

# ALUMINIUM

## Still in the woods

October 16, 2008

### Sharp fall in global demand; more pain in store

China accounts for ~90% of the global incremental aluminium consumption. Throughout CY07, the Chinese consumption growth hovered in the range of 40-50%, and is down sharply at sub-10% levels in CY08. The financial turmoil witnessed by the world in September has now got the manufacturing sector reeling under the pressure of tighter credit/liquidity, which has worsened the aluminium demand outlook. With exports accounting for 54% of China's GDP, we do not see the country escaping this slowdown. We expect aluminium demand to fall further in CY09E.

### Aluminium to remain in surplus, despite production cuts

Globally, aluminium producers have announced production cuts, estimated at 679 kt (679,000 tonnes). Despite this, the metal was in surplus of 759 kt in H1CY08, and LME inventories have continued to rise. We, therefore, do not buy the tight supply argument regarding the metal. Further, China alone is expected to add 1.5 mtpa over the next six months and over 0.6 mtpa is being ramped up elsewhere in the world. Overall, we expect surplus to further increase for rest of CY08 and also in CY09E.

### We consider the cost push argument irrelevant

Marginal cost of production has definitely increased due to rising power costs, and we estimate it to be USD 2,400/tonne currently. However, with the market in a comfortable surplus, we do not see merit in a cost push argument that is applicable only in a tight demand-supply situation. In any case, we expect energy costs to come down in CY09E, which makes this argument even weaker.

### CY09 price estimated at USD 2,300/tonne, below current marginal cost

Based on weakening demand, comfortable surplus, and additional capacity in the pipeline, we have revised our FY09 and FY10 aluminium price estimates downwards to USD 2,609/tonne and USD 2,375/tonne from USD 2,700/tonne and USD 2,570/tonne respectively.

**Table 1: Global demand supply-model**

('000 tonnes)	CY05	CY06	CY07	CY08E	CY09E	CY10E
Production	31,923	33,875	38,050	40,700	42,735	45,299
% change		6.1	12.3	7.0	5.0	6.0
Consumption	31,933	34,275	37,500	39,500	41,278	44,291
% change		7.3	9.4	5.3	4.5	7.3
Surplus/(Deficit)	(10)	(400)	550	1,200	1,458	1,008
Aluminium price (USD/tonne)	1,899	2,563	2,636	2,712	2,300	2,600

Source: Edelweiss research

### Outlook more important than valuation for commodity stocks

We see commodity stocks reacting more to demand and price outlook, and valuation taking a backseat; we continue to remain negative on aluminium. Based on our estimates of fair value, we retain our 'REDUCE' and 'SELL' recommendations on Hindalco Industries and National Aluminium Company respectively. We upgrade Sterlite Industries from 'ACCUMULATE' to 'BUY', and see lesser price downside risks in zinc than in aluminium.

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### Global aluminium demand has fallen sharply

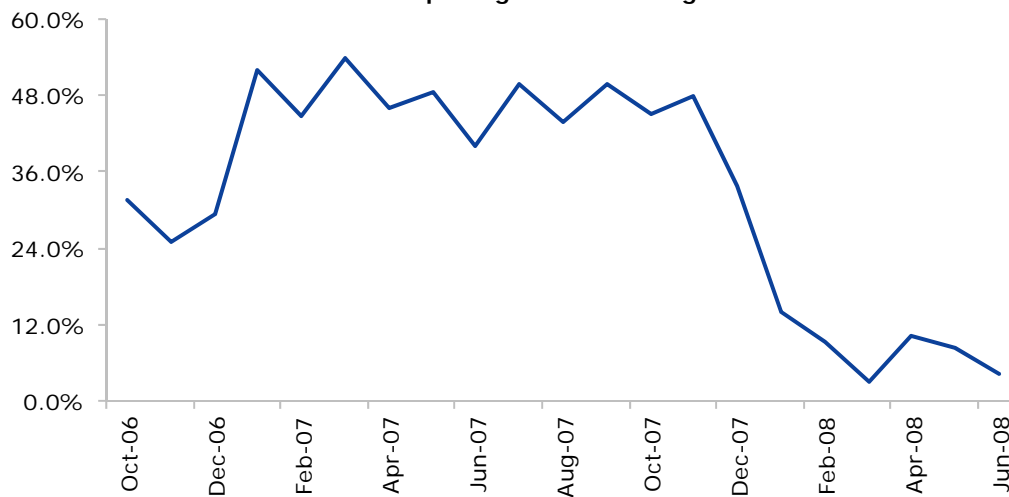
China is the key demand driver for aluminium, and accounted for ~32% of the global consumption in CY07. More importantly, China accounts for close to 90% of the incremental aluminium consumption growth. Chinese aluminium consumption for H1CY08 has, however, grown only 8% Y-o-Y compared with 46% Y-o-Y growth in CY07 over CY06. Moreover, a significant increase in exports in the wake of average production growth also points to slowing consumption growth in the country. Slowdown in the construction sector, coupled with absence of Olympics as a demand driver, has taken its toll on aluminium demand. While these issues apply to other commodities as well, their impact has been far higher and more severe on aluminium. We now expect China to record just 7.5% demand growth in CY08.

**Table 2: Chinese aluminium consumption growth sharply down in H1CY08**

(mt)	CY06	CY07	% change	H1CY07	H1CY08	% change
Production	9.2	12.6	37.7	5.9	6.6	10.9
Imports	0.5	0.3	(44.9)	0.1	0.1	(7.7)
Exports	1.2	0.5	(55.0)	0.3	0.4	57.6
Consumption	8.5	12.4	45.9	5.8	6.3	8.2

Source: Antaike, Chinese Customs General Administration, Edelweiss research

**Chart 1: Chinese aluminium consumption growth declining since Dec-07**



Source: Antaike, Chinese Customs General Administration, Edelweiss research

The key sectors that drive aluminium consumption are housing and construction, automotive, and packaging. With the poor performance of these sectors in the developed world, in general, we expect Y-o-Y moderation (ex-China) in aluminium demand growth in CY08 and CY09. Currently ex-China growth is anemic at about 2% to 3% only. For instance, Alcoa expects aluminium consumption in North America to contract 5% in CY08, as automotive and construction sectors remain weak.

**Table 3: Regional consumption of primary aluminium in CY07**

Country	(%)
China	32.1
India	3.2
Rest of Asia*	17.0
Western Europe	18.4
North America	17.4
East/Central Europe	5.6
Latin America	3.8
Africa	1.3
Oceania	1.2

Source: Brook Hunt

Note: \*Rest of Asia is Asia excluding China and India, but including the Middle East

### Aluminium to remain in surplus, despite production cuts

Globally, aluminium production has been adversely affected because of issues related to inadequate power supply (largely due to acute shortage of thermal coal); electricity cost accounts for 35-40% of total aluminium production cost. Additionally, various incremental projects may be delayed or cancelled due to lack of affordable power security.

As per International Aluminium Institute (IAI), world production growth in aluminium has slipped sharply in first eight months of 2008, to 6.7% Y-o-Y from 12.3% growth in CY07.

In July, the top 20 Chinese aluminium producers, constituting 70% of the total Chinese production, agreed to cut their smelter production 5-10% till September. This was largely done on account of power shortage and to ensure adequate power supply for the Beijing Olympics. Further, in a move to discourage export of energy-intensive industries, the Chinese government recently imposed export tax of 15% on aluminium alloys.

**Table 4: Regional production of primary aluminium in CY07**

Country	(%)
China	33.0
India	3.2
Rest of Asia*	7.3
North America	14.8
East/Central Europe	12.8
Western Europe	11.3
Latin America	6.7
Oceania	6.1
Africa	4.8

Source: Brook Hunt

Note: \*Rest of Asia is Asia excluding China and India, but including the Middle East

Drought situations in Brazil and New Zealand have affected hydropower facilities and, in turn, aluminium output. Power problems in South Africa seem to be largely structural due to insufficient investment in power capacity, which has led to BHP Billiton (BHP) planning to cut 10% smelter capacity in the country.

Soaring energy costs in North America too have hampered aluminium production. Alcoa's Rockdale and Glencore's Columbia Falls have announced primary production cuts of up to 120,000 tonnes and 35,000 tonnes respectively.

Similarly, New Zealand Aluminium Smelters plans to reduce close to 5% of its 350,000 tonne aluminium smelter.

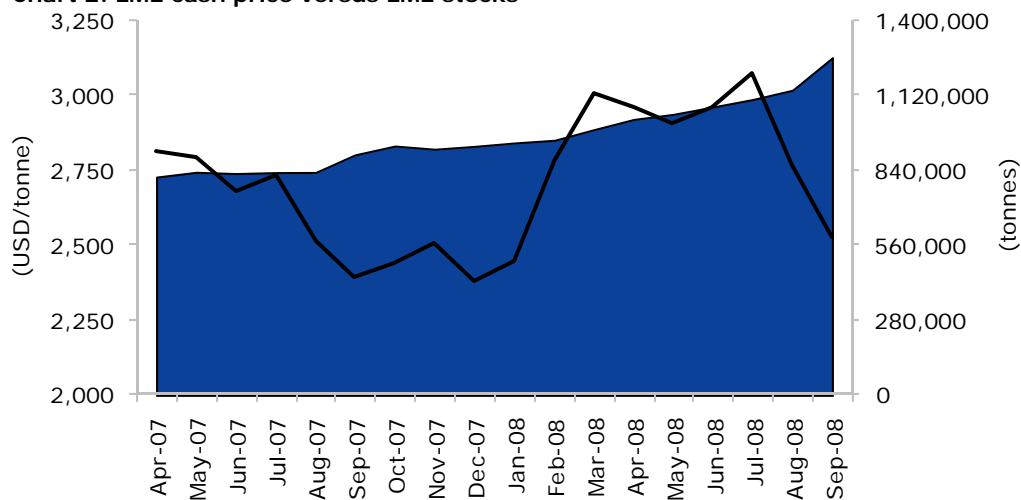
**Table 5: Estimated production losses in CY08**

Country	(Tonnes)
Rockdale (Alcoa)	120,000
Columbia Falls (Glencore)	35,000
Alcan	35,200
Tursunzade (Tajikistan)	30,000
BHP Billiton, South Africa	120,000
Saramenha (Brazil)	22,000
New Zealand Aluminium Smelters	17,500
Chinese smelters	300,000
<b>Total</b>	<b>679,700</b>

Source: Company news, Edelweiss research

In spite of these production cuts, the global aluminium market was in a surplus of 759 kt in H1CY08. As a result, we see a surplus in aluminium of 1,200 ktpa in CY08 against surplus of 550 ktpa in CY07. Though Chinese production was impacted by snowstorms in Q1CY08, production did rebound March onwards. We suspect that some production cuts could have been in response to moderating demand and were attempts to arrest the decline in aluminium prices by creating shortage of aluminium. Chinese aluminium exports have been rising in CY08, indicating that demand has weakened in China. With the impending global slowdown, aluminium demand is expected to weaken further, creating even greater surplus. We estimate 1.5 mt of fresh capacity to come on stream in China over next two quarters.

