February 25, 2015

Aluminum Corp. of China Ltd.

Asia Insight – Revisiting Our OW Call: Addressing Key Investor Concerns

Industry View	Stock Rating	Price Target
Attractive	**Overweight**	**HK$4.50**

Chalco's share price has pulled back in the wake of its preliminary results announcement. After material impairments in 2014 and new management, we believe Chalco is on the road to recovery in 2015. We address key investor concerns below.

Big changes in 2014 cleared the way for a turnaround in 2015: Chalco announced a loss of Rmb16.3bn at its recent preliminary 2014 results, with an impairment loss of Rmb5.5bn related to plant shutdowns. We view this as a clear sign that management is cleaning up bad assets and booking related losses in 2014 to start fresh in 2015, following management changes in 2H14.

Cash flow has improved and FCF is positive for the first time since 2007: Chalco generated Rmb13bn in operating cash flow in 2014, the first year since 2007 that it has seen positive FCF. The company reduced inventory and accounts receivables by Rmb1.1bn and Rmb1.7bn, respectively, in 2014. We expect it to also lower capex; together with cost cutting and working capital management Chalco will continue to strengthen its cash flows. With FCF turning positive, we expect the company to start paying off debt.

Cost cutting continues, labor and power costs declining: Chalco reduced its labor force by 18,000 over 2010-13 and we expect further cuts in 2014 as it closes several lines. It has also lowered its power price by purchasing power directly at its plants. Its 1H14 average power cost was Rmb0.43/kWh vs. Rmb0.399/kWh for 3Q14. With power reforms underway in China, we expect Chalco to continue to lower its power costs.

New management: Chalco changed its Chairman and CEO in 4Q14. New Chairman Mr. Ge Honglin was formerly head of Shanghai Baosteel Group and spent 2001-2014 as municipal governor of Chengdu city (and mayor from 2003). Since Mr. Ge took the reins at Chalco, the company has started to divest non-core assets. We expect more reforms in coming months.

Bauxite self-sufficiency rate rising: As the Indonesia export ban continues, China's imported bauxite inventory is running low, with seven months' inventory remaining, we estimate. Chalco is expanding its self-sufficiency in bauxite supply, from 47% in 2013 to 64% in 2014, with plans to raise it to 80% by end-2015. **Downside risk:** Aluminum prices lower than expected. **Upside risk:** domestic interest rate cuts will lead to lower financing cost for Chalco.

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Aluminum Corp. of China Ltd. (2600.HK , 2600 HK)

China Materials / China

Stock Rating	**Overweight**
Industry View	**Attractive**
Price target	HK$4.50
Up/downside to price target (%)	24
Shr price, close (Feb 23, 2015)	HK$3.62
Mkt cap, curr (mn)	Rmb61,615
EV, curr (mn)	Rmb156,577

Fiscal Year Ending	**12/13**	**12/14e**	**12/15e**	**12/16e**
ModelWare EPS (Rmb)	0.07	(1.21)	0.01	0.21
Prior ModelWare EPS (Rmb)	-	(0.42)	0.01	0.22
Consensus EPS (Rmb)§	(0.17)	(0.46)	(0.23)	0.01
Revenue, net (Rmb mn)	173,038	168,489	184,222	187,389
EBITDA (Rmb mn)	6,577	(2,535)	16,277	20,204
ModelWare net inc (Rmb mn)	948	(16,308)	140	2,785
P/E	30.1	NM	282.8	14.2
P/BV	0.6	1.4	1.4	1.3
RNOA (%)	(0.8)	(5.5)	4.8	7.1
ROE (%)	2.2	(36.8)	0.5	9.9
EV/EBITDA	20.7	NM	9.6	7.6
Div yld (%)	0.0	0.0	0.0	0.7
FCF yld ratio (%)	(19.7)	7.8	8.5	8.3
Leverage (EOP) (%)	208.8	341.6	329.6	293.9

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework
§ = Consensus data is provided by Thomson Reuters Estimates
e = Morgan Stanley Research estimates

Exhibit 1: Key stats for Chalco A share

A-share data

Rating				**Equal-weight**
Price Target				4.70
Shr price, close (February 23, 2015)				5.23

Fiscal Year ending	**12/13**	**12/14e**	**12/15e**	**12/16e**
MW EPS (Rmb)	0.07	(1.21)	0.03	0.21

Financial Summary

Exhibit 2: Chalco - Financial Summary

Key Drivers	2012	2013	2014e	2015e	2016e
Aluminum Prod ('000 tonne)	4,220	3,840	2,492	2,658	2,658
Alumnium Price (Rmb/tonne)	13,423	12,350	12,005	13,000	13,509
Aluminum Cost (Rmb/tonne)	14,208	13,109	13,685	12,424	12,164
Alumina Prod'n ('000 tonne)	11,900	12,140	12,096	12,096	12,096
Alumina Price (Rmb/tonne)	2,721	2,522	2,532	2,700	2,772
Alumina Cost (Rmb/tonne)	3,036	2,670	3,078	2,663	2,642
Income Statement (Rmb mn)	**2012**	**2013**	**2014e**	**2015e**	**2016e**
Under IFRS					
Net Sales	149,479	173,038	168,489	184,222	187,389
Gross Profit	782	3,373	-1,825	12,869	16,865
EBITDA	1,589	13,300	(8,586)	15,147	18,765
Consensus EBITDA			4,909.1	9,016.5	12,113.8
Diff. to Consensus EBITDA (%)			(274.9)	68.0	54.9
EBIT	(4,720)	5,985	(15,947)	7,302	10,533
Pre-tax Profit	(9,092)	1,062	(22,826)	195	3,899
Net Profit	(8,234)	948	(16,308)	140	2,785
EPS (Rmb)	(0.61)	0.07	(1.21)	0.01	0.21
DPS (Rmb)	0.40	-	-	0.00	0.02
BVPS (Rmb)	3.24	3.28	2.07	2.08	2.27
Under PRC GAAP					
Net profit	-8,234	948	-16,308	140	2,785
EBITDA	1,589	13,300	-8,586	15,147	18,765
EPS (Rmb)	(0.61)	0.07	(1.21)	0.01	0.21
DPS (Rmb)	0.40	-	-	0.00	0.02
BVPS (Rmb)	3.24	3.28	2.07	2.08	2.27
Cash Flow (Rmb mn)	**2012**	**2013**	**2014e**	**2015e**	**2016e**
EBITDA	1,589	13,300	(8,586)	15,147	18,765
-Taxes Paid	448	(338)	(6)	(49)	(975)
-Working Capital	(2,902)	1,252	14,941	(1,593)	(116)
-Others	1,986	(5,963)	6,833	4,294	107
Operating cash flow	**1,122**	**8,251**	**13,182**	**17,799**	**17,782**
-Capex.	(9,205)	(9,206)	(9,200)	(7,369)	(7,496)
FCF	(8,083)	(954)	3,982	10,430	10,286
Balance Sheet (Rmb mn)	**2012**	**2013**	**2014e**	**2015e**	**2016e**
Cash & Equivalents	10,192	12,426	21,229	24,178	26,890
Receivables	1,425	4,014	3,447	3,769	3,834
Inventories	25,596	23,536	14,314	14,402	14,332
Total Assets	**175,017**	**199,507**	**191,613**	**196,689**	**199,170**
Payables	29,953	33,788	30,533	36,467	36,290
Borrowings	71,170	85,734	97,734	97,734	97,734
Total Liabilities	**121,246**	**145,805**	**155,030**	**159,974**	**159,809**
Shareholders Equity	43,835	44,358	28,050	28,176	30,683
Minority Interest	9,936	9,344	8,533	8,540	8,678
Total Liabilities and Equity	**175,017**	**199,507**	**191,613**	**196,689**	**199,170**
Per Share Data (Rmb)	**2012**	**2013**	**2014e**	**2015e**	**2016e**
ModelWare EPS	(0.61)	0.07	(1.21)	0.01	0.21
Consensus EPS	(0.37)	(0.17)	(0.46) e	(0.24) e	(0.24) e
Diff. to Consensus EPS (%)	65.0	(142.2)	160.4	(104.3)	(186.5)
DPS	0.40	0.00	0.00	0.00	0.02
BVPS	3.24	3.28	2.07	2.08	2.27

