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Industry View  
Attractive

## India Nonferrous Metals & Mining

### Still Attractive Even As Risk Factors Inch up

We recalibrate our pecking order, with Coal India becoming our top pick. We upgrade NMDC to OW from EW and move Hindalco (OW) down our pecking order. Copper, coal and iron ore remain our preferred commodities. We are more positive on aluminum than previously and upgrade NALCO to EW from UW.

Our global mining team has increased its metals price forecasts for F11-F13 by 3%-19%.

**Why we expect metals prices to rise further** - Stable demand growth in China; stronger signs of the beginning of the (possibly long) walk to demand recovery in the developed world; supply disruption for some materials; and increasing funds activity in base metals are the main reasons for our positive stance.

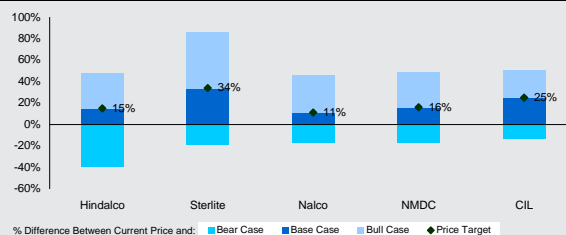
**Where will the red flags come from?** Strong policy action to curb inflation in China and India; a sudden dip in growth trends in developing economies; a deterioration of the sovereign debt situation in Europe; demand deferment in response to rising commodity prices; and high metals inventories are some of the factors that could deflate base metal and bulk material prices, most of which have seen a solid run up in the past 3-4 months.

**Coal India (OW) is our top pick:** The Street seems to be excessively focused on CIL's low volume growth but we believe the stock may produce substantial earnings surprises in the next 3-4 quarters aided by increased e-auction sales and A,B,C grade sales.

**Sterlite (OW):** Remains a good long-term growth stock at a reasonable price but will be driven near term by regulatory and legal factors that are difficult to predict.

**Hindalco (OW):** Long-term growth remains very strong even if production may remain sluggish in the next 4-6 quarters. The stock enjoyed a strong run up in CY10 but the aluminum price uptick may drive more upside, in our view.

### Coal India: Now Our Top Pick



Source: Company data, Morgan Stanley Research

### EPS forecast Changes

Rs.	F11		F12		F13		Price Target	
	Old	New	Old	New	Old	New	Old	New
Hindalco	22.9	21.1	24.9	28.9	28.4	32.0	257	269
Sterlite	13.0	13.5	20.1	21.9	33.1	34.9	214	245
Nalco	18.3	17.7	20.3	24.4	22.8	28.4	309	431
NMDC	17.6	18.2	22.1	28.7	28.2	37.3	267	310
CIL	19.8	20.0	24.2	24.5	32.8	33.2	387	387

### Overweight on CIL, Hindalco, Sterlite and NMDC

Rating	Old	New
Hindalco	OW	OW
Sterlite	OW	OW
Nalco	UW	EW
NMDC	EW	OW
CIL	OW	OW

Source: Morgan Stanley Research estimates

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## Investment Case

### Upgrading NMDC from EW to OW, Nalco from UW to EW; Coal India Is Now Our Top Pick

Our global mining team has lifted its base metals and bulk materials price forecasts with copper, iron ore, thermal coal, coking coal and aluminum seeing the biggest increases. Morgan Stanley's mining team continues to recommend copper, iron ore and coal as its top exposures to commodities even as its stance on aluminum too has become more constructive.

### What has changed?

Exhibit 1

#### EPS Forecast Changes

Rs.	F11		F12		F13		Price Target	
	Old	New	Old	New	Old	New	Old	New
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Source: Morgan Stanley Research

Exhibit 2

#### Overweight on CIL, Hindalco, Sterlite and NMDC

Rating	Old	New
Hindalco	OW	OW
Sterlite	OW	OW
Nalco	UW	EW
NMDC	EW	OW
CIL	OW	OW

Source: Morgan Stanley Research

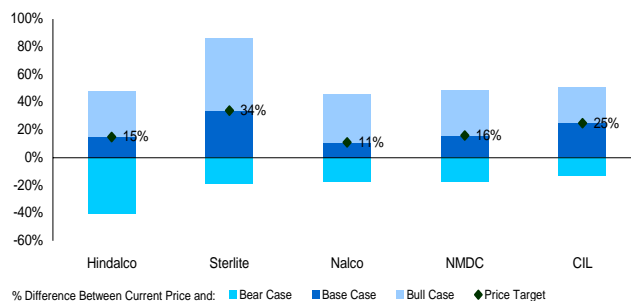
### Putting our bullishness in context

Even though we are not forecasting a significant surge in metals prices from current levels (other than for copper and coking coal) we believe that (a) rising price trends, on an average basis, over next 2-3 years, and (b) prices that can surprise the street positively.

In addition we also note that (a) we believe our bull case scenarios have a higher, and growing, probability than our bear case scenario, and (b) our bull case scenarios indicate greater upside than downside indicated by our bear case scenario.

Exhibit 3

#### Coal India Is Now Our Top Pick



Source: Morgan Stanley Research

Exhibit 4

#### What's Changed: Aluminum, Zinc, Lead and Copper

	Unit	F10	F11E	F12E	F13E
<b>LME Aluminum Price</b> US\$/ton					
Old		1,868	2,160	2,436	2,623
New		1,868	2,255	2,483	2,698
% Change		0	4	2	3
YoY change(%)			21	10	9
<b>LME Copper Price</b> US\$/ton					
Old		6,250	7,451	8,046	8,267
New		6,312	8,094	9,975	9,700
% Change			9	24	17
YoY change(%)			28	23	-3
<b>LME Zinc Price</b> US\$/ton					
Old		1,906	2,094	2,155	2,436
New		1,906	2,194	2,324	2,535
% Change		0	5	8	4
YoY change(%)			15	6	9
<b>LME Lead Price</b> US\$/ton					
Old		1,948	2,083	2,149	2,425
New		1,948	2,228	2,413	2,543
% Change			7	12	5
YoY change(%)			14	8	5

Source: Bloomberg, Morgan Stanley Research

Exhibit 5

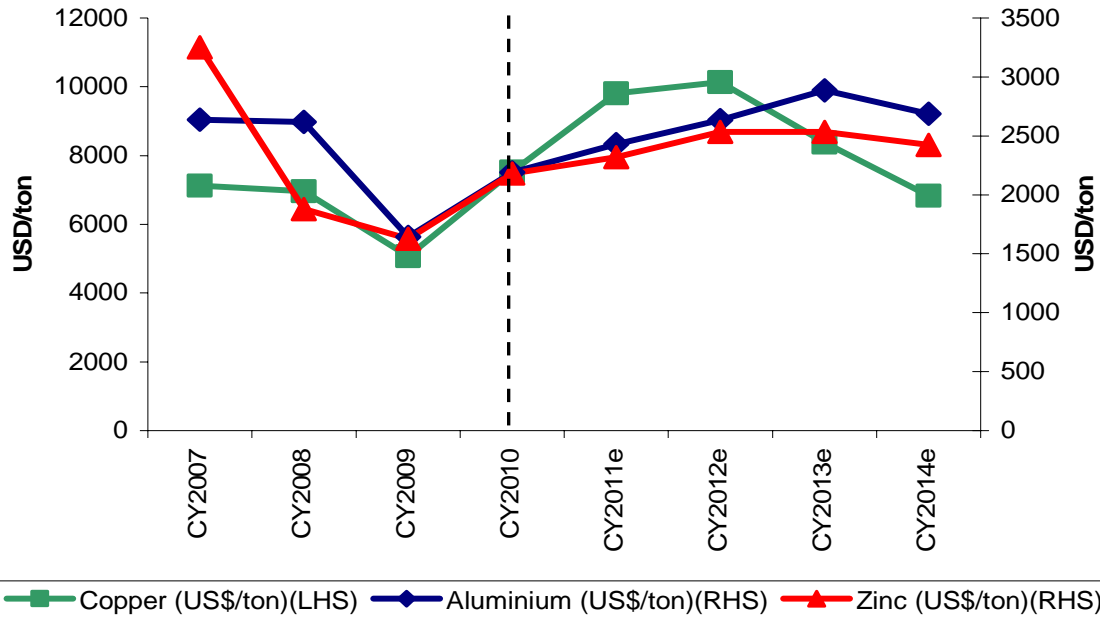
#### Sea Borne Trade Benchmark Prices: Iron Ore

US\$/t	FY11e	FY12e	FY13e
Contract prices for 62% fines CFR N China	142	177	175

Source: Morgan Stanley Research

Exhibit 6

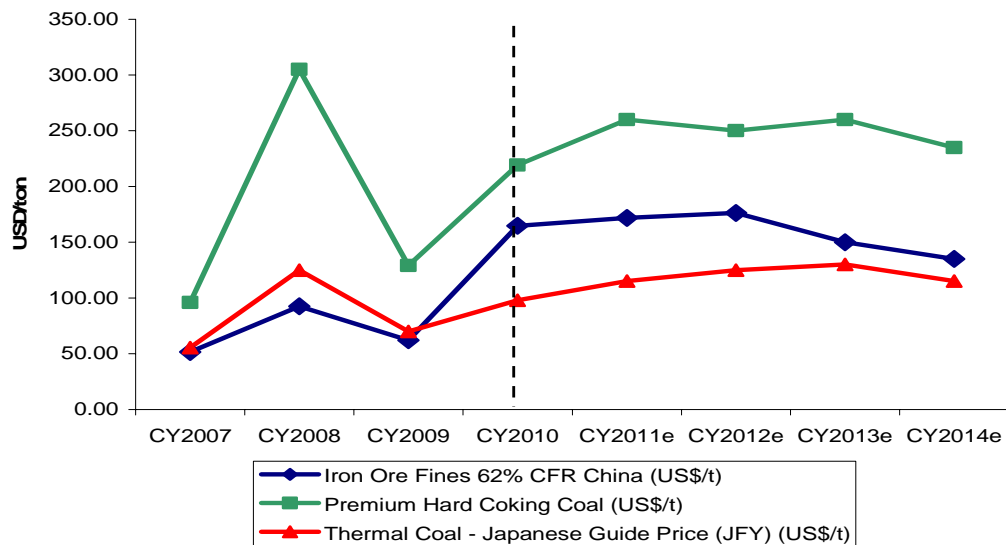
## Price estimates for base metals



Source: Company data, Morgan Stanley Research

Exhibit 7

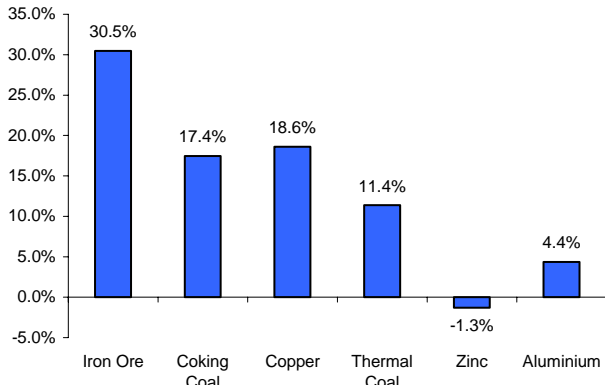
## Price estimates for iron ore, coking coal and thermal coal



Source: Company data, Morgan Stanley Research

Exhibit 8

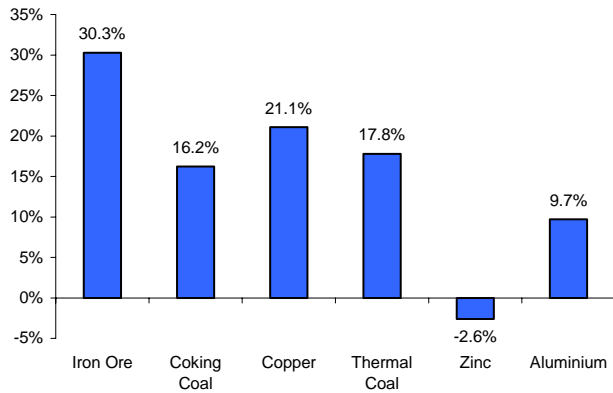
## Morgan Stanley vs. Consensus CY11



Source: Bloomberg, Morgan Stanley Research

Exhibit 9

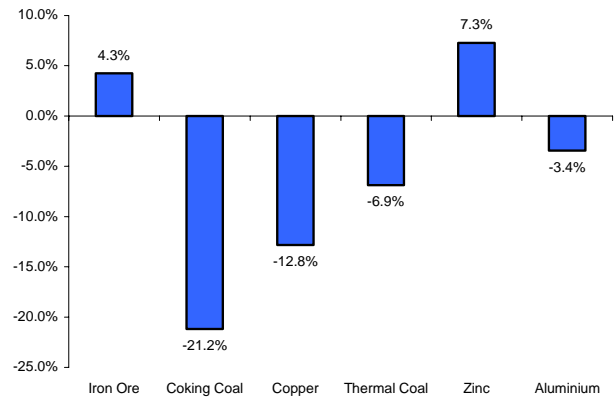
## Morgan Stanley vs. Consensus CY12



Source: Bloomberg, Morgan Stanley Research

Exhibit 10

## Morgan Stanley vs. Consensus LT



Source: Bloomberg, Morgan Stanley Research

January 18, 2011

India Nonferrous Metals & Mining

## Sterlite: Financial Summary

### Income Statement

Rs. Million	F2010	F2011E	F2012E	F2013E
Sales	244,103	277,996	408,593	497,275
Raw Material	121,686	138,442	192,433	227,381
Power & Fuel	19,534	22,224	30,891	36,501
Other Manufacturing	24,840	28,260	39,282	46,415
Personnel	8,540	9,715	13,504	15,957
Selling & Distribution	3,672	4,177	5,806	6,861
Administration & General	5,114	5,819	8,088	9,557
Operating Costs	183,386	208,638	290,004	342,672
EBITDA	60,717	69,359	118,589	154,604
EBITDA Margin (%)	24.9	24.9	29.0	31.1
Other income	19,594	22,636	19,696	16,622
Interest	3,424	6,510	4,760	4,760
Pre-operative expenses	-	-	-	-
Depreciation	7,498	8,207	16,430	18,507
Extraordinary Expenses	2,970	-	-	-
PBT	66,420	77,278	117,094	147,958
Tax	12,330	13,910	21,077	26,633
Tax Rate (%)	18.6	18.0	18.0	18.0
Net PAT before minorities	54,090	63,368	96,017	121,326
Minority Interest (MI)	17,241	19,201	26,016	9,227
Add: Share in P&L of associates	588	1,099	3,514	5,110
PAT	37,437	45,265	73,515	117,208

