

# Brazil

## Analyst Visit

March, 2007



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## Country outlook - Eleazar de Carvalho

## BHP Billiton presence in Brazil

- Aluminium CSG – Aldo Albanese
- Iron Ore CSG – Sebastião Ribeiro

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# Country Overview



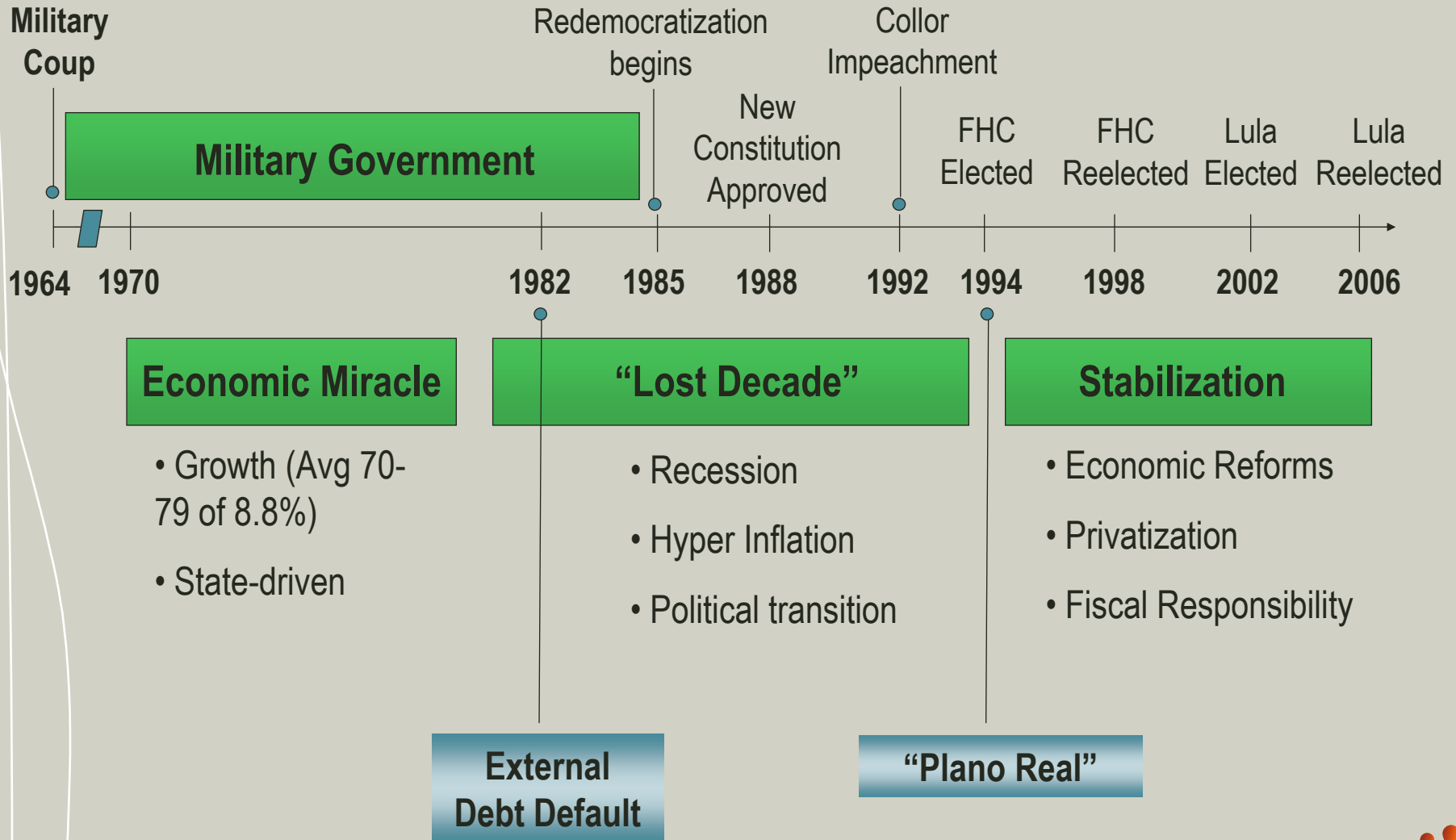
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- Federal Republic, 27 States
- 4 Year Presidential term
- Population: 188 million (5<sup>th</sup> largest)
- Urban population: 81%
- Capital: Brasilia
- Largest Cities:
  - São Paulo: 11 million
  - Rio de Janeiro: 6 million
- Currency: Brazilian Real (BRL)
- Language: Portuguese
- GDP (2005): \$796 billion (10<sup>th</sup> largest)

# Brazil recent history

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# 10<sup>th</sup> largest economy in the world

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## Largest in:

