

Hindalco



Shifting focus to growth

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Hindalco

BSE SENSEX	S&P CNX	BLOOMBERG	REUTERS
17,471	5,241	HNDL IN	HALC.BO

Rs142

Buy

Y/E MARCH	2009	2010	2011E	2012E
Net Sales (Rs b)	656	607	642	650
EBITDA (Rs b)	30	70	71	84
NP (Rs b)	5	17	25	32
EPS (Rs)	2.8	8.8	12.7	16.1
EPS Growth (%)	(83.1)	217.1	44.7	26.5
BV/Share (Rs)	43.5	67.0	67.2	81.9
P/E (x)	51.2	16.1	11.2	8.8
P/BV (x)	3.3	2.1	2.1	1.7
EV/EBITDA (x)	15.7	6.8	6.8	6.0
EV/Sales (x)	0.7	0.8	0.8	0.8
RoE (%)	6.4	13.1	18.9	19.7
RoCE (%)	(0.1)	8.1	8.2	8.3

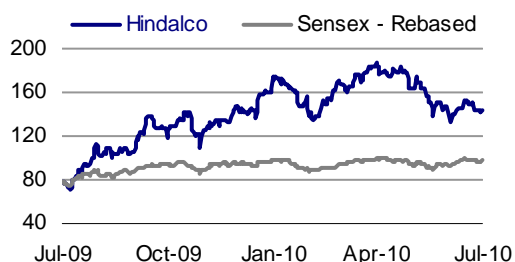
KEY FINANCIALS

Shares Outstanding (m)	1,962.8
Market Cap. (Rs b)	278.7
Market Cap. (US\$ b)	6.0
Past 2 yrs. Sales Growth (%)	0.6
Past 2 yrs. NP Growth (%)	(6.9)
Dividend Payout (%)	6.2
Dividend Yield (%)	1.0

STOCK DATA

52-W High/Low Range (Rs)	188/68
Major Shareholders (as of March 2010)	(%)
Promoter	32.1
Domestic Inst	15.6
Foreign	39.7
Others	12.5
Average Daily Turnover	
Volume ('000 shares)	12,390.8
Value (Rs million)	1,098.7
1/6/12 Month Rel. Performance (%)	-6/-11/59
1/6/12 Month Abs. Performance (%)	-3/-11/84

STOCK PERFORMANCE (1 YEAR)



Shifting focus to growth

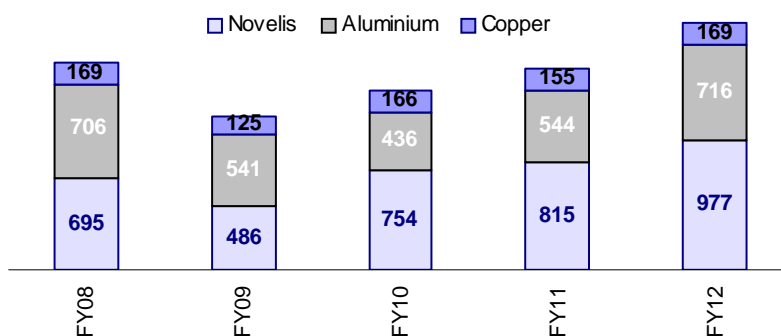
Aluminum production to grow at a CAGR of 21%: Hindalco has low cost smelters of 545,000tpa capacity in the mineral-rich belt of Orissa, UP and Jharkhand. Cost of production ranges from US\$1,300/ton to 1,500/ton; its Hirakud smelter's cost of production is the lowest, as it enjoys the benefit of captive bauxite and coal mines. Post the turnaround of Novelis, Hindalco has put greenfield projects on fast track to add 718,000tpa of capacity by the end of FY12. We expect its aluminum production to grow at a CAGR of 21% and its alumina production to grow at a CAGR of 28% over FY10-14.

Steady income from copper TcRc and special grade alumina: Hindalco has been selling 200,000-250,000tpa of special grade alumina and its copper custom smelters produce 300,000-400,000tpa of copper. Earnings from these businesses are LME-free and they provide ~US\$200m of EBITDA every year on a regular basis.

Novelis turnaround – dual benefit of pricing power and cost cutting: Novelis' cash flows have started improving due to cost reduction of US\$140m per year, expiry of price ceiling contracts and return of pricing power due to changing industry dynamics. Novelis is targeting EBITDA of US\$1b and has planned US\$300m capex.

Shifting focus to growth, re-iterate Buy: Hindalco has stepped up investments in the fast growing economies of India and Brazil, as Novelis has become self-sustaining. We expect consolidated EBITDA to grow at a CAGR of 10% over FY10-12 and EPS growth to be even sharper. We believe EV/EBITDA is a more appropriate valuation indicator than P/E, because Hindalco transfers some of the interest cost directly to the balance sheet. We value the stock at Rs204 (7.5x FY12E EV/EBITDA). We expect the stock to get re-rated, as projects get delivered.

EBITDA (US\$M)



Source: Company/MOSL

Indian operations – growth accelerating

Hindalco’s Indian operations comprise of custom copper smelting, special grade alumina, and low cost integrated primary aluminum smelting. Nifty and Gordon copper mines in Australia meet small requirements of its custom copper smelters in India.

Copper and special grade alumina businesses provide steady cash flows from an average EBITDA of US\$200m-250m. Its primary aluminum smelter capacity of 545,000tpa is fully integrated, with captive power plant (CPP) capacity of 1,219MW and alumina refinery capacity of 1.5mtpa. Hindalco’s aluminum smelters are among the most cost competitive in the world – cost of production ranges from US\$1,300/ton at Hirakud to US\$1,400-1,500/ton at Renukoot.

Though its captive bauxite mines meet most of its requirement, Hindalco also buys from third-party mines to benefit from low regional pricing and preserve its own bauxite. Its 390,000tpa Renukoot smelter meets its coal requirement through linkages and third-party purchases, while its 155,000tpa Hirakud smelter sources all its coal from captive mines.

Hindalco’s integrated greenfield projects, which will increase capacity 3x to 1.7mtpa over the next five years, have started progressing well on ground. Over the next two years, Hindalco will increase its aluminum capacity by 142% to 1.3mtpa at a capex of Rs240b.

Primary aluminum – low cost; high margins

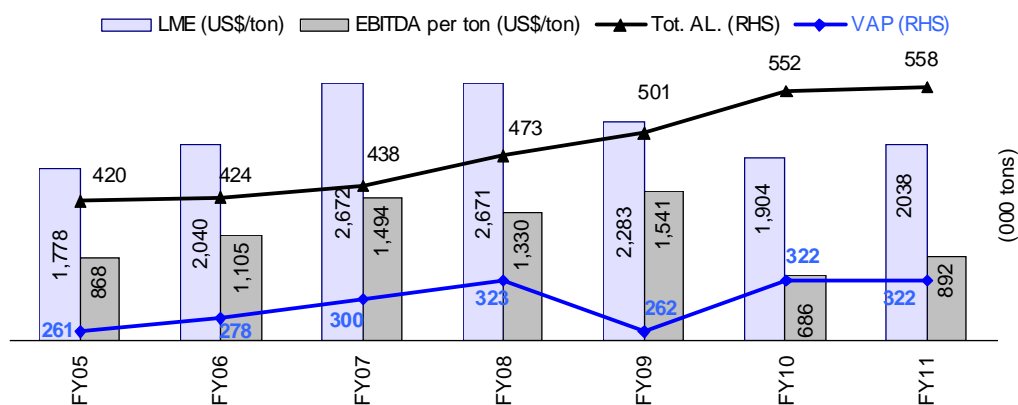
Low cost of production from integrated operations due to captive power plant and captive mines of bauxite and coal

Hindalco’s 545,000tpa Indian aluminum operations comprise of a 390,000tpa smelter at Renukoot and a 155,000tpa smelter at Hirakud. Both smelters are fully integrated and backed with captive power plant, bauxite mines and coal mines. Cost of production at Hirakud is around US\$1,300/ton. Cost of production at Renukoot is higher at US\$1,400-1,500/ton, as coal is sourced through linkages and open market purchases.

High value addition enables high margins

Hindalco is the only aluminum producer in India with high level (60% of product mix) of value addition, which makes its earnings less sensitive to LME volatility. The recently closed FRP plant at Rogerstone, UK is being relocated to Hirakud, Orissa at a capex of Rs8.5b (US\$185m). The plant is likely to be commissioned by 2012. It will have initial capacity of 150,000tpa, which will be expanded further to 285,000tpa by FY15. This plant will produce high value added beverage can products.

HINDALCO: ALUMINUM MARGINS AND VOLUME TRENDS



AL: Aluminum, VAP: Value Added Products

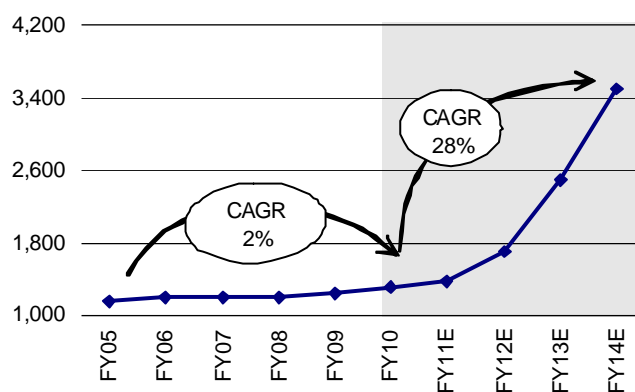
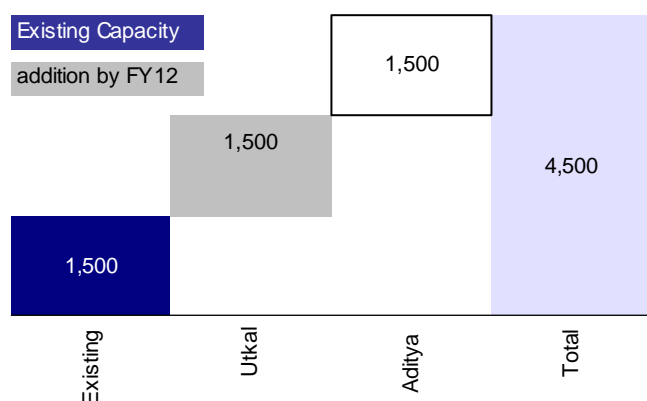
Source: Company/MOSL

Utkal Alumina: significant progress on ground

Financial closure achieved for Utkal Alumina; bauxite mine clearances in place

- Hindalco is setting up 1.5mtpa alumina capacity in Utkal Alumina, Orissa. The project is on fast track and is likely to be commissioned in 2HFY12. There has been significant progress on the ground.
- The bauxite will be sourced from Baphlimali mines 20km away from the site. Requisite clearances and mining leases have been received.
- Hindalco has achieved financial closure for the project with capex of Rs56b. So far, Rs17b has been spent and Rs24b capex is slated for FY11. The visibility of Utkal Alumina is improving. This is likely to re-rate the stock.

HINDALCO: ALUMINA CAPACITY WILL INCREASE 2X BY FY12 AND PRODUCTION WILL INCREASE AT CAGR OF 28% ('000 TONS)



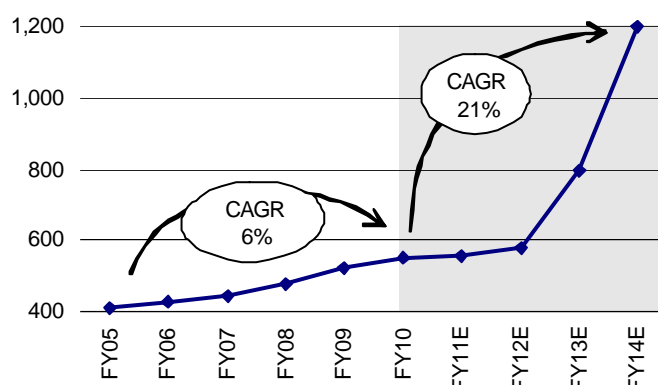
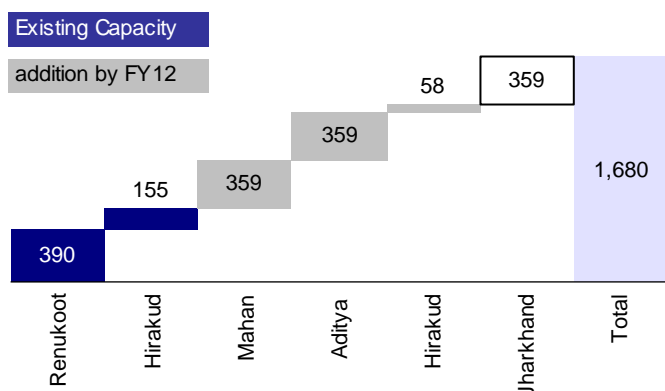
Source: Company/MOSL

Mahan, Aditya projects – targeted commissioning in 2HFY12

Financial closure for Mahan pending, captive mines face hurdles

- Mahan smelter (359ktpa) and a 900MW CPP are on track at a capex of Rs92b, according to the management. However, the coal mine may be delayed due to new directive from the Environment Ministry regarding a 'No Go' zone. Besides, Hindalco is yet to achieve financial closure for this project. So far, the company has spent Rs15.5b and Rs42b capex is planned for FY11. We expect the project to start production by FY12 end.
- The target to commission the Aditya project (359ktpa smelter and 900MW CPP) by 3QFY12 is little aggressive. Of the Rs92b capex, Rs14b has been spent, and Rs25b is due to be spent in FY11. This implies that Rs43b needs to be spent in 9MFY12. We expect the project to start production in FY13.
- The coal mine is in a JV and the mine is unlikely to be opened by FY12.

HINDALCO: ALUMINIUM CAPACITY WILL INCREASE BY 142% BY FY12 AND PRODUCTION WILL INCREASE AT CAGR OF 21% ('000 TONS)



Source: Company/MOSL

US\$2b capex each in FY11, FY12

Hindalco has lined up Rs400b capex to expand its aluminum smelting capacity from the existing 0.54mtpa to 1.7mtpa by 2013 along with captive power plants of 2980MW. The three smelters (359ktpa with 900MW CPP each) are strategically located near resources to achieve lowest cost of production per ton. In the initial phase, it is looking to commission 1.5mtpa alumina refinery and two smelters (Aditya and Mahan) by 2HFY12 at capex of Rs240b. The capex will be funded by project financing debt of Rs168b (70:30 debt to equity), while Rs72b of equity will be required. Hindalco has already spent Rs39b till date, while Rs45b is available in treasury.