Profitability Ratios %	2012	2013	2014e	2015e	2016e
ROE	-16%	2%	-37%	1%	10%
EBITDA Margin	1%	8%	-5%	8%	10%
EBIT Margin	-3%	3%	-9%	4%	6%
Pre-tax Profit Margin	-6%	1%	-14%	0%	2%
Net Profit Margin	-6%	1%	-10%	0%	1%
Net Debt / Equity %	145%	172%	262%	253%	229%
Z score (<1.8, higher risk)	1.3	1.4	1.0	1.4	1.4
Interest Cover (EBITDA) (x)	0.36	2.27	-1.08	1.74	2.16
Working Capital % of Sales	(1.9)	0.7	8.9	(0.9)	(0.1)
Days Sales AR outstanding	4	6	8	8	8
Days in Inventory	60	52	40	30	30
Days Payable outstanding	(14)	(15)	(21)	(24)	(24)
Cash Conversion	50	44	27	14	15
Valuation	**2012**	**2013**	**2014e**	**2015e**	**2016e**
P/E	NM	30.1	NM	230.6 e	15.0 e
P/BV	0.9	0.6	1.0 e	1.1 e	1.1 e
EV/Sales	0.9	0.8	1.0 e	1.0 e	1.0 e
EV/EBITDA	49.1	20.7	26.8 e	11.2 e	8.8 e
FCF Yield %	(32.0%)	5.4%	(32.4%) e	(5.7%) e	5.2% e
Dividend Yield %	13.9%	0.0%	0.0% e	0.0% e	0.7% e
EV/EBITDA Analysis	**2012**	**2013**	**2014e**	**2015e**	**2016e**
Average Stock price (HK$)	3.55	2.96	3.59	3.59	3.59
Eq Shares outstanding (in Mn)	13,524	13,524	13,524	13,524	13,524
Equity Value	54,253	45,237	54,865	54,865	54,865
Net Debt	77,704	92,628	95,825	92,875	90,164
Minority Interest	9,936	9,344	8,533	8,540	8,678
Enterprise Value	141,893	147,209	159,222	156,280	153,707
EBITDA (in Millions)	1,589	13,300	(8,586)	15,147	18,765
Associate Income	292	661	300	360	661
EV/EBITDA incl. asocte inc	75.4	10.5	-19.2	10.1	7.9
Sensitivity analysis: Impact of a 1% change in the following					
2015e Rmb					% impact
(Rmb mn, EPS in Rmb)	Revenue	EBITDA	Net Income	EPS	on EPS
Aluminum price (up 1%)	346	346	259	0.02	1.6%
Alumina price (up 1%)	190	190	143	0.01	0.9%
Power tariff (up Rmb0.01/kwh)	0	(356)	(267)	(0.02)	191.1%
Key Drivers	**1Q15e**	**2Q15e**	**3Q15e**	**4Q15e**	**2015e**
Volume (Aluminum)	1,510	1,490	1,455	1,593	6,048
ASP (Rmb/t)	30,166	30,714	30,117	30,815	30,460
ACP (to EBIT) (Rmb/t)	(28,665)	(29,124)	(28,473)	(30,641)	(29,253)
EBIT (Rmb/ton)	1,500	1,590	1,644	174	1,207
EBITDA (Rmb/t)	2,587	2,691	2,772	718	2,504
Quarterly Financials	**1Q15e**	**2Q15e**	**3Q15e**	**4Q15e**	**2015e**
Financials (Rmb bn)					
Revenue	46	46	44	49	184
EBITDA	3.9	4.0	4.0	1.1	15.1
EBIT	2.3	2.4	2.4	0.3	7.3
Net Income	0.4	0.4	0.5	(1.1)	0.1
MW EPS (Rmb)	0.027	0.033	0.034	(0.083)	0.010
EPS (2014)	(0.159)	(0.145)	(0.095)	(0.806)	(1.206)

Source: Company data, Morgan Stanley Research

Investment Debates

Debate 1: Is the positive FCF sustainable?

Market view: Chalco has been FCF negative for so many years, the recent improvement is not sustainable.

Our view: Several changes in the company make us believe that the positive FCF is sustainable and the company will start to turn profitable in 2016:

1. **Improved working capital management:** The company's strong cash flow in 2014 was helped by more efficient working capital management. According to the company, inventory and accounts receivable fell by Rmb1.1bn and Rmb1.7bn, respectively, during 2014. Meanwhile, the company has put more strict inventory controls in place. It has successfully reduced its cash coversion cycle since 2009, and we believe there is room for this to shorten further.
2. **Cost-cutting efforts:** Chalco is aggressively cutting its operating costs by reducing its labor base and power costs. The company has cut its power costs from Rmb 0.43/kWh in 1H14 to Rmb0.399/kWh in 3Q14 by getting more direct power purchases. We expect further reductions in power costs in 2015 and 2016, and believe the company's EBITDA will not deteriorate significantly.
3. **Increased self-sufficiency rate:** With Indonesia's export ban continuing in 2014, China's inventory of imported bauxite is running low, with only seven months of inventory remaining, we estimate. Chalco owns the majority of the bauxite reserves in China and is expanding. Its self sufficiency rate increased from 47% in 2013 to 64% at the end of 2014, and the company plans to expand to 80% by end-2015. This will provide a sustained cost advantage vs. its peers, in our view. We estimate that by increasing its bauxite self-sufficiency rate to 80%, the company can increase its 2016 EPS by 25%, and we have built this into our base case scenario.

Where we might be wrong: Company increases capex to diversify into other businesses.

Debate 2: Can Chalco really reduce staff and cut costs so aggressively?

Market view: No. Chalco is a SOE and it bears social responsibilities such as creating and maintaining employment. It will be difficult for the company to cut its labor force. As such, Chalco is inefficient and is a high-cost producer in China's aluminum industry.

Our view: Chalco has already reduced its staff numbers by a meaningful amount. Although the company might still have to bear a slightly lower production cost/head compared to peers, this gives it bargaining power to negotiate for a lower power cost:

1. The company reduced its staff numbers by 18,000 from 2010 to 2013 (see Exhibit 8), without sacrificing its aluminum output. The decline in production volume in 2013 was mainly due to lower ASP, instead of staff shortages.
2. Recent SOE reforms and a series of other reforms initiated by the central government show that China is willing to make its SOEs more market-oriented.
3. We believe Chalco could use the planned cuts to its labour force as a lever when negotiating with local governments on direct power purchases. Local governments will likely be anti-lay offs, and we believe Chalco needs to take a balanced approach to cutting staff and getting more direct power purchases. However, either outcome (reduced staff numbers or increased direct power purchases) would benefit Chalco.
4. We forecast a Rmb0.027/kwh reduction in power costs in 2015e (to Rmb0.39/kwh) and a further

Rmb0.01/kwh in 2016e. Our sensitivity analysis shows that every Rmb0.01/kwh increase in electricity costs would result in a Rmb0.02/share change in EPS (2015e and 2016e).

Where we might be wrong: Sector-wide cuts in power prices would result in lower cost support for aluminum and offset the benefits from lower costs.

Debate 3: Can aluminum demand improve?

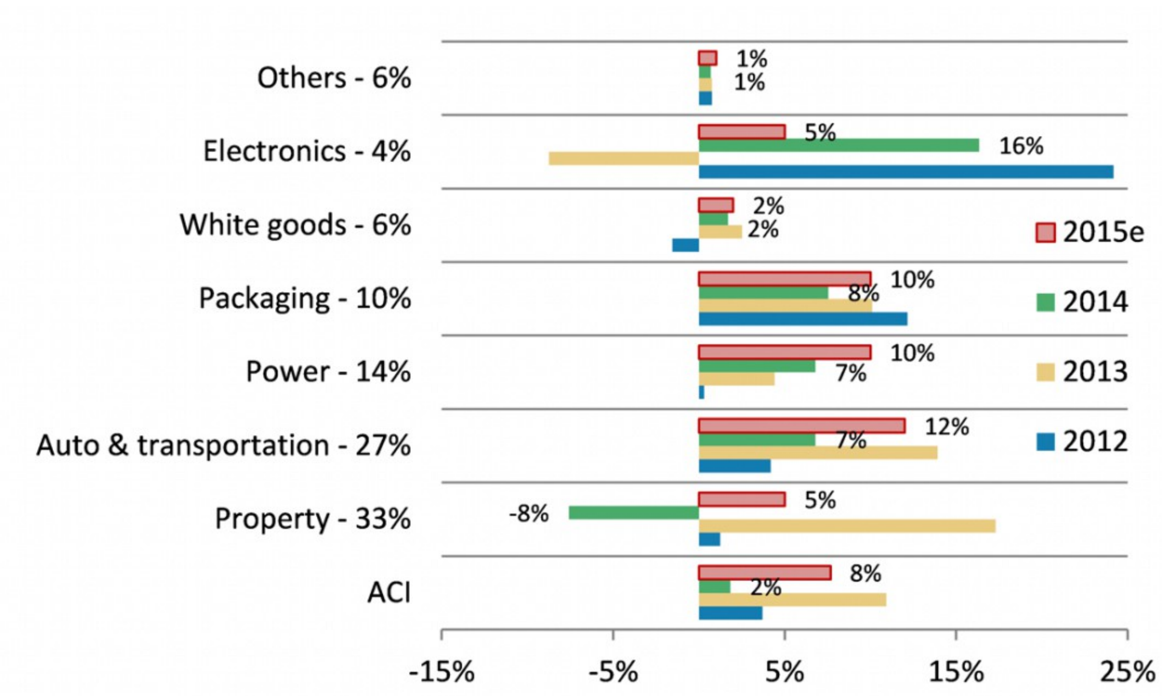
Market view: China's growth rate is slowing and aluminum is oversupplied globally, so there is little likelihood of any upside in the aluminum price.

Our view: The market is overly bearish on all commodities, especially after the recent weakness in the oil price. We believe aluminum demand is sound because the levels of demand are more related to consumption, and some end-markets have seen an improvement in near-mid term demand for aluminum.

We expect a meaningful recovery in the aluminum consumption index, a composite by end-market demand for aluminum products, to 8% in 2015 from 2% in 2014. The biggest drivers are the property, auto and power infrastructure sectors. These three make up 74% of China's total demand for aluminum, we estimate:

1. Property is around 33% of aluminum demand in China. Property sales recovered in October 2014 after the mortgage loosening and removal of the Home Purchase Restriction (HPR). We expect new home starts to improve in late 2Q15.
2. Auto & transportation accounts for 27% of aluminum demand in China. Typically, a lighter- weight car will use more aluminum than a traditional car, and demand in China is moving away from traditional cars. Our auto team expects 7-8% YoY growth of PV sales in China in 2015. Together with growth in other modes of transportation, we expect 12% overall growth in 2015.
3. Power infrastructure accounts for 14% of aluminium demand. With the high voltage network increasing construction speed, we expect demand for aluminum-based power cables to grow more rapidly than it has done in the previous few years.

Exhibit 3: We expect a meaningful recovery in aluminum demand in 2015e, driven by property, power and auto sector



Source: CEIC, NBS, Morgan Stanley Research

Where we might be wrong: Macro environment continues to slow down or if continued weakness in oil negatively affects sentiment in the commodity space. As Chalco's main product is aluminum, we have run different scenarios for aluminum prices and how they would likely affect Chalco's earnings. For details, please refer to Exhibit 36.

