



# Alumina Limited

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# Disclaimer

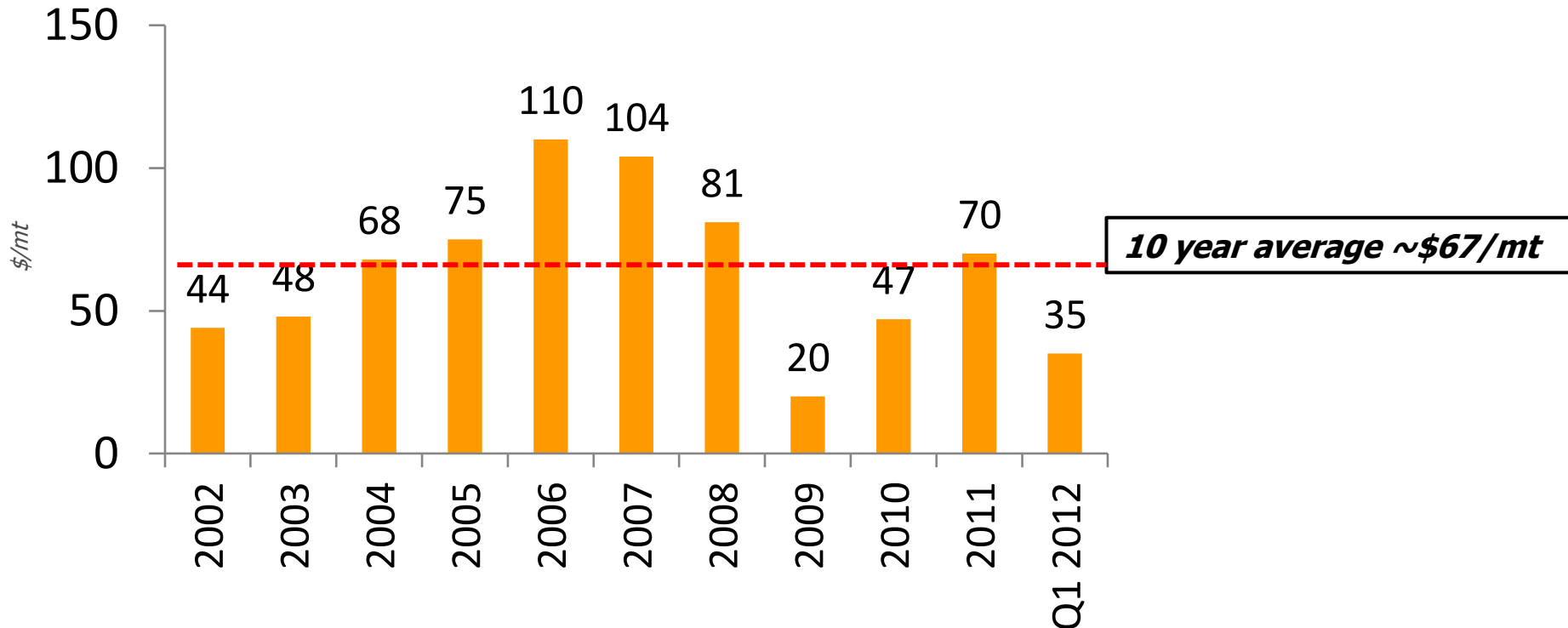
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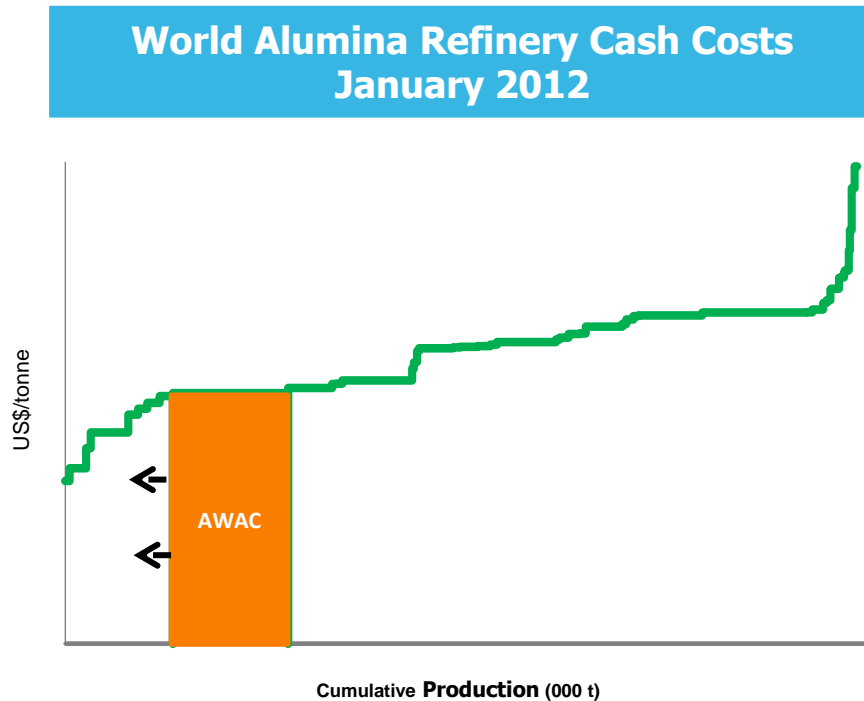
# 1Q 2012: AWAC's alumina EBITDA margins ~\$35/mt despite challenging conditions

## EBITDA/MT (adjusted)\*



- In 1Q 2012, EBITDA/mt for alumina remained positive under challenging conditions, reflecting AWAC's low cost position
- AWAC's aluminium smelters were making losses in the first quarter

