



# Base Metals Division Investor Seminar

## 20 January 2009

**Brian Beamish, CEO AngloBase**

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# Introductory Remarks

Cynthia Carroll, CEO Anglo American Plc

# Presentation Outline



## 1 Introduction to AngloBase

Safety  
Management  
Profile  
Locations

## 2 Business Overview

Strategy  
Operational Overview & Cost Position  
Cost Analysis

## 3 Market Overview - Outlook

Copper  
Zinc  
Nickel

## 4 Value Delivery

Portfolio Review  
Operational Excellence  
Exploration  
Technology & New Markets  
M&A  
Growth Options

## 5 Conclusion

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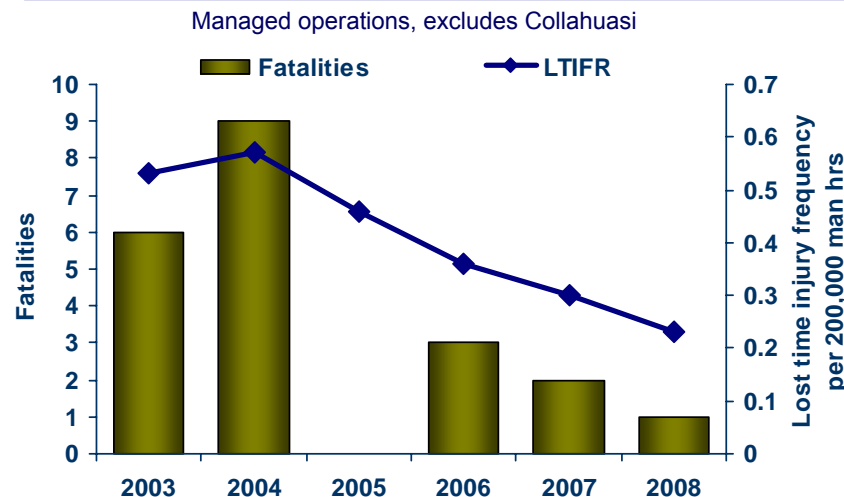
## 5 Conclusion

# 1 Safety – Our Number 1 Priority



- Safety excellence is our top priority
- Vision to achieve Zero Harm through effective management of safety in all managed operations and projects
- Barro Alto project achieved 973 days (8.22 million man hours) without a Lost Time Injury
- 9 of our 12 managed operations have had no fatalities in the past 2 years, with Chagres having no fatalities in the past 16 years

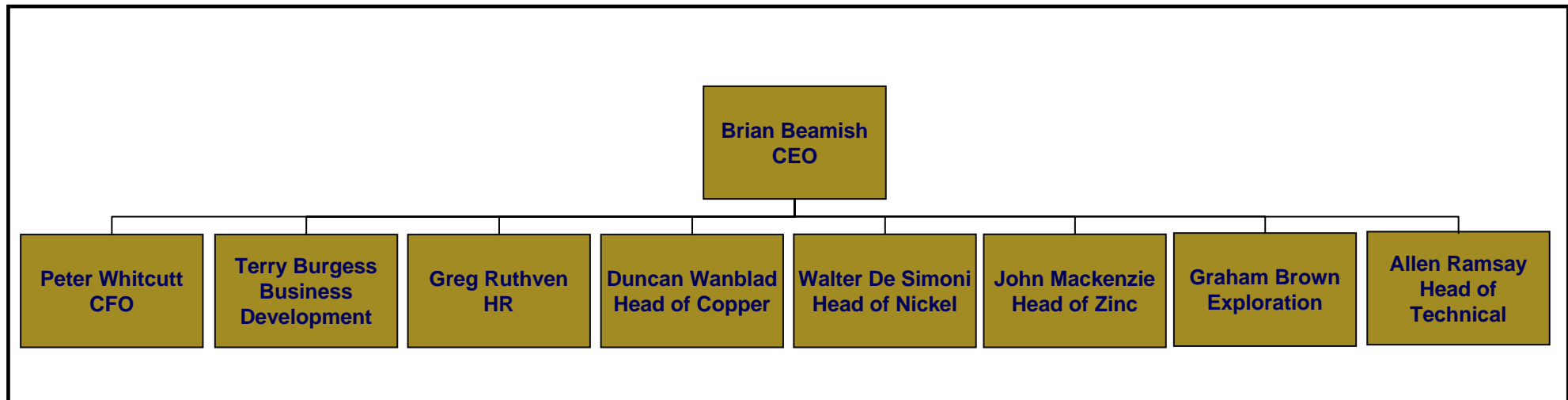
## Base Metals Safety Performance



# 1 Experienced Management Team



- Flat management structure
- New additions to the management team
- Dedicated safety, marketing and technical capabilities

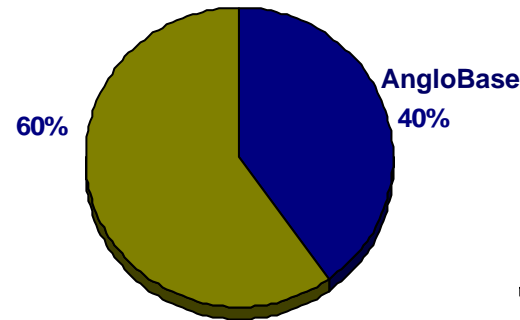


# 1 Introduction to AngloBase

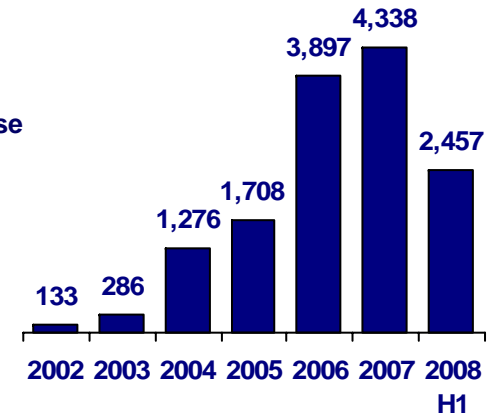


- Over the last 3 years, AngloBase has been the largest profit contributor within Anglo plc
- In recent years, significant changes in the asset base have markedly improved the quality of the portfolio
- Focus on long life, low cost assets
- Copper is the largest segment within AngloBase, accounting for the majority of production, turnover and operating profits