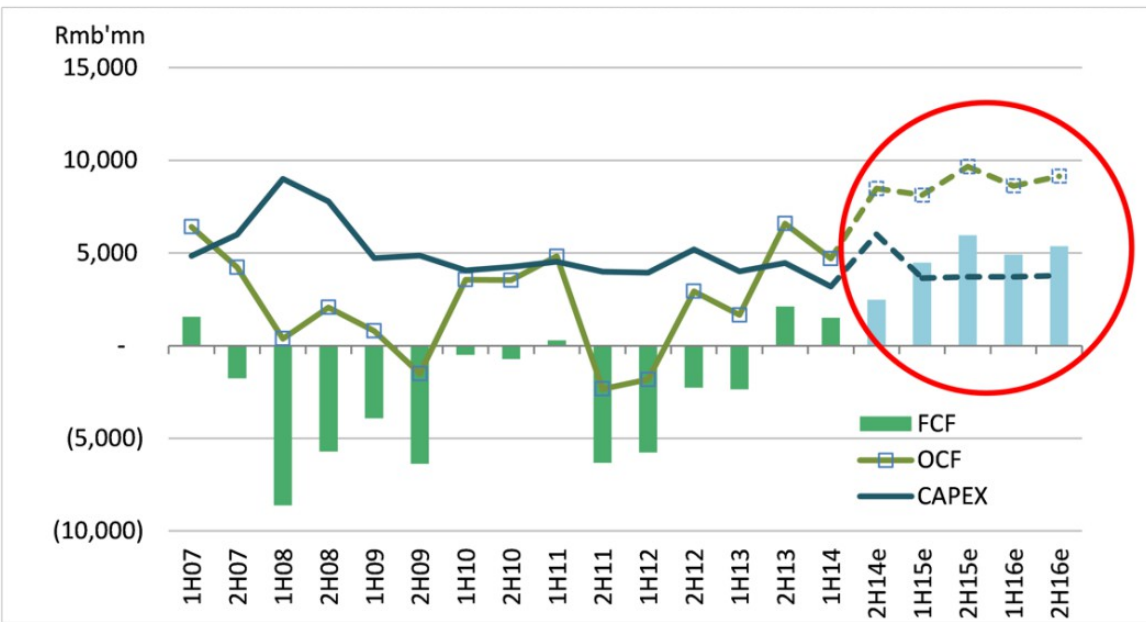
Cost-cutting + New Management Reform = Turnaround

Cash flow has improved and FCF has turned positive

Chalco reported poor preliminary earnings for FY2014 due to one-offs. At the same time, though, the company's cash flow is improving, with operating cash flow ticking to its highest level (Rmb13bn) since 2007, according to the preliminary result. We expect the company's FCF to turn positive for FY2014, the first time since 2007. This could help the company accelerate balance sheet deleveraging, which would solve one big concern of investors - Chalco's high gearing.

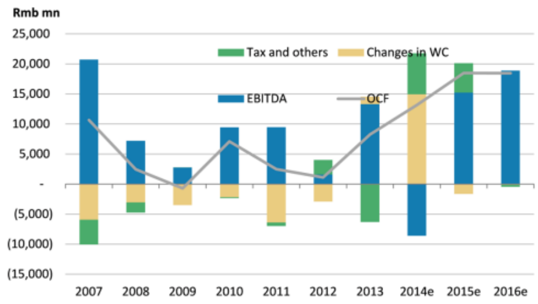
Chalco strengthened its cash flow in 2014 through more efficient management of its working capital. Inventory and accounts receivables were reduced by Rmb1.1bn and Rmb1.7bn, respectively, during the year. The company has exercised strict inventory controls, and has reduced its cash conversion cycle since 2009; and we see room for further reductions in future.

Exhibit 4: Chalco's free cash flow has improved significantly recently



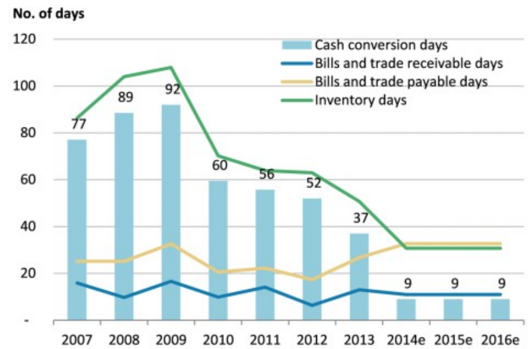
Source: Company data, Morgan Stanley Research (e) estimates

Exhibit 5: Besides EBITDA, changes in working capital also affect operating cash flow



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

Exhibit 6: Management has steadily reduced the cash conversion cycle since 2009



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

Cost-cutting: Labor costs and power costs

As part of its cost-cutting efforts, management has committed to further reducing its labor base. During 2010-2013, the company cut its labor force by 18,000 and guided for continued cuts in 2014. When compared with global peers, Chalco has room to cut more (see Exhibit 7). We estimate the company cut a further 20,000 from its labor force in 2014, and we think an additional 5% cut is likely in 2015.

According to numbers reported in its FY2013 annual report, we estimate that staff costs per employee on average are Rmb73,400/year at Chalco, excluding remunerations paid to senior management. Therefore, a reduction of 1,000 employees (1% of the total labor base), would result in Rmb73.4mn in cost savings. The after-tax effect would be Rmb55mn or Rmb0.0041/share. To bring the productivity per head in-line with the industry average, Chalco would need to cut a further 36,000 staff to reduce the total number of employees to 54,000. If this plays out, we would see a further Rmb0.15/share in after-tax cost savings.

A reduction in the on-grid power price may soon be forthcoming in China, according to a report in the *China Securities Daily* on February 4, 2015. The ongoing power reforms and depressed coal price has made it inevitable that power prices will be cut at some point. Meanwhile, Yunnan Aluminum, a SOE operating in Yunnan has announced that it expects to see a Rmb0.05/kwh reduction in power costs in 2015.

Chalco stands to benefit the most among peers from any reduction in power costs because: 1) Chalco receives only 27% of its power from its own power plant (vs. 40-100% at its peers), making it more sensive than its peers with higher captive power to any cuts in the price of grid power. 2) The company can cut its power costs by more than the industry average, due to direct power purchases.

Exhibit 7: Chalco has more room to cut its labor force

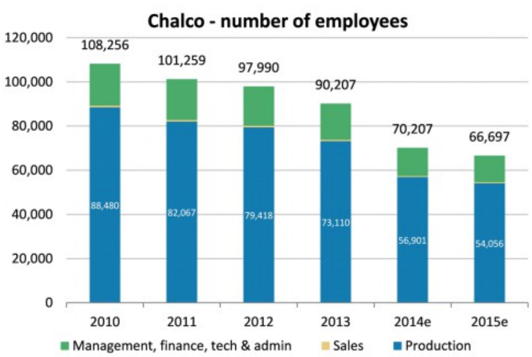
Company	Aluminum production (mnt)	No. of employee	No. of employee / ton of aluminum
Chalco 2013	3.8	90,207	0.023
Chalco 2014 e	**3.3**	**60,207**	**0.018**
Alcoa Inc	5.0	60,000	0.012
United Company Rusal Plc	4.5	67,000	0.015
China Hongqiao	0.9	11,234	0.012
Nanshan	0.8	13,811	0.017
Exclude Chalco Average			**0.014**
China average			**0.015**

Note:

1. All production and employee data are based on 2013 actual except Hongqiao which is 2010 actual.
2. Except for Nanshan production volume which is woodmac data, all other numbers are reported by company.

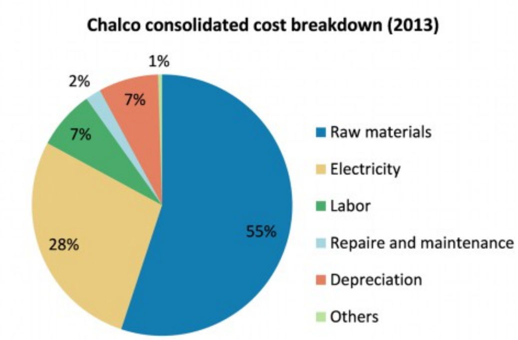
Source: Company data, Woodmac, Morgan Stanley Research

Exhibit 8: Chalco has been steadily reducing its staff base in recent years



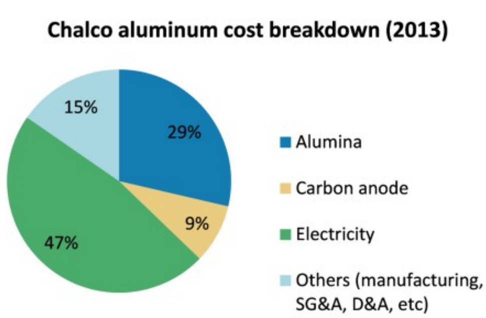
Source: Company data, Morgan Stanley Research (e) estimates

Exhibit 9: Labor costs accounted for only 7% of COGS in 2013 (Rmb5.6bn in COGS and Rmb6.6bn including SG&A).



Source: Company data, Morgan Stanley Research. Note: The above numbers exceed the cost in trading segment.

Exhibit 10: Electricity accounted for around 47% of the aluminum production cost for Chalco in 2013...



Source: Company data, Morgan Stanley Research

Exhibit 11: ... and it has a strong impact on the company's EPS and our base case valuation

Power cost (Rmb/kwh)	2015e EPS (Rmb)	2016e EPS (Rmb)	2015e BVPS (Rmb)	2016e BVPS (Rmb)	MS base case valuation /share
0.35	0.10	0.30	2.16	2.43	5.40
0.36	0.08	0.27	2.14	2.39	5.20
0.37	0.06	0.25	2.12	2.35	5.00
0.38	0.03	0.23	2.11	2.31	4.80
0.39	**0.01**	**0.21**	**2.09**	**2.28**	**4.50**
0.40	(0.01)	0.19	2.07	2.24	4.30
0.41	(0.03)	0.17	2.05	2.20	4.10
0.42	(0.05)	0.15	2.03	2.16	3.90
0.43	(0.07)	0.13	2.01	2.12	3.60

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

Management changes in 2H14

Chalco appointed Mr. Ge Honglin as President and Chairman in December 2014. Mr. Ge has worked in the steel industry for over 17 years and has a strong technical background. He holds a PhD in engineering and is a professor-level senior engineer. He served as the vice general manager of Shanghai Baosteel Group from 1998 to 2001 and was municipal governor of Chengdu city from 2001 to 2014, becoming mayor of the city in 2003.

Under the previous management team's leadership, Chalco expanded its businesses aggressively and acquired many assets, some of which were purchased at high cost. We believe the new management team will steer the company along a more focused path, as evidenced by its recent divestment of non-core assets.