### Balance Sheet

Rs. Million	F2010E	F2011E	F2012E	F2013E
Equity Share Capital	1,681	3,362	3,362	3,362
Reserves & Surplus	368,439	407,244	474,434	589,026
Deferred Govt Grants	2	2	2	2
Net Worth	370,122	410,608	477,798	592,390
Minority Interest	84,096	103,297	129,313	39,500
Loans	92,600	93,000	68,000	68,000
Deferred Tax Liability	15,524	15,524	15,524	15,524
TOTAL	562,340	622,427	690,633	715,412
Goodwill	12,799	12,799	12,799	103,791
Net Fixed Assets	109,858	239,490	343,339	336,982
Capital WIP	110,844	100,000	20,000	30,000
Investments	203,045	149,831	156,368	146,726
Inventories	29,827	34,297	47,672	56,330
Debtors	5,709	7,616	11,194	13,624
Cash & Bank	33,378	27,752	64,561	4,304
Loans & Advances	106,200	106,200	106,200	106,200
Acceptances	-	-	-	-
Creditors	28,827	34,297	47,672	56,330
Others	9,280	10,208	11,229	12,351
Provisions	11,212	11,053	12,599	13,864
TOTAL	562,340	622,427	690,633	715,412

### Cash Flow Statement

Rs. Million	F2010E	F2011E	F2012E	F2013E
PAT	37,437	45,265	73,515	117,208
Depreciation	7,498	8,207	16,430	18,507
Minority Interest	17,241	19,201	26,016	9,227
Change in Inventories	-5,237	-4,469	-13,375	-8,658
Change in Debtors	3,051	-1,907	-3,578	-2,430
Change in Loans	-78,239	0	0	0
Change in Acceptances	0	0	0	0
Change in Creditors	5,081	5,469	13,375	8,658
Change in Other Liab.	1,372	928	1,021	1,123
Change in Provisions	815	-158	1,545	1,265
Capex	-66,620	-126,995	-40,280	-22,150
Change in Investments	-40,983	53,214	-6,537	9,641
Change in Misc Exp	0	0	0	0
Change in Goodwill	-2,273	0	0	-90,992
Issue of Shares	264	1,681	0	0
Change in Reserves	80,240	-1,681	0	4,974
Change in MI	-1,277	0	0	-99,040
Change in Secured Loans	910	-111	0	0
Change in Unsec.Loans	21,555	511	-25,000	0
Change in Deferred Tax.	1,449	0	0	0
Dividends Paid	-3,953	-4,780	-6,325	-7,590
Change in Cash	-21,671	-5,625	36,808	-60,257

### Ratio Analysis

	F2010	F2011E	F2012E	F2013E
Share Price	212	183	183	183
Modelware EPS	12.0	13.5	21.9	34.9
Book Value per Share	110.1	122.1	142.1	176.2
Valuation				
P/E	17.6	13.6	8.4	5.2
EV/EBITDA (Adjusted)	9.7	8.1	4.2	3.9
Price to Book Value	1.9	1.5	1.3	1.0
Dividend Yield (%)	0.4	0.6	0.8	1.0
Profitability Ratios (%)				
EBITDA Margins	24.9	24.9	29.0	31.1
Avg RoE	12.0	11.6	16.5	21.9
Avg RoCE	8.4	8.7	11.9	17.3
Turnover Ratios				
Debtors Days	9	10	10	10
Creditors Days	57	60	60	60
Inventory Days	59	60	60	60
Growth (%)				
Sales	15.4	13.9	47.0	21.7
Operating Profit	29.1	14.2	71.0	30.4
Net Profit	5.8	20.9	62.4	59.4
Leverage Ratio				
Net debt /Equity (x)	- 0.4	- 0.2	- 0.3	- 0.1

Source: Company data, Morgan Stanley Research E = Morgan Stanley Research estimates

## Risk-Reward Snapshot: Sterlite Industries (STRL.BO, Rs183, OW, PT Rs245)

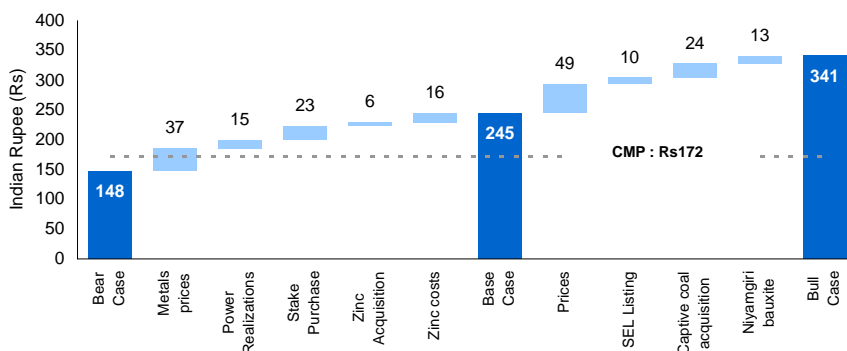
### Risk-Reward View: Attractive Valuations Indicate Minimal Downside



Source: Company data, Morgan Stanley Research

Price Target Rs245		Base-case scenario, DCF-based sum of the parts.
<b>Bull Case</b>	10.2x Bull Case 12e EPS	<b>Further improvement in macro economy:</b> We assume: (1) Metal prices gain further strength and are 15% higher than base case; (2) Sterlite gets a bauxite mine that starts production in F14; (3) Independent power plant captive coal proportion increases to 90% by F16, reducing operating cost to Rs.1.2/Kwh; (4) Listing of Power subsidiary at valuation higher than our intrinsic value.
<b>Base Case</b>	11.2x Base Case 12e EPS	<b>Healthy Metal prices, regulatory issues bottom out:</b> We assume: (1) F12 and F13 Aluminum and Zinc prices at \$2483/t, \$2698/t and \$2324/t, \$2535/t respectively. (2) Power realizations at Rs3.1 and Rs3.0 per kWh in F12 and F13, respectively, and no captive coal sourcing keeping cost at Rs1.32/Kwh in F13; (3) No sourcing from Niyamgiri bauxite mine at all.
<b>Bear Case</b>	9.6x Bear Case 12e EPS	<b>Pull back in prices, Regulatory issues delay projects and raise costs:</b> We assume: (1) Aluminum and zinc prices 10 % lower than base case and power realization 10% lower than base case; (2) stake purchase of Balco and HZL do not happen; (3) Zinc production cost is 15% higher in F12 and F13, and (4) Rest of Anglo American acquisition faces hurdle, does not materialize.

### Bear to Bull: Minority Purchase, Power, Metal Prices



Source: Morgan Stanley, FactSet

### Investment Thesis

- EV/EBITDA of 4.2x and 3.9x on our F12 and F13 estimates, representing discounts of 18% and 7% to its global peers, indicate to us that most of the recent as well as potential regulatory set backs are being reflected in the stock.
- Even a semblance of resolution of some of the regulatory issues can ratchet up the valuation multiples as assigned by the market.
- Strong attributable production CAGR in F2011-13E (19% in Aluminum, 38% in zinc), well-diversified product basket and robust metal price trends are reasons why we remain OW over 12 months.

### Value Drivers

- Prices of zinc, aluminum, power; copper TC/RC
- Pace of stabilization of new facilities for zinc-lead, aluminum and power
- Coal costs for 2400 MW power plant, bauxite sourcing, progress on VAL and copper projects

### Potential Catalysts

- Metal price trends
- Power plant commissioning and earnings trends from the first unit in early CY11, listing of power subsidiary at high valuations

### Key Risks

- Rapid interest rate hikes in China pulling down metal prices
- Government refusing to sell its stakes in HZL and Balco or delay beyond F13
- Power plant commissioning and stabilization get further delayed

## Sterlite: Negatives Appear to Be Priced In, Growth Trajectory Is Attractive

### Summary & Conclusions; Stay Overweight with an Increased PT of Rs245

#### What's New

We have increased our aluminum and zinc price forecasts and copper TC/RC forecasts in line with our global team's forecasts. To take into account the increased commodity price forecasts we have also made some upward adjustments to our production cost forecasts for zinc and aluminum production.

We also move VAL's expansion projects (3.6 mt refinery and 1.25 mt smelter) from our base case to our bull case. This reduces our price target by Rs16.

Exhibit 11

#### What's Changed

Sterlite	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Sales	290,073	395,588	448,967	277,996	408,593	497,275
EBITDA	66,419	118,530	144,999	69,359	118,589	154,604
PAT	43,544	68,663	109,908	45,265	73,515	117,208
EPS	13.0	20.1	33.1	13.5	21.9	34.9

Source: Morgan Stanley Research

Exhibit 12

#### Copper TC/RC

	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
TC/RC	9.5	5.5	6.0	10.5	11.0	9.0

Source: Morgan Stanley Research

#### Investment Arguments

1. Strong metals price trends – expect CAGR of 8% and 9% in F11-F13 for zinc and aluminum prices.
2. Healthy volume growth likely in the next three years – we expect CAGR of 144%, 38% and 19% in power, zinc and aluminum production in F11-F13.
3. Potential negatives largely priced in - Valuations at EV/EBITDA of 4.2x and 3.9x based on our F12 and F13 forecasts indicate upside in the stock to us especially in the backdrop of Sterlite's solid growth profile –we expect PAT CAGR of 44% in F10-F13. We feel that most of the negative developments are priced in and hence see limited downside.
4. While we acknowledge that the stock may need some legal and regulatory cue to begin a rally even on positive news flow (on Balco or HZL acquisition, or on project approvals in Orissa, or on project progress and commissioning of Balco power plant, or on 2400 MW power plant stabilization, or visibility of earnings from the Anglo Zinc purchase etc) can lead up the stock strongly. We estimate that the company is sitting on net attributable cash of Rs8 per share.

## Sterlite: Valuation and Price Target

The stock is currently trading at 8.4x P/E and 4.2x EV/EBITDA on our F12 estimates, compared to global averages of 9.8x 5.1x respectively. These valuations in our view reflect an unduly dim scenario over next 12 months for the stock.

Our price target is derived by taking the five different business of zinc, copper, Balco, VAL and power separately and deriving their DCF based value separately.

Apart from the other changes mentioned above, our DCF based valuations are also changing due to the following changes in our long-term price forecasts for the various metals

Exhibit 13

#### Changes in LT estimates

	Old	New
Zinc	1984	2182

Source: Morgan Stanley Research

January 18, 2011

India Nonferrous Metals & Mining

We have also changed our production costs forecasts to account for the higher price scenario.

Exhibit 14

## Changes in production estimates

	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Aluminium ('000 ton)	720	923	955	658	763	925
Zinc ('000 ton)	713	1158	1158	610	1138	1158
Copper ('000 ton)	370	380	380	313	355	380
Power (m Kwh)	3425	13194	20470	3425	11794	20470

Source: Morgan Stanley Research

Exhibit 15

## Sterlite: WACC Calculation

Equity market risk premium (%)	6.5
Equity beta	1.10
10-year risk-free rate (%)	7.86
Cost of equity (%)	15.01
Marginal corporate tax rate (%)	30.5
Post-tax cost of debt (%)	6.85
Debt/Capital (target capital structure) (%)	35
Equity/Capital (%)	65
WACC (%)	12.15

Source: Morgan Stanley Research

Exhibit 16

## Sterlite SOTP

Rs million	Sterlite's share	Total	Sterlite's share	Rs per share
Zinc	65%	652,397	423,536	126
Sterlite Copper	100%	60,870	60,870	18
Balco	51%	156,635	79,884	24
Vedanta Aluminum	30%	328,103	96,790	29
Power	100%	114,957	114,957	34
Net (debt)/cash		47,803	47,803	14
DCF value		1,360,765	823,840	245
No of shares - millions				3,362

Source: Company data, Morgan Stanley Research

## Key Risks

Downside risks to our price target come from the likelihood that

- 1) The government refuses to sell the minority stakes in HZL and Balco.
- 2) Lead smelter takes longer than expected to ramp up to a higher capacity utilization
- 3) In the past 3-4 quarters, zinc production costs have risen meaningfully. The company has said production costs will reduce in 2 years. If they instead continue to inflate it could have a negative bearing on the stock.
- 4) Issues on servicing of VAL's loans could be another downside risk.

