

Sterlite Industries India

STLT IN

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India
Materials/Metals & Mining

Initiation
15 December 2008

SO WHAT? THE BNP PARIBAS ANGLE

INDUSTRY OUTLOOK: ↔

- We are more bullish on zinc and bearish on aluminium than consensus.

- We value Sterlite Energy at INR45/share vs. Street at INR21-INR157. We assign value to only one out of five projects.

Net Profit 10.....INR31.4b

Diff from Consensus....8.3%
Consensus (mean)INR29.0b
Consensus (momentum)↓

Target PriceINR348.00

Diff from Consensus(10.8%)
Consensus (median)... INR390.31
Consensus (momentum)↓

Current Price.... INR294.55
Upside/(Downside)..... 18.2%

BUY

Recs in the Market

Positive..... 15
Neutral..... 3
Negative 2
Consensus (momentum)↓

Sources: Thomson One Analytics; Bloomberg; BNP Paribas estimates

- We initiate coverage on Sterlite Industries with a BUY rating and TP of INR348/share; 35% of TP in net cash.
- Expect lower input costs and metal price recovery in 2H09; strong balance sheet to fund USD6.0x capex.
- Valuing at 3.6x EV to adjusted FY10 EBITDA; catalysts: global production cuts, and acquisition of Asarco and HZL.

Smelting metal to cash

Lower input costs and weak INR to aid profit margin

We initiate coverage on Sterlite industries, India's leading producer of copper (Cu), zinc (Zn) and aluminium (Al). Sterlite is ranked in the lowest decile in Cu smelting, and in the lowest quartile in Zn and Al cost of production globally. Its integrated & cost efficient operations will afford positive cash flow from operations. We estimate lower input costs and weak INR will lead to 32% and 28% decline Al and Zn production costs per tonne respectively. We project FY10 EBITDA/tonne of USD470 in Cu and USD830 in Zn, similar to levels seen in 2004, and USD770 in Al.

Expect metal price recovery in 2H09

BNP Paribas projects 2009 Al, Zn and Cu prices at USD1,900, USD1,350, and USD3,500 as compared to current prices USD1460, USD1090, and USD3180 respectively. Current low metal prices are unsustainable given 50% of Al and Zn supply is under loss. We expect ongoing production cuts and expected demand recovery to lead to metal price increases in 2H09. We think Zn will lead Al and Cu in a price rally in 2010 on strengthening demand-supply balance.

Positioning for better times ahead

Sterlite's capex budget of USD6.0b will position it favourably in a metal upcycle. We estimate the company has balance sheet strength with accessible cash of over USD3.0b and cash flows from operations of over \$3.8bn till FY11.

Catalysts: production cuts, acquisitions

We initiate research coverage on Sterlite Industries with a BUY and TP of INR348 based on low-to-mid cycle EV/EBITDA multiple (3.0x for Cu, 3.0x for Al and 4.0x for Zn). Energy business has been valued at INR45/share based on DCF. We expect Sterlite's share price to increase on the back of recovery in metal prices in 2H09 and project 35.9% EPS growth in FY11, which is not discounted by stock's current valuation. Sterlite's valuation is most sensitive to Zn prices. Consequently, acquisition of Government's stake in HZL will be a major event, expected in a 12-month timeframe. Acquisition of Asarco in the near-term at a valuation of USD600 or less will be a positive event.

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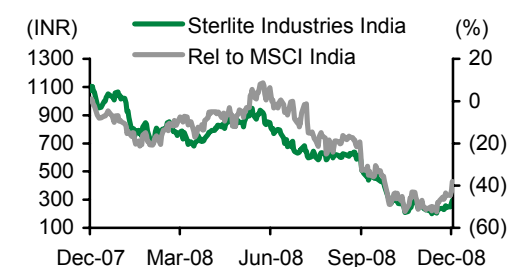
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Earnings Estimates And Valuation Ratios

YE Mar (INR m)	2008	2009E	2010E	2011E
Revenue	247,054	201,242	166,487	204,433
Reported net profit	44,124	38,839	31,407	42,680
Recurring net profit	44,522	38,839	31,407	42,680
Recurring EPS (INR)	62.84	54.82	44.33	60.24
Rec EPS growth (%)	(22.8)	(12.8)	(19.1)	35.9
Recurring P/E (x)	4.7	5.4	6.6	4.9
Dividend yield (%)	0.6	1.6	1.6	1.6
EV/EBITDA (x)	1.8	2.0	2.4	2.2
Price/book (x)	0.9	0.8	0.7	0.6
ROE (%)	27.6	16.1	11.5	13.9
Net debt/equity (%)	(42.2)	(40.8)	(28.4)	(19.7)

Sources: Sterlite Industries India; BNP Paribas estimates

Share Price Daily vs MSCI



Next results/event	January 2009
Market cap (USD m)	4,307
12m avg daily turnover (USD m)	32.1
Free float (%)	39
Major shareholder	Promoter Group (61%)
12m high/low (INR)	1104.55/200.40
ADR (USD)	5.2
Avg daily turnover (USD m)	31.9
Discount/premium (%)	4.7
Disc/premium vs 52-wk avg (%)	(67.4)

Source: Datastream

BNP Paribas research is available on Thomson Reuters, Bloomberg, and on <http://equities.bnpparibas.com>. Please contact your salesperson for authorisation. Please see the important notice on the inside back cover.



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Sterlite's copper operations are ranked in the lowest decile for cost of production while zinc mining and aluminium smelting business feature in the lowest quartile globally. Going forward, we project lower inputs costs including coal, and weak INR will reduce Al and Zn cost of production by 25% and 35% respectively.

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Metal prices have declined 59% from their 2008 peaks on a slowdown in demand and supply increases. We expect 2009 to be a difficult year for metals with weak demand in 1H09. Aluminium has the worst D-S while Zinc will be the first metal to see fundamental strengthen and therefore lead the rally in metal prices in 2010

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Sterlite's capex budget of USD6.0b (at current prices) will position the company favourably in a metal upcycle. We estimate the company has balance sheet strength with accessible cash of over USD3.0b. Power projects will see slow ramp up (excluding 2,400 MW project) due to financing issues, in our view.

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We value the company on low-to-mid cycle EV/EBITDA multiple of 3.6x and have given a 20% discount to HZL's valuation. We expect the stock to trend up over the next 6-9 months on a recovery in metal prices and expectation of an earnings growth in FY11.

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Please see India Research Team list on page 31.

COST LEADERSHIP – FROM MINE TO METAL

Cost leadership helps on tricky ground

Sterlite's copper operations are ranked in the lowest decile for cost of production while zinc mining and aluminium smelting business feature in the lowest quartile globally. Going forward, we project lower inputs costs including coal, and weak INR will reduce Al and Zn cost of production by 32% and 28% respectively. EBITDA per tonne will come off in 2HF09 from recent peaks and trend up in FY10 on a recovery in metal prices.

Sterlite Industries is an integrated metals company with interests in copper, zinc, lead and aluminium metals. The standalone operations of the company include copper smelting and manufacturing sulphuric acid and phosphoric acid as by-products. The zinc and lead operations are owned and operated by Hindustan Zinc (HZL), where Sterlite has 64.9% ownership. The aluminium business is owned and operated by BALCO where the company has 51.0% stake. In addition, Sterlite is a minority stake holder in Vedanta Aluminium (VAL) which is commissioning a 1.4m tonnes alumina refinery and a 0.25m tonnes aluminium smelter. Sterlite is currently undergoing litigation to increase its stakes in both HZL and BALCO take complete ownership of the companies.

Sterlite has highly integrated operations in copper, aluminium and zinc in India and Australia with global low cost standards

Sterlite controls 64.9% in Hindustan Zinc and 51% in BALCO (aluminium), and is looking to acquire the Government of India's remaining stake in these companies

Exhibit 1: Sterlite Business Units

Company	Copper	Zinc	Lead	Aluminium	
	Sterlite Standalone	Hindustan Zinc Ltd. (HZL)	Hindustan Zinc Ltd. (HZL)	BALCO	Vedanta Aluminium Ltd
Stake (%)	100.0	64.9	64.9	51.0	29.5
Mining production - FY08 ('000' tonnes)	2,550	5,780	—	1,490	
Refining/smeltering/converting capacity, ('000' tonnes)	400	666	88	345	250
Rank based on volume of production	8	1			
Global average cost of production, USD per tonne	na	1,000		1,600	
Sterlite's current cost of production, USD per tonne	250	635		1,300	

Sources: Sterlite Industries India; Company data; BNP Paribas estimates

Lower input costs and weak INR aid profit margin

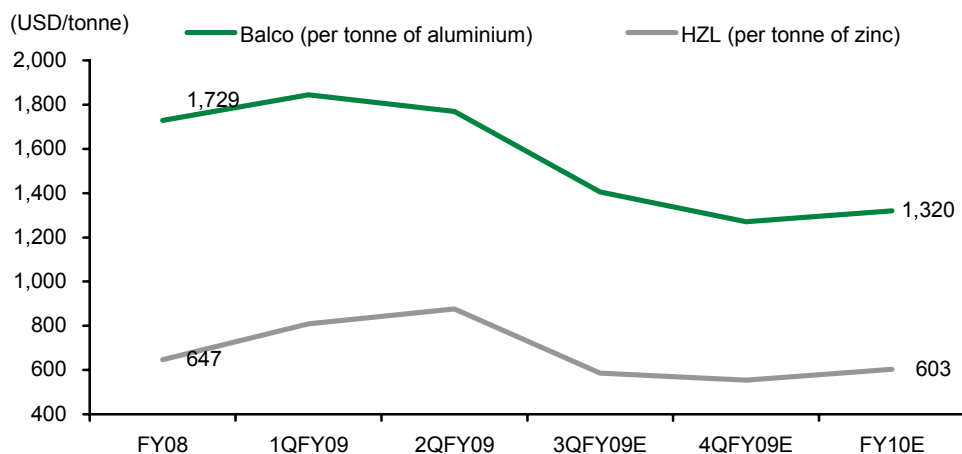
Sterlite is one of the lowest cost metal producers globally. This advantage arises as a result of it having access to assets that are comparable globally in terms of quality and operational efficiency. Sterlite is an integrated metal company with captive mines, smelters and captive power plants (please refer to Appendix 3 for details).

Metal prices have dropped 56% since July 2008 due to a slowdown in demand and supply increases. Current low metal prices will reduce Sterlite cash flow generation in 2HF09. However, the impact of metal prices will be mitigated to some extent by a decline in inputs costs primarily coal, carbon, and caustic soda. Coal prices have declined from over \$200/tonne to about \$70/tonne, which will lower Hindustan Zinc's electricity costs per tonne of metal by about 40%. On the other hand, lower alumina, carbon and fuel costs will reduce Balco's COP by 30%.

Lower coal prices will reduce HZL's electricity cost by 40%

Sterlite sells 70% of Al, 55% of Cu and 75% of Zn production in India. In addition to low input costs, a depreciating INR against USD has restricted decline in INR price realisation to 34% in Zn, 38% in Al, and 54% in Cu from respective average prices in June 2008 quarter. In comparison, LME prices of Zn, Al and Cu have declined by 49%, 50% and 63% respectively during the same period. Additionally, for Zn and Cu, majority of cost of production is in INR and therefore COP has reduced in USD terms. In case of Al, the impact of weak INR on cost of production is not significant. Overall, we project 32% and 28% reduction in cost of production of Balco and HZL respectively.