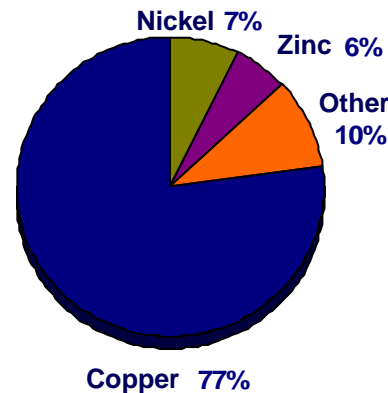
2008 H1 Group Operating Profit



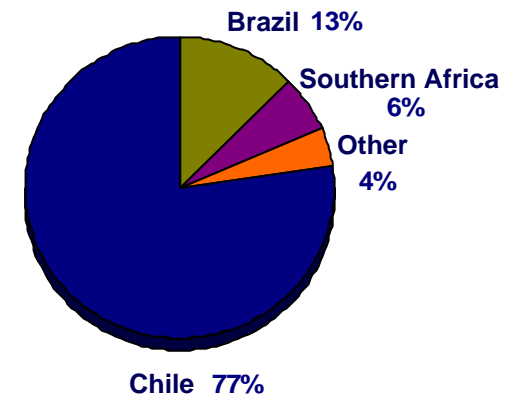
AngloBase Operating Profit (\$M)



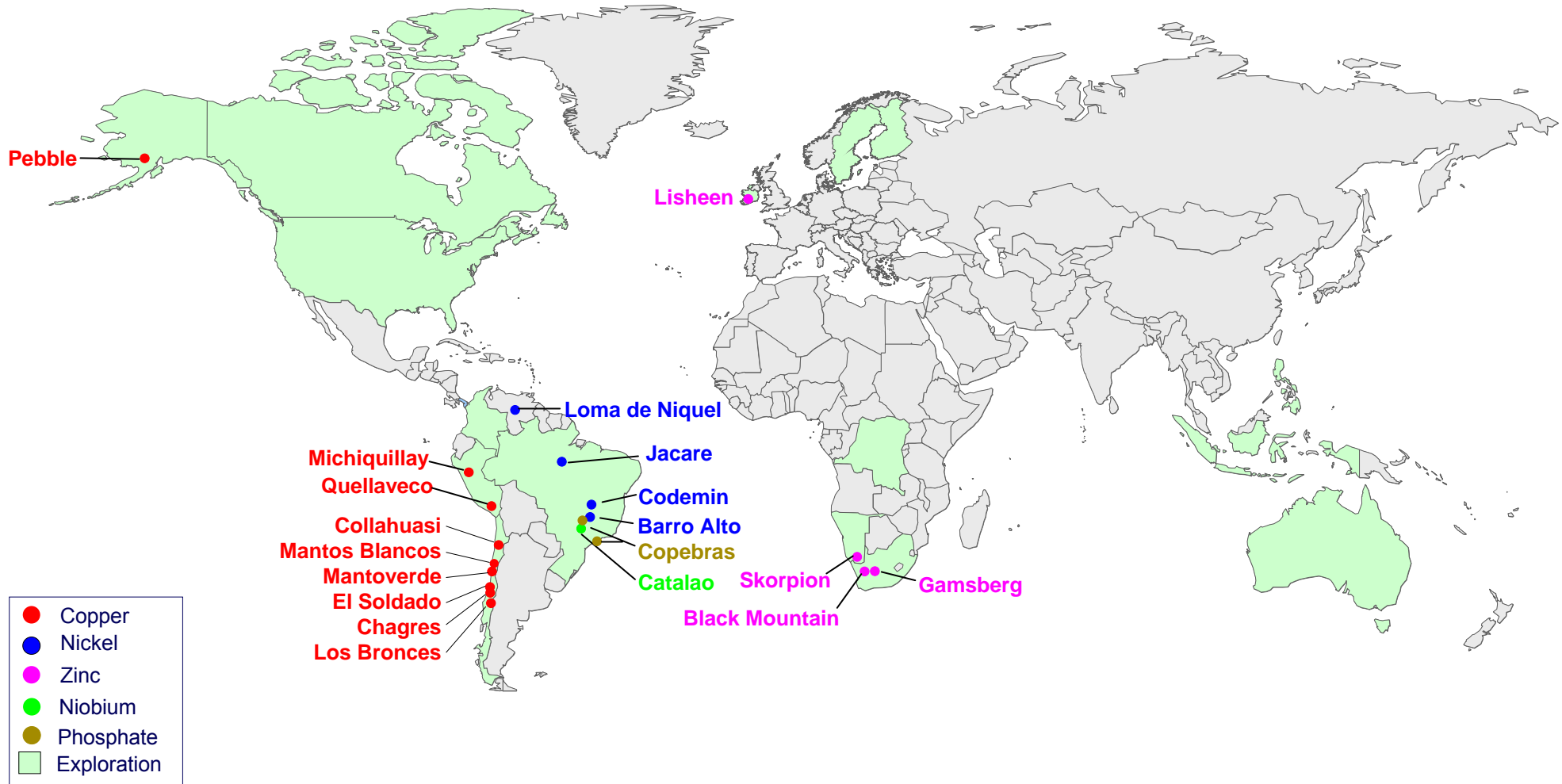
2008 H1 Operating Profit by Commodity



2008 H1 Operating Profit by Region



# 1 Geographical Footprint



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## 2 AngloBase Strategy



Maximise shareholder value through finding, acquiring, developing and operating large, long life, low cost base metal businesses in a Zero Harm, socially and environmentally responsible manner

- Currently looking at opportunities to acquire assets at the bottom of the cycle
- Project pipeline set to deliver increased production of copper and nickel from 2011 onwards



## 2 Copper Operations



### Los Bronces (100%)

- Open pit mine in central Chile
- Production 230kt Cu, 2.6kt Mo in 2007
- Mine life >25 years
- Development project in progress



### El Soldado (100%)

- Open pit and underground mine in Central Chile
- Production 70kt Cu in 2007
- Mine life has been extended to 15 years



### Collahuasi (44%)

- Open pit copper mine in northern Chile
- Production 455kt (200kt) Cu, 4.1kt (1.8kt) Mo in 2007
- Mine life >25 years
- Potential for a 2 phased expansion



### Mantoverde (100%)

- Open pit copper mine in northern Chile
- Production 60kt Cu in 2007
- Mine life 6 years
- Potential sulphide project for life extension



### Mantos Blancos (100%)

- Open pit copper mine in northern Chile
- Production 90kt Cu in 2007
- Mine life 7 years with potential for extension



