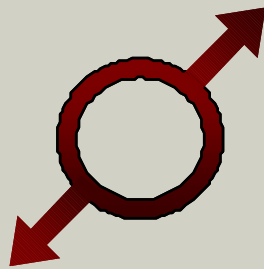


BHP Billiton Aluminium

Aspiring to be the best aluminium company in the world

Sydney - London

November 2003



Aluminium CSG



bhpbilliton

Key Messages

- Quality of asset portfolio - Upstream 
 - Metal
 - Alumina
- Opportunity for significant further improvement
- Still brownfield opportunities to harvest
- Change in growth emphasis \longrightarrow Aluminium to Alumina
 - Response to supply / demand evolution in China
 - Where we believe the greatest source of future rent lies



Speakers

- Introduction and Strategy Mike Salamon
- Marketing Rod Kinkead-Weekes
- Industry Issues Paul Everard
- Smelting Operations & Continuous Improvement Mahomed Seedat
- Refining Operations & Continuous Improvement Colin Agnew
- Future Growth Ian Jacobson
- Finance / Value Alex Vanselow



Introduction

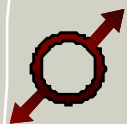
- **Aspiring to be the best aluminium company in the world:**

The scorecard

- Zero harm in HSEC
- Lowest unit cash costs
- Growth and Sustainability
- Size / Materiality
- Value
- Cash generation

- **How we measure up**

- Zero harm is the focus
- Lowest metal & alumina system cash costs – but we can and will improve our relative advantage
- Strong growth track record, but industry consolidation makes future M&A value based growth challenging
- No. 2 in 3rd party aluminium (after RusAl) & No. 4 in 3rd party alumina (after Alcoa, Chalco and Glencore)
- No. 4 in ROC in calendar 2002 after Comalco, Alcoa & Chalco
- NPV large and growing



Aluminium CSG (Total Production in '000t in fiscal years)



<u>Production ('000 tonnes)</u>	<u>1999/00</u>	<u>2000/01</u>	<u>2001/02</u>	<u>2002/03</u>	<u>2003/04</u>	<u>2004/05</u>
Aluminium	883	981	992	1,074	1,250	1,300
Alumina	1,878	2,939	3,942	4,092	4,200	4,300
Bauxite	5,744	9,795	13,097	13,669	14,000	14,000

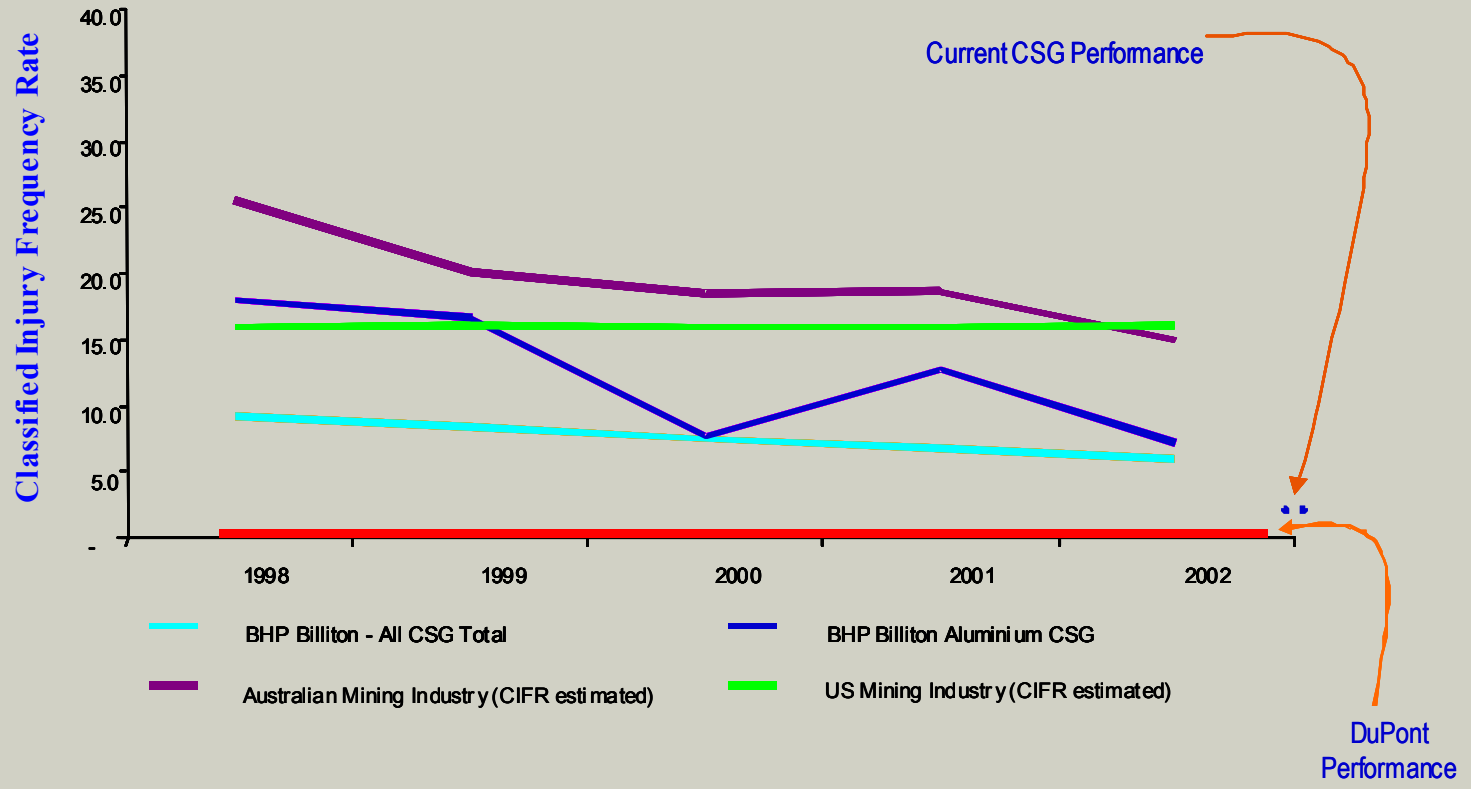


BHP Billiton Strategic Framework - Progress

VALUE DRIVERS	PERFORMANCE
<i>Outstanding Assets</i>	<p>CIFR down 20% and Improving</p> <p>Metal creep of 82,000 tons and normalised costs down by 7% (2002 to 2003 FY)</p> <p>Alumina creep of 149,000 tons and normalised costs down by 3% (2002 to 2003 FY)</p>
<i>Growth</i>	<p>Mozal II and Hillside III delivered</p> <p>Paranam 2.3mtpa expansion approved</p> <p>Worsley 3.5mtpa feasibility by Q4 FY04</p>
<i>Customer-Centric Marketing</i>	<p>Long-term non-LME linked alumina sales</p> <p>Metal sales into China</p>
<i>Innovation</i>	<p>335kA and beyond</p> <p>Slotted anodes</p> <p>Process control</p>

HSEC – How We Compare

CIFR Benchmarking

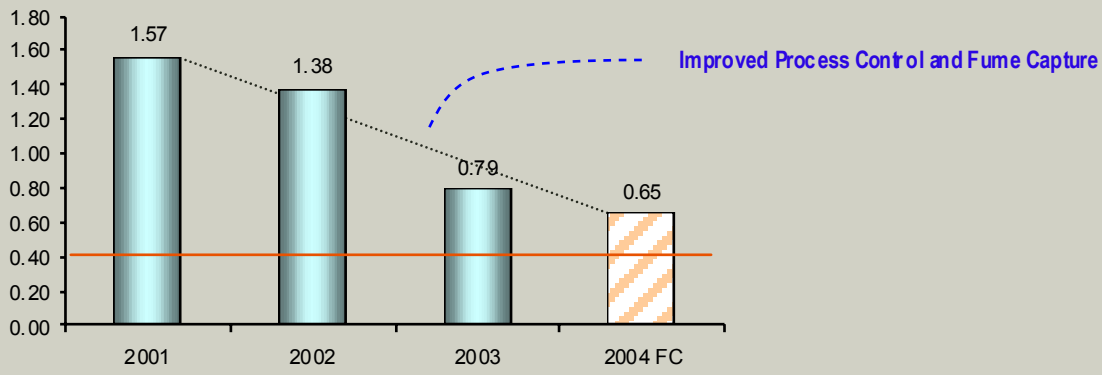


A Fundamental Part of "World's Best"

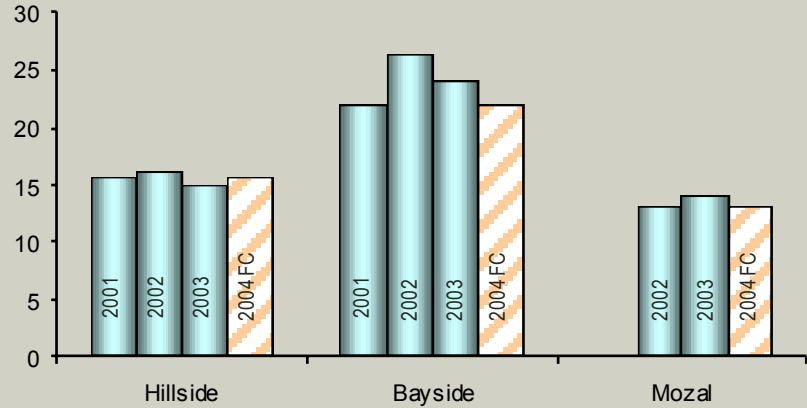


HSEC – Avg. Fluoride & CO₂ Equiv. Emissions / Tonne

Total Smelter Fluoride Emission

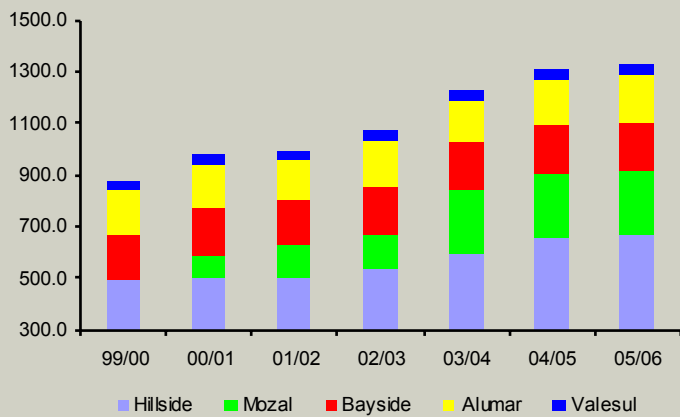


CO₂ Equivalent Emissions

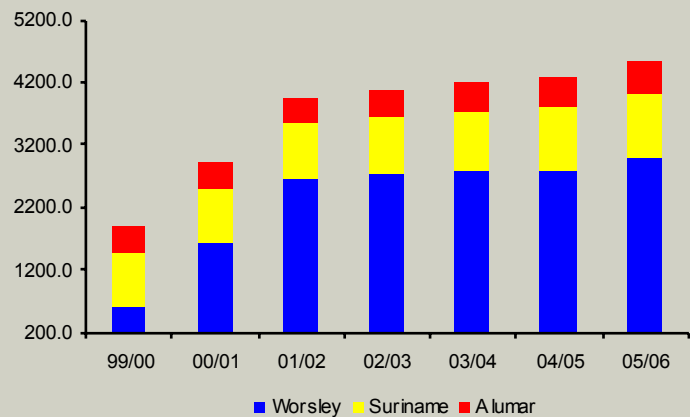


BHP Billiton Aluminium and Alumina Production

Aluminium Production



Alumina Production



- Mozal 1 start-up in FY01
- Mozal 2 start-up in FY03
- Hillside 3 start-up in FY04

- Worsley brownfield expansion from 1.8mtpa to 3.1mtpa
- Acquisition of 56% of Worsley
- Worsley brownfield expansion to 3.5mtpa and beyond 4.0mtpa
- Suriname "creep" from 1.9mtpa to 2.3mtpa
- Process control and optimisation