Appreciation of USD against INR has restricted decline in metal price realisation in INR to 34%-54% as compared to LME price decline of 49%-63% since June 2008

Exhibit 2: Cost Of Production Trend

Cost of production per tonne of Al and Zn is projected to decline by 32% and 28% respectively from average COP in 1HF09

Sources: Sterlite Industries India; Company data; BNP Paribas estimates

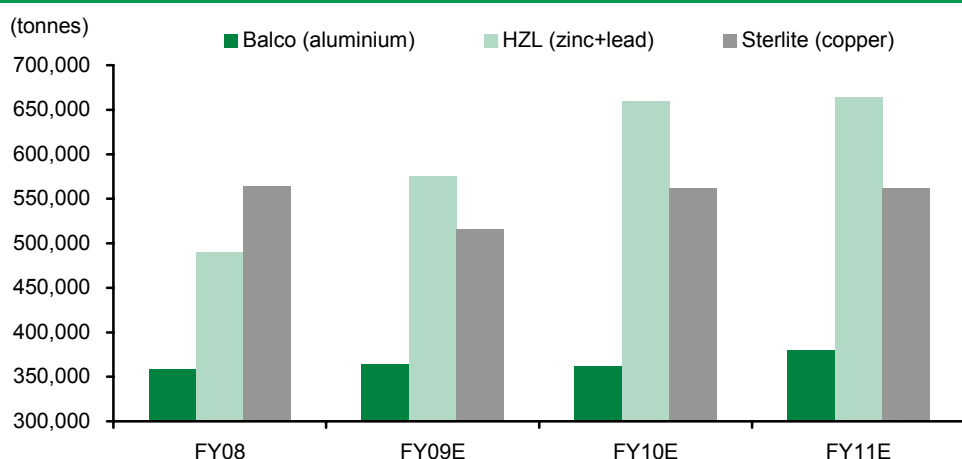
Zinc to drive EBITDA uptrend

Sterlite's low cost operations will ensure positive EBITDA even in this depressed price environment. We project consolidated EBITDA to decline 44.8% in 2HFY09 over 1HFY09, and recover by 23% in FY10 over 2HFY09 levels. In FY11, EBITDA increase of about 50% is driven by our expectation of higher zinc prices and higher production volume from expected capacity expansion. Our EBITDA/tonne projections for zinc and copper operations for FY10 are comparable to that reported by Sterlite in FY05.

Exhibit 3: EBITDA Per Tonne

Year-end 31 Mar	1HFY09	2HFY09E	2010E	2011E
BALCO USD/tonne of aluminium	1,134	509	766	614
HZL USD/tonne of zinc metal	1,265	612	828	1,213
Sterlite USD/tonne of copper	1,130	695	473	466

Sources: Sterlite Industries India; BNP Paribas estimates

Exhibit 4: Sterlite's Production

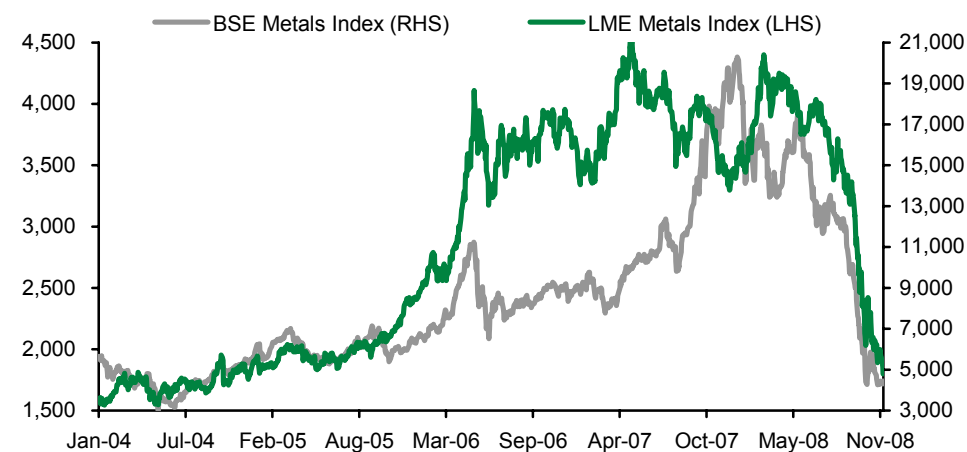
Sources: Sterlite Industries India; BNP Paribas estimates

GLOBAL PRODUCTION CUTS TO FIRM METAL PRICES

Price recovery expected in 2HC09

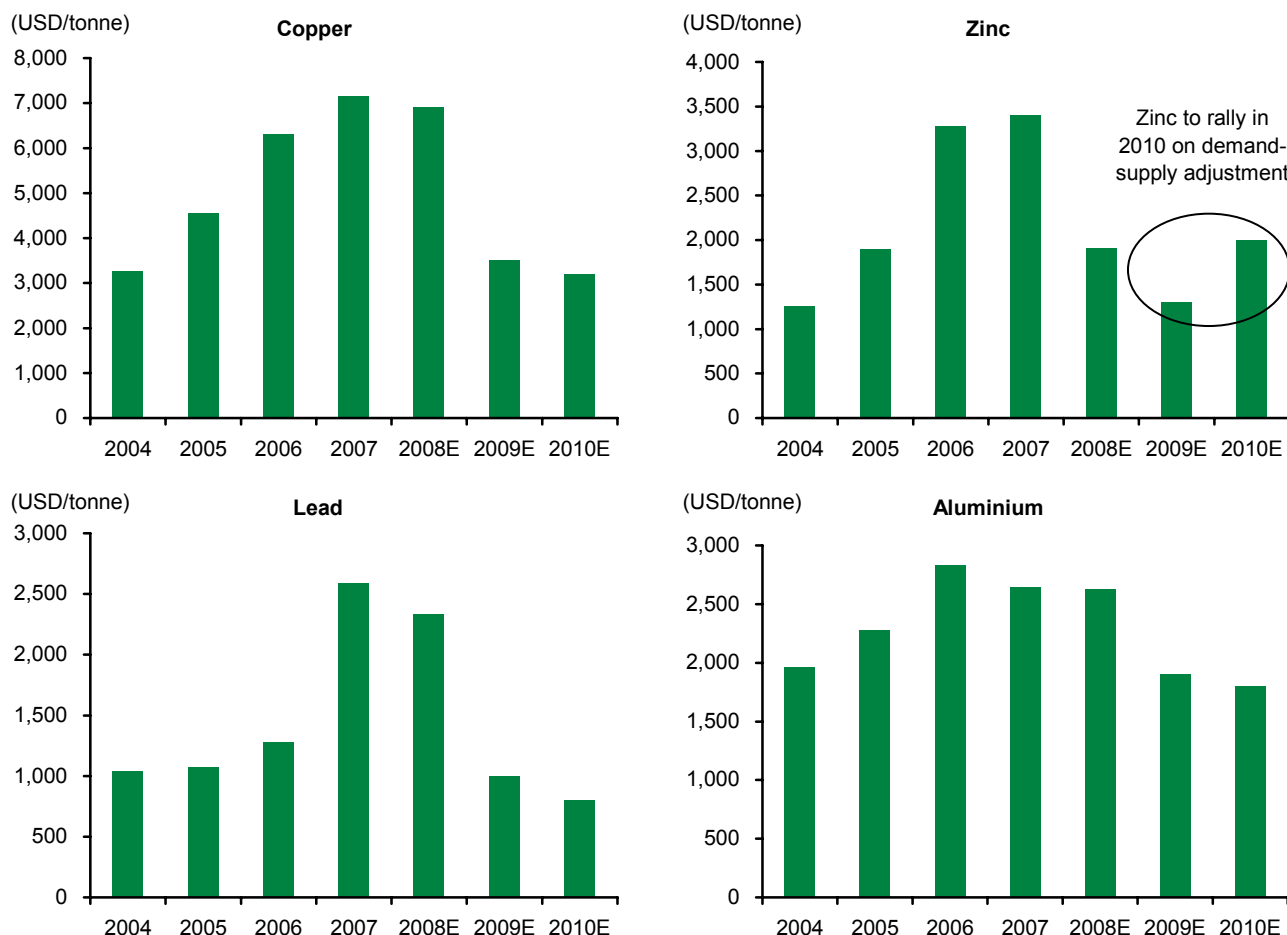
Metal prices have declined 59% from their 2008 peaks on a slowdown in demand and supply increases. Current metal prices are unsustainable as close to 50% of AI and Zn capacity is under loss. Therefore, we expect a recovery in metal prices in 2HC09 on the back of production cuts and demand improvement. Aluminium has the worst D-S while Zinc will be the first metal to see fundamental strengthen and therefore lead the rally in metal prices in 2010.

Exhibit 5: Metal Prices Fall With Global Demand



Sources: Bloomberg; BNP Paribas

Exhibit 6: Metal Price Forecast Till 2010E



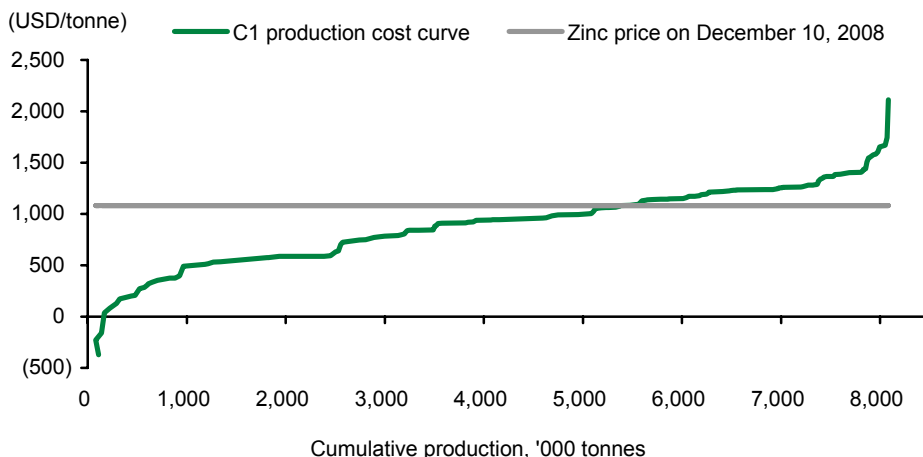
Sources: Bloomberg; BNP Paribas Global Derivatives Research; BNP Paribas estimates

Zinc: likely to lead the rally in metal prices

Zinc is one of the least consolidated metals, which makes it one of the more volatile metals in terms of price. Zinc prices have come off sharply with the demand for galvanized steel, which accounts for 50% of zinc demand, falling off with the deceleration in construction and auto sectors. At the current price of USD1,090/tonne, more than 50% of zinc mines are at negative cash flow, implying that an uptick in zinc prices is imminent.