**Chart 2: LME cash price versus LME stocks**



Source: LME

Finally, in spite of various production cuts, inventories continued to rise, indicating that there is enough of aluminum in the market and concerns of supply shortage are overdone.

## Cost push argument is irrelevant

**Table 6: Global average cost of aluminium**

	(USD/tonne)
Energy cost	450
Average delivered alumina cost	720
Other raw materials cost	175
Other costs	255
<b>Average cost of aluminium</b>	<b>1,600</b>

Source: Brook Hunt, Edelweiss research

The energy shortages have pushed up production costs, especially in China. Countries such as Russia and Canada, however, have lower cost of energy, as they use hydro and gas based plants. We estimate marginal cost of production to be around USD 2,400/tonne and average cost of production at USD 1,600/tonne. Marginal cost of production works as a basis for pricing in a tight demand-supply situation. However, as we have argued earlier, in spite of production cuts, the aluminium market is expected to be in comfortable surplus. Hence, in our view, prices are likely to stay below marginal cost of production for CY09 in such a situation.

Further, fresh capacities have come on stream during the year and have become fully operational. A new 350 ktpa smelter capacity in Oman and a 320 ktpa smelter in Iceland have started operations, and a 170 ktpa Irkutsh smelter in Russia too is likely to commence production soon. Another 1.5 mt of capacity is expected to come in China over next two quarters.

A recent correction in oil prices from its record highs has also contributed to fall in aluminium price, given the base metal's high energy cost.

Though we expect firm prices for aluminium, going forward, a material upside from the current level of USD 2,200/tonne is unlikely.

**Table 7: Global demand-supply model**

('000 tonnes)	CY05	CY06	CY07	CY08E	CY09E	CY10E
Production	31,923	33,875	38,050	40,700	42,735	45,299
% change		6.1	12.3	7.0	5.0	6.0
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Surplus/(Deficit)	(10)	(400)	550	1,200	1,458	1,008
Aluminium price (USD/tonne)	1,899	2,563	2,636	2,712	2,300	2,600

Source: Edelweiss research

We estimate global production to grow 7% in CY08. However, consumption is expected to grow at only 5.3% in CY08 against 9.4% growth achieved in CY07. We estimate slowdown in demand to continue in CY09 with a modest 4.5% increase in consumption growth. However, some revival in demand is expected in CY10E, with consumption growing 7% during the period.

This slowdown in global demand in CY09E has depressed our price estimate to USD 2,300/tonne for CY09E. Considering the capacities being added, we believe that the global demand growth rate needs to be at least 11% for us to turn positive on aluminum.

### Aluminium industry grappling with energy problems, but this could ease in future

Aluminium production is energy-intensive. Nearly 14-15,000 KWH power is required to produce one tonne of aluminium. Overall, at least 50% of the global smelters depend upon coal-based electricity grids to draw power for aluminium.

Traded coal supplies were severely constrained by torrential rains and floods in Queensland, Australia, in January this year. This resulted in top coal producers declaring force majeure and pushing up coal prices. With coking coal market becoming extremely tight, quality thermal coal is being diverted for use in blast furnaces to partially replace coking coal. This has put further pressure on the already tight thermal coal market. This acute shortage of thermal coal has resulted in long-term contracts being settled at USD 125/tonne, up 125% from last year. Coal on spot basis has touched a high of close to USD 200/tonne and currently is at USD 125/tonne compared with USD 95/tonne last year. This huge increase in coal prices has resulted in increasing electricity costs for the aluminium smelters.

Further, coal supply in South Africa was affected due to heavy rains, which prevented movement of coal. Abnormal number of maintenance shutdowns of power plants too contributed to the energy crisis in the country. Eskom, the national utility company (supplying 95% of South Africa's electricity) plans to buy 45 mt of coal over two years to rebuild its stockpiles. We, however, understand that Eskom is not buying export grade coal, and hence, believe that coal exports from South Africa may not be affected so much.

In Brazil, hydro power facilitates 85% of power requirements, and the same was adversely affected with severe drought in the country. However, Brazil constitutes only 4% of the world production, and hence, the impact of this is limited.

We believe it is more pertinent to understand the energy situation in China than anywhere else in the world, considering China's huge share of incremental global consumption, as mentioned earlier. Over the years, China has closed down thousands of coal mines due to safety issues (causing mine casualties). Though the country had invested heavily in the energy sector, its economy has grown 10% over a number of years which has, in turn, put pressure on the energy sector. Also the power tariff was administered by the government, which discouraged energy producers to further increase its capacity. This led to underinvestment in coal mining. On July 1, China raised average electricity tariffs by 4.7% and in August further hiked on-grid tariff by 0.02 Yuan per KWH or about 5%. We estimate that the increase in energy costs has raised the aluminium production cost by ~USD 400/tonne for Chinese producers.

Having said all this, we notice that China did briefly become a net importer of coal in March 2008, but since then coal production has rebound and China has become a net exporter again. We expect the energy situation to ease in China in CY09, and hence, are not overly concerned about energy costs.

In contrast, Indian aluminium smelters have captive power plants to meet its power requirements and, in general, have lower power costs. Coal is supplied for these power plants mainly through linkages from Coal India. Definitely one issue on the power front for Indian smelters has been the short supplies from Coal India, and hence, there has been the need to buy either in eAuction or import thermal coal. However, the proportion of such coal is limited (varies from 0-25%), and hence, the extent of cost push for Indian smelters has been much lesser. We estimate cost of production for Indian aluminum producers (without taking credit for downstream products) to be between USD 1,600-1,800/tonne.

**Bear case scenario analysis: Price could drop to USD 1,800/tonne**

The worst case scenario for aluminium would be a further decline in demand from the growth of 4.5% and 7.3% assumed for CY09E and CY10E respectively. This is not out of realm of possibility, since the general economic outlook has worsened considerably in recent months. In such a bear case situation, we expect aluminium pricing to be 12.5% over the average cost of production. Currently, we estimate average cost of production at USD 1,600/tonne and marginal cost of production at USD 2,400/tonne. Based on this, the bear case scenario for aluminium price would be USD 1,800/tonne. In the bear case, we have not cut the valuation multiples and have continued to use fair value multiples. For integrated non-ferrous players, we have considered FY09E and FY10E EV/EBITDA multiple at 6.0x and 5.0x and for non-integrated players at 3.0x and 2.5x, respectively. Using this, the revised estimates and fair value for the respective companies are as follows.

**Table 8: Bear case analysis**

	Base case		Bear case	
	FY09E	FY10E	FY09E	FY10E
<b>Hindalco</b>				
Revenue (INR mn)	676,053	631,541	620,691	516,312
EBITDA (INR mn)	73,978	63,274	65,266	44,608
PAT (INR mn)	23,917	19,411	17,592	5,866
EPS (INR)	13.6	11.1	10.0	3.3
Fair value (INR/share)		78		33
<b>Sterlite</b>				
Revenue (INR mn)	235,816	259,590	231,206	250,049
EBITDA (INR mn)	67,030	82,567	63,317	74,879
PAT (INR mn)	43,853	57,947	41,811	52,732
EPS (INR)	61.9	81.8	59.0	74.4
Fair value (INR/share)		454		431
<b>NALCO</b>				
Revenue (INR mn)	58,611	62,766	53,256	49,922
EBITDA (INR mn)	27,085	26,777	22,170	14,988
PAT (INR mn)	19,236	18,988	15,764	10,414
EPS (INR)	29.9	29.5	24.5	16.2
Fair value (INR/share)		275		195

Source: Edelweiss research

**HINDALCO INDUSTRIES**

INR 70

**Refinancing concerns****REDUCE**

October 16, 2008

**Strong aluminium player**

Hindalco Industries (Hindalco) is primarily into aluminium and copper production wherein aluminium contributes ~80% to its operating profit. In February 2007, it acquired Novelis, world's largest aluminium rolled products supplier with 19% global market share and presence across four continents, 33 operating plants, and a wide range of products.

**Huge capacity in aluminium planned; capex to be at INR 315 bn**

The company has undertaken several brown field and green field expansion projects in India. The capex planned is INR 315 bn and capacity ramp-up is expected from FY11 onwards.

**Re financing USD 3.03 bn bridge loan remains a challenge**

Hindalco needs to re-finance a bridge loan of USD 3.03 bn that was taken to finance the acquisition of Novelis by November 10, 2008. The company's USD 1.2 bn rights issue priced at INR 96/share has received only 56% subscription and requires sponsor and underwriting support to be completed. The balance USD 1.8 bn is expected to be raised through debt, which may prove to be difficult and expensive in the current weak financial environment. The company would have to draw on its cash reserves in case the debt is not raised.

**Outlook and valuations: Suffering from leverage; maintain 'REDUCE'**

In this report, we have introduced consolidated numbers of Hindalco by including estimates of Novelis and Aditya Birla Mineral (ABML). Besides aluminium, we are revising copper price estimates from USD 6,900/tonne and USD 5,925/tonne to USD 6,530/tonne and USD 6,225/tonne for FY09 and FY10, respectively.

We have taken EV/EBITDA multiples of FY09E and FY10E for individual businesses (Indian operations- aluminium, copper and Novelis) to arrive at fair value per share for Hindalco. We have given 25% and 75% weightage to FY09E and FY10E fair value, respectively. Based on this, we arrive at a weighted share value of INR 78/share. At CMP of INR 70, the upside over our fair value is too marginal for us to change our 'REDUCE' recommendation and we maintain the same.

