

### **ASX Announcement**

10 May 2016

#### Presentation at CRU 2016 World Aluminium Conference

Attached is a copy of a presentation prepared by Mr Andrew Wood, Group Executive Strategy & Development, for the CRU 2016 World Aluminium Conference held in Shanghai China.

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Stephen Foster Company Secretary

10 May 2016

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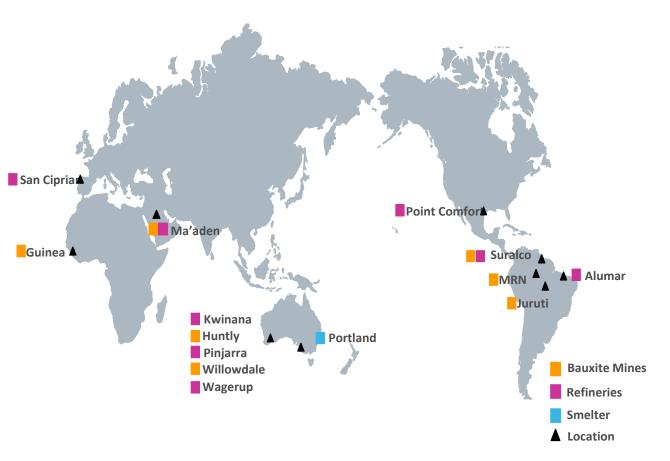
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## AWAC: world's largest bauxite and alumina producer



### Geographically diversified, long-life, tier 1 bauxite mines and alumina refineries



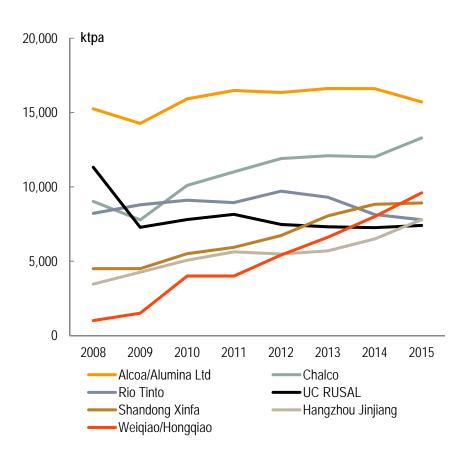
### 2015 production:

- 15.1 million t alumina
- 43 million (bone dry) t bauxite (including equity interests)
- 163,000 t aluminium
- Most refineries integrated with mines
- New bauxite business supply to customers in China, Europe and Brazil (around 5 million t in 2016 from existing mines)
- Suriname fully curtailed 2015, Point Comfort to be **fully curtailed** in Q2 2016
- Saudi refinery around 80% nameplate capacity

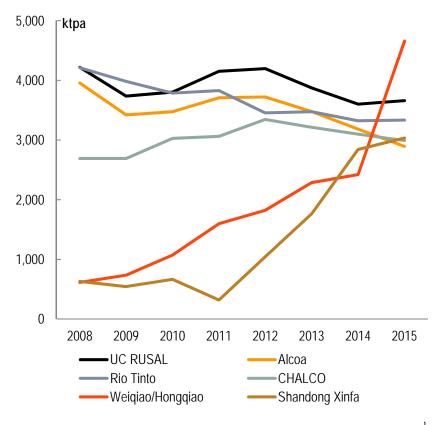
# Recent growth by industry majors has been mainly in China



### **Estimated Alumina Production 2008-2015**



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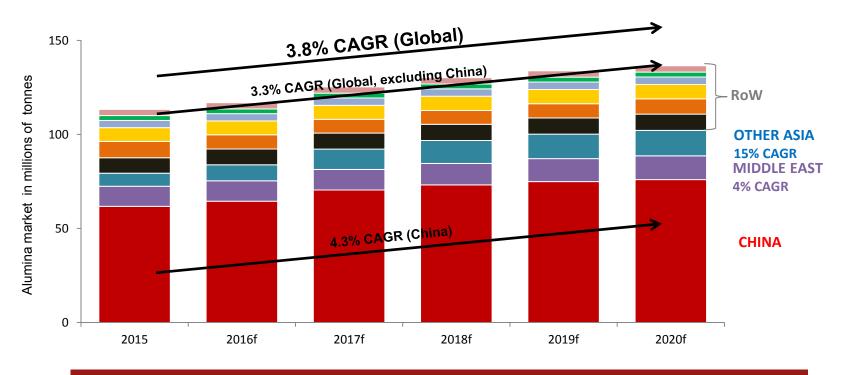