HINDALCO'S CAPEX OF US\$2B EACH IN FY11 AND FY12

PROJECT	CAPEX (RS B)	COMM. DATE	COMMITTED		SPENT % TILL FY10	CAPEX		REMARKS
			RS B			FY11E	FY12E	
UTKAL, Orissa 1.5mtpa refinery	56	2Q FY12	46	82	17	24	15	Major equipments started arriving, Mining facilities getting ready at Baphimali bauxite mine (20km away from project)
ADITYA, Orissa 359ktpa smelter 900MW CPP	92	3Q FY12	50	55	14	25	53	Most approvals received and critical equipment orders placed, 83mt coal reserves allotted at Talabira II & III blocks (in JV 70% with MCL)
MAHAN, MP 359ktpa Smelter 900MW CPP	92	2Q FY12	73	79	15	42	35	Most approvals received, equipment ordered, contractor mobilised, Coal mine stuck in "NO GO" zone
ADITYA, Orissa 1.5mtpa Alumina	60	1Q FY14	4	6	2	2	4	70% land acquired, clearances for water & rail siding obtained
JHARKHAND 359ktpa Smelter 900MW CPP	100	1Q FY14	2	2	0	2	3	Land acquisition begun, project work at early stage, Tubed coal mine allotted (20km away, in JV with Tata Power)
Total	400		175	44	48	95	110	

Source: Company/MOSL

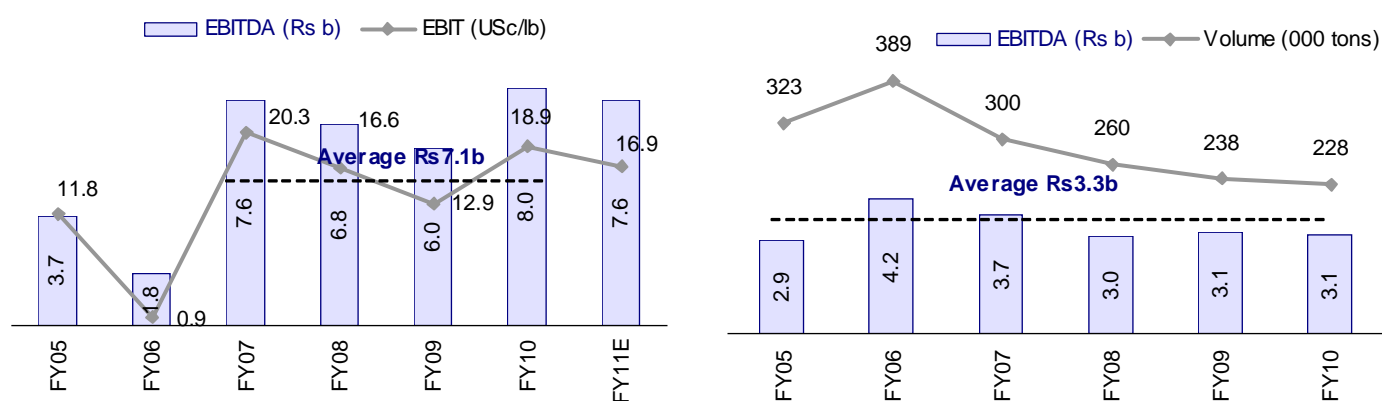
Steady income from copper TcRc and special grade alumina business

Hindalco's 430,000tpa copper smelter and special grade alumina refineries in Belgaum are steady sources of income. Both these operations together generate an EBITDA of US\$200m-250m per year. The trend is likely to continue because copper TcRc margins are already at the bottom of the cycle, though a recovery in the near term is unlikely due to tight demand-supply equation of copper mine production. Also, price volatility for special grade alumina is low. We expect US\$200m of base case EBITDA from these two operations, with a potential upside in some years.

HINDALCO: STEADY INCOME FROM COPPER TCRC AND SPECIAL GRADE ALUMINA

COPPER CUSTOM SMELTER

SPECIAL GRADE ALUMINA

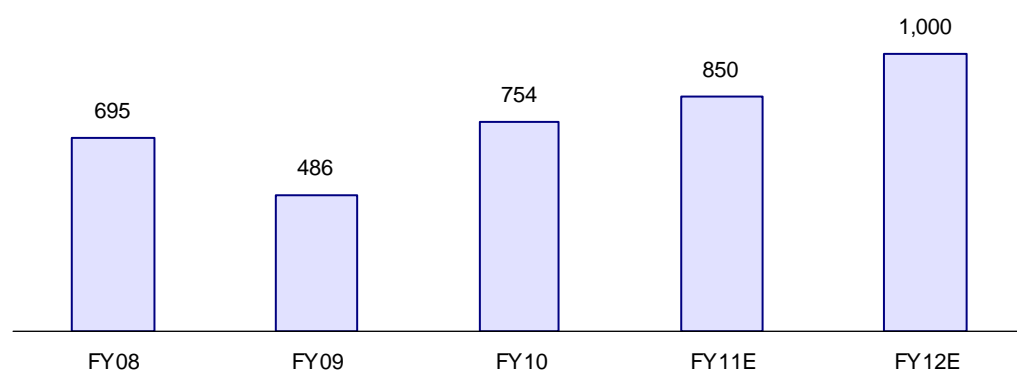


Source: Company/MOSL

Novelis turnaround – dual benefit of pricing power and cost cutting

Novelis is in a sweet spot. On the one hand, greater consolidation in the aluminum flat rolled products (FRP) industry, urgency among FRP players to raise prices after prolonged poor financial health, and superior margins enjoyed by its customers have led to higher pricing power for Novelis. On the other, the financial crisis forced Novelis to restructure its operations, resulting in savings of US\$140m per year. Return of pricing power and cost saving is driving margin expansion.

NOVELIS: ADJUSTED EBITDA (US\$ M)



Source: MOSL/Company

1. Pricing power on 70% of its products

Novelis has established leadership in the beverage can feedstock business

Novelis has a rich product mix. It has pricing power on nearly 70% of its product mix. Beverage can feedstock, which constitutes 58% of its product mix, is a specialized and customized product in terms of alloy, gauge, width and surface finish. Novelis has established leadership in this business.

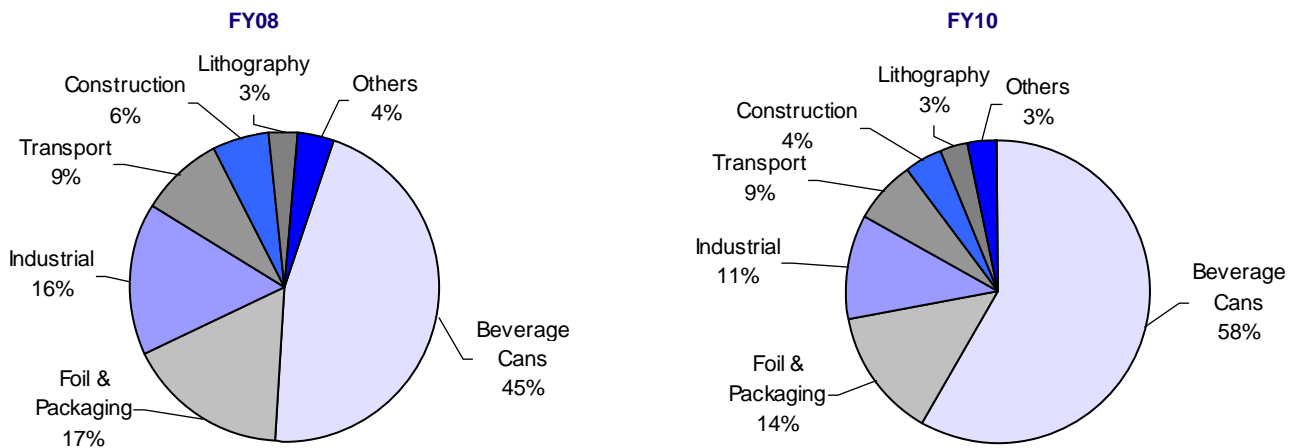
Apart from Novelis, there are just three more players (Hydro, Alcoa and Aleris) in this business

A beverage can has three parts – body, end and cap. The cap is the most intricate part and is difficult to produce. High technological requirement, continuous product innovation, and economies of scale act as natural entry barriers to the beverage can business. Apart from Novelis, there are just three more players (Hydro, Alcoa and Aleris) in the supply of beverage can feedstock.

Technology, continuous product innovation, and economies of scale act as natural entry barriers

The industry has been continuously down-gauging (reducing the thickness of sheet), while maintaining the required strength with the help of fine process and alloying material. Down-gauging has helped customers in reducing costs and has helped Novelis to expand margins (rather than volumes) due to higher value addition.

NOVELIS HAS PRICING POWER ON 70% OF ITS PRODUCT MIX

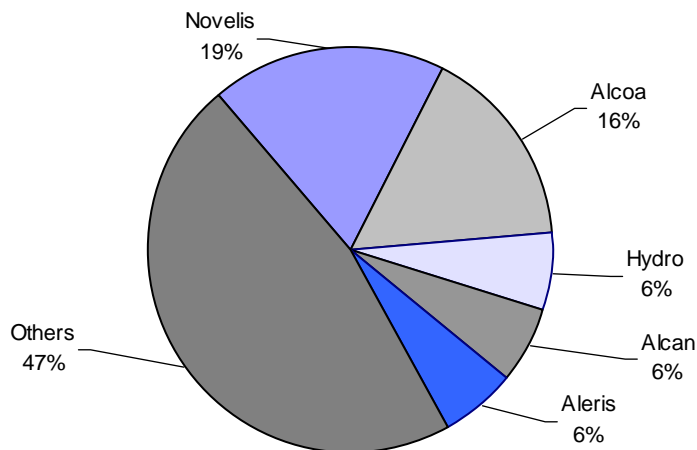


Source: Company/MOSL

Novelis has developed “Novelis Fusion” to cater to the growing opportunity in automotive applications

In certain geographies, the use of aluminum rolled products in automotive body panel applications has been increasing. This is typically the result of cooperative efforts between aluminum rolled product manufacturers and their customers that yield tailor-made solutions for specific requirements in alloy selection, fabrication procedure, surface quality and joining. We believe the recent growth in automotive body panel applications is due in part to lighter weight, better fuel economy and improved emissions performance associated with these applications. Novelis has developed a patented product “Novelis Fusion” to cater to this specific requirement.

HIGH LEVEL OF CONSOLIDATION IN FRP BUSINESS



Source: Company/MOSL

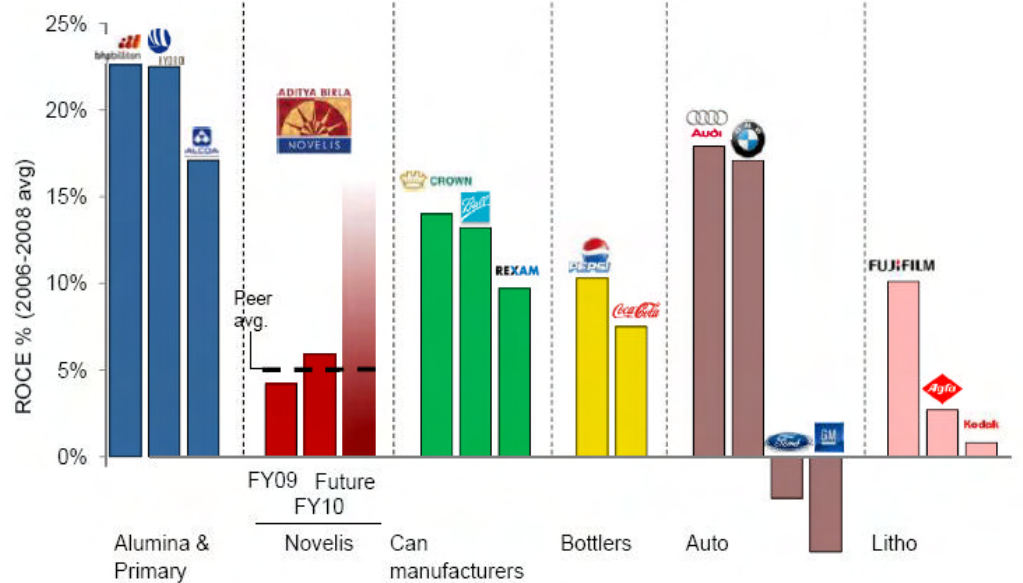
2. FRP industry, lowest rewarded in the value chain, poised to rebound

Despite high value addition, the flat rolled product (FRP) industry has suffered historically because it was an integral part of the primary aluminum smelting business. Integrated players were more focused on promoting metal usage to maximize overall returns, ignoring individual segments. As LME prices of aluminum began to increase, driven by strong demand from China, the integrated aluminum producers marginalized small players in the FRP business. Also, they began to look at segment-wise returns. As a result, there emerged a consolidated FRP industry.

Changing industry structure and expiry of legacy unfavorable contracts will help FRP players to turn around

Corus sold off its FRP business to Aleris while retaining smelters, which were later closed due to high cost of production. Pechiney was acquired by Alcan. Subsequently, Alcan spun-off its key FRP business into Novelis in 2005 to avoid anti-trust action. Novelis and Alcoa are two key players in this business, while Hydro, Alcan and Aleris are the other important players. Despite emergence of consolidation in the FRP business in last 5-6 years, the industry still suffered from poor margins due to legacy contracts.

ALUMINUM: PROFITABILITY ACROSS VALUE CHAIN

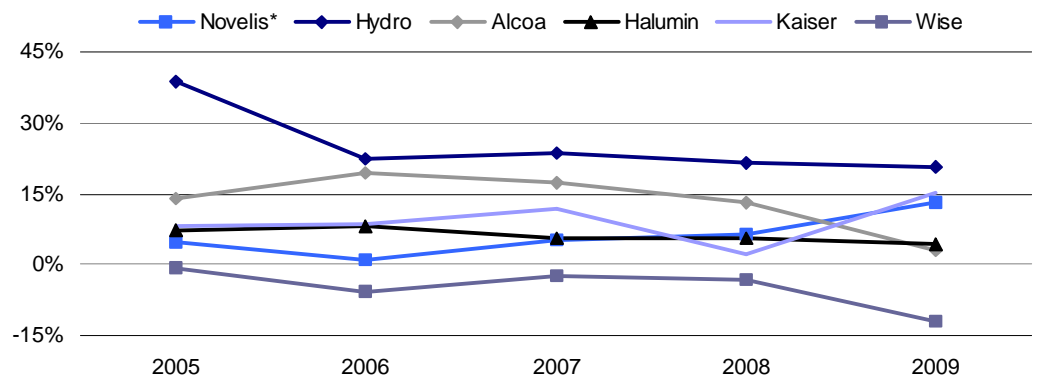


Source: Company/MOSL

Novelis has already served its legacy contracts; is likely to reap benefits of changing industry trends

Novelis has suffered from unfavorable contracts with its key customers. These contracts did not allow re-pricing of conversion premium and some did not even allow pass-through of increases in LME prices. This resulted in suppressed margins and heavy losses during the periods when LME prices shot up. As seen from the graph above, RoCE of FRP players has remained lower than the user industries and integrated aluminium players. As these contracts have served their terms, Novelis is now able to negotiate better conversion premium due to healthy margins enjoyed by them and high level of consolidation among suppliers in developed markets.

