

# Standard Chartered - STCI Capital Markets Ltd

EQUITY RESEARCH - Non Ferrous Metal

2nd September, 2008

## Sterlite Industries (India) Ltd.(SIL)

**Buy**

**CMP: Rs 623**

**Target: Rs765**

Initiating Coverage

STLT.IN

STRL.BO

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### Ster'ling' growth...

Sterlite Industries Ltd (SIL) is India's largest non-ferrous metals and mining company with major operations spread across India. The company has a substantial market share in each of the base metals: aluminium, copper, zinc and lead. Strong cash generations over the last 2 years and successful completion of \$2bn ADS in 2007 has provided the company with funds to spread its wings across regions (Acquisition of ASARCO) and foray into new business segment (commercial power generation).

#### Strong performance of Zinc business to continue

Despite declining LME prices, cost reduction through capacity addition and strong CAGR volume growth of 21.6% over the next 2 years, zinc business would continue to deliver 57 -58% of the consolidated operating profit. Further, with major capacity addition lined up in HZL for FY11 we expect the performance of the zinc business to be a key driver for growth in SIL.

#### Commissioning projects ahead of schedule

SIL has been able to commission its expansion projects in zinc and aluminium much ahead of schedule and within budget. Such initiatives by the management avoids cost over run and helps the company earn better discounting due to cash generation ahead of expectations. It also represents strong management skills towards project execution

#### Hidden value in subsidiaries & associate

Vedanta Aluminium Ltd (29.5%) - aluminium smelter capacity that would be commissioned in FY09E would provide significant profitability growth over the next 2 years. Further, Sterlite Energy Ltd (100%) commissioning of the 600MW of thermal power plant in December'09 of the 2400 MW that would come up in phase over the next 1 year there after would de-risk the business of SIL. We feel substantial value unlocking to be done in the subsidiary in the longrun.

#### Substantial liquid investments limits downside

SIL consolidated has cash and cash equivalents of Rs117.8bn as on March'08 which provides it with the required fund to undertake its recently announced acquisition of ASARCO which could substantially drive its revenue and profitability or alternatively fund its capex in Sterlite Energy or acquisition of government stake in Balco and Hindustan Zinc Ltd.

#### Valuations

Sterlite is currently trading at P/E of 9.5x and 8.7x its FY09E and FY10E EPS of Rs66.4 per share and 72.3 per share respectively. Based on sum of parts valuation, which is on an EV/EBDITA basis and considering the value for its subsidiary Sterlite Energy Ltd and associate company Vedanta Aluminium Ltd (VAL) we recommend a Buy on SIL with a target price of Rs765 over the next 12 months.

Market Cap (Rs. bn)	441/\$10.3	52 Week High	1140
Issued Shares (mn)	708.5	52 Week Low	535
Avg. Daily Volume (nos)	355537	BSE Code	500900
BSE Sensex	11499	NSE Nifty	4349

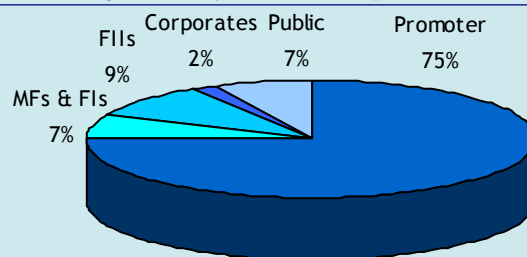
Price Performance (%)	1mt	3mt	12mt
Sterlite Industries Ltd	- 0.73	- 32.91	- 0.36
BSE Sensex	1.45	- 11.28	- 4.92

Source : Capitaline

	(Rs. in mn)			
Year ended March 31	FY07	FY08	FY09E	FY10E
Net Sales	243868.1	247053.6	260953.1	264710.6
Operating profit	94588.6	78682.2	78734.8	80210.7
OPM (%)	38.8	31.8	30.2	30.3
Net profit	43864.9	44078.0	47072.4	51204.2
EPS (Rs.)	78.5	62.2	66.4	72.3
EPS growth (%)		-20.8	6.8	8.8
P/E (x)	8.0	10.1	9.5	8.7
Div. Yield (%)	0.6	0.6	0.6	0.6
RoE (%)	44.0	19.8	17.7	16.3
RoCE (%)	52.7	27.2	19.2	16.5
Price/BV (x)	3.5	2.0	1.7	1.4
EV/EBDITA (x)	4.2	6.3	6.3	6.2
EV/Sales (x)	1.6	2.0	1.9	1.9

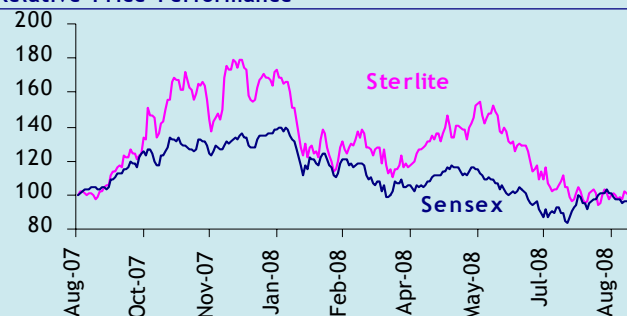
Source : Company Reports, Standard Chartered-STCI Capital Mkt

#### Shareholding Pattern (June 30, 2008)



Source : Capitaline

#### Relative Price Performance



Source : Capitaline

## SWOT Analysis

# S



### Strengths

- Diversified business model with presence in commodities like Zinc, Aluminium & Copper through its subsidiary Hindustan Zinc Ltd (HZL) and Bharat Aluminium Company Ltd (BALCO).
- One of the lowest cost producers for all its businesses. The cost of production of its businesses is as follows:  
Copper - 1.8cents/lb  
Aluminium - \$1720 per tonne  
Zinc - \$640-650 per tonne (excluding royalty)

# W



### Weakness

- Higher dependence on Zinc business, which contributed 68.4% of its operating profit for FY08 followed by aluminium and copper each contributing 16.8% and 14.8% respectively.
- Absence of backward integration for its copper and aluminium business (new Korba facility) curbs the company from achieving optimum benefits of higher prices on the LME.

### Opportunity

# O



- Foray into commercial power generation of 2400MW would further diversify the business model of the company, allowing the management to leverage their experience of operating thermal coal based captive power plants.
- Call option to acquire the government's stake of 29.5% in Hindustan Zinc Ltd and 49% in BALCO along with the acquisition of ASARCO which is pending due to legal complications.