At current zinc price, more than 50% of producers are making negative cash flow

Exhibit 7: Zinc Cash Cost Curve

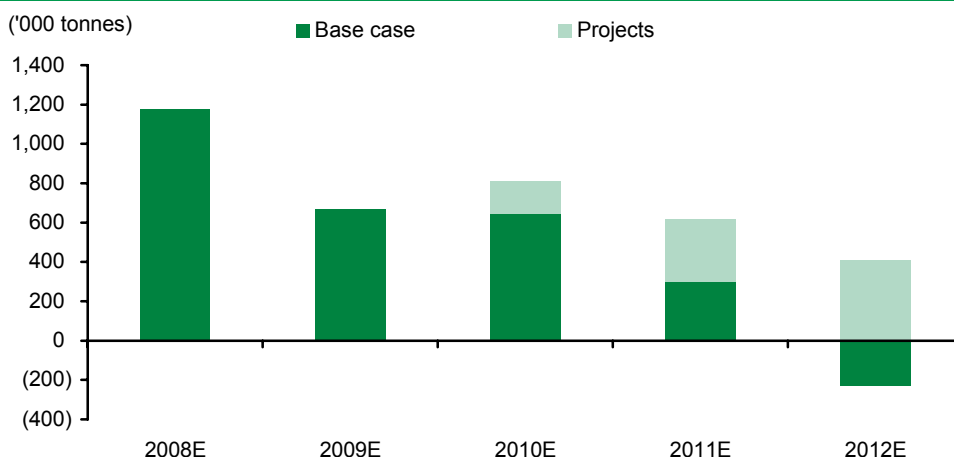


Sources: BNP Paribas Global Derivatives Research; BNP Paribas

Driven by low prices, close to 400,000 tpa or 4% of zinc supply has been cut year to date. According to BNP Paribas Global Commodity Derivative Research team, closure of mining operations is normal during a price correction. However, given insufficient investment in zinc mine capacity in the last few years, it is likely that zinc mine supply will start to fall from 2012 onwards. Therefore, zinc supply will become very tight, once the economy picks up, which should lead to a potentially sharp rebound in prices in 2010. BNP Paribas projects zinc prices to average USD1,300 in 2009 and USD2,000 in 2010.

BNP Paribas projects Zn prices at USD1,350 in 2009 and USD2,000 in 2010. Zn will likely lead the rally in metal prices in 2010 on tight supply

Exhibit 8: Zinc Mine Production Change



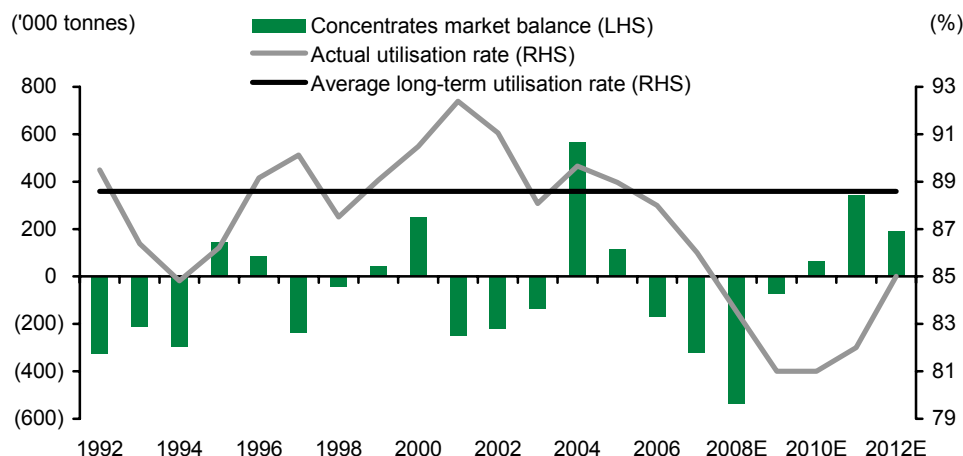
Sources: BNP Paribas Global Derivatives Research; BNP Paribas estimates

Copper: the upside in TC/RCs; by-product credits shrink

We expect copper smelter revenues and margins to deteriorate going forward driven by a decline in by-product credits from sulphuric acid and phosphoric acid. On the positive side, we think contract treatment and refining charge (TC/RC) margins will move up in 2009 considering: 1) TC/RC are already at historic lows; 2) smelters' by-product credits are declining thereby reducing their willingness to give up TC/RC; and 3) copper concentrate will not be in shortage next year due to slowdown in demand and inefficient smelters shutting down.

Copper smelter profits will be negatively impacted by lower by-product credits. On the positive side, TC/RC will remain unchanged or possible move up

Exhibit 9: Copper Concentrates Market Balance And Smelter Utilisation Rates



Copper concentrate supply will switch from deficit to surplus in 2009 and continue to remain so till 2012, implying TC/RC will move up in future

Sources: BNP Paribas Global Derivatives Research; BNP Paribas estimates

We estimate that smelter profits in November 2008 have declined by more than 60% since June 2008 and we expect another 10% decline in smelter profits going forward.

Smelter profit is essentially made up of TC/RC, free metal of up to 2%, by-product credits, and any regional premium. TC/RC has declined sharply since 2006 due to a tightening in the copper concentrates market, which enabled miners to push smelter margins lower. However, rising copper price (for free metal sales) and by-product prices resulted in increasing profit for smelter in the first half of FY09. With commodity prices on a decline, we expect smelter profit to get hit severely.

Exhibit 10: Profit Of Smelters

(USD/tonne)		FY08	8-Jun	8-Nov	FY10E
Contract TC, USD/tonne	Per tonne of concentrate	60	45	45	45
Contract RC, cents/lb	Per pound of copper	6	4.5	4.5	4.5
		100	75	75	75
Spot TC/RC, USD	USD per tonne of concentrate	100	58	75	100
Average TC/RC, USD	USD per tonne of concentrate	100	67	75	88
Free metal	2% at market prices	50	48	22	23
By-product: Sulphuric Acid	One tonne of sulphuric acid per tonne of concentrate	30	118	14	8
By-product: Phosphoric Acid	One tonne of phosphoric acid per three tonne of sulphuric acid	36	196	39	12
Total	USD per tonne of concentrate	217	428	150	130

Source: BNP Paribas estimates

Smelter profit expected to decline by 10% going forward, on top 60% decline since June 2008

Our checks with traders indicate price of sulphuric acid has dropped to below INR3,000/tonne and that of phosphoric acid has dropped below INR50,000/tonne. In addition, downward pressure on acid prices continues due to cheap imports from Asian countries. In comparison, Sterlite reported sulphuric acid realization of INR6,000 and phosphoric acid realization of INR80,000 in 2QFY09. We expect further deterioration in by-product realizations going forward and attain levels seen in FY08.

Checks with traders indicate that sulphuric acid prices have declined to less than USD60/tonne from over USD300/tonne in June 2008

Aluminium: in severe need of production cutback

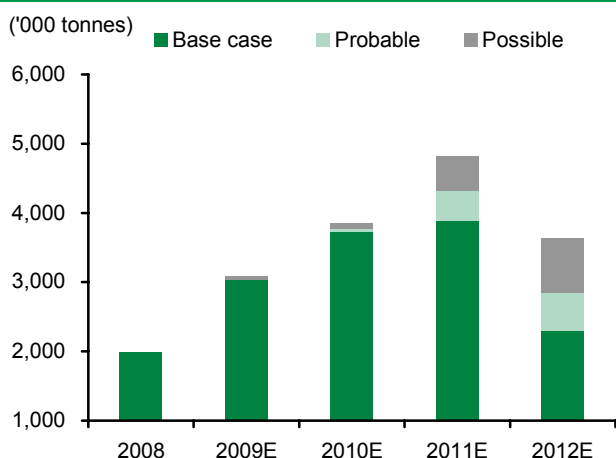
Global aluminium production is on a downtrend driven by curtailments in China and the North America. China and North America account for 34% and 15% of global aluminium production. Alcoa has already cut production at its 265,000 tonnes Rockdale smelter and announced 350,000 tonnes production cut at its 190,000 tonnes Ferndale smelter and 440,000 tonnes Canadian smelter. China is in a risk of oversupply through 2009 due to excess production as well as deceleration in demand. Chinese government has reduced VAT on aluminium to help exports. However, it is BNPP's view that exports will not be a remedy to China's excess production, as metal demand globally is set to remain weak. Hence, production cuts in China are likely going forward.

Global aluminium producers have announced production cutbacks at inefficient smelters in response to low aluminium prices

We estimate global aluminium production CU at ~93% in 2008. For demand supply balance to be restored in 2009, world production ex-China should decline by ~5% while CU in China should decline by 7% given increasing capacity in China. In the absence of production cuts, surplus will increase thereby exerting further pressure on aluminium prices.

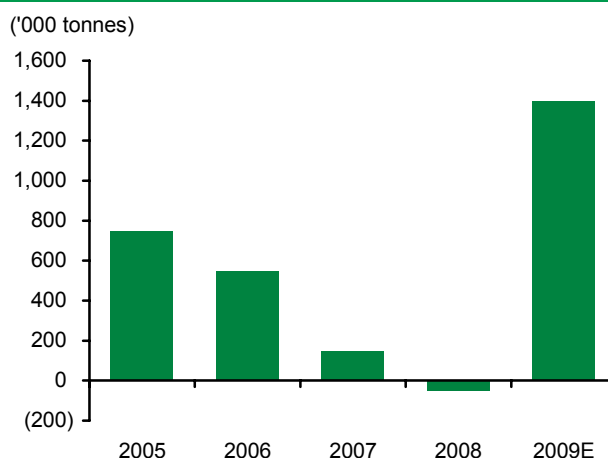
Aluminium industry will have to tackle significant overcapacity. Large production cuts are needed in China to take surplus situation

Exhibit 11: Global Aluminium Production Additions



Sources: BNP Paribas Global Derivatives Research ; BNP Paribas estimates

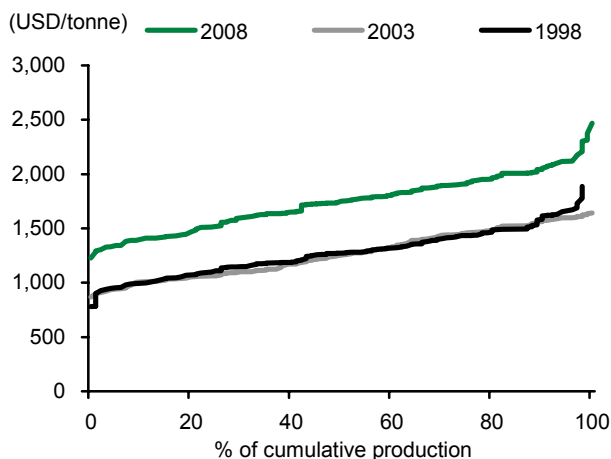
Exhibit 12: China Aluminium Market Balance



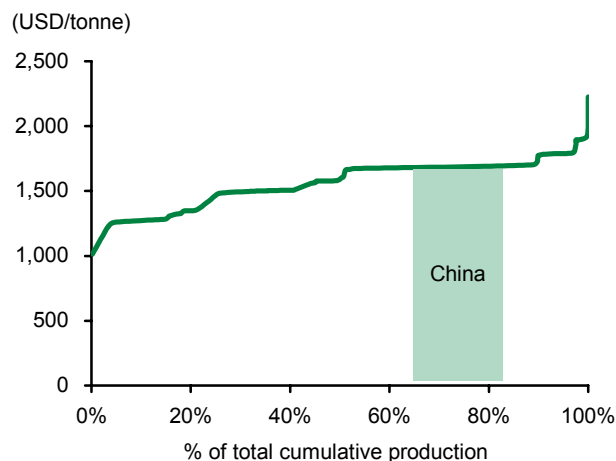
Sources: BNP Paribas Global Derivatives Research ; BNP Paribas estimates

Global cost of production has been on a decline due to declining prices of alumina (which is in excess supply) and lower fuel costs, as well as USD appreciation. We estimate Sterlite cash cost of production may decline to USD1,300/tonne by March 2009 from USD1,800 in 2QFY09 if we assume a decline in carbon and fuel costs in line with drop in crude oil prices, as well as 15% appreciation in USD vs INR. Extrapolating this analysis to COP of marginal aluminium producers, we believe that marginal cost of production that was about USD2,500+/tonne in mid-2008 has declined to USD2,000/tonne. However, cost of production continues to be higher than that in previous market troughs.