OPERATING MARGINS OF KEY FRP PLAYERS



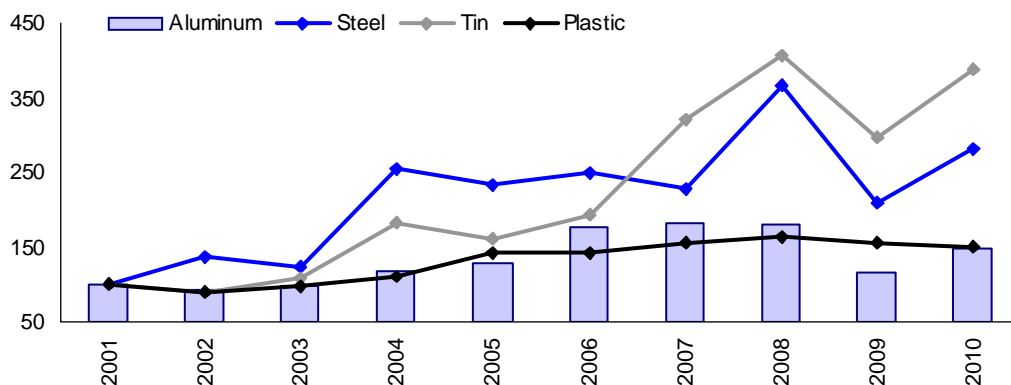
Source: Company/MOSL

Non-integrated players have typically had lower margins than integrated producers like Alcoa and Hydro

3. Aluminum remains attractive in packaging and can application

Aluminum competes with steel, tin, and plastics in beverage can and packaging applications. Aluminum prices have underperformed steel, tin, and PET over the last decade and remain competitive. High recyclable properties, down-gauging, product innovation and superior surface quality have retained the material attractiveness.

MATERIAL PRICES (REBASED TO 100 IN 2001)



Source: Company/MOSL

Novelis has reduced manpower by 11%

4. Restructuring enables cost saving of US\$140m per year

Novelis has achieved annual cost savings of US\$140m by FY10, as it initiated a number of restructuring actions throughout Europe to reduce labor and overhead costs through capacity and staff reductions. It has reduced manpower by 11%.

Europe

- In April 2009, Novelis closed its aluminum sheet mill in Rogerstone, South Wales, UK, resulting in the elimination of 440 positions at a cost of US\$63m.
- Another 80 positions were eliminated in Rugles, located in Upper Normandy, France. The facility continues to operate its three major processes, including continuous casting, foil rolling, and finishing.

North America

- Light gauge converter products facility in Louisville, Kentucky was closed in June 2008 at a cost of US\$5m.
- Voluntary Separation Program (VSP) and a pre-existing Involuntary Severance Program (ISP) helped in reducing 120 positions at a severance cost of US\$16m.
- Novelis is relocating its North American headquarters from Cleveland, Ohio to Atlanta, Georgia, where its corporate offices are located at a cost of US\$11m.

South America

In January 2009, Novelis announced closure of Ouro Preto facility in Brazil effective May 2009 due to dramatic drop in alumina prices, which made it economically unfeasible. Approximately 290 positions were eliminated at Ouro Preto, including 150 employees and 140 contractors. Other activities related to the facility, including electric power generation and the production of primary aluminum, continue.

Asia

In February 2009, Novelis eliminated 34 positions in Asia at US\$1m in severance costs related to a voluntary retirement program.

ERP relocation

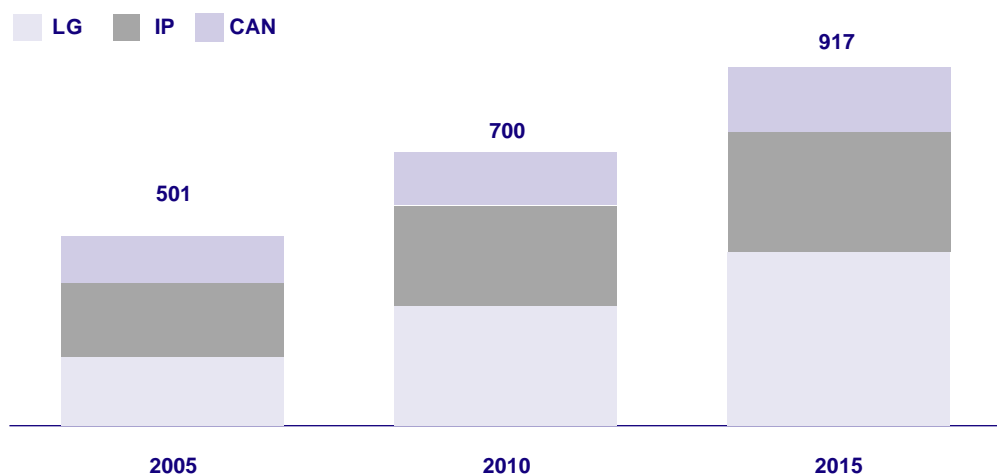
Novelis has eliminated 120 positions in Enterprise Resource Planning (ERP). This function is now being handled by a low cost operation in Pune, India. Novelis is planning further cost cutting by expansion of the Indian unit, substituting its high cost operations worldwide.

South America is the fastest growing FRP market

5. Investing in South America – a volume driver

The most difficult period for Novelis is behind due to the expiry of price ceiling contracts and its restructuring exercise. The company has begun to focus on growth. It is investing in South America, the fastest growing market for FRP. Over the last five years, the FRP market has grown at 6.5% a year and is expected to grow at 6% in the next five years.

FRP CONSUMPTION IN SOUTH AMERICA ('000 TONS)

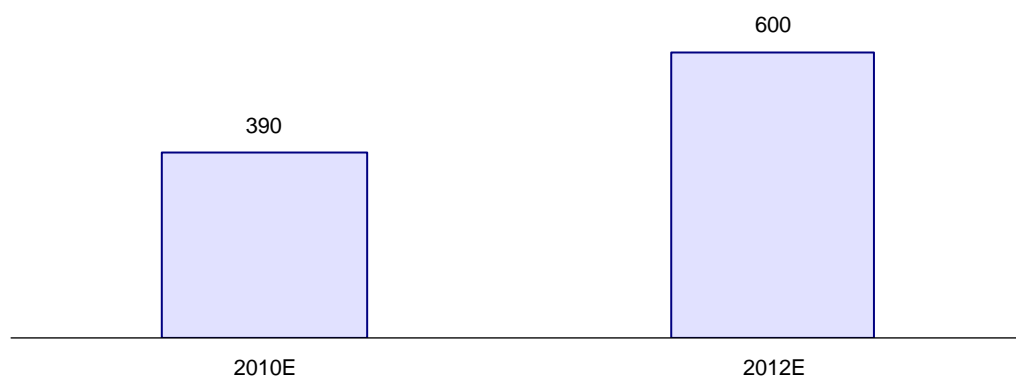


Source: Company/MOSL

Novelis is increasing capacity in South America by 50% at a capex of US\$300m over two years

Encouraged by strong demand, Novelis has decided to expand its capacity by 50% in South America. It will be incurring a capex of US\$300m to build a new cold mill, to invest in finishing equipment and ancillary improvements, to strengthen operations and to enhance profitability. The expansion is likely to be completed in 2012.

NOVELIS: ROLLING MILL CAPACITY IN SOUTH AMERICA ('000 TONS)



Source: Company/MOSL

6. Cash flows have started improving

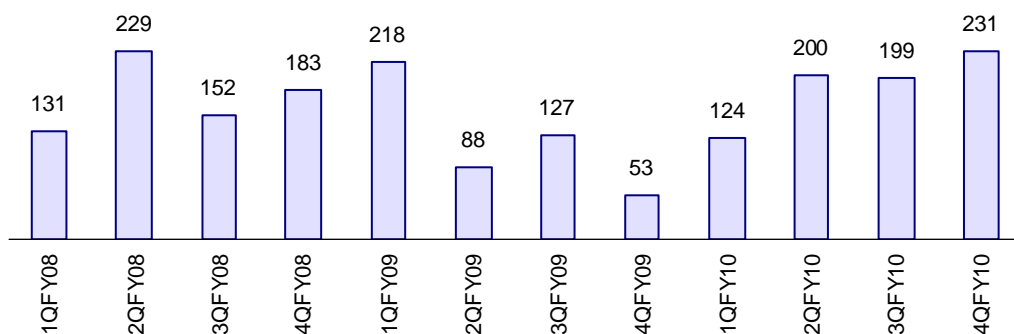
Novelis has been reporting decent core operating EBITDA except for the last three quarters in FY09, when it was impacted by the financial crisis. Reported EBITDA and cash flows suffered due to price ceiling contracts and derivative losses despite Novelis' endeavor to work towards an LME-free business model.

With the expiry of price ceiling contracts, the extraordinary burden of hedging against adverse LME price movement has eased and cash flows have started improving. As a result, net debt has started reducing.

Though Novelis has been emphasizing time and again to focus on adjusted EBITDA to gauge operating performance, we would like to also focus on cash flows from operating and derivative activities.

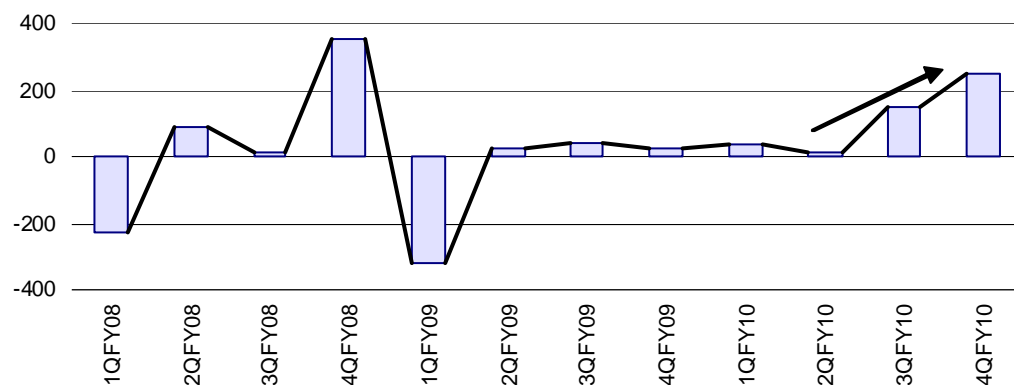
NOVELIS: ADJUSTED EBITDA (US\$ M)

Adjusted EBITDA is an important measure of underlying operating performance...

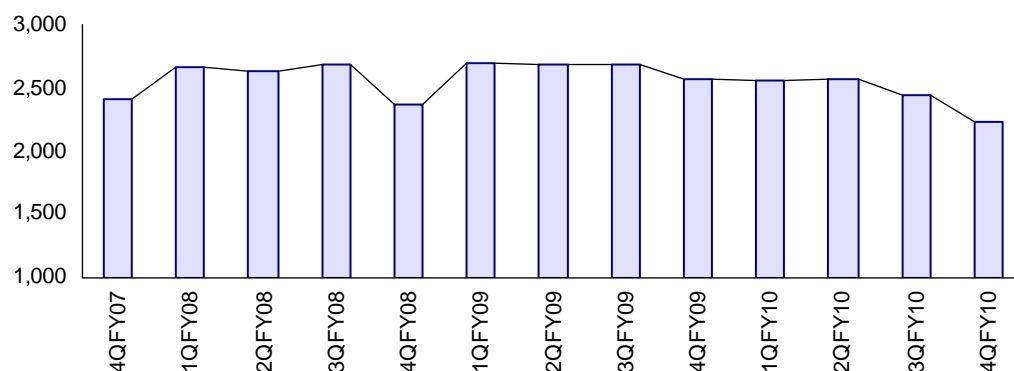


NOVELIS: CASH FLOWS FROM OPERATING AND DERIVATIVE ACTIVITIES (US\$ M)

...and so are cash flows from operating and derivative activities



NOVELIS: NET DEBT (US\$ M)



Source: Company/MOSL

Valuations attractive

Hindalco has stepped up investments in the fast growing economies of India and Brazil, as Novelis has become self-sustaining. We expect consolidated EBITDA to grow at a CAGR of 10% over FY10-12 and EPS growth to be even sharper. We believe EV/EBITDA is a more appropriate valuation indicator than P/E, because Hindalco transfers some of the interest cost directly to the balance sheet.

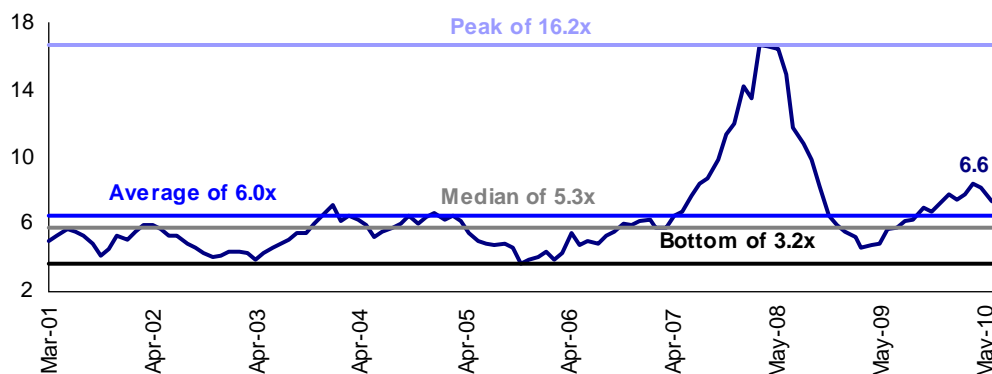
Hindalco's consolidated debt on a net basis is US\$4.2b – gross debt of US\$5.2b less cash and equivalents of US\$1b. The management intends to fund the capex of Rs240b towards its three projects using a debt to equity ratio of 70:30. Hindalco is well-funded for its equity contribution of Rs72b towards these projects. While Rs39b has already been spent, the company has Rs45b cash on its balance sheet.