## Upside risks

If aluminum and zinc prices run ahead of our expectations, or if there is some concrete progress on the resolution of regulatory issues then our target price may have upside risks.



Exhibit 17

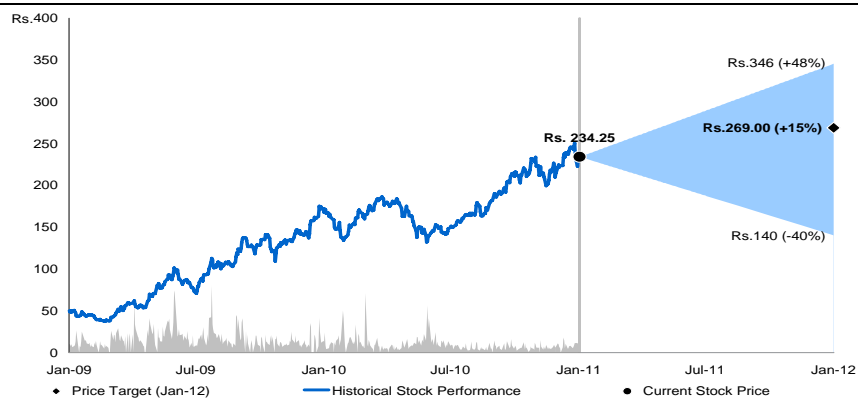
## Assumptions

	Unit	F09	F10	F11E	F12E	F13E
<b>Pricing</b>						
LME Aluminum Price	US\$/ton	2,269	1,841	2,255	2,483	2,698
YoY Change	(%)	-14.9	-18.8	22.5	10.1	8.7
LME Copper Price	US\$/ton	6,048	6,312	8,094	9,975	9,700
YoY Change	(%)	-20.3	4.4	28.2	23.2	-2.8
LME Zinc Price	US\$/ton	1,566	1,906	2,194	2,324	2,535
YoY Change	(%)	-48.0	21.7	15.1	5.9	9.1
LME Lead Price	US\$/ton	1,660	1,948	2,228	2,413	2,543
YoY Change	(%)	-42.0	17.3	14.4	8.3	5.4
Alumina Contract Price	US\$/ton	323	281	333	372	408
YoY Change	(%)	54.9	-12.9	18.2	12.0	9.5
Copper Tc/Rc	c/lb	14.0	17.2	10.5	11.0	9.0
YoY Change	(%)	0.0	22.9	-39.0	4.8	-18.2
Average realization on power	Rs per KWH		4.9	3.8	3.1	3.0
<b>Production</b>						
Aluminium Production Volume	('000 Tons)	442	532	658	763	925
YoY Change	(%)	22.0	20.5	23.7	15.9	21.3
Orissa Alumina Production Volume	('000 Tons)	586	762	1,200	1,300	1,300
YoY Change	(%)	120	30	57	8	0
Copper Production Volume	('000 Tons)	314	334	313	355	380
YoY Change	(%)	-7.4	6.4	-6.3	13.4	7.0
Zinc Production Volume	('000 Tons)	552	581	610	1,138	1,158
YoY Change	(%)	29.7	5.3	5.0	86.6	1.8
Indian Zinc Concentrate Production	('000 Tons)	650	700	725	860	900
YoY Change	(%)	18.0	7.7	3.6	18.6	4.7
Lead Production Volume	('000 Tons)	60	69	58	165	225
YoY Change	(%)	3.4	15.0	-15.9	184.5	36.4
Merchant power output	m KWH		1,643	3,425	11,794	20,470
<b>Sterlite's Share in Production</b>						
Sterlite share of Orissa (%)		30	30	30	30	30
Sterlite share of HZL (%)		65	65	65	65	90
Sterlite share of Balco (%)		51	51	51	51	100
Aluminium Production Volume	('000 Tons)	208	215	251	290	601
YoY Change	(%)	12.4	3.4	16.8	15.7	107.2
Orissa Alumina Production Volume	('000 Tons)	173	225	354	384	384
YoY Change	(%)	120	30	57	8	0
Copper Production Volume	('000 Tons)	314	334	313	355	380
YoY Change	(%)	-7.4	6.4	-6.3	13.4	7.0
Zinc Production Volume	('000 Tons)	358	377	619	739	1,042
YoY Change	(%)	29.7	5.3	64.0	19.4	41.1
Zinc Concentrate Production	('000 Tons)	422	454	471	558	810
YoY Change	(%)	18.0	7.7	3.6	18.6	4.7
Lead Production Volume	('000 Tons)	39	45	73	107	203
YoY Change	(%)	3.4	15.0	63.8	46.0	89.0
Merchant power output	m KWH		838	2,620	10,817	20,470

Source: Company data, Morgan Stanley Research, (e)=Morgan Stanley Research estimates

# Hindalco Industries (HALC.BO, Rs234, OW, PT Rs269)

## Risk-Reward View: Solid 2010 Performance Reduces Room for Error



Source: Company data, Morgan Stanley Research

Price Target	Scenario	Description
<b>Price Target Rs269</b>	Base-case scenario, DCF-based sum of the parts.	
<b>Bull case Rs346</b>	9.2x Bull Case 12e EPS	<b>Further improvement in macro economy, project execution in line with company guidance:</b> (1) Aluminum prices gain further momentum and are 15% higher than base case; (2) Expansion projects ramp up in line with company guidance resulting in a production CAGR of 36% for F11-F14e (3) Novelis delivers an EBITDA/t of US\$421 and 453 in F12 and F13.
<b>Base case Rs269</b>	9.3x Base Case 12e EPS	<b>Strong metal prices, project commissioning in F13:</b> We assume: (1) F12 and F13 aluminum prices at 2483 and 2698; (2) F11E-F14E Indian aluminum volume CAGR of 30%; (3) Novelis delivers an EBITDA/t of US\$ 386 in F12 and US\$ 413 in F13
<b>Bear case Rs140</b>	7.1x Bear Case 12e EPS	<b>Environmental issues cause meaningful project delays; poor price trends:</b> (1) Global growth stutters, aluminum prices drop 10% lower than base case; (2) Indian projects get delayed resulting in a low volume growth CAGR of only 21% over F11E-F13E (3) Novelis EBITDA/t drops to US\$311/t and 335/t in F12 and F13

## Investment Thesis

- At EV/EBITDA valuations of 6.2x and 5.4 based on our F12 and F13 forecasts we feel Hindalco still leaves some upside.
- Hindalco may display another sluggish volume growth year in F12 but F13 onwards Hindalco's pipeline is quite impressive. FY11-14, the company's aluminum output can grow at a CAGR of 30% in India.
- Our constructive aluminum price outlook is another reason why we are OW

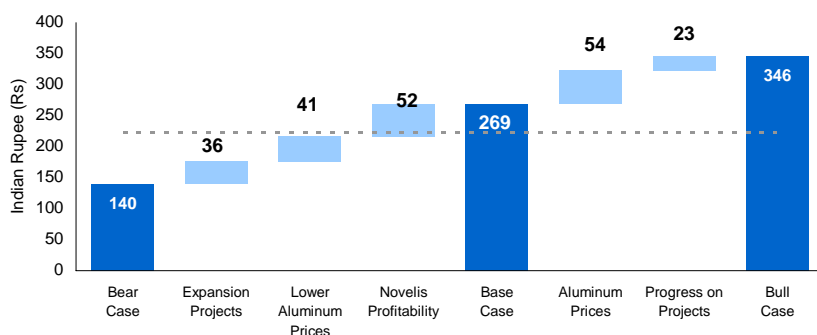
## Key Value Drivers

- Aluminum prices, copper TC/RC
- Volume growth, allotment of new mines of bauxite and coal mines
- Conversion margin for Novelis

## Key Risks

- Upside risks – Continued momentum in aluminum prices
- Further positive surprise from Novelis earnings
- Downside risk factors – aluminum price risk
- Delay in Indian projects

## From Bear to Bull: Project execution, Metals prices



Source: FactSet, Morgan Stanley Research

## Hindalco Financial Summary

### Income Statement

Rs Mn	F2010	F2011E	F2012E	F2013E
Net Sales	607,221	729,595	846,153	947,552
Chg in stock Inc/(Dec)	17,012	7,702	10,835	6,926
Raw Materials	381,742	489,261	582,537	635,075
Power and Fuel	33,451	36,056	35,516	47,995
Salaries	50,650	50,007	53,157	59,591
Other mfg exp	53,856	56,626	60,336	67,144
Sellg and Other exp	7,076	8,313	9,159	11,183
Total op exp	509,763	632,561	729,870	814,062
EBITDA	97,458	97,034	116,283	133,490
Other Income	3,227	2,818	3,258	3,272
Interest	11,041	11,690	13,948	20,516
Depreciation	27,836	28,488	30,158	31,166
PBT	61,808	59,674	75,436	85,080
Tax	18,289	17,167	17,842	20,951
Tax rate	30	29	24	25
Minority Interest	4,264	2,129	2,294	2,809
Modelware Net Income	39,255	40,377	55,299	61,320

Source: Company data, Morgan Stanley Research

### Balance Sheet

Rs Mn (Yr Ended March)	F2010	F2011E	F2012E	F2013E
<b>Sources of Funds</b>				
Equity Capital	1,914	1,914	1,914	1,914
Reserves and Surplus	213,533	250,609	302,607	360,626
Net Worth	215,446	252,522	304,520	362,539
Debt	239,987	283,576	347,276	375,477
DeferdTax Liab	39,382	39,719	40,800	42,716
Minority	17,372	19,501	21,796	24,605
Total	512,187	595,318	714,392	805,336
<b>Application of funds</b>				
Intangibles	124,620	124,620	124,620	124,620
Gross Block	331,602	339,682	485,967	587,561
Less : Dep& Amort.	166,216	187,703	213,361	240,026
Capital WIP	58,008	101,276	48,106	17,906
Net Fixed Assets	348,013	377,876	445,332	490,060
Inv/LT assets	112,455	112,455	112,455	112,455
Other LT Assets	-	-	-	-
Current assets	231,884	281,751	342,060	393,719
Cash & Bank	21,954	42,722	77,088	105,580
Current Liabilities	180,166	176,764	185,456	190,899
Sundry Creditors	81,825	83,116	96,807	107,248
Other Liabilities	49,171	43,637	38,637	33,637
Provisions	49,170	50,012	50,012	50,014
Net Current Assets	51,718	104,987	156,604	202,820
Total	512,187	595,318	714,392	805,336

Source: Company data, Morgan Stanley Research

### Cash flows

Rs Mn (Yr Ended March)	F2010	F2011E	F2012E	F2013E
PAT	39,255	40,377	55,299	61,320
Depreciation	27,836	28,488	30,158	31,166
Chg in Debtors	1,296	(13,099)	(11,678)	(10,262)
Chg in Inv	(27,513)	(16,365)	(14,265)	(12,905)
Chg in Other C. Assets	(22)	-	-	-
Chg in Loans/Advances	(3,215)	365	-	-
Chg in Creditors	(684)	1,290	13,692	10,440
Chg in Other C. Liab.	22,218	(5,534)	(5,000)	(5,000)
Chg in Provisions	(13,655)	842	-	2
Net Operating CF	45,516	36,365	68,207	74,761
Capex	(31,166)	(58,351)	(97,615)	(75,893)
Other Investing CFs	(8,558)	0	-	-
Chg in Intangibles	2,968	-	-	-
CF from Investing	(36,756)	(58,351)	(97,615)	(75,893)
Chg in Equity	21,617	-	-	-
Dividends Paid	(3,012)	(3,301)	(3,301)	(3,301)
Chg in Borrowings	(43,111)	43,589	63,700	28,201
Chg in Other LT Liabilities	15,783	2,466	3,376	4,725
CF from Financing	(8,723)	42,754	63,774	29,624
Change in Cash	36	20,768	34,366	28,492
Closing Cash Balance	21,954	42,722	77,088	105,580

Source: Company data, Morgan Stanley Research

### Ratios:

Rs Mn (Yr Ended March)	F2010	F2011E	F2012E	F2013E
Share Price	190.35	234	234	234
Modelware EPS	22.2	21.1	28.9	32.0
Book Value Per Share	112.6	132.0	159.1	189.4
<b>Valuation</b>				
P/E	NM	11.1	8.1	7.3
EV/EBITDA	6.0	7.1	6.2	5.4
Price to Book Value	1.7	1.8	1.5	1.2
Dividend Yield (%)	0.7	0.5	0.5	0.5
<b>Profitability Ratios (%)</b>				
EBITDA Margin	16.0	13.3	13.7	14.1
Net Profit Margin	6.5	5.5	6.5	6.5
Average RoE	21.0	17.3	19.9	18.4
Average RoCE	10.1	9.4	10.6	10.8
<b>Growth (%)</b>				
EBITDA	63.1	-0.4	19.8	14.8
Net Profit	12.5	2.9	37.0	10.9
Modelware EPS	-4.4	-4.8	37.0	10.9
<b>Leverage Ratio</b>				
Net debt/Equity (x)	1.01	0.95	0.89	0.74

Source: Company data, Morgan Stanley Research, (e)=Morgan Stanley Research estimates

## Hindalco Industries – Aluminum Can Still Cause Some Uptick: Maintain OW

Even though Hindalco has outperformed the Sensex and BSE metals index by 40% and 43% in the past six months we like the stock for to its best in class volume growth trajectory in the next 2-3 years and because of our positive stance on aluminum. The risk of delays in the large scale Greenfield projects of Hindalco is growing amid rising regulatory issues but we have tried to address this in our new assumptions, Hindalco is better positioned on this front vis-à-vis most of its peers. Accordingly, we remain OW. Our price target of Rs269 indicates upside potential of ~15% from current levels.