# 1Q 2012: AWAC remains a low cost alumina producer

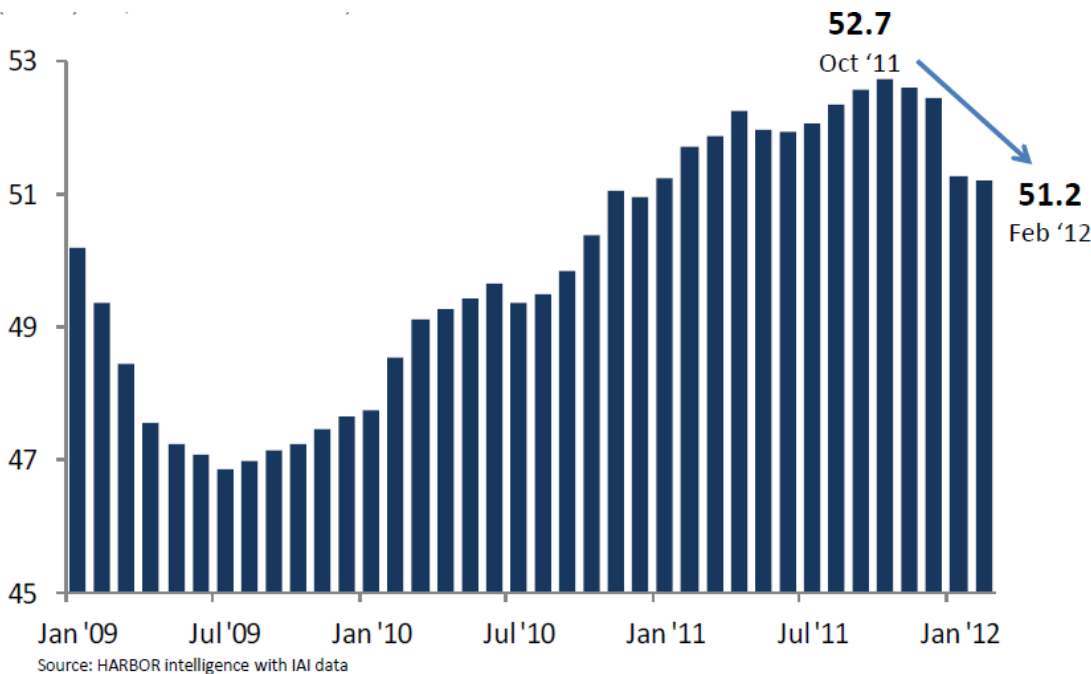


Source: CRU

- AWAC 1Q cash production costs similar to levels in the second half 2011. FX and input pressures offset by continued productivity gains
- AWAC is a low cost producer giving it strength in the industry
  - Currently around the 30<sup>th</sup> percentile
  - Actions being taken to get to target of 23<sup>rd</sup> percentile by 2015

# Current imbalance of Alumina supply and demand ... causing weak alumina prices

## RoW\* Metallurgical Alumina Demand (Monthly data; annualised million tons)

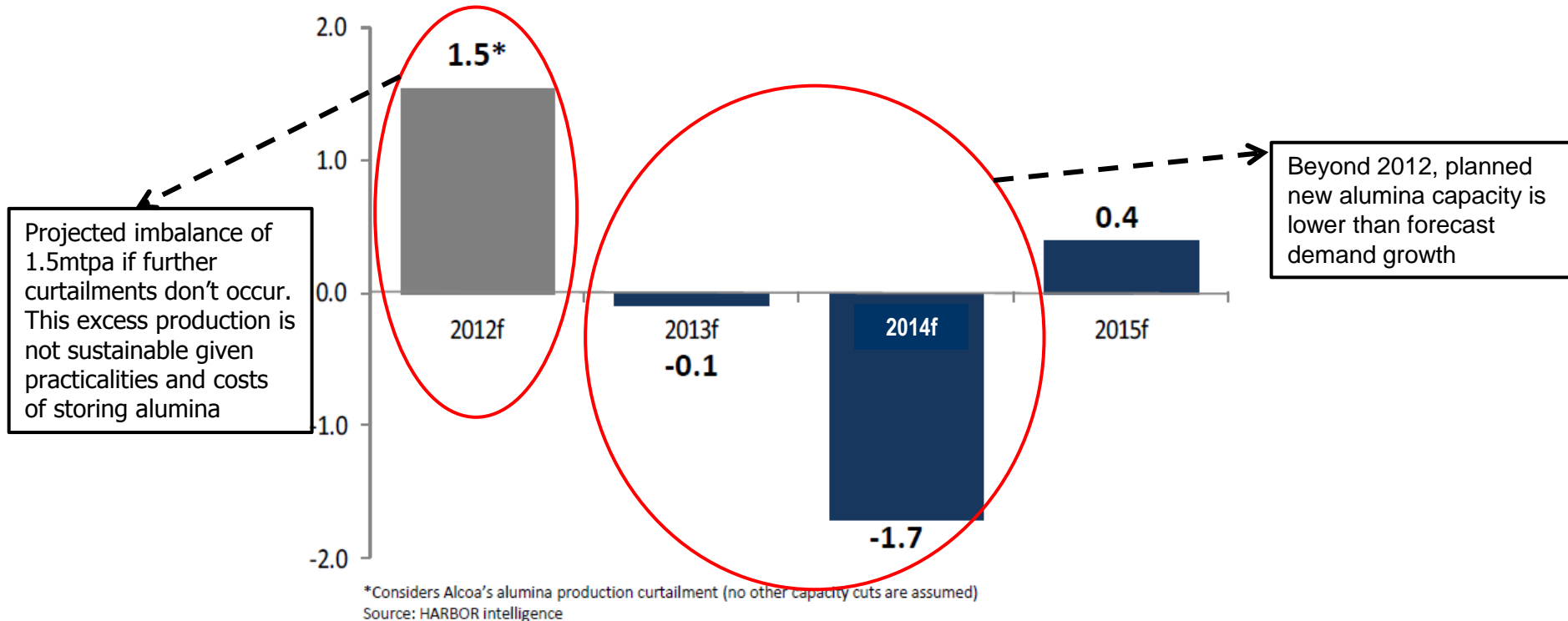


\* RoW excludes China

- European smelter curtailments and smelter operational issues have reduced short term alumina demand
- New alumina refinery capacity could accentuate the imbalance