Buy with a target price of Rs204

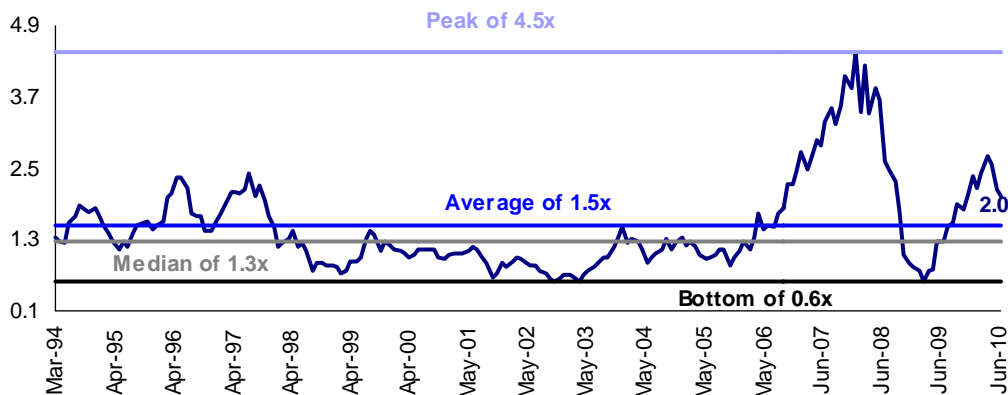
The stock trades at undemanding EV/EBITDA of 6.8x FY11E and 6x FY12E. We expect re-rating of the stock due to reduced volatility in earnings and rising visibility of greenfield projects and bauxite mines. We recommend **Buy**, with a target price of Rs204 (EV/EBITDA of 7.5x FY12E).

We expect re-rating of stock, due to rising visibility of growth

HINDALCO: EV/EBITDA (X)



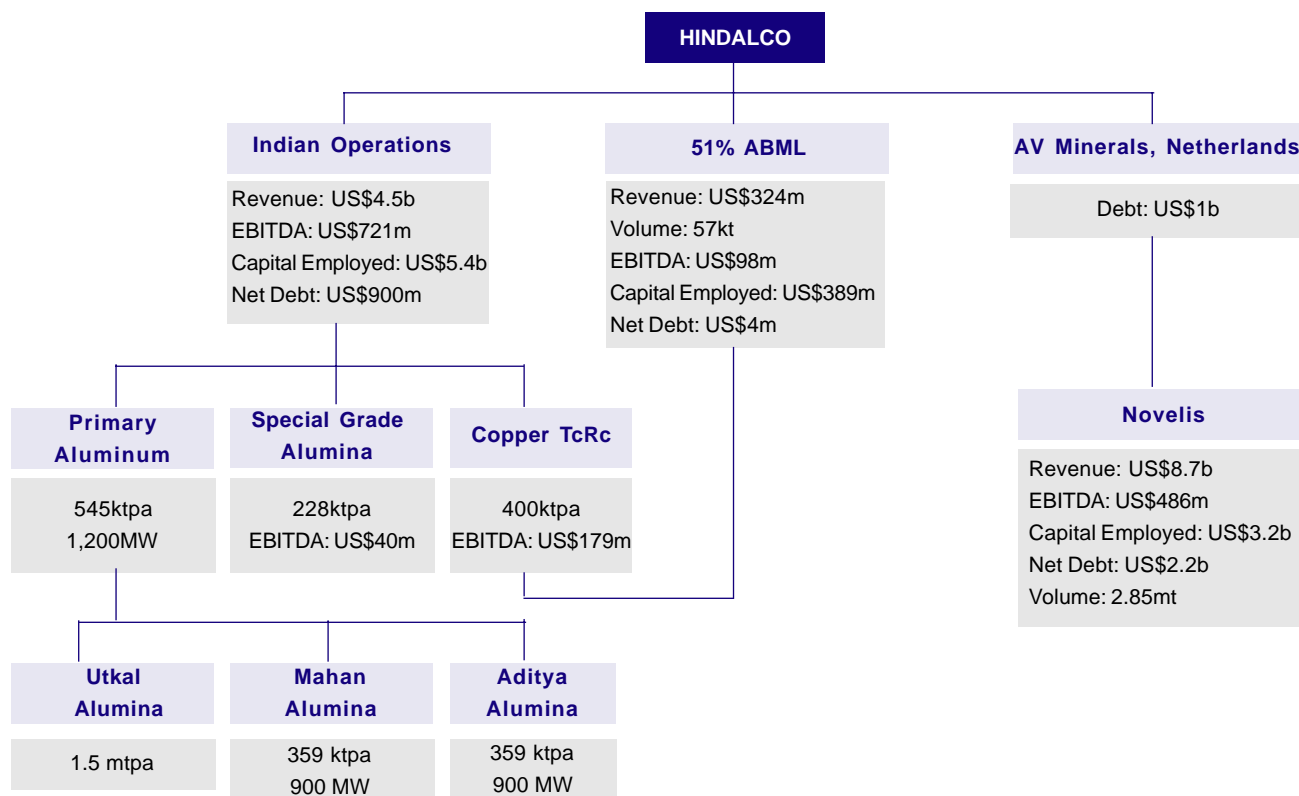
HINDALCO: PB (X)



Company description

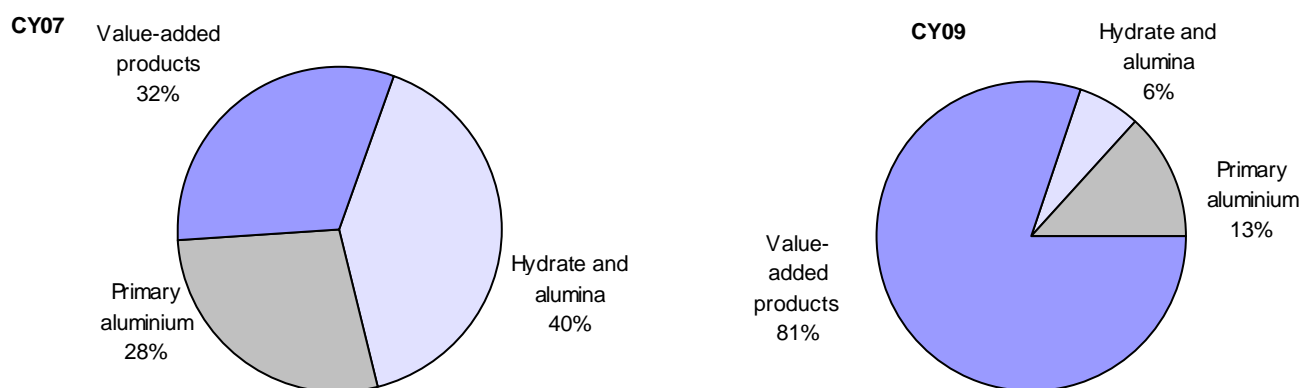
In India, Hindalco makes aluminum and custom smelts copper. It plans to quadruple its aluminum smelting capacity to 1.78mt in 3-4 years.

HINDALCO: AN OVERVIEW



Source: Company/MOSL

HINDALCO: SHARE OF VALUE ADDED PRODUCTS IN REVENUE INCREASED AFTER NOVELIS ACQUISITION



Source: Company/MOSL

The aluminum business

Hindalco mines bauxite, refines alumina, smelts aluminum and converts the primary metal into value-added products

In India, Hindalco mines bauxite, refines alumina (1.5mtpa), smelts aluminum (0.54mtpa) and converts the primary metal into value-added products. Primary aluminum is produced in the form of ingots, billets and wire rods and the value-added products include rolled products, extrusions and foils.

EXISTING OPERATIONS

LOCATION	ALUMINA KTPA	ALUMI NIUM KTPA	WIRE RODS KTPA	ROLLING MILLS KTPA	EXTRU- SION KTPA	FOILS KTPA	COGENERATED POWER MW	POWER PLANT MW
Renukoot, Uttar Pradesh	700	390	56.4	80	23		78	742
Belgaum, Karnataka	350	-	-	-	-		-	-
Muri, Jharkhand	450	-	-	-	-		30	-
Hirakud, Orissa	-	155	-	-	-		-	368
Alupuram, Kerala	-	-	-	-	8		-	-
Belur, West Bengal	-	-	-	45	-		-	-
Taloja, Maharashtra	-	-	-	50	-		-	-
Kalwa, Maharashtra	-	-	-	-	-	6	-	-
Silvassa, Dadra & Nagar Haveli	-	-	-	-	-	30	-	-
Kollur, Andhra Pradesh	-	-	-	-	-	4	-	-
Mouda, Maharashtra	-	-	-	30	-	-	-	-
Total	1,500	545	56.4	205	31	40	108	1,110

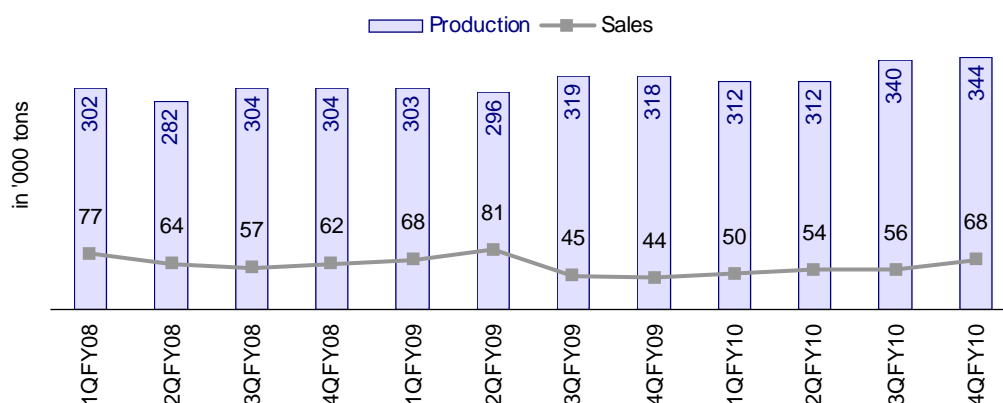
Source: Company/MOSL

Alumina merchant sales

Hindalco's smelters consume 75-80% of the alumina produced and the rest is sold

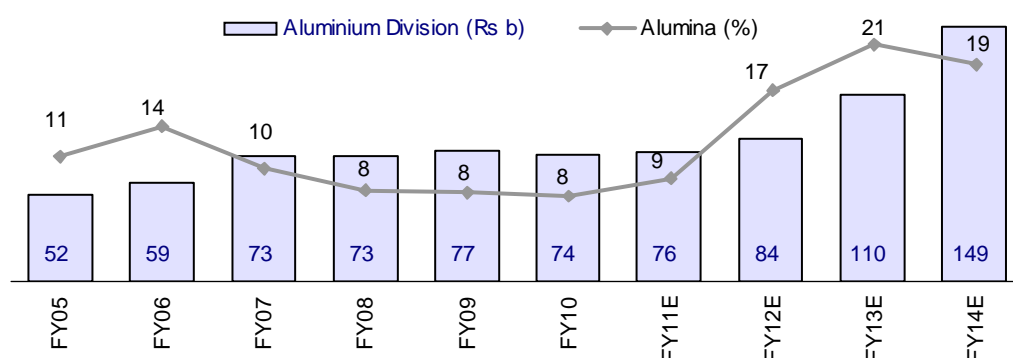
Hindalco has an alumina refining capacity of 1.5mtpa at refineries in Uttar Pradesh, Karnataka and Jharkhand. The refineries produce standard and specialty alumina and hydrates. Specialty alumina, which comes in various grades, has applications in high grade refractories, ceramics, fire retardant plastics, alum and zeolite. The smelters consume 75-80% of the alumina produced and the rest is sold.

QUARTERLY ALUMINA PRODUCTION, SALES VOLUME



Source: Company/MOSL

SHARE OF REVENUE FROM ALUMINA TO RISE UNTIL FY12



Source: Company/MOSL

Value added products

Hindalco, India's largest maker of flat rolled aluminum products, commands about 60% of the market

Hindalco, India's largest maker of flat rolled aluminum products, commands about 60% of the market. It rolls its own aluminum cast slabs into sheets of customized thickness, gauge and tolerances. Its rolled products are used in the packaging, transport, building and construction, electrical, defense and engineering industries.

In FY09, Hindalco's aluminum sales accounted for 9.3% of India's aggregate aluminum sales, and its value-added products accounted for 93.7% of aggregate aluminum sales.

Self sufficiency of key raw material

Hindalco, which has 108mt of proven bauxite reserves, also has long-term contracts for bauxite supply with other mining companies. In FY10, 67% of the bauxite it used came from its own mines. Besides, the company has its own coal linkages.

RESOURCES

PROJECT	BAUXITE			COAL			
	SOURCE	RESERVES (M TONS)	EXPECTED MINE LIFE (YEARS)	SOURCE	RESERVES (M TONS)	ALLOTTMENT DATE	FULL CAPACITY RATE OF PRODUCTION (MTPA)
Renukoot, Uttar Pradesh	-	108*	40	Northern and Central coalfields	114*	-	-
Hirakud, Orissa	-		-	Talabira I (30km away)	-	-	1.5
Belgaum, Karnataka	Durgmanwadi		30	-	-	-	-
Muri, Jharkhand	Lohardaga		20	-	-	-	-
UTKAL, Orissa 1.5mtpa refinery	Baphlimali (20km away)	215	-	Coal linkage	-	-	1.0
ADITYA, Orissa 359ktpa smelter 900MW CPP	-	-	-	Talabira II & III blocks (15% share in JV with MCL)	554	Nov-05	20.0
MAHAN, MP 359ktpa Smelter 900MW CPP	-	-	-	Mahan Coal mine (40% share in JV with Essar Power), stuck in "NO GO" zone	144	Apr-06	8.5
ADITYA, Orissa 1.5mtpa Alumina	Kodingamali (3km away)	85	-	-	-	-	-
JHARKHAND 359ktpa Smelter 900MW CPP	-	-	-	Tubed coal mine (60% share in JV with Tata Power), 20km away	189	Aug-07	-

* Proven reserves, Other reserves indicate total geological reserves of mines

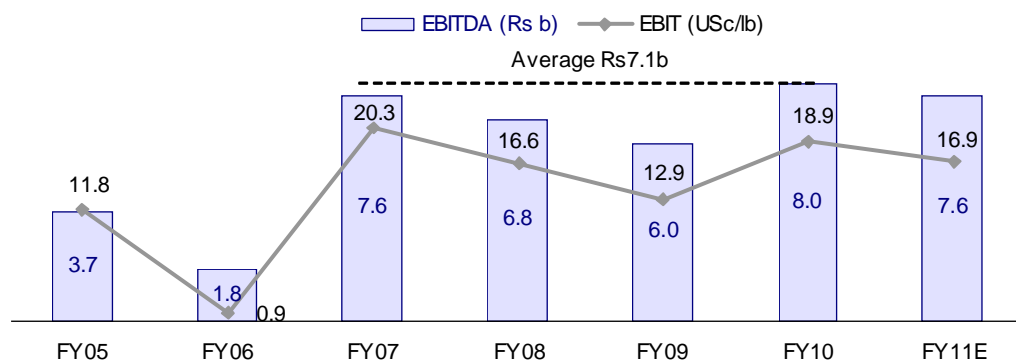
Source: Company/ MOSL

Hindalco smelts copper at two smelters in Dahej and it has a jetty located in the vicinity of the plant, which keeps freight and handling costs low

Copper business provides low, steady income; can't get worse

Hindalco smelts copper at three smelters in Dahej, where the installed capacity is 500ktpa. Hindalco also has an all-season jetty located in the vicinity of the plant, with a cargo handling capacity of 4.5mtpa, which keeps its freight and handling costs low. By-products, such as gold, silver, selenium and phosphatic fertilizer, generated through smelting has helped to maintain the profitability of Hindalco's copper business even during decreasing TcRc.