### Investment Arguments

**Our constructive stance on aluminum** is one of the main reasons why we are maintaining an OW: we expect aluminum prices to increase 10% and 8.7% YoY in F12 and F13.

**Copper prices supporting the Australian mine's profitability** – We now expect Hindalco's Australian mine to contribute about 12% and 11% of its consolidated EBITDA in F12 and F13, this being the only way to take exposure to our top metal pick of copper

**Strong project pipeline:** The company will add about 142% to its aluminum smelting capacity to reach a capacity of 1.2mt by F13. Also even though now we are forecasting some project delay we believe that Hindalco's projects carry much less regulatory risk compared to most other large Greenfield projects under way in the Indian metals sector.

**Valuations:** On our F12 estimates the stock is trading at P/E multiples of 8.1x representing a 17% discount to the mean figures of our global non ferrous metals and mining coverage universe.

**Limited volume growth in next 4-5 quarters:** We forecast a 4% YoY growth in aluminum production in F12 post a decline of 1% YoY in F11E. Accordingly, Hindalco's dependence on LME aluminum prices for its F12 earnings growth is quite high.

**What's New:** (1) We push up our aluminum price forecasts for F12 and F13 by 2% and 3%. (2) In our model we have postponed the commissioning schedule for Utkal, Mahan and Aditya projects to 4QF12, 4QF12 and 3Q F13 respectively.

Exhibit 18

### What's Changed

Rs Million	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Sales	702,038	775,449	883,963	729,595	846,153	947,552
EBITDA	101,964	108,414	125,122	97,034	116,283	133,490
PAT	45,935	48,568	55,809	40,377	55,299	61,320
EPS	24.0	25.4	29.2	21.1	28.9	32.0

Source: Company data, Morgan Stanley Research (e) estimates

Exhibit 19

### Change in volumes and TC/RC estimates

	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Aluminium vols (ton)	581,723	689,668	1,031,274	525,450	561,608	900,826
Alumina vols (ton)	254,055	274,425	526,430	370,500	556,732	813,351
Copper TC/Rc (c/lb)	9.8	7.3	6.0	10.4	11.4	9.0

Source: Company data, Morgan Stanley Research (e) estimates

### What is changing in our assumptions

Given the growing regulatory issues and after a reassessment of Hindalco's three Greenfield projects we now feel that

(a) Mahan smelter will be commissioned in end of 4QF12 (our earlier view was 2QF12 company guidance is 2QF12 and our assessment of market view is 2QF12

(b) Utkal refinery will be commissioned in end of 4QF12 (our earlier view was 2QF12, company guidance is 2QF12 and our assessment of market view is 2QF12

(c) Aditya smelter will be commissioned in end of 2QF13 (our earlier view was 3QF13, company guidance is 3QF12 and our assessment of market view is 3QF12

### Valuation and Target Price

We derive our price target from a two-phase DCF model with Indian operations and Novelis being taken as two different parts. We apply a WACC of 11.3%.

At our price target, Hindalco would trade at a F12E EV/EBITDA of 6.4x. These levels look fair to us, given (a) the company's solid growth profile from a long term but sluggish near term growth, and (b) our positive stance on aluminum prices.

January 18, 2011

India Nonferrous Metals & Mining

## Risks

Aluminum price risk is the biggest risk to our price target. A deterioration in downstream metals demand in the West and Novelis' inability to maintain the production costs at reduced levels are other risks to our price target. Extreme project delays can put further downward pressure on our price target.

Exhibit 20

## WACC

Risk Free Return (Rf) (%)	7.9
Market Premium (Rm) (%)	6.5
Assumed Beta	1.25
Cost of Equity (Re) (%)	16.0
Equity (%)	50
Cost of Debt (Rd) (%)	9.0
Tax rate (%)	26.8
After-tax cost of debt (Rd [1-t]) (%)	6.6
Debt (%)	50
WACC (%)	11.3

Source: Company data, Morgan Stanley Research

Exhibit 22

## Assumptions

Assumptions	Units	F08	F09	F10E	F11E	F12E	F13E
LME Aluminium Average Price -US\$/ton	US\$/ton	2,623	2,274	1,868	2,255	2,483	2,698
% change YoY	%	(1.4)	(13.3)	(17.9)	20.7	10.1	8.7
Import Duty - %	%	5.0	5.0	5.0	5.0	5.0	5.0
LME Copper Average Price -US\$/ton	US\$/ton	7,553	5,882	6,030	8,094	9,975	9,700
% change YoY	%	7.7	(22.1)	2.5	34.2	23.2	(2.8)
Aluminium Sales Volume - Ton	ton	473,118	521,069	555,066	525,450	561,608	900,826
% change YoY	%	7.2	10.1	6.5	-5.3	6.9	60.4
Alumina Sales Volume - Ton	ton	259,627	238,350	241,095	370,500	556,732	813,351
% change YoY	%	-13.4	-8.2	1.2	53.7	50.3	46.1
Copper Cathode Production Volumes - Ton	ton	327,667	300,862	333,360	340,000	360,000	360,000
% change YoY	%	12.7	-8.2	10.8	2.0	5.9	0.0
Copper Tc/Rc - c/lb	c/lb	12.1	8.5	14.0	10.4	11.4	9.0
% change YoY	%	10.7	-30.0	64.9	-25.6	9.8	-21.3
Cost of Coal - Rs/ton	Rs/ton	1,140	1,356	1,374	1,539	1,724	1,879
% change YoY	%	-8.2	18.9	1.3	12.0	12.0	9.0
% captive generation		96	97	97	100	107	104
Specific Power consumption for Aluminium(KWH/t)	Kwh/ton of Aluminium	15,940	15,940	15,940	15,940	15,500	15,000
Specific Power consumption for Copper(KWH/t)		1,700	1,700	1,700	1,700	1,700	1,700

Source: Company data, Morgan Stanley Research (E) estimates

Exhibit 21

## Hindalco: DCF Valuation

(A) Present value of the explicit phase	121,954
Terminal value	747,385
Terminal growth rate (%)	2
(B) Present value of the terminal value	542,279
(A+B) Total present value	664,233
Net present value	642,511
Net debt	128,398
Equity Value Rs mn	514,113
Shares (m)	1,914
Implied DCF value per share (Rs)	269

Source: Company data, Morgan Stanley Research

January 18, 2011

India Nonferrous Metals & Mining

## Nalco: Financial Summary

### Income Statement

Y/E MARCH	2010	2011E	2012E	2013E
Net Sales	50,557	59,530	72,308	82,759
Raw Materials	7,823	9,458	11,515	13,158
Power and Fuel	16,011	17,867	19,585	20,990
Salaries	8,436	8,944	10,184	11,272
Manufacturing Expenses	5,072	5,415	5,808	6,155
Selling and distribution	890	983	1,433	1,628
Administrative expenses	1,153	1,250	1,313	1,378
Other Expenses	1,276	1,350	1,418	1,488
Finished products internally consumed	242	260	280	290
Change in stock	-216	1,748	1,857	1,139
Total operating expenses	40,635	43,260	49,118	54,641
EBITDA	9,922	16,269	23,190	28,118
Other Income	4,727	4,493	4,492	3,775
Prior period and other extraordinary item	117	0	0	0
Interest	23	70	210	385
Depreciation	3,194	3,678	3,981	4,223
PBT	11,549	17,015	23,491	27,284
Tax	3,406	5,615	7,752	9,004
Current tax	3,014	5,564	7,700	8,951
Deferred tax	393	51	52	53
PAT / Reported Earnings	8,142	11,400	15,739	18,280

### Balance Sheet

#### BALANCE SHEET

Y/E MARCH	2010	2011E	2012E	2013E
Equity Capital	6,443	6,443	6,443	6,443
Reserves and Surplus	97,513	105,288	116,678	129,885
Net Worth	103,956	111,732	123,121	136,328
Debt	0	2,000	4,001	7,001
Deferred Tax Liability	6,606	6,657	6,709	6,762
Total Capital Employed	110,562	120,389	133,831	150,091
Gross Block	110,180	118,138	130,138	134,138
Less : Depreciation	61,817	65,348	69,328	73,552
Capital WIP	22,434	24,434	22,434	38,434
Net Fixed Assets	70,797	77,224	83,244	99,020
Inventories	9,449	10,112	12,481	14,511
Sundry Debtors	1,818	1,631	1,585	1,587
Cash	31,524	46,908	51,796	49,785
Loans & Advances	7,856	7,856	7,856	7,856
Other Current Assets	1,450	1,450	1,450	1,450
Current Assets	52,096	67,957	75,167	75,189
Sundry Creditors	15,366	15,697	15,167	14,355
Other Liabilities	3,133	2,820	2,679	2,545
Provisions	3,700	6,276	6,735	7,222
Current Liabilities	22,199	24,793	24,582	24,121
Net Current Assets	29,897	43,164	50,585	51,067
Appl. of Funds	110,562	120,388	133,829	150,088

### Cash Flow

Y/E MARCH	2010	2011E	2012E	2013E
PAT	8,142	11,400	15,739	18,280
Depreciation	3,194	3,678	3,981	4,223
(Incr) / Decr in Net Working Capital	(1,194)	(458)	(2,994)	(2,980)
Change in Inventory	(714)	(663)	(2,369)	(2,031)
Change in Debtors	(1,553)	187	46	(2)
Change in Loans & Adv.	(1,696)	-	-	-
Chng. in Other Curr. Assets	304	-	-	-
Change in Creditors	2,829	331	(530)	(813)
Change in Other Liabilities	(363)	(313)	(141)	(134)
Change in Provisions	401	2,576	460	486
Capex	(5,310)	(10,105)	(10,001)	(20,001)
Other Investing Cash Flow	(908)	9,868	-	-
Change in LT Loans	-	2,000	2,000	3,000
Ordinary Dividend Paid	(1,885)	(3,624)	(4,349)	(5,074)
Changes in Deferred Tax Liabilities	392	51	52	53
Inc / ( Dec) in Cash	2,833	15,385	4,888	(2,011)

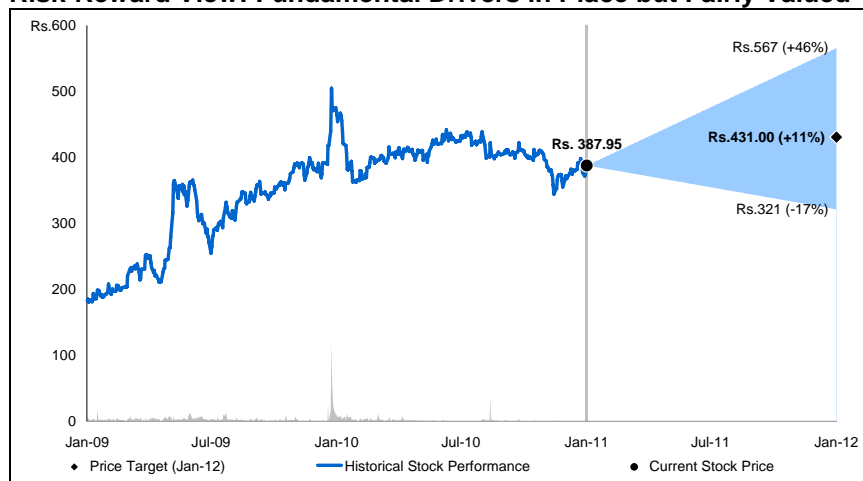
### Ratios

Y/E MARCH	2010	2011E	2012E	2013E
Modelware EPS	12.5	17.7	24.4	28.4
Valuation				
CMP	400	388	388	388
P/E	32.1	21.9	15.9	13.7
EV/EBITDA	22.8	12.6	8.7	7.4
Price to Book Value	2.5	2.2	2.0	1.8
Dividend Yield (%)	0.6	1.3	1.5	1.8
Profitability Ratios (%)				
EBIDTA Margins	19.6	27.3	32.1	34.0
Net Profit Margins	16.1	19.2	21.8	22.1
RoE	7.7	10.2	12.8	13.4
Growth (%)				
Sales	-0.8	17.7	21.5	14.5
Operating Profit	-41.3	64.0	42.5	21.3
Modelware Net Income	-36.2	42.1	38.1	16.1
Modelware EPS	-36.2	42.1	38.1	16.1

e = Morgan Stanley Research estimates  
Source: Company data, Morgan Stanley Research

## National Aluminum: (NALU.BO, Rs388, EW, PT Rs431)

### Risk-Reward View: Fundamental Drivers in Place but Fairly Valued



**Price target Rs431** Derived from our base case scenario using a two-phase DCF model

<b>Bull Case</b> <b>Rs567</b>	15.9x Base Case F12e EPS	<b>Improved macro economic conditions, meaningful success on project execution:</b> We expect a) aluminum and alumina prices to be 15% above base-case assumptions; b) Indonesian smelter project materializes and is commissioned by F15.
<b>Base Case</b> <b>Rs431</b>	17.6x Base Case F12e EPS	<b>Strong metals prices, Brownfield expansion takes place but no green field project happens:</b> We expect F12E-F13E Aluminum Prices of US\$ 2483 and US\$2698 per ton respectively. Also F11E-F15E volume growth CAGR of Nalco to be 7.3%.
<b>Bear Case</b> <b>Rs321</b>	22.3x Base Case F12e EPS	<b>Strong metals prices:</b> Here we expect a) Aluminum and alumina prices to be 10% below our base case assumptions; b) Nalco's brown field expansion is delayed and F11-F15E production CAGR falls to 1.4%; c) Coal crunch forces up Nalco's cost of production by 20% in F12-F13.