Fresh-Water Reserves

Dry Beans

Green Coffee

Oranges, Papayas

Ethanol & Sugar Cane

## Second Largest in:

Beef

Poultry

Soybeans

Tobacco Leaves

Iron Ore

## Strong in:

Petroleum

Aviation industry

Steel production

Textile industry

Automobile production

Construction & Engineering

Hydroelectricity

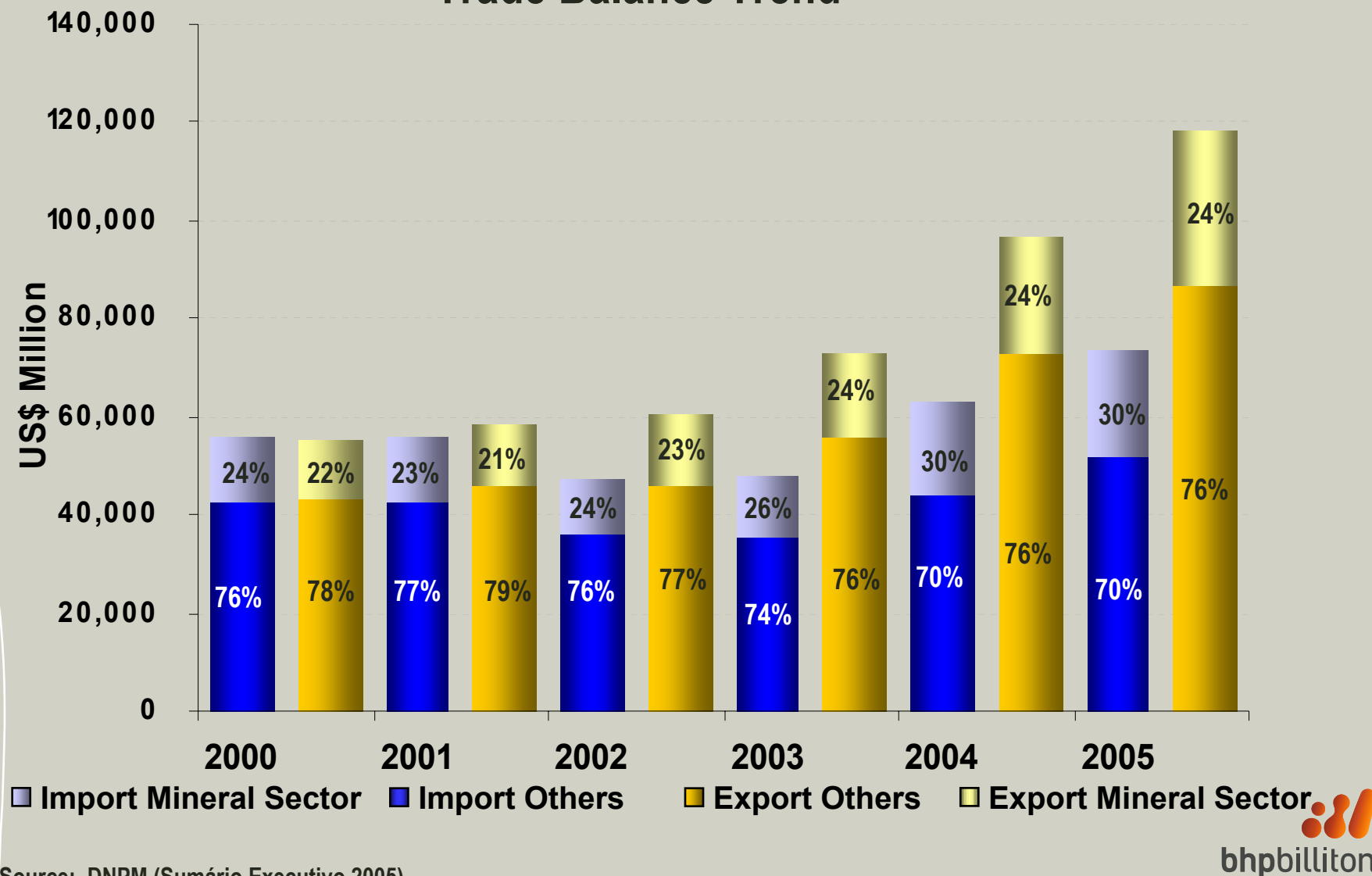
## And a land of natural resources (% of world):

Mineral	Reserves	Production
Iron Ore	22.5%	20.5%
Bauxite	7.8%	12.3%
Nickel	6.1%	3.3%
Manganese	2.5%	11.8%