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# Forecast demand for alumina has reduced but remains solid



Solid growth forecast for aluminium demand drives alumina and bauxite demand



Growth requires additional ~58m tonnes per annum of bauxite by 2020(1)

# **Modest new alumina supply forecast outside China**



### **Upcoming Alumina Projects**

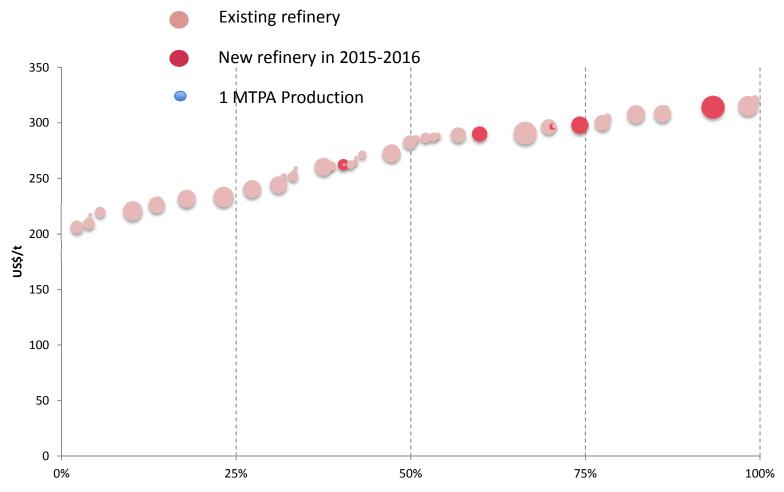
REGION	COUNTRY	COMPANY	LOCATION	2016	2017 2018	2019	2020	TYPE	COMMENTS	INTEGRATED
	UAE	Emirates Global Aluminum	KIZAD, Al Taweelah		2,000			Greenfield	Project feasibility studies were done last year. First phase of 2.0 million tpa to be ready by 2018.  Phase II could double capacity to 4.0 million tpa.	NO
Asia exc China	Indonesia	Hongqiao Well Harvest Winning Alumina	Ketapang, West Kalimatan		1,000			Greenfield	First 1mt phase scheduled to start in 2016 . Second 1mt phase scheduled for 2017	YES
		Inalum/Antam/Chalco	West Kalimatan			1,000	1,000	Greenfield	Construction set to begin in 2016.	YES
Eastern Europe	Russia	UC Rusal	Kamensk-Uralsky	125				Brownfield		YES
China	China	Various Greenfield	Various	800	1,100 0	0	0	Greenfield		
		Various Brownfield	Various	7,400	0 7,200	800	0	Brownfield		
			TOTAL WORLD	8,325	2,100 9,200	1,800	1,000			
			TOTAL CHINA	8,200	1,100 7,200	800	0			
			TOTAL ROW	125	1,000 2,000	1,000	1,000			

Source: HARBOR Aluminum, April 2016

## Chinese refineries' alumina cash costs







- Chalco Zuiyi and Huajin refineries (Guizhou) expanded in 2015 and sit in 2<sup>nd</sup> and 3<sup>rd</sup> cost quartiles
- Weigiao expanded two refineries in Shandong in 2015, both in 4th quartile
- New refineries generally enter higher on cost curve in China than new smelters, mainly due to 1) standard modular design (quick payback but not optimal opex), 2) generally higher bauxite costs and 3) limited access to best bauxite deposits in Guangxi Source CM Group April 2016 7