CSG Sources of EBIT Since BHP – Billiton Merger

LME Cash

1,381

1,316

1,381

1,356

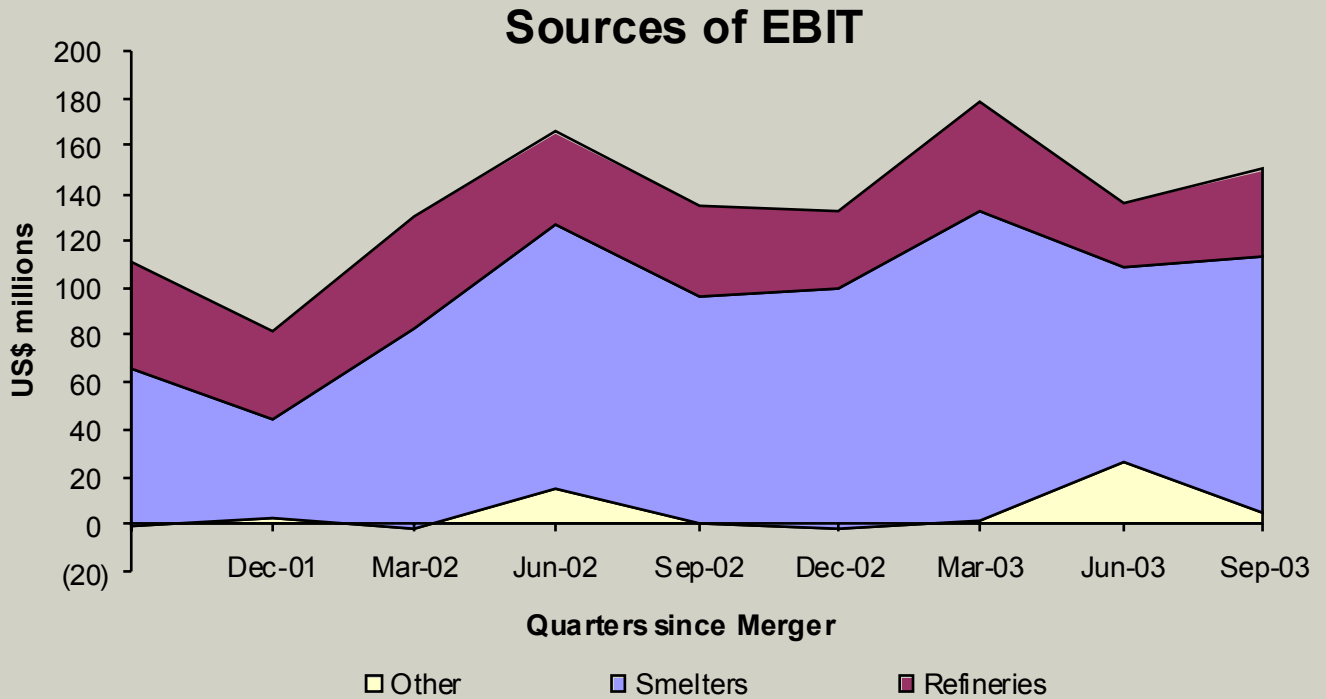
1,311

1,351

1,396

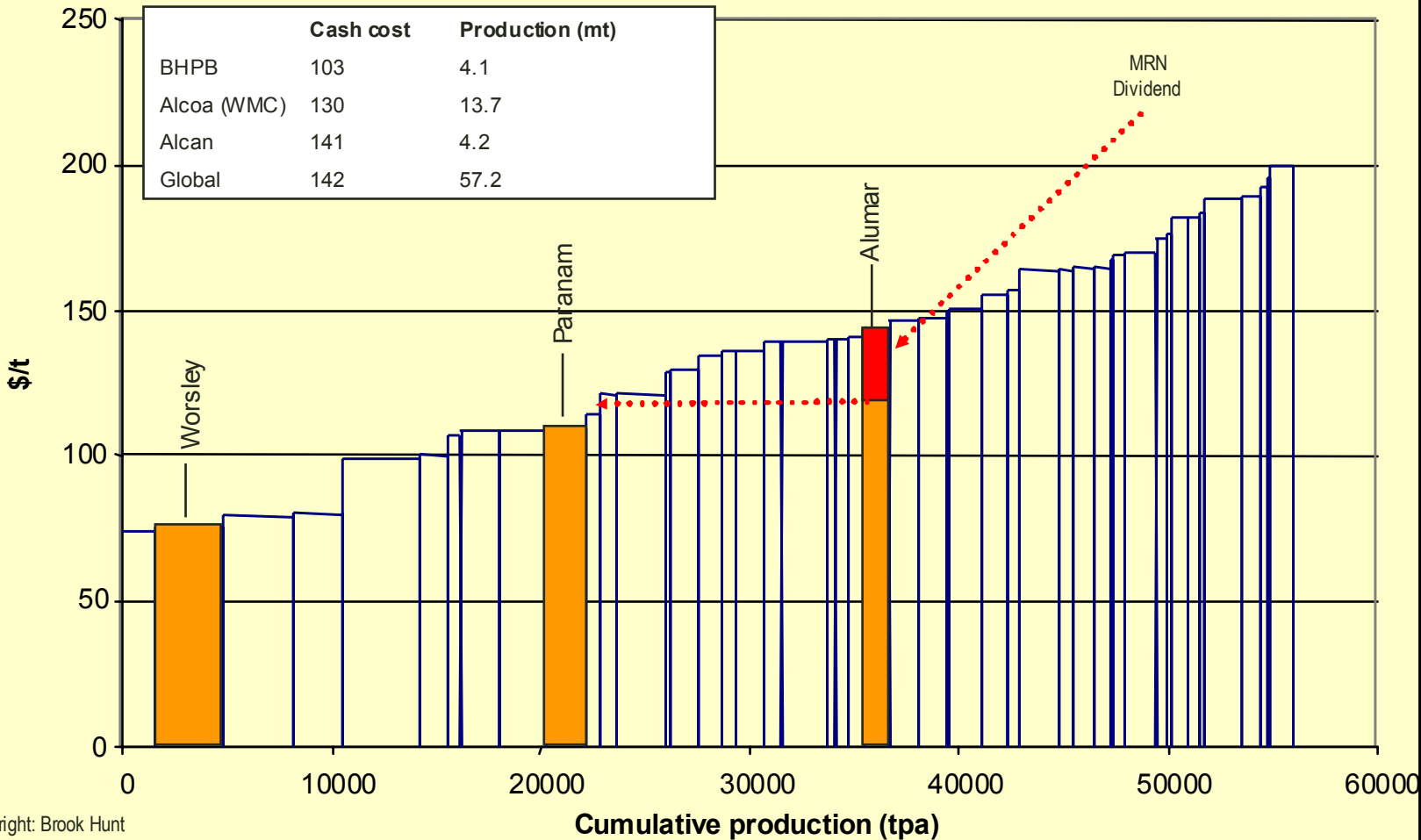
1,381

1,436

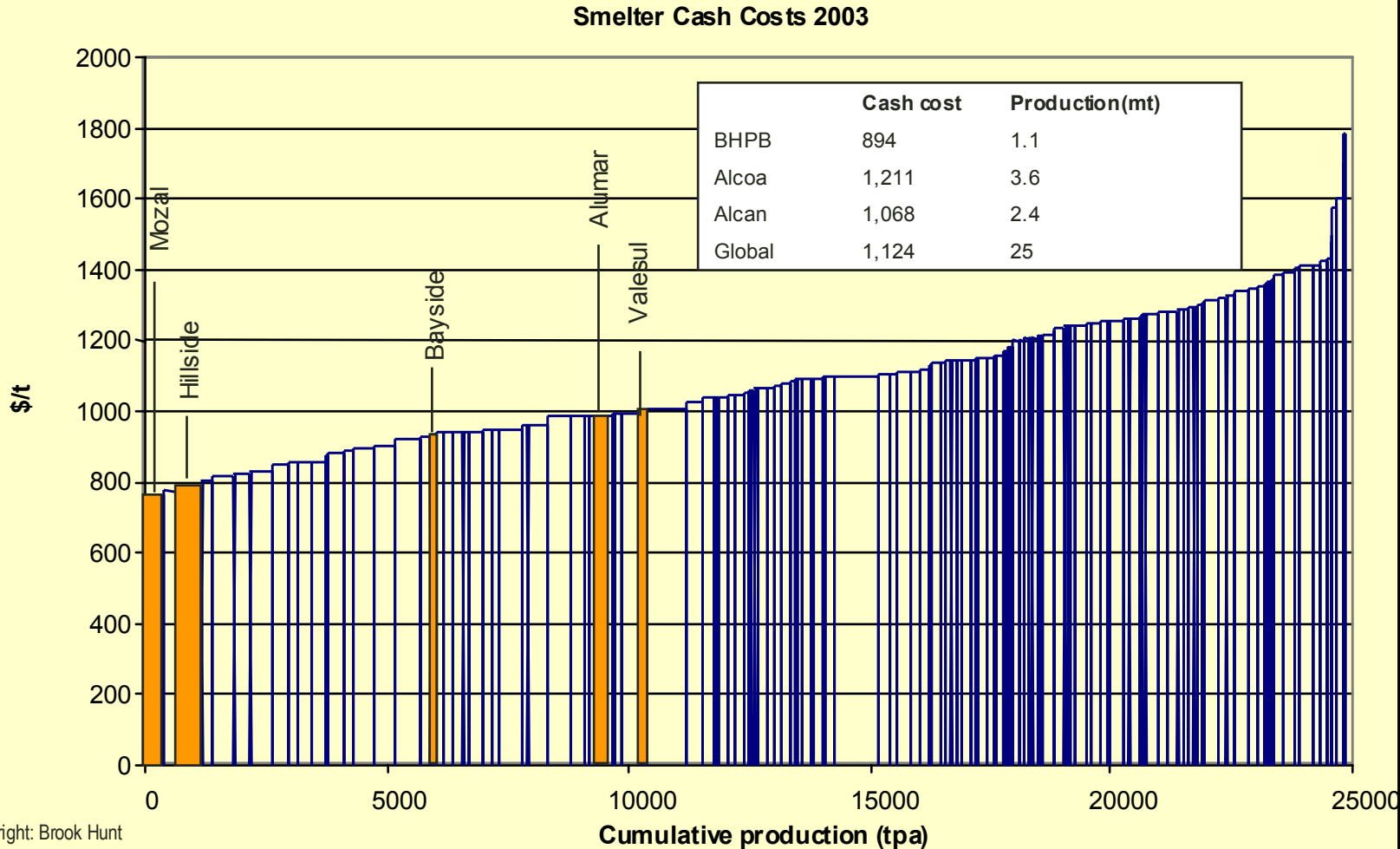


Refinery Cash Costs – How We Compare (Brook Hunt)

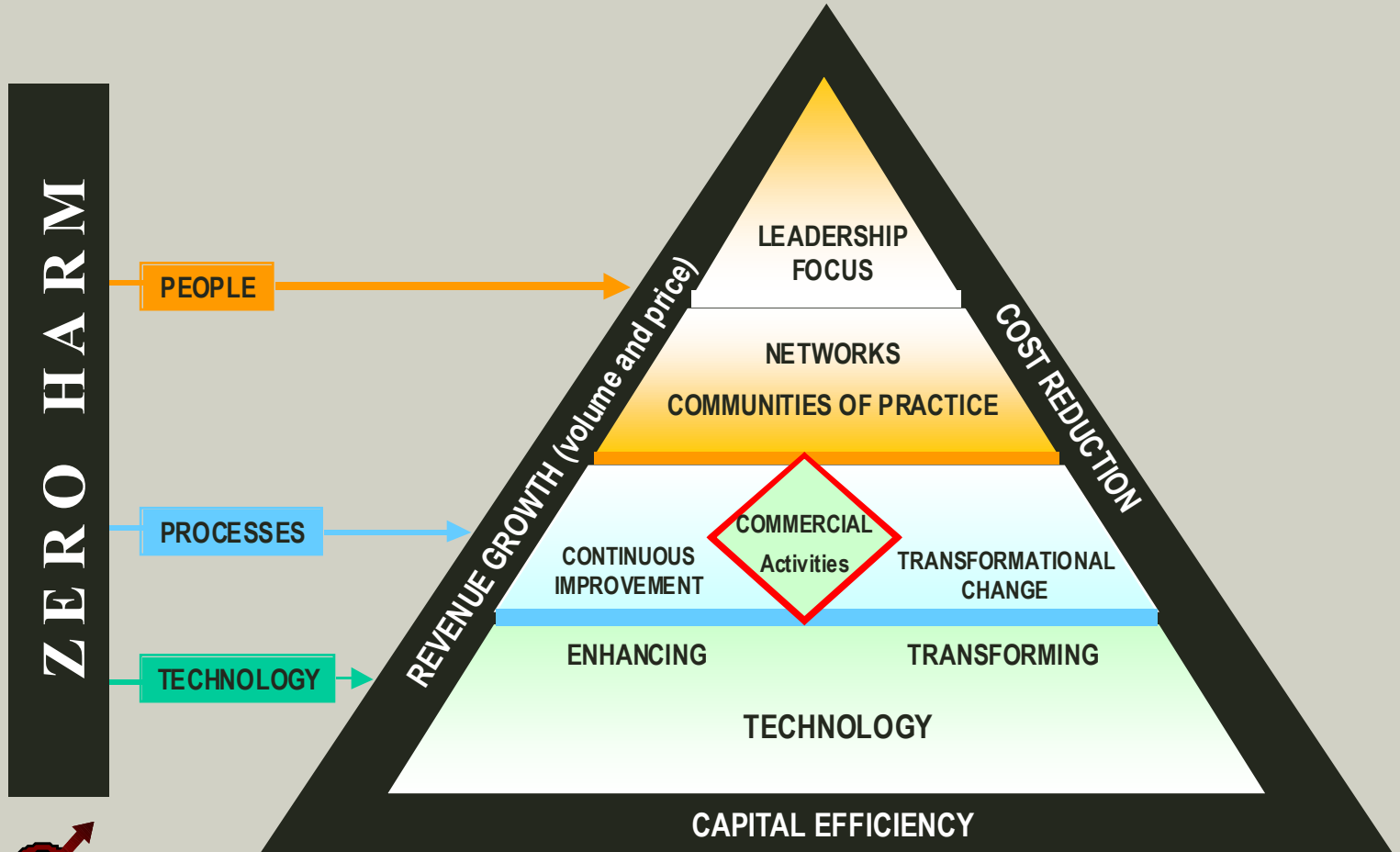
Refinery Cash Costs 2003



Smelter Cash Costs – How We Compare (Brook Hunt)



Operating Excellence – People, Process & Technology



BHP Billiton Aluminium Options

Value

Challenging for the best

- Control of New Bauxite
- More Stranded Power
- Large scale & opportunistic M&A

New Initiatives

Alumina/Bauxite

- Suriname Bakhuis greenfield
- Worsley > 4.0mtpa brownfield
- Alumar 3.0mtpa brownfield

Southern Africa Optimisation

- Additional pots
- Mozal III / Hillside IIIb
- Additional power contract

Marketing

- Alumina Rent / China

Embedded

- Worsley 3.5mtpa brownfield
- Suriname 2.3mtpa brownfield
- Alumar 1.5mtpa creep
- Smelter current increase - 350kA
- Restructuring
- BHP Billiton Way

Scale

(capital efficiency / creep of current asset base)

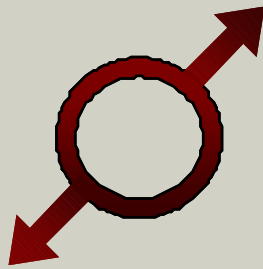
(stretch asset/business base)

(step-change growth)



Marketing

Rod Kinkead-Weekes
Marketing Director



Aluminium CSG



bhpbilliton

Marketing Strategy

Metal

- Maximise net premiums
- Diversify and promote flexibility
- Build on strong physical base...plus actively trade within specified limits
- Understand, manage and control risks



Status

- Number 2 in non-integrated primary metal sales
- Global market reach

Alumina

- Supply increasing internal requirements
- Position for further growth
- Maximise margins
- Actively trade
- Supply new markets
- Understand, manage and control risks

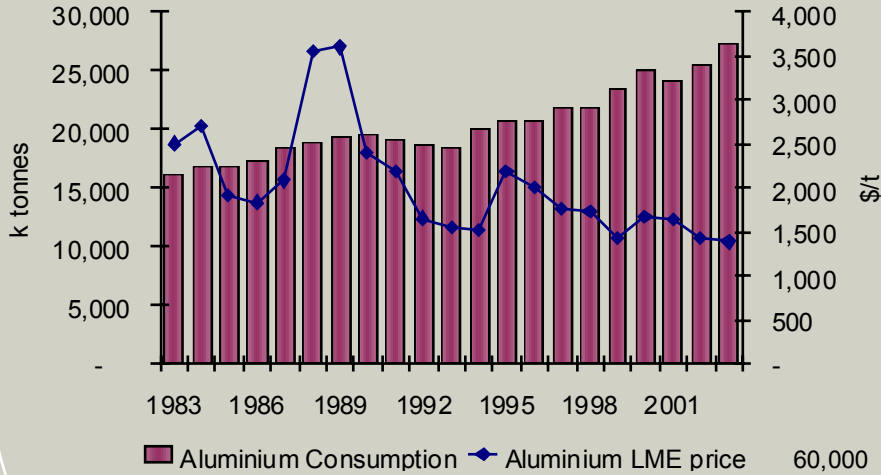


Status

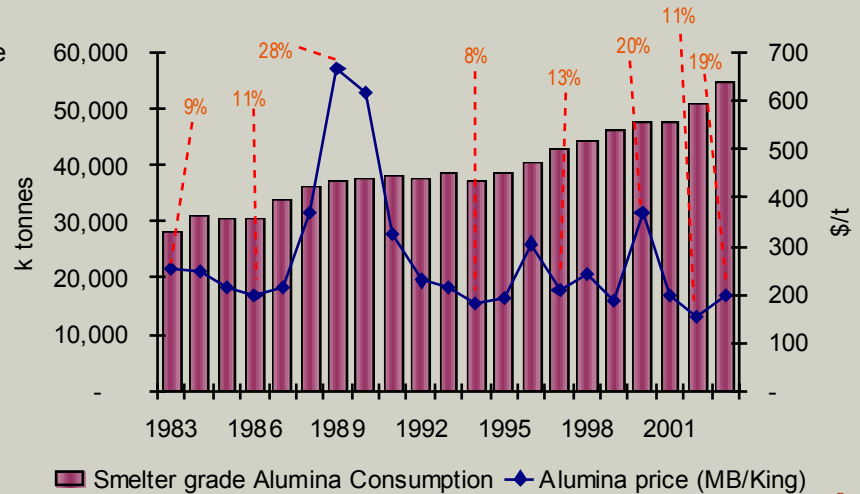
- Strong market presence
- Significant 3rd party player
- Growing in China