# Natural Resources in Trade Balance

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## Trade Balance Trend

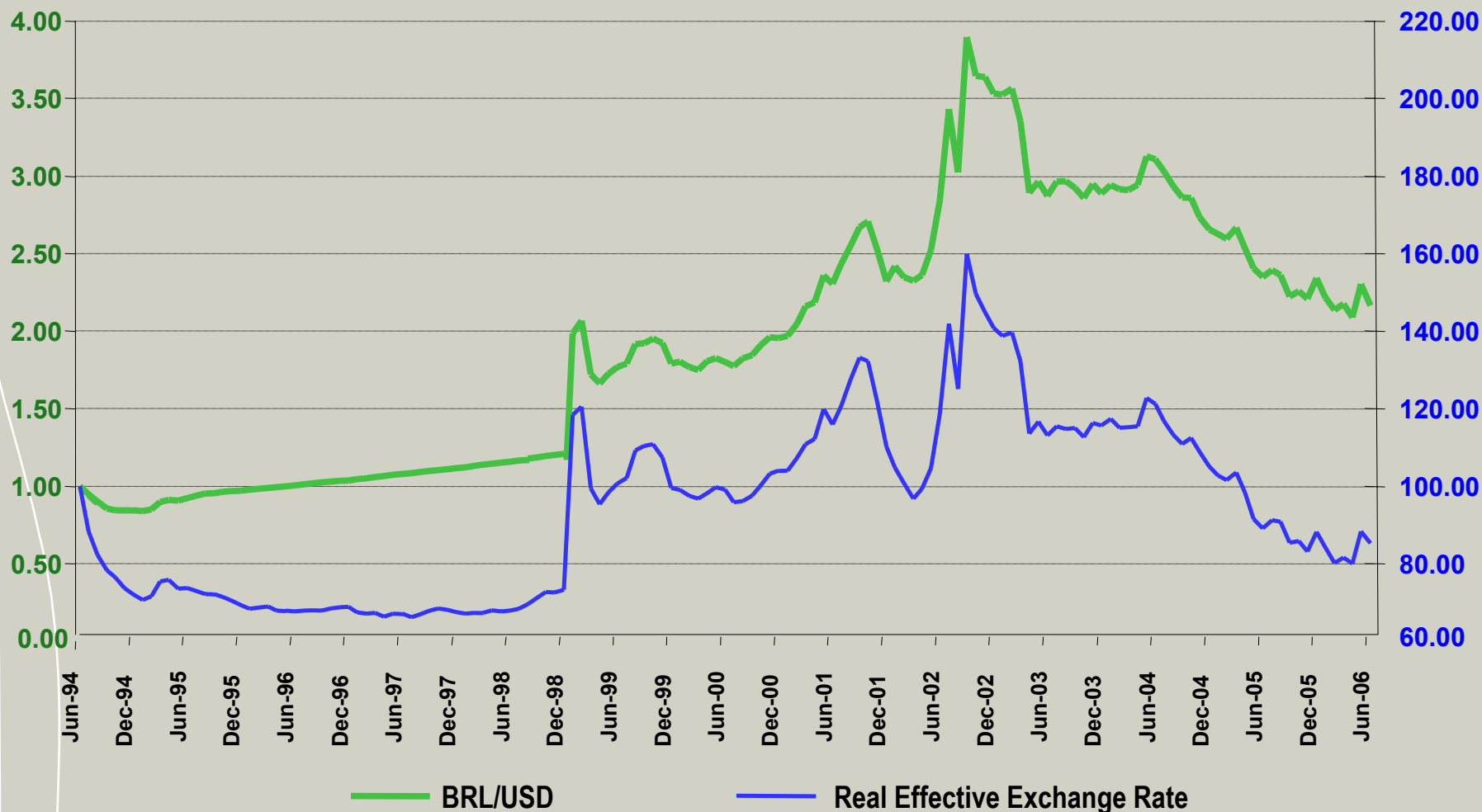


Source: DNPM (Sumário Executivo 2005)