# 7 million t of Chinese alumina curtailed; nearly 3 million t has resumed in Q1 2016

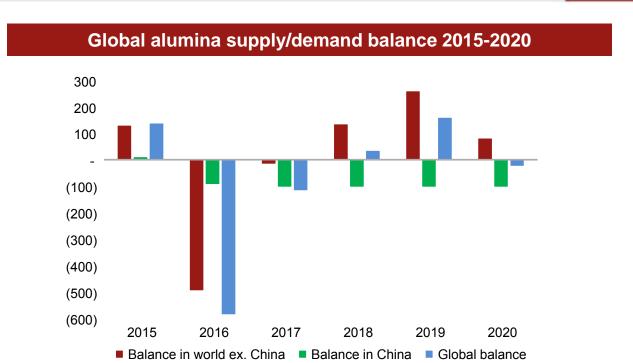


Province	Curtailed Capacity (ktpa)	Comment
Henan	500	Curtailed capacity typically older, higher cost refineries. Unlikely to be restarted without a price increase above RMB2,000/t. Jinjiang's 400ktpa (Kaiman) refinery, Wanji's new 600ktpa and Yixiang's 100kt have resumed production after price recovered in Q1 2016
Shanxi	950	Capacity curtailed is mostly Chalco Shanxi, given the new strategy of Chalco to divest high-cost assets. Capacity is unlikely to be restarted in the short term
Shandong	1,900	1,200 ktpa from Xinfa is unlikely to restart, given it is one of the highest cost, non-integrated refineries in China. Weiqiao's announced capacity cut is yet to be implemented
Chongqing	200	Bosai's 200ktpa capacity based on high-cost imported bauxite is unlikely to restart
Guizhou	600	Curtailed capacity in Guizhou driven by limited access to higher bauxite grades in the short term (higher cost alumina). Once more high grade bauxite becomes available, the capacity is expected to re-start
Total	4,150	

Source: CM Group, April 2016

## Alumina forecast shortfall, nearing balance with recent curtailments and re-starts





Source: CRU, April 2016

### Risks for a tighter market

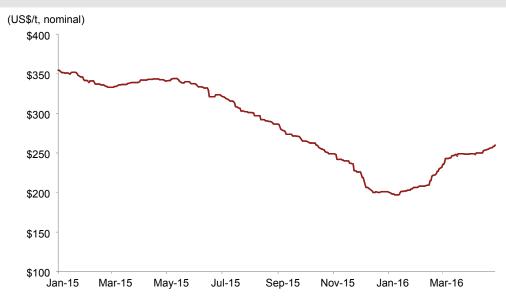
- More high cost refiners curtailing production or abandoning industry amid negative economics
- Alumina project delays/cancellations in Indonesia, Guinea amid low prices, tough financing conditions
- Reducing alumina production in USA (Point Comfort curtailing fully, other refineries in Chapter 11)

### Risks for well supplied market

- Slower demand growth amid smelting curtailments
- Chinese refiners resuming more of curtailed production if price rises

### Australian alumina price indices reflect fundamentals of alumina





#### June 2015

- Acute global longs, further destocking by consumers (including India, Malaysia)
- Chinese domestic prices fall: lower imported bauxite costs particularly from Malaysia reduce Chinese alumina costs

#### **July 2015**

- SHFE, LME al at 6year lows
- Depressed global aluminum prices. poor smelting margins
- Low Chinese domestic prices drag on Aus mkt (Aust more than Yuan 100/mt above Chinese supply in import parity terms)
- Uncertainty over Chinese smelting cuts dampen alumina demand

#### Aug, Sep 2015

- Low freight prices (fleet overcapacity)
- Oil prices at 10-year low
- · China share, financial market turbulence
- Steep Yuan devaluation
- China cuts imports

#### Oct, Nov, Dec 2015

- Chinese

- Aust alumina discounted to domestic
- Global alumina longs, low aluminum prices, poor smelting margins.
- Weak yuan, strong dollar raises cost of imports, deters imports

#### Jan 2016

- Margins led refining cuts China. Americas
- Low oil prices. freight rates
- Consumers traders restock/ opportunistic buys
- Bauxite prices remain lows

#### Feb 2016

- Noranda, Sherwin Chapter 11, future uncertain
- Consumer restocking, opportunistic buying
- Growing alumina supply concerns
- Chinese domestic alumina, al prices rise
- Depressed freight rates
- Aust alumina regains premium to Chinese alumina
- China idles 4-5 mil loss-making smelting capacity. 8-9 mil refining capacity

#### Mar 2016

- Australia increases exports to Canada, Iceland: cuts shipments to China
- Saudi refinery slow ramp up
- Malaysia, India ramp up smelting rates, boost alumina imports