Aluminium cost of production has dropped by 20% on lower fuel and electricity prices, though global COP in 2008 remains high from historical standards

Exhibit 13: Change In Aluminium Cash Cost Of Production

Sources: BNP Paribas Global Derivatives Research; BNP Paribas

Exhibit 14: Aluminium Smelting Cost Curve

Sources: BNP Paribas Global Derivatives Research; BNP Paribas

The current aluminium price of USD1,500/tonne is therefore below the cash cost of production of 30% of global production capacity, implying that a production cut is likely. The situation is worse in China where over 50% of production capacity is under water at the current aluminium price. We believe demand in the first half of 2009 will remain weak, which will hasten production cuts at inefficient smelters. As demand improves and oversupply eases, we will see aluminium prices gain strength in 2H09 toward USD2,000/tonne. We don't see aluminium prices breaching USD2,000/tonne mark in 2009. On the contrary, we think aluminium prices will decline in 2010 given the expected capacity additions. Overall, we think aluminium has the worse demand-supply fundamental among all the metals we track.

At current Al price, more than 50% of China capacity is under loss. BNP Paribas projects Al price to trend to USD2,000/tonne towards the end of 2009 from USD1,500 currently

NO FUNDING ISSUES

Ambitious capex plan; strong balance sheet to afford it

Sterlite's capex budget of USD6.0b (at current prices) will position the company favorably in a metal upcycle. The new projects in Al and Zn will be in lowest cost quartile. We estimate the company has balance sheet strength with accessible cash of over USD3.0b. Power projects will see slow ramp up (excluding 2,400 MW project) due to financing issues, in our view.

We estimate Sterlite's balance sheet strength will allow it to finance USD6b capex and acquisition of HZL and BALCO stakes

We estimate Sterlite's capex budget till FY12 to be ~USD6.0b. Approximately 50% of the capex is in aluminium business, 30% in energy business and 15% in zinc business. In addition, the company may have to spend anywhere from USD1.1b to USD1.5b in acquiring government's stake in BALCO and Hindustan Zinc (based on current price of HZL). Overall, we think the company's balance sheet will allow it to pursue its capex plan as outlined below and its purchase of government's stake in HZL and BALCO. We also think Sterlite has the balance sheet to finance the acquisition of Asarco, if it gets an opportunity to do so.

Exhibit 15: Sterlite Cash Position

Sterlite – consolidated (INR b)	FY09E	FY10E	FY11E	(INR b)	FY09E	FY10E	FY11E
	With acquisition of HZL & BALCO stake				Without acquisition of HZL and BALCO stake		
Cash flow from operations	65.5	56.8	67.9	Cash flow from operations	65.5	56.8	67.9
Capex	(45.3)	(77.9)	(78.4)	Capex	(45.3)	(77.9)	(78.4)
Investment in associate	(2.3)	(3.8)	(6.7)	Investment in associate	(2.3)	(3.8)	(6.7)
HZL stake acquisition	0.0	(60.0)	0.0	Restricted cash flow from HZL/BALCO	(25.4)	(12.8)	(29.6)
BALCO stake acquisition	0.0	(37.5)	0.0				
Debt financing	23.0	39.6	42.9	Debt financing	23.0	39.6	42.9
Cash inflow/(outflow)	40.9	(82.8)	25.8	Cash inflow/(outflow)	15.5	1.9	(3.8)
Cash requirement till FY11	(16.1)			Cash generation till FY11	13.6		
Cash and equivalents at FY08	168.6			Cash and equivalents at FY08	91.6		

Sources: Sterlite Industries India; BNP Paribas estimates

Sterlite and Government of India are currently undergoing arbitration to decide on the validity of the option to purchase the remaining 49% stake in BALCO (please refer to appendix 6 for details). The result of this arbitration proceeding will also determine the fate of the call option to acquire 29.5% stake in HZL, in our opinion. We do not expect a resolution of stake sale over the next 12-months as general election are expected in first half of 2009, which will put stake sales on the back-burner. We estimate the worst case pay-out for HZL acquisition to be USD1.2b at current HZL price and around USD300m for Balco stake.

We do not expect resolution of call option to buy stake in Balco and HZL in the next 12 months

Exhibit 16: HZL And BALCO Call Option Valuation

HZL call option valuation		BALCO call option valuation	
		Under dividend method	
Current market price (INR)	320.0	Original price paid (INR/share)	49.01
Shares Outstanding (m)	422.5	Shares Os (mn)	220.62
Stake to be acquired (%)	29.5	Stake to be acquired (%)	49.0
Value of stake at CMP (USD m)	797.7	Interest to be paid (%)	14
Kapasan premium over market value (%)	50.0	Dividends received by GOI this far	377.79
Worst case pay out	1,196.6	Worst case pay out (USD m)	294.71

Sources: Sterlite Industries India; BNP Paribas estimates

Exhibit 17: Sterlite Capex Plans

Business unit	Project	Current capacity	Expansion	Commissioning date	Final capacity	Capex (USD m)	Debt (USD m)	Equity (USD m)
Investments by subsidiaries								
BALCO	Al smelter	345,000 tpa	325,000 tpa	2011	670,000 tpa	900	450	450
BALCO	Captive power plant	810 MW	1,200 MW (300 MW x 4)	First unit in 2011	2,010 MW	1,100	770	330
Hindustan Zinc	Mining capacity	7.1m tpa	2.5m tpa	1.0m tpa in 2010 1.5m tpa in 2011	9.6m tpa	900	—	900
Hindustan Zinc	Zn smelter	754,000 tpa	210,000 tpa	2010	964,000 tpa			
Hindustan Zinc	Pb smelter	93,000 tpa	100,000 tpa	2010	193,000 tpa			
Hindustan Zinc	CPP (coal-based)	80 MW	160 MW	2010	240 MW			
Hindustan Zinc	CPP (wind-based)	68.8 MW	80 MW	2009	165.8 MW			
			17 MW	2010				
Sterlite Energy	Power plant		2,400 MW (600 MW x 4)	First unit in 2009	2,400 MW	1,410	987	423
Other capex						890	133	757
Investments by associate								
Vedanta Aluminium	Al smelter	250,000 tpa	250,000 tpa	March 2010	500,000 tpa	550		790
Vedanta Aluminium			1.25m tpa	940,000 tpa: Sep-01 310,000 tpa: Mar-12	1.75m tpa	3,650		
Vedanta Aluminium	CPP	270 MW	945 MW (135 MW x 7)	Ongoing	1,215 MW	430		
Vedanta Aluminium	Al refinery de-bottlenecking	1.4m tpa	600,000 tpa	March 2010	2m tpa	150		
Vedanta Aluminium	Al refinery		3m tpa	June 2011	5m tpa	2,000		
Vedanta Aluminium	CPP	90 MW	210 MW	June 2011	300 MW			
Total Investment by Sterlite						5,810	2,340	3,470

Sources: Sterlite Industries India; Company data; BNP Paribas estimates

Aluminium capex: dependent on Al price

Capex is spread between BALCO and Vedanta Aluminium (VAL) in which Sterlite owns 29.5% stake. At the end of the capex in 2012, the combination of BALCO and VAL will be a fully integrated aluminium producer with a total capacity of 2.4m tpa with its own bauxite mines, refinery, smelter and captive power plants.

The combination of Balco and VAL will be a fully integrated aluminium producer with a total capacity of 2.4m tpa

BALCO plans to almost double its aluminium smelting capacity to 670,000 tpa at a cost of USD0.9b. VAL, on the other hand has a ~USD7.0b capex plan that involves doubling smelting capacity to 500,000 tpa by March 2010 and further addition of 1.25m tpa by March 2012. To supply alumina needed for the smelter, the current refinery will be de-bottlenecked to 2m tpa by March 2010 and three additional lines of 1.0m tpa will be added by June 2011 taking total alumina capacity to 5.0m tpa. Captive power plant capacity of 1,200 MW will be added to current capacity of 2,025 MW.

Exhibit 18: Aluminium Capex

(INR b)	FY09E	FY10E	FY11E
Cash flow from operations	13.4	17.8	13.7
Capex	(36.4)	(73.3)	(105.3)
Debt financing	19.7	59.3	73.0
Equity infusion	3.3	0.0	18.5

Source: BNP Paribas estimates

Our analysis of expected future cash flow suggests VAL will likely be able to finance its capex plan from future cash flow from operations and by maintaining a D/E ratio of 0.7. On the other hand, we estimate BALCO can finance its capex, though BALCO's debt to equity ratio will tend to 1.2x by the end of FY11. Given debt financing for capex is dependent on future cash flows, the risk to expansion is lower aluminium price over an extended period of time.

Zinc capex: high ROI projects

At the end of March 2008, HZL had INR77b (USD1.54b) in cash and equivalents, more than sufficient to finance its capex of USD900m. Additionally, HZL will generate INR110b (USD2.2b) in cash flow from operations till FY11. However, Sterlite cannot use cash from HZL to finance any of its Group's other projects till Sterlite is able to buy government's stake in HZL. Effectively, HZL's cash is restricted till Sterlite gains full control of HZL.

HZL will have growing free cash flow problem. Sterlite cannot access HZL's cash from other group projects till Sterlite acquires full control of HZL

Exhibit 19: Zinc Capex

(INR b)	FY09E	FY10E	FY11E
Cash flow from operations	32.4	29.8	48.0
Capex	(15.0)	(15.0)	(15.0)

Source: BNP Paribas estimates

Energy capex: slower growth expected

We have included in our projections only the commercial energy project at Jharsuguda as it is the only project to have received financial closure and regulatory approvals, and for which construction has started. Based on our assumption of D/E financial ratio of 70:30, we estimate equity infusion of over USD650m over FY09 to FY11. We think the company can provide this equity from its internal cash accruals.

As far as other commercial energy projects are concerned, we do not think Sterlite can afford to initiate any other project in the current commodity price environment. Sterlite has put on hold phase two of its projects in Jharsuguda and Korba, and recently adopted a go-slow approach to its power project in Punjab state in northern India, slashing its expected capex from USD1.5b to USD0.5b over the next 3-4 years (not included in our capex calculation).

Sterlite has adopted go-slow approach for Energy business till market conditions make financing easier for power projects

Exhibit 20: Energy Capex

(INR b)	FY09E	FY10E	FY11E
Cash flow from operations	0.0	0.0	0.8
Capex	(18.3)	(31.4)	(32.6)
Debt financing	16.0	21.9	21.9
Equity infusion	2.3	9.4	9.9

Source: BNP Paribas estimates

VALUATION

BUY for growth

We value the company on low-to-mid cycle EV/EBITDA multiple of 3.6x and have given a 20% discount to HZL's valuation. While we project EPS to decline 19.1% y-y in FY10, a recovery in metal prices in 2HC09 and increasing Zn production volume will lead to 35.9% y-y EPS growth in FY11. We expect the stock to trend up over the next 6-9 months on a recovery in metal prices and expectation of an earnings growth in FY11.

Sterlite is trading at FY10 EV/EBITDA multiple of 2.4x. After adjusting Sterlite's EBITDA for minority interest and its net debt for HZL's cash, Sterlite is trading at FY10 EV/EBITDA of 3.0x. Historically Sterlite has traded in an EV/EBITDA range of 1.1x to 10.4x with an average of 3.5x. In comparison the global peers are trading at FY 10 EV/EBITDA of 2.5x to 4.5x.