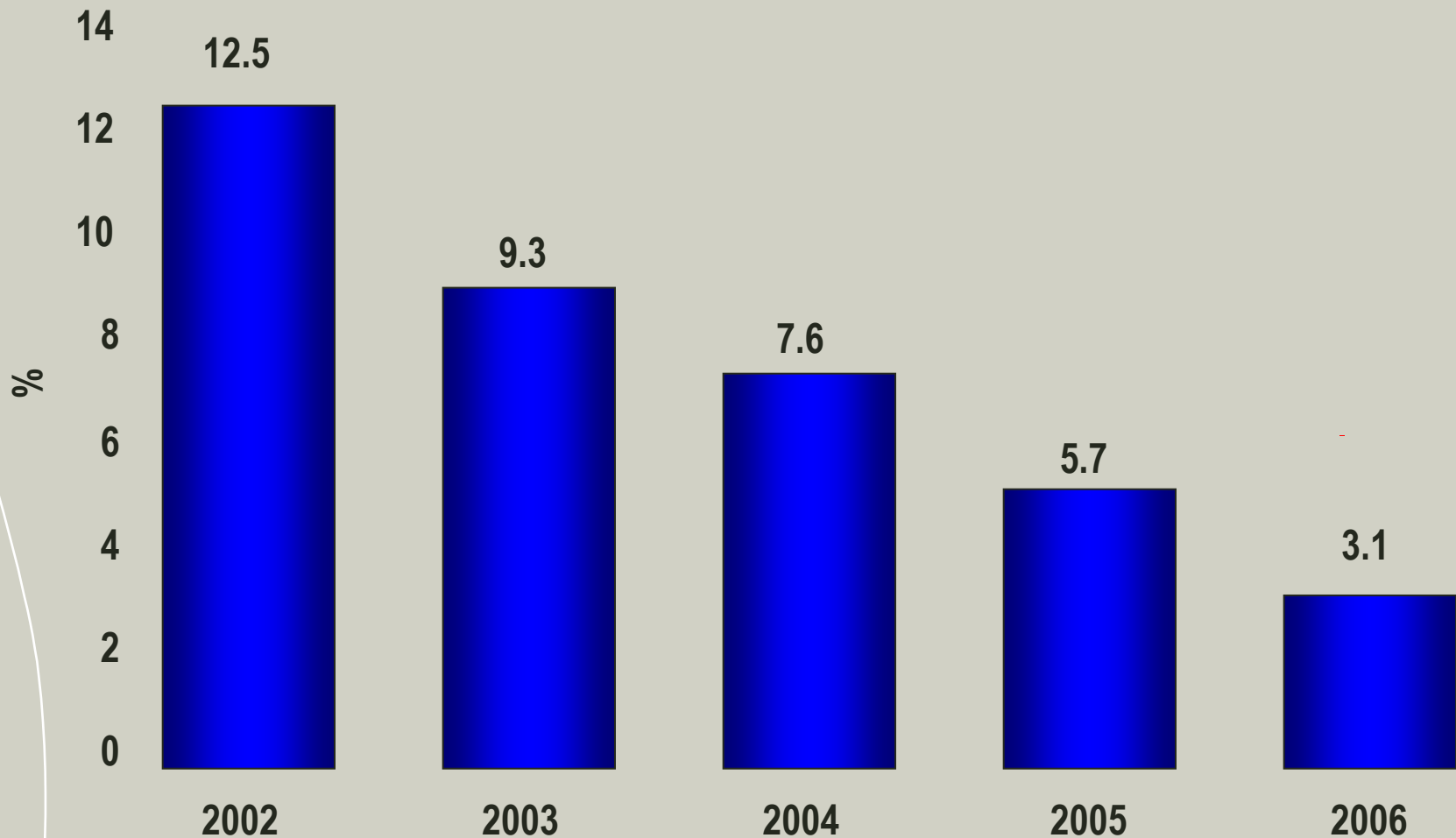
# Good signs in terms of Economic situation: BRL remains strong when compared to recent past...

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## ... inflation targeting in a declining path...

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... as well as Short Term Interest Rates...

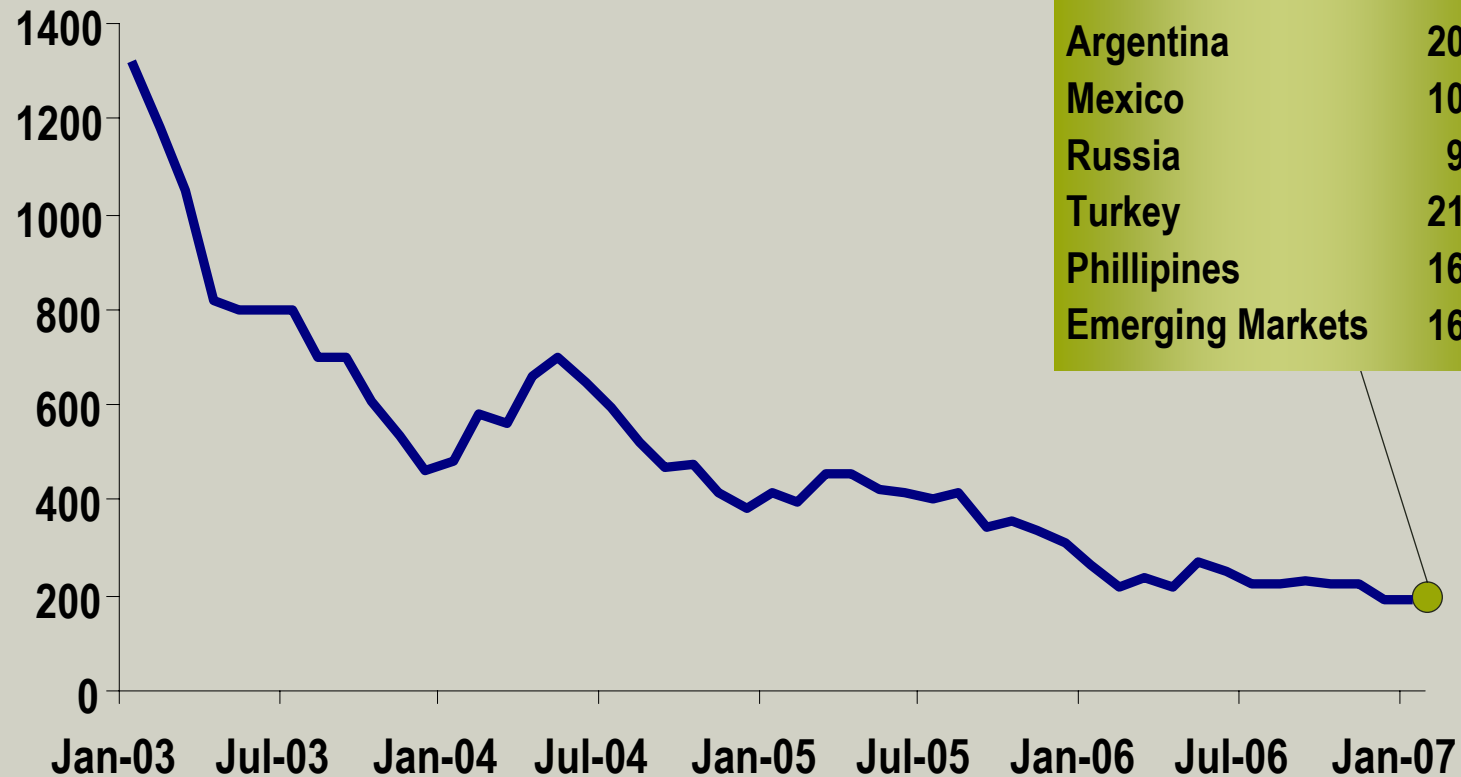
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... with a positive impact on the country risk