# Alumina market imbalance forecast to go from surplus to deficit after 2012

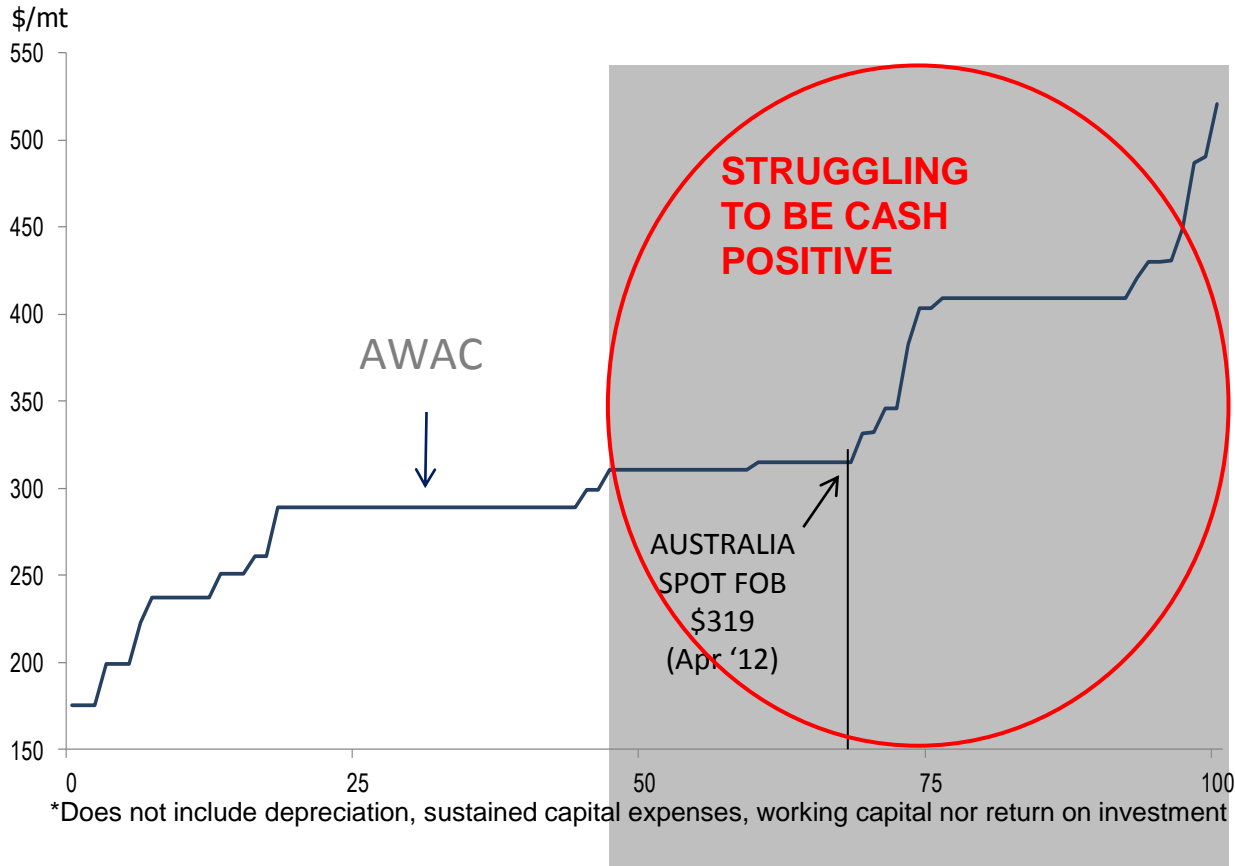
Global Metallurgical Alumina Market Balance\* (million tons)



- In 2012, market expected to be 1 million to 1.5 million tonnes long without further curtailments. Surplus will adjust from curtailments, not stockpiling
- Alumina market expected to move into deficit in 2013/2014 as increase in aluminium production drives alumina demand, and alumina refinery net capacity increase lower than alumina demand increase
- New smelter capacity is coming on, including Ma'aden aluminium smelter in 2013 (capacity of 740kt metal). Ma'aden alumina will be supplied by AWAC until Ma'aden refinery is ramped up