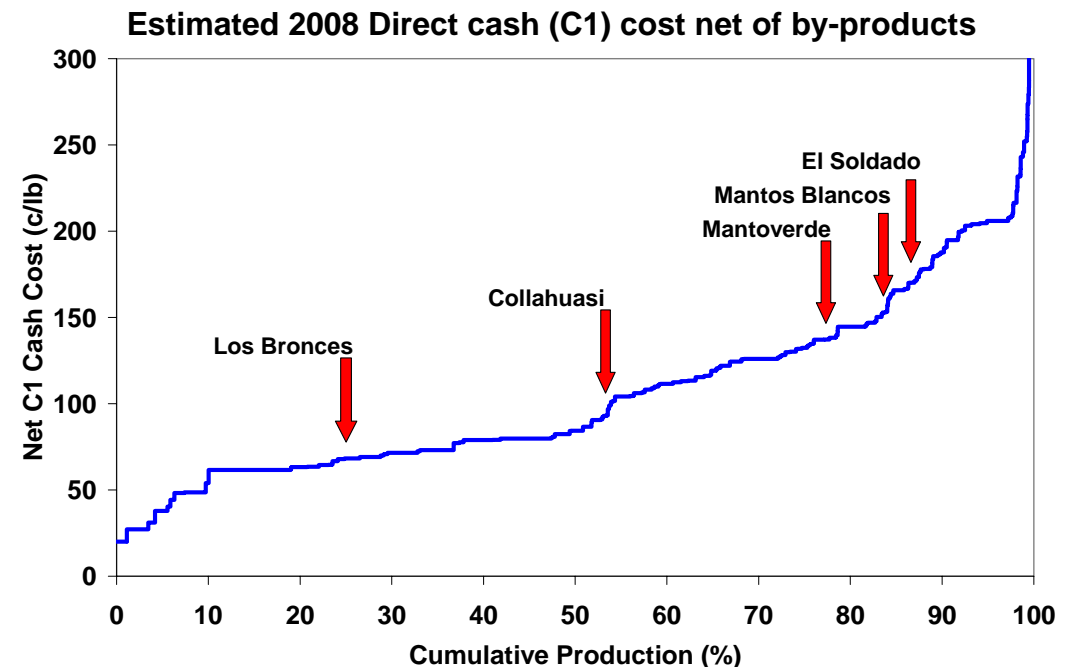
### Chagres (100%)

- Copper flash smelter in central Chile
- Primarily treats concentrates from Los Bronces and El Soldado
- Production 165kt Cu anodes, 495kt H<sub>2</sub>SO<sub>4</sub> in 2007
- Potential for addition of refinery and expansion to 340kt capacity

## 2 Copper Positioning



- Two-thirds of existing production in lower half of cost curve
- Weighted average C1 costs for copper portfolio around the middle of the cost curve
- Between 2007 and 2008 the industry weighted average net C1 increased by an estimated ca. 25c/lb, primarily due to higher minesite costs and to lower by-product credits
- Expansions at Los Bronces and Collahuasi, together with the greenfield pipeline, will improve Anglo's cost position



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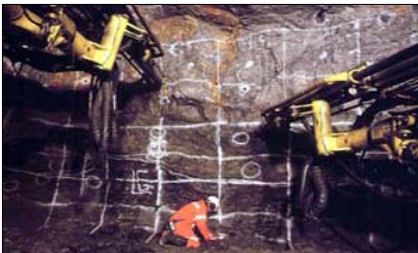
## 2 Zinc Operations & Positioning

- Skorpion well positioned in the lower half of the cost curve



### Skorpion (100%)

- Open pit zinc mine in Namibia
- Production 150kt Zn in 2007
- Mine life 7 years
- Uses proprietary leaching, solvent extraction and electrowinning technology



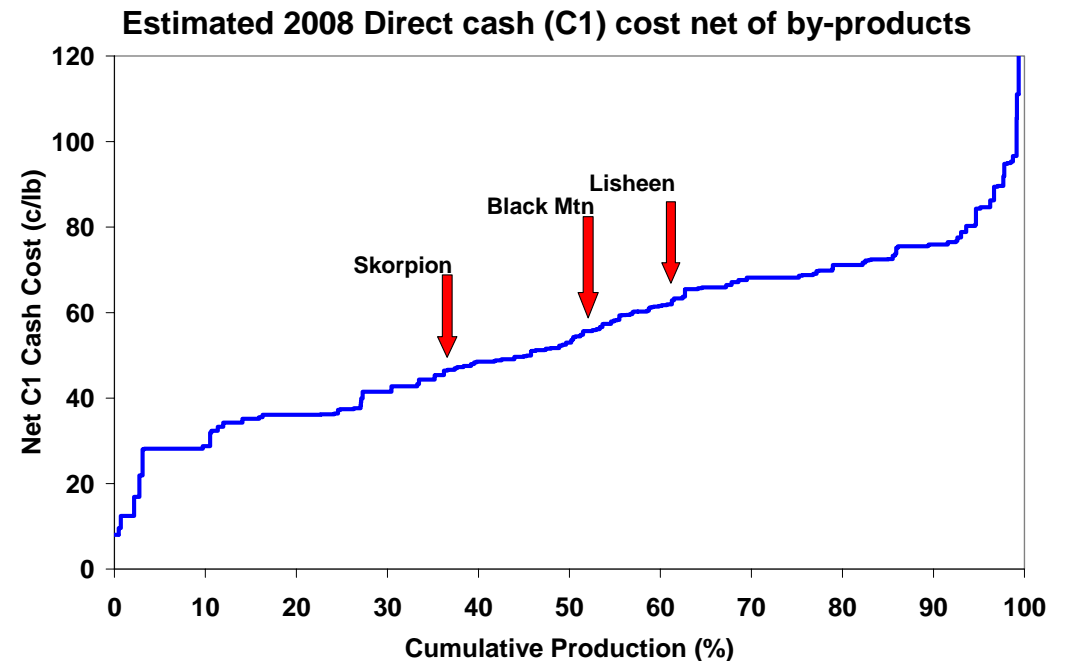
### Lisheen (100%)

- Underground zinc/lead mine in Ireland
- Production 165kt Zn, 20kt Pb in 2007
- Mine life 5 years



### Black Mountain (74%)

- Underground zinc/lead/copper mine in South Africa
- Production 30kt Zn, 40kt Pb, 2.2ktpa Cu in 2007
- Mine life 8 years



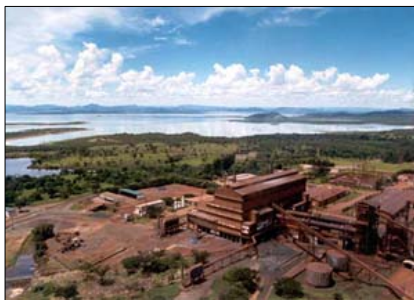
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## 2 Nickel Operations & Positioning



### Loma de Niquel (91%)

- Open pit nickel laterite mine and smelter in Venezuela
- Production 16kt Ni in 2007
- Mine life >25 years but political environment remains challenging