In December 2014, the new management announced a series of asset disposals, first in relation to four polycrystalline silicon companies, followed by shares in Jiaozuo Wanfang. The company has already booked Rmb1.4bn for the disposal of the polycrystalline silicon companies. For Jiaozuo Wanfang, its shares are trading at a 67% premium to book value. Chalco announced that the minimum selling price would be Rmb8.74/share. Assuming that this is the final settlement price, the sale of 120mn shares would equate to a Rmb380mn gain, on our estimates.

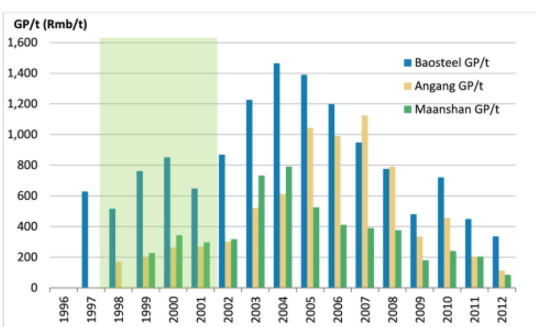
We see this as a strong indication that the new management team is committed to cleaning up bad assets and refocussing on the core business. Meanwhile, the cut off date - announcing the loss-making divestment in 2014 while proposing a profitable divestment in 2015 - suggests that management intends to book any possible one-off losses in FY2014 to enable a fresh start in 2015.

Exhibit 12: Proposed divestment of non-core assets

No.	Subsidiary/associates/JVs	Asset name - Chinese	Equity interest	Operation	Book value (1H14) (Rmb'mn)	Proposal date
1	Jiaozuo Wanfang	焦作万方	10.0%	Aluminum production	669	5-Jan-15
2	Ningdian Silicon	宁电硅业	100%	Silicon business	5.1	1-Dec-14
3	Ningdian Photovoltaic Materials	宁电光伏材料	100%		31.7	1-Dec-14
4	Ningdian Electrical Silicon Materials	宁电硅材料	100%		114.3	1-Dec-14
5	Yinxing Polycrystalline Silicon	银星多晶硅	73%		(224.5)	1-Dec-14

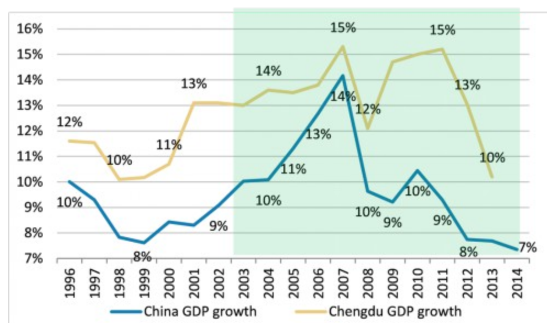
Source: Company data, Morgan Stanley Research

Exhibit 13: Baosteel performed satisfactorily compared to peers during Mr. Ge Honglin's tenure



Source: Company data, Morgan Stanley Research

Exhibit 14: Chengdu GDP growth has consistently outperformed the national average and was more stable during Mr. Ge's tenure as mayor



Source: CEIC, Morgan Stanley Research

Limited asset disposals in the future

Chalco wrote off Rmb5.5bn in assets during 4Q14, to clean up its bad assets and make a fresh start for 2015. As a result, we believe future disposals, if any, will likely result in accounting gains, as happened in 2013. In Exhibit 15, we list Chalco's non-core assets. Assets in the bottom of the list have a higher chance of being disposed of, in our view. The bottom four have a total book value of Rmb134mn only. Therefore, they are not likely to have any significant impact on the P/L, even if sold. As such, we believe the company will not make significant asset disposals in 2015.

Exhibit 15: Chalco holds multiple assets outside its alumina/primary aluminum business

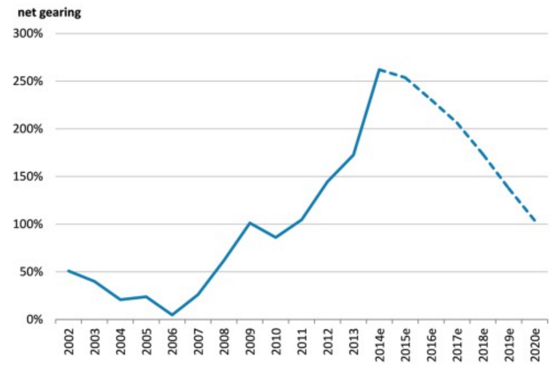
No.	Subsidiary/associates/JVs	Asset name - Chinese	Equity interest	Business	Registered capital (Rmb'mn)	Book value 1H14 (Rmb'mn)	Relevance to the key business
1	China Aluminum International Trading Co., Ltd.	中铝国贸	100%	Trading	1,500	ND	high
2	Ningxia Energy	宁夏能源	71%	Coal and Power	5,026	ND	
12	Chalco Energy Co., Ltd.	中鋁能源有限公司	100%	Power	540	ND	
13	Ningxia Zhong Ning Power Co., Ltd. ("Ningxia Zhong Ning")	中宁发电	35%	Power	286	245	
14	Ningxia Da Tang International Dam Power Co., Ltd. ("Da Tang Power")	大坝发电	35%	Power	490	181	
15	Hua Dian Ningxia Ling Wu Power Co., Ltd.	灵武发电	25%	Power	1,300	1,261	
16	Ningxia Jing Neng Ning Dong Power Co., Ltd.	宁东发电	25%	Power	900	512	
17	Ningxia Tian Jing Shen Zhou Wind Power Co., Ltd. ("Shen Zhou Power")	神州风力发电	35%	Power	46	28	
18	Hua Neng Ningxia Energy Co., Ltd.	华能宁夏能源	28%	Power	1,000	42	
3	Shanxi Jiexiu Xinyugou Coal Co., Ltd. ("Xinyugou Coal")	鑫峪沟煤业	34%	Coal	200	344	
4	Shanxi Chengcheng Dongdong Coal Co., Ltd. ("Dongdong Coal")	董东煤业	45%	Coal	95	198	
5	Datong Coal Group Huasheng Wanjie Coal Co.,Ltd. ("Huasheng Wanjie")	华盛万杰	49%	Coal	10	146	
6	Chalco Liupanshui Hengtaihe Mining Co., Ltd. ("Hengtaihe Mining")	恒泰合矿业	49%	Coal	420	348	
7	Huozhou Coal Electricity Group Xingshengyuan Coal Co., Ltd.	兴盛园煤业	22%	Coal	50	402	
8	Qinghai Province Energy Development (Group) Co., Ltd.	青海能发	21%	Coal	2,725	767	
9	Guizhou Yuneng Mining Co., Ltd. ("Yuneng Mining")	渝能矿业	25%	Coal	210	473	
10	Huozhou Electricity Group Hejin Xuehugou Coal Co., Ltd.	薛虎沟煤业	49%	Coal	140	73	
11	Gansu Huayang Mining Development Co., Ltd.	华阳矿业	70%	Coal	17	ND	
19	Shanxi Huatuo Alumina Co., Ltd. ("Huatuo Alumina")	华拓铝业	11%	Aluminum fabricated products	30	5	
20	Shiqiao Accelerator Yinchuan Co., Ltd.	石桥增速机	9%	Accelerator	40	12	
21	ABC-CA Fund Management Co., Ltd. ("ABC Fund")	农银汇理	15%	Investments	200	59	
22	Duofuduo (Fushun) Technology Development Co., Ltd. ("Duofuduo")	多氟多科技	45%	Fluoride products	127	58	low
	Total book value of associates companies					**5,154**	

Source: Company data, Morgan Stanley Research

Balance sheet deleveraging

Chalco is one of the most highly leveraged companies in our coverage universe. We estimate its net gearing will reach 262% in 2014, due to the impact on equity from its heavy loss. But with sustainable improvement in free cash flow, we expect its gearing to decline in future years as the company gradually pays down its debt, using its free cash flow. In addition, we think it is possible that the company may raise funds on the A-share market to pay off its debt, as Chalco A shares are now trading at around 1.8x PB. Although we have not factored this possibility into our base case, the company has indicated in its announcements that it has made several attempts since 2010 to raise funds. We expect that H-share investors would react positively to such a fund-raising move.

Exhibit 16: Positive FCF likely to help deleverage the balance sheet to healthier level in next few years

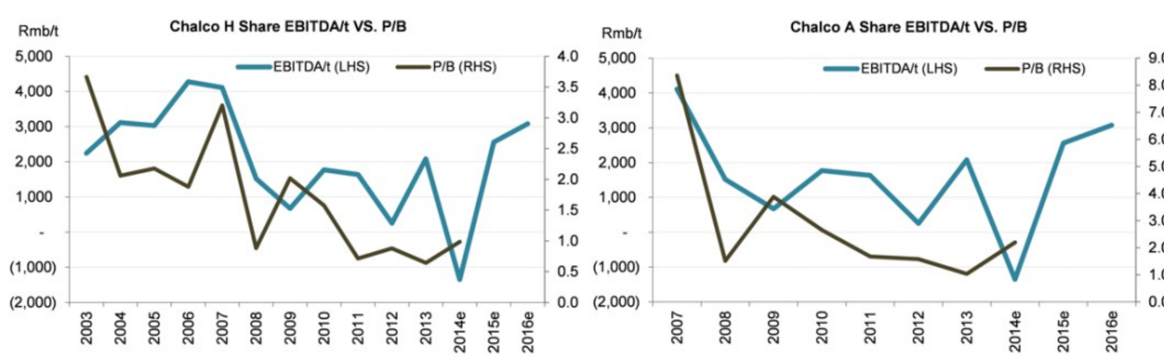


Source: Morgan Stanley Research (e) estimates

Valuation

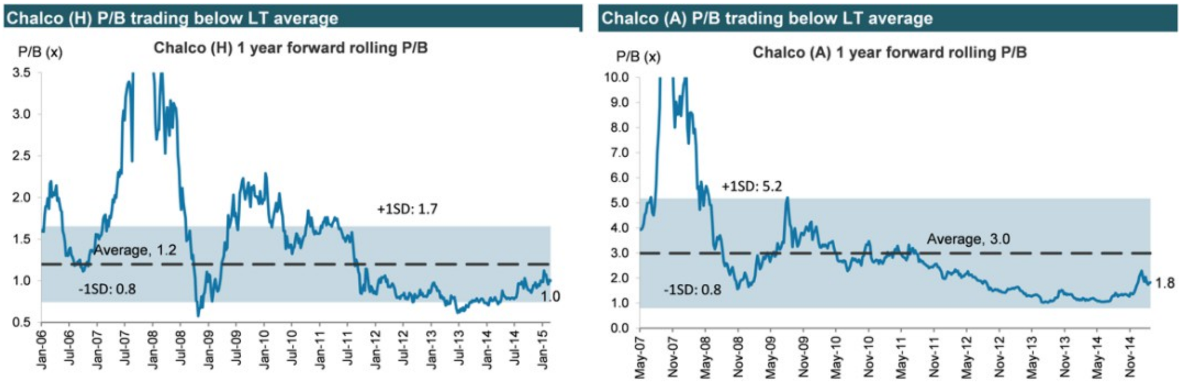
After the impairment in 2014, Chalco H is currently trading at 1.3x 1-year rolling forward P/B, while Chalco A is trading at 2.4x, close to or below its long-term average (2007-current). Compared to peers, Chalco A is inline with overseas listed stocks and is slightly more expensive than its A-share aluminum peers. With a higher self-sufficiency rate, lower power and labor costs, and more efficient cash flow we expect the company's earnings to turn around in 2016. On the back of that turnaround, we expect the stock to be re-rated.