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Basis Points



— Embi+ Brazil

# When Brazil will reach “Investment Grade” ?

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## Years of “Investment Grade” Achievement

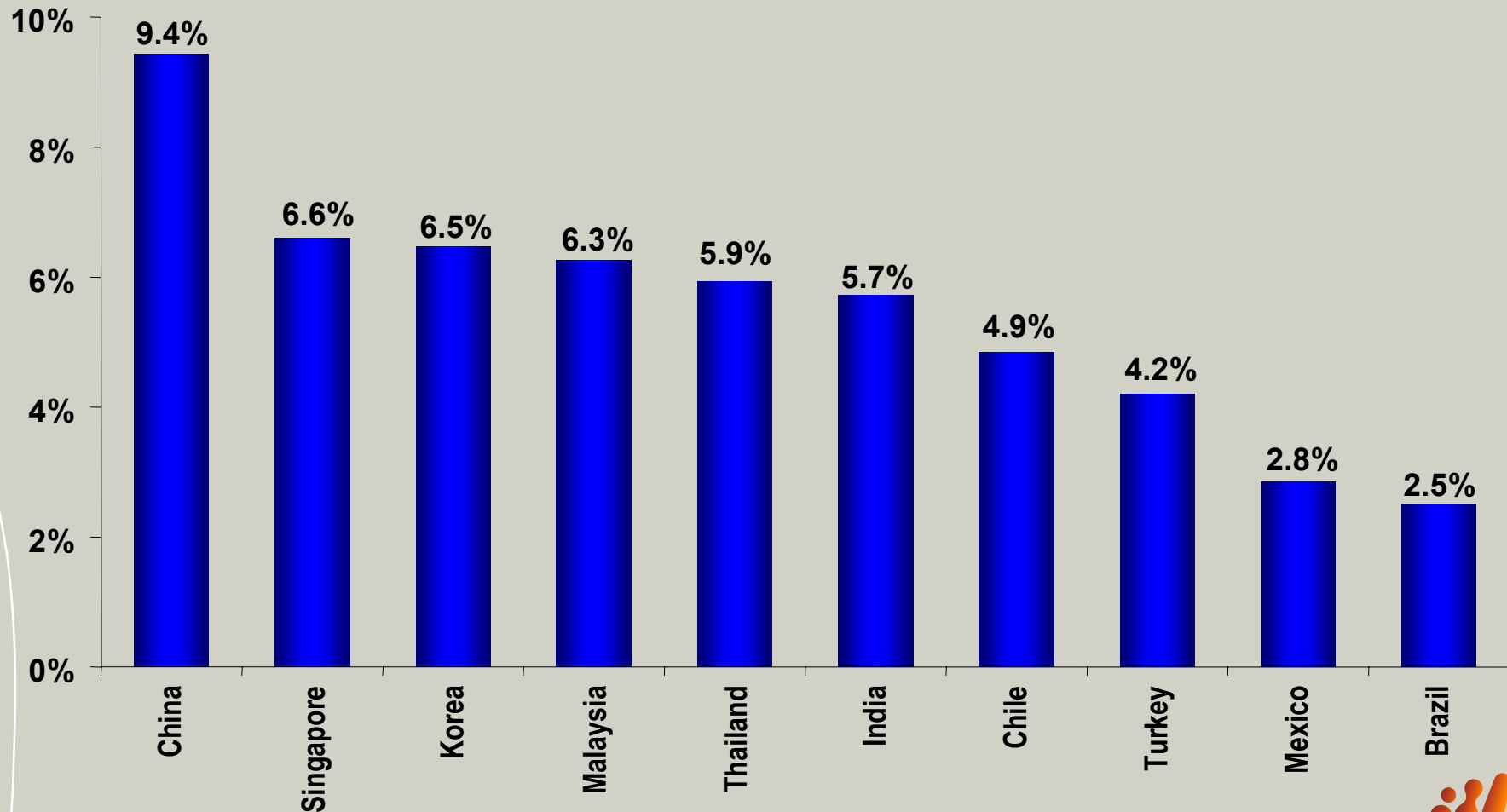
Economics Indicators	Mexico	South Korea	Russia	India	Brazil
Date upgraded	Mar-00	2002	Oct-03	Jan-04	?
Year of data	1999	2001	2002	2003	Dec 2006
GDP Growth	3.9%	3.8%	4.7%	10.0%	2.9%
IPC	12.3%	4.1%	15.8%	3.9%	2.5%
Trade Balance (US\$ Bi)	-5.6	9.3	60.5	-13.9	46.1
Foreign Direct Invest. (US\$ Bi)	13.2	3.5	3.4	4.2	16.0
Current Account (%GPD)	-2.9%	1.7%	8.6%	2.0%	1.4%
Int'l Reserves (US\$ Bi)	30.7	102.8	47.7	107.4	84.5
Nominal Fiscal Result (%GPD)	-1.1%	1.2%	1.8%	-4.8%	-4.7%
Total Public Debt (%GPD)	42.8%	18.2%	39.7%	63.3%	48.0%
External Debt (%GPD)	34.5%	27.0%	36.6%	23.5%	17.8%
External Debt/Exports	1.22	0.87	1.18	2.02	1.23