### Codemin (100%)

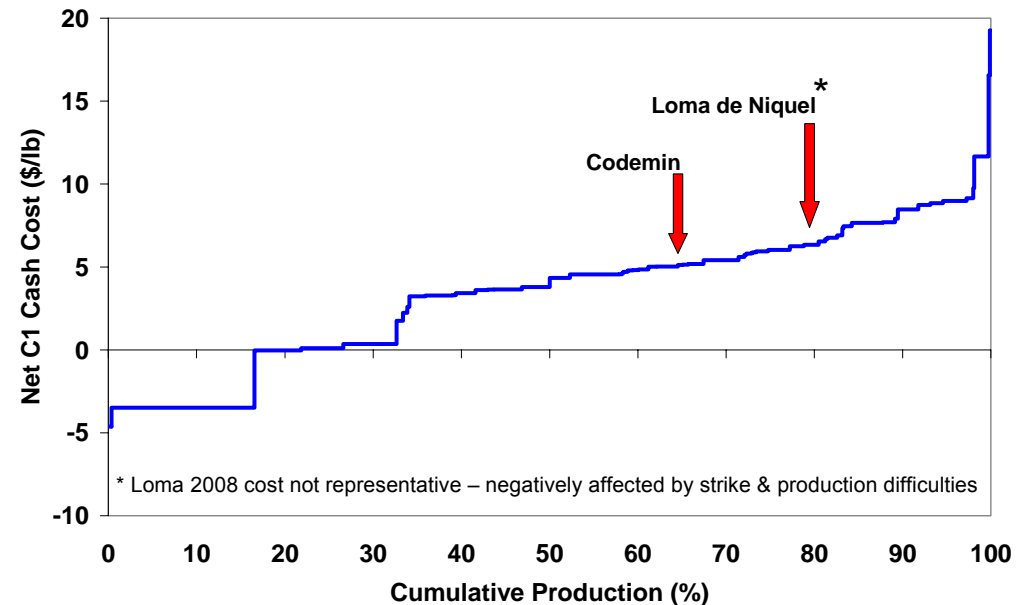
- Nickel smelter processing laterite ore in Brazil
- Production 10kt Ni in 2007
- Operation life >25 years processing Barro Alto ore



### Catalão (100%), Copebrás (73%)

- Open pit niobium & phosphate mines plus chemical plants in Brazil
- 4.7kt Nb, 1.0Mt fertiliser, 1.4Mt acid
- Mine life >25 years
- Significant scope to expand production at Copebrás

Estimated 2008 Direct cash (C1) cost net of by-products

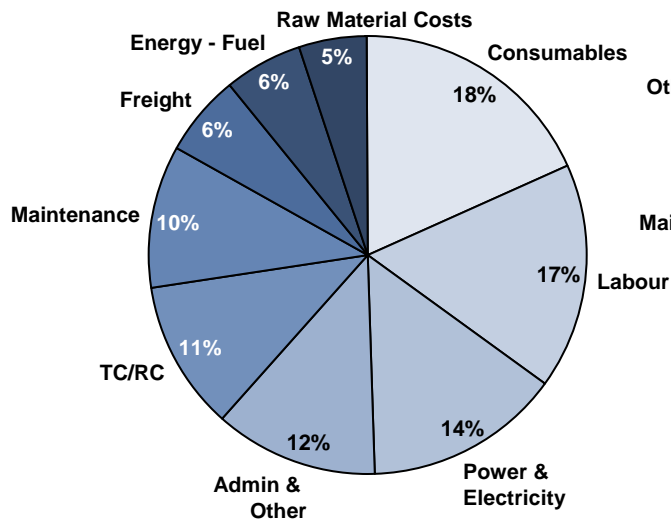


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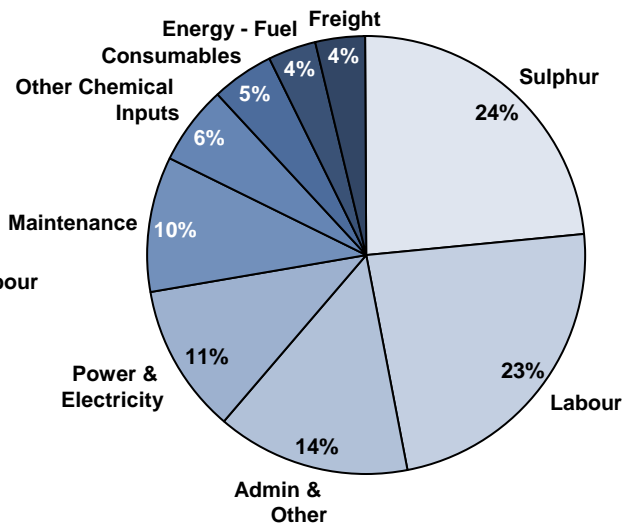
## 2 Cost Analysis



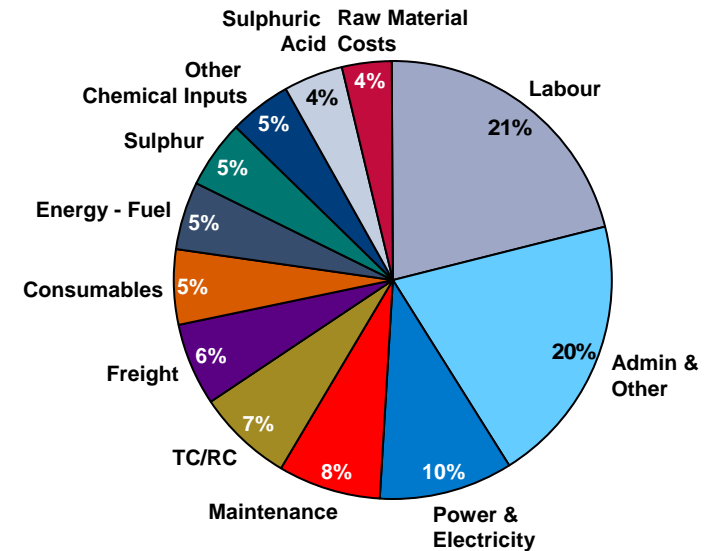
Los Bronces  
Cash Operating Cost (2008)



Skorpion  
Cash Operating Cost (2008)



Anglo Base Overall  
Cash Operating Cost (2008)



- Sulphur has already decreased to a spot price of \$50/t from a peak of more than \$850/t in early 2008
- Fuel and freight costs also expected to reduce in 2009

## 2 Sensitivity Analysis



<b>Estimated Commodity Price Sensitivity</b>	
10 cent change in copper price	± \$120 million in annual operating profit
5 cent change in zinc price	± \$30 million in annual operating profit
50 cent change in nickel price	± \$20 million in annual operating profit

<b>Estimated Exchange Rate Sensitivity</b>	
10% change in CLP/USD	± \$60 million in annual operating profit
10% change in ZAR/USD	± \$5 million in annual operating profit

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## 3 Market Overview



### Price Declines

*Rapid and significant price declines reflecting deteriorating fundamentals*

- Inventories steadily increasing; Ni already well above 'normal' levels
- Fund long liquidation and/or shorting
- Prices to remain under pressure until fundamentals improve
- However, margin compression being partially eased by declines in underlying cost components

### Role of By Products

*By-product credits offset cost increases between 2006 and 2007 but since mid 2008 significant price falls have led to upward pressure on net cash costs – now being offset by declines in most other input costs.*