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Reuters : HALC.BO  
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**Market Data**

52-week range (INR) : 202 / 68  
Share in issue (mn) : 1,753.0  
M cap (INR bn/USD mn) : 122.3 / 1,751.8  
Avg. Daily Vol. BSE ('000) : 4,729.5

**Share Holding Pattern (%)**

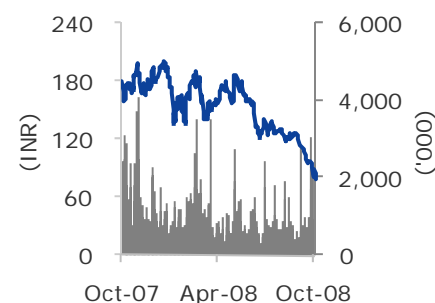
Promoters : 31.4  
MFs, FIs & Banks : 15.9  
FIIs : 12.3  
Others : 40.4

**Relative Performance (%)**

	Sensex	Stock	Stock over Sensex
1 month	(20.2)	(30.1)	(9.9)
3 months	(19.3)	(36.2)	(16.9)
12 months	(43.5)	(55.7)	(12.2)

**Financials (consolidated)**

Year to March	FY07	FY08	FY09E	FY10E
Revenues (INR mn)	193,161	600,128	676,053	631,541
Rev. growth (%)	59.4	210.7	12.7	(6.6)
EBITDA (INR mn)	44,306	66,351	73,978	63,274
Net profit (INR mn)	26,857	23,873	23,917	19,411
Shares outstanding (mn)	1,043	1,226	1,753	1,753
Diluted EPS (INR)	25.7	19.5	13.6	11.1
EPS growth (%)	51.2	(24.4)	(29.9)	(18.8)
Diluted P/E (x)	2.7	3.6	5.1	6.3
EV/EBITDA (x)	1.7	4.1	3.4	3.8
ROAE (%)	24.3	15.8	11.5	7.7





### Novelis: A world leader in rolled aluminium products

Novelis is the world leader in the aluminum rolled products category with 19% global share and a capacity of about 3.4 mtpa. Novelis is a dominant player in beverage can, auto, and foils categories. The company primarily procures aluminium metal externally and rolls it into a variety of products for the beverage, construction/industrial, foil/packaging and transportation industries.

It contributes ~70% to Hindalco's consolidated revenues and ~11% to the bottom line.

**Table 1: Novelis—Key assumptions**

	FY08	FY09E	FY10E
<b>Operational numbers</b>			
Total shipments (ktpa)	3,150	3,220	3,278
Realisation (USD/tonne)	3,570	3,445	3,126
<b>Financial numbers</b>			
Revenue (USD mn)	11,246	11,093	10,249
EBITDA (USD mn)	533	677	637
Net profit (USD mn)	(69)	48	17
EBITDA margin (%)	4.7	6.1	6.2

Source: Edelweiss research

### Incorporating consolidated estimates

**Table 2: Estimating FY10 EPS at INR 11.1**

Assumptions	FY09E		FY10E	
	New	Old	New	Old
Aluminium LME (USD/tonne)	2,609	2,700	2,375	2,570
Copper LME (USD/tonne)	6,530	6,900	6,225	5,925
<b>Financials</b>				
Revenues (INR mn)	676,053	210,546	631,541	189,354
EBITDA (INR mn)	73,978	34,122	63,274	27,785
PAT (INR mn)	23,917	22,335	19,411	17,194
EPS (INR)	13.6	17.1	11.1	13.2

Source: Edelweiss research

Please note new estimates are consolidated while old numbers were standalone

### Estimated fair value at INR 78/share

We have taken EV/EBITDA multiples for FY09 and FY10 for its individual businesses to arrive at a fair value for Hindalco. Since FY09 is already halfway through and market is likely to factor in FY10 numbers to a greater extent we have ascribed 25% weightage to FY09 fair value and 75% weightage to FY10 fair value. Based on this we get a weighted fair value of INR 78/share. We have considered the debt and equity shares on a post rights issue basis.

**Table 3: EV/EBITDA valuation**

	FY09E	FY10E
<b>Hindalco Copper</b>		
Applicable multiple (x)	3.0	2.5
EBITDA (USD mn)	160	126
Enterprise value (USD mn)	481	315
<b>Hindalco Aluminium (India)</b>		
Applicable multiple (x)	6.0	5.0
EBITDA (USD mn)	861	702
Enterprise value (USD mn)	5,164	3,512
<b>Novelis</b>		
Applicable multiple (x)	5.0	4.2
EBITDA (USD mn)	677	637
Enterprise value (USD mn)	3,384	2,652
Total Enterprise value (USD mn)	9,029	6,479
Add: Cash + Investments (USD mn)	2,613	2,613
Less: Debt (USD mn)	6,596	6,596
Market cap (USD mn)	5,046	2,496
Market cap (INR mn)	219,855	108,753
No. of shares (mn)	1,752	1,752
<b>Fair value per share (INR)</b>	<b>125</b>	<b>62</b>
Valuation weightage (%)	25	75
<b>Weighted fair value (INR)</b>	<b>78</b>	
<b>Current market share (INR)</b>	<b>70</b>	
Upside (%)	12	

Source: Edelweiss research

### Company Description

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Hindalco is one of the largest aluminium producers in India with 445,000 tonnes of upstream aluminium facility and backward linkage in alumina (1.16 mtpa) and bauxite (reserves of 65 mn tonnes). It also operates India's largest copper smelter with a capacity of 500,000 tonnes at Dahej with a captive power plant, jetty, and ~20-25% backward linkage in copper concentrate through Aditya Birla Mineral (a 51% subsidiary). In February 2007, Hindalco acquired Novelis, a 3.4 mtpa aluminium rolled products producer, for USD 6.1 bn. Novelis has 33 operating plants and three research facilities in 11 countries across four continents.

The company is in expansion mode and plans to increase its alumina capacity five-folds, to 5.2 mtpa (from 1.14 mtpa currently), and aluminium capacity to 2.5 mtpa, with total capital outlay of INR 315 bn in the next five-six years. The initial phases of these projects will come on stream only after FY10.

### Key Risks

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Demand could deteriorate much more than anticipated as fallout of the ongoing financial turmoil.

Cost of re-financing the USD 3.03 bn bridge loan could be expensive in such a weak financial market.

Major losses on derivatives instruments in Novelis may lead to value erosion.

## Financial Statements

<b>Income statement</b>		<b>(INR mn)</b>				
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>	
Net revenue	121,197	193,161	600,128	676,053	631,541	
Accretion to stock	(10,112)	(4,501)	(1,457)	-	-	
Raw material costs	67,972	113,814	404,430	562,443	527,764	
Purchase of goods	212	234	358	358	358	
Employee expenses	5,028	5,716	43,415	6,709	7,246	
Power and freight	18,050	18,585	31,167	18,621	18,877	
SGA and other expenses	11,598	15,008	55,866	13,945	14,022	
Total operating expenses	92,748	148,855	533,778	602,076	568,267	
EBITDA	28,449	44,306	66,351	73,978	63,274	
Depreciation and amortisation	7,959	8,646	24,565	27,688	27,674	
EBIT	20,490	35,660	41,785	46,290	35,600	
Interest expenses	3,014	3,135	18,491	17,387	15,774	
Other income	2,805	4,091	6,560	5,794	7,082	
VRS & other expenses	23	-	-	-	-	
Profit before tax	20,304	36,616	29,855	34,697	26,908	
Provision for tax	4,402	9,586	3,617	10,216	7,264	
Core profit	15,902	27,030	26,238	24,481	19,644	
Profit after tax	15,902	27,030	26,238	24,481	19,644	
Minority interest	106	161	2,206	405	75	
Share of profit of associates	-	(12)	(159)	(159)	(159)	
Profit after minority interest	15,796	26,857	23,873	23,917	19,411	
Basic shares outstanding (mn)	928	1,043	1,226	1,753	1,753	
Diluted shares (mn)	928	1,043	1,226	1,753	1,753	
Basic EPS	17.0	25.7	19.5	13.6	11.1	
Diluted EPS	17.0	25.7	19.5	13.6	11.1	
Dividend per share (INR)	2.3	1.7	1.9	1.8	1.8	
Dividend payout (%)	15.7	7.6	11.2	15.9	19.5	

### Common size metrics- as % of net revenues

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Operating expenses	76.5	77.1	88.9	89.1	90.0
Depreciation	6.6	4.5	4.1	4.1	4.4
Interest expenditure	2.5	1.6	3.1	2.6	2.5
EBITDA margins	23.5	22.9	11.1	10.9	10.0
Net profit margins	13.1	14.0	4.4	3.6	3.1

### Growth metrics (%)

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Revenues	19.9	59.4	210.7	12.7	(6.6)
EBITDA	17.0	55.7	49.8	11.5	(14.5)
PBT	9.2	80.3	(18.5)	16.2	(22.4)
Net profit	21.5	70.0	(2.9)	(6.7)	(19.8)
EPS	21.7	51.2	(24.4)	(29.9)	(18.8)

<b>Balance sheet</b>		<b>(INR mn)</b>				
<b>As on 31st March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>	
Equity capital- Voting shares	986	1,043	1,226	1,753	1,753	
Share warrants	0	0	1,391	0	0	
Preference shares	488	0	0	0	0	
Reserves & surplus	92,383	127,137	170,853	240,956	256,574	
Shareholders funds	93,857	128,180	173,471	242,709	258,327	
Secured loans	31,178	72,589	109,030	192,230	196,230	
Unsecured loans	31,612	11,840	214,494	87,128	87,628	
Minority interest	1,295	8,567	16,166	16,570	16,645	
Deferred tax liability	12,281	11,716	49,514	50,961	52,093	
<b>Sources of funds</b>	<b>170,224</b>	<b>232,892</b>	<b>562,674</b>	<b>589,599</b>	<b>610,923</b>	
Gross block	134,433	142,709	430,199	446,954	464,128	
Depreciation	44,958	48,449	72,055	99,743	127,417	
Impairment	1,044	1,896	1,678	0	0	
Net block	88,431	92,363	356,466	347,211	336,710	
CWIP	10,403	19,169	24,571	44,571	64,571	
Total fixed assets	98,834	111,533	381,037	391,782	401,281	
Investments	31,632	78,741	138,922	145,274	165,236	
Loans and advances	7,881	11,512	18,587	18,587	18,587	
Inventories	44,975	48,123	111,109	125,165	116,924	
Sundry debtors	13,057	15,485	67,174	75,672	70,690	
Cash and equivalents	10,423	10,345	17,169	19,341	18,067	
Other current assets	2,445	1,220	704	654	687	
Total current assets	78,781	86,685	214,742	239,420	224,956	
Sundry creditors and others	28,861	30,534	111,086	124,436	116,610	
Provisions	10,250	13,576	60,950	62,450	63,950	
Total CL & provisions	39,111	44,110	172,037	186,887	180,560	
Net current assets	39,671	42,575	42,706	52,533	44,396	
Miscellaneous expenditure	87	42	10	10	10	
<b>Uses of funds</b>	<b>170,224</b>	<b>232,892</b>	<b>562,674</b>	<b>589,599</b>	<b>610,923</b>	
Book value per share (BV) (INR)	101	123	141	138	147	