Exhibit 17: Chalco H and Chalco A EBITDA/t vs. P/B



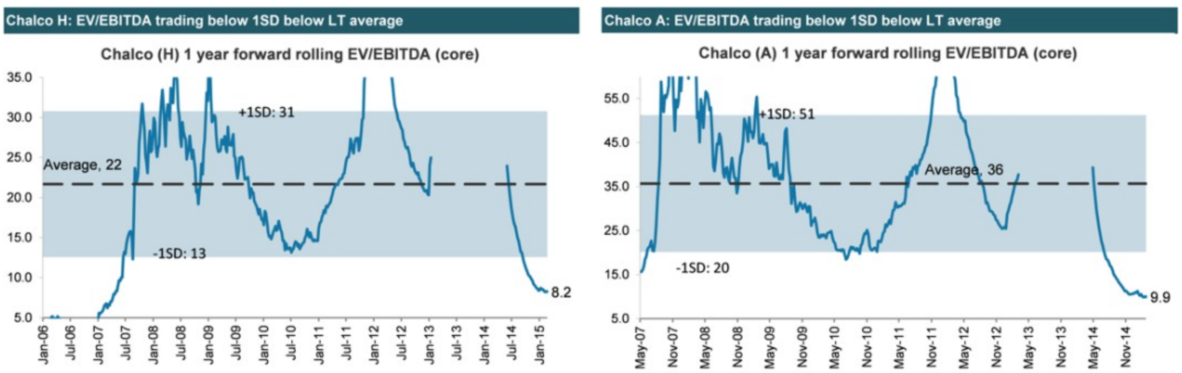
Source: Company Data, Datastream, Morgan Stanley Research (e) estimates

Exhibit 18: Chalco H and Chalco A P/B valuation



Source: Datastream, Morgan Stanley Research

Exhibit 19: Chalco H and Chalco A EV/EBITDA valuation



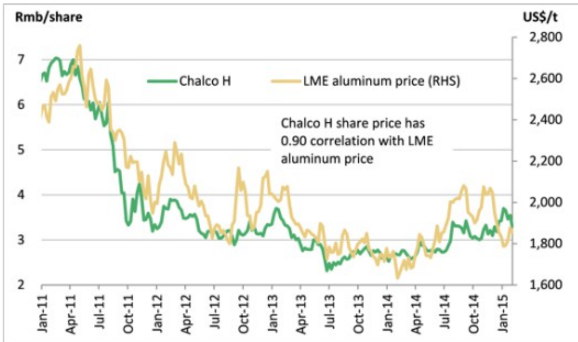
Source: Datastream, Morgan Stanley Research

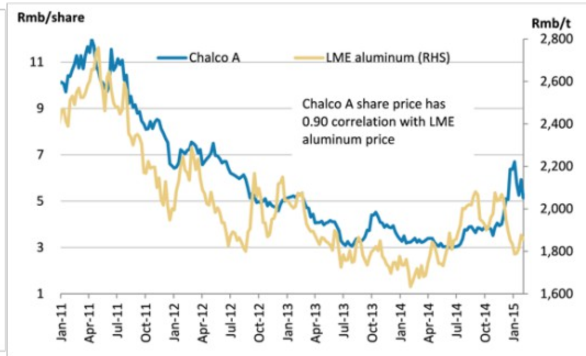
Exhibit 20: Valuation is within the range of global and domestic peers

Prices are as of close Global Nickel Comps TR ticker	Company Name	17-Feb-15 Price Local	FX	Price Target	MS rating	MCap ($ USD)	Avg Daily Vol (USD)	EV ($ USD)	P/B (2014e)	P/B (2015e)	2014e EV/ EBITDA	2015e EV/ EBITDA
695498	Alumina Ltd	1.86	AUD	1.90	Overweight	4,082	19.3	4,217	1.4	1.2	NM	NM
AA	Alcoa Inc	15.79	USD	20.00	Overweight	18,321	300.5	31,518	1.6	1.4	13.9	8.8
HINDALCO-IN	Hindalco Industries Ltd	156.55	INR	178.00	Equal-Weight	5,205	19.0	13,014	0.8	0.7	8.6	6.3
486-HK	United Company Rusal Plc	5.85	HKD	6.00	Equal-Weight	11,455	1.8	12,891	1.9	1.5	9.1	3.9
CSTM-US	Constellium Nv	19.06	USD	28.00	Overweight	2,006	14.8	2,160	NM	NM	5.6	8.2
CENX	Century Aluminum Co	22.16	USD	33.00	Overweight	2,138	29.3	2,092	2.1	1.5	12.8	4.7
	Average oversea listed								**1.5**	**1.2**	**10.0**	**6.4**
2600-HK	Chalco H	3.59	HKD	4.50	Overweight	9,836	9.5	22,670	1.4	1.4	NM	8.6
1378-HK	China Hongqiao	5.23	HKD	NC	NC	4,153	3.1	7,911	1.0	0.9	4.4	3.6
1333-HK	China Zhongwang	3.17	HKD	NC	NC	2,227	2.5	2,226	NM	NM	NM	NM
	Average H-shares								**1.2**	**1.1**	**4.4**	**6.1**
600673-SH	Guangdong Hec Technology	14.69	CNY	NC	NC	2,230	62.3	2,929	3.9	3.6	17.4	13.9
000612-SZ	JiaoZuo WanFang	9.79	CNY	NC	NC	1,883	32.2	2,302	2.9	2.2	24.2	11.7
002160-SZ	Jiangsu Alcha Aluminium Co Ltd	7.93	CNY	NC	NC	524	7.8	723	NA	NA	NA	NA
600219-SH	Shandong Nanshan Aluminium	8.28	CNY	NC	NC	2,882	94.1	4,046	0.9	0.9	12.6	10.1
002501-SZ	Jilin Liyuan	25.76	CNY	NC	NC	1,927	98.9	1,988	3.5	3.2	19.1	15.5
600888-SH	Xinjiang Joinworld	7.16	CNY	NC	NC	734	17.9	1,259	1.2	1.2	9.7	8.6
601600-SH	Chalco A	5.23	CNY	4.70	Equal-Weight	9,836	152.2	27,766	3.0	2.5	NM	10.6
	Average A-shares								**2.6**	**2.3**	**16.6**	**11.7**

Source: Thomson Reuters, Morgan Stanley Research; Note: NC=not covered; e for covered stocks = Morgan Stanley Research estimates, e for non-covered stocks = Thomson Reuters consensus

Exhibit 21: Since 2011, both Chalco A and H are more correlated with LME aluminum price at 0.9 than SHFE at 0.6-0.8

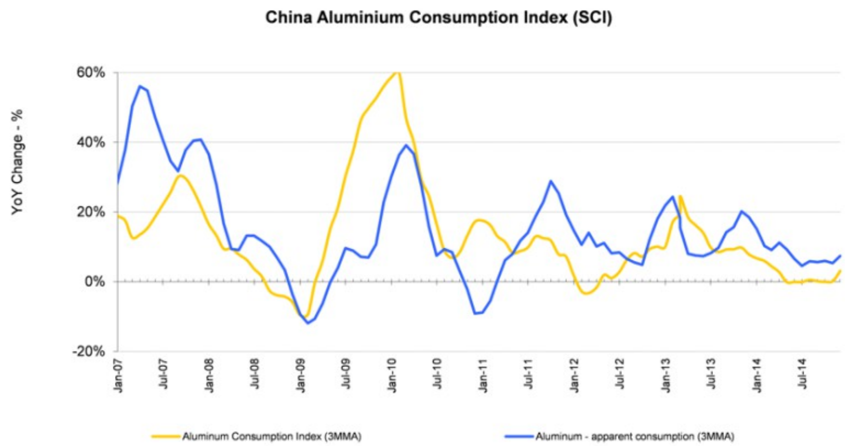




Source: Datastream, Morgan Stanley Research

Demand outlook by sector

Exhibit 22: China aluminum consumption index



China's Aluminum Consumption Index (ACI):