### Operating Cost Movements

*Three principal drivers are lowering near-term mining cost curves:*

- A stronger US\$ and correspondingly weaker producer currencies
- Lower energy, consumables & raw materials, freight, royalties and labour bonuses
- Very significant mine closures and cutbacks from high cost operations have already occurred in Ni and Zn; thus far the response in Cu has been more muted as the Cu price intersected the cost curve later than Ni and Zn

### Market Surplus

*The magnitude of the potential market surpluses are larger for Ni and Zn than Cu but*

- Output has been cut more rapidly than in previous downturns, in part due to very tight credit conditions
- A significant number of projects are being delayed or curtailed due to a lack of financing
- Inventory increases should be tempered as a result

### 3 Outlook for the Copper Market



- **Forecast short-term weakness but strong fundamentals over the medium to long-term due to persisting supply constraints in a growing market**

#### *Demand Trends*

#### *Supply Trends*

##### **Industrial production**

- Trend consumption growth typically 1% less than IP
- Future growth expected to remain around 4% pa driven by strong wire and cable markets and China, but global economic growth decelerating rapidly in short-term; OECD IP growth is now negative
- Market slowdown but not a collapse in demand

##### **Supply response**

- Perhaps 10 to 15% of operations are now loss making but mine closures thus far have been more muted
- Significant supply disruptions are continuing
- Low prices, higher opex/capex and funding difficulties causing deferment of more marginal projects
- Copper Belt – political uncertainty may delay expansions

##### **Substitution**

- Significant price driven substitution since 2004, particularly in key markets such as plumbing, building sheet, telecomms and wire & cable
- Consumption loss of 6% (~1.2 Mt) over past 4 yrs (CRU)
- Much substitution likely to be permanent

##### **Stock Levels**

- Inventories are rising but are not yet at excessive levels
- Stock increases likely to be tempered by supply restraint

##### **China Growth**

- Chinese economic growth has slowed, most markedly the manufacturing component (IP)
- Chinese industrialisation/urbanisation expected to continue driving current 'wave' of IP growth albeit at a slower pace
- China accounts for 26-27% of global Cu first use consumption

##### **Technology**

- Technology advancements (leaching of sulphides) could have an impact on future market economics
- Bioleaching of low grade resources

### 3 Outlook for the Zinc Market



- A period of oversupply is forecast in the short term, potentially moving into deficit in the medium term

#### *Demand Trends*

#### *Supply Trends*

##### **Galvanised steel**

- Major consumer of Zn (~55%)
- Future trend growth expected to remain around 4-5% pa driven by continuing industrialisation and urbanisation, but global growth decelerating rapidly in short-term

##### **Supply response**

- Current price cutting well into cost curve, resulting in mine closures, exacerbated by tight credit conditions
- Low prices, higher opex/capex and funding difficulties causing project deferment
- Historically, smaller operations/projects respond rapidly when prices recover

##### **Substitution**

- Significant substitution historically
- Future substitution expected to be limited with less than 25% of the market at risk of some substitution. Brass and diecasting are most vulnerable

##### **Stock levels**

- Inventories are rising but are not yet at excessive levels
- Expect stock levels to further increase, followed by move to balance/deficit from 2011-12 (timing/extent dependent on amount of capacity shuttered + demand)

##### **China growth**

- Chinese industrialisation and urbanisation expected to continue driving consumption growth albeit at a slower pace
- China accounts for around 35% of global consumption
- Smelting capacity has grown to reach 33-34% of global market but future growth probably slower

##### **Technology**

- Many of the potential technology developments in zinc will be applicable industry wide, but none are expected to fundamentally change the market (eg, sulphide leach)

# 3 Outlook for the Nickel Market



## Forecast oversupply in the near-term with improving fundamentals over the long term

### Demand Trends

#### Stainless steel

- Major consumer of Ni (~60%)
- Stainless consumption of Ni expected to grow at a LT trend of 6% pa driven by corrosion resistance and hygiene – related uses, life-cycle costing and China
- Severe downcycle has seen a market collapse

#### Substitution

- Substitution to Ni-lean grades of stainless steel – also market losses in plating and electronic applications
- Est. 15% market loss over 4 yrs (~200kt)
- 'Easy' substitutions have run their course - 300 series (9%Ni) market share stabilised

#### China growth

- Chinese industrialisation/urbanisation expected to continue driving LT consumption growth
- Currently accounts for >25% of global Ni consumption

#### Ni products (non-SS)

- Alloys, plating and other product forms account for ~40% of Ni consumption
- Moderate LT growth of 3.5 to 4%pa driven by Ni-alloys (energy) and plating (China and India)

### Supply Trends

#### Supply response

- Current price biting into cost curve with large scale mine closures, exacerbated by tight credit conditions
- New project supply momentum continuing but with some delays
- Low prices, higher opex/capex and funding difficulties causing longer term project deferrals

#### Alternative sources

- Nickel pig-iron (NPI) and scrap supply have mitigated supply deficits
- New NPI capacity being installed by Chinese stainless steel producers (for security of supply)
- Levels of scrap supply will be affected by Ni price

#### Stock levels

- Ni inventories at a 13 year high
- Stock levels will only return to lower (sustainable) levels through supply restraint and higher demand growth

#### Technical complexity

- There are a number of large, greenfield High Pressure Acid Leach projects under construction or commissioning (Ravensthorpe, Goro, Ambatovy, Ramu). Given their technical complexity, some of these projects may suffer delays, slow ramp-ups and might never reach design capacity

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## 4 Approach to Adding Value



- As part of Anglo's strategic planning, the portfolio of assets, projects and initiatives are under constant review to ensure management focus is invested in the right areas
- Components driving creation and maximisation of value:

### Portfolio Review

#### Asset Optimisation

- Increasing capacity
- Decreasing costs
- Improving efficiencies
- Innovation / CI

#### Technology & New Markets

- Focused programmes
- New treatment technologies
- New markets and products

#### Exploration

- Focused exploration programme
- Balanced footprint

#### M & A

- Clear, focused M&A strategy
- Disciplined approach to acquisitions

#### Project Pipeline

- Robust project pipeline – products and implementation timelines

## 4 Portfolio Review



- In light of the recent rapid decline in commodity prices and global economic uncertainty, Anglo Base Metals has rigorously reviewed its operational and project portfolio. Key decisions and actions taken are:

### Capital Expenditure

*Total Capital Expenditure for 2009 reduced by 45% to USD1.7bn*

- Expansionary Capex reduced by almost 50%;
- SIB Capex reduced by some 40%;
- Reductions in Copper and Nickel capex between 45-50%;
- Reductions in Zinc capex at 22%;
- No impact on budgeted 2009 production;
- Los Bronces: 8-month commissioning delay;
- Barro Alto: 12-month commissioning delay;
- Growth deferred. Better aligned with cycle and optionality remains.