Historical Global Consumption and Real 2003 Price

Aluminium



Alumina

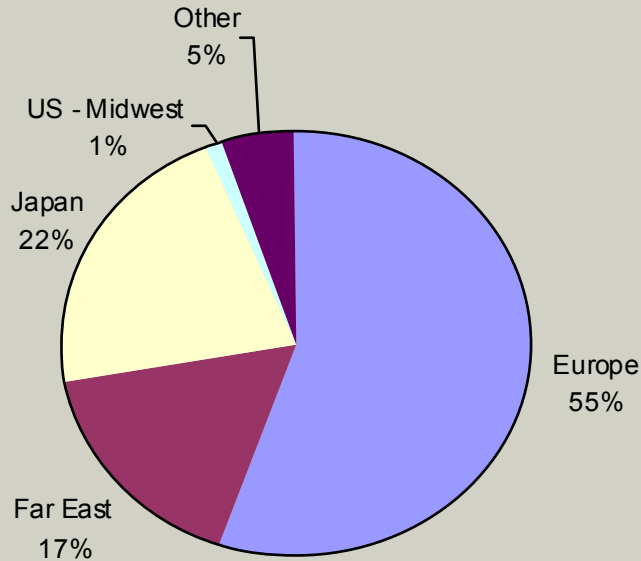


Source: Metal Bulletin, King and Brook Hunt

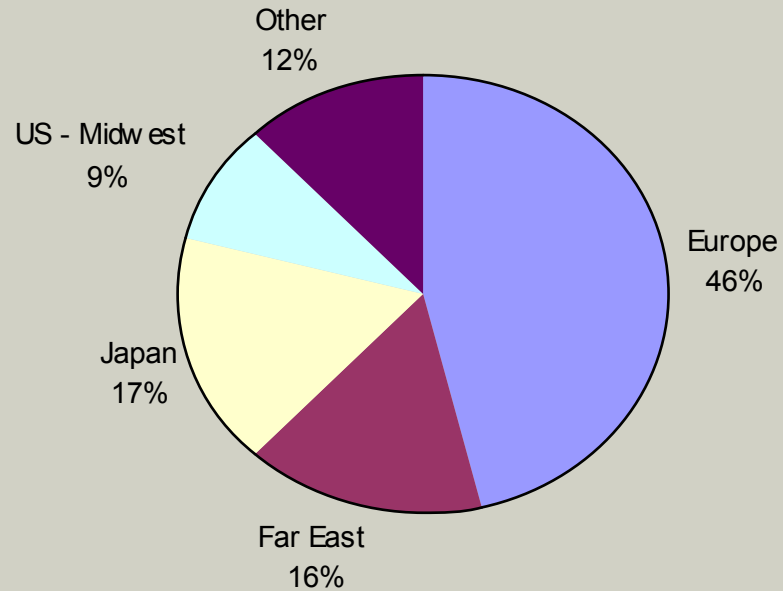


Aluminium Sales by Destination

Actual 2003

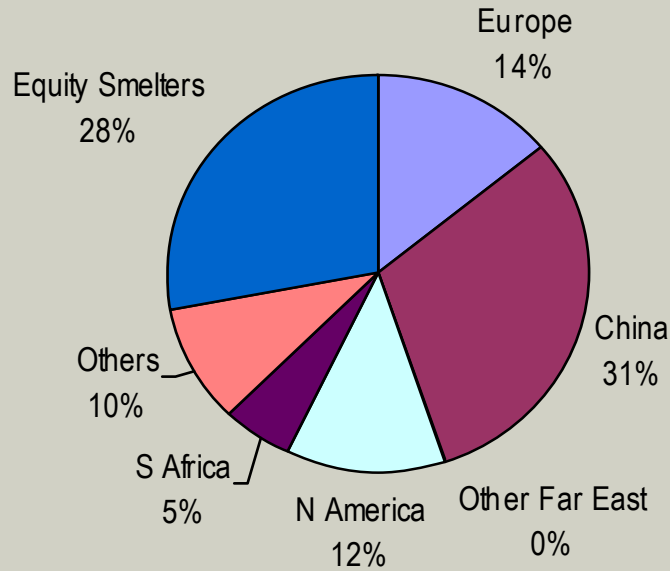


Forecast 2004

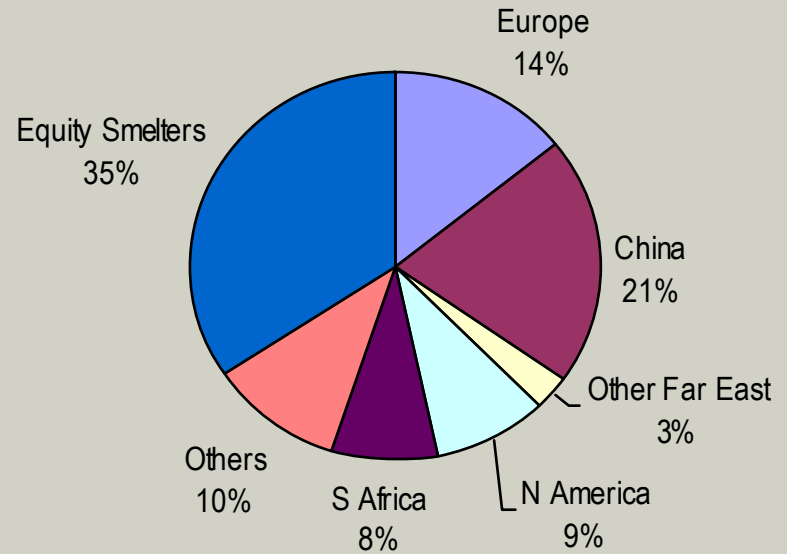


Alumina Sales by Destination

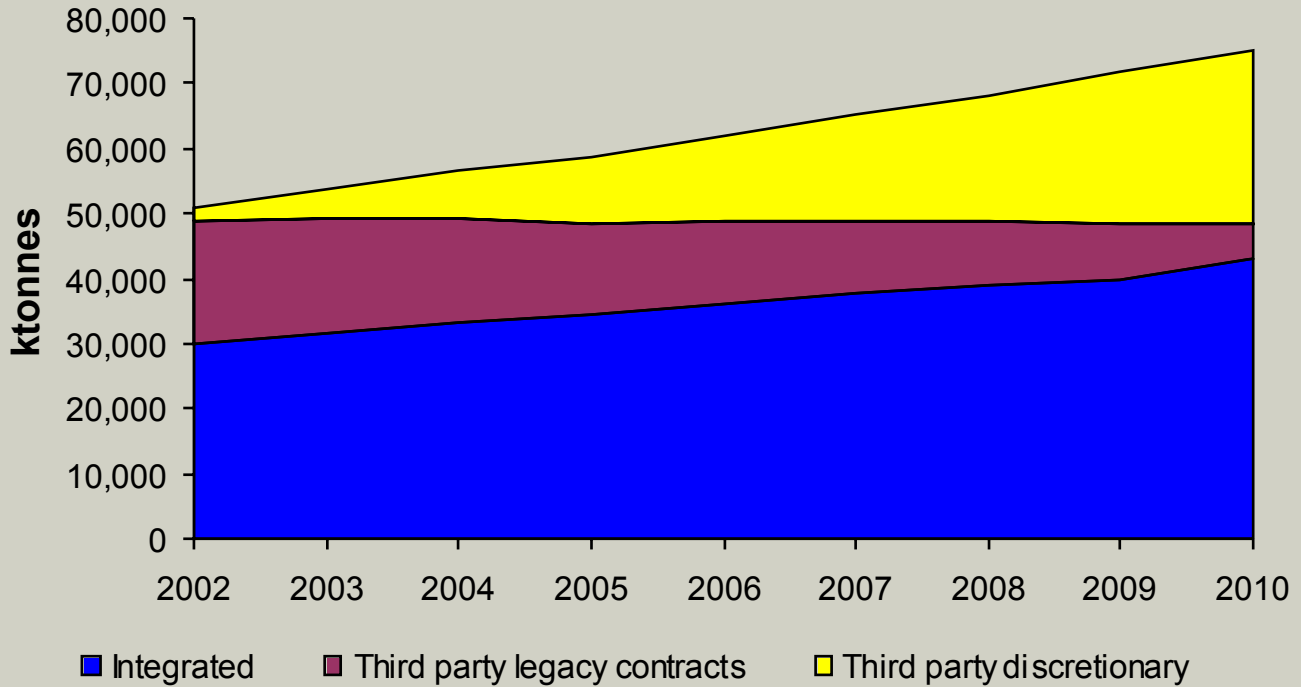
Actual 2003



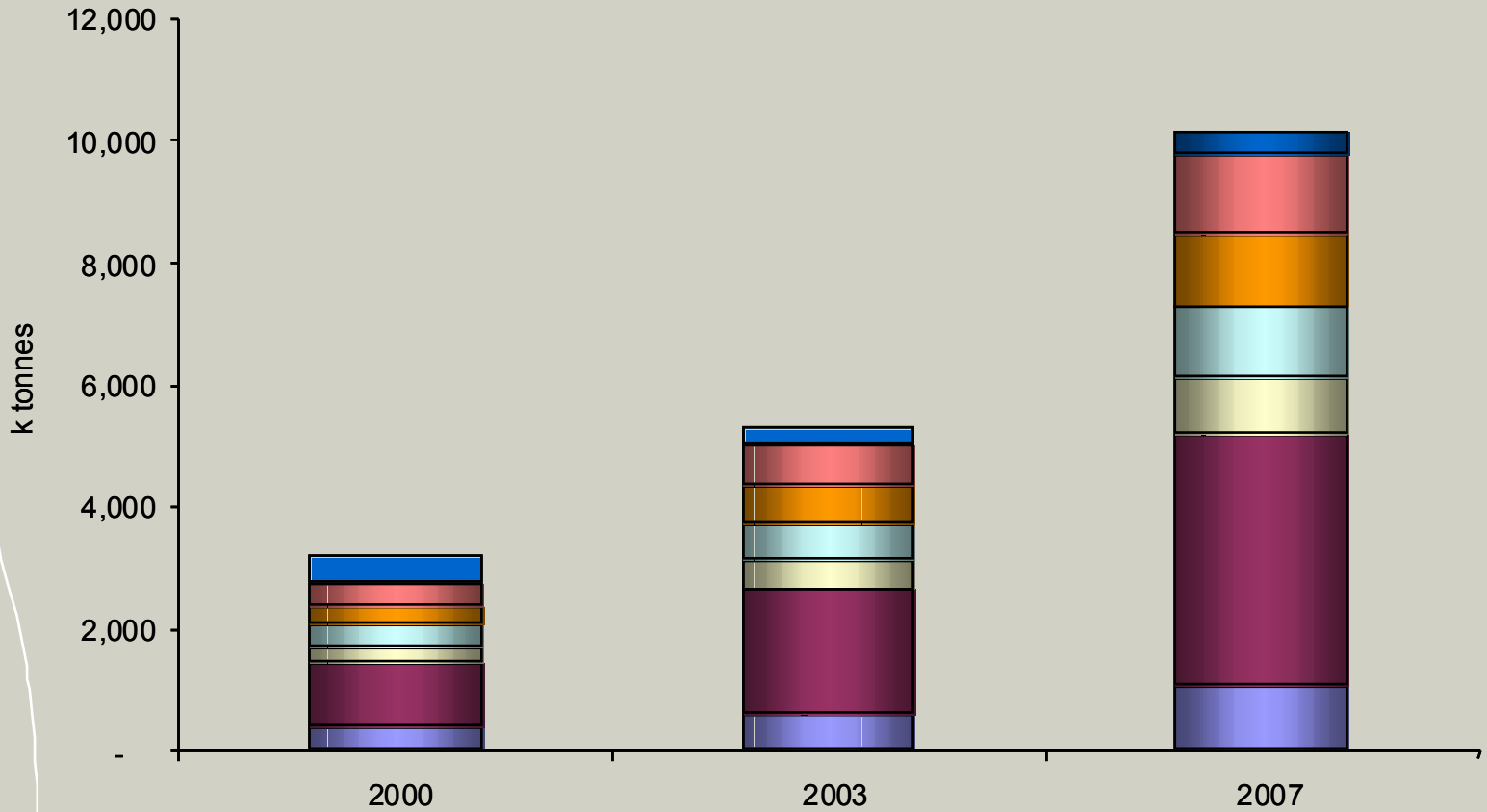
Forecast 2004



Evolution of Global Alumina Market



China – Aluminium Demand



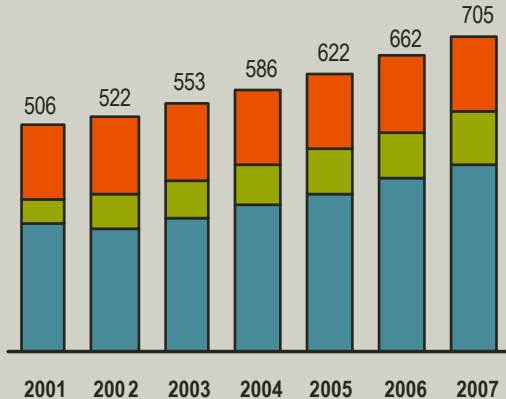
- Power
- Construction & real estate
- Capital goods & machinery
- Packaging
- Durables
- Auto
- Other



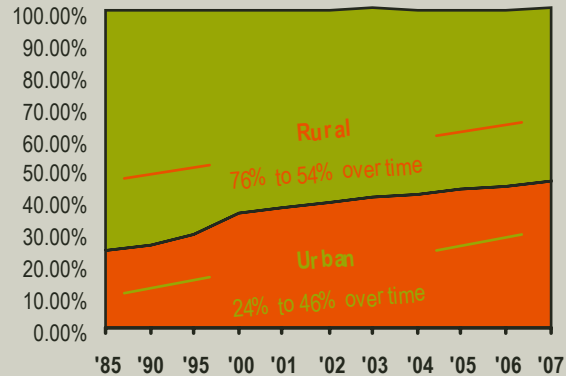
China – Construction Industry Drivers

Underlying demand for residential floor space (millionsq metres)

- Urban renewal of housing stock
- Urban population growth
- Urbanisation of rural population



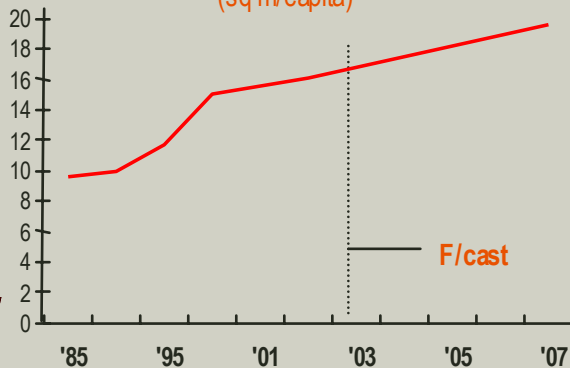
Change in population from rural to urban



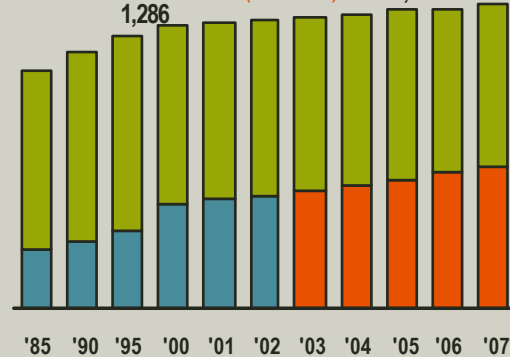
Assumptions

- Assume 4.5% pa "urbanisation" rate based on recent history
- Assume 40 year life cycle for average accommodation

Gross floor space per capita - Urban (sq m/capita)



Population (millions)

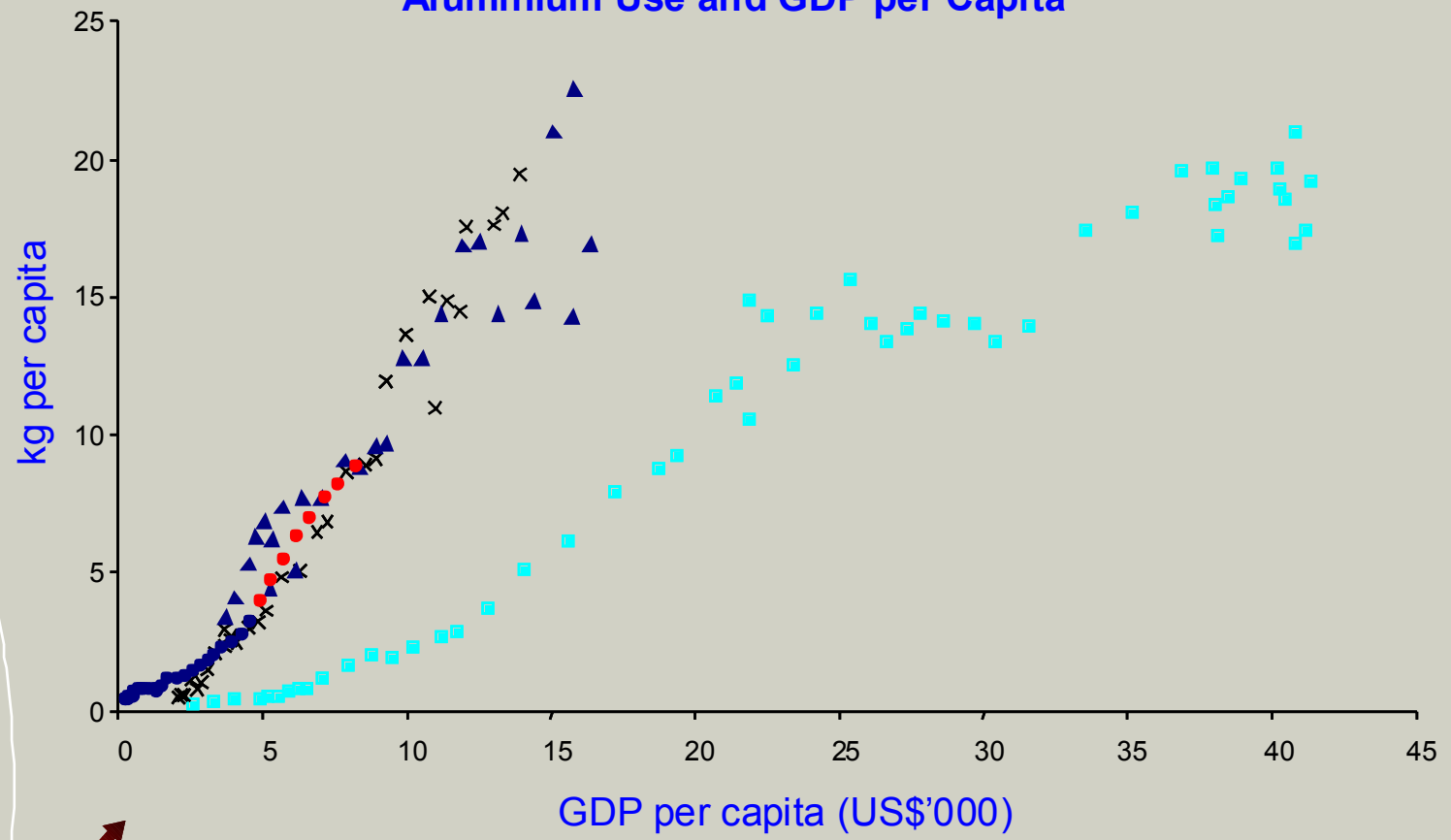


- Assume 1% pa population growth
- Assume floor space per capita continues to grow at 4% per annum based on historical trends



Asian Metal Consumption – Evolution (Macquarie)