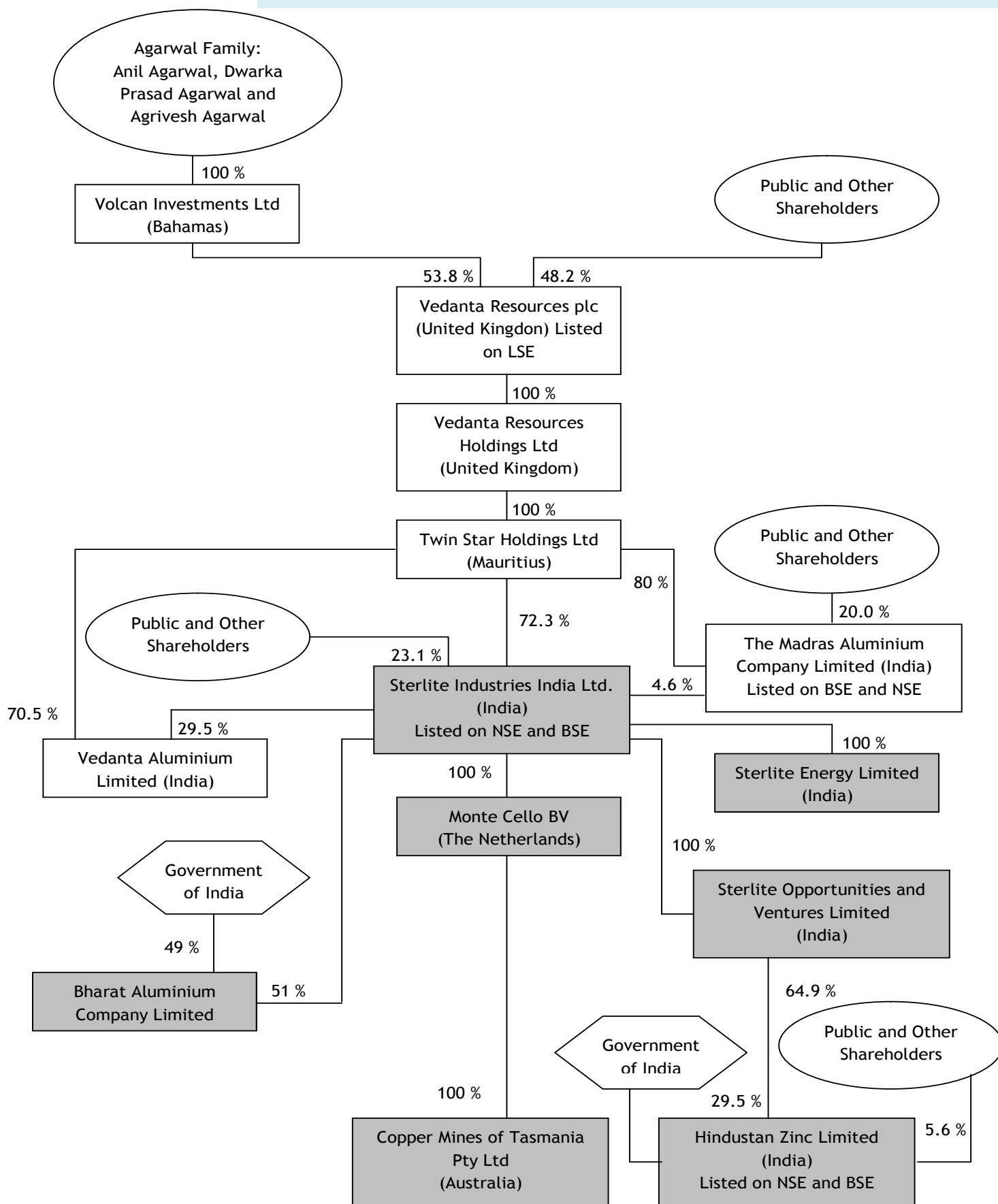
### Threats

# T



- A sharp drop in the global commodity demand due to rising interest rates, inflation and a slow down in global economies, could adversely impact Sterlite's consolidated performance as it might drag LME prices lower.
- Inability to consolidate its other businesses where the government holds a substantial stake could adversely impact the long term plans of utilizing the strong cash flows generated by its subsidiaries for other projects.
- Inability to complete the commercial power generation project on time and as per agreement, could lead to substantial losses and penalties.

## Shareholding pattern as on June 30, 2008



Shading indicates companies that are part of consolidated group of companies

## Key Assumptions

Particulars	FY08	FY09E	FY10E
<b>Sterlite Standalone</b>			
Copper Sales (tonnes)	337,073.0	344,250.0	364,500.0
% Increase	8.3	2.1	5.9
TcRc (Cents/Lb)	15.7	11.5	15.5
% Increase	(49.5)	(26.8)	34.8
Cost of Production (Cents/lb)	1.8	1.8	1.8
% Increase	(70.5)	-	-
<b>BALCO</b>			
Aluminium Sales (tonnes)	358,671.0	373,300.0	383,050.0
% Increase	14.5	4.1	2.6
LME Prices (\$/tonne)	2,620.0	2,900.0	2900
% Increase	(1.6)	10.7	-
<b>Hindustan Zinc Ltd (HZL)</b>			
Zinc Sales (tonnes)	425,532.0	595,508.3	629,100.0
% Increase	21.7	39.9	5.6
LME Prices (\$/tonne)	2,992.0	1,900.0	1,900.0
% Increase	(16.4)	(36.5)	-
<b>Vedanta Aluminium Ltd</b>			
Alumina Sales (tonnes)		360,000.0	500,000.0
% Increase			38.9
Aluminium Sales (tonnes)		20,000.0	200,000.0
Exchange Rate	40.2	43.0	43.0

## Sensitivity Analysis

### Sensitivity to Rs./\$ exchange rate

Base EPS		Exchange Rate (Rs./\$)		New EPS (Rs)		% Change	
FY09	FY10	Base	New	FY09	FY10	FY09	FY10
66.4	72.3	43.0	41.0	63.6	69.0	(4.2)	(4.6)
66.4	72.3	43.0	42.0	65.0	70.7	(2.1)	(2.3)
66.4	72.3	43.0	44.0	67.8	74.0	2.1	2.3
66.4	72.3	43.0	45.0	69.2	75.6	4.2	4.6

Based on an increase or decrease of Rs.1 in Rs./\$ exchange rate our consolidated EPS estimates for FY09E and FY10E would change by 2.1% and 2.3% respectively.

### Sensitivity to Aluminium Prices

Base EPS		Base Price	New Price		New EPS		% Change	
FY09	FY10	(\$/tonne)	(\$/tonne)	(\$/tonne)	FY09	FY10	FY09	FY10
66.4	72.3	2,900.0	2,800.0	2,800.0	65.6	71.2	(1.2)	(1.5)
66.4	72.3	2,900.0	3,000.0	3,000.0	67.2	73.4	1.2	1.5

For a \$100 change in aluminium prices consolidated EPS would change by 1.2% and 1.5% in FY09E and FY10E.

**Sensitivity to Zinc Prices**

Base EPS		Base Price		New Price		New EPS		% Change	
FY09	FY10	(\$/tonne)		(\$/tonne)		FY09	FY10	FY09	FY10
66.4	72.3	1,900.0	1,900.0	1,800.0	1,800.0	65.0	70.7	(2.1)	(2.2)
66.4	72.3	1,900.0	1,900.0	2,000.0	2,000.0	67.8	73.9	2.1	2.2

For a \$100 change in zinc prices consolidated EPS would change by 2.1% and 2.2% in FY09E and FY10E

**Sum of Parts Valuation**

	(Rs. in Mn)					
	EBDITA		EV/EBDITA		Enterprise Value (EV)	
	FY09E	FY10E	FY09E	FY10E	FY09E	FY10E
SIL-Standalone(100%)	11727.7	12639.8	5.0	5.0	58638.7	63198.8
HZL (64.5%)	45631.4	46460.5	5.0	5.0	148074.1	150764.3
BALCO (49%)	18501.4	18379.9	5.0	5.0	47178.5	46868.7
Others -						
Australia Mines (100%)	2874.2	2730.5	5.0	5.0	14371.1	13652.6
Sterlite Energy (100%)					-	30000.0
<b>Total - EV</b>					<b>268262.4</b>	<b>304484.4</b>
Net Cash					177349.7	218901.0
<b>Market Capitalisation</b>					<b>445612.1</b>	<b>523385.4</b>
Add: Share of Vedanta Aluminium						18486.4
<b>Market Capitalisation (Incl Associate Value)</b>					<b>445612.1</b>	<b>541871.8</b>
Equity Capital (No.of shares)					708.5	708.5
<b>Market Price (Rs.)</b>					<b>629.0</b>	<b>764.8</b>

## Copper Business: Custom Smelting

Copper business is principally one of custom smelting and includes one of the world's lowest cost smelters at Tuticorin in southern India. In addition to this the company has its own copper mines.

### Current Capacity Details

Particulars	Current Capacity
<b>Copper Mines</b>	
- Tasmania - ore mined (Grade - 1.2% Copper)	2.5mn tonnes
<b>Copper Cathode - Refinery</b>	
- Tuticorn	205000 tonnes
- Silvassa	195000 tonnes
<b>Copper Rod</b>	
- Tuticorn	90000 tonnes
- Silvassa	150000 tonnes
<b>Sulphuric Acid</b>	
- Tuticorn	1300000 tonnes
<b>Phosphoric Acid Plant</b>	
- Tuticorn	180000 tonnes
<b>Captive Power plant</b>	
- Tuticorn	46.5 MW

### SWOT Analysis

#### Strengths

Cost of production stands at 1.8 cents/lb due to better by-product realizations and is in the lowest quartile i.e 7<sup>th</sup> and 8<sup>th</sup> position in terms of global cost of production. Hence, the company has a competitive edge despite declining TcRc as it continues to generate positive cash flows.