### Investment Thesis

- As one of the few single commodity companies in the Indian metals space and the only pure aluminum stock, we believe Nalco may receive more investor attention in the coming 2-3 quarters.
- We expect aluminum prices to rise and can aid Nalco stock like no other stock in India
- EV/EBITDA of 8.7x and P/E of 15.9x based on our F12 forecasts, are 70% and 62% higher than comparable figures for global peer group. Due to its global cost leadership and strong balance sheet the stock may command some valuation premium but the current valuations do not leave much upside.
- Nalco is looking at many growth options in as well as outside India.

### Key Value Drivers

- Aluminum prices
- Ability to execute next leg of projects

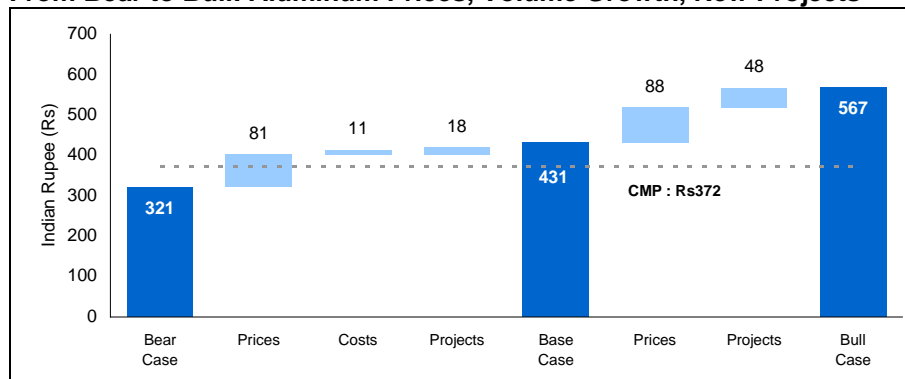
### Potential Catalysts

- Clarity on roadmap of power foray and establishment of smelter in Indonesia

### Key Risks

- Aluminum price risks
- Delay in next leg of brownfield growth is a downside risk
- Beginning of construction work at the proposed Indonesian project or progress on Independent power projects can act as upside risks to our price target

### From Bear to Bull: Aluminum Prices, Volume Growth, New Projects



Source: FactSet, Morgan Stanley Research

## Nalco: Upgrading to EW on Recent Underperformance, Aluminum-related Upside

### Summary & Conclusions: Upgrade to EW

We cut our 2011E EPS by 3%, and raise 2012 and 2013 by 20% and 25%, respectively, largely to reflect the increase in our global aluminum and alumina price forecasts.

Exhibit 23

### Nalco – What's Changed

Rs Million	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Sales	56,359	64,927	75,411	59,530	72,308	82,759
EBITDA	16,164	21,107	23,700	16,269	23,190	28,118
PAT	11,143	13,749	14,664	11,400	15,739	18,280
EPS	18.3	20.3	22.8	17.7	24.4	28.4

Source: Morgan Stanley Research

### Why upgrade?

- Our global aluminum price estimates have been upgraded from US\$2436/ton to US\$2483/ton for F12 and US\$2623/ton to US\$2698/ton for F13.
- Nalco being a pure aluminum play stands to gain the most from an aluminum price uptrend.
- The stock has underperformed the Sensex by 26% in the past 6 months and we expect this gap to narrow going forward.

### Why Equal-weight?

Even though aluminum sits high on our pecking order of base metals and Nalco has a high exposure to aluminum we are equal-weight on Nalco stock due to the following

While the stock is among industry cost leaders globally and is growing at a reasonable pace, the stock price seems to be fairly reflecting these strong points – hence we do not see material upside potential.

Exhibit 24

### Nalco: Expensive Valuation

Nalco	F2012E	Last Ten year Avg.	F2013E
PE	15.9	10.8	13.7
EV/EBITDA	8.7	9.7	7.4
EBITDA CAGR (F10E-F12E) (%)		31	
PAT CAGR (F10E-F12E) (%)		20	

Source: Company data, Morgan Stanley Research

### Valuation and Price Target

Nalco trades at P/Es of 15.9x and 13.7x and EV/EBITDA of 8.7x and 7.4x, on our F2012 and F2013 estimates, respectively.

**DCF-based Price Target:** We use a two-phase DCF model to calculate our base-case valuation of Rs431 per share, with an explicit phase of four years. Our DCF valuation assumes a WACC of 11.3% (based on a cost of equity of 13.6% and a cost of debt of 9%).

We have also increased our terminal growth assumption from 2% to 3% to reflect the large diversification initiatives taken by the company, including its foray into large-scale power projects in India and the setting up of a smelter and power plant in Indonesia.

### Risks to Our Target Price

Stronger aluminum prices than we forecast are upside risks to our price target. Also, if the government were to announce disinvestment and/or restructuring plans for Nalco in next 2-3 months then the stock price could maintain its strength for a short period.

Similarly, aluminum price risk is the biggest downside risk to our price target. A deterioration in downstream metals demand in the west can have an adverse impact on aluminum prices.



January 18, 2011

India Nonferrous Metals & Mining

Exhibit 15

## Nalco: DCF Calculation: Rs431 per share

(A) Present value of the explicit phase	40,785
Terminal value	335,548
Terminal growth rate (%)	3
(B) Present value of the terminal value	218,574
(A+B) Total present value	259,358
Net present value	245,944
Net present value	
Net debt	(31,524)
Equity Value Rs mn	277,468
Shares (m)	644
Implied DCF value per share (Rs)	431

Source: Morgan Stanley Research

Exhibit 16

## Nalco: WACC Calculation

Risk Free Return (Rf) (%)	7.9
Market Premium (Rm) (%)	6.5
Assumed Beta	0.88
Cost of Equity (Re) (%)	13.6
Equity (%)	70
Cost of Debt (Rd) (%)	9.0
Tax rate (%)	34.2
After-tax cost of debt (Rd [1-t]) (%)	5.9
Debt (%)	30
WACC (%)	11.3

Source: Morgan Stanley Research

Exhibit 25

## Assumptions

	Units	F09	F10	F11E	F12E	F13E
<b>Aluminium</b>						
LME average price	US\$/ton	2,274	1,868	2,255	2,483	2,698
% change YoY		-13.3	-17.9	20.7	10.1	8.7
Import duty	%	5.0	5.0	5.0	5.0	5.0
Avg. Alumina realizations	US\$/ton		281.8	349.9	379.8	410.2
% change YoY				24.2	8.5	8.0
<b>Aluminum Total sales</b>						
Aluminum Total sales	tons	352,007	434,102	440,550	465,300	470,250
% change YoY		2.4	23.3	1.5	5.6	1.1
<b>Aluminium domestic sales volume</b>						
Aluminium domestic sales volume	ton	269,690	287,154	305,550	330,300	335,250
% change YoY		11.4	6.5	6.4	8.1	1.5
<b>Aluminium export sales volume</b>						
Aluminium export sales volume	ton	82,317	146,948	135,000	135,000	135,000
% change YoY		-19.1	78.5	-8.1	0.0	0.0
<b>Calcined alumina sales volume</b>						
Calcined alumina sales volume	ton	865,000	726,381	716,414	967,790	1,157,870
% change YoY		0.0	(16.0)	(1.4)	35.1	19.6
<b>Linkage rate for alumina</b>						
Linkage rate for alumina	% of LME aluminium	14.7	14.0	15.1	15.0	15.0
<b>Cost of caustic soda</b>						
Cost of caustic soda	Rs /ton	16,487	24,815	27,297	28,662	30,095
% change YoY		-9.7	50.5	10.0	5.0	5.0
<b>Cost of coal</b>						
Cost of coal	Rs /ton	1,241	1,454	1,541	1,588	1,636
% change YoY		20.6	17.1	6.0	3.1	3.0
<b>Specific power consumption for metal</b>						
Specific power consumption for metal	Kwh per ton of aluminium	14,700	14,700	14,700	14,700	14,700
% change YoY		0.0	0.0	0.0	0.0	0.0
<b>Alumina realization</b>						
Alumina realization	US\$/ton	334	255	340	372	408

Source: Company data, Morgan Stanley Research, (e)=Morgan Stanley Research estimates

January 18, 2011

India Nonferrous Metals & Mining

## NMDC: Financial Summary

### Income Statement

Rs Mn	F2010	F2011E	F2012E	F2013E
Net sales	62,391	123,237	190,452	243,511
Raising & Transportn.	374	467	603	830
RM, Stores & Spares	2,095	2,335	2,802	3,752
Energy & Water	441	506	607	835
Employee Costs	4,195	4,707	5,281	5,809
Repairs & Maintenance	661	826	1,065	1,533
Royalty & Cess	3,606	6,448	8,171	11,247
Selling Exp - Freight	3,377	4,551	5,412	7,780
Others selling exp	1,311	2,147	4,559	6,139
Other Expenses	2,036	2,094	2,466	3,659
Total Expenses	18,096	24,081	30,967	41,584
Avg. Cost Rs per ton	760	971	1,113	1,195
Avg. Cost US\$per ton	16.5	21.6	24.7	26.0
EBITDA	44,295	99,156	159,485	201,927
Other income	8,617	11,200	14,400	22,500
Depreciation	732	1,056	1,477	1,890
Profit before Tax	52,073	109,185	172,286	222,406
Total Tax	17,601	37,123	58,577	74,676
Profit after Tax	34,473	72,062	113,709	147,731

### Balance Sheet

Rs Mn	F2010	F2011E	F2012E	F2013E
Share Capital	3,965	3,965	3,965	3,965
Reserves & Surplus	138,760	196,409	287,376	405,561
Total	142,724	200,374	291,341	409,526
Misc. Expenditure	(220)	(220)	(220)	(220)
Net Worth	142,505	200,154	291,121	409,306
Minority Interest	-	15	20	20
Deferred Tax Liabilities	849	780	810	900
Capital Employed	143,353	200,949	291,951	410,226
Gross Block	17,711	26,281	35,256	43,496
Less: Depreciation	9,840	10,896	12,373	14,263
Net Block	7,872	15,386	22,884	29,234
Capital Work in Progress	5,561	9,983	18,983	35,483
Total Fixed Assets	13,432	25,369	41,867	64,717
Investments	761	140,000	160,000	250,000
Inventories	2,988	4,189	4,569	4,933
Sundry Debtors	4,270	16,882	18,263	20,015
Cash & Bank Balances	128,549	25,507	82,395	84,791
Other Current Assets	1,639	4,300	6,200	7,400
Loans & Advances	5,190	4,500	4,750	5,000
Total Current Assets	142,636	55,378	116,177	122,138
Current Liabilities	7,525	7,330	7,107	7,892
Provisions	5,952	12,467	18,985	18,737
Total current Liabilities	13,477	19,797	26,092	26,629
Net Current Assets	129,160	35,581	90,085	95,509
Total Assets	143,353	200,949	291,951	410,226