Aluminium Use and GDP per Capita

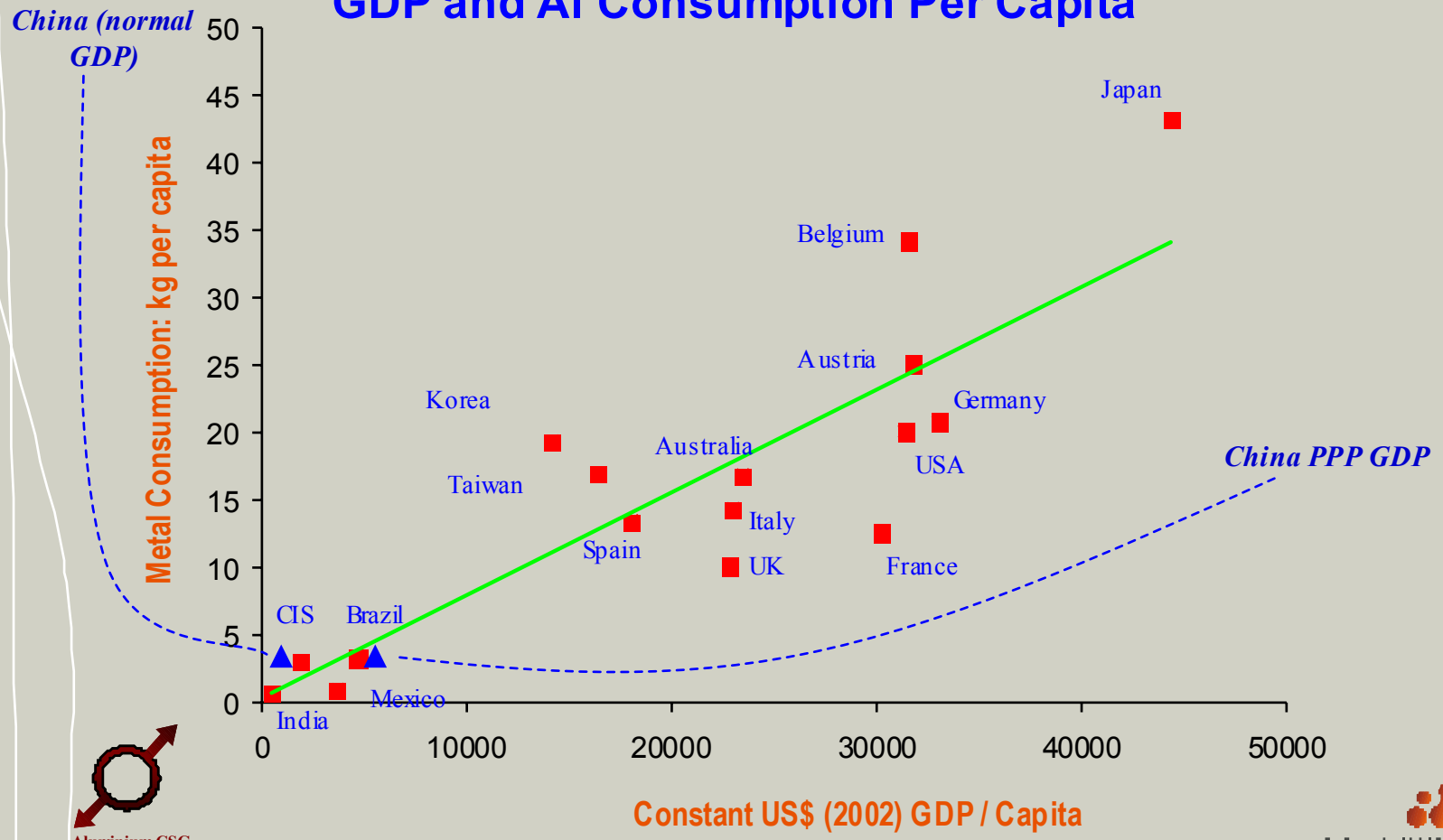


- Japan (1950-2002)
- China (1975-2002)
- China (2003-2010)
- × Korea (1970-2002)
- ▲ Taiwan (1976-2002)



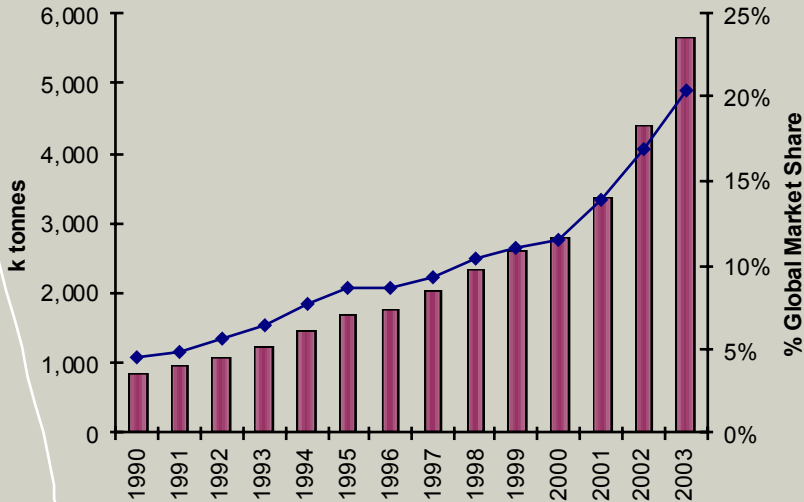
Asian Metal Consumption - Evolution (Macquarie)

GDP and AI Consumption Per Capita

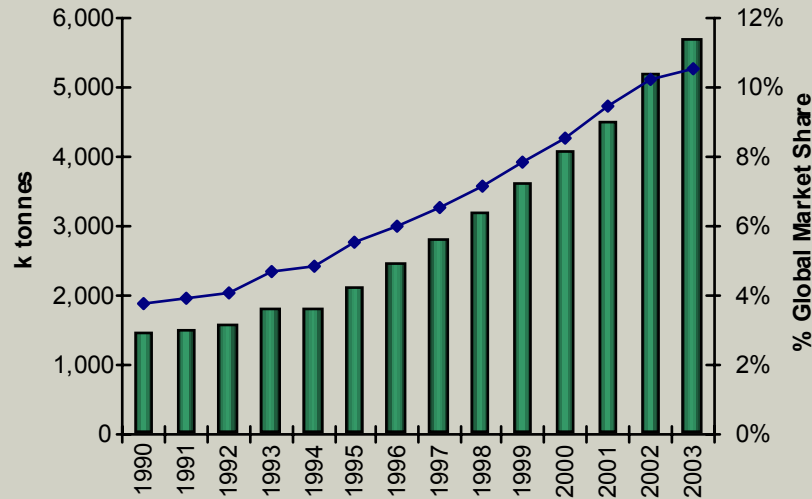


Chinese Aluminium and Alumina Production

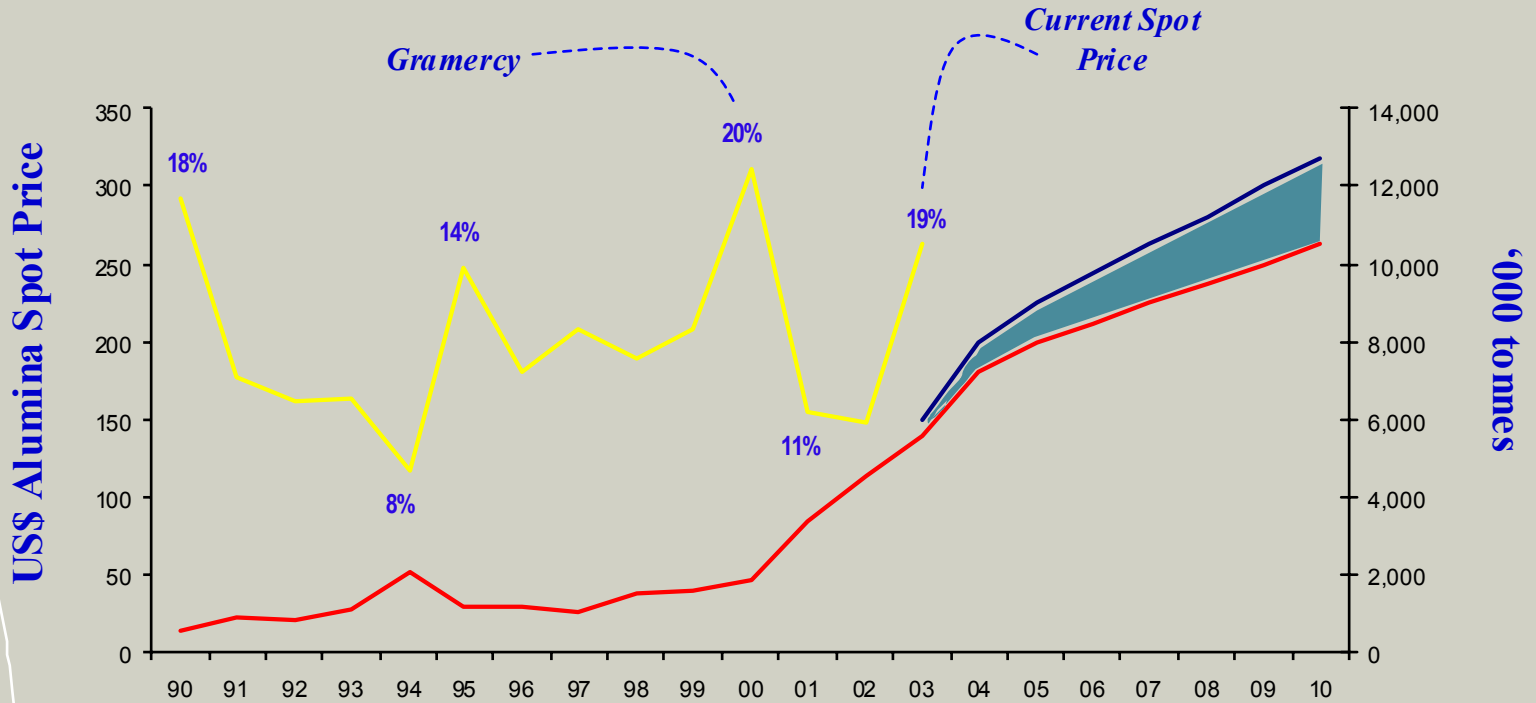
Chinese Aluminium Production



Chinese Alumina Production



Chinese Annual Alumina Imports – the Future?



China – Global Market Implications

- **Metal**
 - Continuing to grow strongly and will continue to grow
 - Despite strong consumption growth – a net exporter
- **Alumina**
 - Not keeping pace with metal growth
 - Where will it come from / will it be available?

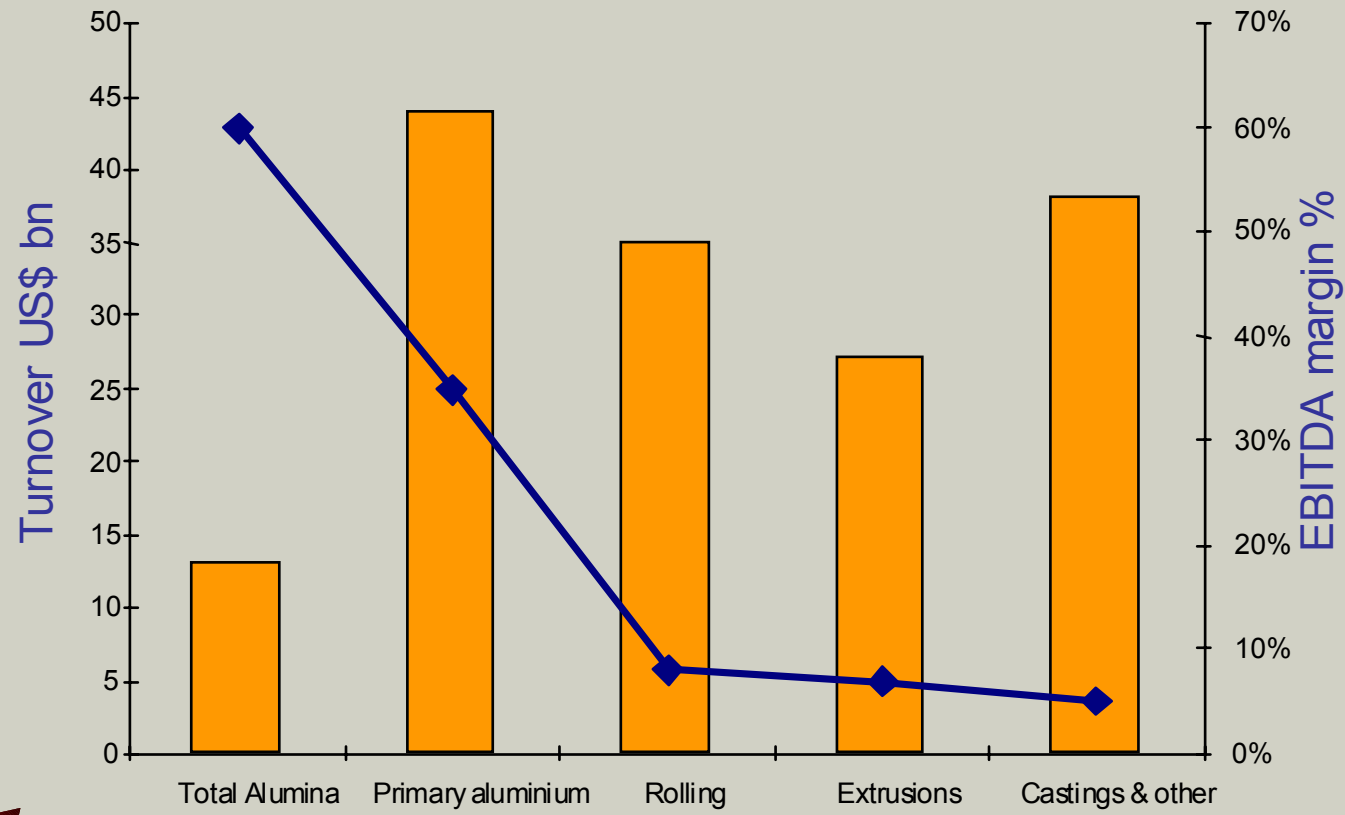
Industry Issues

Paul Everard

Deputy President - Aluminium



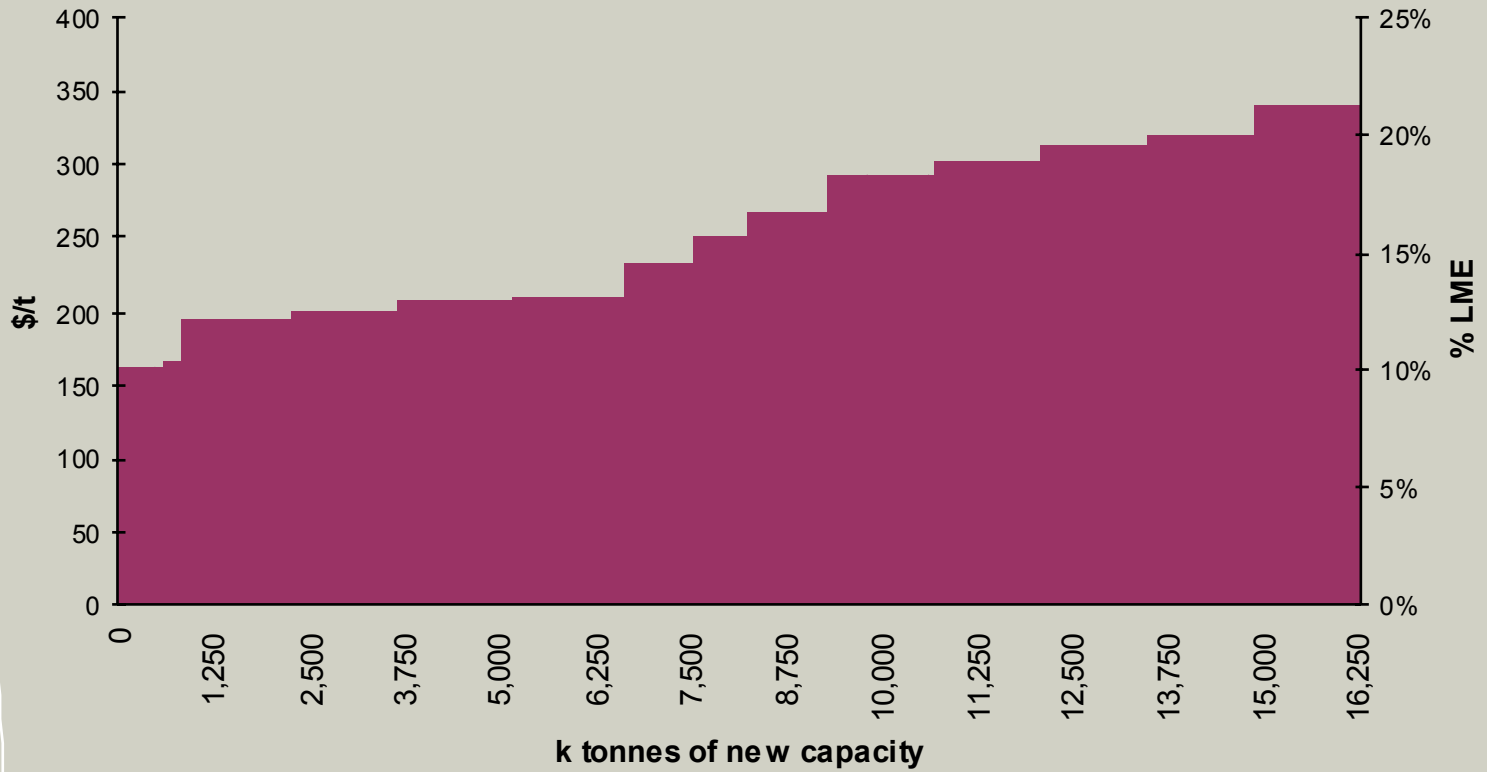
The Industry - Turnover & Lowest Quartile EBITDA Margins



Key Industry Factors

- China
- Automotive growth
- **Recycling**
- The environment
- Power
- Technological breakthrough
- **Entry and exit barriers**
- **Industry structure**