We are valuing Sterlite's copper smelting business (standalone operations) and aluminium business (BALCO and VAL) at an FY10 EV/EBITDA of 3.0x. Zinc business (HZL) is valued at 4.0x FY10 EV/EBITDA. These multiples represent low-to-mid cycle valuation. We have excluded HZL's cash balance of about INR45b from our calculation of net cash for consolidated entity as we believe this cash will not be available to Sterlite, effectively discounting HZL's valuation by 20%. Energy business has been valued at INR45/share based on DCF. We estimate the fair value of Sterlite at INR348/share.

We expect Sterlite's stock to react positively to metal price recover in 2HC09. Net Cash accounts for 35% of our TP of INR348

We are valuing various metal businesses at their low-to-mid cycle EV/EBITDA valuation and have given 20% discount to HZL's valuation

Exhibit 21: Target Price Calculation For Sterlite

	FY10 EBITDA (INR b)	Share in EBITDA (%)	EBITDA for EV/EBITDA (INR b)	Contribution to EBITDA (%)	Valuation multiple (INR b)	Enterprise value (INR b)
Sterlite Standalone	7.3	100.0	7.3	20	3.0	22.0
BALCO	13.8	51.0	7.1	19	3.0	21.2
HZL	29.4	64.9	19.1	52	4.0	76.3
VAL	10.9	29.5	3.2	9	3.0	9.6
Total enterprise value						129.2
Net debt						(85.5)
Equity value						214.7
No. of shares outstanding (m)						708.5
Value/share						303.0
Add: DCF value for Sterlite Energy						45.0
Total value/share						348.0

Source: BNP Paribas estimates

Exhibit 22: Sensitivity Of TP And FY10 EPS To Metal Prices

Sensitivities	Change in target price (INR)	Change in FY10 EPS (%)
USD100/tonne change in price of aluminium	5.2	3.3
USD100/tonne change in price of zinc	11.0	5.2
USD100/tonne change in price of lead	1.4	0.7
USD100/tonne change in price of copper	0.6	0.7
INR1.00 change in INR-USD rate	5.9	3.1

Source: BNP Paribas estimates

Our TP is most sensitive to Zn prices. HZL accounts for 50% and 67% of FY10 and FY11 EBITDA

Potential catalysts for Share Price: HZL acquisition

We estimate Sterlite cash position at the end of FY09 at INR205b (~USD4.0b) as compared to INR169b (USD3.4b) in FY08, of which about INR90b will be from HZL, which can be used for HZL's operations only. Sterlite's valuation finds support from cash balance and depends to a large extent on its zinc business. Therefore, acquisition of government's stake in HZL will give the stock an immediate thrust. We project HZL to account for about 52% of the total EBITDA in FY10 and 67% of the total EBITDA in FY11.

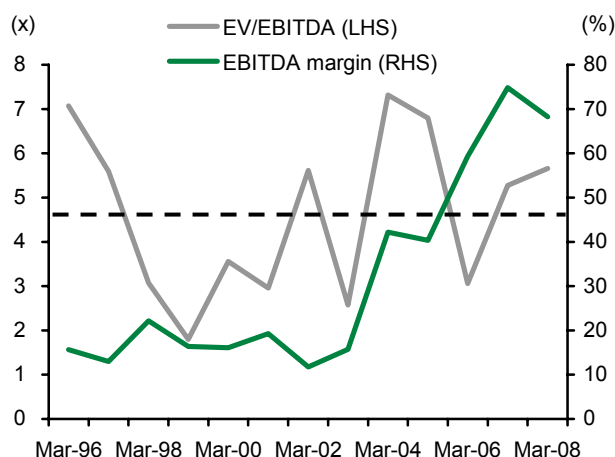
Potential catalyst: acquisition of Asarco

Sterlite had bid for Asarco, the third largest copper miner and smelter in the US, for USD2.6b in June 2008. Asarco is currently in bankruptcy. At the time of acquisition, copper prices were above USD8000 per tonne, and the valuation was based on a long-term average copper price of USD5500 per tonne. In October 2008, Sterlite announced that due to a sharp fall in copper prices, the valuation of USD2.6b for Asarco is excessive, and therefore Sterlite will renegotiate the acquisition price.

We estimate that at an acquisition price of USD600m or less, Asarco acquisition will be a positive for the stock

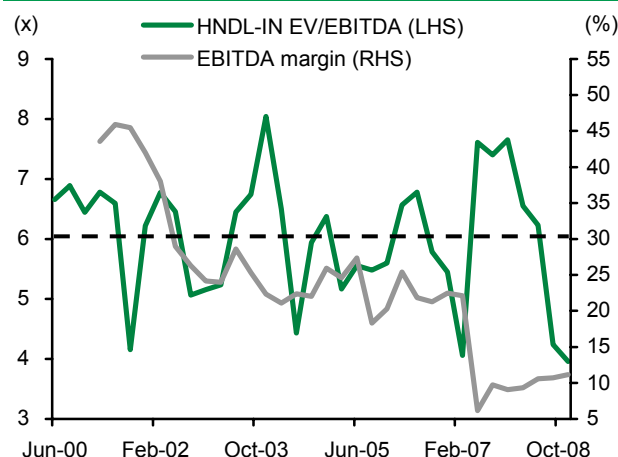
Based on BNP Paribas price projection for copper of USD3500/tonne in 2009 and USD3200 in 2010, and an EV to EBITDA multiple of 4.0x, we estimate the fair value of Asarco at USD600m. We think that an acquisition value below USD600m, Asarco will be a positive for the stock. In case Sterlite decides to not pursue this acquisition, there will be litigations as Sterlite had originally signed a binding agreement.

Exhibit 23: Historical 1-Year Fwd EV/EBITDA Band For HZL

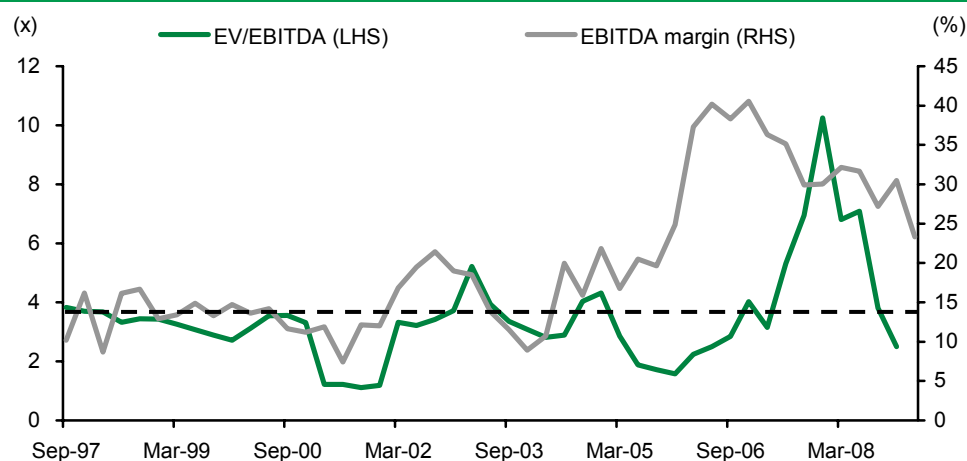


Sources: Bloomberg; Capitalline; BNP Paribas estimates

Exhibit 24: Historical 1-Year Fwd EV/EBITDA Band For Peer (Hindalco)



Sources: Bloomberg; Capitalline; BNP Paribas estimates

Exhibit 25: Historical 1-Year Fwd EV/EBITDA Band For Sterlite

Sources: Bloomberg; Capitalline; BNP Paribas estimates

Exhibit 26: Comparable Companies Valuation For Sterlite

Name	BBG code	P/BV	P/E		EV/EBITDA	
		FY09E	FY09E	FY10E	FY09E	FY10E
		(x)	(x)	(x)	(x)	(x)
Sterlite Industries	STLT IN	0.8	5.4	6.6	2.0	2.4
Zinc and lead						
Nyrstar	NYR BB	0.2	1.5	na	2.7	na
Boliden	BOL SS	0.4	3.0	na	3.5	3.8
Korea Zinc	010130 KS	0.8	3.2	6.2	2.4	2.9
Huludao Zinc	000751 CH	1.3	na	na	na	na
Toho Zinc	5707 JT	0.5	4.3	na	na	na
Global average		0.6	3.0	6.2	2.8	3.3
Copper						
Nippon Mining	5016 JT	0.4	3.3	na	na	7.9
Grupo Mexico	GMEXICOB MM	1.2	4.9	7.2	1.8	3.0
KGHM	KGH PW	0.6	1.8	3.9	1.0	1.3
Freeport Mc-Moran	FCX US	0.6	3.0	na	2.8	6.6
MMC Norilsk Nickel	GMKN RU	0.6	3.0	5.7	2.3	3.6
Tongling Nonferrous Metals	000630 CH	2.1	na	na	na	na
Global average		0.9	3.2	5.6	2.0	4.5
Diversified metal companies						
Xstrata	XTA LN	0.4	2.0	2.8	2.4	3.1
Teck Cominco	TCK/B CN	0.2	1.3	1.5	0.9	0.7
Anglo American	AAL LN	1.3	4.3	5.5	2.7	3.6
Global average		0.6	2.5	3.3	2.0	2.5

Sources: Bloomberg; BNP Paribas estimates

Sterlite's current EV to EBITDA valuation (adjusted for minority interest and cash) is 3.0x as compared to 2.5x-4.5x for global peers

APPENDIX 1

Devil's advocate: Risks to our investment case

Appreciation of the INR

The INR/USD conversion rate currently stands at INR50.45/USD. Our assumption for INR/USD rate for FY10 is at INR49.88/USD. If the INR appreciates from current levels, we will see a downside to our numbers as the company will earn lower INR revenues. Even the export earnings of the company will be lower if the INR appreciates against the USD.

Metal prices fall beyond our forecast

We are currently building a 49.3% decline in copper, 31.9% decline in zinc, 57.1% decline for lead and 27.8% decline for aluminium with the slow down in demand for metals in 2009. If the demand recovery for metals is prolonged and the corresponding decline in metal prices is greater than our expectation, there can be downside to our earnings estimate for the company.

Exhibit 1.1: Global Metal Industry Projections

	2007	2008E	2009E	2010E
Copper				
Production (m tonnes)	18.1	18.6	19.0	20.0
Consumption (m tonnes)	17.9	18.4	18.7	19.4
Price (USD/tonne)	7,144	6,910	3,500	3,200
Zinc				
Production (m tonnes)	11.2	11.9	12.2	12.5
Consumption (m tonnes)	11.4	11.6	11.8	12.4
Price (USD/tonne)	3,394	1,910	1,300	2,000
Lead				
Production (m tonnes)	8.2	8.8	9.3	9.8
Consumption (m tonnes)	8.4	8.7	9.1	9.5
Price (USD/tonne)	2,590	2,330	1,000	800
Aluminium				
Production (m tonnes)	38.0	40.0	41.8	45.6
Consumption (m tonnes)	38.0	39.2	40.4	43.4
Price (USD/tonne)	2,641	2,630	1,900	1,800

Source: BNP Paribas estimates

Exhibit 1.2: BNPP vs Consensus

	2009E			2010E		
	BNPP (USD/tonne)	Consensus (USD/tonne)	Gap (%)	BNPP (USD/tonne)	Consensus (USD/tonne)	Gap (%)
Copper	3,500	4,225	21	3,200	4,750	48
Zinc	1,300	1,244	(4)	2,000	1,543	(23)
Lead	1,000	1,324	32	800	1,200	50
Aluminium	1,900	2,063	9	1,800	2,253	25

Sources: Bloomberg; BNP Paribas estimates

Government takes back Sterlite's stake in HZL at 50% of market value

The validity of the HZL call option is currently under litigation. The Government of India (GOI) is also challenging Sterlite on its investment at Chanderiya instead of Kapasan in setting up a smelter of capacity of 100,000 tonnes within five years of their first investment in HZL. If the GOI wins in the case, it can force Sterlite to sell its shareholding in HZL back to the government at 50% of its market value. We believe that this will be a big negative as HZL currently contributes about 50% to the consolidated FY10 EBITDA of the company.