<b>Free cash flow metrics</b>		<b>(INR mn)</b>				
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>	
Net profit	15,796	26,857	23,873	23,917	19,411	
Depreciation	7,959	8,646	24,565	27,688	27,674	
Deferred tax	980	(478)	(738)			
Others	(3,466)	1,448	(19,775)	(1,678)	0	
Gross cash flow	21,269	36,472	27,926	49,927	47,085	
Less: Changes in W. C.	12,156	5,347	(7,582)	7,656	(6,864)	
Operating cash flow	9,113	31,125	35,508	42,272	53,949	
Less: Capex	(27,287)	(28,809)	(27,857)	(36,755)	(37,174)	
<b>Free cash flow</b>	<b>36,400</b>	<b>59,934</b>	<b>63,366</b>	<b>79,026</b>	<b>91,123</b>	

<b>Cash flow statement</b>		<b>(INR mn)</b>				
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	
Operating cash flow	9,113	31,125	35,508	42,272	53,949	
Financing cash flow	15,967	32,166	147,636	3,007	1,914	
Investing cash flow	(19,435)	(63,940)	(180,724)	(43,106)	(57,137)	
Net cash flow	5,645	(650)	2,421	2,172	(1,273)	
Capex	27,287	28,809	27,857	36,755	37,174	
Dividends paid	(2,127)	(4,524)	(101)	(3,792)	(3,792)	
Share issuance/(buyback)	5,513	18,040	25,242	(865)	-	

**Ratios**

Year to March	FY06	FY07	FY08	FY09E	FY10E
ROAE (%)	18.7	24.3	15.8	11.5	7.7
ROACE (%)	16.6	24.4	14.5	10.7	8.0
Inventory (days)	226.1	155.1	72.0	76.6	83.7
Debtors (days)	32.3	27.0	25.1	38.6	42.3
Payable (days)	149.8	99.0	64.1	76.4	83.3
Cash conversion cycle (days)	108.6	83.1	33.1	38.8	42.7
Debt/EBITDA	2.2	1.9	4.9	3.8	4.5
Current ratio	2.0	2.0	1.2	1.3	1.2
Debt/ Equity	0.7	0.7	1.9	1.2	1.1
Adjusted debt/Equity	0.7	0.7	1.9	1.2	1.1

**Turnover**

Year to March	FY06	FY07	FY08	FY09E	FY10E
Fixed assets turnover (x)	1.5	2.1	2.7	1.9	1.8
Total asset turnover (x)	0.8	1.0	1.5	1.2	1.1
Equity turnover (x)	1.4	1.7	4.0	3.2	2.5

**Du pont analysis****(INR mn)**

Year to March	FY06	FY07	FY08	FY09E	FY10E
NP margin (%)	13.0	13.9	4.0	3.54	3.07
Total assets turnover	0.8	1.0	1.5	1.17	1.05
Leverage multiplier	1.8	1.8	2.6	2.77	2.40
ROAE (%)	18.7	24.3	15.8	11.49	7.75

**Valuation parameters**

Year to March	FY06	FY07	FY08	FY09E	FY10E
Diluted EPS (INR)	17.0	25.7	19.5	13.6	11.1
Y-o-Y growth (%)	21.7	51.2	(24.4)	(29.9)	(18.8)
CEPS (INR)	26.7	33.6	38.9	29.4	26.9
Diluted P/E (x)	4.1	2.7	3.6	5.1	6.3
Price/BV(x)	0.7	0.6	0.5	0.5	0.5
Market cap/Sales (x)	0.5	0.4	0.1	0.2	0.2
EV/Sales (x)	0.7	0.4	0.4	0.4	0.4
EV/EBITDA (x)	3.1	1.7	4.1	3.4	3.8
Dividend yield (%)	3.4	2.5	2.7	2.7	2.7

**HINDUSTAN ZINC****INR 298****Volumes to support falling prices****BUY**

October 16, 2008

**One of largest integrated players in world**

Hindustan Zinc (HZL) is an integrated zinc-lead player in the world. It has access to high quality mines with significant reserves, making it the lowest cost producer in the world.

**Aggressively ramping up production**

In a weak pricing environment, the management is focusing on increasing its production capacity to maintain margins. Apart from increasing the Chanderiya zinc smelter capacity by 170 ktpa in December 2007, the company has completed its 88 ktpa zinc de-bottlenecking project at Chanderiya and Debari in May 2008. As a result, zinc production is expected to increase sharply to ~600 ktpa in FY09E from 426 ktpa in FY08. Also, sales of its by-products silver and sulphuric acid are likely to rise significantly this year compared to FY08.

**Outlook and valuations: Volumes to negate falling prices; maintain 'BUY'**

We are reducing our zinc price estimate for FY09 from USD 2,150/tonne to USD 1,700/tonne and for FY10 from USD 2,000/tonne to USD 1,550/tonne due to weakening zinc demand and strong supply, resulting in higher-than-anticipated zinc surplus. Also, we are revising down our price estimates for lead to USD 1,950/tonne and USD 1,800/tonne from USD 2,200/tonne and USD 2,040/tonne for FY09 and FY10, respectively.

We have valued HZL based on EV/EBITDA of 6.0x for FY09E and 5.0x for FY10E and have given 25% and 75% weightage to FY09 and FY10 fair value. Thus, we get a fair value of INR 618 per share. We maintain our **'BUY'** recommendation on the stock.

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 Bloomberg : HZ IN

**Market Data**

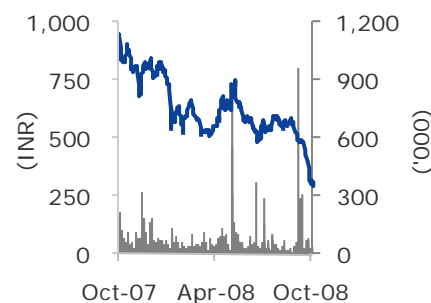
52-week range (INR) : 969 / 264  
 Share in issue (mn) : 422.5  
 M cap (INR bn/USD mn) : 125.8 / 2,574.0  
 Avg. Daily Vol. BSE ('000) : 153.4

**Share Holding Pattern (%)**

Promoters : 64.9  
 MFs, FIs & Banks : 30.9  
 FIIs : 2.2  
 Others : 2.0

**Relative Performance (%)**

	Sensex	Stock	Stock over Sensex
1 month	(20.2)	(40.5)	(20.2)
3 months	(19.3)	(44.4)	(25.1)
12 months	(43.5)	(69.1)	(25.7)

**Financials**

Year to March	FY07	FY08	FY09E	FY10E
Revenues (INR mn)	85,602	78,778	62,049	61,744
Rev. growth (%)	120.0	(8.0)	(21.2)	(0.5)
EBITDA (INR mn)	64,069	53,784	35,470	34,887
Net profit (INR mn)	44,418	43,961	30,395	29,928
Shares outstanding (mn)	423	423	423	423
Diluted EPS (INR)	105.1	104.0	71.9	70.8
EPS growth (%)	201.7	(1.0)	(30.9)	(1.5)
Diluted P/E (x)	2.8	2.9	4.1	4.2
EV/EBITDA (x)	1.3	0.9	0.7	0.3
ROAE (%)	80.3	45.1	22.9	18.7

**Table 1: Revising FY10E EPS downwards by 20%**

Assumptions	FY09E			FY10E		
	New	Old	% change	New	Old	% change
Zinc LME price (USD/tonne)	1,700	2,150	(20.9)	1,550	2,000	(22.5)
Lead LME price(USD/tonne)	1,950	2,200	(11.4)	1,800	2,040	(11.8)
<b>Financials</b>						
Revenues (INR mn)	62,049	76,022	(18.4)	61,744	72,399	(14.7)
EBITDA (INR mn)	35,470	49,516	(28.4)	34,887	44,740	(22.0)
PAT (INR mn)	30,395	41,102	(26.1)	29,928	37,622	(20.5)
EPS (INR)	71.9	97.3	(26.1)	70.8	89.0	(20.4)

Source: Edelweiss research

**Estimated fair value at INR 618/share**

We have taken EV/EBITDA multiples for FY09 and FY10 to arrive at a fair value for Hindustan Zinc. Since first half of FY09 is already over and market is likely to factor in FY10 numbers now we have ascribed 25% weightage to FY09 fair value and 75% weightage to FY10 fair value. Subsequently, we get a weighted fair value of INR 618/share.

**Table 2: EV/EBITDA valuation**

	FY09E	FY10E
Applicable multiple (x)	6.0	5.0
EBITDA (USD mn)	814	801
Enterprise value (USD mn)	4,885	4,004
Add: Cash + Investments (USD mn)	1,766	1,766
Less: Debt (USD mn)	0	0
Market cap (USD mn)	6,651	5,770
Market cap (INR mn)	289,767	251,383
No. of shares (mn)	423	423
<b>Fair value per share (INR)</b>	<b>686</b>	<b>595</b>
Valuation weightage (%)	25	75
<b>Weighted fair value (INR)</b>	<b>618</b>	
<b>Current market share (INR)</b>	<b>298</b>	
Upside (%)	107.5	

Source: Edelweiss research



### Company Description

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HZL is a part of the Sterlite Group and the only integrated zinc manufacturer in India, with zinc smelting capacity of 0.6 mtpa and lead smelting capacity of 85 ktpa. The company is the third-largest integrated zinc and lead producer in the world. It accounted for ~71% of zinc consumption in India in FY08. HZL's vision is to become the largest zinc producer in the world, with 1 mtpa capacity in the next few years. The company's fully-integrated zinc operations include three lead-zinc mines, two zinc smelters, a lead smelter, and one lead-zinc smelter in Rajasthan and one zinc smelter in Andhra Pradesh. All the company's concentrate requirements are met by its mines. The total proven and probable reserves of the mines as on March 31, 2008, were 232.3 mt, containing 27.5 mt of zinc lead metal.