### Operating Assets

*Increased focus on operating costs and asset optimisation, and selective approach to cutbacks in production*

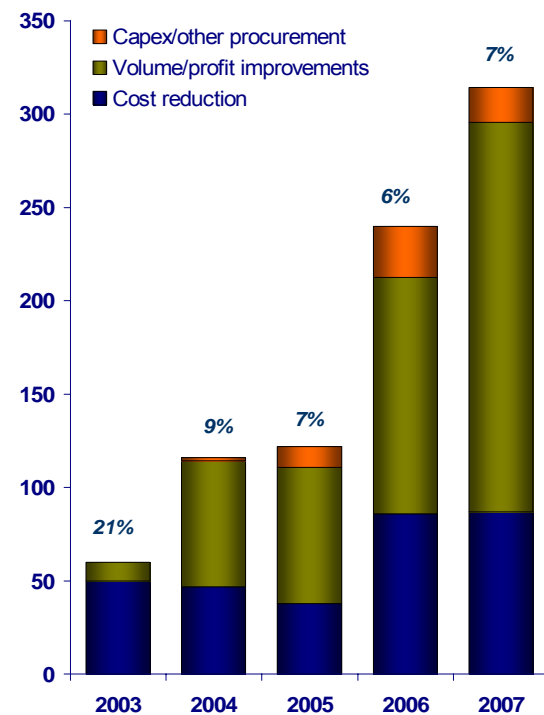
- Operations assessed under both NPV and short term cash generation filters;
- All operations present positive C1 Margins in 2009 at current metal prices;
- Black Mountain and Codemin are small, fundamentally support the growth pipeline (Gamsberg and Barro Alto);
- Temporary stoppage in production at Loma related to high slag transport costs.

# 4 Value Add: Asset Optimisation



- Established mindset of continuous improvement generates benefits that equate approximately 7% operating profit annually
- Collaborative work across operations, divisions and wider Anglo Group encouraging a fresh approach to improving the value of our operations

Year on year improvement (\$M)  
As a percentage of operating profit



### Tyre Life

- 'Protect the rubber' campaign at Mantos Blancos to reduce tyre consumption
- Behavioural change project
- Project doubled tyre life and halved tyre consumption
- Savings of \$0.9M
- 180 people contributed to successful implementation

### Debottlenecking

- Previous CI in the irrigation of the dump leach at Los Bronces resulted in bottleneck in electrowinning circuit
- Two-fold solution that increased current density and precipitated any excess copper for treatment at Mantos Blancos
- Increased revenue by over \$30M in 2007

### Water Consumption

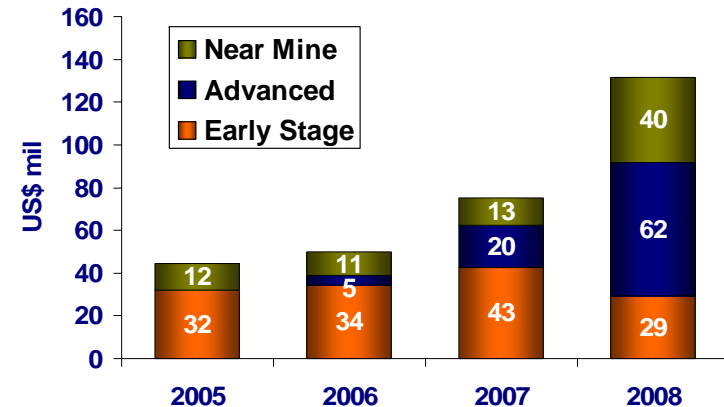
- Additional water supply from mine dewatering at Mantoverde in Atacama Desert
- Reduction in water pumped from nearby valley (\$200k pa)
- Improved dust suppression in the pit
- Increased water availability at the plant enabled production levels to be maintained

# 4 Exploration



- Focused portfolio of projects in 15 countries, plus monitoring 5 other countries in key mineral belts
- Proven discovery track record by strong and experienced global teams
- Structured approach to Capital Allocation: Clear milestones, success criteria and return targets
- Strategy based on 3 pillars

AngloBase Exploration Spend



**Extend Core Business**

- Near mine resource additions is a key priority
- Accelerate development options

**New Projects & Emerging Business**

- Progress Advanced projects
- Co-operation in M&A
- Leverage technology

**Create Options for Growth**

- Managed risk/reward profile
- Frontiers driven by prospectivity
- Breakthrough R&D

## 4 Technology & New Markets



- Strategic purpose of technology development
  - To support, enhance and expand existing business
  - To drive new business
  - To reduce operating costs
- Current breakthrough technology development projects
  - Ore upgrading techniques
  - New laterite processing technology – Anglo Research Nickel (ARNi)
  - New metals program – Titanium metal
  - Bio-heap leaching - marginal ores
  - Alternative zinc sulphide treatment process




## 4 Disciplined Approach to M&A



- Add sustainable value through M&A by focusing on opportunities in, or with potential to move to, the lower half of the cost curve that have significant scale and long life
- Strong internal resources and capabilities offer significant advantage
  - In depth knowledge of markets and peer companies
  - Strong relationships within the industry
  - On the ground presence through Exploration Division
  - Robust assessment and approval process
- Current market may offer opportunities to acquire capacity for less than it would cost to build, but a continued disciplined approach to M&A is required
- Ability to leverage from wider Group capabilities and experiences

# 4 Project Pipeline

**Los Bronces** (Approved)



- Increase in average copper production by 170ktpa
- Start-up expected Q4 2011
- Project enhances Q1 Cost position

**Collahuasi** (Unapproved)




- \$64M de-bottlenecking project completed
- 2 expansion projects could increase production to >700ktpa
- Water remains a key issue

**Pebble** (Unapproved)



- Environmental issues remain a focus
- Funding structure provides optionality - acquisition costs funds project capital

**Gamsberg** (Unapproved)




- Production of up to 400ktpa Zn over 20+ year life of mine
- Orebody extensions being drilled
- Pre-FS commenced in 2008
- Expected to be a Q1 operation

**Barro Alto** (Approved)



- Open pit laterite mine and smelter, 36ktpa Ni
- Start-up expected Q1 2011
- Expected to operate in the lower half of the cost curve

**Quellaveco** (Unapproved)



- Production of 175ktpa Cu over 28 year mine life
- Revised feasibility study being finalised
- Expected to operate in the lower half of the cost curve

**Michiquillay** (Unapproved)



- Agreement reached with local communities in June
- Project is moving into the exploration phase
- Potential for production of >300ktpa Cu with Au, Mo & Ag by-products