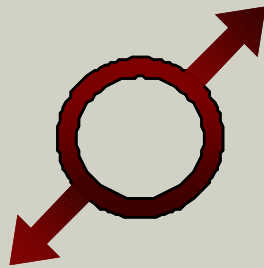
Alumina Capacity - Inducement Price Curve



Smelting Operations & Continuous Improvement

Mahomed Seedat

Vice President and Chief Operating Officer – Southern Africa



Aluminium CSG



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Southern African Smelters

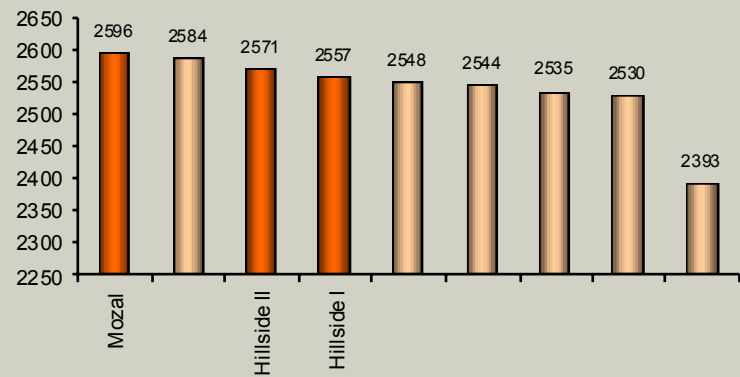


Mozal II and Hillside III - Forecast Completion KPIs

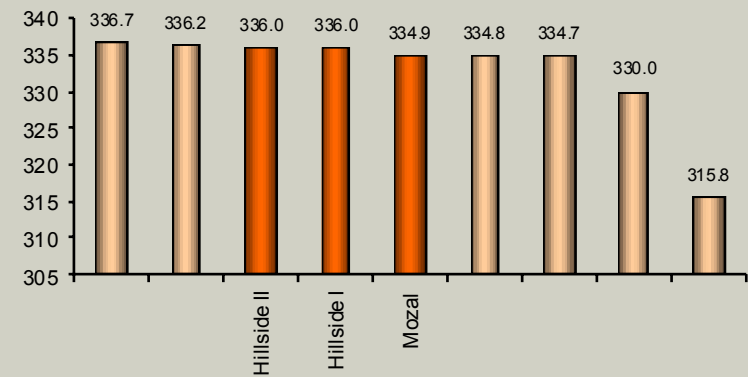
KPI	Unit	Hillside III		Mozal II	
		Forecast	Budget	Actual	Budget
LTIFR	Injuries / million man hours	0.6	5.0	1.0	5.0
Fatalities	Injuries / million man hours	Zero	Zero	Zero	Zero
Capex	US\$ millions	416	449	660	860
Schedule to first metal	Months	18	27	21	27
IR	Man hours lost %	Zero	2.5	Zero	2.5

AP30 Pre-Bake Benchmarks

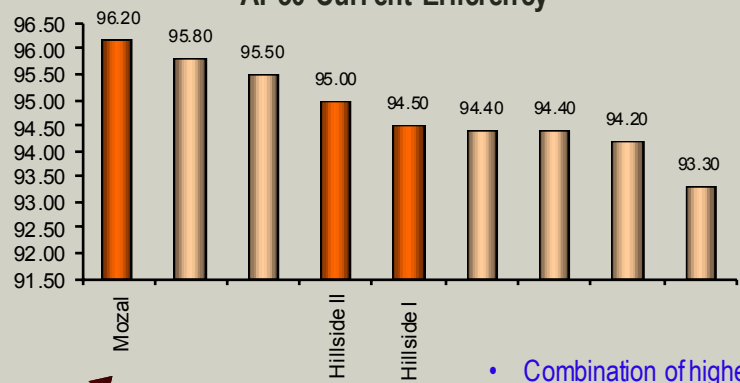
AP30 Pot Output



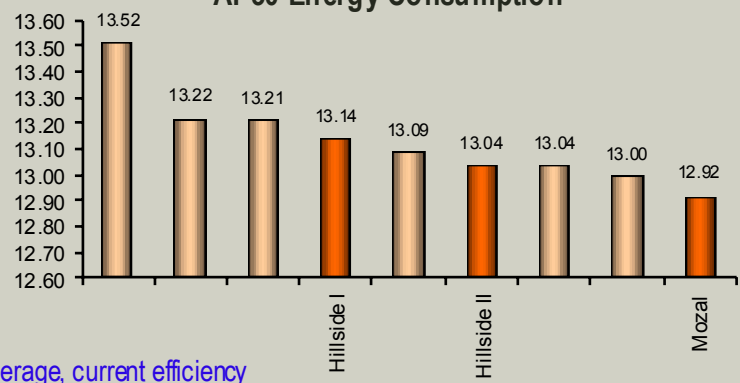
AP30 Current



AP30 Current Efficiency



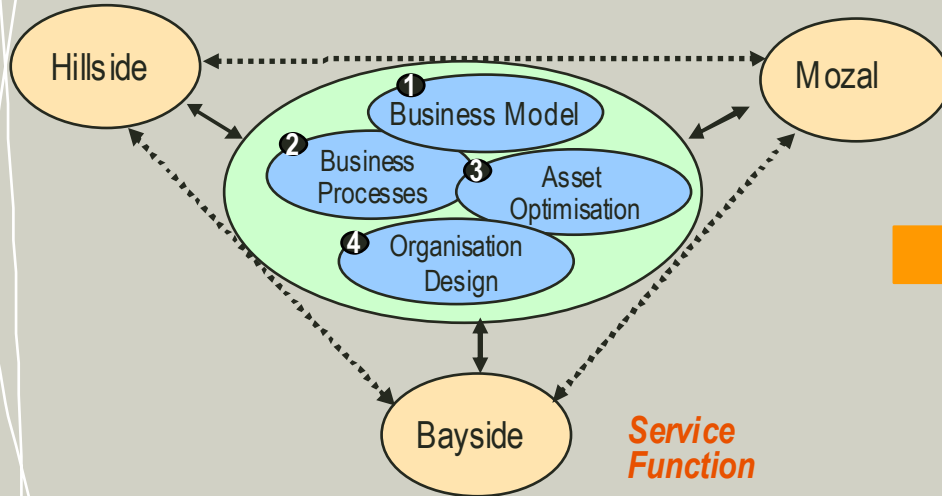
AP30 Energy Consumption



- Combination of higher amperage, current efficiency and low energy consumption is the goal
- Innovation is a major contributor
- Process control and elimination of variation critical



Organizational Synergy – Project Simunye



Continuous Improvement Projects a part of the way we do business...



..74 CI projects currently being implemented and tracked at Hillside and Mozal..

Service Function

Service Value-add

Indicative NPV

Human Resources

- Significantly improved HR Service delivery
- Optimisation of overall staff compliment
- Shared HR business model

US\$ 4.1M

Business Solutions

- Standardisation of systems
- Improved governance
- Consolidated systems development

US\$ 1.7M

Raw Materials

- Leveraging of combined purchasing power
- Exploit excess carbon capacity through sales of anodes and paste (not yet included in NPV)

US\$ 5.9M

US\$ 11.7M

Understanding the Levers in Our Smelting Business

	Hillside	Mozal	Bayside A
Shareholding	100%	47%	100%
Pots	720	576	240
Pot output (kg/day)	2,525	2,592	1,062
Current (kA)	333	335	145
Current efficiency (%)	94.6%	96.2%	92.9%

EBIT sensitivity (US\$ 'millions)

5kA increase	7	3	2
1% CE	5	2	1
10 extra pots	7	4	3

NPV effect post 30% tax (US\$ millions)

5kA increase	67	30	20
1% CE	47	21	6
10 extra pots	62	35	24

350kA project at Hillside will deliver an additional 15kA, or three times this benefit



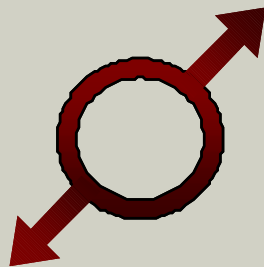
Note: Example Excludes Capital Requirement



Refining Operations & Continuous Improvement

Ian Jacobson

Vice President – Technical
Chief Operating Officer

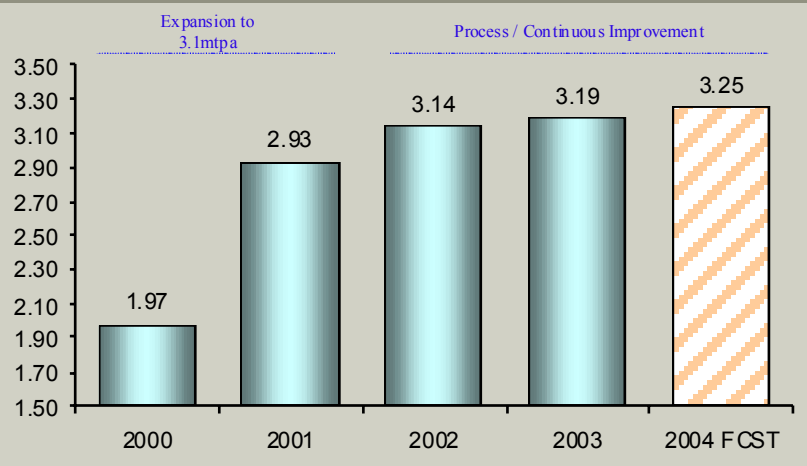


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Worsley - Alumina Calcined Production



Worsley now operating at 3.25mtpa versus "nameplate" capacity of 3.1mtpa

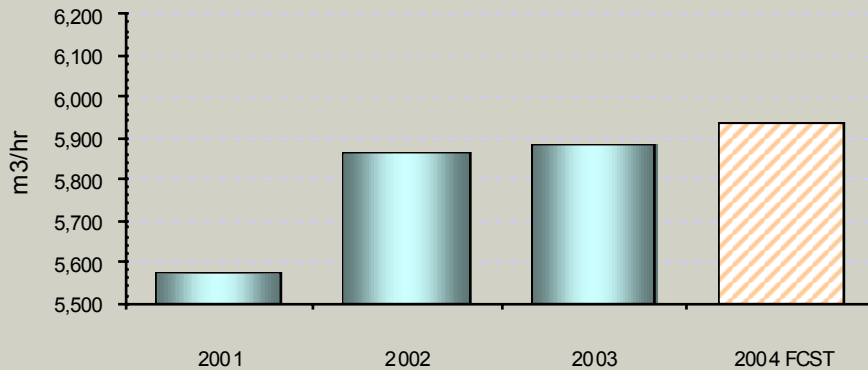
Approximate EBITDA benefit of 150ktpa = US\$18 million per year



Operating Improvement via Plant Flow & Yield

1 GPL Yield, or 100 m³ Flow = US\$6 million EBIT impact

Plant Flow



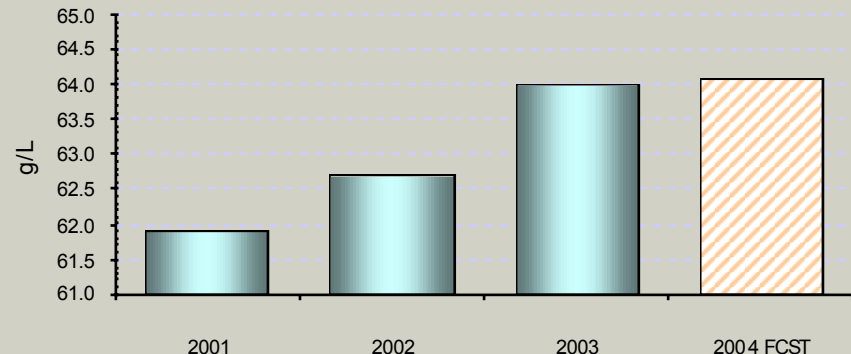
Flow Improvements:

- Mud Handling
- Operating Factor
- Powerhouse

Yield Improvements:

- Impurities control
- Higher in tank solids

Plant Yield

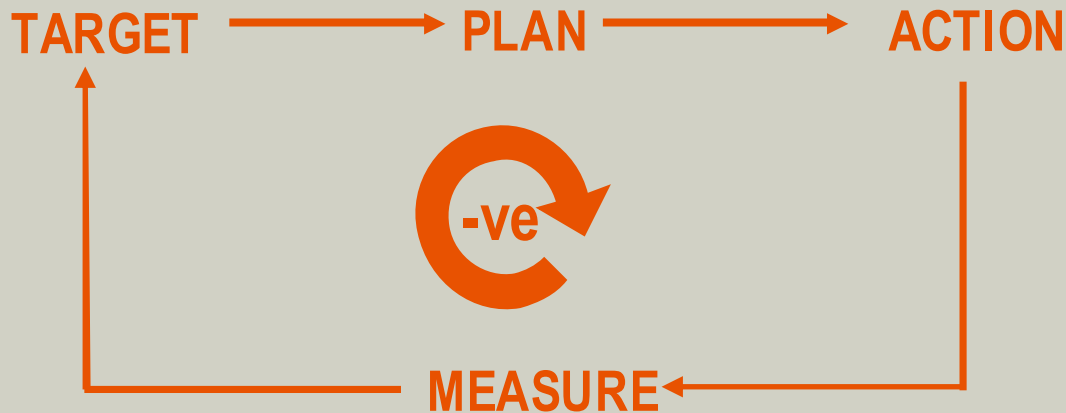


Production = f (Flow x Yield)

The KPI / Value Driver Tree

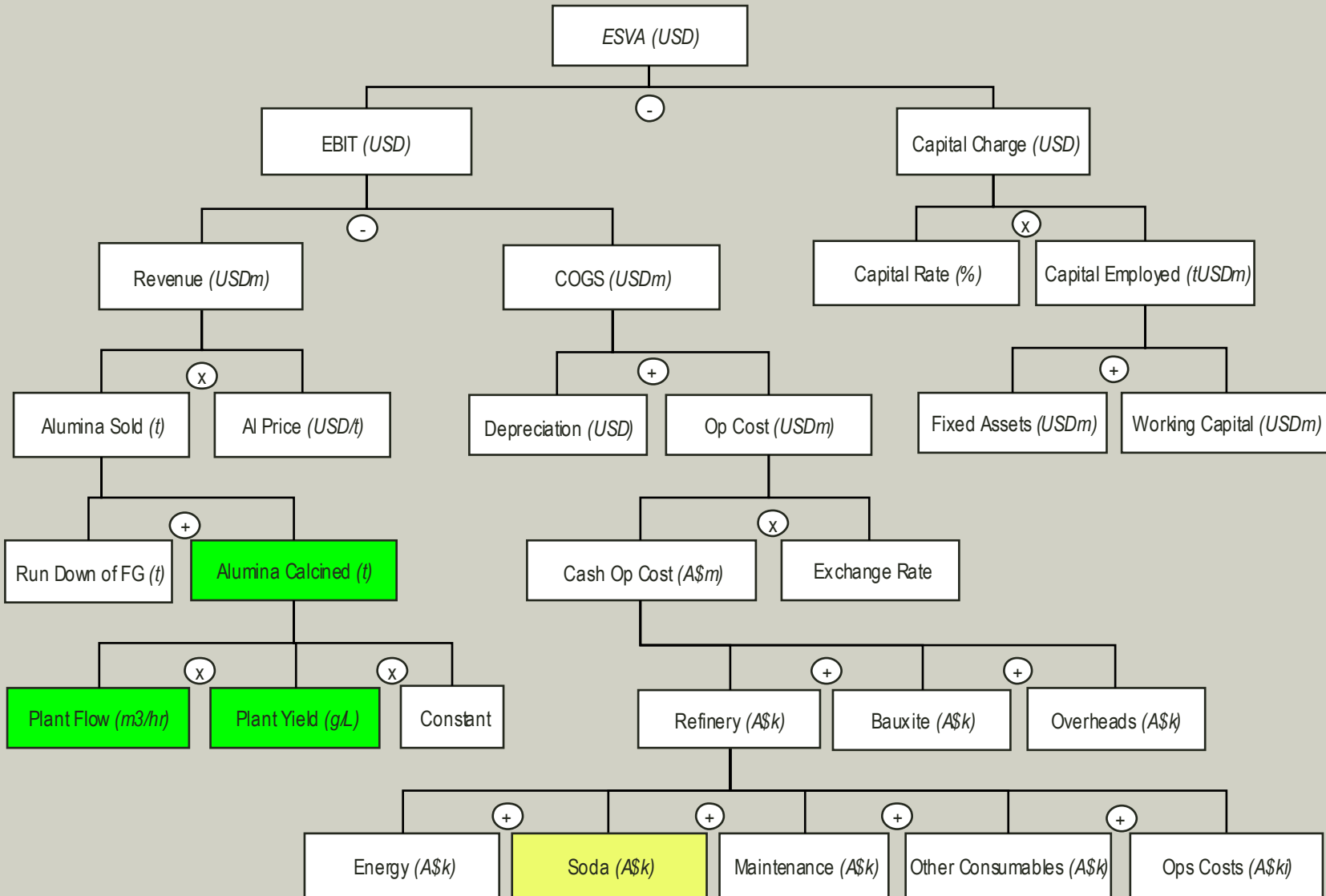
The KPI Process Map is designed to :