### Key Risks

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HZL's share price is sensitive to LME zinc prices. Lower-than-estimated LME prices will adversely impact the company's earnings in the event of a demand slowdown or oversupply.

Delay in completion of expansion projects will adversely impact its earnings.

Any significant INR appreciation will also reduce earnings.

## Financial Statements

<b>Income statement</b>					<b>(INR mn)</b>
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Net revenue	38,903	85,602	78,778	62,049	61,744
Mining royalty	2,745	6,438	5,111	3,787	3,164
Accretion to stock	(435)	(569)	591	-	-
Raw material costs	9,895	10,405	12,932	15,830	16,481
Employee expenses	2,056	2,598	3,082	3,390	3,593
SGA and other expenses	1,648	2,661	3,278	3,572	3,619
Total operating expenses	15,908	21,533	24,994	26,579	26,858
EBITDA	22,994	64,069	53,784	35,470	34,887
Depreciation and amortisation	1,383	1,561	2,205	2,365	2,490
EBIT	21,612	62,508	51,579	33,105	32,397
Interest expenses	474	284	242	240	220
Other income	1,158	2,313	8,516	7,287	7,727
Profit before tax	22,296	64,537	59,853	40,152	39,904
Provision for tax	7,571	20,119	15,893	9,757	9,976
Core Profit	14,725	44,418	43,961	30,395	29,928
Profit after tax	14,725	44,418	43,961	30,395	29,928
Profit after minority interest	14,725	44,418	43,961	30,395	29,928
Basic shares outstanding (mn)	423	423	423	423	423
Basic EPS	34.8	105.1	104.0	71.9	70.8
Diluted shares (mn)	423	423	423	423	423
Diluted EPS	34.8	105.1	104.0	71.9	70.8
Dividend per share (INR)	2.5	5.0	5.0	5.0	5.0
Dividend payout (%)	8.2	5.5	5.6	8.1	8.3

### Common size metrics- as % of net revenues

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Operating expenses	40.9	25.2	31.7	42.8	43.5
Depreciation	3.6	1.8	2.8	3.8	4.0
Interest expenditure	1.2	0.3	0.3	0.4	0.4
EBITDA margins	59.1	74.8	68.3	57.2	56.5
Net profit margins	37.9	51.9	55.8	49.0	48.5

### Growth metrics (%)

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Revenues	76.7	120.0	(8.0)	(21.2)	(0.5)
EBITDA	161.3	178.6	(16.1)	(34.1)	(1.6)
PBT	140.5	189.5	(7.3)	(32.9)	(0.6)
Net profit	124.7	201.7	(1.0)	(30.9)	(1.5)
EPS	124.7	201.7	(1.0)	(30.9)	(1.5)

**Balance sheet****(INR mn)**

<b>As on 31st March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Equity capital- Voting shares	4,225	4,225	4,225	4,225	4,225
Reserves & surplus	30,073	72,045	114,257	142,180	169,636
Shareholders funds	34,298	76,271	118,482	146,405	173,861
Unsecured loans	5,580	4	4	4	4
Deferred tax liability	2,414	3,006	4,597	5,637	6,677
<b>Sources of funds</b>	<b>42,292</b>	<b>79,281</b>	<b>123,083</b>	<b>152,046</b>	<b>180,542</b>
Gross block	29,900	34,998	51,818	54,238	55,323
Depreciation	11,297	12,642	14,846	17,211	19,701
Net block	18,603	22,356	36,972	37,027	35,622
CWIP	578	6,350	4,655	11,300	25,200
Total fixed assets	19,181	28,706	41,626	48,327	60,822
Investments	16,049	44,033	63,325	88,970	104,264
Loans and advances	1,622	3,047	3,841	4,609	5,300
Inventories	3,831	4,993	5,181	6,342	6,603
Sundry debtors	6,899	5,566	4,437	3,494	3,477
Cash and equivalents	740	1,197	13,628	10,734	10,681
Other current assets	2	7	30	33	36
Total current assets	13,094	14,810	27,116	25,212	26,098
Sundry creditors and others	4,158	6,418	7,749	7,491	7,670
Provisions	1,874	1,850	1,236	2,972	2,972
Total CL & provisions	6,032	8,268	8,984	10,463	10,642
Net current assets	7,062	6,542	18,132	14,749	15,456
<b>Uses of funds</b>	<b>42,292</b>	<b>79,281</b>	<b>123,083</b>	<b>152,046</b>	<b>180,542</b>
Book value per share (BV) (INR)	81	181	280	346	411

**Free cash flow metrics****(INR mn)**

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Net profit	14,725	44,418	43,961	30,395	29,928
Depreciation	1,383	1,561	2,205	2,365	2,490
Deferred tax	1,333	595	1,220	1,040	1,040
Others	1,200	234	(797)	(0)	-
Gross cash flow	18,640	46,808	46,589	33,800	33,458
Less: Changes in W. C.	(5,988)	(762)	841	489	(760)
Operating cash flow	12,652	46,046	47,430	34,288	32,698
Less: Capex	(2,176)	(11,144)	(15,125)	(9,065)	(14,985)
<b>Free cash flow</b>	<b>10,476</b>	<b>34,902</b>	<b>32,304</b>	<b>25,223</b>	<b>17,713</b>

**Cash flow statement****(INR mn)**

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Operating cash flow	12,652	46,046	47,430	34,288	32,698
Financing cash flow	(1,453)	(8,290)	(2,472)	(2,472)	(2,472)
Investing cash flow	(10,680)	(37,299)	(34,417)	(34,711)	(30,279)
Net cash flow	519	457	10,541	(2,894)	(53)
Capex	(2,176)	(11,144)	(15,125)	(9,065)	(14,985)
Dividends paid	(842)	(2,405)	(2,472)	(2,472)	(2,472)

**Ratios**

Year to March	FY06	FY07	FY08	FY09E	FY10E
ROAE (%)	53.5	80.3	45.1	22.9	18.7
ROACE (%)	92.1	203.3	108.6	53.9	46.5
Inventory (days)	138	164	137	133	143
Debtors (days)	45	27	23	23	21
Payable (days)	163	196	191	176	168
Cash conversion cycle (days)	20.3	(5.9)	(30.7)	(19.5)	(3.9)
Debt/EBITDA	0.2	0.0	0.0	0.0	0.0
Current ratio	2.2	1.8	3.0	2.4	2.5
Debt/ Equity	0.2	0.0	0.0	0.0	0.0
Adjusted debt/Equity	0.2	0.0	0.0	0.0	0.0

**Turnover**

Year to March	FY06	FY07	FY08	FY09E	FY10E
Fixed assets t/o (x)	2.4	4.2	2.7	1.7	1.7
Total asset turnover (x)	1.1	1.4	0.8	0.5	0.4
Equity turnover (x)	1.4	1.5	0.8	0.5	0.4

**Du pont analysis**

(INR mn)

Year to March	FY06	FY07	FY08	FY09E	FY10E
NP margin (%)	37.9	51.9	55.8	49.0	48.5
Total assets turnover	1.1	1.4	0.8	0.5	0.4
Leverage multiplier	1.3	1.1	1.0	1.0	1.0
ROAE (%)	53.5	80.3	45.1	22.9	18.7

**Valuation parameters**

Year to March	FY06	FY07	FY08	FY09E	FY10E
Diluted EPS (INR)	34.8	105.1	104.0	71.9	70.8
Y-o-Y growth (%)	124.7	201.7	(1.0)	(30.9)	(1.5)
CEPS (INR)	41.3	110.2	112.1	80.0	79.2
Diluted P/E (x)	8.5	2.8	2.9	4.1	4.2
Price/BV(x)	3.7	1.6	1.1	0.9	0.7
Market cap/Sales (x)	3.2	1.5	1.6	2.0	2.0
EV/Sales (x)	2.9	0.9	0.6	0.4	0.2
EV/EBITDA (x)	5.0	1.3	0.9	0.7	0.3
Dividend yield (%)	0.8	1.7	1.7	1.7	1.7

**NATIONAL ALUMINIUM COMPANY****INR 285****Expensive valuations****SELL**

October 16, 2008

**A pure-play integrated aluminium producer**

National Aluminium Company (Nalco) is a pure-play aluminium company with alumina and aluminium capacity of 1.6 mtpa and 345 ktpa, respectively. It has access to good quality and cheap bauxite through its captive mines as well as captive power with coal linkages, making it a low cost producer of alumina and aluminium.

**Large scale expansion planned**

The company's expansion project (with backward integration facilities), aimed at increasing its smelting capacity to 0.46 mtpa from 0.345 mtpa, is on schedule to coming on stream (in phases) December 2008 onwards. In the next phase (Phase III), Nalco plans to enhance capacity of its bauxite mines to 6.83 mtpa and of alumina to 2.28 mtpa, at an investment of INR 4.09 bn. This capacity expansion is likely to be fully operational in 36-40 months.

Further, the company has signed a MoU with the Government of Indonesia to set up a 0.5 MT aluminium smelter and a 1,250 MW captive power plant, at an investment of ~USD 3.4 bn. Phase I of this project comprises a 0.25 mtpa smelter and 750 MW power plant.

**Outlook and valuations: Trading at expensive levels; maintain 'SELL'**

We have taken EV/EBITDA multiple at 6.0x and 5.0x for FY09E and FY10E, respectively, to arrive at fair value per share for Nalco. We have given 25% and 75% weightage to FY09 and FY10 fair value, respectively. Based on this, we arrive at a weighted price of INR 275/share. At CMP of INR 285, we continue to believe the stock is fairly expensive and therefore, maintain our 'SELL' recommendation.