# Many refiners are losing cash

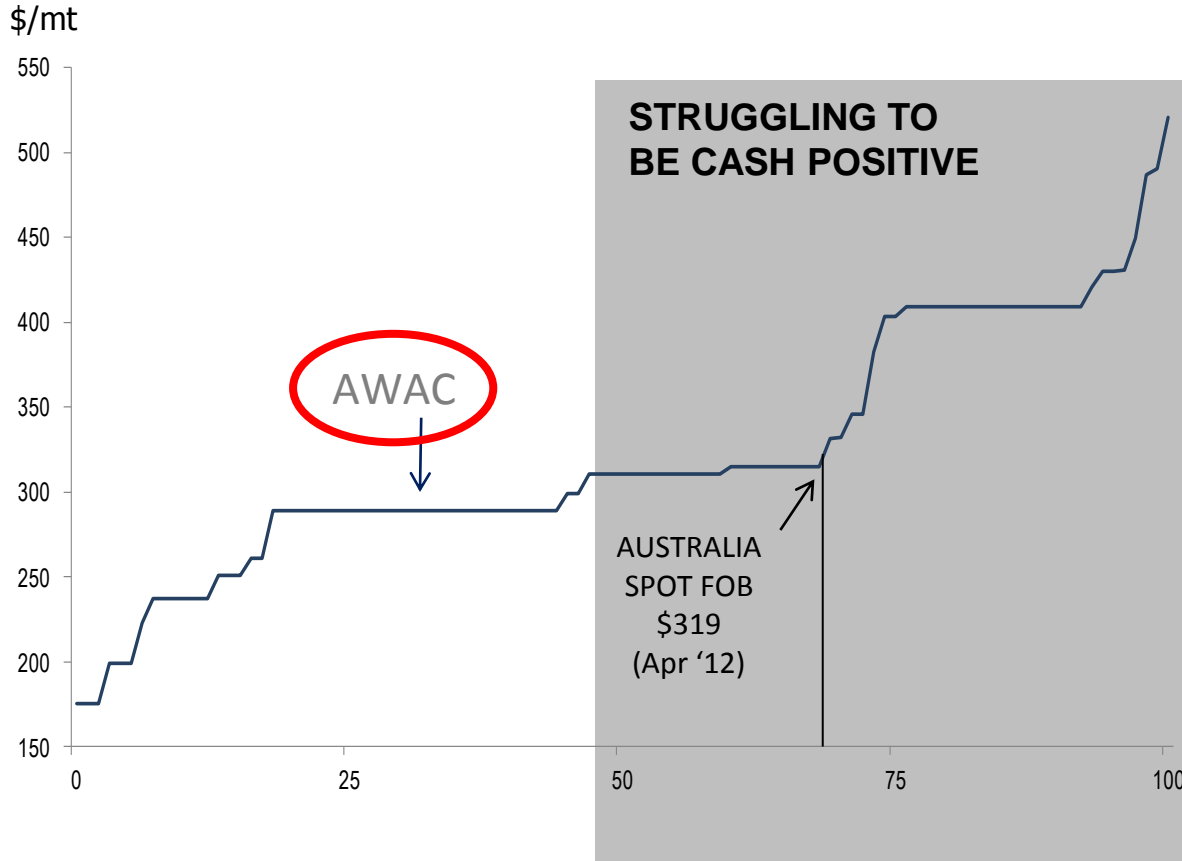
## Alumina Output Cash Cost\* Curve by Company (excluding China)



- At recent prices, 50% of the non-Chinese industry is struggling to remain cash positive
- Unlike aluminium, large amounts of alumina generally can't be stored practically for long so alumina inventories are not significant

# Catalysts for alumina market improvement: (1) Curtailments in ROW alumina production

## Alumina Output Cash Cost\* Curve by Company (excluding China)



\*Does not include depreciation, sustained capital expenses, working capital nor return on investment

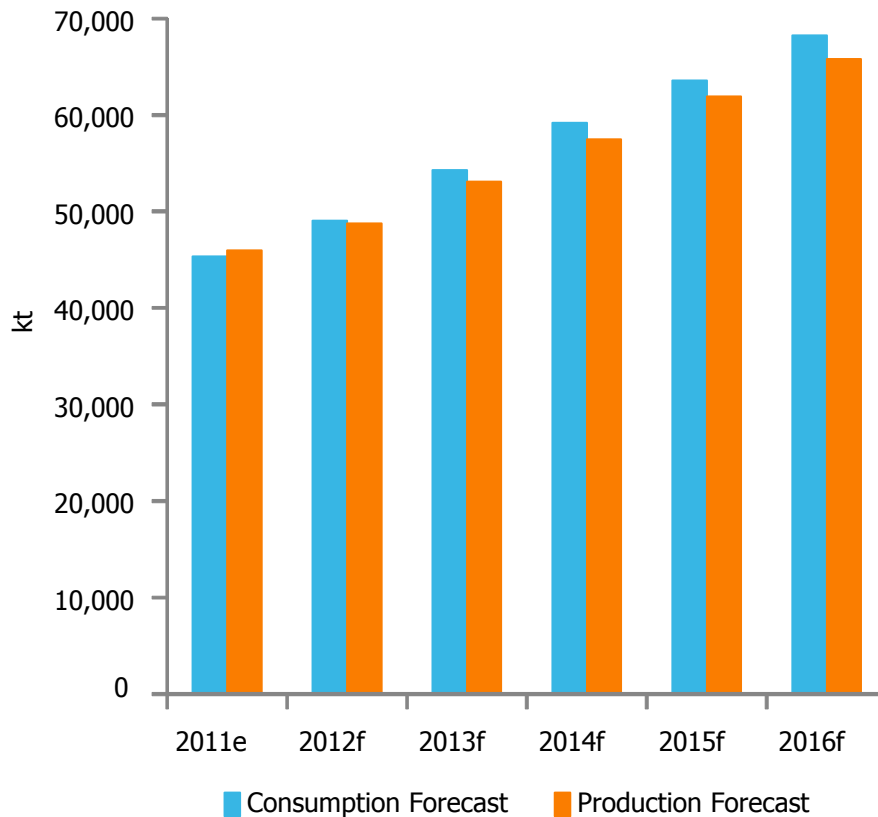
- Outside China, AWAC has announced that it will reduce its annual alumina production capacity by ~390kmt to align production with smelter curtailments and to reflect market conditions
- If prices remain weak, curtailments likely to come from high cost refineries