#### Opportunities

Increasing demand in the domestic market could provide benefits in terms of savings on freight cost since billing is based on the landed cost of metal prices. Exports currently account for 56% of its copper sales volume

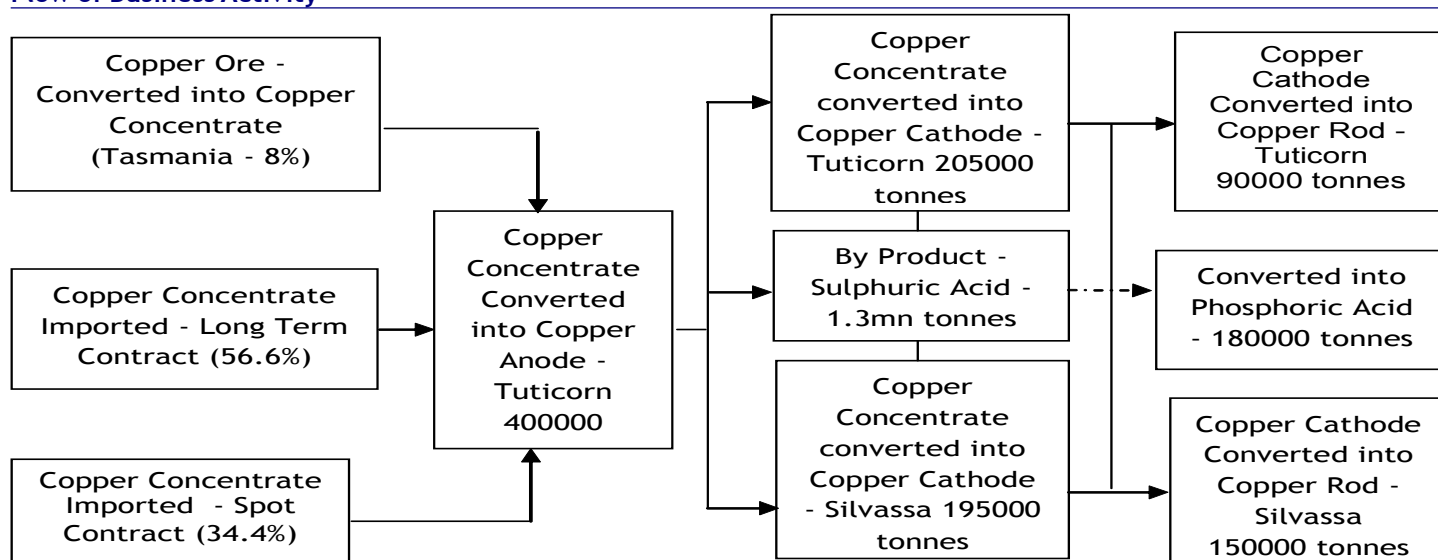
#### Weakness

No significant backward linkages in terms of copper mines, makes the company dependent on global miners and it will not benefit from any upturn in LME prices of copper

#### Threat

Non- availability of copper concentrate would put pressure on TcRc rates and impact operating margins.

## Flow of Business Activity



SIL has a copper anode production capacity of 4 lakh tonnes. In Q1FY09 shutdown of the smelter for 26 days lead to lower production, which stood at 68000 tonnes. We expect production for FY09 and FY10 to stand at 344,250 tonnes in FY09E and 364,500 tonnes in FY10E assuming a capacity utilisation of 85% and 90% respectively.

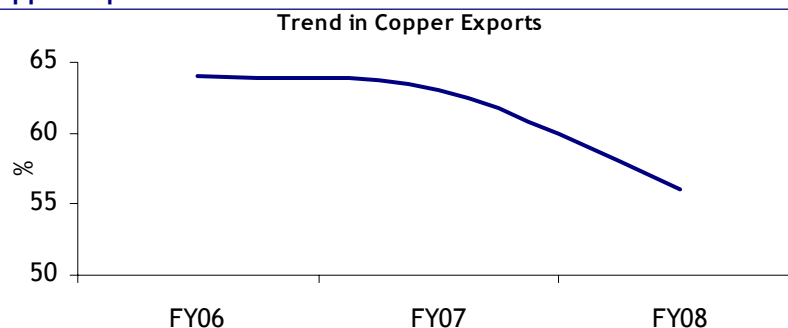
The captive copper mine which provides 10% of SIL's copper concentrate requirement mined and processed 2.5mn tonnes of ore and produced 99,388 DMT of concentrate which contained 15,822 ounces of gold and 134,408 annouces of silver. Based on the current proven reserves and estimated production the mine life has been revised again and it is estimated to remain operational for another 4 years till 2012.

### Cost of Production: Mt. Lyell Mine, Tasmaina

(Rs./tonne)	FY08	FY07	% Change
Contract Mining & Milling Cost	95,684	83,916	14.0
Administration Cost	9,896	9,008	9.9
Transportation Cost	15,317	11,766	30.2
<b>Total Cost</b>	<b>120,897</b>	<b>104690</b>	<b>15.5</b>
TcRc	11,766	32,411	(63.7)

Source: Company

### Declining Copper Exports



Source: Standard Chartered - STCI Capital Markets Research

Surging domestic sales volume provides an advantage in terms of higher realizations for SIL since billing is based on the landed cost of the metal. However, rising cost of production for the Tasmania mine and reduced concentrate supply in the future could lead to reduction in profitability from the copper division.

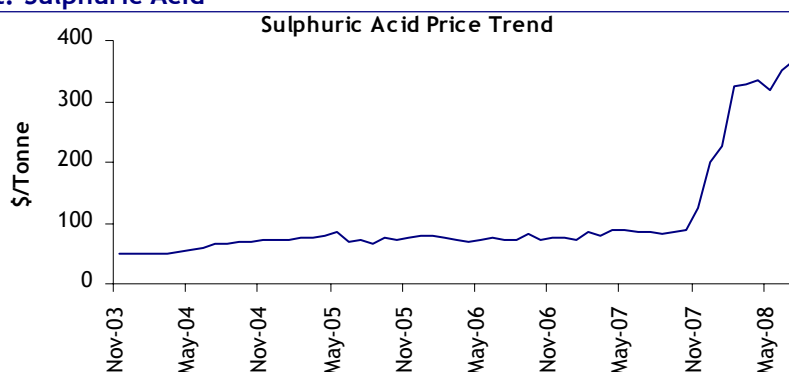
### Raw Material Security

SIL currently procures 8-9% of its copper concentrate requirement from its 100% subsidiary in Australia whereas the balance is procured through a mix of long - term and spot contracts with third parties as well as its parent company Vedanta Resources 'Konkola copper mines'. We expect the quantum of copper concentrate from third parties to rise further as the existing mine; Mt. Lyell will be exhausted by 2012.

Long - term contracts for the company run for a period of 3 to 5 years whereby the quantity to be supplied is fixed at the beginning of the year and terms like TcRc's and freight differentials are negotiated based on market conditions and the demand supply balance for the product in the market. We expect the company to procure 55% - 60% of its requirement through these contracts.

Balance 30-35% is procured through spot basis to fill any production gaps.

### By Product: Sulphuric Acid



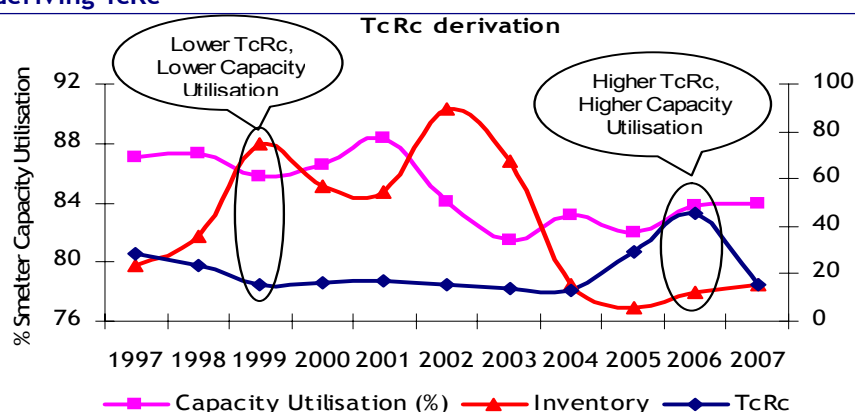
Source: Standard Chartered - STCI Capital Markets Research

Processing of copper concentrate generates sulphur dioxide, which is converted into sulphuric acid and is partly used for the manufacturing of phosphoric acid. Approximately 2.8 tonnes of sulphuric acid is needed for the production of one tonne of phosphoric acid. Surge in the price of sulphuric acid, since November'07 has led to a reduction in the COP for copper smelter.

### Energy Self Sufficient

Captive power generation has been added advantage, which has helped SIL be in the lowest quartile in terms of cost of production. The company currently has 46.5MW of captive power plant at its Tuticorn facility of which 11.2MW is based on waste heat recovery. The Silvassa unit however draws its power requirement from the state power grid.