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**Market Data**

52-week range (INR) : 565 / 272  
Share in issue (mn) : 644.3  
M cap (INR bn/USD mn) : 183.6 / 3,756.9  
Avg. Daily Vol. BSE ('000) : 502.5

**Share Holding Pattern (%)**

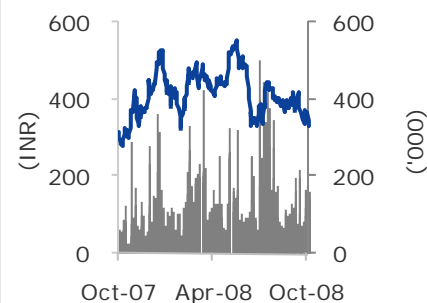
Promoters : 87.1  
MFs, FIs & Banks : 5.2  
FIIs : 4.1  
Others : 3.6

**Relative Performance (%)**

	Sensex	Stock	Stock over Sensex
1 month	(20.2)	(20.5)	(0.3)
3 months	(19.3)	(6.1)	13.2
12 months	(43.5)	5.0	48.4

**Financials**

Year to March	FY07	FY08	FY09E	FY10E
Revenues (INR mn)	60,308	51,026	58,611	62,766
Rev. growth (%)	22.0	(15.4)	14.9	7.1
EBITDA (INR mn)	36,325	23,336	27,085	26,777
Net profit (INR mn)	23,814	16,315	19,236	18,988
Shares outstanding (mn)	644	644	644	644
Diluted EPS (INR)	37.0	25.3	29.9	29.5
EPS growth (%)	55.9	(31.5)	17.9	(1.3)
Diluted P/E (x)	7.7	11.3	9.5	9.7
EV/EBITDA (x)	4.0	6.3	5.2	5.1
ROAE (%)	35.1	19.7	20.0	17.2



### Revising FY10E EPS downwards by 4%

While the declining LME price in FY10E is adversely affecting earnings, the depreciation in INR against the USD has a positive impact. However, the net impact is still negative for FY10E earnings.

**Table 1: Revising FY10E EPS downwards by 4%**

Assumptions	FY09E			FY10E		
	New	Old	%change	New	Old	%change
Aluminium LME (USD/tonne)	2,609	2,700	(3.4)	2,375	2,570	(7.6)
USD/INR exchange rate	43.6	39.3	10.9	42.7	38.1	12.0
<b>Financials</b>						
Revenues (INR mn)	58,611	55,853	4.9	62,766	66,039	(5.0)
EBITDA (INR mn)	27,085	26,586	1.9	26,777	30,756	(12.9)
PAT (INR mn)	19,236	16,851	14.2	18,988	19,753	(3.9)
EPS (INR)	29.9	26.2	13.9	29.5	30.7	(4.0)

Source: Edelweiss research

### Fair value estimated at INR 275/share

**Table 2: EV/EBITDA valuation**

	FY09E	FY10E
Applicable multiple (x)	6.0	5.0
EBITDA (USD mn)	622	615
Enterprise value (USD mn)	3,730	3,073
Add: Cash+Investment (USD mn)	833	833
Less: Debt (USD mn)	0	0
Market cap (USD mn)	4,563	3,906
Market cap (INR mn)	198,824	170,201
No .of shares (mn)	644	644
<b>Fair value per share (INR)</b>	<b>309</b>	<b>264</b>
Valuation weightage (%)	25.0	75.0
<b>Weightage fair value (INR)</b>	<b>275</b>	
<b>Current market price (INR)</b>	<b>285</b>	
Upside (%)	(3.4)	

Source: Edelweiss research

We have taken EV/EBITDA multiples for FY09 and FY10 to arrive at a fair value for Nalco. Since FY09 is already halfway through and market is likely to factor in FY10 numbers to a greater extent we have ascribed 25% weightage to FY09 fair value and 75% weightage to FY10 fair value. Subsequently, we get a weighted fair value of INR 275/share.

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**Company Description**

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Nalco, an 87% government-owned company, is one of leading producers of alumina and aluminium in India, with alumina refining capacity of 1.6 mtpa and aluminium smelting capacity of 0.345 mtpa. The company is backward integrated with captive bauxite mines and a coal-based power plant of 960 MW. It is amongst the lowest cost producers of alumina and aluminium globally. Nalco plans to enhance capacity of its bauxite mines to 6.83 mtpa and of alumina to 2.28 mtpa. Additionally, it has signed a MoU with the Government of Indonesia to set up a 0.5 mtpa aluminium smelter and 1,250 MW captive power plant.

**Key Risks**

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Demand could deteriorate much more than anticipated as fallout of ongoing financial turmoil.

Inadequate supply of coal could lead to curtailment in production.

## Financial Statements

<b>Income statement</b>						<b>(INR mn)</b>
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>	
Net revenue	49,452	60,308	51,026	58,611	62,766	
Accretion to stock	(539)	(151)	(219)	-	-	
Raw material costs	5,211	5,576	5,744	6,207	7,314	
Employee expenses	3,387	3,929	5,530	6,636	7,631	
Power & freight	9,378	8,510	9,947	11,514	13,394	
SGA & other expenses	5,532	6,119	6,688	7,170	7,650	
Total operating expenses	22,969	23,983	27,690	31,526	35,989	
EBITDA	26,483	36,325	23,336	27,085	26,777	
Depreciation and amortisation	3,772	3,171	2,811	3,031	3,335	
EBIT	22,711	33,154	20,525	24,054	23,442	
Interest expenses	-	-	15	4	-	
Other income	1,289	3,110	4,410	5,031	5,264	
VRS & other expenses	(51)	(60)	(254)	-	-	
Profit before tax	23,949	36,204	24,666	29,081	28,706	
Provision for tax	8,674	12,390	8,351	9,845	9,719	
Core profit	15,274	23,814	16,315	19,236	18,988	
Extraordinary income/(loss)	348	-	-	-	-	
Profit after tax	15,622	23,814	16,315	19,236	18,988	
Profit after minority interest	15,622	23,814	16,315	19,236	18,988	
Basic Shares outstanding (mn)	644	644	644	644	644	
Basic EPS	23.7	37.0	25.3	29.9	29.5	
Diluted Shares (mn)	644	644	644	644	644	
Diluted EPS	23.7	37.0	25.3	29.9	29.5	
Dividend per share (INR)	5.0	7.5	6.0	6.0	6.0	
Dividend payout (%)	23.5	23.3	27.7	23.5	23.8	

### Common size metrics- as % of net revenues

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Operating expenses	46.4	39.8	54.3	53.8	57.3
Depreciation	7.6	5.3	5.5	5.2	5.3
EBITDA margins	53.6	60.2	45.7	46.2	42.7
Net profit margins	30.9	39.5	32.0	32.8	30.3

### Growth metrics (%)

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Revenues	16.0	22.0	(15.4)	14.9	7.1
EBITDA	14.4	37.2	(35.8)	16.1	(1.1)
PBT	28.0	51.2	(31.9)	17.9	(1.3)
Net profit	26.5	52.4	(31.5)	17.9	(1.3)
EPS	23.7	55.9	(31.5)	17.9	(1.3)



<b>Balance sheet</b>		<b>(INR mn)</b>				
<b>As on 31st March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>	
Equity capital- Voting shares	6,443	6,443	6,443	6,443	6,443	
Reserves & surplus	52,484	70,509	82,301	97,014	111,479	
Shareholders funds	58,927	76,952	88,745	103,457	117,922	
Deferred tax liability	6,417	6,127	6,074	6,074	6,074	
<b>Sources of funds</b>	<b>65,344</b>	<b>83,080</b>	<b>94,819</b>	<b>109,531</b>	<b>123,996</b>	
Gross block	89,612	90,341	91,373	105,657	111,141	
Depreciation	50,167	53,232	56,063	59,094	62,429	
Net block	39,445	37,109	35,310	46,563	48,713	
CWIP	2,330	8,416	23,355	17,870	24,886	
Total fixed assets	41,775	45,525	58,664	64,433	73,598	
Investments	-	-	1,150	3,557	2,571	
Loans and advances	3,646	4,064	5,411	6,234	6,677	
Inventories	5,908	6,350	6,867	7,875	9,028	
Sundry debtors	294	341	607	699	748	
Cash and equivalents	21,937	36,865	35,165	40,516	43,389	
Other current assets	1,186	2,120	2,365	2,664	2,853	
Total current assets	32,971	49,741	50,413	57,989	62,694	
Sundry creditors and others	6,073	8,720	13,183	13,883	12,121	
Provisions	3,328	3,466	2,226	2,564	2,746	
Total CL & provisions	9,402	12,186	15,409	16,447	14,867	
Net current assets	23,569	37,555	35,005	41,541	47,827	
<b>Uses of funds</b>	<b>65,344</b>	<b>83,080</b>	<b>94,819</b>	<b>109,531</b>	<b>123,996</b>	
Book value per share (BV) (INR)	91	119	138	161	183	

<b>Free cash flow metrics</b>		<b>(INR mn)</b>				
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>	
Net profit	15,622	23,814	16,315	19,236	18,988	
Add: Non cash charge	3,915	2,870	2,758	3,031	3,335	
Depreciation	3,772	3,171	2,811	3,031	3,335	
Others	142	(301)	(53)	0	(0)	
Gross cash flow	19,537	26,684	19,073	22,266	22,322	
Less: Changes in W. C.	117	541	849	(1,185)	(3,413)	
Operating cash flow	19,654	27,225	19,923	21,081	18,910	
Less: Capex	(2,332)	(6,429)	(15,950)	(8,800)	(12,500)	
<b>Free cash flow</b>	<b>17,323</b>	<b>20,796</b>	<b>3,972</b>	<b>12,281</b>	<b>6,410</b>	

<b>Cash flow statement</b>		<b>(INR mn)</b>				
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>	
Operating cash flow	19,654	27,225	19,923	21,081	18,910	
Financing cash flow	(2,939)	(5,877)	(4,523)	(4,523)	(4,523)	
Investing cash flow	(2,331)	(6,419)	(17,100)	(11,206)	(11,514)	
Net cash flow	14,385	14,928	(1,701)	5,352	2,873	
Capex	2,332	6,429	15,950	8,800	12,500	
Dividends paid	(2,939)	(5,877)	(4,523)	(4,523)	(4,523)	