# Catalysts for alumina market improvement:

## (2) 'Demand pull' from aluminium growth

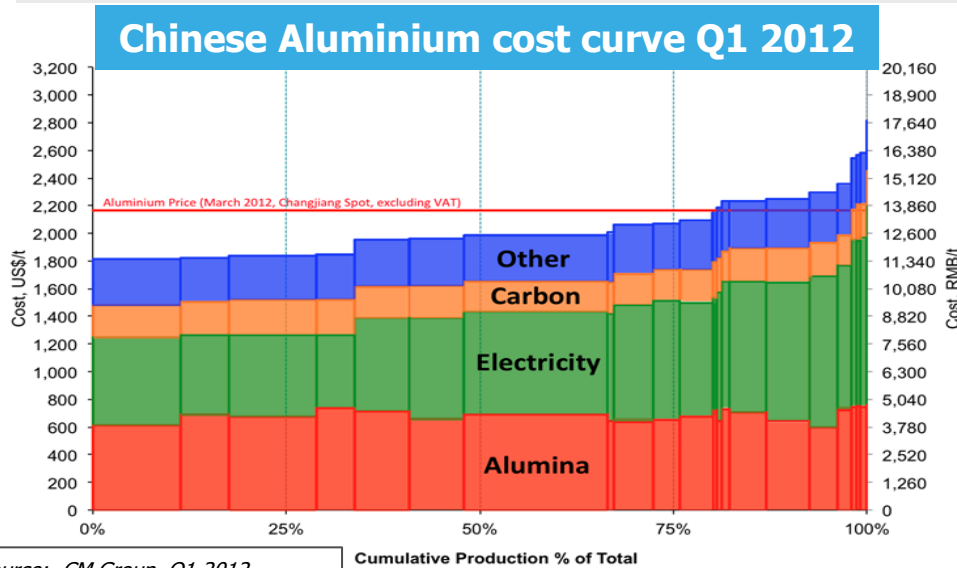
### Global Aluminium Growth Forecast\*



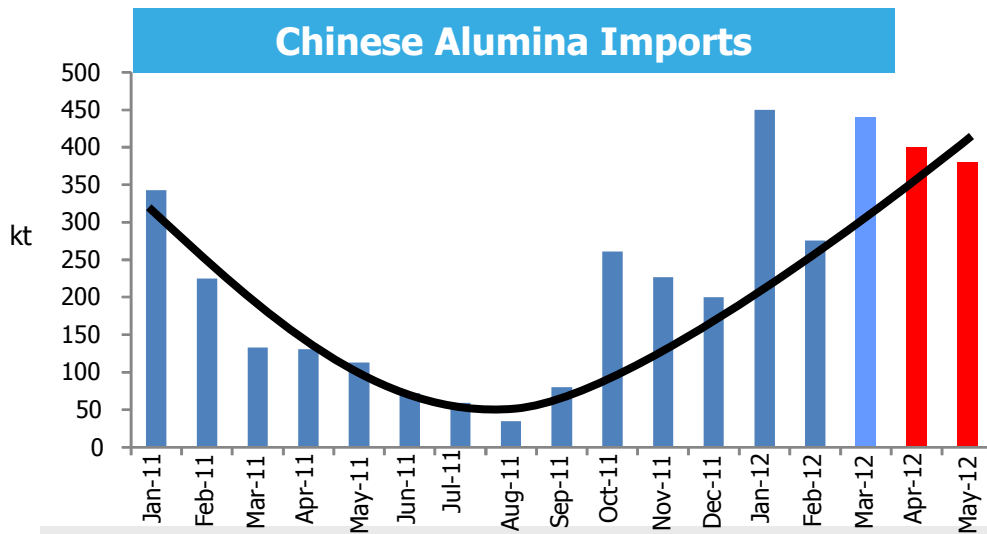
- Global aluminium growth forecasts\* for 2012:
  - ~8% consumption, and
  - ~7% production
- Increased production from new lower cost smelters replacing high cost smelters

# Catalysts for alumina market improvement:

## (2) 'Demand pull' from aluminium growth



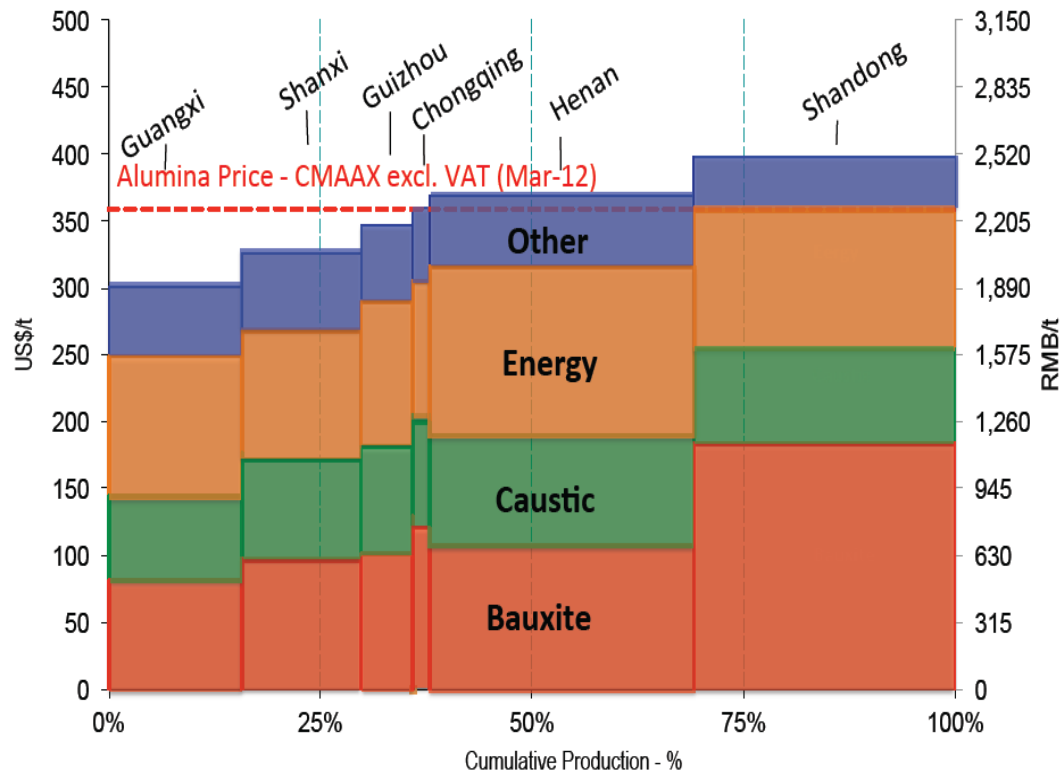
- In 1Q 2012, more than 80% of Chinese aluminium smelters were cash positive
- China Smelting expansion will underpin China demand for alumina
- Alumina imports into China grow as pricing arbitrage opens up and high cost Chinese production curtails
- China imports (of alumina or bauxite) underpin ROW alumina prices