**Jacare & MSB** (Unapproved)



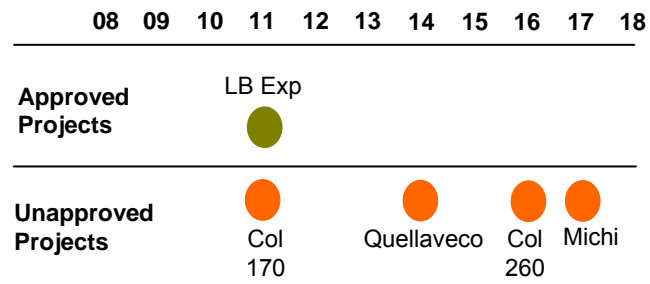
- Licenses acquired in late 90's
- Potential nickel production up to 40ktpa for each project
- Drilling on going and PFS commencing later this year

# 4 Project Delivery

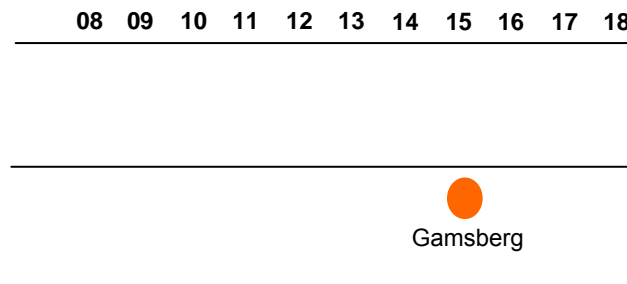


- Strong project pipeline providing significant scope for organic growth
- Delivery of project pipeline improves cost positioning in copper, zinc and nickel
- Growth projects well timed for hypothetical supply 'gap' arising across copper, zinc and nickel markets from around 2014 onwards