SEGMENTAL COPPER EBITDA, EBIT



Source: Company/MOSL

By-products

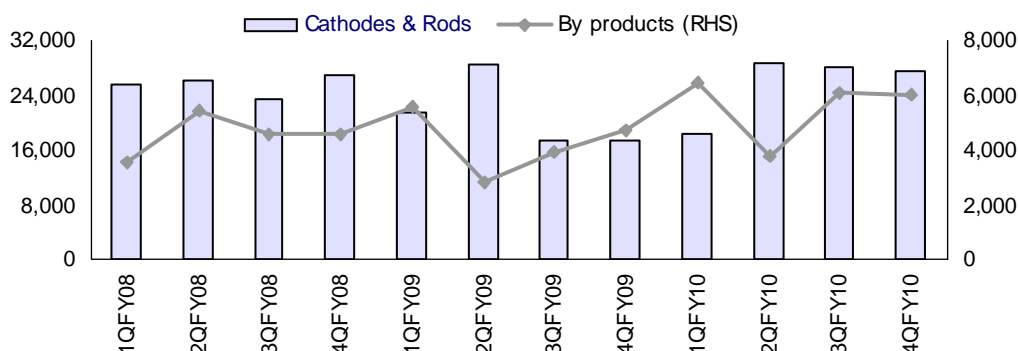
Besides copper cathodes and continuous cast rods, Hindalco produces phosphatic fertilizer and precious metals such as gold and silver

Besides copper cathodes and continuous cast rods, Hindalco produces phosphatic fertilizer and precious metals such as gold and silver, which are by-products of the copper smelting process.

Fertilizer: Hindalco's value-added products include di-ammonium phosphate and nitrogen, phosphorous and potassium complexes for use as fertilizer. Phosphoric acid is produced from a chemical reaction of sulphuric acid with rock phosphate. Phosphoric acid and ammonia react with each other to form di-ammonium phosphate. The addition of potash produces nitrogen, phosphorous and potassium complexes. Sulphuric acid, which is used as a dehydrating agent, is a valuable electrolyte and oxidizing agent.

Precious metals: Precious metals such as gold and silver are extracted at Hindalco's precious metals refinery in Dahej. Gold and silver are found in the supplies of copper ore concentrate. Hindalco pays for the gold and silver content based on prevailing international market prices and other factors. The precious metals are extracted after copper refining to produce 99.9% pure gold, silver and selenium.

TREND IN CATHODES & RODS AND BY PRODUCTS (RS M)



Source: Company/MOSL

Hindalco owns 51% in Aditya Birla Minerals Ltd, which mines and explores at a Nifty copper operation and the Mt Gordon copper operation in Australia

Copper mines - Aditya Birla Minerals Ltd (ABML)

Hindalco owns 51% in Aditya Birla Minerals Ltd (ABML), which owns 100% in Birla Nifty Pty Ltd and Birla Mt. Gordon Pty Ltd in Western Australia and Queensland, respectively. ABML mines and explores at the Nifty copper operation in Western Australia, and the Mt Gordon copper operation in Queensland.

Birla Nifty Pty Limited

The Nifty copper operation comprises an open pit mine, heap leach pads, a solvent extraction and electro winning (SX-EW) processing plant, which produces copper cathode. Birla Nifty's copper cathode capacity is 25ktpa. A copper sulphide deposit is located at the lower level of the Nifty open pit mine and an underground mine and concentrator have been developed to mine and process ore from this deposit.

Birla Mt. Gordon Pty Limited

The Mt. Gordon copper operation consists of an underground and open pit mine, a copper concentrate plant, with a milling capacity of 1.5mtpa, and a ferric leach plant. The mine was shut down in 2009 due to a meltdown in copper prices.

Brownfield expansion projects

FRP, Hirakud

Following the closure of Novelis's sheet mill at Rogerstone (UK), Hindalco developed a can body stock source at Hirakud

Following the closure of Novelis's sheet mill at Rogerstone (UK) in early 2009, Hindalco transferred its key equipment to Hirakud and developed a can body stock source. Hindalco has completed 65% of the dismantling activity at Rogerstone and orders for refurbishment of existing equipment and procurement of new equipment have been placed. Hindalco expects to complete the project by 2QFY12 at an estimated capex of Rs8.5b.

Hirakud smelter – to increase smelting capacity to 360ktpa

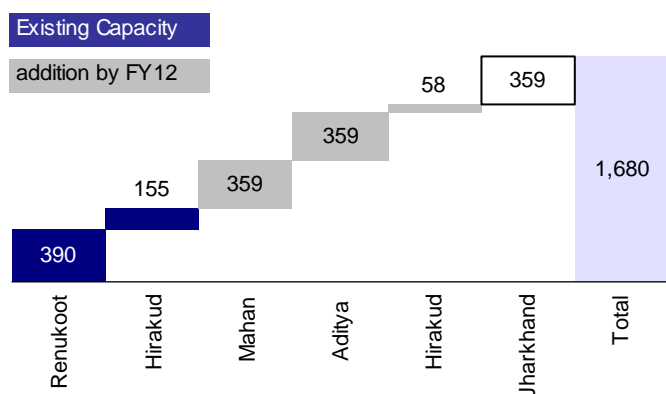
Hindalco plans to expand its smelter capacity at Hirakud from 155ktpa to 213ktpa. The project also includes developing a CPP of 100MW, boosting the power generation capacity to 467.5MW. Hindalco signed a technology agreement for the use of GAMI technology at this facility. The estimated cost of this project is Rs8.5b, out of which 11% was committed as of FY10. The project is expected to be commissioned by 4QFY12. Hindalco plans to raise the smelting capacity further to 360ktpa after completion of the ongoing expansion, which is still a couple of years away.

Green-field projects

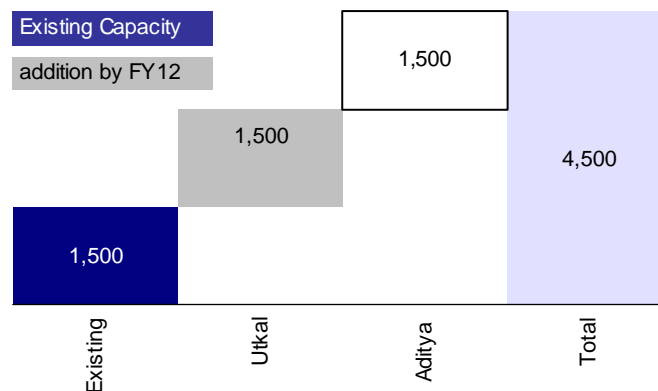
Hindalco has lined up Rs400b capex to expand its aluminum smelting capacity and build captive power plants of 2,980MW

Hindalco has lined up Rs400b capex to expand its aluminum smelting capacity from the existing 0.49mtpa to 1.7mtpa by 2013 along with captive power plants of 2,980MW. The three smelters (359ktpa with a 900MW CPP each) are strategically located near resources to incur the lowest cost of production per ton. In the initial phase, Hindalco is looking to commission a 1.5mtpa alumina refinery and two smelters (Aditya and Mahan) by 2HFY12 at a capex of Rs240b. The capex will be funded by project financing debt of Rs168b (70:30 debt to equity) and Rs72b of equity will be required. Hindalco has spent Rs39b so far and Rs45b is available in its treasury.

PLANNED SMELTING CAPACITY ADDITION (KTPA)

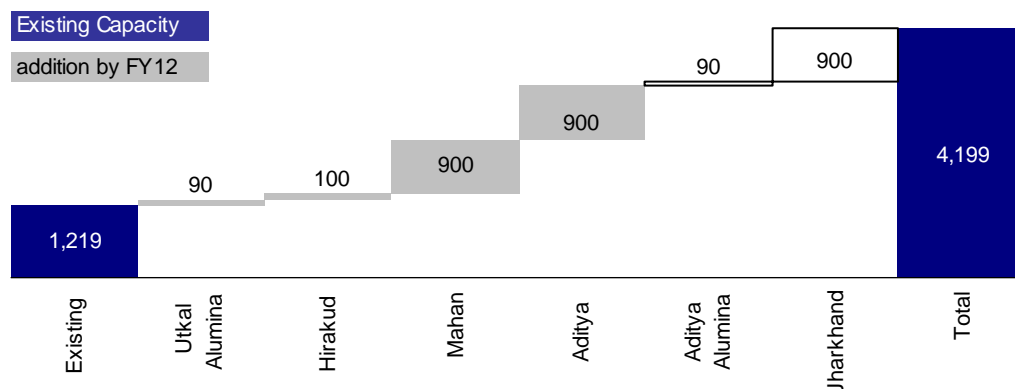


PLANNED REFINING CAPACITY ADDITION (KTPA)



Source: Company/MOSL

PLANNED CPP CAPACITY ADDITION (MW)



Source: Company/MOSL

Utkal alumina, Orissa: Financial closure achieved; progress on ground; bauxite mine clearances in place

Hindalco will set up a 1.5mtpa alumina refinery with planned capex of Rs56b in its subsidiary Utkal Alumina International Ltd

Hindalco will set up a 1.5mtpa alumina refinery at Rayagada, Orissa with planned capex of Rs56b in its wholly owned subsidiary Utkal Alumina International Ltd. The project includes 8.5mtpa bauxite mining facilities at Baphlimali bauxite deposits, a 20km long conveyor corridor (to transport bauxite from the mines to the refinery) and a 90MW captive cogeneration power plant. The capex also includes an 11km railway siding from the plant to the nearest rail head, loading and unloading facilities at Visakhapatnam port and townships. All the requisite regulatory and environmental approvals for the project are in place and detailed engineering has been completed. Major equipment has begun to arrive at the site, where Hindalco has commissioned contractors such as L&T and Gannon Dunkerley. Initial production is expected by July 2011.

Hindalco recently achieved financial closure for the project, raising Rs49b of debt from joint syndication of SBI Caps, ABN Amro and IDBI Bank. So far Rs17b has been spent, and Rs24b capex is slated for FY11. We believe the visibility of Utkal Alumina refinery is improving.

Raw material security

The bauxite will be sourced from Baphlimali mines, 20km away from the site, which contains ~215mt of reserves. The company has secured the requisite regulatory and environmental approvals and coal for the 90MW CPP will be supplied by a 1mtpa coal linkage.

Pictures of the site show the progress of the 1.5mtpa Utkal Alumina refinery:

PROGRESS AT THE UTKAL PROJECT



Source: Company/MOSL

History of the Utkal project

Utkal Alumina International Ltd (Utkal) is a wholly-owned subsidiary of Hindalco. Utkal was a joint venture formed between Hydro Norway (40%), Alcan Canada (20%), Indal (20%) and Tata Industries (20%) in 1993, to set up an export-oriented alumina plant. But over 1999-2003, the Tatas and Hydro Norway exited the alumina project and their share was bought by the then existing shareholders. In 2000, Hindalco acquired 74.6% stake in Indal and in 2003 Hindalco increased its stake to 96.5% through an open offer. In October 2007, Hindalco bought Alcan's stake in Utkal and in March 2008, Indal was merged into Hindalco. Thus, Utkal became a wholly-owned subsidiary of Hindalco. The project has been marred by controversy, with local residents opposing its construction, saying it would displace three villages and at least 200 families.

Mahan project: financial closure pending; hurdles for captive coal mine

Hindalco's Mahan project (359ktpa smelter and 900MW (6*150) CPP) at a capex of Rs92b is coming up in Bargwan, MP. It placed a BTG (boiler and turbine generation set) order with BHEL and entered into a technology agreement with Aluminium Pechiney for the project. The smelter will use pre-bake cell technology with 360kamp current. Orders for cranes, cathode blocks, rectifiers and sub-stations have been placed. About 80% of the requisite land was acquired as of December 2009. Hindalco claims to have regulatory and environmental approvals. The first metal from the smelter is expected to roll out by July 2011.

The first metal from Hindalco's Mahan project is expected to roll out by July 2011

However, Hindalco has yet to achieve financial closure for the project. So far, the company has spent Rs15.5b and Rs42b capex is planned for FY11. We find the target to complete the project by 2QFY12 a bit ambitious.

Raw material security

Despite approvals for the Mahan project being in place, the coal mine may be delayed due to a recent directive from the environment ministry

Alumina for the smelter will be fed from the Utkal refinery and coal for the CPP will come from Mahan Coal Ltd, located just 18km away from the site. Mahan Coal Ltd. is a 50:50 JV between Hindalco and Essar Power to develop the coal mine at the Mahan block of Sidhi-Singrauli fields in Madhya Pradesh. According to the lease agreement, Hindalco will use 40% of the coal output, which works out to 3.6mtpa. The mine has proven reserves of 144mt. Although all requisite approvals are in place, the coal mine may be delayed due to a recent directive from the environment ministry regarding a “no go” zone.

History of the Mahan project

Hindalco signed a Memorandum of Understanding (MoU) with the Madhya Pradesh government for a green-field aluminum smelter in Siddhi district in May 2006.

Aditya alumina and smelter project, Orissa

Hindalco's Aditya project, planned with a capex of Rs152b in Orissa, is expected to be commissioned at Lapanga by 3QFY12, which we believe is ambitious

The Aditya project is an integrated green-field aluminum complex, planned with a capex of Rs152b in Orissa. The smelter project (359ktpa smelter and 900MW (6*150) CPP) is expected to be commissioned at Lapanga by 3QFY12 and a 1.5mtpa refinery will be set up in Kansariguda by 1QFY14. Hindalco has placed BTG orders with BHEL and other companies. It also entered into a technology agreement with Aluminium Pechiney for this project. About 50% of the requisite land was acquired by the end of 2009 and forest clearance is pending. First metal from the smelter is expected to roll out by October 2011.

Raw material security

Capex of just Rs14b has been spent on the Aditya project and Rs25b is due in FY11, which implies Rs53b must be spent in 9MFY12

Hindalco entered into a joint venture with Mahanadi Coalfields (70% MCL) and Nevyeli Lignite (15%) for the coal required for the CPP. The JV has been allotted Talabira II and III coal blocks, which have geological reserves of ~554mt and Hindalco's share of the coal production is 3mtpa at full mining capacity.

We believe the commissioning target of Aditya in 3QFY12 is ambitious. Of the Rs92b capex for the smelter and the CPP, only Rs14b has been spent so far and Rs25b capex is due in FY11. This implies Rs53b needs to be spent in 9MFY12.