# Catalysts for alumina market improvement:

## (3) Potential 'cost push' from seaborne bauxite prices

### Chinese Alumina Cost Curve Q1 2012

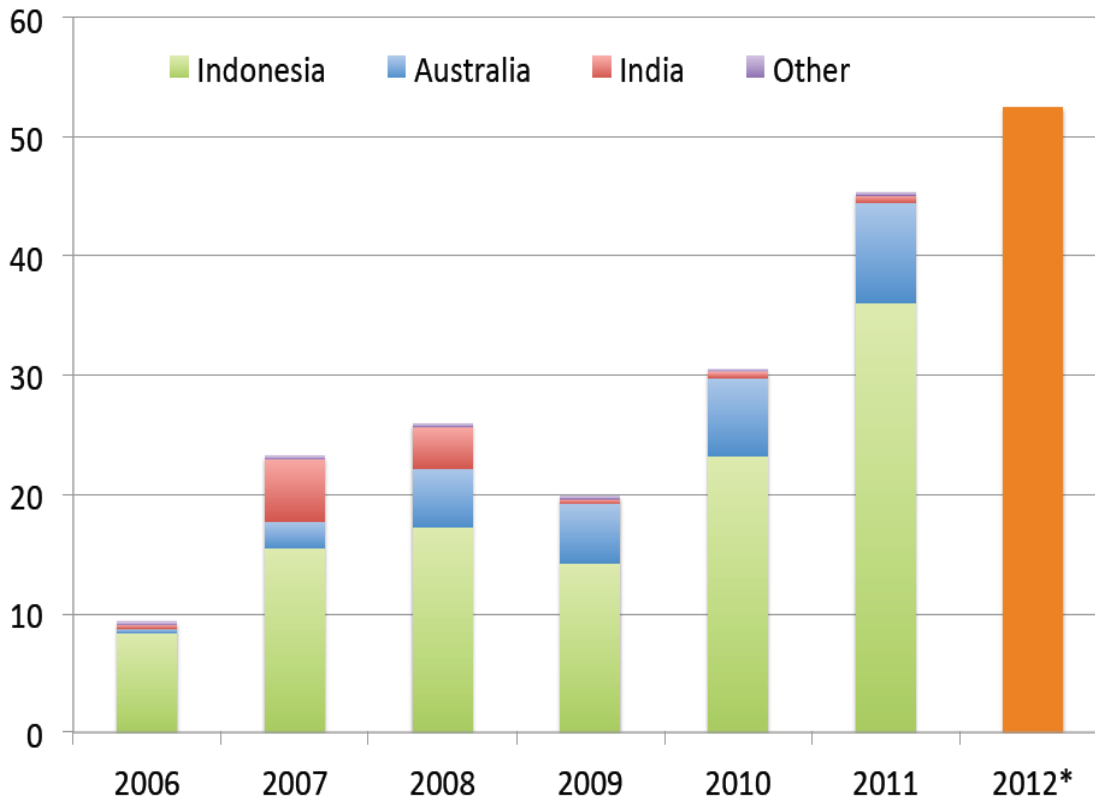


- An estimated 55% of China alumina refineries are running at a cash loss, particularly in Henan and Shandong
- Curtailments at high cost refineries have occurred and will continue
- Approx half the refineries in Henan and Shandong supply third party (non-integrated) smelters
- Alumina production costs are increasing on the back of rising bauxite prices
- Rising costs will underpin China alumina prices

# Catalysts for alumina market improvement:

## (3) Potential 'cost push' from seaborne bauxite prices

### China Bauxite Imports



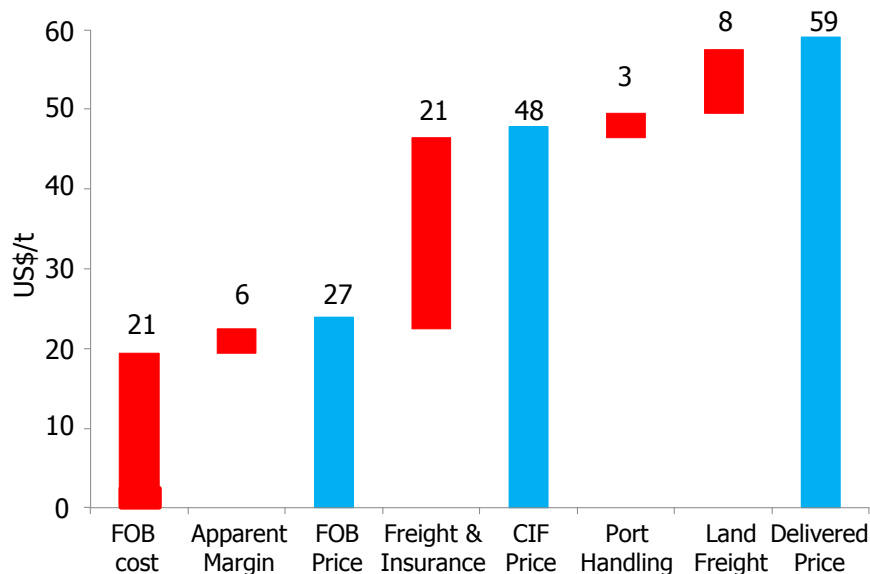
- China domestic bauxite is declining in grade which may lead to further bauxite imports
- An estimated 34% of Chinese alumina production in 2011 was based on imported bauxite
- Chinese demand for imported bauxite was up approx 49%\* in 2011 and 53% in 2010