### Cash Flow Statement

Rs Mn	F2010	F2011E	F2012E	F2013E
Net Profit	34,473	72,062	113,709	147,731
Depreciation	615	1,056	1,477	1,890
Change in Debtors	5,895	(12,612)	(1,381)	(1,752)
Change in Inventory	22	(1,201)	(380)	(364)
Change in Creditors	2,679	(195)	(223)	785
Ch. in other op. assets	(818)	6,515	6,518	(248)
Interest and dividend	(8,840)	(8,617)	(11,200)	(14,400)
Other Adjustments	187	(1,971)	(2,150)	(1,450)
Cash from operations	34,211	55,038	106,370	132,192
Capex	(4,097)	(12,992)	(17,975)	(24,740)
Investments	(54)	(139,239)	(20,000)	(90,000)
Interest received	8,840	8,617	11,200	14,400
Cash from Investments	4,689	(143,614)	(26,775)	(100,340)
Dividend Paid	(6,938)	(14,412)	(22,742)	(29,546)
Others	262	(54)	35	90
Cash from Finance	(6,677)	(14,466)	(22,707)	(29,456)
Inc/(Dec) in Cash	32,224	(103,042)	56,888	2,396
Cash at Beg	97,410	128,549	25,507	82,395
Cash in the end	128,549	25,507	82,395	84,791
Change in cash	31,139	(103,042)	56,888	2,396

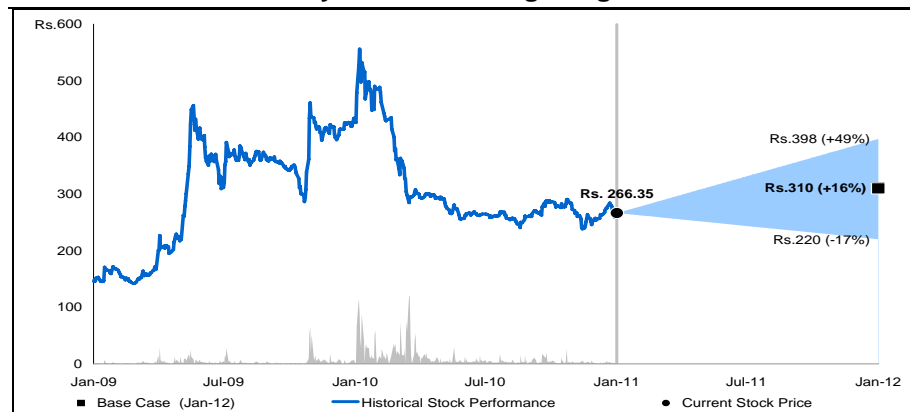
### Ratios

	F2010	F2011E	F2012E	F2013E
Share Price	294	267	267	267
Modelware EPS	8.7	18.2	28.7	37.3
<b>Growth (%)</b>				
Net Sales (%)	-17.5	97.5	54.5	27.9
EBITDA (%)	-24.2	123.9	60.8	26.6
Net Profit (%)	-20.7	109.0	57.8	29.9
Modelware EPS (%)	-20.7	109.0	57.8	29.9
<b>Profitability</b>				
<b>Ratios (%)</b>				
EBITDA Margin (%)	71	80	84	83
Net Profit Margin (%)	55	58	60	61
Average RoE (%)	27	42	46	42
Average RoCE (%)	27	42	46	42
<b>Turnover Ratios</b>				
Debtors (Days)	42.2	31.3	33.7	28.7
Inventory (Days)	17.5	10.6	8.4	7.1
Creditors (Days)	36.2	22.0	13.8	11.2
Asset Turnover (x)	8.1	10.6	10.0	9.3
<b>Valuation</b>				
P/E	33.8	14.7	9.3	7.2
EV/EBITDA	23.4	9.0	5.1	3.6
Dividend Yield (%)	0.6	1.4	2.1	2.8

Source: Company data, Morgan Stanley Research, E = Morgan Stanley Research estimates

## Risk-Reward Snapshot: NMDC (NMDC.BO, Rs267, OW, PT Rs310)

### Risk-Reward: Iron Ore Dynamics Outweigh Logistical Issues



PT Rs310		Derived from one-year forward DCF-based IV calculation.
<b>Bull case</b>	12.2x Base	<b>Iron ore tightens further, Strong reserves addition:</b> 1) Benchmark contract ore prices rise by 15% in F12 and 10% in F13; and 2) New exploration boosts total reserves to 2,200mt. 3) F13 production of 37mt is achieved
<b>Rs398</b>	Case F12E EPS	
<b>Base case</b>	10.8x Base	<b>Healthy iron ore dynamics; NMDC growth trends down:</b> 1) Ore realizations to grow by 39% and 2% in F12 and F13; 2) Production grows modestly to 27.8mt and 34.8mt in F12 and F13. 3) Total reserves base of 2000 mt; 3) Pellet plants start production in F13; steel plant begins producing in F16.
<b>Rs310</b>	Case F12E EPS	
<b>Bear case</b>	10.4x Base	<b>Macroeconomic slump, worsening of Naxalite issue:</b> 1) Iron ore prices fall by 10% in F12 and 15% in F13; 2) Production falters, reaching only 26mt in F13 and achieving a peak of only 37mt. 3) Steel and pellet projects fail to take off.
<b>Rs220</b>	Case F12E EPS	

### Bear to Bull: Iron Ore Prices, Projects, Production Are the Key to Value

#### Impact (Rs/share)



Source: Morgan Stanley, FactSet

### Investment Thesis

- Good way to get exposure to iron ore, one of our preferred commodities – we expect 25% and -1% YoY growth in global sea borne prices in F12 and F13
- Low production cost, high quality and large reserve base, strong growth opportunities, healthy balance sheet,
- Production growth may remain a cause of concern due to law and order problems but this seems to be reflected in the stock price
- Valuations (P/E of 9.3x on our F12 forecasts, 5% discount to peer group) indicates some more upside to us.

### Key Value Drivers

- Iron ore realizations;
- Production growth, reserves addition;
- Pace of steel projects.

### Catalysts

- Iron ore price trends
- Progress on Chattisgarh steel project
- Results in 4QF11 and 1HF12

### Key Risks

- Escalation in Naxalite violence causing a slump in NMDC's despatches;
- Iron ore price risk;
- Regulatory risk such as changes in export duty and in mine lease allocation procedure

January 18, 2011

India Nonferrous Metals & Mining

## Summary & Conclusions: Upgrade to OW from EW

Exhibit 26

### NMDC – What's Changed

	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Sales	123,005	154,176	188,195	123,237	190,452	243,511
EBITDA	95,400	119,926	143,577	99,156	159,485	201,927
PAT	69,595	87,613	108,383	72,062	113,709	147,731
EPS	17.6	22.1	27.3	18.2	28.7	37.3

Source: Morgan Stanley Research

Exhibit 27

### Sea Borne trade benchmark prices: Iron Ore

US\$/t	FY11e	FY12e	FY13e
Contract prices for 62% fines CFR N China	142	177	175

Source: Morgan Stanley Research

### Why Upgrade?

- 1) Further strengthening of our positive stance on iron ore prices. Our F12 and F13 benchmark iron ore contract price forecasts have gone up by 25% and -1%.
- 2) Increased reserves base of NMDC. Given NMDC's recent success in new exploration we now assume a reserve base of 2000mt versus our earlier assumption of 1400mt.
- 3) The stock has underperformed the Sensex by 15% in last 6 months.

Exhibit 28

### Realization and production estimates

	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Avg. Realization (R/t)	4286	4500	4629	4837	6708	6828
Production (mt)	29	35	41	25	28	35

Source: Morgan Stanley Research (e) estimates

### Investment Arguments

**NMDC is good way to play the iron ore price cycle** – we forecast 25% and -1% YoY growth in benchmark iron ore prices in F12 and 13.

**Low mining costs, high ore quality, strong reserves base make this a good long-term story** – We estimate F11 ex-mine cost of about US\$ 17/t which in our view is quite competitive even globally. In addition, NMDC's Fe content is quite high at 64-67% thus fetching it strong realizations. The company clocked EBITDA per ton of about US\$68/t (EBITDA margin 75%) in 2QF12, which highlights NMDC's sustainable competitive advantages. With a reserve base of about 2,000mt (with potential for upside), the company looks well positioned from a long-term perspective.

**There are risks to volume growth from operational disruptions due to Naxalism, but these appear to be priced in:** Bearing in mind the recent disruptions to NMDC's iron ore transportation due to Naxalite violence we have curtailed our volume growth forecasts for NMDC. However due to the low base effect F11-F13 CAGR will still likely be 18%. We also feel that, due to persistent problems in the past 3-4 quarters this issue is largely reflected in the stock price. At the same time if there were a material worsening that affected the entire mining industry in India, it could act as a risk factor for the stock (for more detail, please see *NMDC: Awaiting a Better Entry Point; Initiating at Equal-weight*, April 26, 2010).

### Valuation and Price Target

Based on our DCF model we value NMDC at Rs 310 per share, 16% above current market price. The stock is trading at an EV/EBITDA of 5.1 and 3.6 based on our FY12 and FY13 forecasts. Given our EBITDA CAGR forecast of 37% in F11-F13 we believe these valuations indicate upside in the stock.

Exhibit 29

### WACC Calculation

Risk Free Return (Rf) (%)	8.0
Market Premium (Rm) (%)	6.0
Assumed Beta	1.02
Cost of Equity (Re) (%)	14.1
Equity (%)	80
Cost of Debt (Rd) (%)	9.0
Tax rate (%)	33.8
After-tax cost of debt (Rd [1-t]) (%)	6.0
Debt (%)	20
WACC (%)	12.5

Source: Morgan Stanley Research

Exhibit 30

## Price target of Rs310

<b>Present value (as on 30th April,2011) of the explicit phase (A)</b>	<b>1,064,399</b>
Total present value (as on 30th April,2011 ) =( A+B)	1,064,399
Net debt as on F11 end	(163,852)
Equity value (Rs m)	1,228,251
No of shares	3,965
<b>Implied Equity value per share for iron ore division</b>	<b>310</b>

Source: Company data, Morgan Stanley Research

Exhibit 31

## Assumptions

			F09	F10	F11E	F12E	F13E
Production	Iron ore	mt	28.0	23.4	24.8	27.8	34.8
	Pellets	mt					0.8
	Steel	mt					
Realization on iron ore	Domestic market	Rs/t	2,588	2,679	5,161	6,384	6,424
	Export market	Rs/t	4,414	3,120	2,934	8,680	9,266
	Average realization	Rs/t	2,856	2,583	4,837	6,708	6,828
	YoY change (%)		41	-10	87	39	2
Proportion of domestic sales for iron ore (%)			85	86	85	86	86
Royalty		Rs/t	22	152	260	294	323
Land freight on exports		Rs/t	1,669	984	1,230	1,353	1,556
Export tax		Rs/t	300	100	270	799	852

Source: Company data, Morgan Stanley Research (E) estimates

January 18, 2011

India Nonferrous Metals & Mining

## Coal India: Financial Summary

### Profit and Loss

Y/E March	2010	2011E	2012E	2013E
<b>Total Income</b>	<b>466,843</b>	<b>522,739</b>	<b>614,005</b>	<b>715,054</b>
Acc. of Stock	(6,672)	(1,968)	(1,574)	(1,672)
Employee Costs	166,555	182,696	228,005	240,773
Power and Fuel	17,396	17,605	18,309	19,407
Selling exp.	154,299	171,596	177,346	189,717
OBR Adj.	30,539	25,660	29,278	31,091
Transport rec.	(12,260)	(13,027)	(14,226)	(15,833)
EBITDA	116,985	140,178	176,868	251,570
EBITDA adjusted for OBR	147,524	165,837	206,145	282,661
Depreciation	13,295	17,446	18,958	20,758
EBIT	134,230	148,392	187,187	261,903
Other Income	40,149	41,707	44,672	52,126
Fin. Charges	1,560	1,552	1,273	1,169
Prov./Write offs	2,094	-	-	-
PBT	170,725	188,547	230,586	312,860
Prov. For tax	52,746	62,220	76,093	103,244
Adj./Extra	(537)	-	-	-
<b>PAT</b>	<b>117,443</b>	<b>126,326</b>	<b>154,493</b>	<b>209,616</b>

### Balance Sheet

Y/E March	2010	2011E	2012E	2013E
<b>Total Liabilities</b>				
Share Capital	63,164	63,164	63,164	63,164
Res. and Surplus	194,789	266,025	354,554	438,531
Shareholder's Equity	257,952	329,189	417,717	501,695
Minority Interest	236	23	25	27
Loan Funds	20,869	15,534	14,301	13,090
Rehab fund	14,774	16,500	18,000	19,500
<b>Total Liabilities</b>	<b>293,831</b>	<b>361,246</b>	<b>450,043</b>	<b>534,312</b>
Net Block	120,354	130,912	146,955	166,197
Surveyed off assets	1,198	950	950	950
CWIP	20,909	20,091	21,095	22,150
Investments	12,823	12,821	12,821	12,821
Defferred tax assets	9,604	9,604	9,604	9,604
Inventories	44,018	49,459	56,766	64,785
Sundry Debtors	21,686	26,137	30,700	35,753
Cash Balance	390,778	436,064	514,854	598,922
Loans and Adv.	86,762	104,114	124,937	137,098
Curr. Liabilities	414,316	428,917	468,650	513,978
Net Curr. Assets	128,943	186,867	258,618	322,590
<b>Total Assets</b>	<b>293,831</b>	<b>361,246</b>	<b>450,043</b>	<b>534,312</b>