Delay in capex plans

We believe that a delay in the implementation and commissioning of the capex plans will have a longer term negative impact on the earnings of the company. In the near term our earnings estimates will not be impacted as most of the facilities will be commissioned in FY11 and FY12.

APPENDIX 2

Key company information

Exhibit 2.1: Company Description

Sterlite Industries Ltd. is an integrated metals company with interests in copper, zinc, lead and aluminium metals. The standalone operations of the company include copper smelting and manufacturing sulphuric acid and phosphoric acid as by products. The zinc and lead operations are owned and operated by Hindustan Zinc (HZL), where Sterlite has 64.9% ownership. The aluminium business is owned and operated by BALCO where the company has 51.0% stake. In addition, Sterlite is a minority stake holder in Vedanta Aluminium (VAL) which is commissioning a 1.4m tonnes alumina refinery and a 0.25m tonnes aluminium smelter. Sterlite is currently undergoing litigation to increase its stakes in both HZL and BALCO take complete ownership of the companies.

Sources: Sterlite Industries India; BNP Paribas

Exhibit 2.2: Corporate Governance Matrix

	STLT IN	Benchmark
Board		
Size of the board	9	15
Percentage of independent directors on the board (%)	33	53
Director attendance at board meetings (%)	73	96
Number of other Directorships and Committee Memberships held by CEO	Na	3
CEO/MD and Chairman Role Separation	Yes	Yes
Audit		
Frequency of audit committee meetings	4	6
Percentage of independent directors on the audit committee (%)	100	100
Compensation		
Percentage of independent directors on the Board	67	100
Stock options being awarded to independent directors (%)	0	0
Ownership		
Promoter group holding in company (%)	61	17
Cross holding across group companies	No	No
Other parameters		
Loan to subsidiaries	Yes	No
Number of sale/purchase transactions carried out by insiders	0	1
Number of outstanding shareholder complaints	0	0

Note: We have adjusted the data available for Infosys to create the benchmark.

Data taken from annual report 2008 for Infosys

All data We believe that Sterlite should improve its corporate governance. The Board size and the number of independent directors on the Board should be increased to protect the interest of minority stake holders.

Sources: Sterlite Industries India; BNP Paribas

Exhibit 2.3: Leadership Team

Name	Designation
Anil Agarwal	Chairman
Navin Agrwal	Executive Vice-Chairman
M. S. Mehta	Managing Director
Kishore Kumar	CEO
Sushil Gupta	CFO
Ramesh Nair	Vice President (Marketing)

Source: Sterlite Industries India; BNP Paribas

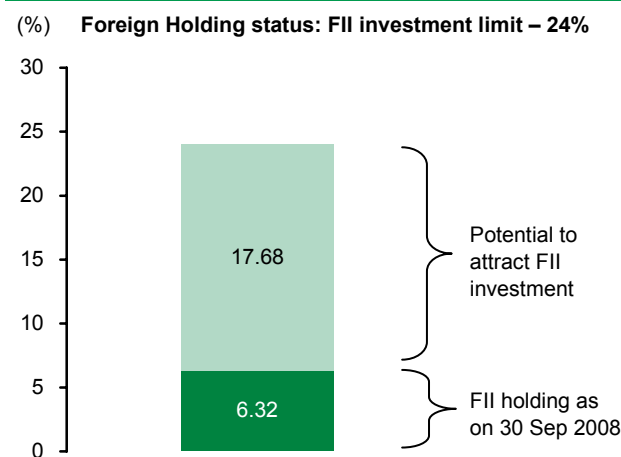
Exhibit 2.4: Industry Data

Industry structure	Production capacity is controlled by 3-4 large players
Customers	Diversified across product lines
Competitors	Nalco and Hindalco
Suppliers	na
Markets	International and domestic
Distributors	Self and dealers
Regulation	Unregulated

Source: BNP Paribas

Exhibit 2.5: Shareholding Pattern**Major shareholders**

	Stake (%)
Promoters	60.63
Mutual Funds	3.62
Financial Institutions/ Banks	0.16
Insurance Companies	3.48
Foreign Institutional Investors	6.32
Others	25.79
Total	100.00

Exhibit 2.6: FII Holding Status**Foreign Holding status: FII investment limit – 24%**

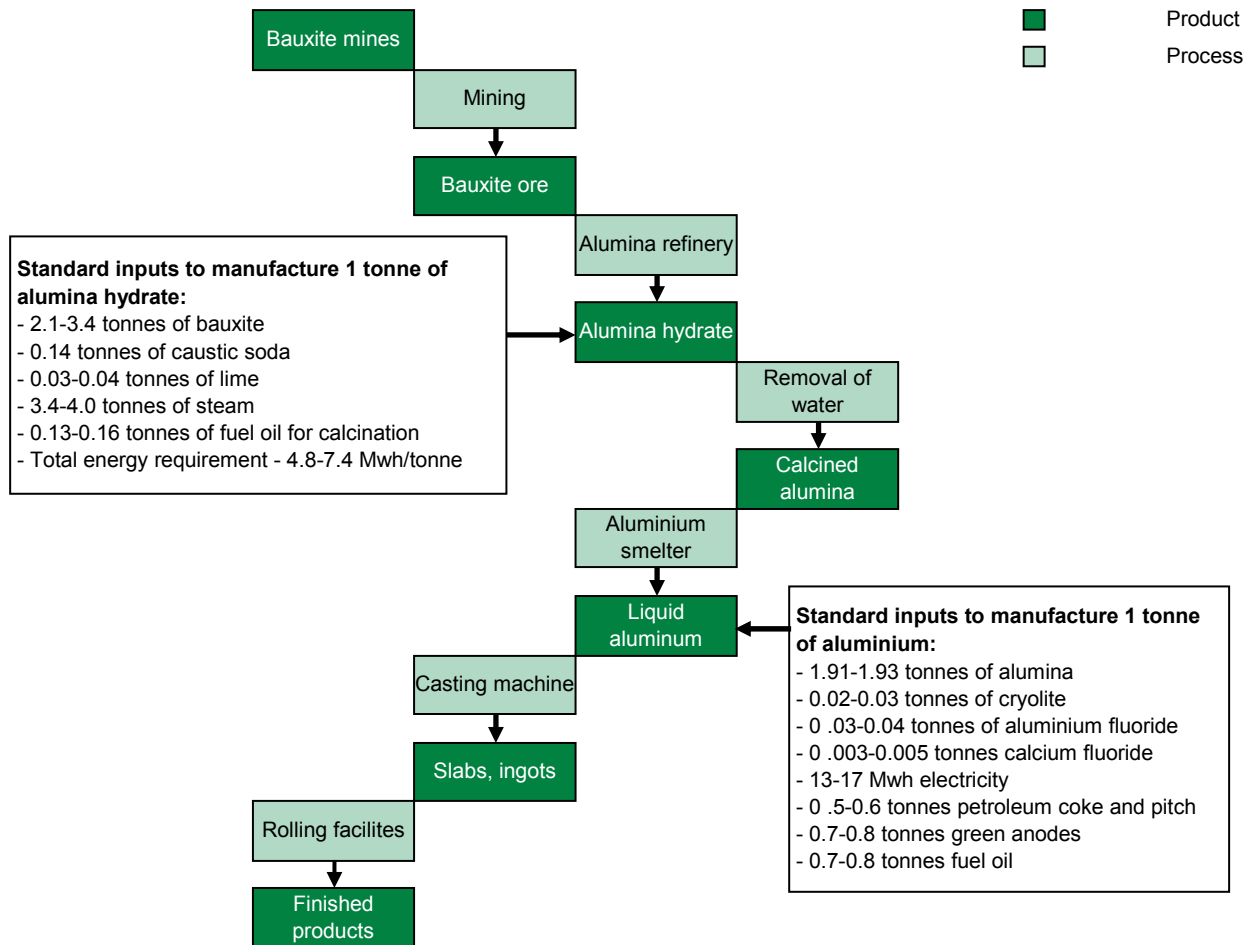
Sources: NSE; BNP Paribas

Source: BNP Paribas

Exhibit 2.7: Persons Other Than Promoters Holding More Than 0.1% Of The Total Number Of Shares

Name of the shareholder	Stake (%)
Bharatram Janhit Shalika	2.51
Life Insurance Corporation Of India	2.01
ICICI Prudential Asset Management Co	0.72
SBI Funds Management Pvt Ltd	0.52
UTI Asset Management Co Pvt Ltd	0.40
T. Rowe Price International Inc. (Singapore)	0.35
Birla Sun Life Asset Management Co	0.17
Reliance Capital Asset Management Ltd	0.14
Prudential Asset Management (Singapore) Ltd	0.13
DSP Merrill Lynch Fund Managers Ltd	0.12
Mellon Capital Management Corp	0.12
The Blackstone Group	0.11
Principal PNB Asset Management Co Ltd	0.11
Total	7.41

Sources: NSE; BNP Paribas

Exhibit 2.8: Aluminium Production Process

Sources: Nalco; Industry sources; BNP Paribas estimates

APPENDIX 3

Integrated operations: mine to metal

Sterlite is one of the lowest cost metal producers globally. This advantage arises as a result of it having access to assets that are comparable globally in terms of quality and operational efficiency. Sterlite is an integrated metal company with captive mines, smelters and captive power plants.

Exhibit 3.1: Sterlite Proven And Probable Mine Reserves

Mine	Copper		Zinc (Zn) & Lead (Pb)		Bauxite	
	Mt. Lyell	Rapura Agucha	Rajpura Dariba	Zawar	Mainpat	Bodai-Daldali
Location	Australia	India	India	India	India	India
Reserves ('000 tonnes)	9,700	63,600	9,000	7,200	4,000	5,500
Grade	1.3%	13.0% (Zn), 1.9% (Pb)	6.2% (Zn), 1.6% (Pb)	3.9% (Zn), 2.1% (Pb)	48.3%	48.3%
Mine life (years)	4.0	20.0	14.0	8.0	6.0	6.0
Total costs/tonne of production (USD)	2,869.0	13.1	45.0	28.7	23.8	

Sources: Sterlite Industries India; Company data; Brook Hunt; BNP Paribas estimates

Copper : dependant on concentrate imports

Sterlite operates two copper refineries in Tuticorin and Silvassa. Sterlite relies on importing copper concentrate as its captive mines in Australia are only able to supply about 9% of its requirement. The Tuticorin and Silvassa refineries have been ranked seventh and eight respectively in terms of low cost operations, globally by Brook Hunt for the year 2008.