#### Apr 2016

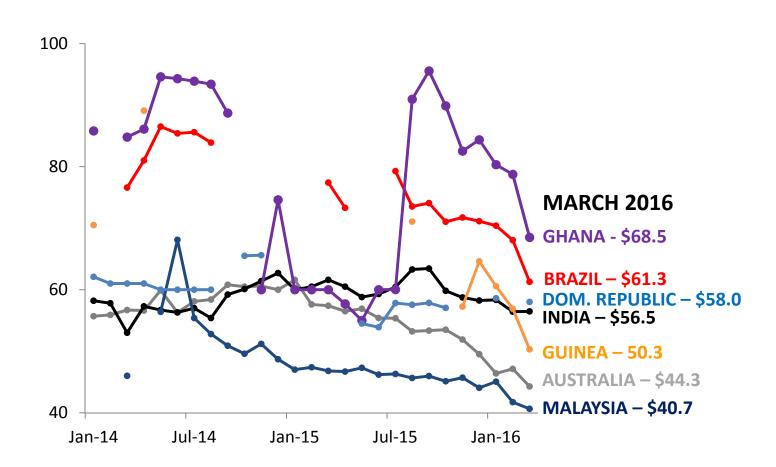
- SHFE, LME al at 9-10-month highs
- Consumers restock alumina
- China economic stimulus measures fuel aluminum demand
- China restarts some idled refining capacity
- Chinese smelters switch output to molten mode (rather than ingots)

Source: Platts. April 2016

# China imported bauxite – Atlantic sources at much higher landed prices



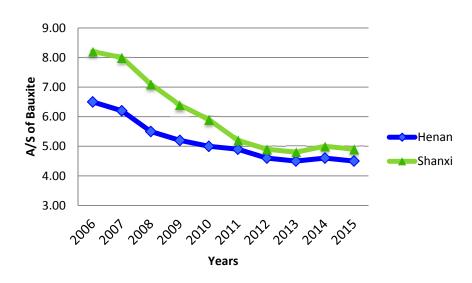
### **Landed Prices of Imported Bauxite**



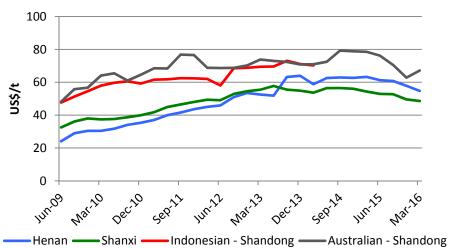
# China's longer term domestic bauxite issues



## Declining bauxite quality in key alumina producing provinces



## Value in Use (VIU) adjusted bauxite prices rising



- Historical pure Bayer process economic limit above 5.0
- Feed grade increased marginally in 2014 as refineries started to use allocated bauxite (rather than domestic traded)
- Mining costs are increasing as deposits go deeper
- Limited access to high quality bauxite deposits (allocations)

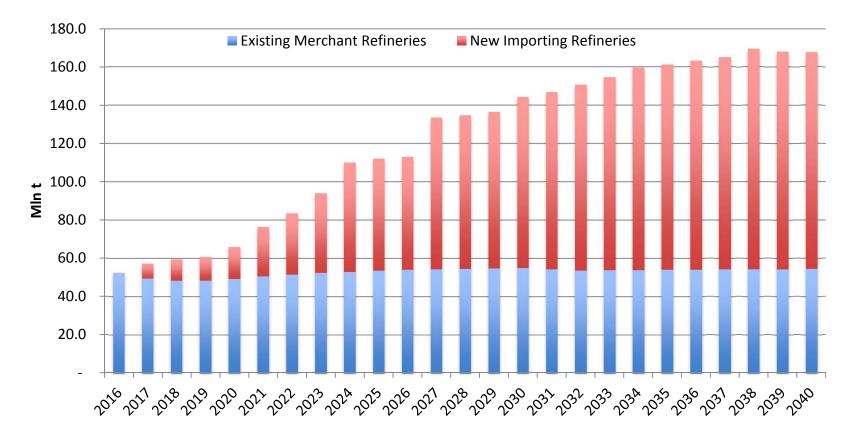
- ViU reflects grade, logistics & processing costs
- ViU rising faster than costs to mine, reflecting deteriorating A/S ratio
- ViU prices rising, even though non-value adjusted delivered prices have been falling

# Chinese bauxite imports forecast to rise sharply



Refiners in some provinces which today rely mainly on domestic bauxite are forecast to reduce their use of domestic bauxite (due to a lower A:S ratio and higher mining cost) and either:

