tonnes, CoP ~1,050-1,100/t, and the share of VAP expected at ~23%. The company also plans to enhance its R&R further to 500m tonnes, with metal R&R of 32.6m tonnes (now 30.8m tonnes) which translates to a mine life of ~30 years.

Fig 18 – HZ mines and manufacturing facilities



Source: Company

We visited the SK mine and the Dariba smelter (near Udaipur, Rajasthan)

The SK mine we visited had state-of-the-art HEMM machinery, trackers and communication systems in place. The 21-tonne excavators, drilling machines and mine-charging machinery were remotely operated, and the mine was adequately scraped for the ore between mine walls.

Mining was undertaken in grids with no two grids mined adjacent to each other. When a cavity was filled, an adjacent grid was mined.

The SK mine has been leased till 2048, others till 2030. However, HZ has the RoFR on those mines and hence is confident of a timely lease renewals, post-2030.

Due to high-grade ore, the cost of mining at the R-AG mine is ~$400/ tonne, whereas it is $600/tonne at the SK mine.

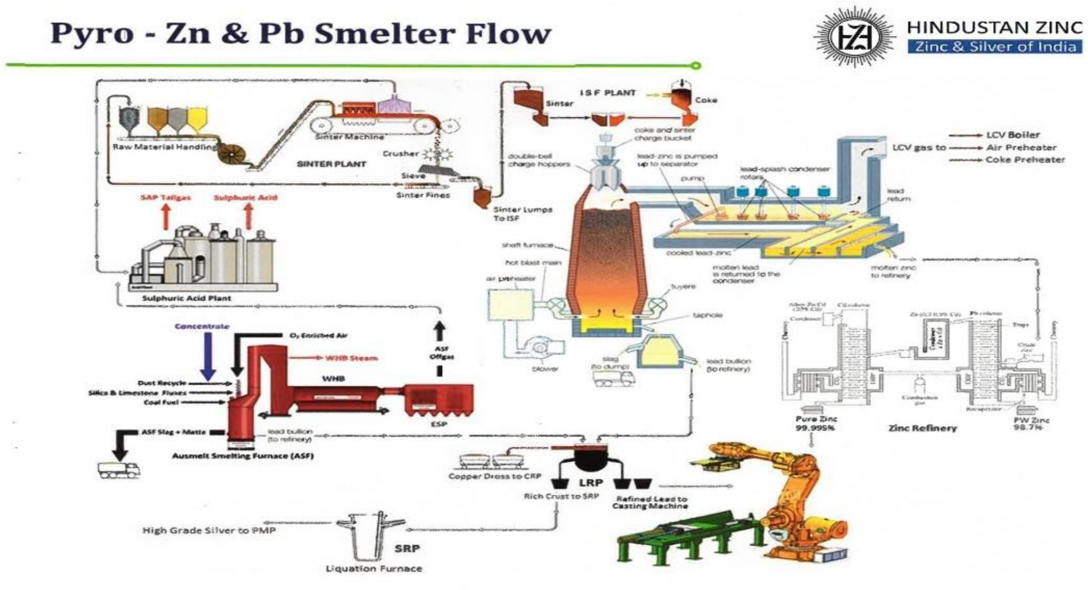
Average mining cost is ~$550/tonne, smelting cost is ~$450/tonne and other miscellaneous costs are ~$50-100/tonne.

Power required by the smelter is 4,000kWh with cathodes consuming ~3,200kWh. ~70% of the smelting cost is expenses on power.