\* CM Group estimate

# Catalysts for alumina market improvement:

## (3) Potential 'cost push' from seaborne bauxite prices

### Imported Bauxite Cost Structure (Indonesian Bauxite delivered to Shandong Refinery)

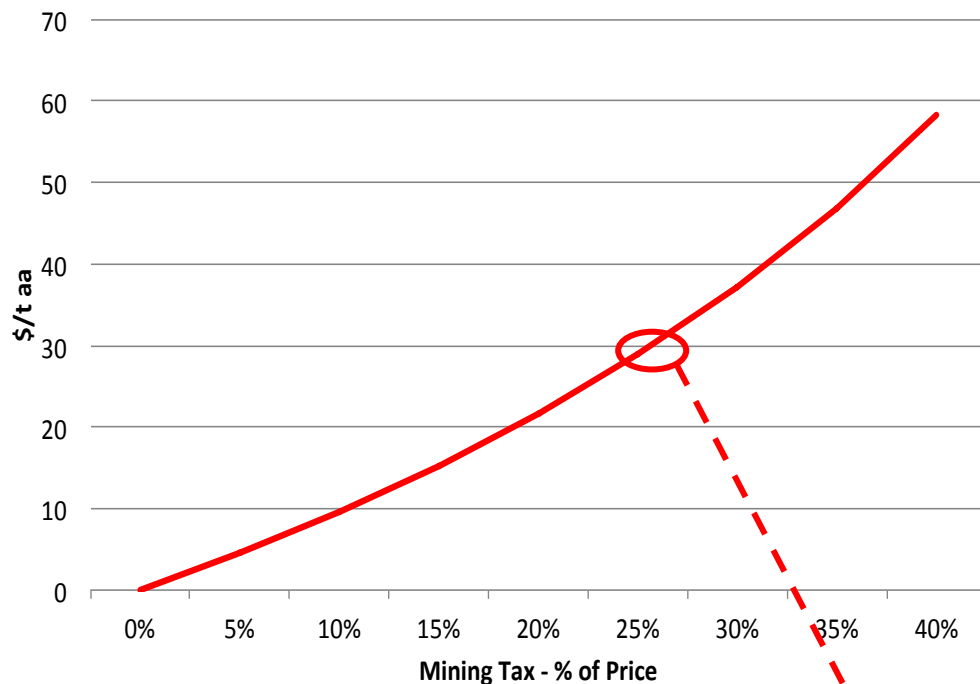


Approx 2.5 to 3 tonnes of bauxite for 1 tonne of alumina

- 75% to 80% of seaborne bauxite comes from Indonesia
- Indonesian bauxite prices have been increasing for Chinese producers
- Indonesian bauxite delivered price has increased to \$59/t of bauxite

## Catalysts for alumina market improvement: (3) Potential 'cost push' from seaborne bauxite prices

### Impact of Indonesian Export Tax on Shandong Alumina Prices



- There could be additional costs for Chinese alumina refineries from potential new Indonesian taxes or restrictions on seaborne bauxite
- Changes could begin in May 2012
- Create a 'cost push' on Chinese alumina pricing

New Indonesian export tax of 25% (if implemented) would equate to increase in alumina costs of ~\$30/t in China

# Catalysts for alumina market improvement: (3) Potential 'cost push' from seaborne bauxite prices

## Global Bauxite Expansion Challenge Map

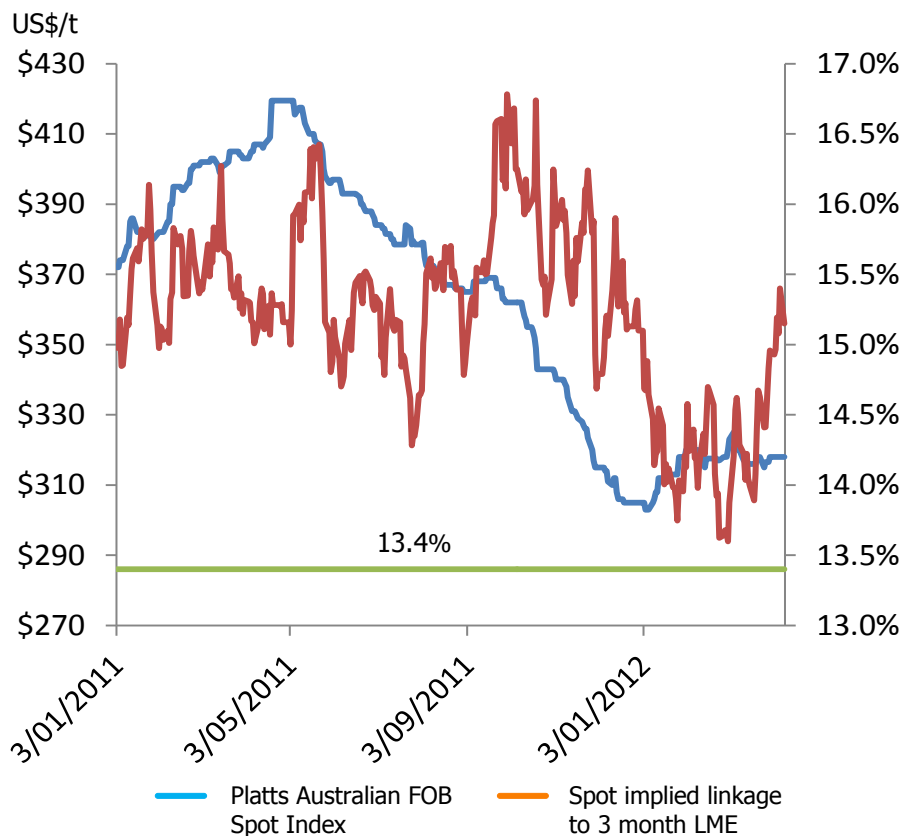


- Unclear where supply will come from if Indonesian bauxite supply is limited or does not continue to grow
- Development of other bauxite sources face increasing challenges, including approvals taking longer and are more demanding, increasing national interest requiring value adding in country, rising mine capital and infrastructure costs, and higher rehabilitation standards
- Bauxite prices could increase if Indonesian bauxite supply does not match demand