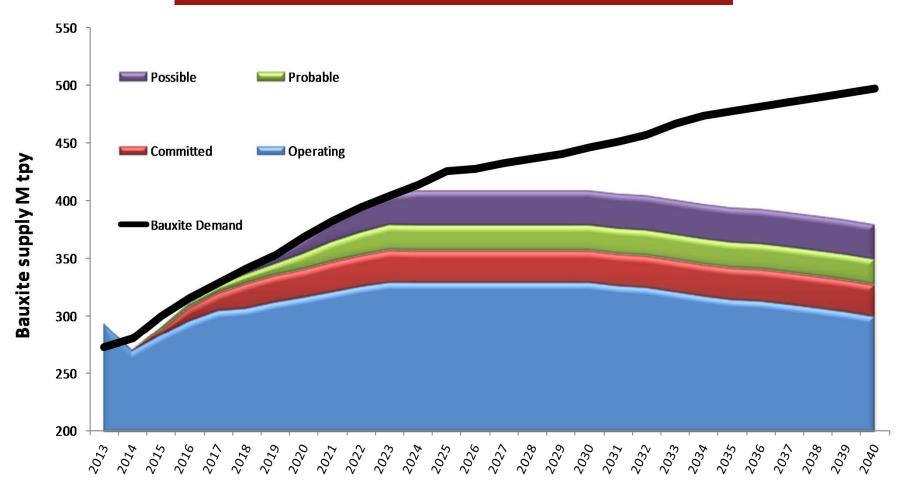
- import bauxite at an increased freight cost, well inland or, more likely
- relocate/build new refining capacity in coastal regions to reduce freight (and may buy gibbsitic bauxite)



### Significant, large greenfields projects are needed to avoid a bauxite gap in 4 or 5 years



### **Global Bauxite Supply and Demand, 2013-2040**



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# Social licence lost, Malaysia extends ban: lessons for other countries?



- Malaysian mining ban extended to July
- Requirement to fully clear stocks and review position
- Environmental, safety: water pollution from wash plants, dust, overloading, heavy traffic, poor rehabilitation
- Illegal mining licensing issues, royalty gaps
- Lessons if Indonesia resumes (or Vietnam starts) exports?



West Kalimantan, Indonesia, 2014



Kuantan, Malaysia, 2015

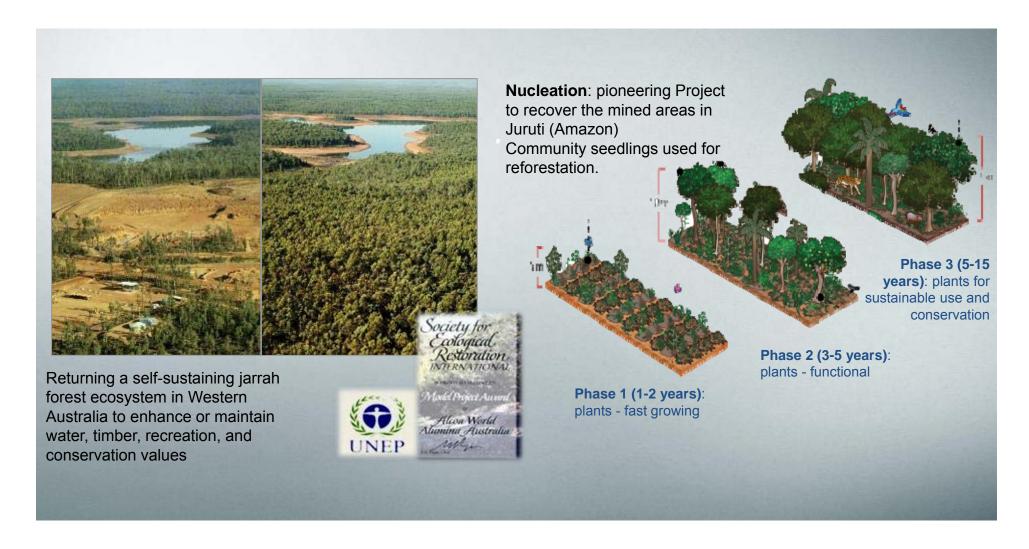
# Social licence and downstream sustainability issues



- Increasing needs for miners and refiners to focus on legitimate community expectations
- Social licence in indigenous communities requires environmentally, safe and socially sustainable practices
- Examples of recent problems:
  - Samarco dam failure, Brazil
  - Community—related restrictions on access to bauxite in India
  - Malaysian community issues
- At the other end of the product chain, increasing expectations of some aluminium product consumers and producers:
  - Want to see a complete chain of ethical, environmental and social responsibility (in choice of supplies)