- Measure deviations from target (KPO's)
- Analyse the deviations to determine corrective actions (KPD's)
- Measure the economic impact on EBIT by not correcting variances

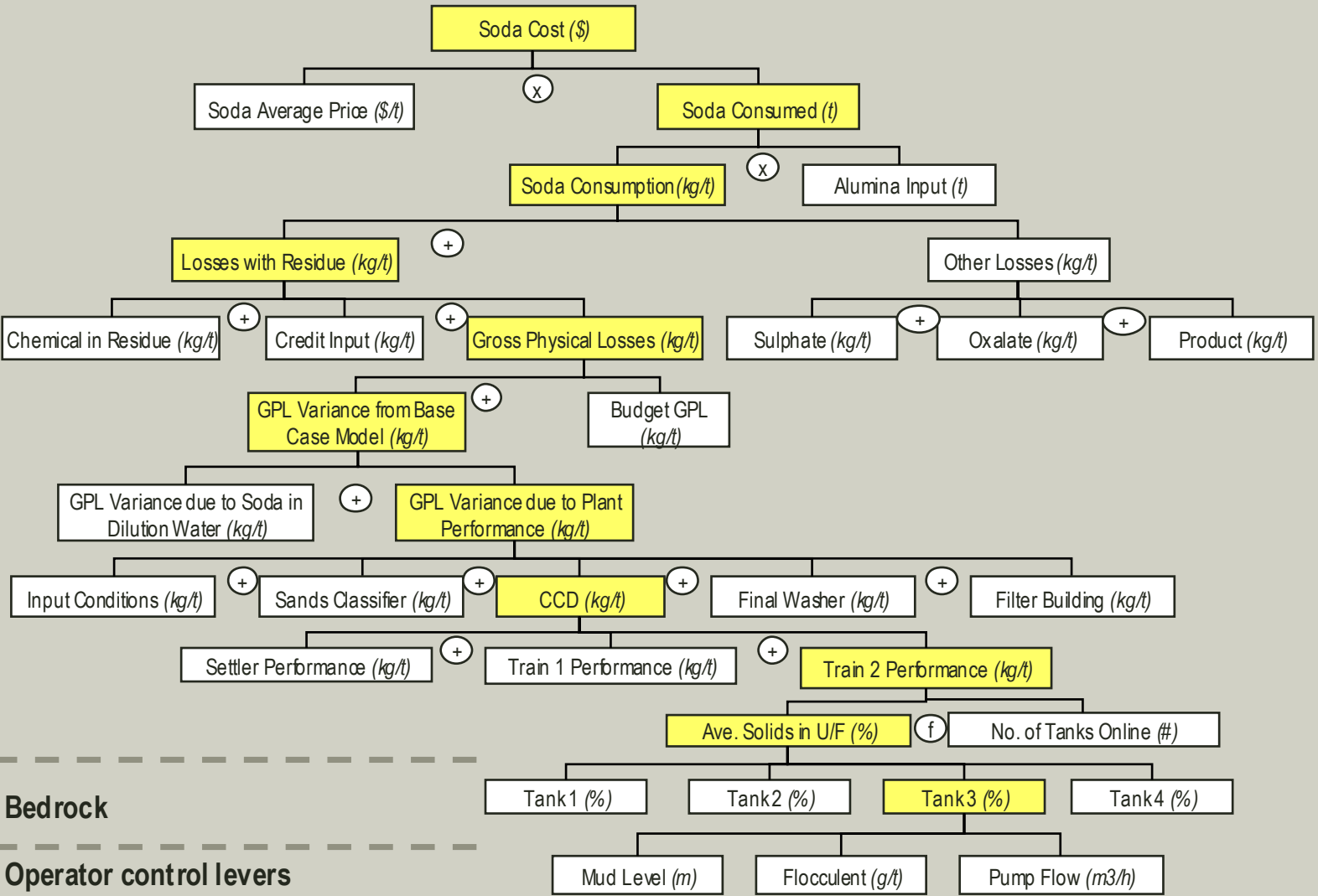


The KPI Process Map lies within a generic negative feedback loop, and identifies “defects” so that they can be corrected (targets change over time to reflect continuous improvement)

KPI Process Map Tool – Example: Overall Performance Tree



KPI Process Map Tool – Example: Caustic Soda Loss



Bedrock

Operator control levers

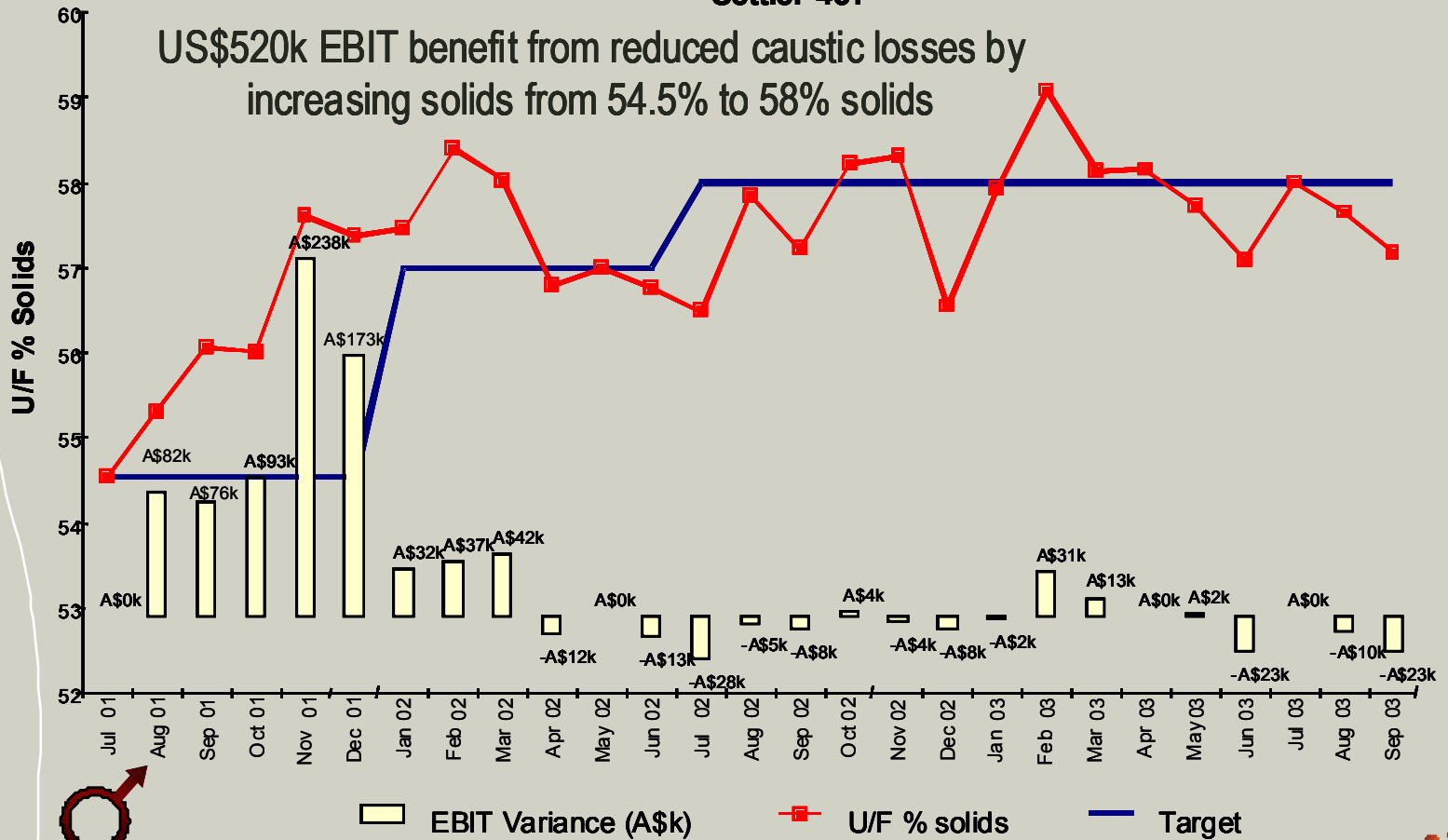
Information available to Primary Work Group

Sept 03	Actual	Target	\$ Effect
Tank 3 U/F solids (%)	37.1	41.0	A\$19k

Benefits from Monthly Feedback – Caustic Soda Saving

Settler 451

US\$520k EBIT benefit from reduced caustic losses by increasing solids from 54.5% to 58% solids



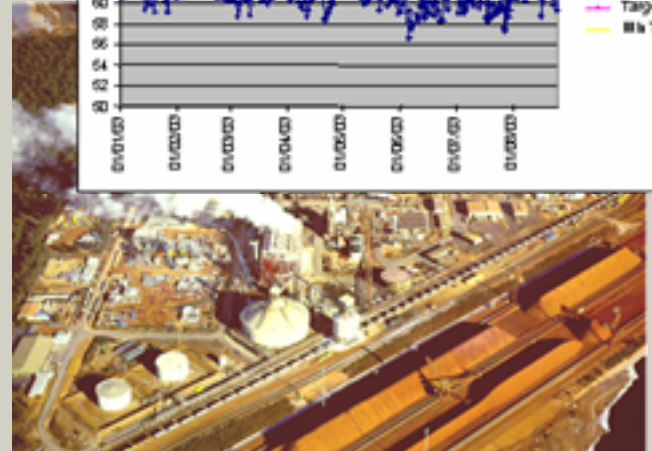
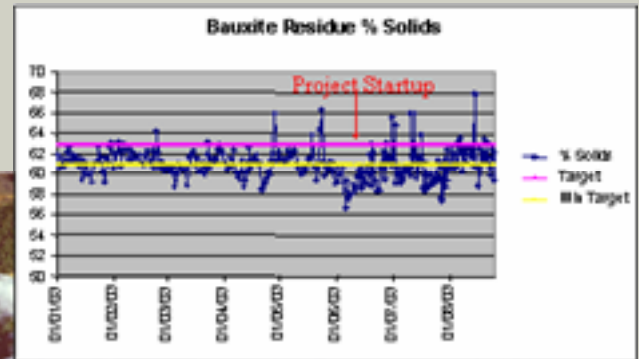
BCS - Bauxite Residue Disposal Solids

Continuous Improvement Projects a part of the way we do business...
(216 projects currently being implemented and tracked at Worsley)

- Increase in Bauxite Residue Disposal Solids from 61% to 63%.
- Soda Consumption lowered by 4,700 tonnes/year at FY04 Standard Soda Price of AU\$219/tonne

Recurring Benefit of AU\$1.0 million (pre-tax)

Measure & Analyse



KPI Review Process – The Visual Workplace

KPI Review L1

Primary Work Groups on the shop floor



Align:

- Start of shift Toolbox Meeting

Level 1 Teams:

WAPL	BHA	BBA	MOZ
101	86	59	55

KPI Review L2

Cross-functional teams led by Area Coordinators



Align:

- Area Morning Meetings
- Coordinator's Weekly Meeting

KPI Review L3

The EMT led by the General Manager



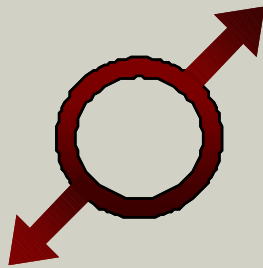
Align:

- Weekly EMT Meeting
- Monthly KPI Map Review

Future Growth

Ian Jacobson

Vice President – Technical
Chief Operating Officer

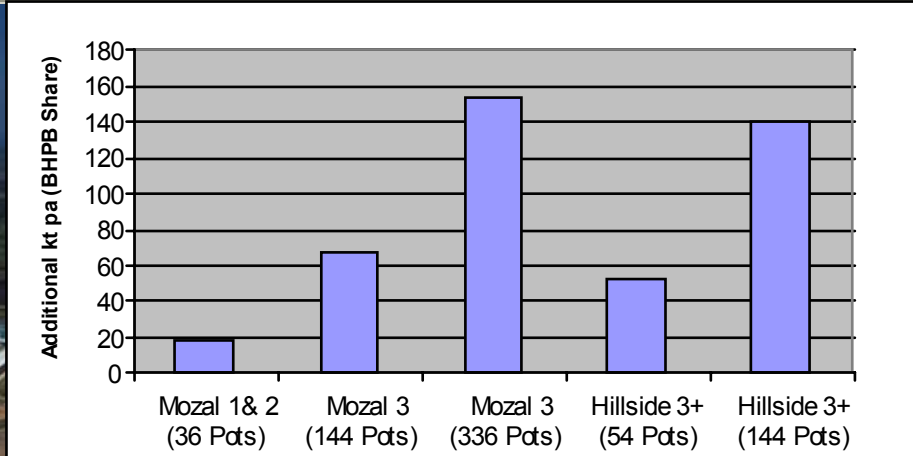


Aluminium CSG



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Southern African Brownfield Expansion Opportunities



Hillside & Mozal

- Increase current to at least 350kA, increasing production by 5% or more at little capital cost
- Improve current efficiency
- Extend existing potlines subject to power constraints



Worsley Expansion to 3.5mtpa

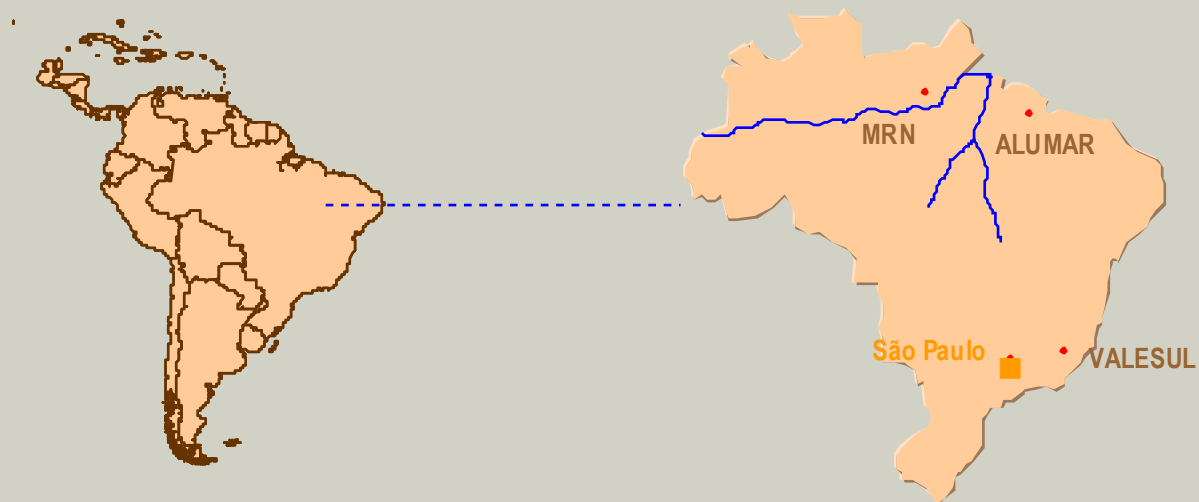
- Complete feasibility study Q4 FY04
- Estimated cost < US\$500 per annual tonne
- Production would commence Q3 FY06

Worsley Expansion beyond 3.5mtpa

- Constrained by capacity of overland conveyor system, but expect > 4.0mtpa
- Presently undertaking a conceptual study
- A similar cost to the 3.5mtpa expansion is expected

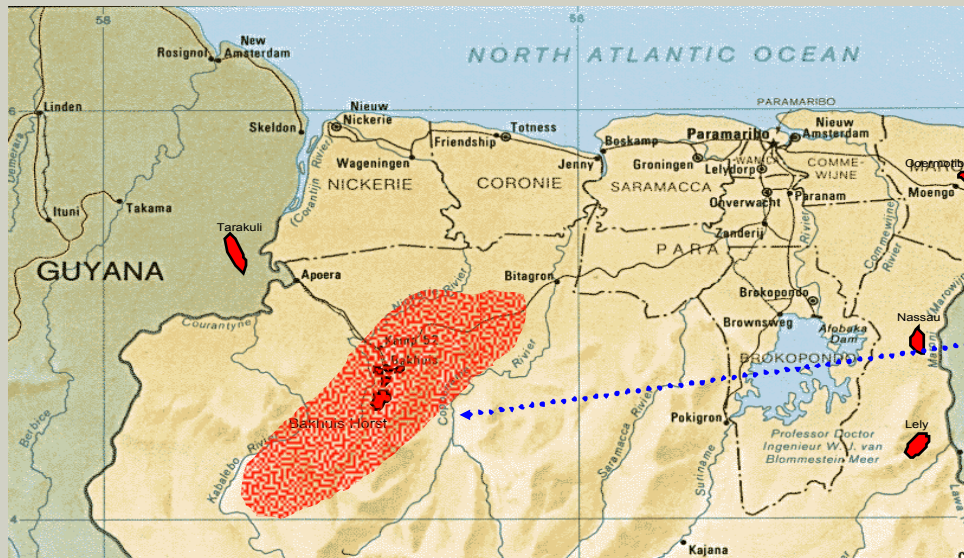
Brazil

- Alumar Refinery creep from 1.3mtpa to 1.5mtpa by 2007
- Further potential for Alumar Refinery expansion to 3.0mtpa
- The bauxite for our share of the Alumar Refinery expansion is in place
- Alumar Smelter Line II full production by Q3 FY04
- Potentially short of power – BHP Billiton addressing by pursuing own generation capacity, in conjunction with its JV partners (Machadinho, Estreito)