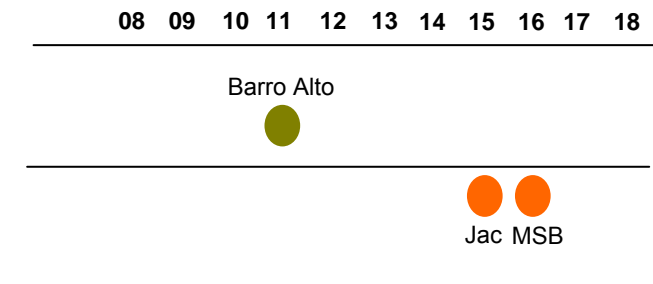
## Copper



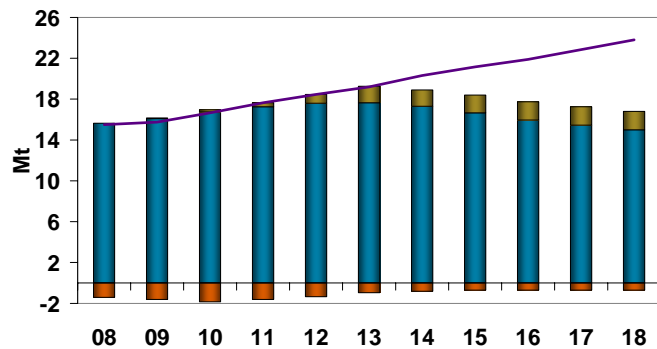
## Zinc



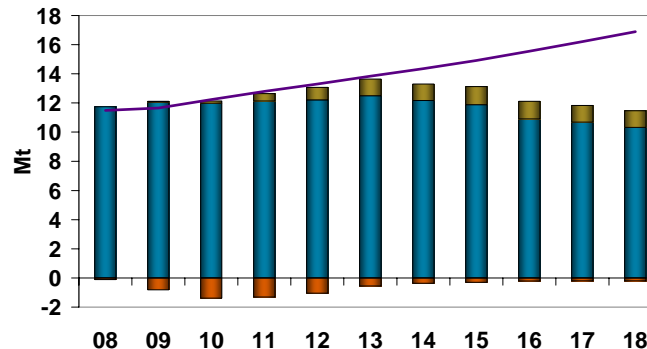
## Nickel



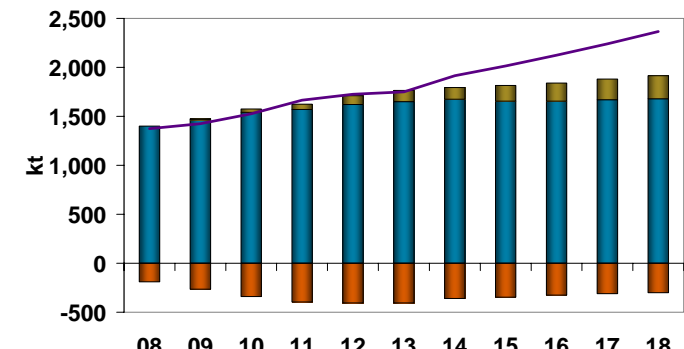
COPPER Mine Supply - Demand Outlook



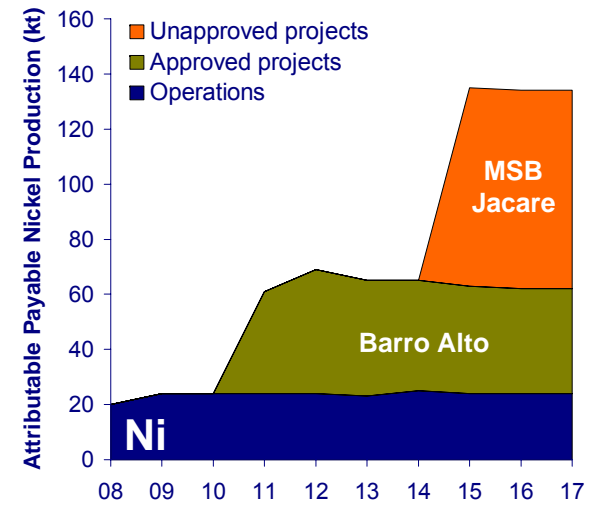
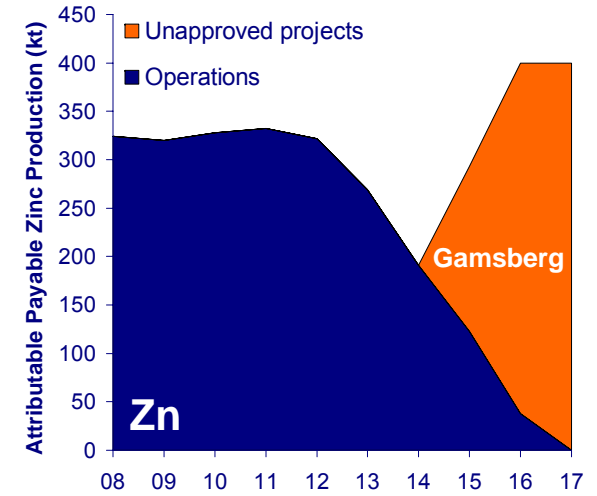
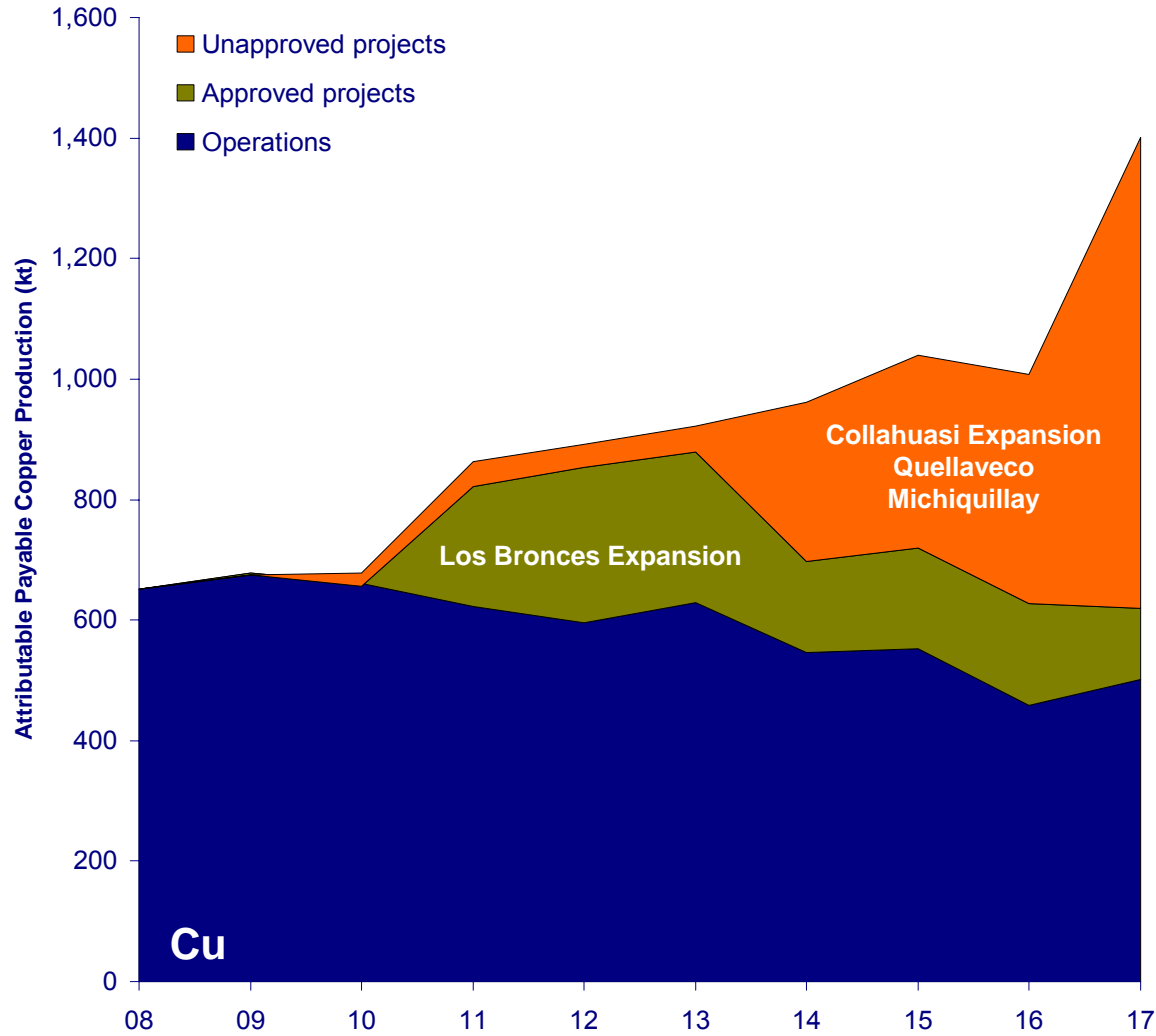
ZINC Mine Supply - Demand Outlook



NICKEL Mine Supply - Demand Outlook



# 4 Growth Profile



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## 5 Conclusion: *Delivering Superior Value*



- Anglo American's Base Metals Business is well positioned to deliver superior value and contribute to the group's ambition to become the mining company of choice

### Solid Corporate Foundations



- Zero Harm Mindset
- Business principles
- License to Operate
- Leverage on wider Anglo knowledge

### Focused Strategy



- Clear Strategic Vision
- Clear Management Agenda
- Organisation with aligned culture and processes to create strategy

### Strong, Balanced Asset Base



- Well balanced options for growth – product & timing
- Quality assets
- Known technologies
- Balanced exploration footprint

### Track Record in Operational Delivery



- Experienced technical team
- Track record in operational excellence and project delivery
- Execution focus

# Appendix

# A1 Outlook for the Phosphates Market



- Forecast oversupply in the near-term due to world financial crisis but the fundamentals for the medium term continue to look positive

## Demand Trends

## Supply Trends

### Food Demand

- Population growth
- Growth of total and per capita income in developing countries, mainly China and India.
- More intensive consumption of nutrients by developing countries

### New Capacity-World

- Extended period with limited investment impacted on supply
- New capacity likely to present lower  $P_2O_5$  grades
- An important increase in capacity is expected from Madden project in Saudi Arabia from 2012

### Fertilizer Demand

- Increased fertilizer consumption in order to increase food production
- Increased fertilizer used per hectare due to increasing crop yields
- Fertilizer demand is expected to grow 2.6% pa until 2015

### New Capacity-Brazil

- All major players in Brazil have projects that could be implemented by 2015, increasing local capacity by ~70%

### Biofuel

- Bio fuels as a substitute for gasoline and diesel
- The increase of ethanol demand has a major effect on grain demand
- US corn production used for ethanol increased from 12% in 2004 to about 25% in 2007/2008 crop

### Imports

- Brazil imports around 50% of phosphate fertilizer consumed internally
- If projects materialise, required import levels will decrease to ~15%

### Brazil

- Favorable climate that allows two crops per year, available arable land and 20% of world's fresh water
- One of the major global producers of soybean, coffee, sugar cane, meat and poultry
- Consumption forecast to grow by 6% pa until 2015

# A2 Outlook for the Niobium Market



- Demand expected to reduce in the short term in line with steel production, but prices expected to remain stable

## *Demand Trends*

### Special Steels

- Most niobium is used for special steels in infra-structure, automobile and aerospace applications
- Demand will be impacted by reduced investment in infrastructure

### Relative Importance

- Intensity of use is low when compared to other alloying elements
- Vanadium is the obvious substitute, but change-over not always straightforward

### China growth

- Chinese industrialisation expected to continue driving consumption growth albeit at a slower pace
- Accounts for ~30% of global Nb direct consumption from less than 5% in 2004

## *Supply Trends*

### Industry Concentration

- Largest producer controls ~80% of the market
- Prices have historically been very stable
- A niche market – very small compared to other metals

### Barriers to Entry

- Few deposits around the world
- Largest producer controls mineral resources with >200 years of life at current production levels, and ensures prices remain stable

### Technical Complexity

- Size of market and reduced number of operations across the world result in a very small skill base