**Ratios**

Year to March	FY06	FY07	FY08	FY09E	FY10E
ROAE (%)	28.8	35.1	19.7	20.0	17.2
ROACE (%)	38.2	44.7	23.2	24.1	20.6
Inventory (days)	437	412	437	433	422
Debtors (days)	5	2	3	4	4
Payable (days)	478	498	723	796	649
Cash conversion cycle (days)	(36)	(83)	(284)	(358)	(223)
Current ratio	3.5	4.1	3.3	3.5	4.2

**Turnover**

Year to March	FY06	FY07	FY08	FY09E	FY10E
Fixed assets turnover (x)	1.2	1.6	1.4	1.4	1.3
Total asset turnover (x)	0.8	0.8	0.6	0.6	0.5
Equity turnover (x)	0.9	0.9	0.6	0.6	0.6

**Du pont analysis**

(INR mn)

Year to March	FY06	FY07	FY08	FY09E	FY10E
NP margin (%)	30.9	39.5	32.0	32.8	30.3
Total assets turnover	0.8	0.8	0.6	0.6	0.5
Leverage multiplier	1.1	1.1	1.1	1.1	1.1
ROAE (%)	28.8	35.1	19.7	20.0	17.2

**Valuation parameters**

Year to March	FY06	FY07	FY08	FY09E	FY10E
Diluted EPS (INR)	23.7	37.0	25.3	29.9	29.5
Y-o-Y growth (%)	23.7	55.9	(31.5)	17.9	(1.3)
CEPS (INR)	29.6	41.9	29.7	34.6	34.6
Diluted P/E (x)	12.0	7.7	11.3	9.5	9.7
Price/BV(x)	3.1	2.4	2.1	1.8	1.6
Market cap/Sales (x)	3.7	3.0	3.6	3.1	2.9
EV/Sales (x)	3.3	2.4	2.9	2.4	2.2
EV/EBITDA (x)	6.1	4.0	6.3	5.2	5.1
Dividend yield (%)	1.8	2.6	2.1	2.1	2.1

# STERLITE INDUSTRIES

**INR 299**
**Attractive valuations**
**BUY**

October 16, 2008

## India's largest non-ferrous company

Sterlite Industries (Sterlite) has leadership presence across all key base metals such as aluminium, copper, and zinc-lead. Currently, the company has aluminium, copper, and zinc-lead capacities of 595 ktpa, 405 ktpa, and 754 ktpa, respectively. It is looking to aggressively expand its capacity and production levels for all the base metals. Through high volumes, management plans to mitigate any possible decline in commodity prices and also achieve low cost of operations.

## Entry into commercial energy business

Through its 100% subsidiary, Sterlite Energy, the company proposes to set up 9,600 MW merchant power plants. Currently, the company is setting up a 2,400 MW power plant in Jharsuguda. First unit of 600 MW is expected to come on-stream by December 2009, with the balance three units in equal phases every quarter, thereafter. This will de-risk Sterlite's business model, reducing its dependence on the more cyclical core metals business.

## Outlook and valuations: Available at attractive levels; upgrade to 'BUY'

Apart from revising price estimates for aluminium, zinc, and lead (as mentioned in the accompanying report for Hindustan Zinc), we are revising copper price estimates from USD 6,900/tonne and USD 5,925/tonne to USD 6,530/tonne and USD 6,225/tonne for FY09 and FY10, respectively.

To arrive at a fair value for Sterlite, we have taken average of FY09 and FY10 EV/EBITDA multiples for its metal businesses and DCF for its merchant power business. We have allotted 25% and 75% weightage to fair value of FY09 and FY10 respectively and have arrived at a weighted fair value. Based on this, we get a share price of INR 454/share.

This implies 52% upside in the stock and hence, we upgrade our recommendation to 'BUY' from 'ACCUMULATE'. We like Sterlite for its diversified metals portfolio, its world leading position (on cost and size) in zinc and its emerging merchant power business.

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 Bloomberg : STLT IN

### Market Data

52-week range (INR) : 1,140 / 255  
 Share in issue (mn) : 708.5  
 M cap (INR bn/USD mn) : 211.6 / 4,329.8  
 Avg. Daily Vol. BSE ('000) : 2,384.7

### Share Holding Pattern (%)

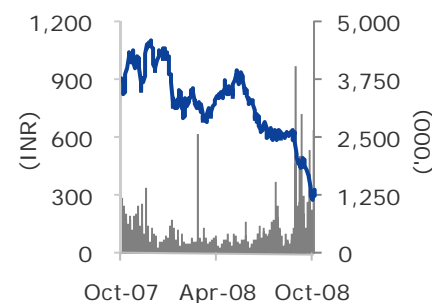
Promoters : 62.5  
 MFs, FIs & Banks : 5.7  
 FIIs : 7.6  
 Others : 24.2

### Relative Performance (%)

	Sensex	Stock	Stock over Sensex
1 month	(20.0)	(38.8)	(18.6)
3 months	(19.3)	(54.7)	(35.4)
12 months	(43.5)	(67.7)	(24.2)

### Financials (consolidated)

Year to March	FY07	FY08	FY09E	FY10E
Revenues (INR mn)	243,868	247,054	235,816	259,590
Rev. growth (%)	85.8	1.3	(4.5)	10.1
EBITDA (INR mn)	94,129	78,276	67,030	82,567
Net profit (INR mn)	44,861	45,019	43,853	57,947
Shares outstanding (mn)	558	708	708	708
Diluted EPS (INR)	80.9	64.0	61.9	81.8
EPS growth (%)	(51.2)	(21.0)	(3.2)	32.1
Diluted P/E (x)	3.7	4.7	4.8	3.7
EV/EBITDA (x)	2.0	1.7	2.9	2.0
ROAE (%)	57.6	27.8	18.0	19.9



**Revising FY10E EPS downwards by 7%**

While the declining LME price in FY10E is adversely affecting earnings, the depreciation in INR against the USD has a positive impact. However, the net impact is still negative for FY10E earnings.

**Table 1: Revising FY10E EPS downwards by 7%**

Assumptions	FY09E			FY10E		
	New	Old	% change	New	Old	% change
Aluminium LME price (USD/tonne)	2,609	2,700	(3.4)	2,375	2,570	(7.6)
Copper LME price (USD/tonne)	6,530	6,900	(5.4)	6,225	5,925	5.1
Zinc LME price (USD/tonne)	1,700	2,150	(20.9)	1,550	2,000	(22.5)
Lead LME price(USD/tonne)	1,950	2,200	(11.4)	1,800	2,040	(11.8)
USD/INR exchange rate	43.6	39.3	10.9	42.7	38.1	12.0
<b>Financials</b>						
Revenues (INR mn)	235,816	249,523	(5.5)	259,590	252,969	2.6
EBITDA (INR mn)	67,030	86,801	(22.8)	82,567	98,242	(16.0)
PAT (INR mn)	43,853	48,990	(10.5)	57,947	62,306	(7.0)
EPS (INR)	61.9	69.1	(10.4)	81.8	87.9	(7.0)

Source: Edelweiss research

**Fair value at INR 454/share**

To arrive at a fair value for Sterlite, we have taken average of FY09 and FY10 EV/EBITDA multiples for its metal businesses and DCF for its merchant power business. We have allotted 25% and 75% weightage to fair value of FY09 and FY10 respectively and have arrived at a weighted fair value. Based on this, we get a share price of INR 454/share.

**Table 2: SOTP valuation**

	FY09E	FY10E
<b>Zinc</b>		
Applicable multiple (x)	6.0	5.0
EBITDA (USD mn)	814	801
Enterprise value of business (USD mn)	4,885	4,004
Add: Cash + Investments (USD mn)	1,766	1,766
Less: Debt (USD mn)	0	0
Equity Valuation of HZL	6,651	5,770
SIL share (USD mn)	4,316	3,745
<b>Copper</b>		
Applicable multiple (x)	3.0	2.5
EBITDA (USD mn)	281	231
Enterprise value of business (USD mn)	843	578
Add: Cash + Investments (USD mn)	1,795	1,795
Less: Debt (USD mn)	748	748
Valuation of Standalone business (USD mn)	1,890	1,625
<b>BALCO</b>		
Applicable multiple (x)	6.0	5.0
EBITDA (USD mn)	371	262
Enterprise value of business (USD mn)	2,224	1,312
Add: Cash + Investments (USD mn)	82	82
Less: Debt (USD mn)	264	264
Valuation of BALCO	2,041	1,129
SIL share (USD mn)	1,041	576
<b>VAL</b>		
Book value (USD mn)	453	453
Book value multiple (x)	2.0	2.0
Equity valuation of business (USD mn)	906	906
SIL share (USD mn)	267	267
<b>Power business</b>		
Equity valuation based on DCF (USD mn)	1,658	1,658
Market cap (USD mn)	9,173	7,872
Market cap (INR mn)	399,670	342,967
No. of shares (mn)	708.5	708.5
<b>Gross value of SIL (INR/share)</b>	564	484
Less : Holding discount @ 10%	56	48
<b>Fair value per share (INR)</b>	<b>508</b>	<b>436</b>
Valuation weightage (%)	25	75
<b>Weighted fair value (INR)</b>	<b>454</b>	
<b>Current market share (INR)</b>	<b>299</b>	
Upside (%)	52	

Source: Edelweiss research

### **Company Description**

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Sterlite is a subsidiary of Vedanta Resources, the London-listed metals and mining group. It is the largest non-ferrous metals player in India with presence across key base metals, viz., aluminium (595,000 tpa), copper (405,000 tpa), and zinc-lead (754,000 tpa). The company entered the non ferrous metals sector as a pure play copper producer and through several strategic acquisitions acquired aluminium as well as zinc-lead assets. It has a dominant presence in zinc and aluminium through majority stakes in HZL and BALCO. Through its 100% subsidiary, Sterlite Energy, Sterlite has ventured into commercial power generation business in India. The company holds 29.5% minority interest in Vedanta Aluminium, a 70.5%-owned subsidiary of parent corporation, Vedanta Resources.

### **Key Risks**

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Demand could deteriorate much more than anticipated as a fallout of the ongoing financial turmoil.

Delay in the commissioning of merchant power plants.