Fig 19 – FY25 guidance

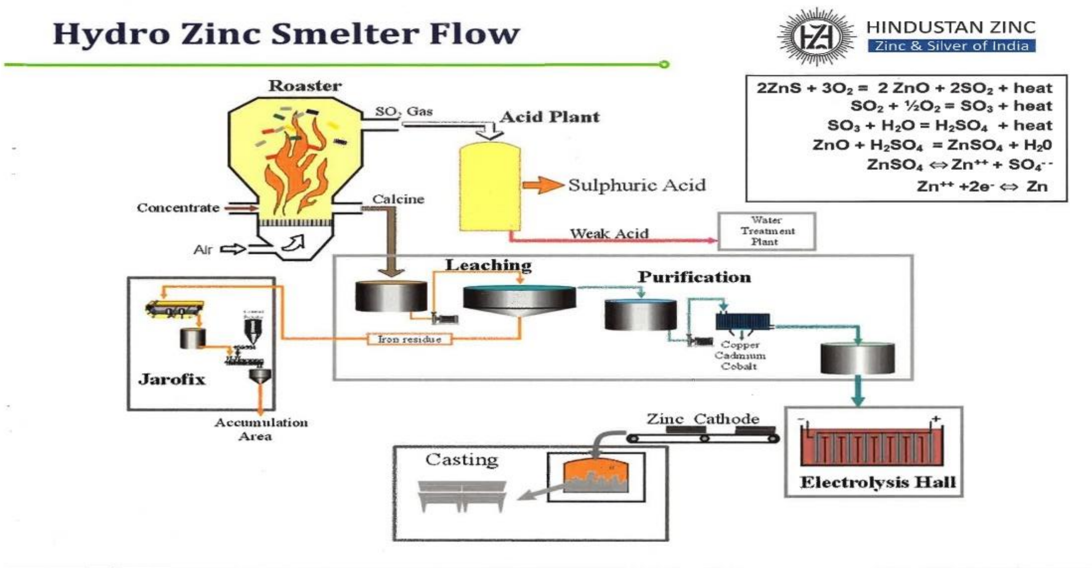
Source: Company

Fig 20 – Pyro metallurgy smelter



Source: Company

Fig 21 – Hydro metallurgy smelter



Source: Company

The company has hydro metallurgy smelters at Chanderiya, Dariba and Debari (total ~800k tonnes) and a pyro metallurgy smelter at Chanderiya, the only smelter globally which can produce lead and zinc at a single site. If only lead is manufactured using the pyro route, the quantity of silver production increases by ~10-12 tonnes a month (~350 tonnes yearly) compared to ~200 tonnes under the dual mode. Silver production is expected to touch 1,000 tonnes in the near term and eventually 1,500 tonnes once capacity reaches 2m tonnes.

Cairn O&G highlights

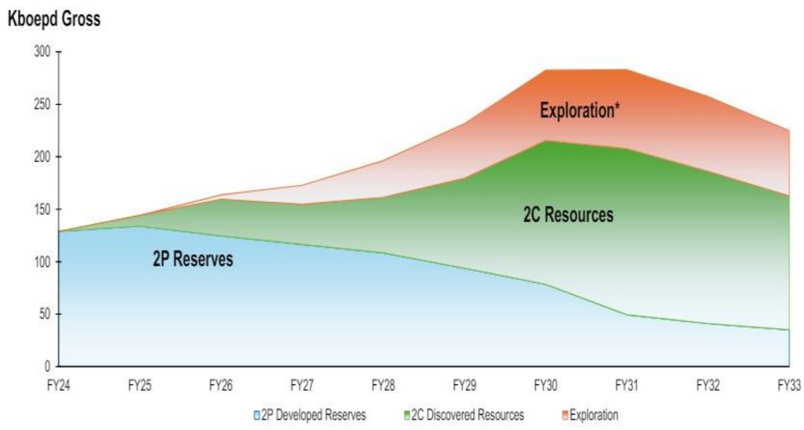
We visited MPT, Barmer

Energy demand is expected to double in India by 2050 with most growth coming from industrial and transportation sectors. Cairn O&G is the largest private sector oil producer in India with 62 on-shore and offshore blocks of >60,000 sq.km.

The company plans to raise production from ~150 kboepd to ~300 kboepd by FY30 as discovered resources are converted to developed/ developable reserves. The process to convert resources to reserves usually takes 18-24 months. Also, Cairn O&G plans to raise the share of gas in the product mix from 20% to 50% and the contribution from RSC (revenue-sharing) blocks to >40%.

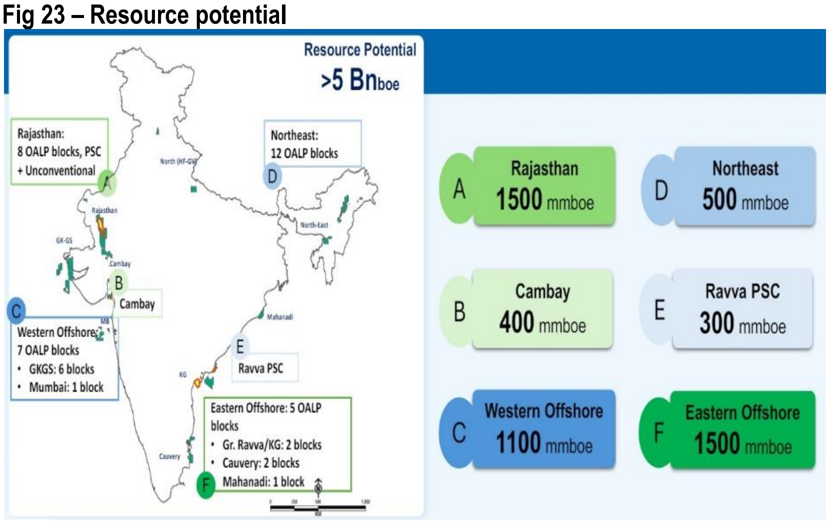
The company has >1,000 wells drilled across Rajasthan with the best drilling at MPT where the average depth is ~1km with oil reserves of up to 300m tonnes. The depth of drilling at other locations in Rajasthan can be ~3km-4km with oil reserves of ~30m tonnes.

Fig 22 – Production potential in thousand boe/d



Source: Company

Fig 23 – Resource potential



Source: Company

East-coast blocks (Ravva, Gr. Ravva, KG, exploration and DSF blocks) have a better recovery rate (52%) and a production life of >30 years compared to a 25% recovery rate and production life of >20 years for west-coast blocks such as Cambay, GKGS, Mumbai exploration and DSF blocks.