Source: UBS

The big issue is growth...










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## Average GDP Growth for Selected Emerging Countries (1980 – 2005)




# Challenges for sustainable growth

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Challenges	Main Cause	Environment	Current Mitigation Initiatives	Current Evaluation
Not Enough Investments	High Expenditures with Interest Payments and low Government Savings	Interest Rates decrease considered key-factor for Growth	Decreasing path of interest rates. Fiscal Targets to assure Government savings. 	
Net Public Debt	High Government Expenditures	No political consensus towards Privatization and Legal Central Bank Autonomy	Fiscal Adjustments Targets	
Social Security Deficit	Higher Life Expectancy and High Benefits	No political consensus towards Social Security Reform	Reforms under discussion	
High Real Interest Rates	High Government Indebtedness	Interest Rates decrease considered key-factor for Growth	Decreasing path of interest rates	
Excessive Tax Burden	Complex Tax Environment with double taxation and high Tax evasion	No political consensus towards Tax reforms	Reforms under discussion	
Quality of Education	Poverty and Lack of Investments	Considered as key-factor for growth	Social Programs providing benefits for families with childrens at school	
Infra-Structure	Lack of Investments	Considered as key-factor for growth	PPP, Project Finance being implemented. Budgetary constraints. Energy can be an issue 	

 Sounds good

 Not good enough

 Lack of relevant actions

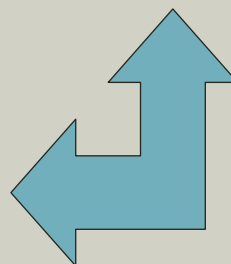
# PAC – “Growth Acceleration Program”

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## Goals:

- Accelerate Economic Growth, removing obstructions
- Stimulate private investment and increase public investment in infrastructure

2007 - 2010 Investments	R\$ billion
Logistics	58.3
Energy	274.8
Social Infrastructure	170.8
Total PAC	503.9



## Areas

- Investments in Infrastructure
- Stimulation to Credit and Financing
- Investments Environment Improvement
- Tax Environment relief and enhancement
- Long Term Fiscal Measures