Aditya refinery

The 1.5mtpa refinery along with a 90MW CPP is being set up in Kansariguda with planned capex of Rs60b. About 75% of the requisite land was acquired by the end of 2009 and a technology agreement signed with Alcan Inc. The refinery will be supplied with bauxite by a 4.2mtpa bauxite mine in Kodingamali, 3km from the refinery. The project is expected to be completed by June 2013.

History of the Aditya project

Hindalco selected the sites for the Aditya project in Orissa in February 1998 but the project remained in cold storage due to agitation from local communities over the issue of bauxite mining in the state. Hindalco signed an MoU with the Orissa government in April 2005. The bauxite for the refinery was planned to be supplied from Kodingamali mine.

The Jharkhand Project

Hindalco's planned Jharkhand project will have a capex of Rs100b and the management expects first metal by June 2013

The Jharkhand project comprises a 359ktpa aluminum smelter and a 900MW CPP with a planned capex of Rs100b at Sonahatu, 55km from Ranchi in Jharkhand. The acquisition of land (3,328 acres) for the project has begun and the company has received approvals for water supply from the Subarnarekha River. The project is in the initial stage of implementation and the management expects first metal by June 2013.

Raw material security

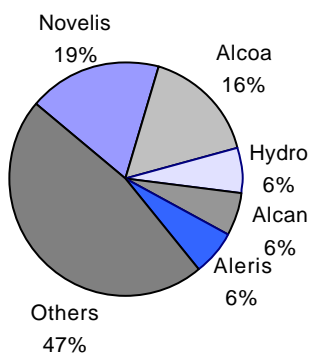
In August 2007, the Tubed coal block in the Auranga coalfield was allotted for the project. Hindalco entered into a joint venture with Tata Power (40%) to develop the coal block. The geological reserves are ~189mt, in which Hindalco has 60% stake.

History of the Jharkhand project

Hindalco signed an MoU with the Jharkhand government in 2005 to implement a green-field smelter of 325ktpa capacity and a 750MW CPP.

Understanding Novelis

KEY PLAYERS IN FRP BUSINESS



Source: CRU 2006

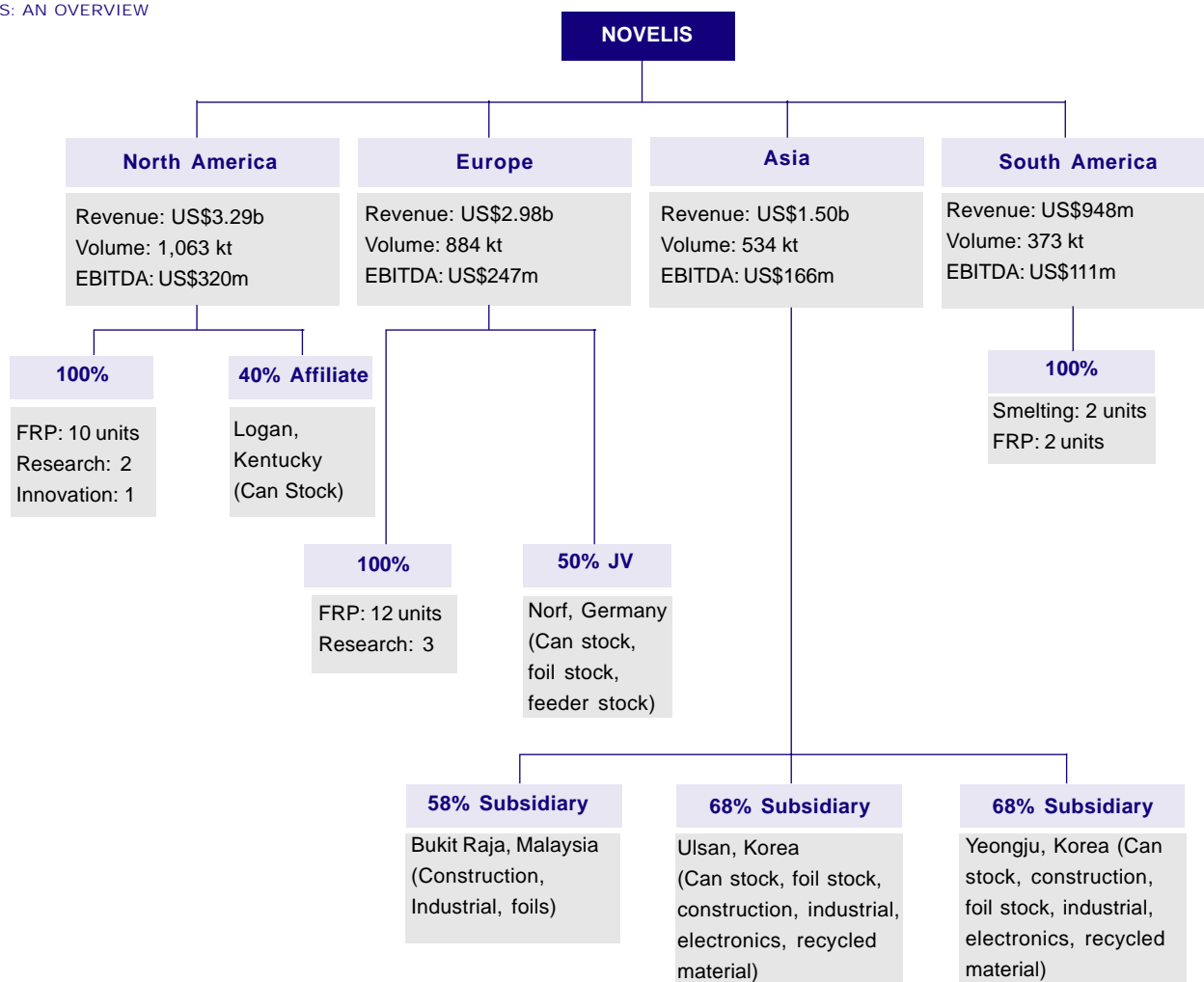
Novelis is the world’s leading rolled aluminum producer based on FY10 shipment volume, with total shipments of about 2.85mt. It produces an estimated 19% of the world’s flat-rolled aluminum products. It is the only company of such a size and scope focused solely on aluminum rolled products markets and capable of local supply of technologically sophisticated aluminum products in all these regions. Novelis is also a global leader in the recycling of used aluminum beverage cans (UBC).

Novelis was spun-off from Alcan on 6 January 2005 when Alcan transferred its rolled product business. Novelis produces aluminum sheets and light gauge products for end-use markets, including beverage and food cans, construction and industrial, foil products and the transport markets.

Operations

Novelis has operations in 11 countries in North America, Europe, Asia and South America, through 31 plants (after the closure of two plants since acquisition), six research facilities and two market-focused innovation centers. Besides aluminum rolling and recycling, the South American businesses include bauxite mining, alumina refining, primary aluminum smelting and power generation facilities that are integrated with rolling plants in Brazil.

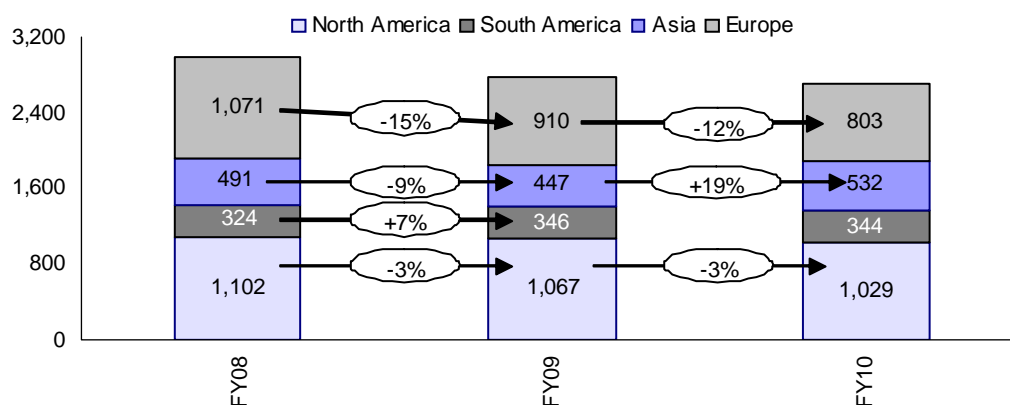
NOVELIS: AN OVERVIEW



Source: Company/MOSL

REGIONAL DISTRIBUTION OF SHIPMENTS ('000 TONS)

American markets have been most resilient despite the economic downturn, Asian markets are growing again and European markets continue to decline



Source: Company/MOSL

North America (11 FRP, 2 recycling units)

The majority of North America's efforts are directed at the beverage can sheet market

In North America, Novelis has 11 aluminum rolled products facilities, including two fully dedicated recycling facilities. The company also makes aluminum sheets and light gauge products. The end-use markets for this segment include beverage cans, containers and packaging, automotive and other transport applications, building products and industrial applications. Most of the company's efforts in North America focus on the beverage can sheet market, where pricing is competitive. Consequently, Novelis has been focusing on recycling. It has facilities in North America that re-melt used aluminum and recycle process material. Most of the recycled material is from UBCs and the material is cast into sheet ingots for North America's two can sheet production plants (at Logan, Kentucky and Oswego, New York).

Evermore, a 55.8% JV with Alcoa, was formed in August 2009 for UBC recycling

In August 2009, Novelis entered a UBC recycling joint venture with Alcoa to create an independent company, known as Evermore Recycling LLC. Evermore Recycling buys UBCs from suppliers for recycling and is designed to create value by increasing efficiency, building stronger supplier relationships and increasing recycling.

Europe (13 FRP + 1 recycling)

Cans are the largest products from Europe, and foil and packing is the second significant segment

In Europe, Novelis operates 13 plants, including a dedicated recycling facility. It also makes sheet and foil products. The end-use market for this segment includes construction and industrial products, beverage and food cans, foil and technical products, lithographic and automotive parts. Beverage and food cans represent the largest end-use market in terms of shipment volume by Europe.

Alunorf (a 50% JV) is the world's largest rolling and re-melt facility, which supplies feeder stock to Novelis' other FRP mills

Novelis has foil and packaging facilities at six locations in Europe and besides six rolled product plants, it has distribution centers in Italy and sales offices in several countries. Operations include a 50% joint venture interest in Aluminum Norf GmbH (Norf), which is the world's largest aluminum rolling and re-melt facility. Norf supplies can stock, foilstock and feeder stock for finishing at Novelis' other European operations.

In April 2009, Novelis shut down its distribution center in France. In March 2009, Novelis announced the closure of its aluminum sheet mill in Rogerstone, South Wales, UK. The facility ceased operations in April 2009.

Asia (3 FRP + 2 recycling in Korea)

Novelis Fusion started commercial production at Ulsan, South Korea, in 2008

In Asia, Novelis operates three manufacturing facilities where it makes sheet and light gauge products that are used to make end-use products such as beverage and food cans, foil, and electronic, construction and industrial products. The beverage can market represents the largest end-use market in terms of volume. Novelis has two recycling units in Korea, in Ulsan and Yeongju. Metal from recycled aluminum purchases represented 31% of Asia's shipments in FY10. In June 2008, the Ulsan plant began commercial production of Novelis Fusion TM.

South America (2 FRP + 2 smelters in Brazil)

More than 80% of shipments were in the beverage and food can market

In South America, Novelis operates two rolling plants, two primary aluminum smelters, bauxite mines and hydro-electric power plants, all of which are in Brazil. Here, Novelis makes aluminum rolled products, including can stock, automotive and industrial and light gauge sheets that are used to make beverage and food cans, used in construction, industrial, transport and packaging end-use markets.

More than 80% of shipments over the past two years were to manufacturers of beverage and food cans. Novelis' primary aluminum operations in South America include mines and smelters used by Brazilian aluminum rolled product operations. Any excess production is sold in the form of aluminum billets.

Novelis is evaluating its primary aluminum business in Brazil

In May 2009, the production of alumina at Ouro Preto facility in Brazil declined as the sustained decline in alumina prices made alumina production economically unfeasible. In light of the alumina and aluminum pricing environment, Novelis is evaluating its primary aluminum business.

Novelis plans to invest US\$300m to add 200ktpa FRP by 2012

But in May 2010, demand picked up in South America, and consequently Novelis plans to invest about US\$300m to expand its aluminum rolling operations in Pindamonhangaba, Brazil. The expansion will increase the plant's capacity by more than 50% to about 600,000 metric tonnes of aluminum sheets a year. The project is expected to come on stream in late 2012.

Value additions the key to EBITDA growth rather than tonnage

Downgauging has reduced costs to customers due to the need for lesser tonnage, but higher value addition has driven margins

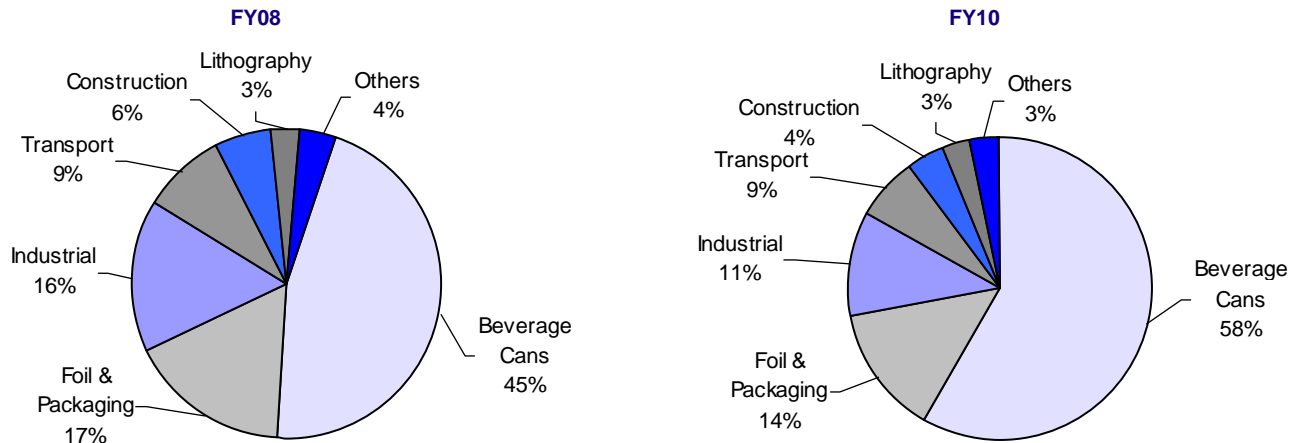
Aluminum rolled product producers and can fabricators have been developing thinner walled cans with similar strength as those with thicker walls, resulting in lower cost per unit. Consequently, aluminum tonnage, particularly in the beverage and food cans end-use market, has declined on a per unit basis, but the rolling machine hours per unit have increased. Since the industry has historically tracked growth based on aluminum tonnage shipped, we believe this down-gauging trend may help to understate the growth of revenue attributable to rolling in some end-use markets. Down-gauging and changes in can design help to reduce costs on a per can basis and contribute to making aluminum more competitive with substitute materials.