### Factors deriving TcRc



Source: ICSG, Standard Chartered - STCI Capital Markets Research



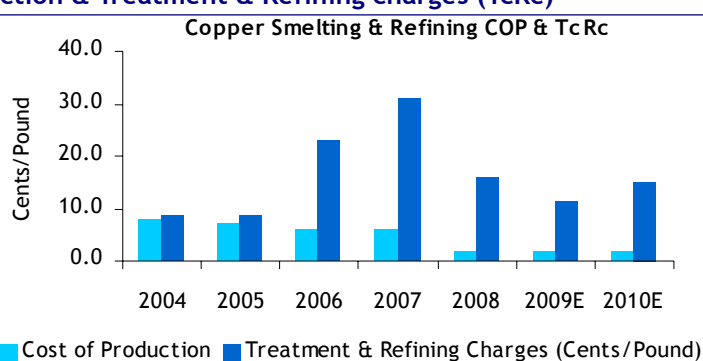
TcRc are negotiated between the miners and custom smelters considering the availability of copper concentrate in the market, which depends on the mine produce and smelter capacity utilisation. In the absence of new mines to feed the increasing capacity of custom smelters TcRc would remain under pressure. The chart above represents the same.

## Outlook on TcRc

As per ICSG mine production rose by 3.0% in 2007 to 15.4mn tonnes compared to 15.0mn tonnes in 2006. Going forward we expect mine production to increase by 6% to 16.4mn tonnes in 2008 and further by 9% to 17.9mn tonnes due to new mine developments and increased capacity utilisation. The major mining capacity increase would be coming from South America and Africa. However, higher growth rates are expected for solvent extraction/electro winning production (SX-EW) than for concentrate production.

World production for refined copper is projected to increase by 2.7% to 18.6mn tonnes in 2008 and further by 7% to 19.9mn tonnes in 2009. Since, copper concentrate market was in deficit by around 350000 tonnes in 2006 and 300000 tonnes in 2007 despite increasing mine production over the next 2 years growth of refined copper production would be restrained. Hence, we expect the copper concentrate market to balance in 2010 as smelter capacity utilisation would improve.

## Cost of Production & Treatment & Refining charges (TcRc)



Source: Company, Standard Chartered - STCI Capital Markets Research

SIL has progressively reduced its cost of production for copper smelting and refining from 7.8 cents/lb in FY04 to 1.8cents/Lb in FY08 on the back of improved copper recovery, increased realisation for by-product supported by its captive power plants.

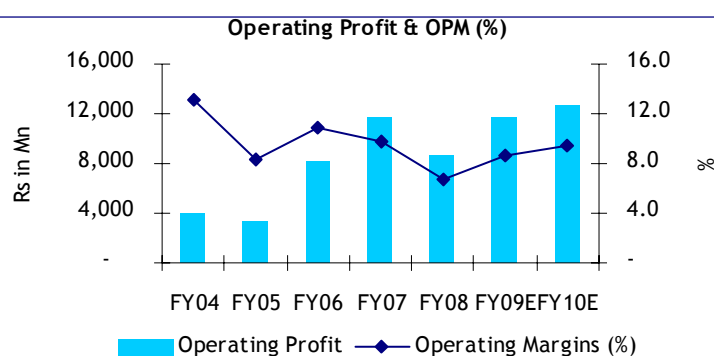
## Financial Analysis

### CAGR volume growth of 3.6% over next 2 years

Volumes from the copper business are expected to ramp up post the maintenance shutdown taken in Q1FY09 as it has increased the turnaround time from 24 months to 36 months for the plant. We thereby expect sales volume to stand at 344,250 tonnes in FY09E and 364,500 tonnes in FY10E assuming a capacity utilisation of 85% and 90% respectively.

### Surplus in copper concentrate to ease TcRc

Profit margins for standalone smelters globally are denominated by TcRc, which is the rate that miners pay to smelters for refining copper concentrates. SIL imports copper concentrates from overseas miners and produces finished products mainly copper cathodes and copper rods.



Source: Company, Standard Chartered - STCI Capital Markets Research

In Q1FY09, SIL managed to reduce its cost of production from 6.1cents/lb to 1.8 cents/lb due to improving realisation from by product sales mainly sulphuric acid and higher plant efficiency helped them achieve better operating margins of 10.7%. We expect TcRc to continue to remain under pressure in FY09E and it would average at 11.5 cents per pound. However, with increased mine production and slowing demand in FY10 we expect TcRc rates to improve to 15 cents/lb.

### Key Concerns

Disruptions in supply of copper concentrates could lead to production disruptions and cost overrun thereby impacting the operating performance of the company.

Sharp correction in the prices of by products and reduced plant operational efficiency with lower LME copper prices could lead to a surge in the cost of production from 1.8cents/lb in FY08. We have assumed cost of production to remain stable going forward.

## Business Overview: Aluminium

The aluminium business is primarily owned and operated by BALCO. It is one of the four producers of aluminium in India and had a 27% primary market share by volume in 2008 compared to 19% in 2006 due to commissioning of 245,000 tonnes smelter capacity in November 2006. Balco, old smelter capacity of 1 lakh tonnes is integrated in terms of raw material and energy whereas the new Korba smelter for 245,000 tonnes being energy integrated procures its alumina requirement from third party.

### Current Capacity Details

Particulars	Current Capacity
<b>Bauxite Mines</b>	
- Manipat	750000 tonnes
- Bodai - Daldali	1250000 tonnes
<b>Alumina</b>	
- Korba	200000 tonnes
<b>Aluminium - Korba</b>	
- Old Plant	100000 tonnes
- New Plant	245000 tonnes
<b>Captive Power Plant</b>	<b>810MW</b>

### Swot Analysis

#### Strength

Procurement of alumina from Vedanta Aluminium wherein the company holds 29.5% equity would reduce its average cost of production for aluminium from \$1720 per tonne in FY07 to \$1500 per tonne.

#### Weakness

Low contribution from value added products doesn't allow company to gain premium realizations. Aluminium Ingot sales accounted for 55% of the total aluminium sales volume.

Dependence on coal through linkages, which is to the extent of 70% of its requirements with the balance being procured through open market purchases and imports.

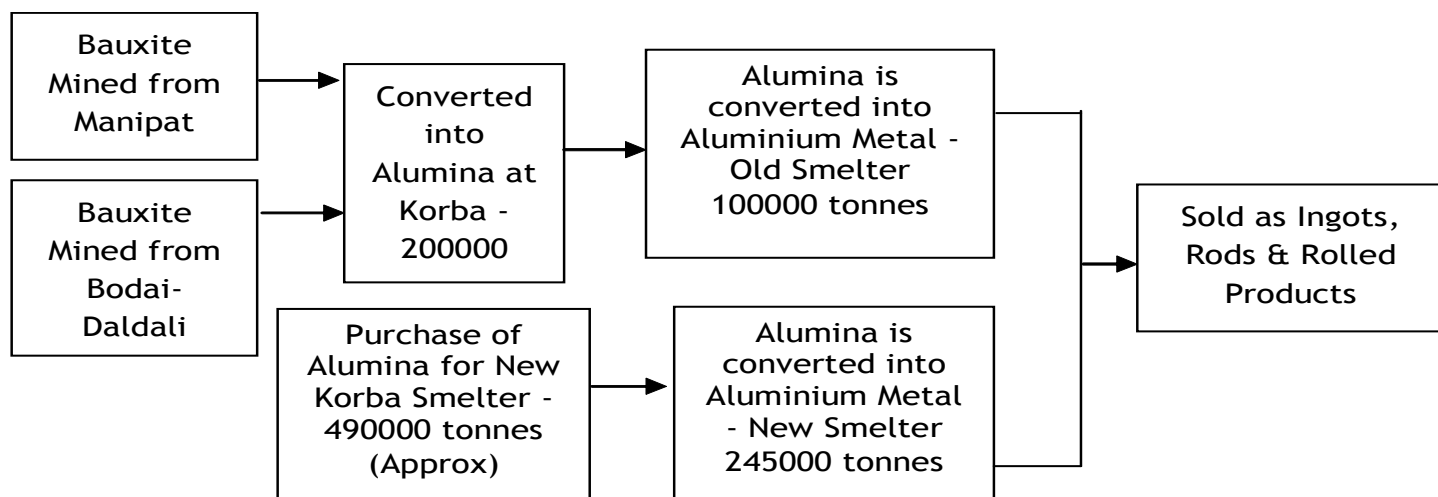
#### Opportunity

Allotment of the bauxite mine in Orissa to Vedanta Alumina Ltd would reduce the cost of production for alumina by \$50 per tonne compared to the current cost of production of \$170 per tonne.