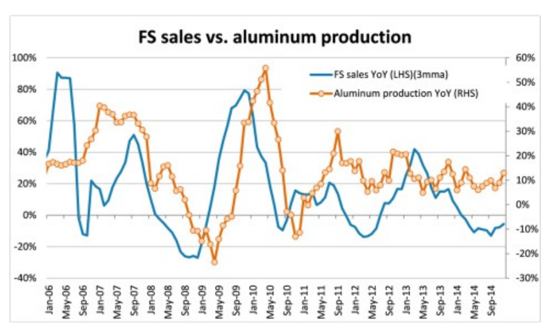
Key Drivers & Weightings	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	2014	2015e
(YoY chg)														
Property - 33%	0%	0%	-7%	-14%	-11%	0%	-16%	-12%	-10%	-2%	-11%	-4%	-8%	5%
Auto (sales) - 27%	6%	18%	7%	9%	8%	5%	7%	4%	2%	3%	2%	13%	7%	12%
Power (grid investment) - 14%	22%	22%	3%	1%	-8%	-14%	7%	17%	10%	-22%	21%	36%	7%	10%
Packaging (food/beverage sales)- 10%	0%	0%	8%	9%	9%	9%	8%	5%	6%	7%	6%	7%	8%	10%
White goods (sales) - 6%	-3%	-6%	6%	3%	2%	6%	4%	0%	-1%	3%	1%	1%	2%	2%
Electronics (semiconductor production)	3%	3%	3%	14%	9%	11%	23%	21%	20%	24%	22%	22%	16%	5%
Others - 6% (PMI)	1%	0%	0%	0%	1%	1%	2%	1%	1%	1%	0%	0%	1%	1%
Aluminum Consumption Index (3MMA	**7%**	**6%**	**4%**	**3%**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**3%**	**2%**	**8%**
Aluminum Appt. Consumption (3MMA	**15%**	**10%**	**9%**	**11%**	**9%**	**7%**	**5%**	**6%**	**6%**	**6%**	**5%**	**7%**	**7%**	

Source: CEIC, NBS, Morgan Stanley Research (e) estimates

1. Property

Morgan Stanley expects growth of 5% in property sales and flat growth in new starts in 2015. This would represent a sharp improvement on 2014, when commercial property sales were down 8% and commercial new starts were down 11% YoY.

Exhibit 23: Floor space sales typically lead aluminum production by ~5 months



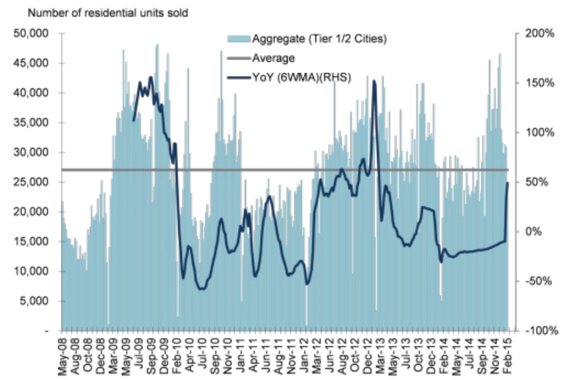
Source: CEIC, Morgan Stanley Research

Exhibit 24: Floor space new starts still showing negative growth but on a recovery trend

Property data	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
Property new starts	-15%	-8%	-9%	8%	6%	0%	43%	-31%	-26%
Property sales	-14%	-11%	0%	-16%	-12%	-10%	-2%	-11%	-4%
Land sales	-20%	1%	-6%	1%	7%	-12%	98%	-66%	-10%

Source: Source: CEIC, Morgan Stanley Research

Exhibit 25: Property sales in tier 1 and tier 2 cities see a strong uptick recently



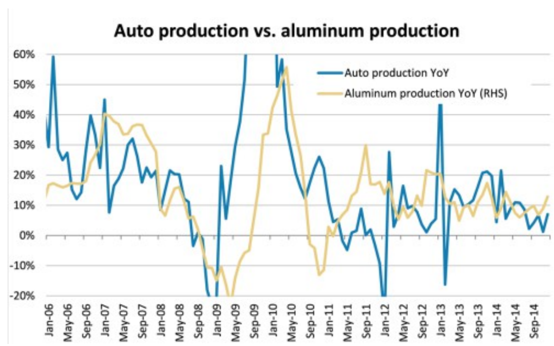
Source: Sofun, Morgan Stanley Research; Note: Tier 1 cities include Beijing, Shanghai, Guangzhou and Shenzhe; tier 2 cities include Tianjin, Shenyang, Harbin, Nanjing, Hangzhou, Jinan, Zhengzhou, Wuhan, Changsha, Chongqing, Chengdu, Dalian, Qingdao and Ninbo 14 cities.

2. Auto

Our auto analyst, Jack Yeung, expects China's PV (personal vehicle) sales to grow by 7-8% YoY in 2015, due to current low penetration and growing disposable income. **For details, see Jack's report, China Autos & Auto Parts: Go for Growth in 2015 (29 Jan 2015)**.

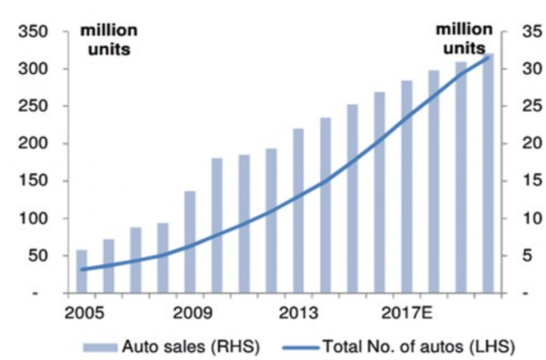
We believe aluminum demand from the auto sector will outpace growth in auto production. Aluminum is substituting traditional steel in auto production because it is light-weight and energy efficient. According to a survey conducted by Consumer Federation of America in 2013, 88% of US consumers say fuel economy will be an important factor in their next vehicle purchase. We think the trend in the US presages future developments in China.

Exhibit 26: Aluminum production has fluctuated in a smaller range since late 2011, following increased use of aluminum in auto production



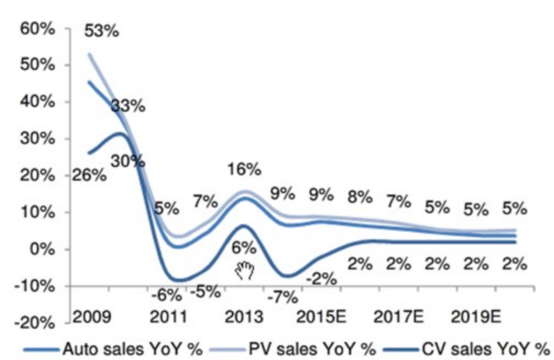
Source: CAAM, CEIC, NBS, Morgan Stanley Research

Exhibit 27: China's auto sales and total number of autos figures are still climbing...



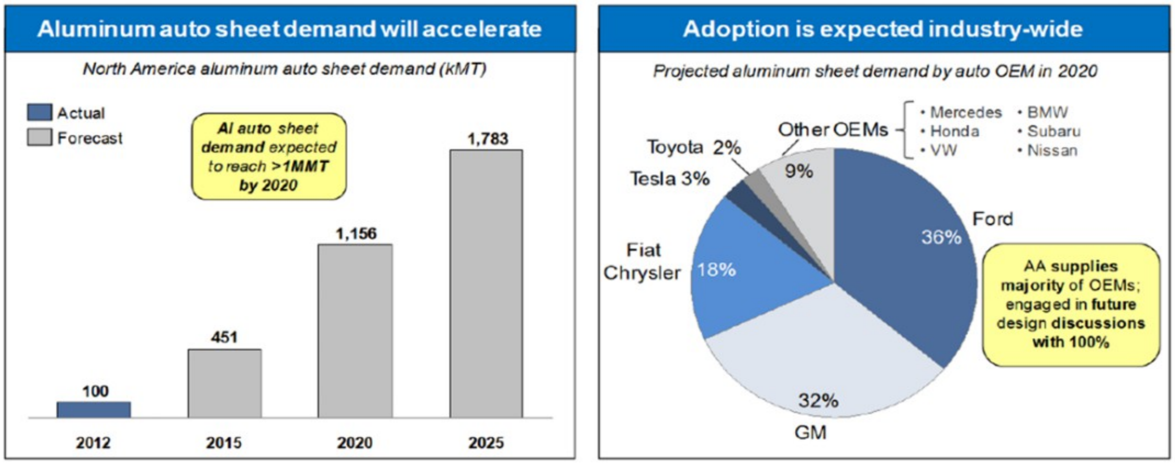
Source: CAAM, Morgan Stanley Research; e=Morgan Stanley Research estimates

Exhibit 28: ...but PV unit sales growth is slowing down



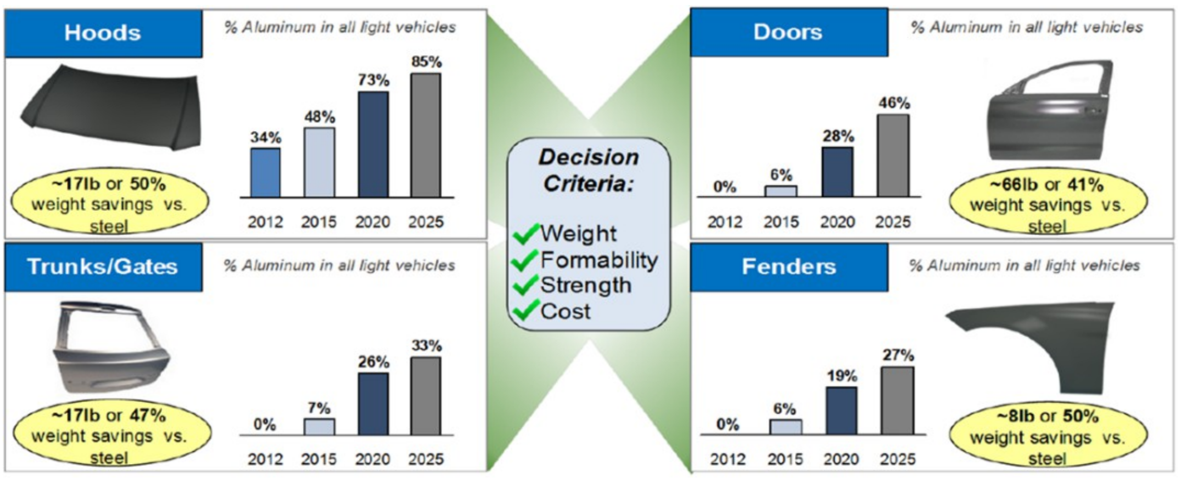
Source: CAAM, Morgan Stanley Research; e=Morgan Stanley Research estimates