Exhibit 3.2: Copper Smelting Operations

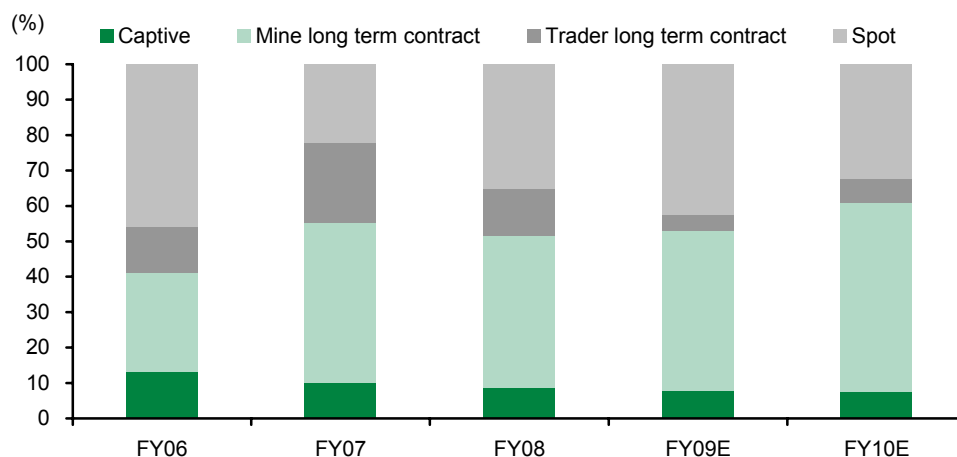
	Copper cathode (‘000 tonnes)	Copper rods (‘000 tonnes)	Sulphuric acid (‘000 tonnes)	Phosphoric acid (‘000 tonnes)	Captive power (MW)
Tuticorin	205	90	1,300	180	47
Silvassa	195	150	—	—	—
Total	400	240	1,300	180	47
Production – FY08	339	225	1,028	152	
Capacity utilization (%)	85	94	79	85	

Sources: Sterlite Industries India; BNP Paribas

The cost advantage arises as a result of savings on transportation costs as the smelters are located close to the port. Also, the Tuticorin smelter has its own captive power generation which reduces electricity costs substantially whereas the Silvassa facility relies on power from the State grid. With a capacity of 0.4m tonnes, Sterlite is ranked as the eight largest copper refiner in the world but lower than Hindalco at 0.5m tonnes. However, capacity utilisation remains higher at 85% for Sterlite in comparison to Hindalco at 64.8% for FY08.

Sterlite's copper smelters has been rated among top 10 smelters in the world in terms of cost efficiency

The Indian copper operations of Sterlite include processing plants which process the concentrate received from its Mt. Lyell copper mines and the balance being purchased from the market. Concentrate from Mt. Lyell forms only about 9% of the total concentrate purchases of Sterlite. The company now follows a policy of sourcing 75% of the concentrate under long term contracts and the balance under spot purchases. The concentrate suppliers to Sterlite include BHP Billiton, Anglo American, Xstrata, Kagara, Freeport and Vale.

Exhibit 3.3: Copper Concentrate Sourcing

Sources: Sterlite Industries India; BNP Paribas estimates

Zinc and lead: HZL is a prized possession

Sterlite operates six zinc smelters with a total capacity of 666,000 tonnes and one lead smelter with a capacity of 85,000 tonnes. About 80% of the total zinc smelting capacity is located at Chanderiya along with the only lead smelting facility while the other zinc smelters are located at Debari and Vizag. The Rampur Agucha zinc mines have been declared third largest in terms of production and fourth largest in terms of reserves globally.

Hindustan Zinc is the world largest integrated zinc mining and smelting company on a production volume basis in 2008

Exhibit 3.4: Zinc And Lead Smelting Operations

	Zinc ('000 tonnes)	Lead ('000 tonnes)	Sulphuric acid ('000 tonnes)	Captive power (MW)
Chanderiya	530	85	755	234
Debari	80	—	419	29
Vizag	56	—	90	—
Total	666	85	1,264	263
Production – FY08	426	64	754	
Capacity utilisation (%)	64	75	60	

Sources: Sterlite Industries India; BNP Paribas

Both the Chanderiya and Debari smelters are supplied by zinc concentrate from the captive mines of Rampur Agucha, Rajpur Dariba and Zawar. Chanderiya and Debari also have their own captive power generation facilities of 263 MW which reduce cost substantially for the smelters. By-product credit from manufacturing sulphuric acid and silver also help in making the facilities extremely cost competitive. According to Brook Hunt, HZL will be the world's largest integrated zinc mining and smelting company on a production volume basis for 2008.

Aluminium: gaining size

Exhibit 3.5: Aluminium Smelting Operations

	Alumina ('000 tonnes)	Aluminium ('000 tonnes)	Captive power (MW)
Korba	200	345	810
Production – FY08	217	359	
Capacity utilisation (%)	109	104	

Sources: Sterlite Industries India; BNP Paribas estimates

The aluminium smelting operations of Sterlite are primarily owned and operated by BALCO. The operating facilities include one alumina refinery, two aluminium smelters, two captive power plants and a fabrication facility. According to Brook Hunt, the old smelter with a capacity of 100,000 tonnes per annum (tpa) is ranked number 59 while the new smelter is ranked at the 9th lowest cost smelter in the world. Brook Hunt estimates the cash cost of production for the smelters to be at USD1,547/tonne and USD1,210/tonne respectively. The upcoming smelter 500,000 tpa smelter at Jharsuguda is also expected to be among the lowest cost quartile.

Sterlite's copper smelters has been rated among top 10 smelters in the world in terms of cost efficiency

The low cost advantage primarily arises from generation of captive power and also the access to captive bauxite mines. BALCO has recently been granted a coal block of 211m tonnes for use in generation of captive power. The company is currently developing a 1,200 MW coal based power plant to further enhance its power generation.

APPENDIX 4

Comparison with global peers

Exhibit 4.1: Global Comparison

	Sterlite Industries India	Nyrstar	Boliden	Grupo Mexico	Xstrata	Teck Cominco	Anglo American
Mkt cap (USD m)	3,499	289	639	4,846	13,991	2,382	31,060
Level of integration	High	Low	High	High	High	High	Low
Mining	✓	×	✓	✓	✓	✓	✓
Smelting	✓	✓	✓	✓	✓	✓	×
FY08 production (m tonnes)	Diversified metal company	Largest zinc smelter in the world	Focused on copper and zinc	Focused on copper and zinc	Diversified metal company	Diversified metal company	Diversified metal company
Aluminium	0.36	×	×	×	×	×	×
Copper	0.34	×	Smelting: 0.31	Smelting: 0.46	Smelting: 0.80	Smelting: 0.03	Smelting: 0.67
Zinc	0.43	Smelting: 1.07	Smelting: 0.46	Smelting: 0.09	Smelting: 0.60	Smelting: 0.29	Smelting: 0.34
Lead	0.06	Smelting: 0.22	Smelting: 0.07	Mining: 0.02	Smelting: 0.20	Smelting: 0.07	Smelting: 0.06
Metal content in mine reserves – proven (' 000 tonnes)							
Bauxite	1,932	×	×	×	×	×	×
Copper	54	×	1,832	na	na	3,404	33,030
Zinc	2,038	×	2,714	2,340	na	12,241	3,383
Lead	416	×	778	19	na	3,006	na
Political risk	Low: Operations located in India and Australia	Low: Operations located in China, Australasia and Europe	Low: Operations located in Sweden	High: Operations located in Mexico and Peru	Medium: Operations located in Australia, Europe, Canada, Peru and Chile	Medium: Operations located in Australia, Canada, Peru and Chile	High: Operations located in Chile and Africa
Balance sheet strength							
D/E (%)	22.8	24.9	45.8	44.4	46.2	19.1	9.9
Int. coverage (x)	27.7	7.6	17.5	21.4	8.0	28.5	10.5

Sources: Sterlite Industries India; Company data; BNP Paribas

APPENDIX 5

Sterlite Energy Ltd

Sterlite Energy Ltd (SEL) is a 100% subsidiary of Sterlite Industries Ltd. SEL was incorporated with the objective of entering the commercial power generation business. Sterlite operates about 1,400 MW of captive power generation facilities with about 850 MW being commissioned in the last four years. The project commissioning capabilities along with the mining experience will provide support to the company's plans in replicating its experience in the commercial power generation business.

Exhibit 5.1: Sterlite Energy Projects

Project details	Jharsuguda Phase I	Korba Phase I - Currently under BALCO	Talwandi Sabo thermal power plant	Jharsuguda Phase II	Korba Phase II
Project status	Under development	Under development, pending Govt. approval for transfer to Sterlite Energy	In go-slow mode	Currently put on hold	Currently put on hold
MW	600 x 4	300 x 4	660 x 3	1,000 x 2	1,000 x 4
Expected commissioning of 1st unit	December 2009	November 2010	April 2013	na	na
Off take agreement	Partial	Partial	✓	×	×
Fuel supply	✓	Partial	×	×	×
Water	✓	×	×	×	×
Land	✓	✓	×	×	×
Environmental clearance	✓	✓	×	×	×
EPC award	✓	×	×	×	×
Construction started	✓	✓	×	×	×
Financial closure	✓	×	×	×	×
Value assigned	INR45/share	Nil	Nil	Nil	Nil
Remarks	DCF based valuation	We will not include the project in SEL valuation till the Government allows for the project to be transferred to SEL	We do not assign any value to the project as the project is still in initial phase and Sterlite is adopting a go-slow policy on the project	We do not assign any value to the project as it has currently been put on hold by Sterlite	We do not assign any value to the project as it has currently been put on hold by Sterlite

Sources: Sterlite Industries India; Sterlite Energy; BNP Paribas

SEL has already announced plans of setting up electricity generation capacities of 11,580 MW. Sterlite had planned to IPO SEL to make funds available for its huge capex requirements. The recent downturn in the market and liquidity crunch has forced Sterlite to defer the listing plans for SEL and also put about 48% of its generation capacity on hold for the time being. We are only assigning value to the Jharsuguda Phase I plant at INR45/share. We are not assigning any value to Talwandi Sabo as it is in initial stages and we believe the project will see delays given that Sterlite has adopted a go-slow policy on the project. Currently we have included Korba Phase I project in BALCO as it is waiting approval from the government to be transferred to SEL.

Exhibit 5.2: Assumptions For DCF Valuation Of Jharsuguda Phase I Power Project

Capacity (MW)	2,400
Capital cost of the plant (INR m)	85,500
Rf (%)	8.0
Beta	1.0
Risk Premia (%)	8.0
Ke (%)	16.0
Kd (%)	13.5
Debt (%)	70.0
Equity (%)	30.0
Debt tenor in years	8.0
Interest on working capital (%)	15.0
Tax rate (%)	20.0
WACC (%)	12.4
Discount rate for levelised tariff computation (%)	10.6
Depreciation (%)	4.0
Operation and maintenance as % of capital costs (%)	3.0
Terminal FCFF growth rate (%)	2.0

Sources: Sterlite Energy; BNP Paribas estimates

APPENDIX 6

BALCO and HZL call options

We believe that BALCO and HZL Call options will continue to remain clouded under controversy for the next 12 months. As elections are expected to happen over the next six months, we do not expect the outgoing government to take any hasty decisions to resolve the matter. Also if the election outcome leads to a shift in political power and a different political party is put in place, the incoming Government may not undertake to decide on a politically sensitive issue at the very outset of its term. As the purchase price at which Sterlite will be able to exercise the Call options and the timing for the settlement remain uncertain, we have not factored in any increase in Sterlite's stake in BALCO and HZL.

Sterlite and GOI are currently undergoing arbitration to decide on the validity of the option to purchase the remaining 49% stake in BALCO. GOI maintains that the call option violates the provisions of Section 111A of the Indian Companies Act. Sterlite would be required to pay the higher of the fair market value as decided by an independent appraiser or 14% half yearly compounded interest over the original price from March 2001, less any dividends received by the GOI. At current valuation, we estimate that the outflow for Sterlite would be around USD300m for the remaining 49% stake in BALCO.

Exhibit 6.1: BALCO Call Option – The Story So Far ...