#### Threat

Inability to acquire the balance 49% stake from the government could restrict future growth plans, as the company will not be in a position to optimally utilize its strong cash flows. Hence, we could also see a divergence of business to its other group companies wherein Vedanta holds a majority stake.

Reduction in import duty, which currently stands at 5%, could also impact the average realizations, as prices are based on an import parity basis.

**Flow of Business Activity**

No major expansions has been lined up for Balco going ahead as its requirement for alumina would be satisfied through the associate company Vedanta Aluminium Ltd.

**Expansion through Associate Company**

SIL has undertaken a major expansion under its associate company Vedanta Aluminium Ltd (VAL) where it owns 29.5% equity with the balance being held by the parent company, which is not a part of SIL.

**Alumina expansion to support Balco's new smelter**

Vedanta Aluminium has commissioned its 1mn tonne alumina capacity and 75 MW captive power plants in March 2007, which is progressively being ramped up. The company expects the stabilisation of the plant to be completed by the end of FY09. Alumina production in FY08 stood at 267,000 tonnes and we expect production to stand at 400,000 tonnes in FY09E and 900000 tonnes in FY10E. Further, the company plans to ramp up its production capacity to 1.4mn tonnes and 90MW subject to government approvals. The total project cost would be Rs32bn

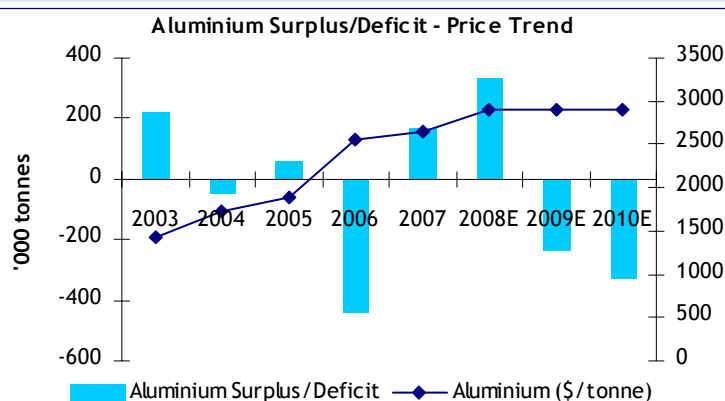
**Bauxite mine approved: Bridging the gap**

VAL has received an approval for the bauxite-mining project at Lanjigarh in Orissa from the Supreme court, which was challenged by environmentalists. VAL is expected to invest \$2.5mn to help local tribes and would now build up a conveyor belt for transportation of bauxite to the crusher. The mine is expected to be operational within the next 6 months and mining activities would be initiated in the beginning of FY10. VAL currently procures bauxite from Balco for producing alumina and earns a conversion fee linked to market rates whereas the balance requirement is procured from third parties. We expect, post commissioning of the bauxite mine the cash cost of production for alumina to reduce by \$50 per tonne from \$200 per tonne.

**Set up of Aluminium Smelter....****... Presence across the value chain**

In order to have its presence across the value chain, VAL is planning to setup 5 lakh tonnes of greenfield smelter capacity with 1215MW of captive power plant at a total capital outlay of \$2100mn. VAL has however received environmental approval for 250,000 tonnes of capacity with captive power plant of 675MW, which has been commissioned in May 2008 and trial runs have started. We expect the progressive commissioning of the smelter to start in phases as the power plant is commissioned and expect stabilisation of the capacity by Q1FY10E. Our production target for FY10E is 200,000 tonnes.

## Outlook on Aluminium



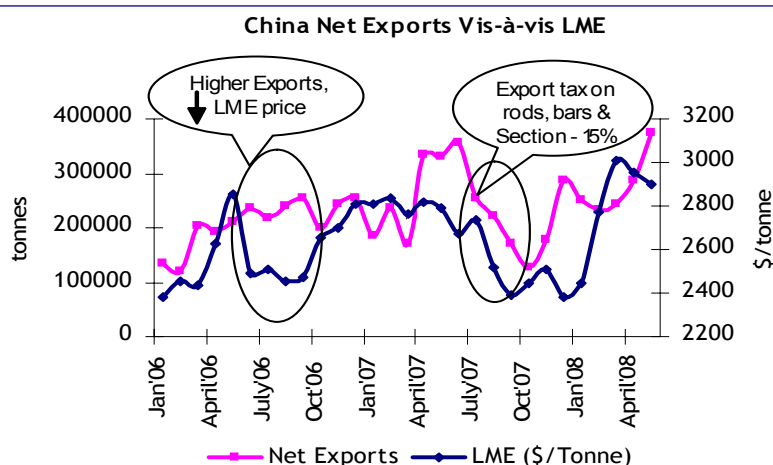
Source: Company, Standard Chartered - STCI Capital Markets Research

We expect strong demand growth and slow production growth in China to drive the global aluminium market into a deficit. Global production (excluding China) in 2007 increased by 3.9% from 24.6mn tonnes to 25.5mn tonnes whereas Chinese production increased by 34.8% to 12.6mn tonnes.

On the other hand global consumption (excluding China) in 2007 grew by 0.8% yoy to 25.8mn tonnes mainly due to de-growth in North America of 7.8%yoy. Other regions excluding China and North America however recorded a growth of 4.1%. China during the same period recorded a consumption growth of 38.8%yoy to 12.2mn tonnes.

Hence, we can conclude that any surprises in terms of Chinese production or consumption growth could impact the global surplus and deficit in the global aluminium market. In addition, substantial slowdown in the Europe and North American markets could impact the global aluminium market

## Chinese Aluminium Market



Source: Standard Chartered - STCI Capital Markets Research

China has been a major exporter for aluminium and its products in the global aluminium market. Aluminium prices have also been inversely correlated and moved in the opposite direction. Post August 2007, exports declined mainly due to imposition of export tax on rods, bars and section of 15%.

## Financial Analysis

### Net sales to record CAGR of 10.6% over next 2 years

Net Sales for BALCO would be driven by volume growth of 3.3% over the next 2 years along with 7.3% increase in the average price realizations as we expect LME price to be at \$2900 in FY09E and FY10E. On the cost front except for benefits of operating leverage we don't expect any other cost reduction initiatives. **However, SIL would gain a substantial share of profits in FY10E from its associate company VAL as it would gain benefits from the ramp up of alumina and aluminium capacity commissioned in FY09E.**

### VAL's share of net profit

We expect SIL to gain Rs2.3bn as share of its profit from the associate company, which is valued at 8x times P/E multiple. We thereby value VAL at a market capitalisation of Rs62.7bn in FY10E, which could be unlocked at a future date as the company restructures its businesses post acquisition of the balance government stake in BALCO.

## Business Overview: Zinc

Hindustan Zinc is an integrated zinc producer with 4 mining and 3 smelting operations. The company operates world's 3rd largest open cast zinc mine with a capacity of 5mn tonnes and is one of the lowest cost zinc mine in the world. Chanderiya smelter with a capacity of 525000 tonnes of zinc is the worlds largest single location zinc complex. Further, the company has also transformed its new Chanderiya smelter with a production capacity of 170000 tonnes into an export-oriented unit, which would reduce the average tax rate.

### SWOT Analysis

#### Strengths

- Low cost of production (excluding royalty), which stands at \$640 - 650 per tonne in FY08. HZL plans to reduce it further by \$100 per tonne as it enhances capacity and commissions captive power plant of 80MW and receives coal linkages.
- Strong volume growth for the company going forward, as zinc production increases from 426,323 tonnes in FY08 to 629100 tonnes in FY10E.
- Commissioning of new zinc and lead capacity of 210000 tonnes and 100000 tonnes by 2010 would take its total integrated zinc and lead capacity to over 1mn tonnes.

#### Opportunities

- Strong cash flows would help the company aggressively expand its production capacity and take initiatives to spend a higher amount on exploration, thereby providing a strong long-term potential.

#### Weaknesses

- Highly dependent on user industries, including galvanizing companies (75%) and lead acid battery manufacturers (75%) in the domestic market, for its products.
- Substantially high cash flows, without avenues for deployment of funds, could impact the RoCE and RoNW for the company.

#### Threats

- Weakening of USD against the rupee adversely impacts the average realizations for Hindustan Zinc, as prices are linked to the London Metal Exchange.
- Reduction in import duty, which currently stands at 5%, could also impact the average realizations, as prices are based on an import parity basis.