# Basic data and projections

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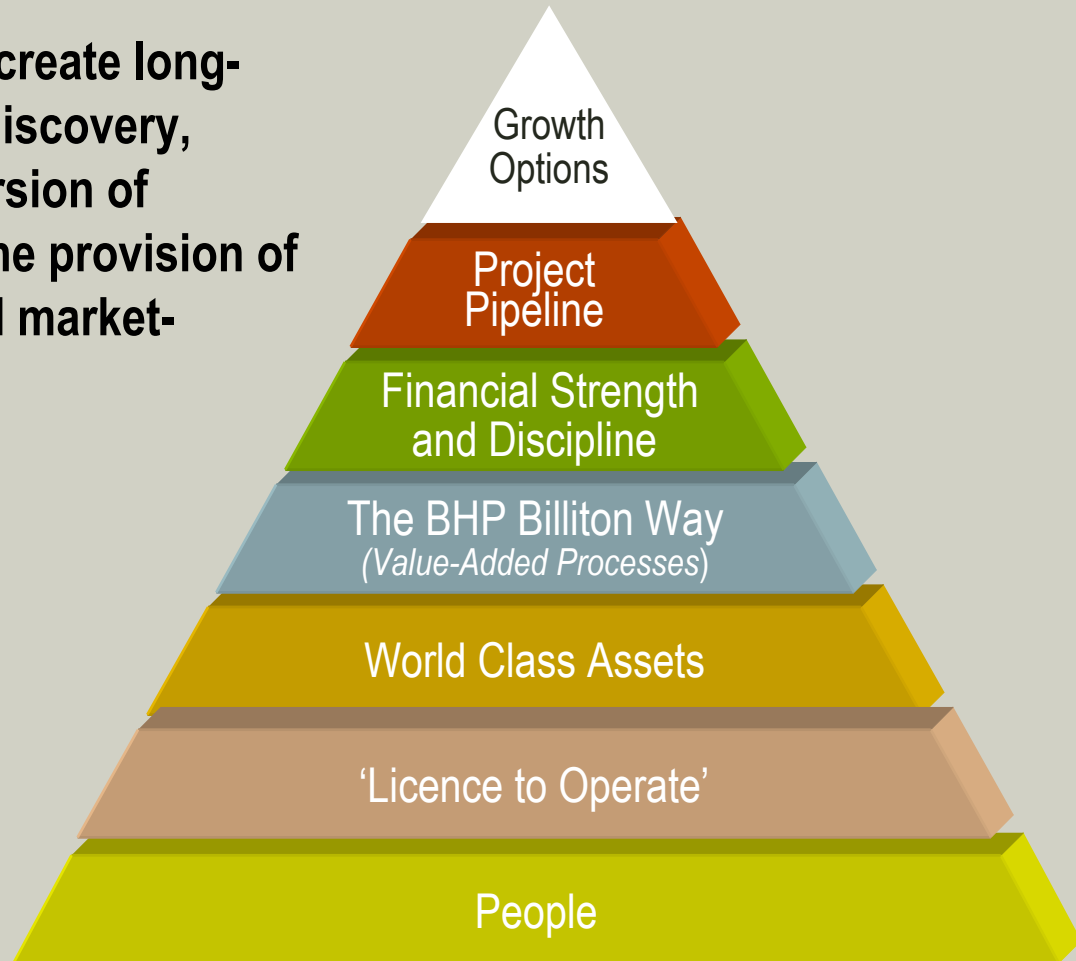
	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007 (*)</u>	<u>2008 (*)</u>
<b>GDP growth (%)</b>	<b>4.9%</b>	<b>2.3%</b>	<b>2.9%</b>	<b>3.4%</b>	<b>3.7%</b>
<b>Investment (% of GDP)</b>	<b>19.6%</b>	<b>19.9%</b>	<b>20.7%</b>	<b>21.1%</b>	<b>21.3%</b>
<b>Unemployment (%)</b>	<b>11.5%</b>	<b>9.8%</b>	<b>10.0%</b>	<b>9.9%</b>	<b>9.8%</b>
<b>Inflation IPCA (%)</b>	<b>7.6%</b>	<b>5.7%</b>	<b>3.1%</b>	<b>4.1%</b>	<b>3.6%</b>
<b>Nominal interest (%)</b>	<b>17.8%</b>	<b>18.0%</b>	<b>13.3%</b>	<b>11.8%</b>	<b>10.5%</b>
<b>Trade Balance (\$ billion)</b>	<b>33.7</b>	<b>45.1</b>	<b>46.1</b>	<b>36.7</b>	<b>24.6</b>
<b>Int'l Reserves (\$ billion)</b>	<b>52.9</b>	<b>53.8</b>	<b>84.5</b>	<b>106.7</b>	<b>114.7</b>
<b>Exchange rate (R\$/US\$)</b>	<b>2.65</b>	<b>2.34</b>	<b>2.15</b>	<b>2.13</b>	<b>2.14</b>

(\*) Market consensus forecast as per Central Bank's Focus Report (March 5, 2007)