Date	Event	Result
2 Mar 2001	Sterlite acquired 51% stake in BALCO from the Government of India (GOI) for a total consideration of INR5,533m, implying a purchase price of INR49.01/share.	Sterlite gets management control of BALCO.
19 Mar 2004	Sterlite exercises option to acquire the remaining 49% stake in BALCO, held by the GOI.	Government seeks extension to complete the sale of shares.
7 Jun 2006	GOI contends the Call option and states that the agreement to sell the 49% stake is null and void. Additionally GOI also expresses intention to sell 5% of BALCO to employees	Sterlite files a petition before High Court at Delhi seeking that GOI should deposit with it at least 44% of the shares of BALCO.
7 Aug 2006	The High Court of Delhi directs that negotiations between the parties take place expeditiously	
17 May 2007	Sterlite files a petition requesting that the Court should appoint an arbitrator to settle the issue.	
10 Jul 2007	The High Court directs Sterlite and GOI to undertake mediation proceedings failing which arbitration proceedings would be initiated	
Presently	Currently arbitration proceedings have been initiated between Sterlite and GOI. The company has guided towards settlement of the issue over the next 4-5 months.	

Sources: Company data; BNP Paribas

There are two points of contention on the HZL call option between Sterlite and GOI. The first pertains to validity of the divestment itself. This we think is going to be a long drawn battle between Sterlite, the GOI and the judiciary. Our take on the validity of the divestment is that Sterlite stands on firm legal ground as it has already gained control of 64.9% of the company. The remaining stake can be acquired at a fair market value to be decided by an independent appraiser, if the matter is decided in favour of Sterlite.

Exhibit 6.2: HZL Call Option – The Story So Far ...

Date	Event	Result
11 Apr 2002	Sterlite acquired 26% stake in HZL from the Government of India (GOI) for a consideration of INR4,450m, implying a purchase price of INR40.50/share.	Required to come up with an open offer. Also got two Call options from the GOI to acquire balance share holding of GOI
25 Jun 2002	Sterlite acquired another 20% stake in HZL through an open offer for a consideration of INR3,326m, implying a purchase price of INR39.40/share.	Open offer subscribed at a price lower than the price paid to the GOI.
29 Aug 2003	Sterlite exercised the first Call option to acquire 18.9% stake in HZL.	
12 Nov 2003	Sterlite acquires 18.9% stake in HZL for a consideration of INR3,239m.	Sterlites' stake in HZL increases to 64.9%
11 Apr 2007	Second Call option becomes exercisable	The validity of the GOI divestment of 64.9% stake in HZL is challenged before the Supreme Court of India and the matter is awaiting settlement.
Presently	The company has guided that they remain confident in the legality of their dealings with the GOI. Also, they hope that the matter will be resolved once the BALCO matter gets resolved.	

Sources: Company data; BNP Paribas

The other point of contention is where Sterlite was required to make an investment in setting up a smelter of capacity of 0.1m tonnes at Kapasan within five years of their first investment in HZL. The five year period expired in March 2007 and Sterlite instead made an investment in increasing capacity at Chanderiya. If the ruling takes place in favour of GOI, then GOI can make Sterlite buy the remaining stake at 150% of the market value or force Sterlite to give up its stake at 50% of market value. At 150% of current market value, the outflow for 29.5% stake will be around USD1,200m.

FINANCIAL STATEMENTS

Sterlite Industries India

Profit and Loss (INR m)					
Year Ending March	2007A	2008A	2009E	2010E	2011E
Revenue	243,868	247,054	201,242	166,487	204,433
Cost of sales ex depreciation	(149,280)	(168,372)	(144,134)	(116,332)	(129,625)
Gross profit ex depreciation	94,589	78,682	57,108	50,155	74,808
Other operating income	-	-	-	-	-
Operating costs	-	-	-	-	-
Operating EBITDA	94,589	78,682	57,108	50,155	74,808
Depreciation	(8,039)	(5,950)	(8,131)	(9,323)	(14,108)
Goodwill amortisation	-	-	-	-	-
Operating EBIT	86,550	72,732	48,977	40,832	60,700
Net financing costs	(3,791)	(3,186)	(4,567)	(4,639)	(5,358)
Associates	(1)	(42)	(256)	1,589	385
Recurring non operating income	6,817	15,661	13,793	17,304	18,920
Non recurring items	(1,572)	(528)	-	-	-
Profit before tax	88,003	84,637	57,947	55,066	74,647
Tax	(23,694)	(20,897)	(9,225)	(9,936)	(13,777)
Profit after tax	64,309	63,740	48,723	45,150	60,870
Minority interests	(20,023)	(19,616)	(9,884)	(13,743)	(18,190)
Preferred dividends	-	-	-	-	-
Other items	-	-	-	-	-
Reported net profit	44,286	44,124	38,839	31,407	42,680
Non recurring items & goodwill (net)	1,149	398	-	-	-
Recurring net profit	45,434	44,522	38,839	31,407	42,680
Per share (INR)					
Recurring EPS *	81.35	62.84	54.82	44.33	60.24
Reported EPS	79.29	62.28	54.82	44.33	60.24
DPS	7.95	1.87	4.68	4.68	4.68
Growth					
Revenue (%)	85.8	1.3	(18.5)	(17.3)	22.8
Operating EBITDA (%)	156.5	(16.8)	(27.4)	(12.2)	49.2
Operating EBIT (%)	173.8	(16.0)	(32.7)	(16.6)	48.7
Recurring EPS (%)	174.7	(22.8)	(12.8)	(19.1)	35.9
Reported EPS (%)	168.9	(21.5)	(12.0)	(19.1)	35.9
Operating performance					
Gross margin inc depreciation (%)	35.5	29.4	24.3	24.5	29.7
Operating EBITDA margin (%)	38.8	31.8	28.4	30.1	36.6
Operating EBIT margin (%)	35.5	29.4	24.3	24.5	29.7
Net margin (%)	18.6	18.0	19.3	18.9	20.9
Effective tax rate (%)	26.9	24.7	15.9	18.0	18.5
Dividend payout on recurring profit (%)	9.8	3.0	8.5	10.6	7.8
Interest cover (x)	24.6	27.7	13.7	12.9	14.9
Inventory days	58.2	66.6	75.2	72.4	59.3
Debtor days	22.4	23.7	26.6	27.5	20.9
Creditor days	49.2	44.8	49.0	55.1	46.9
Operating ROIC (%)	75.5	51.1	28.7	18.8	21.3
Operating ROIC - WACC (%)	58.3	33.8	11.4	1.5	4.0
ROIC (%)	79.8	57.6	32.8	24.8	25.4
ROIC - WACC (%)	62.5	40.4	15.5	7.5	8.1
ROE (%)	56.6	27.6	16.1	11.5	13.9
ROA (%)	33.7	21.2	12.5	10.0	11.3

* Pre exceptional, pre-goodwill and fully diluted

Lower tax rate of 16% in FY09 as business gets export oriented unit (EOU) status

140bps EBITDA margin improvement in FY10 as a result of higher INR-USD rate assumption

Sources: Sterlite Industries India; BNP Paribas estimates

Cash Flow (INR m)					
Year Ending March	2007A	2008A	2009E	2010E	2011E
Recurring net profit	45,434	44,522	38,839	31,407	42,680
Depreciation	8,039	5,950	8,131	9,323	14,108
Associates & minorities	20,024	19,658	10,139	12,154	17,805
Other non-cash items	(3,368)	(2,642)	(840)	(2,964)	(3,692)
Recurring cash flow	70,130	67,489	56,269	49,920	70,901
Change in working capital	(15,668)	(874)	9,199	6,847	(2,992)
Capex - maintenance	-	-	-	-	-
Capex - new investment	(20,871)	(30,119)	(45,288)	(77,850)	(78,350)
Free cash flow to equity	33,591	36,496	20,181	(21,083)	(10,440)
Net acquisitions & disposals	-	-	-	-	-
Dividends paid	(4,441)	(1,324)	(3,316)	(3,316)	(3,316)
Non recurring cash flows	(137)	(9,842)	(2,288)	(3,848)	(6,683)
Net cash flow	29,013	25,330	14,577	(28,246)	(20,439)
Equity finance	-	82,048	-	-	-
Debt finance	(3,078)	787	23,020	39,645	42,945
Movement in cash	25,935	108,165	37,597	11,399	22,506

Per share (INR)

Recurring cash flow per share	125.57	95.26	79.42	70.46	100.07
FCF to equity per share	60.14	51.51	28.48	(29.76)	(14.74)

Balance Sheet (INR m)					
Year Ending March	2007A	2008A	2009E	2010E	2011E
Working capital assets	79,460	82,099	69,697	58,111	61,237
Working capital liabilities	(48,636)	(50,401)	(47,199)	(42,459)	(42,593)
Net working capital	30,824	31,698	22,499	15,652	18,644
Tangible fixed assets	97,176	124,367	162,364	233,855	301,789
Operating invested capital	128,000	156,065	184,863	249,507	320,432
Goodwill	-	-	-	-	-
Other intangible assets	-	-	-	-	-
Investments	2,967	18,925	20,957	26,394	33,461
Other assets	0	0	0	0	0
Invested capital	130,967	174,990	205,820	275,900	353,893
Cash & equivalents	(60,387)	(168,551)	(206,148)	(217,547)	(240,053)
Short term debt	-	-	-	-	-
Long term debt *	46,103	50,745	73,766	113,411	156,356
Net debt	(14,283)	(117,806)	(132,383)	(104,136)	(83,698)
Deferred tax	9,174	13,537	13,537	13,537	13,537
Other liabilities	-	-	-	-	-
Total equity	99,818	223,026	258,549	286,641	326,005
Minority interests	36,259	56,233	66,117	79,859	98,049
Invested capital	130,967	174,990	205,820	275,900	353,893

* Includes convertibles and preferred stock which is being treated as debt

Per share (INR)

Book value per share	178.73	314.79	364.93	404.58	460.14
Tangible book value per share	178.73	314.79	364.93	404.58	460.14

Financial strength

Net debt/equity (%)	(10.5)	(42.2)	(40.8)	(28.4)	(19.7)
Net debt/total assets (%)	(6.0)	(29.9)	(28.8)	(19.4)	(13.1)
Current ratio (x)	2.9	5.0	5.8	6.5	7.1
CF interest cover (x)	15.4	21.9	15.3	13.2	13.7

Valuation	2007A	2008A	2009E	2010E	2011E
Recurring P/E (x) *	3.6	4.7	5.4	6.6	4.9
Recurring P/E @ target price (x) *	4.3	5.5	6.3	7.9	5.8
Reported P/E (x)	3.7	4.7	5.4	6.6	4.9
Dividend yield (%)	2.7	0.6	1.6	1.6	1.6
P/CF (x)	2.3	3.1	3.7	4.2	2.9
P/FCF (x)	4.9	5.7	10.3	neg	neg
Price/book (x)	1.6	0.9	0.8	0.7	0.6
Price/tangible book (x)	1.6	0.9	0.8	0.7	0.6
EV/EBITDA (x) **	1.9	1.8	2.0	2.4	2.2
EV/EBITDA @ target price (x) **	2.2	2.1	2.6	2.9	2.6
EV/invested capital (x)	1.4	0.8	0.7	0.7	0.6

* Pre exceptional, pre-goodwill and fully diluted

** EBITDA includes associate income and recurring non-operating income

Adjusted net Cash
accounts for 35% of our
TP of INR348

After adjusting Sterlite's
EBITDA for minority
interest and its net debt
for HZL's cash, Sterlite
is trading at FY10
EV/EBITDA of 3.0x

Sources: Sterlite Industries India; BNP Paribas estimates

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Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

*In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

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