## Financial Statements

<b>Income statement</b>		<b>(INR mn)</b>				
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>	
Net revenue	131,272	243,868	247,054	235,816	259,590	
Accretion to stock	(4,124)	(3,834)	(989)	-	-	
Raw material costs	65,189	108,261	118,681	123,450	127,741	
Purchase of goods	515	142	21			
Employee expenses	4,518	5,495	6,592	7,218	7,425	
SGA and other expenses	30,821	39,677	44,473	38,118	41,856	
Total operating expenses	96,918	149,739	168,778	168,786	177,023	
EBITDA	34,353	94,129	78,276	67,030	82,567	
Depreciation and amortisation	5,269	8,039	5,950	6,418	8,168	
EBIT	29,084	86,090	72,326	60,612	74,399	
Interest expenses	2,353	3,791	3,186	2,970	8,077	
Other income	3,343	6,817	15,661	15,563	17,955	
VRS & other expenses	2,545	460	406	-	-	
Profit before tax	32,619	89,576	85,207	73,205	84,277	
Provision for tax	10,236	24,733	21,935	15,014	14,095	
Core profit	24,129	65,176	63,574	58,192	70,181	
Extraordinary income/(loss)	(33)	(957)	380	-	-	
Profit after tax	22,350	63,887	63,652	58,192	70,181	
Minority interest	5,568	19,024	18,591	16,118	14,682	
Share of profit of associates	(4)	(1)	(42)	1,779	2,447	
Profit after minority interest	16,778	44,861	45,019	43,853	57,947	
Basic Shares outstanding (mn)	112	558	708	708	708	
Basic EPS	165.8	80.9	64.0	61.9	81.8	
Diluted Shares (mn)	112	558	708	708	708	
Diluted EPS	165.8	80.9	64.0	61.9	81.8	
Dividend per share (INR)	1.3	3.4	3.3	3.4	3.4	
Dividend payout (%)	4.7	6.4	8.0	6.5	4.9	

### Common size metrics- as % of net revenues

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Operating expenses	73.8	61.4	68.3	71.6	68.2
Depreciation	4.0	3.3	2.4	2.7	3.1
Interest expenditure	1.8	1.6	1.3	1.3	3.1
EBITDA margins	26.2	38.6	31.7	28.4	31.8
Net profit margins	18.4	26.7	25.7	24.7	27.0

### Growth metrics (%)

<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Revenues	81.0	85.8	1.3	(4.5)	10.1
EBITDA	129.9	174.0	(16.8)	(14.4)	23.2
PBT	132.5	174.6	(4.9)	(14.1)	15.1
Net profit	115.1	170.1	(2.5)	(8.5)	20.6
EPS	165.6	(51.2)	(21.0)	(3.2)	32.1

<b>Balance sheet</b>					
<b>(INR mn)</b>					
<b>As on 31st March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Equity capital- Voting shares	559	1,117	1,417	1,417	1,417
Preference shares	219	0	0	-	-
Reserves & surplus	59,972	98,698	221,607	262,624	317,734
Shareholders funds	60,751	99,817	223,026	264,043	319,154
Secured loans	24,145	15,258	15,342	51,387	41,810
Unsecured loans	27,508	30,845	35,403	26,862	26,862
Minority interest	16,948	36,259	56,233	72,351	87,033
Deferred tax liability	7,511	9,174	13,537	16,049	18,259
<b>Sources of funds</b>	<b>136,863</b>	<b>191,353</b>	<b>343,541</b>	<b>430,691</b>	<b>493,117</b>
Gross block	114,400	126,414	145,637	150,128	236,068
Depreciation	36,513	43,235	45,883	52,301	60,469
Net block	77,887	83,179	99,754	97,827	175,599
CWIP	7,611	13,997	24,613	127,852	68,348
Total fixed assets	85,497	97,176	124,367	225,679	243,947
Investments	24,952	52,219	162,941	142,019	178,049
Loans and advances	16,264	34,837	33,135	29,074	32,005
Inventories	19,507	28,092	33,341	34,681	35,886
Sundry debtors	13,475	16,521	15,623	14,912	16,415
Cash and equivalents	11,153	11,134	24,536	23,420	25,781
Total current assets	60,422	90,594	106,634	102,086	110,087
Sundry creditors and others	18,850	21,399	19,941	20,486	20,976
Provisions	15,263	27,237	30,460	18,607	17,990
Total CL & provisions	34,113	48,636	50,401	39,093	38,966
Net current assets	26,309	41,958	56,233	62,993	71,121
Miscellaneous expenditure	105	0	0	0	0
<b>Uses of funds</b>	<b>136,863</b>	<b>191,353</b>	<b>343,541</b>	<b>430,691</b>	<b>493,117</b>
Book value per share (BV) (INR)	543	179	315	373	450

<b>Free cash flow metrics</b>					
<b>(INR mn)</b>					
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
Net profit	16,778	44,861	45,019	43,853	57,947
Depreciation	5,269	8,039	5,950	6,418	8,168
Deferred tax	2,197	1,675	2,336	2,512	2,210
Others	(10,482)	(16,732)	15,198	3,337	11,225
Gross cash flow	13,763	37,842	68,503	56,120	79,550
Less: Changes in W. C.	(8,339)	(18,647)	2,032	(7,876)	(5,767)
Operating cash flow	22,102	56,490	66,471	63,996	85,317
Less: Capex	(11,783)	(20,871)	(30,119)	(107,729)	(26,436)
<b>Free cash flow</b>	<b>10,319</b>	<b>35,618</b>	<b>36,352</b>	<b>(43,733)</b>	<b>58,881</b>

<b>Cash flow statement</b>					
<b>(INR mn)</b>					
<b>Year to March</b>	<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>
Operating cash flow	22,102	56,490	66,471	63,996	85,317
Financing cash flow	(3,119)	(13,437)	82,551	21,696	(20,490)
Investing cash flow	(16,172)	(43,072)	(131,355)	(86,808)	(62,466)
Net cash flow	2,811	(19)	17,667	(1,116)	2,361
Capex	(11,783)	(20,871)	(30,119)	(107,729)	(26,436)
Dividends paid	(732)	(4,441)	(1,324)	(2,836)	(2,836)
Share issuance/(buyback)	0	0	82,048	-	-



**Ratios**

Year to March	FY06	FY07	FY08	FY09E	FY10E
ROAE (%)	35.9	57.6	27.8	18.0	19.9
ROACE (%)	28.1	68.6	45.2	25.8	24.6
Inventory (days)	89	83	95	100.6	100.8
Debtors (days)	29	22	24	23.6	22.0
Payable (days)	96	70	64	59.8	59.2
Cash conversion cycle (days)	22	35	55	64.4	63.6
Debt/EBITDA	1.5	0.5	0.6	1.2	0.8
Current ratio	1.8	1.9	2.1	2.6	2.8
Debt/ Equity	0.9	0.5	0.2	0.3	0.2
Adjusted debt/Equity	0.9	0.5	0.2	0.3	0.2

**Turnover**

Year to March	FY06	FY07	FY08	FY09E	FY10E
Fixed assets turnover (x)	2.1	3.0	2.7	2.4	1.9
Total asset turnover (x)	1.0	1.5	0.9	0.6	0.6
Equity turnover (x)	2.5	3.0	1.5	1.0	0.9

**Du pont analysis**

Year to March	FY06	FY07	FY08	FY09E	FY10E
NP margin %	14.1	18.9	18.2	18.6	22.3
Total assets turnover	1.0	1.5	0.9	0.6	0.6
Leverage multiplier	2.4	2.0	1.7	1.6	1.6
ROAE %	35.9	57.6	27.8	18.0	19.9

**Valuation parameters**

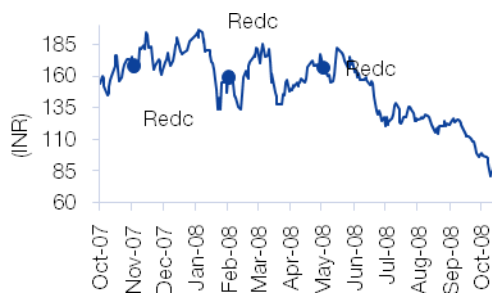
Year to March	FY06	FY07	FY08	FY09E	FY10E
Diluted EPS (INR)	165.8	80.9	64.0	61.9	81.8
Y-o-Y growth (%)	165.6	(51.2)	(21.0)	(3.2)	32.1
CEPS (INR)	232.9	100.0	75.1	74.5	96.4
Diluted P/E (x)	1.8	3.7	4.7	4.8	3.7
Price/BV(x)	0.6	1.7	0.9	0.8	0.7
Market cap/Sales (x)	0.3	0.7	0.9	0.9	0.8
EV/Sales (x)	0.5	0.8	0.5	0.8	0.6
EV/EBITDA (x)	1.9	2.0	1.7	2.9	2.0
Dividend yield (%)	0.4	1.2	1.1	1.2	1.2

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**Coverage group(s) of stocks by primary analyst(s): Metals & Mining:**

Adhunik Metaliks, Bhushan Steel & Strips, Hindalco Industries, Hindustan Zinc, Jindal Stainless, Jindal Steel & Power, JSW Steel, Monnet Ispat and Energy, National Aluminium Company, Sesa Goa, Steel Authority of India, Sterlite Industries (India), Tata Steel, Usha Martin

**Hindalco Industries**



**Hindustan Zinc**



**National Aluminium**



**Sterlite Industries**



### Recent Research

Date	Company	Title	Price (INR)	Recos
19-Sep-08	<b>JSW Steel</b>	ABC		
08-Sep-08	<b>Tata Steel</b>	Estimates up, fair value down; <i>Result Update</i>	569	Buy
05-Sep-08	<b>ABC-Tata Steel</b>	ABC		
04-Aug-08	<b>Usha Martin</b>	Significant margin improvement; <i>Result Update</i>	85	Buy

### Distribution of Ratings / Market Cap

#### Edelweiss Research Coverage Universe

	Buy	Accumulate	Reduce	Sell	Total
Rating Distribution*	94	59	14	8	187

\* 10 stocks under review / 1 rating withheld

	> 50bn	Between 10bn and 50 bn	< 10bn
Market Cap (INR)	75	65	47

### Rating Interpretation

Rating	Expected to
<b>Buy</b>	appreciate more than 20% over a 12-month period
<b>Accumulate</b>	appreciate up to 20% over a 12-month period
<b>Reduce</b>	depreciate up to 10% over a 12-month period
<b>Sell</b>	depreciate more than 10% over a 12-month period

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