Suriname

- Alignment of BHP Billiton & Alcoa Interests under new agreement gives BHP Billiton access to new bauxite areas & cost efficiencies
- Paranam refinery creep / expansion from 1.95mtpa to 2.3mtpa by Q1 FY06 (US\$65 million total, BHP Billiton US\$29 million)
- Ongoing cost improvement initiatives and evaluation of further expansion potential
- Western Suriname (Bakhuis) exploration under way



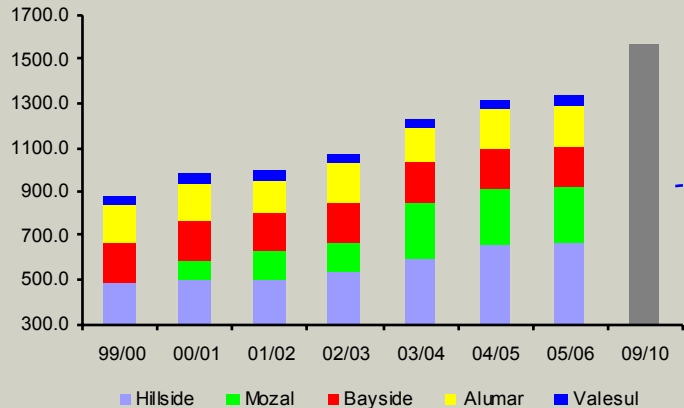
Bakhuis Area



BHP Billiton Aluminium and Alumina Production

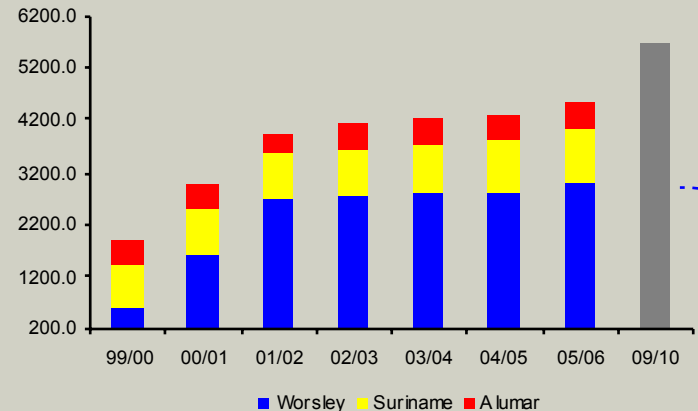
How our portfolio might look in 2010, after harvesting our brownfield potential

Aluminium Production



- Mozal III
- Hillside III – add 54 pots
- Current to at least 350kA

Alumina Production



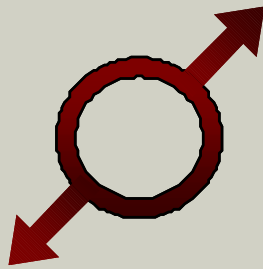
- Worsley to 4.1mtpa
- Alumar to 3.0mtpa
- Suriname to 2.3mtpa



Finance

Alex Vanselow

Vice President and Chief Financial Officer

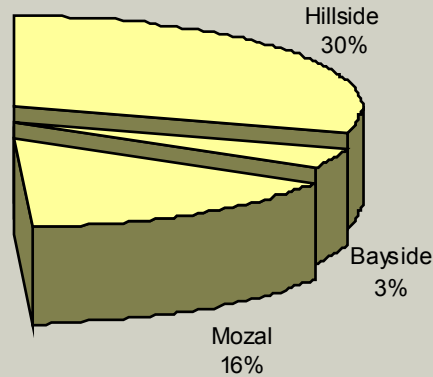
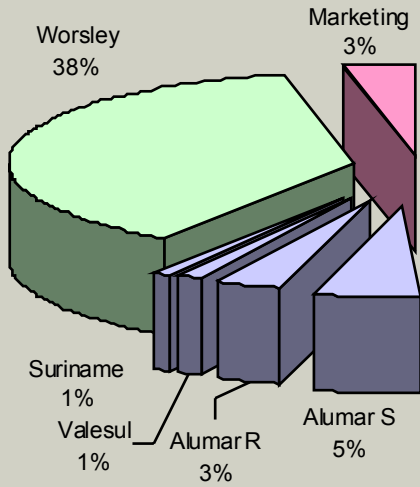


Aluminium CSG



bhpbilliton

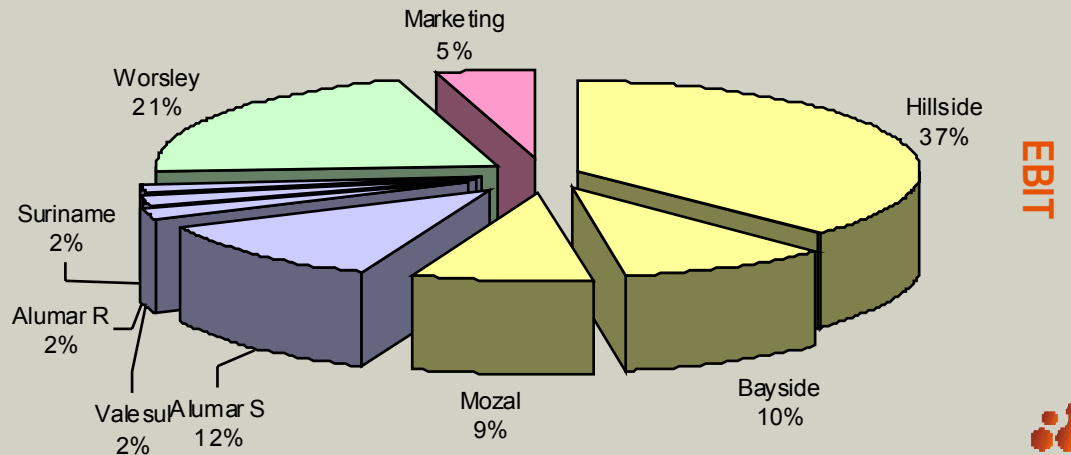
Net Operating Assets and EBIT – June 2003 Year End



Net Operating Assets

\$5.1billion

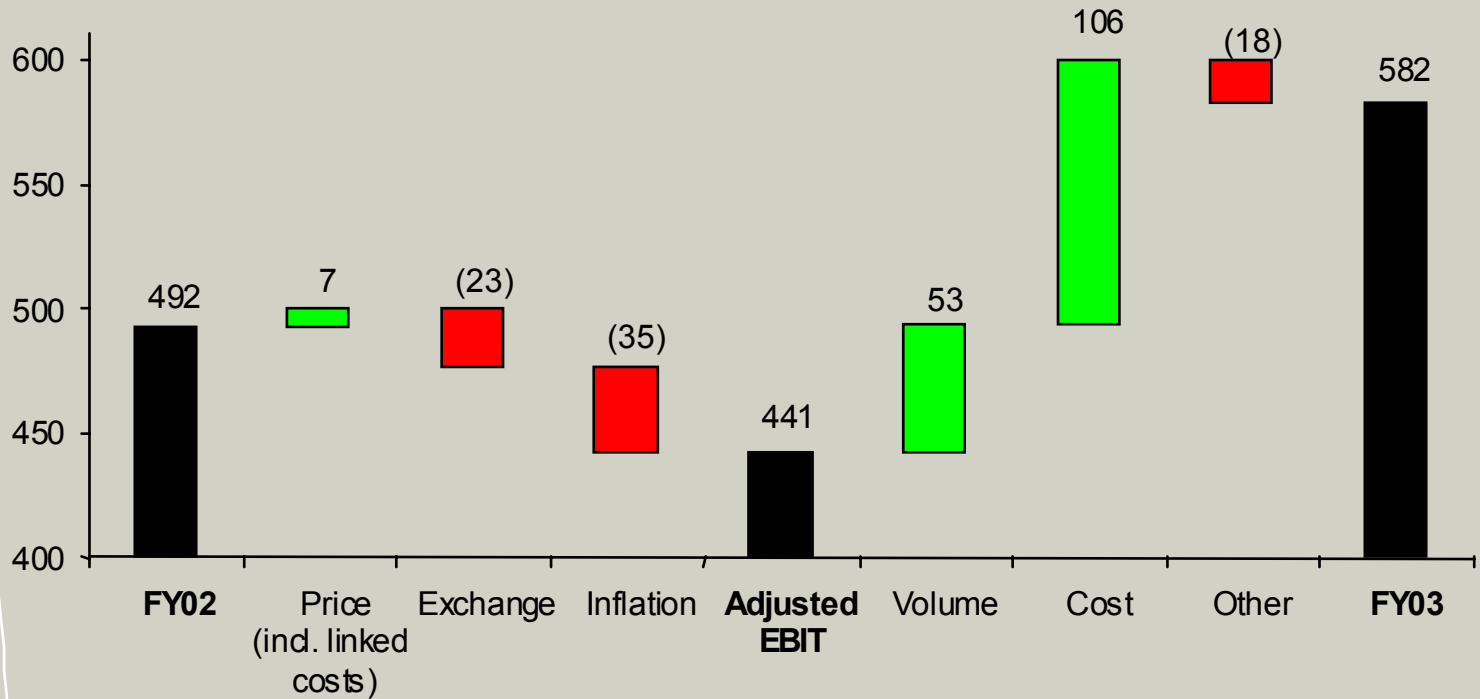
\$582 million



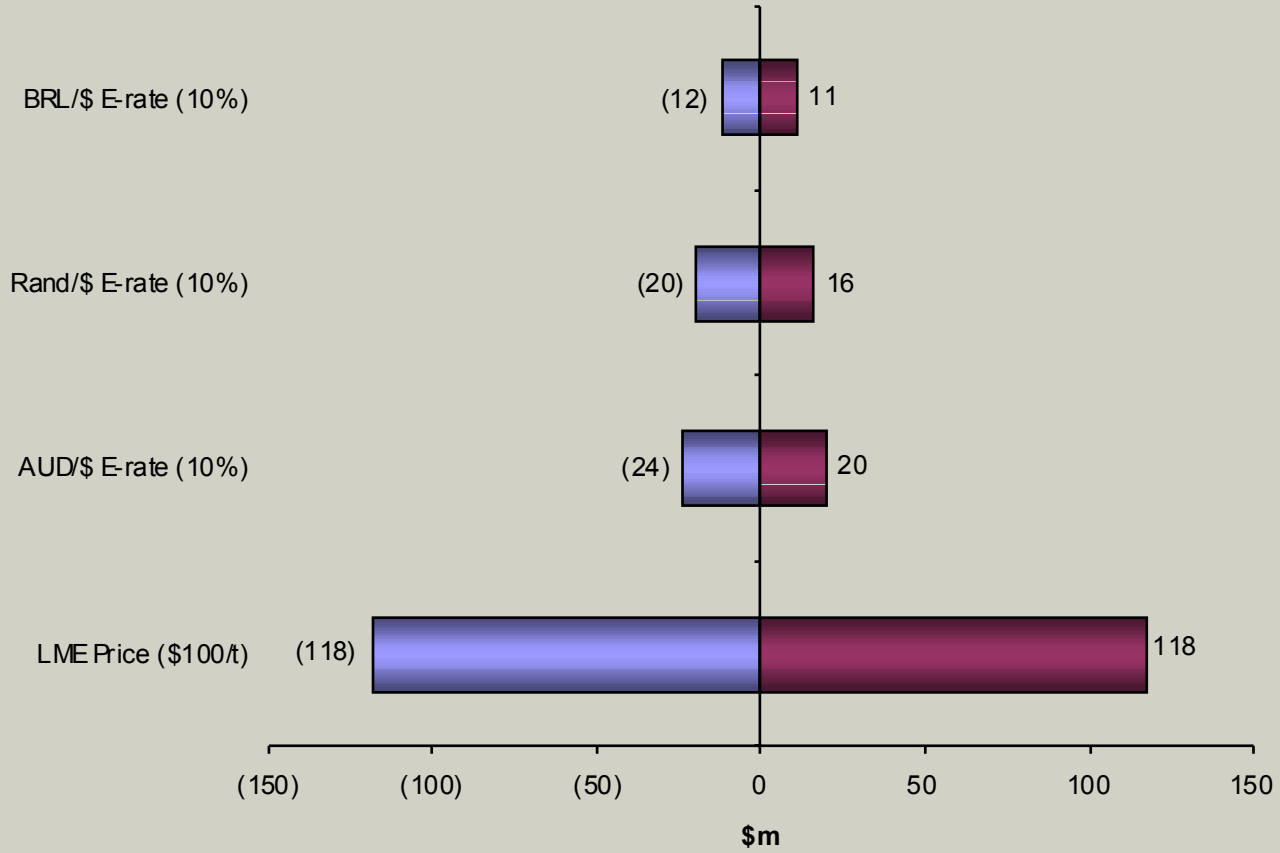
EBIT



EBIT Variance Analysis (\$M)

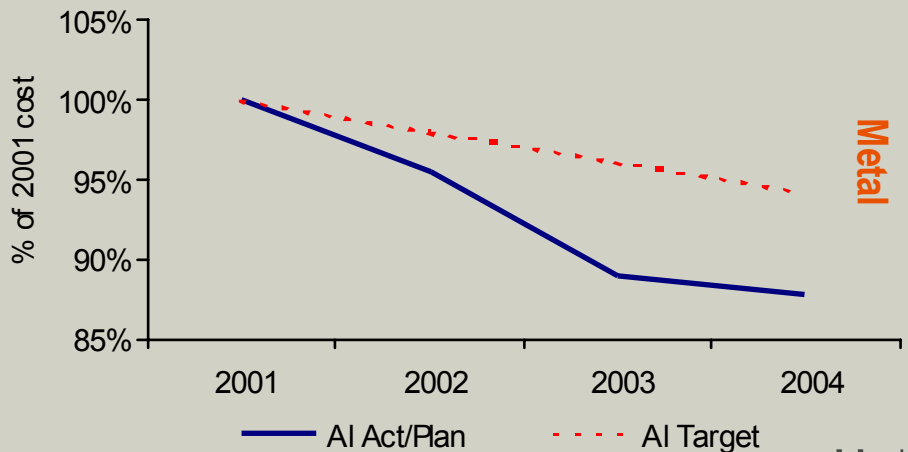
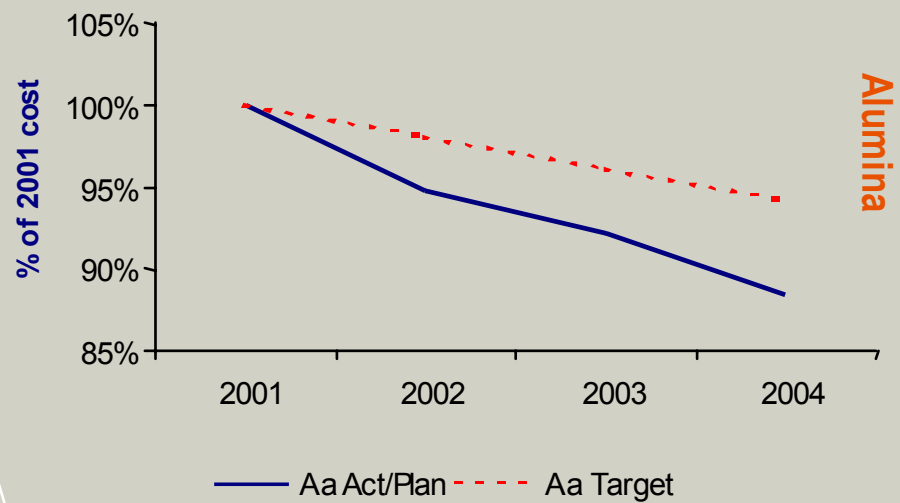


EBIT Sensitivity Analysis

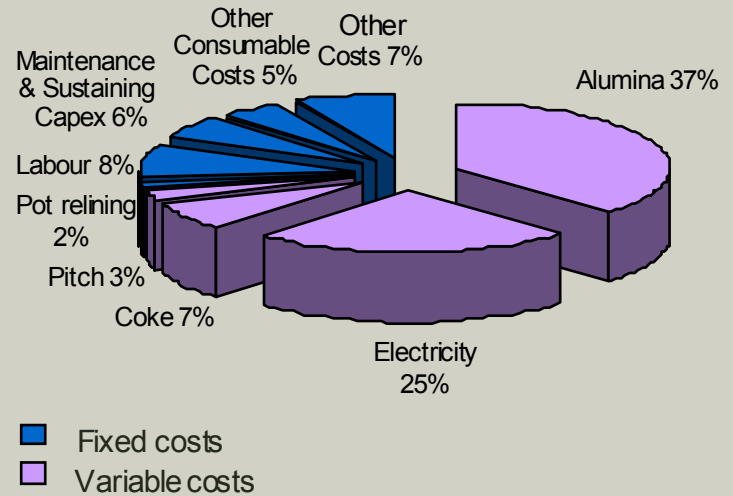
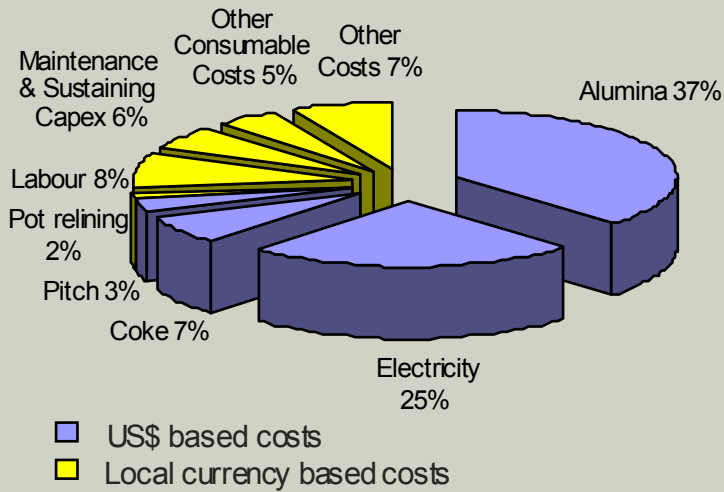