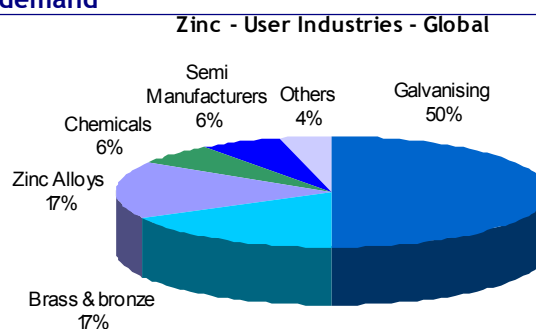
**Current Capacity**

Particulars	Current Capacity
Rampura Agucha Mine	5.0mn tonnes
Zawar Mines	1.2mn tonnes
Rajpura Dariba Mine	0.9mn tonnes
<b>Chanderiya Smelter</b>	
- Zinc Ingot	525000 tonnes
- Lead Ingot	85000 tonnes
- Captive Power Plant	234MW
<b>Debari Smelter</b>	
- Zinc Ingot	88000 tonnes
- Captive Power Plant	29MW
<b>Vizag Smelter</b>	
Zinc Ingot	56000 tonnes
Wind Power Plant	123 MW

**Expansion Plans**

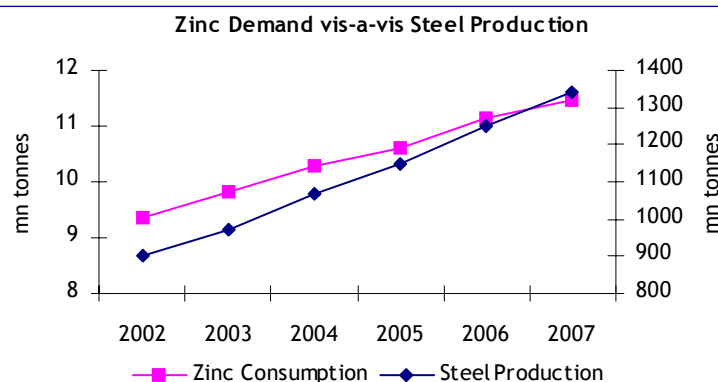
HZL has announced brownfield expansion projects, which will increase production capacities of zinc and lead by 210000 tonnes and 100000 tonnes respectively. The expansion will be undertaken at Rajpura Dariba in Rajasthan. Further, the company expects to increase its silver production from current levels of 100 tonnes to 500 tonnes per year due to higher silver occurrence at its Sindesar Khurd mine

In order to support its expanded capacity the mining capacity of Rampura Agucha mine would be increased from 5mn tonnes to 6mn tonnes by mid 2010 whereas its Sindesar Khurd capacity would be increased from 0.3mn tonnes to 1.5mn tonnes and fresh mining activity would be undertaken at Kayar mine to produce 0.3mn tonne. The expansion at Sindesar Khurd and Kayar mine would be undertaken in phases and would be completed by 2012. Further, HZL plans to setup a 160MW of captive power plant to be integrated and self reliant in terms of power. The total capex for the project would be Rs36bn, which would be funded mainly through internal accruals due to strong cash generation.

**Drivers for ZINC demand**

Source: ILZSG, Standard Chartered - STCI Capital Markets Research

The key driver for zinc demand has been steel as 50% of zinc is used for galvanizing. Also, the major demand growth in zinc over the last 4-5 years has been mainly driven by strong production growth in crude steel. There has been a positive correlation between the steel production growth and zinc consumption growth, which stood at 99.6%.

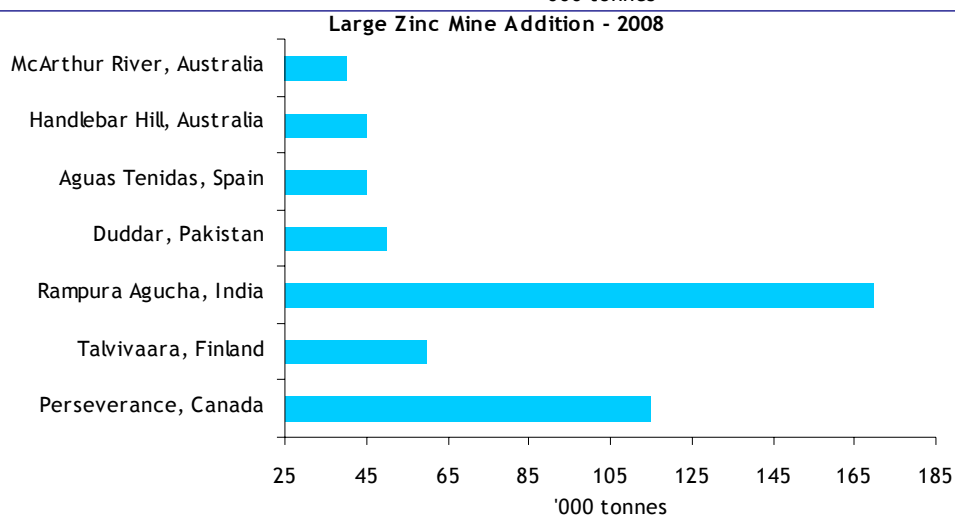
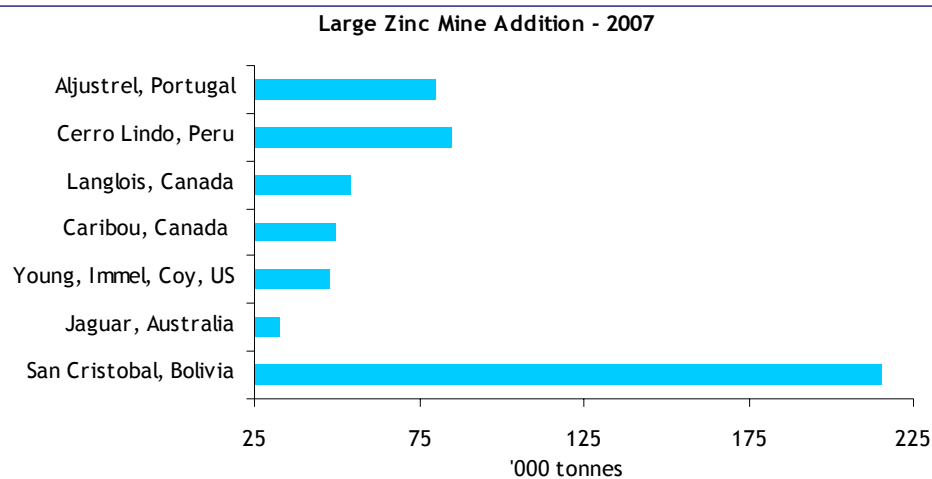


Source: Standard Chartered - STCI Capital Markets Research

	2002	2003	2004	2005	2006	2007	CAGR (%)
Zinc Consumption	9.4	9.8	10.3	10.6	11.1	11.5	4.2
Steel Production	904.0	970.0	1068.7	1146.2	1250.3	1343.4	8.2
Ratio Zinc Cons/Steel Prodn (%)							50.6

## Zinc Outlook

### Large Zinc mine addition to boost Production

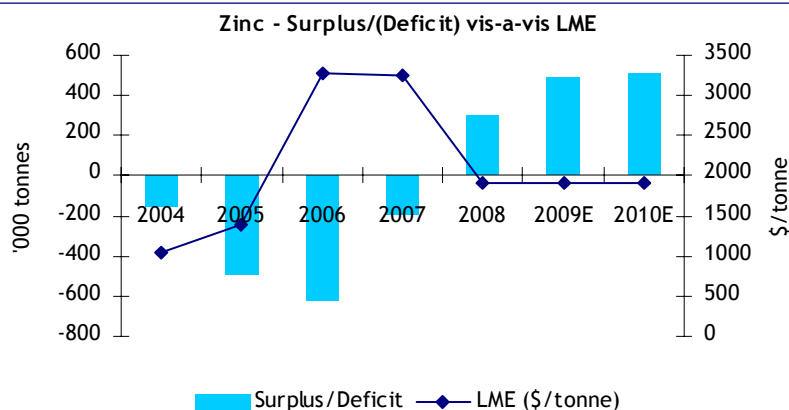


Source: ILZSG, Standard Chartered - STCI Capital Markets Research



The global zinc market was in surplus with 78000 tonnes for the period January - April 2008 with global refined zinc production at 3.82mn tonnes and consumption at 3.74mn tonnes.

Going forward, production growth is expected to be 5.2% CAGR over the next 3 years due to commissioning of mining capacity of 1.8mn tonnes in the next 3 years to 2010E.