Exhibit 29: US auto aluminum demand to accelerate for rest of world to follow



Source: Alcoa, Ducker Worldwide 2014, IHS Morgan Stanley Research

Exhibit 30: Aluminum vs. Steel in auto applications

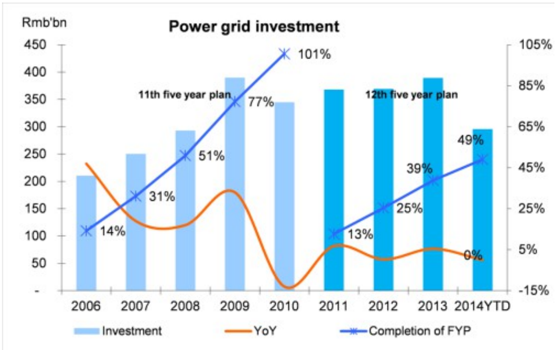


Source: Alcoa, Morgan Stanley Research

3. Power infrastructure

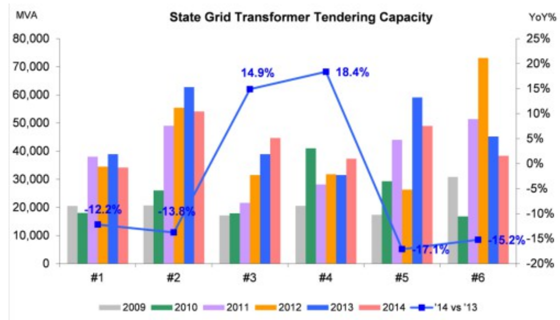
Aluminum is used in power cables. Grid investment in 2014 was +7% YoY, with most investment coming at the end of the year (spending was pushed back as a result of China's anticorruption campaign the prolonged auditing process). Looking into 2015, we think spending will accelerate compared to 2014. We expect the pace of construction on the Ultra High Voltage network to increase as local governments push to lower their coal consumption. We forecast 10% YoY growth in power grid investment in 2015.

Exhibit 31: We have passed 76% of the 12th five-year timeline but less than 50% of the spending target has been reached



Source: CEIC, Morgan Stanley Research

Exhibit 32: 2014 transformer tendering #6 dropped 15.2% YoY



Source: The State Grid, Morgan Stanley Research

Changes to Estimates

Exhibit 33: Changes in key assumptions

	2014e			2015e			2016e		
(Rmb bn)	New	Old	chg.	New	Old	chg.	New	Old	chg.
Aluminum Prod (kt)	2,492	2,492	0%	2,658	2,658	0%	2,658	2,658	0%
Alumnium Price (Rmb/t)	12,005	12,005	0%	13,000	13,350	-3%	13,509	13,773	-2%
Aluminum Cost (Rmb/t)	13,685	12,587	9%	12,424	12,691	-2%	12,164	12,416	-2%
Alumina Prod'n (kt)	12,096	12,096	0%	12,096	12,096	0%	12,096	12,096	0%
Alumina Price (Rmb/t)	2,532	2,532	0%	2,700	2,729	-1%	2,772	2,794	-1%
Alumina Cost (Rmb/t)	3,078	2,708	14%	2,663	2,636	1%	2,642	2,596	2%
Revenue	168.5	171.3	-2%	184.2	188.2	-2%	187.4	191.1	-2%
EBITDA	(8.6)	5.9	-245%	15.1	15.4	-2%	18.8	19.8	-5%
EBITDA margin - %	*-5%*	*3%*	*-8.5ppt*	*8%*	*8%*	*0.0ppt*	*10%*	*10%*	*-0.3ppt*
EBIT	(15.9)	(1.5)	-997%	7.3	7.6	-4%	10.5	11.5	-9%
EBIT margin - %	*-9%*	*-1%*	*-8.6ppt*	*4%*	*4%*	*-0.1ppt*	*6%*	*6%*	*-0.4ppt*
PTP	(22.8)	-8.0	-186%	0.2	0.3	-27%	3.9	4.1	-5%
PTP margin - %	*-14%*	*-5%*	*-8.9ppt*	*0%*	*0%*	*0.0ppt*	*2%*	*2%*	*-0.1ppt*
Net Income	(16.3)	(5.7)	-186%	0.1	0.2	-27%	2.8	2.9	-5%
NI margin - %	*-10%*	*-3%*	*-6.4ppt*	*0%*	*0%*	*0.0ppt*	*1%*	*2%*	*0.0ppt*
MW EPS (Rmb)	**(1.21)**	**(0.42)**	**-186%**	**0.01**	**0.01**	**NM**	**0.21**	**0.22**	**-5%**

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

Our 2014 EPS estimate falls to (1.21) from (0.42), mainly as a result of the preliminary results announcement (see Exhibit 33). As the decrease in 2014 earnings is largely a result of one-offs such as asset impairment and provision of staff cost for early retirement or termination of contract, our numbers for 2015e and beyond change only marginally. Our price target and ratings are unchanged for both A and H shares for the same reason.

MS aluminum price forecast:

Our commodities team expects growth in global demand for aluminum to remain robust. In 2014, besides the demand growth in China, we saw Japan, the US, and even Europe weigh in with 3-8%YoY growth, mainly in auto-sheet. The current signals such as high premia suggest tightness in the global market.

Despite the improving supply and demand fundamentals, our commodities team believes the aluminum price faces headwinds, with the key bear risk in LME warehouse reform, which could result in a further release of aluminum to the market, weighing on spot and premia.

In terms of alumina, our model anticipates the global alumina trade moving from surplus towards balance: This shift is consistent with the recent spot price moves, and suggests that medium-term fundamental support exists for relatively high price levels. For details, please see **Global Metals Playbook: 2015 Outlook: Back to Metals (16 Dec 2014).**

Our current aluminum price forecast is higher than the spot. Therefore, we see risk of downward revision to the price forecast and hence a potentially negative impact on Chalco's EPS and intrinsic valuation. We have done an analysis of the potential impact, and in our bear case, the current aluminum price assumption would push Chalco into losses in 2015e and 2016e. Longer-term EPS would still be positive, even at our commodities team's bear case forecast.

Exhibit 34: Our commodities team is forecasting an increasing aluminum price in the future

Source: Bloomberg, Morgan Stanley Research

Exhibit 35: MS aluminum price forecast vs. spot

Period	Aluminium		
	Bull	Base US$/lb	Bear
Spot		**0.81**	
2015e	1.08	**0.94**	0.80
2016e	1.05	**0.95**	0.86
2017e	1.07	**0.97**	0.87
2018e	1.12	**1.02**	0.87
2019e	1.19	**1.08**	0.92
2020e	1.23	**1.12**	0.95
LT		**1.15**	

Source: Bloomberg, Morgan Stanley Research

Exhibit 36: Chalco's bull-base-bear EPS

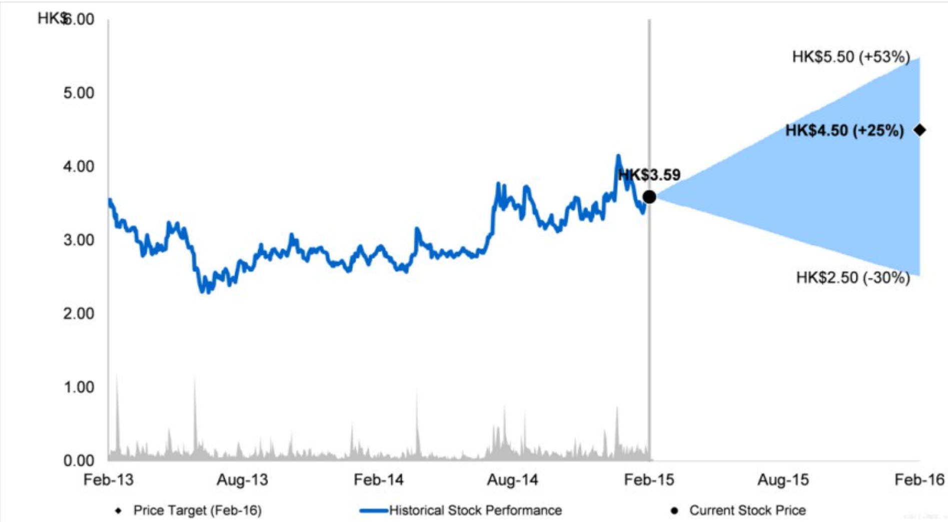
	Bull	Base	Bear	SHFE spot
2015e Aluminum price (US$/lb)	1.08	0.94	0.80	0.81
2016e Aluminum price (US$/lb)	1.05	0.95	0.86	0.81
2015e EPS (Rmb)	0.41	0.01	(0.36)	(0.34)
2016e EPS (Rmb)	0.50	0.21	(0.05)	(0.19)

Note: the spot SHFE price is translated at the latest Rmb/USD exchange rate.

Source: Bloomberg, Morgan Stanley Research

Risk Reward Snapshot: Chalco H (2600.HK, HK$3.59, OW, PT HK$4.50)

Risk-Reward View: Aluminum outlook has turned more positive



Source: Thomson Reuters, Morgan Stanley Research

Price Target	**HK$4.50**	We use our residual income valuation model to derive a base-case intrinsic value estimate for Chalco. Our RI-based price target is derived by discounting our 10-year earnings forecast by a COE of 11.7%. Our COE is based on a risk-free rate of 3%, an equity risk premium of 7.23% and a beta of 1.2. We also assume a steady state growth rate of 0% and long-term ROE of 6%.
Bull 2.0x 2015e bull case BVPS	**HK$5.50**	**Higher margins plus potential parent asset injection:** Higher aluminum pricing via a stronger demand recovery and limited capacity increase in China.
Base 1.7x 2015e base case BVPS	**HK$4.50**	**Base-case pricing:** We apply our base-case aluminum price forecasts of US$0.94/lb in 2015 and US$1.17/lb over the long term.
Bear 1.0x 2015e bear case BVPS	**HK$2.50**	**Aluminum prices fall with lower production volume:** We assume a bear-case aluminum price forecast of US$0.80/lb and 5% volume decrease.