# **AWAC's rehabilitation best practices implemented in Australia and Amazon**





# **AWAC's Juruti mine, Brazil social investments**

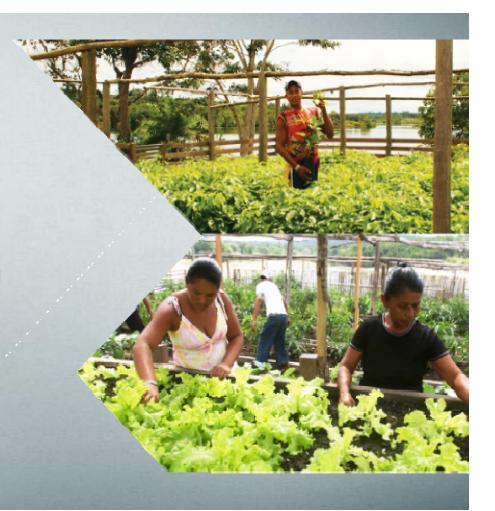


Projects within communities with direct influence and 35 programs on social and environmental control (PCAs)

### **Program to support family production**

38k Kilograms of vegetables have been produced generating R\$ 322 thousand

227k Seedlings used for reforestation the mined areas

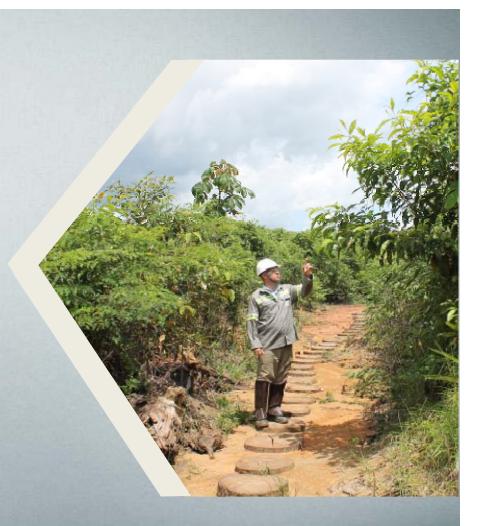


# **AWAC** pillars of sustainability – environmental, social and economic



### **Sustainability Fundamentals**

- Mutual but different responsibilities among companies, Government and communities to achieve Sustainable Development
- AWAC supports our communities with local development
- Developing the local supply chain and human capital is important to a sustainable operation and post-mining lifetime



# Summary: medium to long term bauxite and alumina fundamentals are positive



<ul> <li>Industry context</li> <li>Short term challenges with low prices</li> <li>Medium term fundamentals intact</li> </ul>	<ul> <li>Primary aluminium demand growth strong: 3% for 2016 and 7% for 2017</li> <li>Approximately 23 million tonnes of new alumina capacity and nearly 60 million tonnes of extra bauxite production required by 2020</li> <li>Bauxite well supplied currently but potential steepening of demand growth</li> <li>Alumina near balance expected over next 5 years</li> <li>Refining issues in medium term         <ul> <li>China: Design/opex, bauxite cost/availability - domestic and imported</li> <li>RoW: Long lead times and no financial incentive for new capacity</li> </ul> </li> </ul>					
AWAC has a leading position	<ul> <li>Largest alumina producer and third party supplier and in lowest cost quartile</li> <li>Largest and first quartile of cost bauxite miner: record production, abundant resource, optionality of brownfields expansions to match market</li> </ul>					
AWAC's strategy	<ul> <li>De-link alumina pricing from LME: 85% of 3<sup>rd</sup> party sales on spot/API in 2016</li> <li>Fully curtailing Suriname/Pt Comfort, low cost Saudi refinery nearing capacity</li> <li>Commencing bauxite export business</li> </ul>					
Medium to long term developing challenges	<ul> <li>Legitimate social needs growing: licence to operate from local communities</li> <li>Responsible performers likely to have a competitive advantage if can show transparent sustainability chain (downstream producers and consumers)</li> <li>Risk poor performers "sink all boats" in the region e.g. Malaysia, other Asian</li> <li>Increasing costs for and demands on producers and Governments</li> </ul>					