Source: Company data, Morgan Stanley Research, E = Morgan Stanley Research Estimates

### Cash Flow Statement

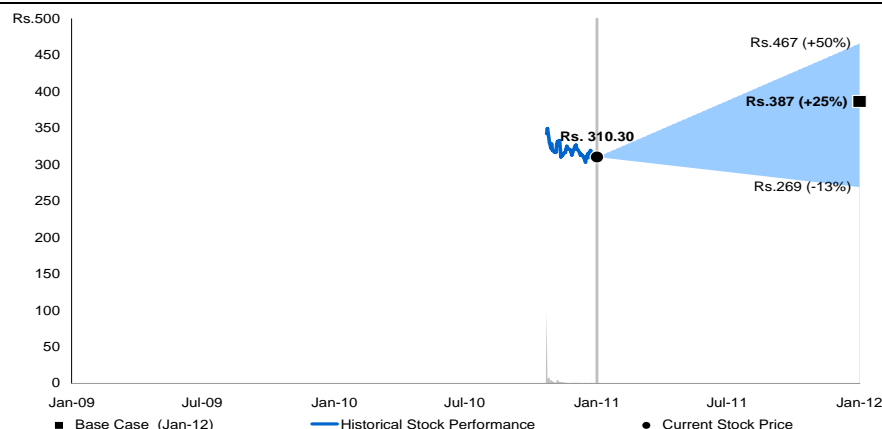
Y/E March	2010	2011E	2012E	2013E
PAT	96,224	109,134	134,877	188,785
Dividend	(35,233)	(37,898)	(46,348)	(104,808)
Depreciation	13,138	17,446	18,958	20,758
Chg. in Curr.Liab	21,497	14,601	39,733	45,329
Chg. in Inventories	(7,189)	(5,441)	(7,307)	(8,019)
Chg. in Debtors	(3,425)	(4,450)	(4,563)	(5,052)
Chg. in Loans & Adv.	25,683	(17,352)	(20,823)	(12,161)
CF from Operations	110,696	76,039	114,526	124,831
Capex	(26,192)	(26,938)	(36,005)	(41,055)
Chg. in Investments	1,877	7	(0)	(0)
Chg. in Loans	(616)	(5,335)	(1,233)	(1,210)
Chg. in Others	2,536	1,726	1,500	1,500
Chg. in Cash	93,828	45,286	78,790	84,066
Cash at the Beginning	390,778	436,064	514,854	598,922
BS Ending Cash	296,950	390,778	436,064	514,854

### Ratios

	2010	2011E	2012E	2013E
Modelware EPS	18.6	20.0	24.5	33.2
CMP	310	310	310	310
Reported EPS	15.2	17.3	21.4	29.9
P/E	16.7	15.5	12.7	9.3
EV/Sales	2.5	2.9	2.4	1.9
EV/EBITDA	8.0	9.3	7.1	4.9
P/BV	6.0	5.9	4.7	3.9
<b>Div. Yield (%)</b>	2.3	1.9	2.4	5.4
<b>Growth Ratios</b>				
Revenue (%)	13	12	17	16
EBITDA (%)	134	12	24	37
Net Income (%)	311	7	22	36
<b>Profitability ratios</b>				
EBITDA (%)	32	32	34	40
PAT (%)	26	24	25	29
<b>Return Ratios</b>				
ROCE (%)	43	39	40	47
Return on equity (%)	42	36	35	40
<b>Fin.stability ratios</b>				
Net debt to equity	(1.4)	(1.3)	(1.2)	(1.2)
<b>Efficiency ratios</b>				
Debtors days	17.0	18.3	18.3	18.3
Creditors days	323.9	299.5	278.6	262.4

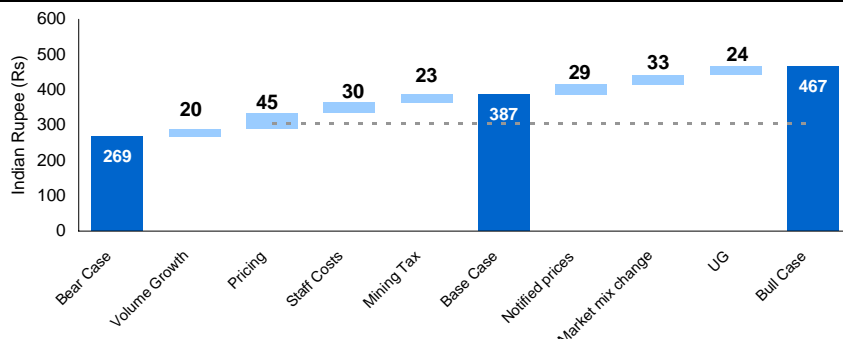
## Risk-Reward Snapshot: Coal India (COAL.BO, Rs310, OW, PT Rs387.00)

### Risk-Reward View: Growing Confidence in CIL's Price Increases



Price Target 387		Derived from base-case scenario, based on DCF analysis
<b>Bull case</b> <b>Rs467</b>	16x Bull Case 12e EPS	<b>Rapid improvement in sales mix:</b> Share of market-linked sales volumes increases to 50% by F13; notified prices rise at CAGR of 8.5% in F10-F13 as government eases up on pricing restrictions.
<b>Base case</b> <b>Rs387</b>	19.4x Base Case 12e EPS	<b>Realizations rise faster than Street expectations:</b> By F13, CIL sells almost 36% of volume at market-linked prices, and its price discount falls to about 67% to import prices. Notified prices rise by 11% in F2Q12 following average wage hike of 40%. Notified prices CAGR is 6.3% over F10-F13. Volume growth is sluggish at 5% CAGR for F11-13.
<b>Bear case</b> <b>Rs269</b>	14.5x Bear Case 12e EPS	<b>Production shrinks; price increases unable to compensate for cost escalation:</b> Environmental and logistical issues cut production by 5% a year in F10-F13; wages rise by 50% in the next round of revisions; average prices increase by only 4% CAGR in F10-F13; CIL is unable to pass on 26% mining tax imposed.

### Bear to Bull: Sales Mix, Wages, Regulatory Framework & Volumes Are Key



Source: Morgan Stanley, FactSet

### Why We Are Overweight

- Post the recent correction CIL stock seems to be reflecting an unduly high focus on its volume growth even as its price advancement is being ignored. Accordingly, we find the stock attractive at EV/EBITDA of 7.1 F12E.
- Attractive vehicle for participating in India's economic growth;
- Strong long-term positives – large mine reserves, low and falling production costs, favorable geological characteristics;
- Accelerating earnings growth – we expect earnings CAGR of 29% in F11-F13, with low downside risk, aided by steady pricing growth.

### Key Value Drivers

- **Change in sales mix:** We expect the share of market-linked sales volume to rise to 36% in F13 from 22% in F10.
- **Lower price discount:** We estimate the discount to import parity prices will fall to 67% in F13 from 71% F11.
- **Higher staff costs:** Our model assumes a rise from Rs386/t in F10 to Rs493/t in F13.
- **Muted production growth:** We forecast 5% CAGR in F11-F13.
- **Regulatory environment.**

### Potential Catalysts

- Quarterly results from F4Q11 should display improvement in realizations and rebound in volume growth.
- We expect an increase in notified prices in F2Q12 to accompany wage revisions.

### Downside Risks

- Regulatory, law and order and/or logistical issues cause CIL's volumes to dip.
- The government does not allow CIL to raise prices in the next two to three years because of inflation concerns.
- CIL undertakes a large and value-reducing acquisition abroad.



Exhibit 32

## What's Changed

	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Sales	521,882	614,536	714,482	522,739	614,005	715,054
EBITDA (Adj.)	163,942	203,920	279,269	165,837	206,145	282,661
PAT	125,057	153,002	207,344	126,326	154,493	209,616
EPS	19.8	24.2	32.8	20.0	24.5	33.2

Source: Morgan Stanley Research

Exhibit 33

## Realization and Production Estimates

	Old			New		
	F11e	F12e	F13e	F11e	F12e	F13e
Realizations (R/t)	1148	1284	1410	1156	1302	1432
Production (mt)	439	461	489	436	454	481

Source: Morgan Stanley Research

## Concerns on volume growth overblown

In our view, recent media news on pollution-related hurdles and statements by the CIL CMD have made the street too focused on volume growth for CIL. This has led to a correction in the stock, which we feel is unwarranted because:

- Management's volume estimates appear conservative:** We feel the management is being conservative in its production estimate of 447Mt for F12. Even if the current regulatory issues prevail, CIL should be able to comfortably hit a production figure of 454 mt in F12 as we expect. However, it is possible that CIL may be able to get some relief from the regulatory and logistical issues that it is currently facing if current concerns drive some action from the government to ease the situation for CIL.
- Domestic and global shortage could increase CIL's average realizations:** The recent rain and consequent flooding in Australia has disrupted the seaborne supply of coking and thermal coal causing thermal coal price to jump to 125\$/t (FOB Newcastle). We expect import dependent thermal coal buyers to purchase more from CIL's e-auction, thus aiding CIL realizations. We expect e-auction proportion to rise to 13.5% in F12 (11% in F10) and realizations to rise to 2215 Rs/ton (20% yoy growth).
- Earnings sensitivity to volumes is low compared to pricing:** To compensate for a 1% price change, volume needs to change by 4.5% based on our F12 forecasts. Even if volume growth targets were missed by half, the earnings miss would be just 5-6%.

## Why We Expect Some Stock Rerating

(1) Over the next three to four quarters, we expect the Street to gain confidence in CIL's ability to show EBITDA CAGR approaching 31% in F11-13. This would underpin the EV/EBITDA multiple of 7.1 on our F2012 estimate.

(2) In the coming three to four quarters, we expect the Street to recognize the low volatility of CIL's earnings which in turn should increasingly expand its valuation multiples.

(3) If investors become aware that in the next three to four quarters CIL may not be able to use much of its cash balance, they are likely to start factoring in some cash return, in our view. This would bring down their WACC expectations, pushing up the stock's fair value from this perspective. We expect a dividend payout of 50% from F13 compared to the current 30%

## Valuation

Our price target is unchanged at Rs387 implying an upside of 25% from current levels and target F2012 multiples of 12.7 P/E and 7.1 EV/EBITDA, which we think are reasonable when compared with the respective multiples of 14.8x and 8.3x for the global peer group.

To set our price target, we use a two-phase DCF model with an explicit phase of six years and a terminal growth rate of 3%. We assume an average realization of Rs1,156/ton for F2011, increasing at a CAGR of 9% for the explicit phase and production of 454mt for F2012 with a CAGR of 6.2% for the explicit phase.

We derive a WACC of 13.0% for the company with a risk-free rate of 7.9% (10-year government bond yield) and a market-risk premium of 6.5%, in line with the recommendations of our regional strategy team.

## Downside Risks to Price Target

Risks to our price target include slower than expected price increase, a sudden dip in industrial and economic activity in India and globally, and an unfavorable regulatory and law and order environment.

Exhibit 34

## WACC Calculation

Risk Free Return (Rf) (%)	7.9
Market Premium (Rm-Rf) (%)	6.5
Assumed Beta	1.06
Cost of Equity (Re) (%)	14.8
Equity (%)	80
Cost of Debt (Rd) (%)	9.0
Tax rate (%)	33.8
After-tax cost of debt (Rd [1-t]) (%)	6.0
Debt (%)	20
WACC (%)	13.0

Source: Morgan Stanley Research

Exhibit 35

## Beta Calculations

Typical Indian mining company beta	1.17
Weighting of mining companies(A)	0.75
NTPC's beta	0.73
Weighting of NTPC beta (B)	0.25
Weighted Average of A and B	1.06

Source: Company data, Morgan Stanley Research

Exhibit 36

## DCF – Price Target of Rs387

<b>Present value (as on 1st Dec, 2011) of the explicit phase (A)</b>	<b>821,949</b>
Terminal growth rate (%)	3
Terminal value	2,039,139
Present value (as on 1st Dec 2011, of terminal value ( B)	1,199,630
Total present value (as on 1st Dec,2011 ) =( A+B)	2,021,579
Net debt as on F11 end	(420,530)
Equity value (Rs m)	2,442,109
No of shares	6,316
Implied Equity value per share for iron ore division	387