The industry continues to leverage new technology to develop aluminum alloys and products that support broader or new commercial applications. Conventional single-alloy products require customers to choose an alloy based either on core properties such as strength, or

Focus on technological innovation has helped Novelis to make products that have given it an edge in the auto sector. Novelis holds 190 patents

desired surface characteristics such as extreme corrosion-resistance. The industry typically uses a clad process to achieve the combined characteristics of two or three alloys — where sheets of metal are attached to an aluminum ingot and then rolled. Typically the aluminum ingot provides the strength and formability and the brazing provides other properties such as corrosion resistance and finish. Novelis recently developed the Novelis Fusion™ process, which helps to achieve an optimal combination of desired core and surface properties by simultaneously casting multiple alloy layers into a single aluminum rolling ingot, improving the potential to customize.

NOVELIS HAS PRICING POWER ON 70% OF ITS PRODUCT MIX



Source: Company/MOSL

Aluminum rolled products companies produce and sell aluminum rolled products that can be grouped into four end-use markets based on similarities in end-use:

1. beverage and food cans,
2. foil products,
3. transport, and
4. construction and industrial use

In each end-use market, aluminum rolled products are made with alloy mixtures; a range of tempers (hardness), gauges (thickness) and widths; and various coatings and finishes. Large customers typically have customized needs resulting in the development of close relationships with their supplying mills and close technical development relationships.

1. Beverage and food cans

Beverage can sheets are sold in coil form for the production of can bodies, ends and tabs. The material is sold as rolled, degreased, pre-lubricated, pre-treated and/or lacquered sheets. Typically, can makers define their specifications for material to be delivered in terms of alloy, gauge, width and surface finish. Other applications in this end-use market include food cans and screw caps for the beverage industry.

2. Foil products

Aluminum, because of its relatively light weight, recyclability and formability, has a variety of uses in packaging. Converter foil is very thin aluminum foil, plain or printed, typically laminated with plastic or paper to form an internal seal for packaging applications, including

Beverage cans have three sections (1) body, (2) ends, and (3) tabs and only a few mills in North America, Europe and Asia, and one mill in South America produce beverage can body and end stock

Products range from six to 23 microns

juice boxes, pharmaceuticals, food pouches, cigarette packaging and lid stock. Customers order coils of converter foil in thicknesses from six to 60 microns. Household foil includes home and institutional aluminum foil wrap sold as a branded or generic product. Known in the industry as packaging foil, it is manufactured in thicknesses of 11 to 23 microns. Container foil is used to produce semi-rigid containers such as pie plates and take-out food trays and is usually ordered in thicknesses ranging from 60 to 200 microns.

3. Transport

Auto and aerospace are two new areas of growth for Novelis

Heat exchangers, such as radiators and air conditioners, are an important application for aluminum rolled products in the truck and automobile categories of the transport end-use market. Original equipment manufacturers (OEMs) also use aluminum sheets with specially treated surfaces and other specific properties for interior and exterior applications. Newly developed alloys are being used in transport tanks and rigid containers that allow for safer and more economical transport of hazardous and corrosive materials.

There has been recent growth in certain geographic markets in the use of aluminum rolled products in automotive body panel applications, including hoods, deck lids, fenders and lift gates. These uses typically result from co-operative efforts between aluminum rolled product makers and their customers that yield tailor-made solutions for specific requirements in alloy selection, fabrication procedure, surface quality and joining. We believe the recent growth in automotive body panel applications is partly due to lighter weight, better fuel economy and improved emission performance associated with these applications.

Aluminum rolled products are also used in aerospace applications, a segment of the transport market in which Novelis was not allowed to compete until 6 January 2010, pursuant to a non-competition agreement entered into with Alcan in connection with the spin-off. However, aerospace-related consumption of aluminum rolled products historically represented a relatively small portion of aluminum rolled product market shipments.

Aluminum is also used in the construction of ships' hulls and superstructures and passenger rail cars because of its strength, light weight, formability and corrosion resistance.

4. Construction and industrial sectors

Construction is the largest application within this end-use market. Aluminum rolled products developed for the construction industry are often decorative and non-flammable, offer insulating properties, are durable and corrosion resistant and have high strength-to-weight ratio.

- Aluminum siding, gutters and downspouts comprise a significant share of construction volume.
- Other applications include doors, windows, awnings, canopies, facades, roofing and ceilings.
- Aluminum, being corrosion resistant and a good conductor of electricity and heat, is useful in various electronic and industrial applications. Industrial applications include electronic and communication equipment, process and electrical machinery and lighting fixtures. Aluminium rolled products are used in consumer durables such as microwave ovens, coffee makers, flat-screen televisions, air-conditioners, pleasure boats and cooking utensils.

Another industrial application is lithographic sheets. Print shops, printing houses and publishing groups use lithographic sheets to print books, magazines, newspapers and promotional literature. In order to meet the strict quality requirements of end-users, lithographic sheets must meet demanding metallurgical, surface and flatness specifications.

Input sourcing

50% of primary aluminum is sourced from Alcan

Primary Aluminum Sourcing: Novelis bought about 1,750kt of primary aluminum in FY10 in the form of sheet ingots, standard ingots and molten metal, about 50% of which were bought from Alcan.

Primary Aluminum Production: Novelis procured about 110kt of primary aluminum requirements in FY10 through its smelter and related facilities in Brazil.

Recycled Aluminum Products: Novelis operates facilities in several plants to recycle used aluminum, such as UBCs. Besides, Novelis has agreements with several of its large customers by which Novelis takes recycled processed material from their fabricating activity, re-melts, casts and rolls it to re-supply them with aluminum sheets. Other sources of re-cycled material include lithographic plates, in which over 90% of the aluminum used is recycled, and products with longer lifespans, like cars and buildings, which are beginning to become high volume sources for recycled material. Novelis bought about 1,000kt of inputs for recycled material in FY10. Most of the re-melted material is directed back through can-stock plants. The net effect of recycling in terms of shipments of rolled products is that about 34% of aluminum rolled product production for FY10 was made with recycled material.

34% of FRP are produced from recycled material

Energy

Natural gas and electricity form 89% of energy costs

Novelis uses several sources of energy to make and deliver aluminum rolled products. In FY10, the cost of natural gas and electricity represented about 89% of energy consumption. Novelis also uses fuel oil and transport fuel. Most of the energy used occurs at casting centers, at smelters in South America and during the hot rolling of aluminum. Cold rolling facilities require relatively less energy.

Novelis uses derivatives to hedge natural gas cost inflation risk

Natural gas: Novelis buys natural gas on the open market, which subjects it to market pricing fluctuations. Novelis may continue to seek to stabilize its future exposure to natural gas prices by buying derivative instruments. Natural gas prices in Europe, Asia and South America have historically been more stable than in the US.

Electricity: a portion of electricity requirements are bought pursuant to long-term contracts in local regions. Several facilities are located in regions with regulated prices, which afford relatively stable costs.

Though its smelter in Brazil sources 27% of its power needs from its captive hydro power plant, there are challenges in sourcing the rest of its requirement

The South America segment has captive hydroelectric facilities that meet about 27% of its electricity requirement. Due to supply constraints, electricity prices in South America have been volatile, with spot prices increasing dramatically. Novelis has a mix of self-generated electricity, long term fixed contracts and shorter term semi-variable contracts. Although spot prices have returned to normal, Novelis may continue to face challenges renewing South American energy supply contracts at rates that enable profitable operation of full smelter capacity.

Though an LME-free business model, the reported PBT and cash flows get impacted by rapid change on the LME

Novelis' short selling of LME futures to reduce cash flow volatility may be reducing the effectiveness of hedges

There are 30 to 60 days of lag between a derivative settlement and collection from customer

Novelis short sells LME forward contracts to hedge against metal price lag

Business model and key concepts

Most of Novelis business is conducted under a conversion model, which allows it to pass through increases or decreases in the price of aluminum to customers. Nearly all products have a price structure with two components:

- a pass-through aluminum price based on the London Metals Exchange (LME) plus local market premiums, and
- a “conversion premium” price on the conversion cost to produce the rolled product which reflects, among other factors, the competitive market conditions for that product.

A key component of the conversion model is the use of derivative instruments on projected aluminum requirements to preserve conversion margins.

- Novelis enters into forward metal purchases simultaneously with sales contracts that contain fixed metal prices. These forward metal purchases directly hedge the economic risk of future metal price fluctuations associated with these contracts.
- The recognition of unrealized gains and losses on metal derivatives positions typically precedes customer delivery and revenue recognition under related fixed forward-price contracts. Novelis attempts to manage this risk by hedging future purchases of metal required for these firm commitments. Besides, Novelis hedges a portion of future production. To the extent that these exposures are not fully hedged, Novelis is exposed to gains and losses when changes occur in the market price of aluminum. A 10% change in the market value of aluminum as of 31 March 2010 would result in an increase or decrease in the fair value of hedges of specific arrangements and future production by about US\$12m. The timing difference between the recognition of unrealized gains and losses on metals derivatives and recognition of revenue impacts is reported PBT.
- Gains and losses on metals derivative contracts are not recognized in segment income until realized. Additionally, Novelis sells short-term LME futures contracts to reduce the cash flow volatility of fluctuating metals prices associated with the metal price lag.

Rapid changes in LME prices have the following impacts on Novelis' business:

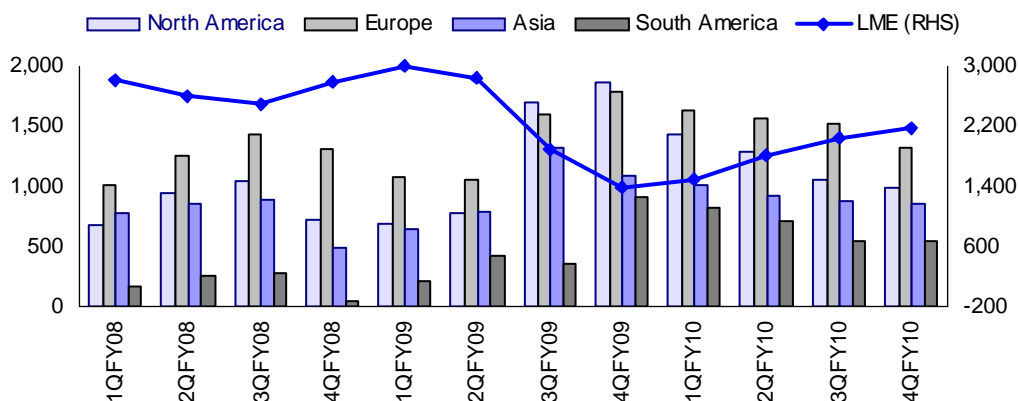
- The products have a price structure based on the LME price. Increases or decreases in the LME price have a direct impact on net sales, cost of goods sold (exclusive of depreciation and amortization) and working capital on a lag basis.
- When prices decline Novelis settles derivative contracts in cash with brokers. The lag between derivative settlements and customer collection ranges from 30 to 60 days, which temporarily impacts liquidity. In FY10, Novelis had net outflows of US\$395m for payments related to settlement of derivatives.

Metal price lag

On certain sales contracts, Novelis experiences time differences on the pass through of changing aluminum prices from suppliers to customers. Additional time differences occur in the flow of metals costs through a moving average inventory cost values and cost of goods sold (exclusive of depreciation and amortization). When prices decline, earnings are negatively impacted by this time difference and the opposite is true when prices rise. Novelis refers to this time gap as the “metal price lag.” Novelis sells short-term LME forward contracts to help mitigate exposure to the metal price lag.

REGIONAL REALIZATION PREMIUM OVER LME

Realization premium over LME compresses when the LME moves up and vice versa due to the metal price lag



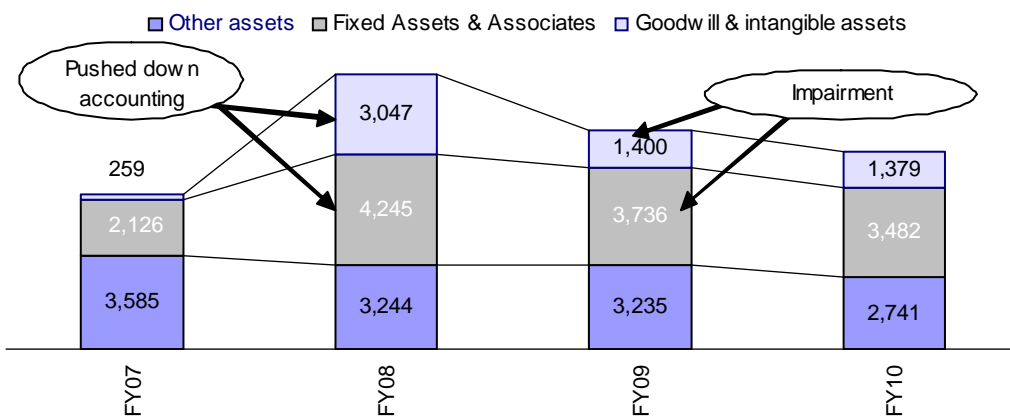
Source: Company/MOSL

Balance sheet swell after the US\$6.2b acquisition

The acquisition by Hindalco was recorded in accordance with Staff Accounting Bulletin (SAB) No.103, Push Down Basis of Accounting Required in Certain Limited Circumstances (SAB No.103). Accordingly, the FY08 consolidated balance sheet, the consideration and related costs paid by Hindalco in connection with the acquisition have been “pushed down” to Novelis and allocated to assets acquired and liabilities assumed in accordance with FASB Statement No.141, Business Combinations.