Source: Standard Chartered - STCI Capital Markets Research

Considering the demand growth in the global steel industry to be 7.4% in 2008E and 6% in 2009E and 2010E we expect zinc demand to grow at 3.7% in 2008E and 3% in 2009E and 2010E respectively. On the other hand with major mine supplies lined up for commissioning in 2008E and ramping up of production from mines commissioned in 2007 we expect the zinc market to be in surplus and hence LME prices of zinc to remain subdued.

## Financial Analysis

### Strong Volume growth & Lower LME prices

HZL is expected to deliver strong CAGR volume growth of 21.6% over the next 2 years due to commissioning of 170000 tonnes of Chanderiya capacity and 88000 tonnes of de-bottlenecking capacity in FY08 and FY09. On the average realizations we expect the LME price to be at \$1900 per tonne for the next 2 years.

### Cost reduction and tax benefits

HZL would de-grow in FY09E due to a sharp downturn in LME prices over FY08 however strong volume growth and cost reduction initiatives through commissioning of 80MW captive power plant at its Zawar mine and benefits of operating leverage would help the company maintain its PBT. Further, lower tax provisioning due to EOU status being granted to its new Chanderiya plant would further boost the net profit. We expect net profit to stand at Rs40bn in FY09E and Rs41bn in FY10E.

### Key Concerns

#### Optimum utilization of liquid funds

The ability to generate returns on surging liquid cash investments similar to the existing business, remains a major concern, as liquid investments are 63% of the total capital employed in FY08. Inability to deploy these liquid investments optimally, could adversely impact the return ratios like RoCE and RoNW.

**Declining LME Price for Zinc and Lead**

Since we expect supply to be in excess of demand, any decline in LME prices higher than our expectations could adversely impact the profitability and impact valuations.

**Dependence on Rampura Agucha Mine**

Substantial dependence upon our Rampura Agucha zinc mine, which contributes around 70% of the total mined metal in zinc concentrate, could adversely affect the operations and financial conditions in case of any interruption.

**Business Overview: Commercial Power Generation**

SIL's power generating capacity from its 10 captive power plants which includes Thermal, Liquid and wind power capacity stood at 1308 MW as of March 31, 2008, of which 849 MW was from four thermal coal-based captive power plants completed in the last 3-4 years.

To leverage its experience of running its own captive power plants, Sterlite Industries plans to invest approximately \$1900 million over the next 3 years into its wholly-owned subsidiary Sterlite Energy to build the first phase, totaling 2,400 MW (comprising four units of 600 MW each), of a thermal coal-based power facility. The first unit would be commissioned by December 2009 and the remaining three units would be commissioned at the rate of one per quarter for each of the three fiscal quarters thereafter. The funding for the project would be in a debt equity ratio of 70:30.

**Coal Linkages**

Ministry of coal allotted a coal block in January 2008 to Sterlite Energy Ltd (SEL) along with six other companies wherein SIL's share would be 112.2mn tonnes. SEL's annual coal requirement would be 13.2mn tonnes for these power plants. Further, SEL has been allotted a coal linkage for its 600MW power plant from Mahandi Coal fields Ltd. In addition, the subsidiary has entered into an MOU with the state government of Orissa for the acquisition of land for the project.

**Power purchase agreements**

The power purchase agreement provides that 600MW of power generated by the power plant to be supplied to the state government for Orissa each year for a period of 5 years. Further, the agreement provides that all power generated from the facility in excess of plant load factor of 80% will be made available to Grid Co at a variable price plus a variable incentive to be determined by CERC.

Sterlite Energy has also entered into an MOU with Power Trading Corporation for the sale of approximately 600MW per year of power.

**Sterlite Energy wins bid to setup Power Project**

SEL was the lowest bidder for the 1980MW Talwandi-Sabo (Punjab) power project and has been awarded the LOI for it. SEL has quoted a levelised tariff of Rs2.84 per unit. Punjab State Electricity board has acquired land for the project and has also secured coal linkages. As per the bid, the plant's first unit will have to be commissioned by December 2011. As the project already has the necessary clearances, fuel linkages and land we expect SEL to start work on the project soon.

## Integrated Copper Business: ASARCO - Pending acquisition

Sterlite Industries Ltd (SIL) has entered into an agreement to buy the operating assets of ASARCO, USA based integrated copper manufacturer for \$2.6bn in an all cash deal (Assets - \$2.1bn, Working Capital - \$0.5bn). ASARCO is the third largest copper producer in the USA with smelter capacity of 235,000 tonnes and refining capacity of 5 lakh tonnes per annum. The transaction is subject to approval of the USA Bankruptcy court since it was under chapter 11 due to legal liabilities arising from environmental and labour issues. We expect the deal to be EPS accretive to the tune of Rs4.8 per share considering the financials for 2007.

### Funding details

SIL would fund the acquisition through a mix of cash and debt. The company would however finalise its funding details over the next 6 months, as it would get the final approval from the USA bankruptcy court for takeover of assets.

We expect Sterlite to fund this acquisition through a mix of debt and cash in the ratio of 50:50 as Sterlite Industries - Standalone has liquid investments of \$1.75bn raised through its ADS issue in 2007, which could be utilized for funding the acquisition.

Also considering the strong cash flows for ASARCO we expect SIL to be in a position to raise \$1.5bn in books of ASARCO as a non-recourse debt.

### ASARCO Assets Acquisition details

ASARCO has copper reserves with 5mn tonnes of contained copper, which would satisfy ASARCO's existing capacity over the next 25-28 years. The operating assets of the company include:

Particulars	Capacity (Mn Tonnes)
Mines	3 Open Pit mines
Smelter Production - Arizona, USA	235000
Refinery Capacity - Texas, USA	500000
Employees	3000

Source: Company

### Financial Highlights

Particulars	CY07
Sales Volume	235,000.0
Revenue (\$ in Mn)	1,688.0
Total expenses (\$ in Mn)	1,149.0
EBDITA (\$ in Mn)	650.0
<b>Per Tonne (\$)</b>	
Average Realisation (\$)	7,183.0
EBDITA Per Tonne (\$)	2,766.0
Cost of Production (\$)	4,417.0

Source: Company, Standard Chartered - STCI Capital Markets Research

Of the total sales volume of 235,000 tonnes ASARCO's in house operations generated sales volume of 180,000 tonnes and the balance was through tolling and inventory liquidation.

Since, the refining capacity of the company stands at 0.5mn tonnes SIL would ramp up its smelter capacity equivalent to its refining capacity over the next 2 years and reduce its cost of production to \$3300 per tonne from its current cost of production of \$4300 per tonne (Excluding profit through tolling).

**Capex for debottle necking**

We expect SIL to incur an annual capex of \$80-\$100mn over the next 2 years for maintenance of its assets and enhancing its production capacity through de-bottlenecking. SIL has already cited opportunities in the Sx/EW plant to double its production capacity from current capacity of 25000 - 30000 tonnes by incurring an incremental capex of \$60-\$70mn. Hence, we expect similar initiatives would help enhance capacity and reduce the average cost of production for ASARCO.

**Key Concerns**

Delay in acquisition due to roadblocks being created by Grupo Mexico the holding company that owns ASARCO but has lost control due to application of chapter 11 under USA law.

**Financial Accretion & Outlook**

Considering the funding pattern, we expect SIL to utilise its liquid investments for funding the acquisition and raise non-recourse debt equivalent to 50% of its funding requirement, which would lead to interest outflow. Hence, we expect the deal to EPS accretive to the tune of Rs4.8 per share based on its CY07 financials. However, considering SIL's ability to optimize the utilisation of assets through de-bottlenecking at minimal incremental capex we expect ASARCO to be a strong contributor in terms of profitability in the long run as it realigns its refining and smelting capacity and reduces its average cost of production.

**Pending List of Acquisitions****Call Option - Hindustan Zinc Ltd- 29.5%**

SIL has a call option through its subsidiary Sterlite Opportunities Ventures Ltd (SOVL) to acquire governments remaining 29.5% shareholding in HZL, subject to the right of the Government of India to transfer upto 3.5% of the issued share capital of HZL to its employees in which case the number of shares that SOVL may purchase will be reduced accordingly.

The call option has been exercisable since April 11, 2007 and remains exercisable thereafter so long as the Government of India has not sold its remaining interest pursuant to a public offer of its shares. The exercise price for the for the call option will be equal to its fair market value as determined by an independent appraiser. As per the agreement upon issuance of notice of exercise of the call option by SOVL it has to complete the obligation within a period of 60days from such notice. Based on the current market price of Rs550, considering acquisition of 26% stake (Post ESOP's to employees) the value stands at Rs60.4bn.