Source: Company data, Morgan Stanley Research

January 18, 2011

India Nonferrous Metals &amp; Mining

Exhibit 37

**Assumptions**

			F09	F10	F11E	F12E	F13E
	Coal Production	mt	404	431	436	454	481
	change YoY		6.4	6.8	1.2	4.0	6.0
	Coal Despatch	mt	401	415	432	451	478
	change YoY (%)		7.0	3.4	4.1	4.3	6.0
	Average Realizations	Rs/mt	975	1,075	1,156	1,302	1,432
	change YoY (%)		12.1	10.3	7.5	12.6	10.0
Product Mix							
	Washed coal	mt	15	15	14	15	20
	change YoY (%)		4.7	-2.5	-0.9	2.0	33.9
	A,B,C grade coal production	mt	64	69	66	71	75
	change YoY (%)		-3.2	7.2	-3.4	6.9	5.6
	e-Auction		49	46	56	61	67
	change YoY (%)		69.7	-6.4	22.5	9.0	9.0
Realizations							
	Washed coal	Rs/mt	2,275	2,124	2,455	2,945	3,252
	change YoY (%)		19.3	-6.7	15.6	20.0	10.4
	A,B,C grade coal	Rs/mt	2,191	2,208	2,567	3,029	3,286
	change YoY (%)		11.3	0.8	16.3	18.0	8.5
	e-Auction	Rs/mt	1,481	1,583	1,849	2,215	2,575
	change YoY (%)		10.0	6.9	16.8	19.8	16.3
	No of Employees		419,214	397,138	387,210	371,721	356,852
	change YoY (%)		-3.1	-5.3	-2.5	-4.0	-4.0
	Employee cost per head	Rs	470,918	419,389	471,828	613,376	674,713
	change YoY (%)		61.3	-10.9	12.5	30.0	10.0
	OBR Adjustment	Rs m	21,772	30,539	25,660	29,278	31,091
	change YoY (%)		39.2	40.3	-16.0	14.1	6.2

Source: Company data, Morgan Stanley Research, (e)=Morgan Stanley Research estimates

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January 18, 2011

India Nonferrous Metals &amp; Mining

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<b>Total</b>	<b>2,838</b>		<b>993</b>		

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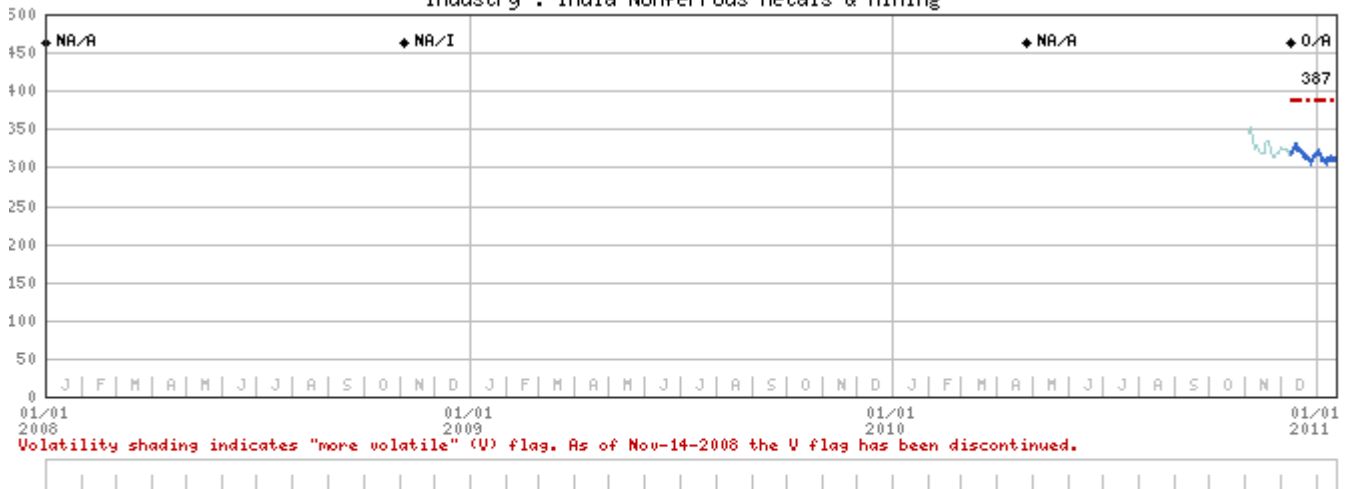
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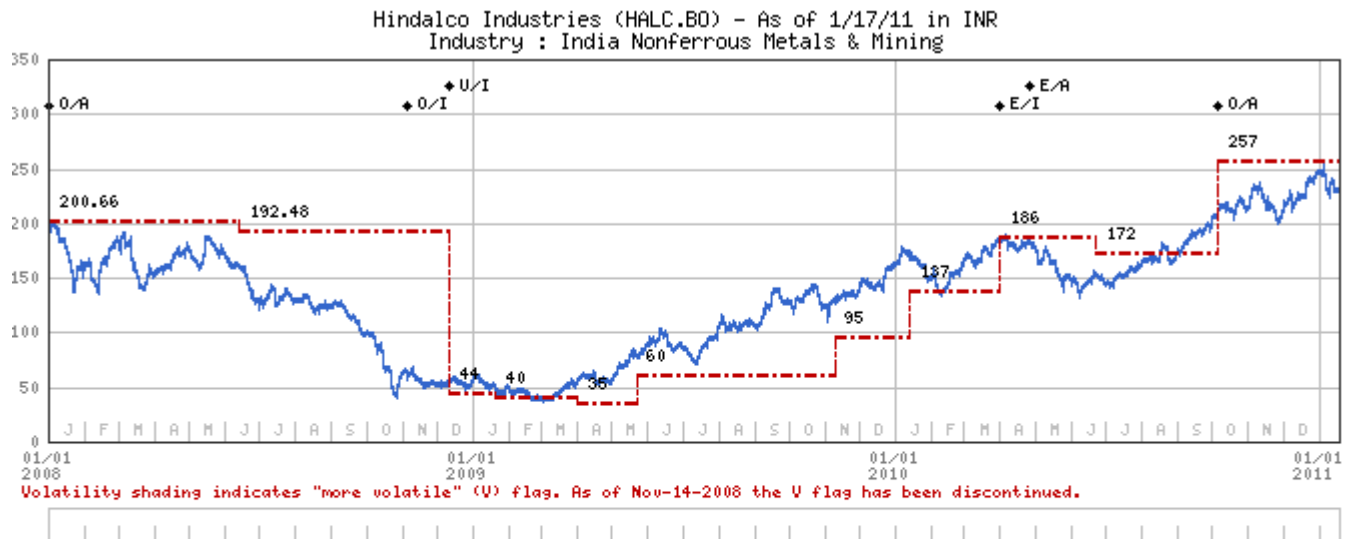
### Stock Price, Price Target and Rating History (See Rating Definitions)

Coal India Limited (COAL.BO) - As of 1/17/11 in INR  
Industry : India Nonferrous Metals & Mining



Stock Rating History: 1/1/08 : NA/A; 11/6/08 : NA/I; 4/26/10 : NA/A; 12/10/10 : O/A  
 Price Target History: 12/10/10 : 387

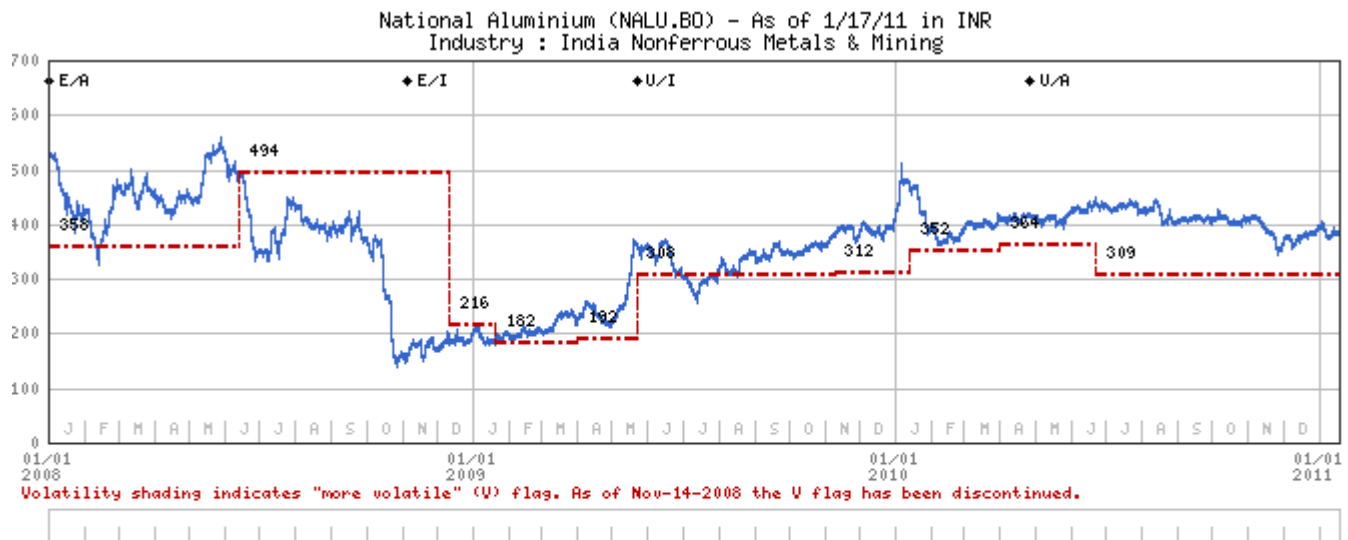
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 Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View  
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Stock Rating History: 1/1/08 : O/A; 11/6/08 : O/I; 12/11/08 : U/I; 3/31/10 : E/I; 4/26/10 : E/A; 10/6/10 : O/A

Price Target History: 12/13/07 : 200.66; 6/13/08 : 192.48; 12/11/08 : 44; 1/21/09 : 40; 4/1/09 : 35; 5/22/09 : 60; 11/9/09 : 95; 1/13/10 : 137; 3/31/10 : 186; 6/23/10 : 172; 10/6/10 : 257

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Stock Rating History: 1/1/08 : E/A; 11/6/08 : E/I; 5/22/09 : U/I; 4/26/10 : U/A

Price Target History: 12/13/07 : 358; 6/13/08 : 494; 12/11/08 : 216; 1/21/09 : 182; 4/1/09 : 192; 5/22/09 : 308; 11/9/09 : 312; 1/13/10 : 352; 3/31/10 : 364; 6/23/10 : 309

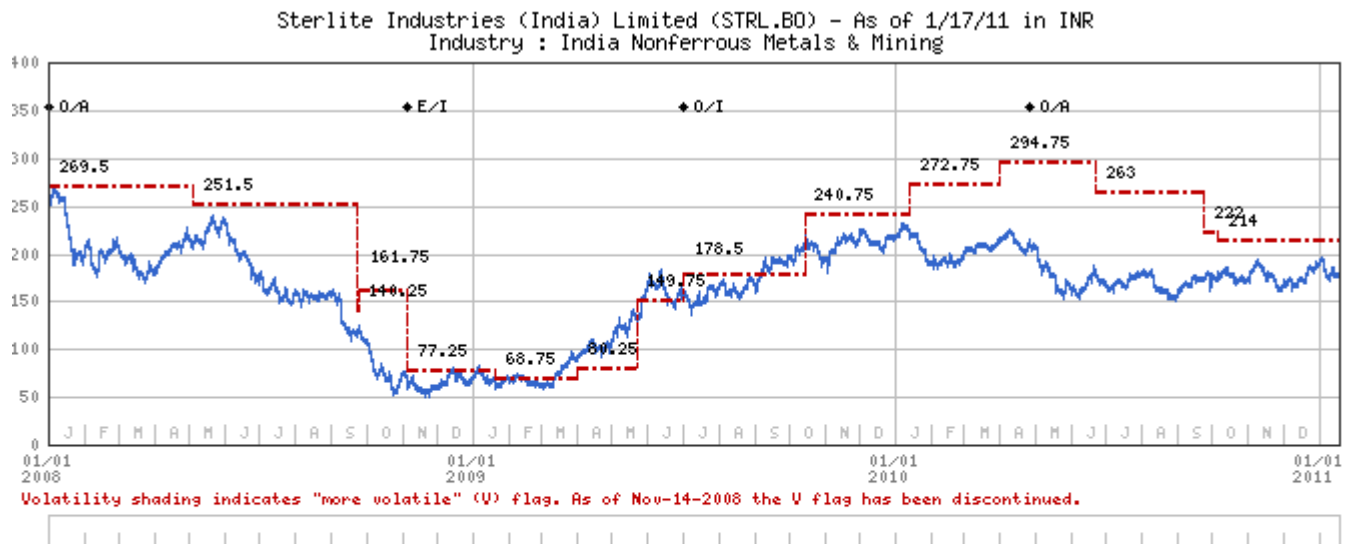
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January 18, 2011  
India Nonferrous Metals & Mining



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January 18, 2011

India Nonferrous Metals &amp; Mining

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January 18, 2011

India Nonferrous Metals & Mining

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## Industry Coverage: India Nonferrous Metals & Mining

Company (Ticker)	Rating (as of)	Price* (01/14/2011)
<b>Vipul Prasad</b>		
Coal India Limited (COAL.BO)	O (12/10/2010)	Rs310.15
Hindalco Industries (HALC.BO)	O (10/06/2010)	Rs229.3
NMDC Ltd (NMDC.BO)	O (01/18/2011)	Rs258.2
National Aluminium (NALU.BO)	E (01/18/2011)	Rs380.7
Sesa Goa (SESA.BO)	NA (12/17/2010)	Rs326.5
Sterlite Industries (India) Limited (STRL.BO)	O (07/02/2009)	Rs176.35

Stock Ratings are subject to change. Please see latest research for each company.  
 \* Historical prices are not split adjusted.