US\$4.9b out of the acquisition cost of US\$6.2b was pushed down on Novelis’ balance sheet resulting in goodwill of US\$3b and fixed asset revaluation of US\$2.1b

NOVELIS ASSETS ON THE BALANCE SHEET (US\$M)



Assets were impaired by US\$2.2b post financial crisis in FY09

Source: SEC filing 10K

No repayment in the near to medium term of Novelis’ long term debt

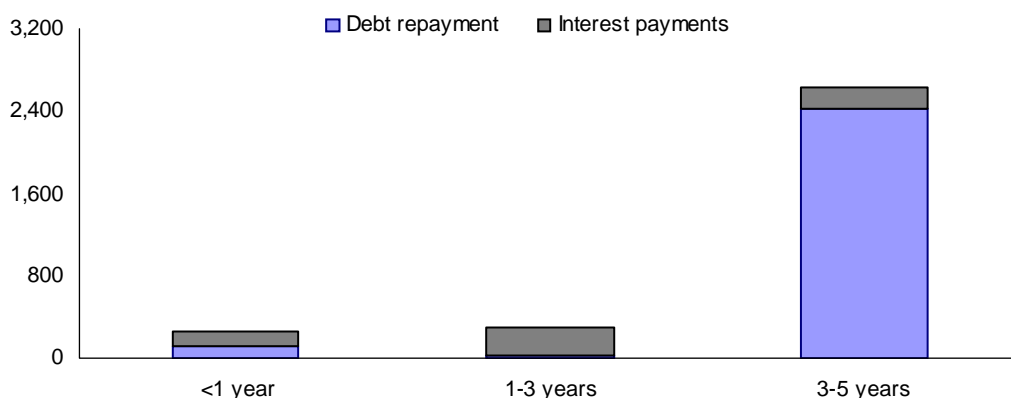
As of 31 March 2010, Novelis had US\$2.7b of outstanding debt, including:

- US\$1.3b of senior unsecured notes (senior notes) and Novelis has two outstanding series of senior notes: 7.25% senior notes due 2015 and 11.5% senior notes due 2015.
- Borrowings of US\$1.2b under senior secured credit facilities (credit agreements). The credit agreements comprise
 - a US\$1.1b seven-year term loan facility and
 - a US\$800m five-year multi-currency asset-based revolving credit line and letter of credit facility (ABL facility). As of 31 March 2010, Novelis and its subsidiaries may be able to incur additional indebtedness of up to about US\$300m, including secured indebtedness, in the future.

Dividend payment and additional debt is restricted under the covenants

Most of the debt is due after five years

DEBT REPAYMENT (US\$M)



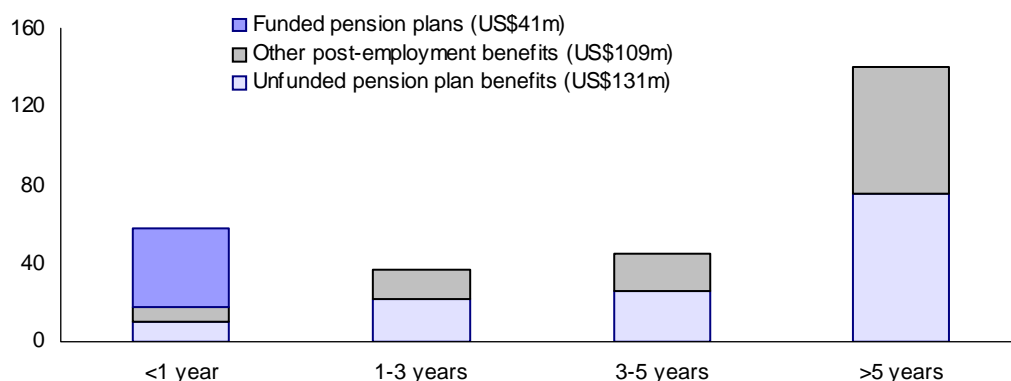
Source: SEC filing 10K

Pension

Most pension obligations relate to funded defined benefit pension plans in the US, the UK and Canada, unfunded pension benefits in Germany and lump-sum indemnities payable to employees in France, Italy, Korea and Malaysia on retirement or termination.

Unexpected contributions to defined benefit pension plans as a result of adverse changes in interest rates and the capital markets

PENSION OBLIGATIONS: US\$240M UNFUNDED



Source: SEC filing 10K

Derivative instruments not designated as hedges

While each of these derivatives is intended to be effective in helping Novelis manage risk, they have not been designated as hedging instruments

While each of these derivatives is intended to be effective in helping Novelis to manage risk, they have not been designated as hedging instruments. The change in fair value of these derivative instruments is included in (gain) loss on change in fair value of derivative instruments, net in the accompanying consolidated statement of operations.

Novelis uses aluminum forward contracts and options to hedge exposure to changes in the LME price of aluminum. These exposures arise from firm commitments to sell aluminum in future at fixed prices, the forecast output of smelter operations in South America and the forecast metal price lag associated with firm commitments to sell aluminum in the future at prices based on the LME. Tonnage, not classified as hedge, fell from 180,000 tons in FY09 to 55,000 tons in FY10. Novelis classified cash settlement amounts associated with these derivatives as part of investing activity in the consolidated statements of cash flows.

Tonnage, not classified as hedges, has come down from 180,000 tons in FY09 to 55,000 tons in FY10

For certain customers, Novelis entered into contractual relationships that entitle it to pass-through the economic effect of trading positions it takes with third parties on its customers' behalf. Novelis recognizes a derivative position with the customer and the third party for these types of contracts and classifies cash settlement amount associated with the derivatives as part of operating activity in the consolidated statements of cash flows.

DERIVATIVE INSTRUMENT NOT DESIGNED AS HEDGES (US\$)

	31.3.2010	31.3.2009	16.5.2007 - 31.3.2008	1.4.2007 - 15.5.2007
Aluminium Contracts	123	-561	44	7
Currency Exchange Contracts	72	21	-44	10
Energy Contracts	-7	-29	12	3
Gain (Loss) Recognised	188	-569	12	20
Derivative Instruments Designated as Cash Flow Hedges				
Interest Rate Swaps	-	-	-1	-
Electricity Swaps	6	13	11	-
Net Gain (Loss) on Change in Fair Value of Derivative Instrument	194	-556	22	20

Source: Company/MOSL

Novelis has been following outstanding derivative contracts as of March 2010 that do not qualify for hedge accounting

- Interest rate swaps of US\$10m;
- US\$1.4b outstanding currency exchange contracts;
- Heating oil swaps have been reduced to nil from 3.4m gallon in FY09;
- Natural gas swaps up from 3.8 MMBTU to 4.2 MMBTU by FY10

Novelis also has the following cash flow hedges outstanding

- 1.6m mkwh of electricity swaps through 2017
- Interest rate swaps of US\$510m

Finally, Novelis has cross-currency swaps of Euro 135m that are classified as investment hedges.

Financials and valuation

INCOME STATEMENT (CONSOLIDATED)

(RS MILLION)

Y/E MARCH	2007	2008	2009	2010	2011E	2012E
Net Sales	193,161	600,128	656,252	607,221	642,319	649,709
<i>Change (%)</i>	60.5	210.7	9.4	-7.5	5.8	1.2
Total Expenses	147,479	533,778	626,478	537,681	571,022	565,934
EBITDA	45,682	66,350	29,774	69,541	71,296	83,776
<i>% of Net Sales</i>	23.6	11.1	4.5	11.5	11.1	12.9
Deprn. & Amortization	8,646	24,565	30,378	27,836	29,602	32,499
EBIT	37,036	41,785	-604	41,705	41,694	51,277
Net Interest	3,135	18,491	12,323	14,085	13,481	13,622
Other Income	4,091	6,560	6,878	3,227	3,576	1,576
PBT before EO	37,992	29,855	-6,049	30,846	31,789	39,231
EO Income	-853	5,481	-	30,961	-	-
PBT after EO	37,139	35,336	-6,049	61,808	31,789	39,231
Tax	9,585	9,098	-9,537	18,289	8,713	9,528
<i>Rate (%)</i>	25.8	25.7	157.7	29.6	27.4	24.3
Reported PAT	27,555	26,238	3,488	43,519	23,076	29,704
Minority Interests	161	2,206	-1,718	4,237	-1,750	-1,750
Share of Asso.	12	159	-353	-27	159	159
Adjusted PAT	28,258	20,120	4,853	17,455	24,985	31,613
<i>Change (%)</i>	79.1	-28.8	-75.9	259.7	43.1	26.5

BALANCE SHEET

(RS MILLION)

Y/E MARCH	2007	2008	2009	2010	2011E	2012E
Share Capital	1,043	1,226	1,750	1,984	1,963	1,963
Reserves	127,137	172,244	156,782	213,462	212,360	241,231
Net Worth	128,180	173,471	158,532	215,446	214,323	243,193
Minority Interest	8,567	16,166	12,866	17,372	12,866	12,866
Total Loans	84,429	323,524	283,098	239,987	253,098	333,098
Deferred Tax Liability	11,716	49,514	27,571	39,382	31,011	32,145
Capital Employed	232,892	562,674	482,066	512,187	511,298	621,302
Gross Block	142,709	341,870	383,315	411,513	432,635	506,825
Less: Accum. Deprn.	50,346	73,733	108,066	135,902	168,292	200,790
Net Fixed Assets	92,363	268,137	275,249	275,611	264,343	306,035
Goodwill on Consolidation		119,327	82,419	82,419	82,419	82,419
Capital WIP	19,169	24,571	29,495	29,495	80,204	92,044
Investments	4,956	11,236	22,362	48,944	22,362	22,362
Curr. Assets	160,470	311,430	235,144	255,884	227,323	284,958
Inventory	48,123	111,109	85,241	112,754	102,389	102,215
Account Receivables	15,485	67,174	66,733	65,437	60,974	61,873
Cash and Bank Balance	84,130	113,857	64,353	45,954	48,380	105,779
Others	12,732	19,291	18,817	31,739	15,581	15,091
Curr. Liability & Prov.	44,068	172,027	162,602	180,166	165,353	166,516
Account Payables	30,534	111,086	96,078	130,996	104,119	105,281
Provisions & Others	13,534	60,940	66,523	49,169	61,234	61,234
Net Current Assets	116,402	139,403	72,542	75,719	61,970	118,442
Appl. of Funds	232,892	562,674	482,066	512,187	511,298	621,302

E: MOSL Estimates

Financials and valuation

RATIOS

Y/E MARCH	2007	2008	2009	2010	2011E	2012E
Basic (Rs)						
EPS	27.1	16.4	2.8	8.8	12.7	16.1
Cash EPS	34.7	41.4	53.1	36.0	26.8	31.7
BV/Share (adj.)	122.9	44.1	43.5	67.0	67.2	81.9
DPS	1.7	1.9	1.4	1.4	1.4	1.4
Payout (%)	6.4	8.6	67.7	6.2	11.5	8.9
Valuation (x)						
P/E	5.2	8.7	51.2	16.1	11.2	8.8
Cash P/E	4.1	3.4	2.7	3.9	5.3	4.5
P/BV	1.2	3.2	3.3	2.1	2.1	1.7
EV/Sales	0.8	0.6	0.7	0.8	0.8	0.8
EV/EBITDA	3.2	5.8	15.7	6.8	6.8	6.0
Dividend Yield (%)	1.2	1.3	1.0	1.0	1.0	1.0
Return Ratios (%)						
RoE	22.0	37.2	6.4	13.1	18.9	19.7
RoCE	15.9	7.4	(0.1)	8.1	8.2	8.3
RoIC	22.0	10.6	0.1	9.6	10.9	12.2
Growth (%)						
Sales	60.5	210.7	9.4	-7.5	5.8	1.2
EBITDA	60.6	45.2	-55.1	133.6	2.5	17.5
PAT	79.1	-28.8	-75.9	259.7	43.1	26.5
Leverage Ratio (x)						
Current Ratio	3.6	1.8	1.4	1.4	1.4	1.7
Interest Cover Ratio	11.8	2.3	0.0	3.0	3.1	3.8
Debt/Equity	0.0	3.9	2.9	1.5	1.6	1.4

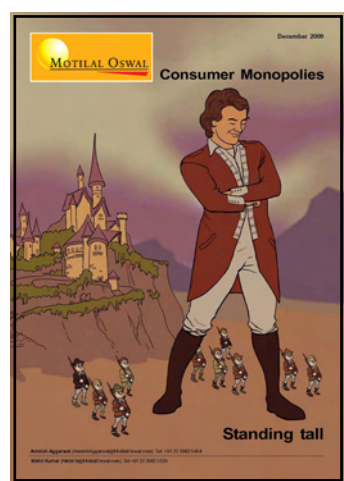
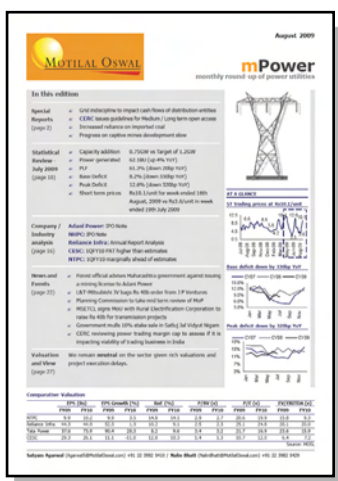
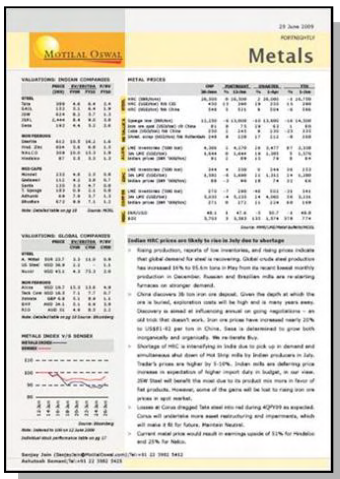
CASHFLOW STATEMENT

(RS MILLION)

Y/E MARCH	2007	2008	2009	2010	2011E	2012E
Pre-tax Profit	36,978	33,129	-4,331	57,571	33,539	40,982
Depreciation	8,646	24,565	30,378	27,836	29,602	32,499
(Inc)/Dec in Wkg. Cap.	-3,025	6,726	17,357	-21,576	16,174	927
Tax Paid	-10,063	-9,836	-7,356	-19,319	-4,752	-8,394
Other operating activities	-391	-82,295	-30,588	5,315	-32,729	159
CF from Op. Activity	32,144	-27,710	5,460	49,827	41,835	66,172
(Inc)/Dec in FA + CWIP	-17,043	-204,563	-46,368	-28,198	-71,831	-86,030
(Pur)/Sale of Investments	26,676	-6,280	-11,126	-26,582	26,582	-
CF from Inv. Activity	9,633	-210,843	-57,494	-54,780	-45,249	-86,030
Equity Raised/(Repaid)	5,529	24,241	48,943	27,901	-22	-
Chg in minorities	7,272	7,599	-3,300	4,506	-4,506	-
Debt raised/(repaid)	21,151	239,095	-40,427	-43,111	13,111	80,000
Dividend (incl. tax)	-2,022	-2,655	-2,686	-2,742	-2,742	-2,742
CF from Fin. Activity	31,929	268,280	2,530	-13,446	5,840	77,258
(Inc)/Dec in Cash	73,706	29,727	-49,504	-18,399	2,426	57,399
Add: opening Balance	10,423	84,130	113,857	64,353	45,954	48,380
Closing Balance	84,130	113,857	64,353	45,954	48,380	105,779

E: MOSL Estimates

N O T E S



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	Hindalco
1. Analyst ownership of the stock	No
2. Group/Directors ownership of the stock	No
3. Broking relationship with company covered	No
4. Investment Banking relationship with company covered	No

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