**Call Option - BALCO - 49.0%**

SIL exercised its call option to acquire 49% of BALCO in March 19, 2004, which was delayed and later challenged by the Government of India. Currently as per the high court a mediation proceeding have initiated since July 2007 as both parties have appointed their independent mediators. SIL expects a resolution on the same in the near future failing which it can seek arbitration.

### **Acquisition of ASARCO**

SIL announced the acquisition of ASARCO on May 31, 2008 for a cash deal of \$2.6bn. ASARCO produced 235,000 tonnes refined copper in 2007 and has 3 copper mines with reserves of 5mn tonnes of contained copper. The company also has a refining capacity of 5 lakh tonnes. The current cost of production stands at \$4300 per tonne. The funding for the deal would be finalised post approval from the US Bankruptcy court.

SIL has on the other hand got support of the Unions of ASARCO as it has entered into an agreement, which would retain all its existing worker benefits and further invest funds to improve operations of all its assets. The duration of the agreement, which was expected to end in 2010 has also been extended till 2013.

SIL's acquisition however ran into rough weather with a US bankruptcy judge allowing Grupo Mexico the parent company to come up with a revival package. Further, the judge has approved a breakup fee of \$52mn and other protections sought by SIL. However, considering the support of the Unions we expect SIL's bid to be accepted but delay in acquisition due to legal battle with Grupo Mexico remains a major hindrance for SIL.

## Financials

Income Statement					Balance Sheet				
(Rs. in mn)					(Rs. in mn)				
Year ended March 31	FY07	FY08	FY09E	FY10E	Year as on 31st March	FY07	FY08	FY09E	FY10E
<b>Net sales</b>	<b>243868</b>	<b>247054</b>	<b>260953</b>	<b>264711</b>	Equity Capital	1117	1417	1417	1417
Cost of goods Sold	149280	168371	182218	184500	Reserves & Surplus	98701	221609	265281	313084
Operating Profit (EBDIT)	94589	78682	78735	80211	<b>Net Worth</b>	<b>99818</b>	<b>223026</b>	<b>266698</b>	<b>314501</b>
Depreciation	8039	5950	6538	7254	Secured Loans	15258	15342	15342	15342
Gross profit (EBIT)	86550	72732	72196	72956	Unsecured Loans	30845	35403	35403	35403
Financial Expenses(net)	3791	3186	2908	2696	<b>Total Debt</b>	<b>46103</b>	<b>50745</b>	<b>50745</b>	<b>50745</b>
Other Income (Recurring)	6817	15661	16819	18501	Minority Interest	36259	56233	76754	95312
<b>PBT</b>	<b>89576</b>	<b>85207</b>	<b>86107</b>	<b>88761</b>	Deferred Tax Liabilities	9174	13537	13537	13537
Provision for tax	24118	21027	18514	18999	<b>Total Liabilities</b>	<b>191354</b>	<b>343541</b>	<b>407733</b>	<b>474095</b>
Adjusted Net Profit	65459	64180	67593	69762	<b>Assets</b>				
Less: Minority Int.& Asso.	20022	19574	20521	18558	Gross Block	126414	145637	170251	197325
<b>Net Profit (After MI)</b>	<b>45437</b>	<b>44606</b>	<b>47072</b>	<b>51204</b>	Accumulated Depreciation	43235	45883	52422	59676
Extraordinary/ P Y A	-1572	-528	-	-	<b>Net Fixed Assets</b>	<b>83179</b>	<b>99754</b>	<b>117829</b>	<b>137649</b>
<b>Reported Net profit</b>	<b>43865</b>	<b>44078</b>	<b>47072</b>	<b>51204</b>	Capital WIP	13997	24613	27075	29782
					Investments	52219	162941	162941	162941
<b>Share Data (Rs)</b>					<b>Current Assets</b>	<b>90594</b>	<b>106634</b>	<b>152969</b>	<b>197461</b>
Reported EPS	78.5	62.2	66.4	72.3	Cash & Bank	11134	24536	66855	110107
CEPS	131.6	99.0	104.6	108.7	Accounts Receivable	16521	15623	16444	16680
Dividend per share	4.0	4.0	4.0	4.0	Inventory	28092	33341	35747	36262
Book Value per share	178.7	314.8	376.4	443.9	Loans and advances	34846	33135	33924	34412
No of shares (mn)	558.5	708.5	708.5	708.5	<b>Current Liabilities</b>	<b>48636</b>	<b>50401</b>	<b>53080</b>	<b>53738</b>
<b>Valuation ratios</b>					Accounts Payable	9078	13554	12481	12637
Market price(Rs)	630.0	630.0	630.0	630.0	Other Liabilities	12165	5876	7289	7380
P/E(x)	8.0	10.1	9.5	8.7	Other Provisions	27237	30460	32799	33210
Price/CEPS (x)	4.8	6.4	6.0	5.8	<b>Net Current Assets</b>	<b>41958</b>	<b>56233</b>	<b>99889</b>	<b>143723</b>
Price/Book value (x)	3.5	2.0	1.7	1.4	<b>Capital Employed</b>	<b>191354</b>	<b>343541</b>	<b>407733</b>	<b>474095</b>
EV/Sales (x)	1.6	2.0	1.9	1.9					
EV/EBIDTA (x)	4.2	6.3	6.3	6.2					
					<b>Cash Flow</b>				
<b>Key Ratios and Statistics</b>					<b>Year as on 31st March</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09E</b>	<b>FY10E</b>
<b>Growth in (%)</b>					PBT	88198	84637	86107	88761
Net Sales	85.8	1.3	5.6	1.4	Depreciation	7995	5965	6538	7254
Operating Profit	156.3	(16.8)	0.1	1.9	Interest Paid	3791	3186	2908	2696
Gross Profit	173.6	(16.0)	(0.7)	1.1	Direct Taxes Paid	-22174	-18516	-18514	-18999
PBT	174.6	(4.9)	1.1	3.1	Change in WC	-18647	2032	-1337	-582
Reported Net Profit	169.2	0.5	6.8	8.8	Misc. items	-2242	-13536	-	-
EPS	169.3	(20.8)	6.8	8.8	<b>CF from Operations</b>	<b>56921</b>	<b>63767</b>	<b>75703</b>	<b>79130</b>
<b>Margins(%)</b>					Capex incurred(Net)	-20871	-30119	-27075	-29782
Operating Margin	38.8	31.8	30.2	30.3	Purchase/Sale on Invest	-26091	-104605	-	-
Gross Margin	35.5	29.4	27.7	27.6	Interest & dividend rec.	3891	3369	-	-
Net Profit Margin	26.8	26.0	25.9	26.4	<b>CF from investments</b>	<b>-43072</b>	<b>-131355</b>	<b>-27075</b>	<b>-29782</b>
ROCE%	52.7	27.2	19.2	16.5	Issue of Share capital	-1936	80486	-	-
RONW%	44.0	19.8	17.7	16.3	Incr/(Decr) in Debt(Net)	-3516	5130	-	-
<b>Share Data</b>					Interest Paid	-3952	-3302	-2908	-2696
<b>Ratios</b>					Divd Paid	-4465	-1324	-3401	-3401
Current Ratio(x)	1.9	2.1	2.9	3.7	<b>CF from Fin. Activity</b>	<b>-13869</b>	<b>80989</b>	<b>-6309</b>	<b>-6096</b>
Average Colle.Period(Days)	24.7	23.1	23.0	23.0	<b>Net Change In Cash &amp;</b>				
Inventory Turnover (Days)	42.0	49.3	50.0	50.0	<b>Cash Equivalent</b>	<b>-20</b>	<b>13401</b>	<b>42319</b>	<b>43252</b>
Avg Payment Period(Days)	22.2	29.4	25.0	25.0	Add: Beginning Balance	11153	11134	24536	66855
Debt-Equity Ratio(x)	0.5	0.2	0.2	0.2	<b>Closing Balance</b>	<b>11133</b>	<b>24535</b>	<b>66855</b>	<b>110107</b>

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## ANALYST STOCK RATINGS

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Rating	Indicative Absolute Price Returns
Buy	Estimated upside of more than 20% from the current price level
Outperformer	Estimated upside of 10%-20% from the current price level
Performer	Estimated to move within +/- 10% from the current level
Underperformer	Estimated downside of 10%-20% from the current price level
Sell	Estimated downside of more than 20% from the current price level

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- The above rating structure is based on our 12-month view of expected price performance. Short term fluctuations need not necessarily reflect these medium to long term expectations
  - The market price targets are dependent on the analyst's subjective assessment of the company's fundamentals and
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