Fig 24 – Cash-flow under different regimes

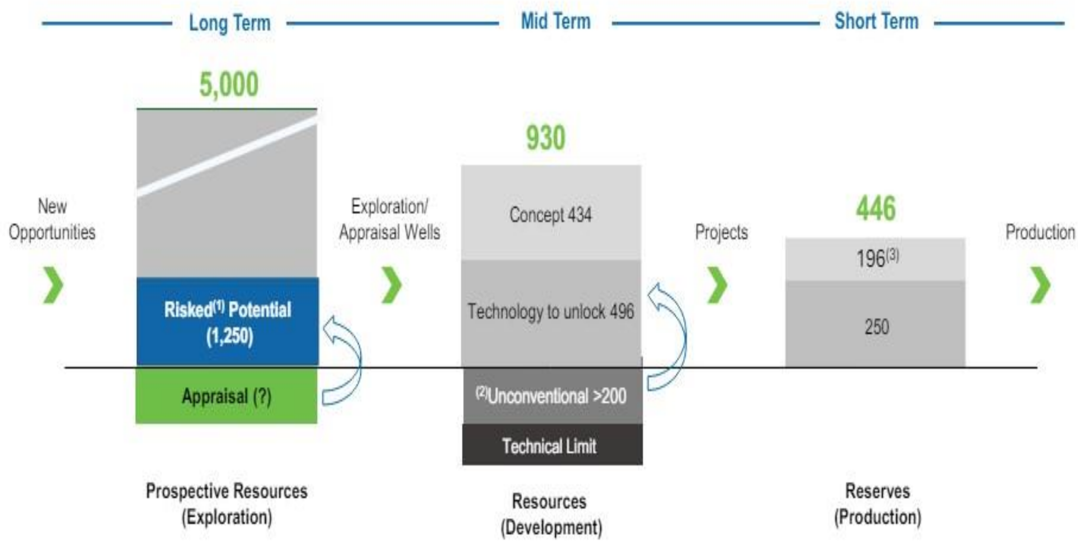
PSC Regime		
Oil Revenue (A)	**\$/bbl**	**100.0**
Royalty	\$/bbl	15.0
Cess	\$/bbl	16.7
Development Costs **(E)**	\$/bbl	14.0
Operating Costs	\$/bbl	14.0
Cost Oil (B)	**\$/bbl**	**59.7**
Profit Oil (C) = (A) - (B)	**\$/bbl**	**40.3**
Profit petroleum to GoI **(D)**	\$/bbl	20.2
Profit available to Contractors (F) = (C) - (D)	**\$/bbl**	**20.2**
Less: Partner Share **(G)**	\$/bbl	(6.0)
EBITDA (H) = (F) - (G) + (E) * 70%	**\$/bbl**	**23.9**
Less: Development Capex	\$/bbl	(10.0)
Free Cash Flow (Pre-Tax)	**\$/bbl**	**13.9**

RSC Regime		
Oil Revenue (A)	**\$/bbl**	**100.0**
Royalty **(B)**	\$/bbl	12.5
Profit Oil (C) = (A) - (B)	**\$/bbl**	**87.5**
Profit petroleum to GoI **(D)**	\$/bbl	26.3
Profit available to Contractors (E) = (C) - (D)	**\$/bbl**	**61.3**
Less: Partner Share **(F)**	\$/bbl	-
Less: Operating Cost **(G)**	\$/bbl	8.0
EBITDA (H) = (E) - (F) - (G)	**\$/bbl**	**53.3**
Less: Development Capex	\$/bbl	(10.0)
Free Cash Flow (Pre-Tax)	**\$/bbl**	**43.3**

Source: Company

Under the present PSC (product-sharing) model, the company pays a ~30% royalty, a 17% cess to the government and gives it 50% of the profits. However, under the new regime of RSC, though the company pays royalty, the share of profit to the government is lower. Old blocks would continue to be under the PSC model and the new blocks at Assam and Jaya (Gujarat) are under the RSC model. At present ~4 kboepd are under the RSC model, expected to increase in coming years.

Fig 25 – Focus on R&R to drive volumes in the near to mid term



Source: Company

Appendix

Analyst Certification

The views expressed in this Research Report accurately reflect the personal views of the analyst(s) about the subject securities or issuers and no part of the compensation of the research analyst(s) was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report. The research analysts are bound by stringent internal regulations and also legal and statutory requirements of the Securities and Exchange Board of India (hereinafter "SEBI") and the analysts' compensation are completely delinked from all the other companies and/or entities of Anand Rathi, and have no bearing whatsoever on any recommendation that they have given in the Research Report.

Anand Rathi Ratings Definitions

Analysts' ratings and the corresponding expected returns take into account our definitions of Large Caps, Mid Caps & Small Caps as described in the Ratings Table below:

Ratings Guide (12 months)

	Buy	Hold	Sell
Large Caps (Top 100 companies)	>15%	0-15%	<0%
Mid Caps (101st-250th company)	>20%	0-20%	<0%
Small Caps (251st company onwards)	>25%	0-25%	<0%

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