# Catalysts for AWAC improvement:

## (4) Transition to spot/index pricing

### Alumina Platts Australian FOB Spot Index & Implied Linkage



Source: Platts & Thomson Reuters

- Alumina spot indices reflect market fundamentals
- New AWAC 2011 and 2012 term contracts priced against spot based indices
- Pleasing progress on transition of AWAC contracts to Spot/Index pricing – In 1Q 2012, 33% of third party shipments on spot/index basis
- By year end 2012, approx 40% of AWAC third party SGA shipments will be on index/spot
- 2011 and 2012 (YTD) spot implied linkage to 3 month LME has been consistently above 2010 historical linked contracts (13.4% ABARE)



# Summary

## 1. 1Q 2012 Update:

- A. 1Q 2012: AWAC's alumina EBITDA margins ~\$35/mt despite challenging conditions
- B. 1Q 2012: AWAC remains a low cost producer

## 2. Imbalance of Alumina supply and demand has caused prices to fall

... Catalysts for improvement to conditions in alumina market:

- A. Expected curtailments by higher cost refiners
- B. 'Demand Pull' from China aluminium smelters
- C. Potential 'cost push' on alumina prices from potential increases in seaborne bauxite prices
- D. Further transition to alumina index contracts and more spot sales



## Appendix – AWAC is a Global Leader in Alumina & Bauxite

# AWAC: the premier global bauxite / alumina business

Alumina Limited provides a unique ability for a pure investment in Alcoa World Alumina & Chemicals (AWAC)

- Alumina Limited is listed on the Australian Securities Exchange and the New York Stock Exchange
- AWAC is a joint venture between Alumina Limited (40%) and Alcoa Inc (60%). AWAC is Alumina Limited's only significant asset
- AWAC is a premier owner and operator of Tier 1 bauxite mines and alumina refineries globally

# AWAC: global leader in bauxite and alumina

## ■ Bauxite

- Largest bauxite miner
- Produces approx 40mtpa
- Long life mines and leases
- Juruti operating well above design

## ■ Alumina

- Largest seller to the third party alumina market
- Brazil at nameplate capacity and Ma'aden under construction
- AWAC is a relatively low cost producer (currently in the 30<sup>th</sup> percentile) giving it strength in the industry. Low cost reflects proximity to bauxite

# AWAC Bauxite Mines & Leases<sup>(1)</sup>

Active Bauxite Mines	Huntly & Willowdale Australia	MRN Brazil	Juruti Brazil	CBG Guinea	Manchester Plateau Jamaica	Suriname Mines
Ownership	AWAC 100%	AWAC 9.6%	AWAC 100%	AWAC 23%	AWAC 55%	AWAC 100%
Expiration/renewal date of mining rights	2045	2046	Refer Note <sup>(2)</sup>	2038	2042	2033 <sup>(3)</sup>
Area available to mine/exploration	7,000 square km	39,382 hectares	30,000 hectares	2,360 square km	10,761 hectares	4,286 hectares
Approx average per cent available alumina <sup>4</sup>	33%	49%	47%	51%	41%	45%

Other Bauxite Interests	Cape Bougainville	Mitchell Plateau	Arnhem Land	Juruti	East Trelawny	Suriname Mines	Az Zabirah
Location	Australia	Australia	Australia	Brazil	Jamaica	Suriname	Saudi Arabia (25.1% AWAC)
Area available for exploration	9,000 hectares	186,000 hectares	1,930 square km (exploration lease application)	180,000 hectares	31,400 hectares	19,063 hectares	14,700 hectares

(1) This page contains general information only in relation to AWAC's bauxite assets. For further details, refer to Alumina Limited's 2011 Form 20-F

(2) Mining rights available until exhaustion of deposit

(3) Caramacca mine rights expire in 2012

(4) The calculation of available alumina grades has not been prepared in accordance with the Australasian Code for reporting of exploration results, mineral resources and ore reserves. The amount of available alumina is based on exploration and analysis of samples performed over a period time

# AWAC Alumina Refineries

Country	Facility	Owners (% of ownership where not 100% AWAC) <sup>(1)</sup>	Nameplate Capacity <sup>(2)</sup> (MTPY)*	AWAC Share (MTPY)*
Australia	Kwinana	AWAC	2.2	2.2
	Pinjarra		4.2	4.2
	Wagerup		2.6	2.6
Brazil	Alumar	Rio Tinto Alcan Inc (10%) Aluminio (15%) BHP Billiton (36%) AWAC (39%)	3.5	1.4
Jamaica	Jamalco	AWAC (55%) Clarendon Alumina Production Ltd (Government of Jamaica) (45%)	1.5	0.8
Spain	San Ciprian	AWAC	1.5	1.5
Suriname	Suralco	AWAC	2.2	2.2
US	Point Comfort	AWAC	2.3	2.3
<b>Total</b>			<b>20.0*</b>	<b>17.2*</b>

(1) All assets owned 100% by AWAC, except for Alumar (AWAC 39%) and Jamalco (AWAC 55%)

(2) Nameplate capacity is an estimate based on design capacity and normal operating efficiencies and does not necessarily represent maximum possible production

\* Before any adjustment for curtailments as per Alcoa's announcement on 5 April 2012 where it stated it would reduce its annual alumina production capacity by approximately 390,000 metric tons in the Atlantic region to align production with smelter curtailments Alcoa announced earlier this year and to reflect prevailing market conditions



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