Investment Thesis

- Indonesia's revised bauxite export policy has affected the supply of imported bauxite. This will likely result in higher alumina prices. Chalco, which owns the largest bauxite assets in China, will likely benefit.
- The company plans to participate in SOE reform by inviting private ownership in some of its plants.
- The recent PBOC rate cut and potential future rate cuts are likely to benefit Chalco, which has high leverage in its balance sheet.

Key Value Drivers

- Largest aluminum producer in China, enjoying strong government support.
- Acquisitions in other resources could add value, but would increase debt.
- Improving aluminum outlook, slowdown in capacity increase in China, and strong demand.

Potential Catalysts

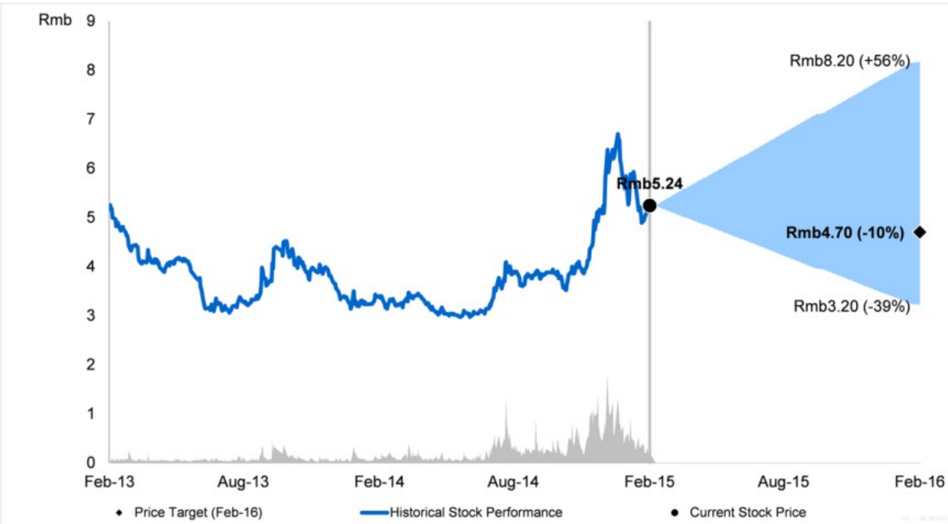
- **Negative**: 1) Rising energy and power costs; 2) oversupply from new capacity in the western area of China.
- **Positive**: 1) Announcement of capacity-curbing policies; 2) better economic data points from the automotive and construction industries; 3) domestic interest rate cuts will lead to lower financing cost for Chalco.

Risks to Achieving Price Target

- **Downside:** 1) Capacity cut does not materialize or is slower than expected; 2) higher energy and power costs.

Risk Reward Snapshot: Chalco A (601600.SS, Rmb5.24, EW, PT Rmb4.70)

Risk-Reward View: Despite the aluminum outlook turning positive, we are EW on Chalco A because of its expensive valuation vs. Chalco H



Source: Thomson Reuters, Morgan Stanley Research

Price Target	**Rmb4.70**	Our price target is derived by applying a 30% premium to our H share price target, after adjusting for the exchange rate.
Bull 3.0x 2015e base case BVPS	**Rmb8.20**	**Higher margins plus potential parent asset injection:** Higher aluminum pricing via stronger demand recovery and limited capacity increase in China.
Base 2.3x 2015e base case BVPS	**Rmb4.70**	**Base-case pricing:** We apply our base-case aluminum price forecasts of US$0.94/lb in 2015e and US$1.17/lb over the long term.
Bear 1.5x 2015e base case BVPS	**Rmb3.20**	**Aluminum prices fall with lower production volume:** We assume a bear-case aluminum price forecast of US$0.80/lb and 5% volume decrease.

Investment Thesis

- Indonesia's revised bauxite export policy has affected the supply of imported bauxite. This will likely result in higher alumina prices. Chalco, which owns the largest bauxite assets in China, will likely benefit.
- The company plans to participate in SOE reform by inviting private ownership in some of its plants.
- The recent PBOC rate cut and potential future rate cut are likely to benefit Chalco, who has high leverage in the balance sheet.
- Despite the improved industry outlook, we are EW on Chalco A due to its more expensive valuation against the H shares.

Key Value Drivers

- Largest aluminum producer in China, enjoying strong government support.
- Acquisitions in other resources could add value, but at high acquisition cost and with increased debt.
- Improving aluminum outlook, slowdown in capacity increase in China, and strong demand.

Potential Catalysts

- Negative: 1) Rising energy and power costs; 2) oversupply from new capacity in the western area of China.
- Positive: 1) Announcement of capacity-curbing policies; 2) better economic data points from the automotive and construction industries.

Risks to Achieving Price Target

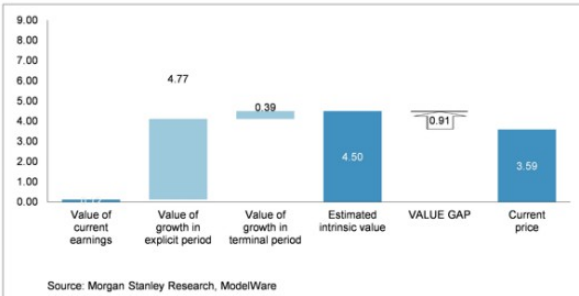
- **Upside**: 1) Rising aluminum prices; 2) improved demand from end-markets; 3) potential asset injection from parent Chinalco; 4) domestic interest rate cuts will lead to lower financing cost for Chalco
- **Downside**: 1) Capacity cut does not materialize or is slower than expected; 2) higher energy and power costs.

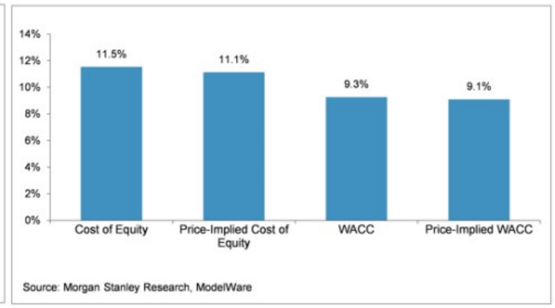
Residual Income Valuation Model

Exhibit 37: Morgan Stanley Residual Income Valuation Model

INTRINSIC VALUE

Aluminum Corp. of China Ltd.





Intrinsic Value Model

Inputs:		**Outputs:**		
Cost of equity	11.5%	**Price**		3.59
Long-term ROE on new investments	6%	**IV Per Share (12 Month), Ex. Div**	**Feb-16**	**4.50**
Years to reach steady-state growth	8	Expected share price return		25.35%
Steady-state revenue growth rate (%)	0%	Expected dividend yield		0.03%
Shares Outstanding	13,524	**Expected total return**		**25.38%**
Steady-state borrowing cost (net of tax)	5.0%			
Steady-state leverage (Net debt/Equity)	60%	WACC		9.3%
Price target horizon (months)	12	Long-term RNOA on new investments		5.6%
Conv. factor - Model to traded Ccy	1.20	Explicit forecast period (years)		7
Decimals	2	Fiscal Year Ending		12

Value Breakdown

Residual Income (operating):		**DCF (operating):**	
Beginning NOA	125,397		
Sum of PVRI	16,702	Sum of PVFCFO	142,099
Beginning NNOAL	(97,346)	Beginning NNOAL	(97,346)
ROI equity value	**44,753**	**DCF Equity Value**	**44,753**
Residual Income (equity):		**DDM (Equity):**	
Beginning equity	28,050	Sum of div & net rep	44,753
Sum of PVRI	16,703	**DDM equity value**	**44,753**
RI equity value	**44,753**		

Source: Morgan Stanley Research

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(as of January 31, 2015)
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Equal-weight/Hold	**1446**	**43%**	**361**	**46%**	**25%**
Not-Rated/Hold	**107**	**3%**	**14**	**2%**	**13%**
Underweight/Sell	**603**	**18%**	**92**	**12%**	**15%**
TOTAL	**3,329**		**787**		

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

Stock Rating History: 2/1/12 : U/NR; 1/13/14 : U/A; 10/8/14 : E/A; 12/16/14 : O/A

Price Target History: 1/17/12 : 3.1; 8/27/12 : 2.6; 10/4/12 : 2.5; 4/23/13 : 2.3; 3/24/14 : 2.4; 10/8/14 : 3.4; 12/16/14 : 4.5

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target -- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) Stock Price (Covered by Current Analyst)
Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)
Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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INDUSTRY COVERAGE: China Materials

COMPANY (TICKER)	RATING (AS OF)	PRICE* (02/23/2015)
Lam CFA, John		
Lee & Man Paper Manufacturing (2314.HK)	U (07/01/2014)	HK$4.11
Nine Dragons Paper (2689.HK)	U (07/01/2014)	HK$5.74
Zhang, Rachel L		
Aluminum Corp. of China Ltd. (2600.HK)	O (12/16/2014)	HK$3.62
Aluminum Corp. of China Ltd. (601600.SS)	E (12/16/2014)	Rmb5.23
Angang Steel Company Limited (0347.HK)	O (11/28/2013)	HK$5.68
Angang Steel Company Limited (000898.SZ)	O (08/30/2014)	Rmb5.39
Baoshan Iron & Steel (600019.SS)	O (03/31/2014)	Rmb6.62
Chinalco Mining Corp International (3668.HK)	E (06/18/2014)	HK$0.93
G-Resources (1051.HK)	E (10/07/2013)	HK$0.24
Jiangxi Copper (0358.HK)	E (10/08/2014)	HK$13.00
Jiangxi Copper (600362.SS)	E (10/08/2014)	Rmb17.63
Jilin Jien Nickel Industry (600432.SS)	E (12/19/2014)	Rmb13.90
Maanshan Iron & Steel (0323.HK)	O (12/16/2014)	HK$2.06
Maanshan Iron & Steel (600808.SS)	E (12/16/2014)	Rmb3.34
Zhaojin Mining Industry (1818.HK)	O (01/20/2015)	HK$4.66
Zijin Mining Group (601899.SS)	E (01/20/2015)	Rmb3.49
Zijin Mining Group (2899.HK)	O (01/20/2015)	HK$2.27

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* Historical prices are not split adjusted.