Unit Cost Performance (Normalized)

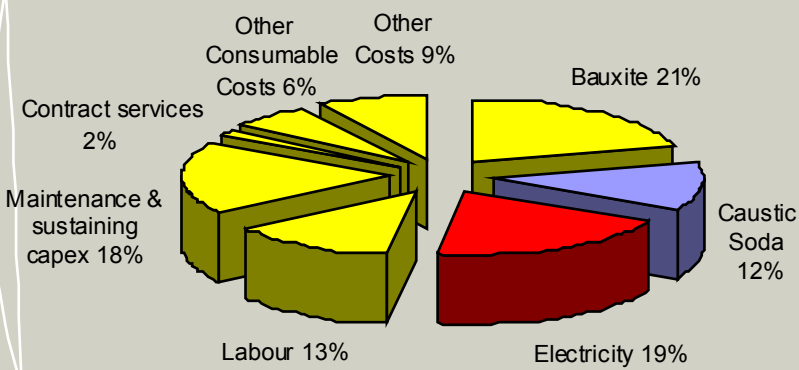
Normalized for LME, Exchange and Inflation



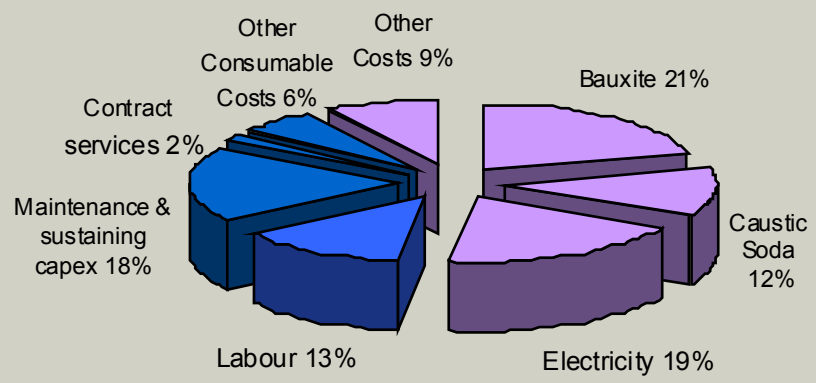
Metal Cash Costs



Alumina Cash Costs



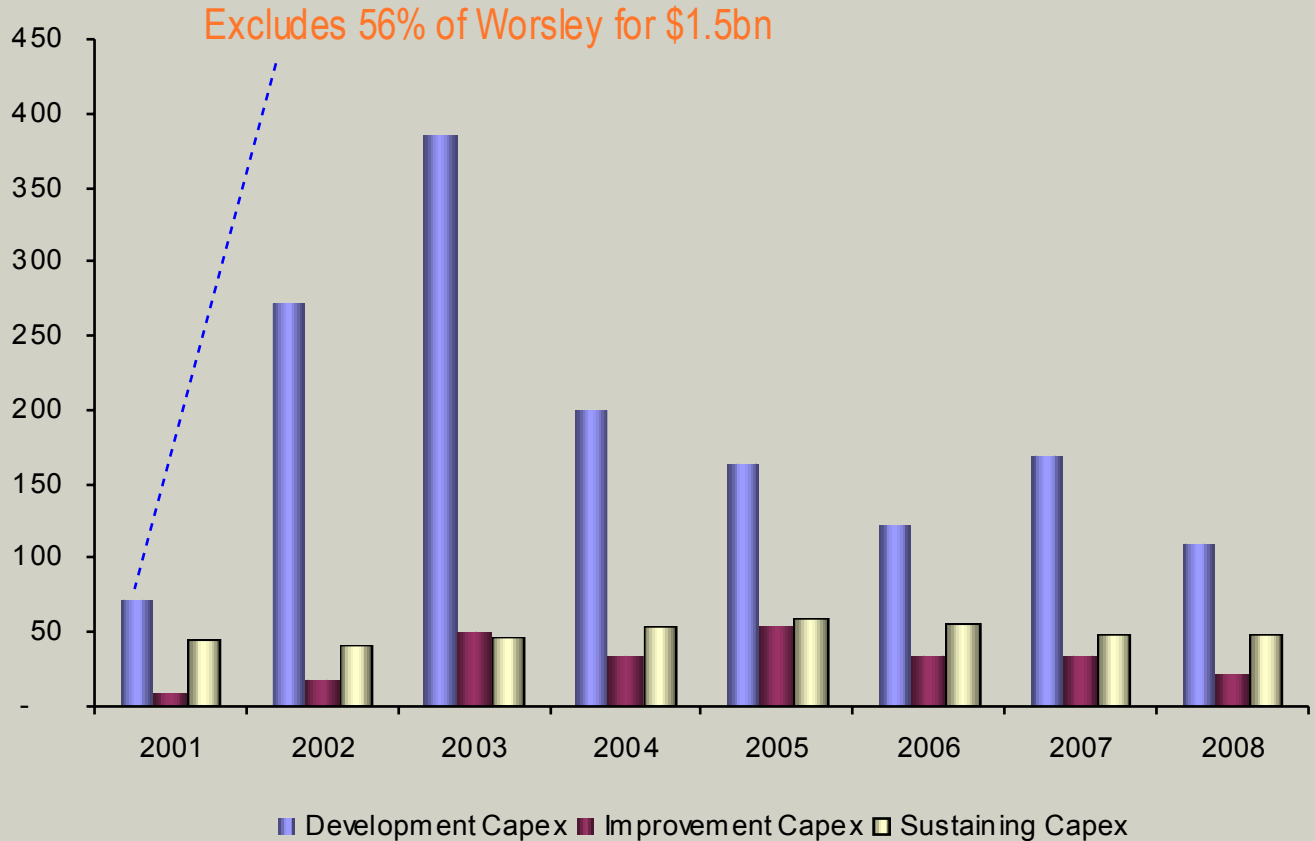
- US\$ based costs
- Local currency based costs
- Local currency and US\$ based costs



- Fixed costs
- Variable costs

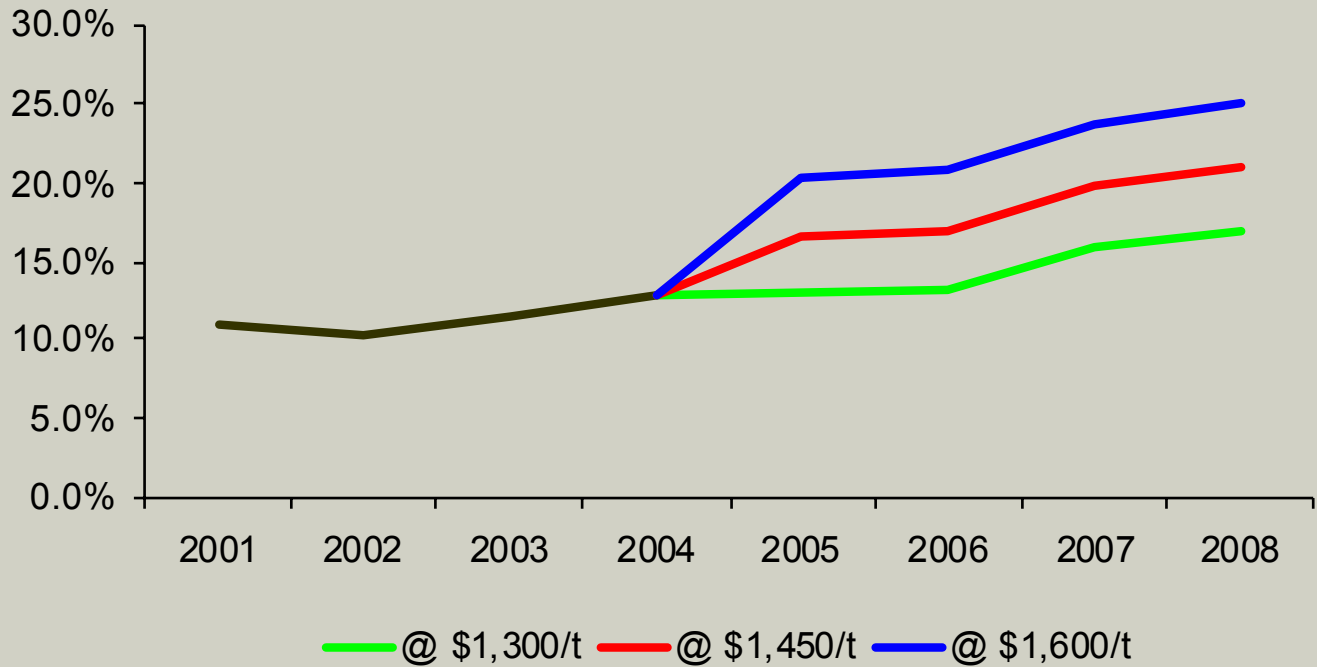


Capital Expenditure

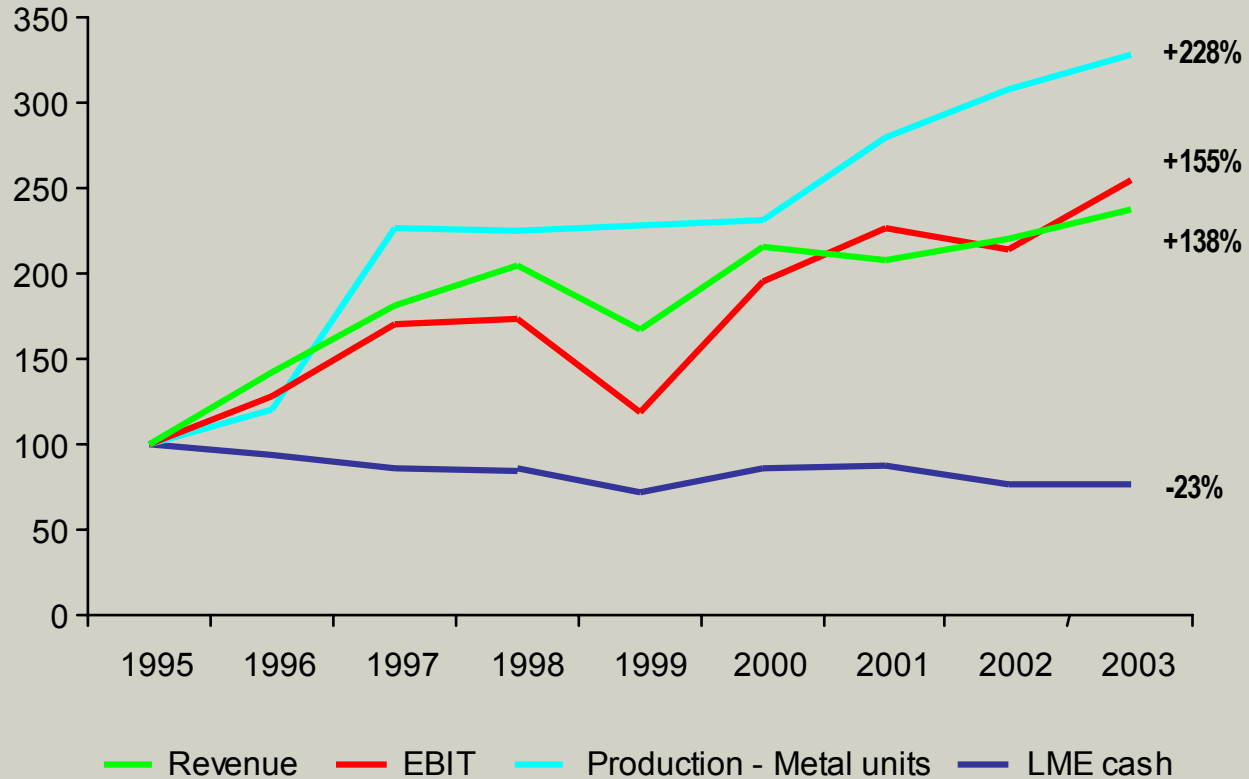


EBIT ROC based upon different real prices in 2005-08

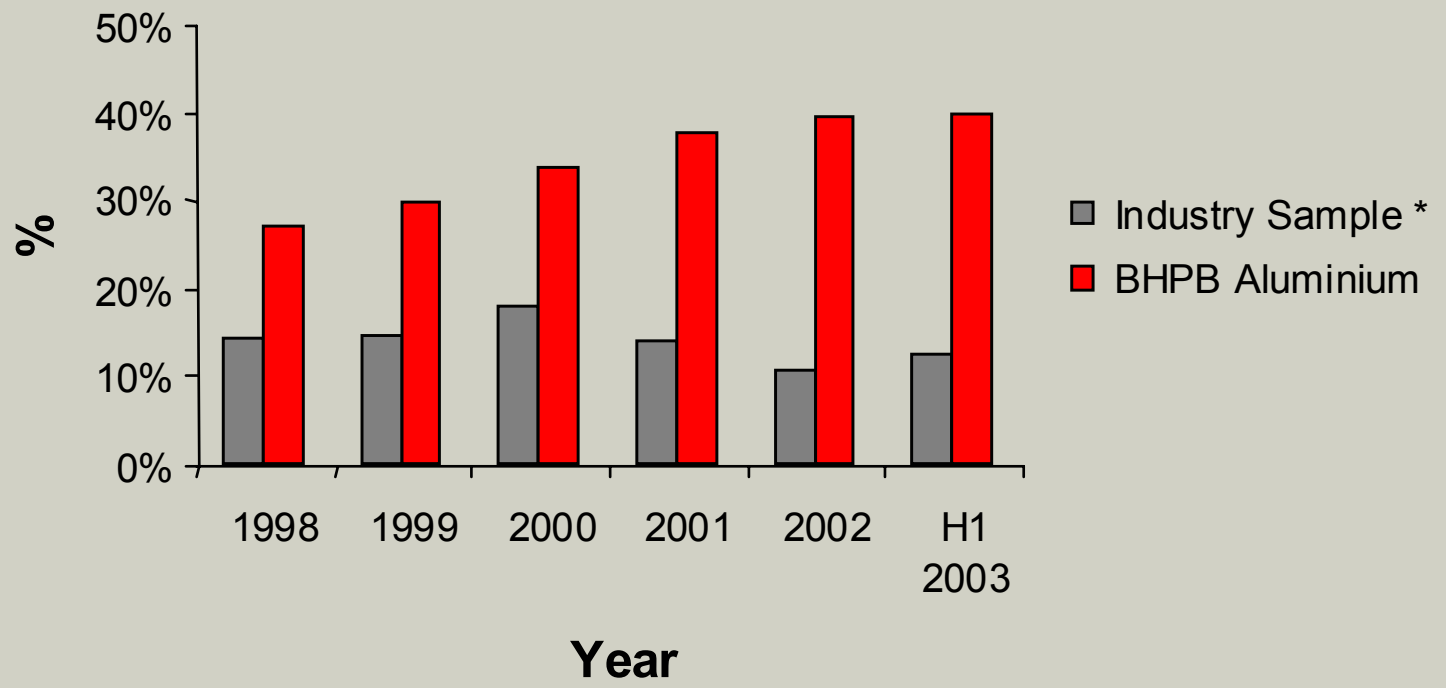
June Year End



BHPB Aluminium Growth Indexed to 100 (Base Year 1995)



EBITDA Margins (Calendar Years)



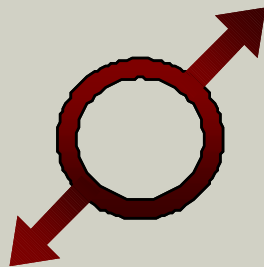
* Alcoa, Alcan, Pechiney, Norsk Hydro Aluminium, Comalco, Chalco, Kaiser, Century and Reynolds



Conclusion

Mike Salamon

Executive Director
Senior Minerals Executive
President Aluminium



Aluminium CSG



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Key Messages

- Quality of asset portfolio - Upstream 
 - Metal
 - Alumina
- Opportunity for significant further improvement
- Still brownfield opportunities to harvest
- Change in growth emphasis \longrightarrow Aluminium to Alumina
 - Response to supply / demand evolution in China
 - Where we believe the greatest source of future rent lies