# Strategic drivers

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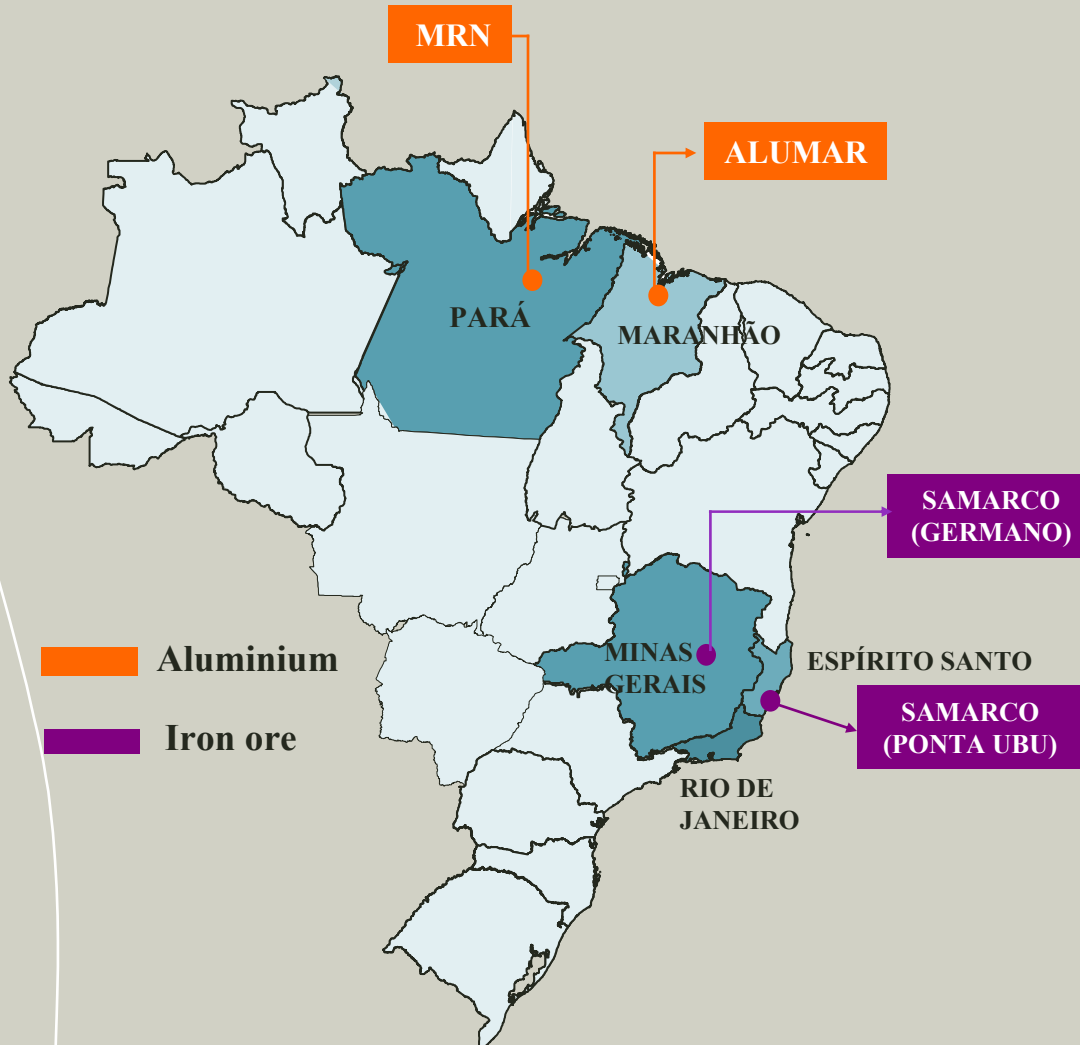
**“Our core purpose is to create long-term value through the discovery, development and conversion of natural resources, and the provision of innovative customer and market-focused solutions.”**



# Presence in Brazil



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1971: Billiton created in Brazil by Shell Brasil Ltda (100%)

1972: BHP Group started in Brazil through Marcona

1974: Samarco Project initiated (Marcona – 49%)

1974: MRN Agreement signed

1981: Alumar Consortium created

1994: Billiton Assets sold by Shell to Gencor

1997: “new” Billiton IPO in London

2001: Merger BHP Billiton

2006: Valesul Divestment

# History of Growth in Brazil

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**1977 – Start-up: 5 Mtpa**

**1997 – 2<sup>nd</sup> Plant: expansion to 12 Mtpa**

**1998 – 2006 – creep to 14 Mtpa**

**2008 – 3<sup>rd</sup> Plant: expansion to 21.6 Mtpa**



**1979 – Start-up: 3.3 Mtpa**

**1984 – 1998 – Several  
Debottlenecking to 11.0 Mtpa**

**2003 – Expansion to 16.3 Mtpa**



**1984 – Start-up: Refinery 500 ktpa**

**Smelter 127 ktpa**

**1986 – Smelter L.II: expansion to 283 ktpa (Alcoa)**

**1990 – Smelter L.III: expansion to 380 ktpa (BHP  
Billiton)**

**2005 – Refinery creep to 1,500 ktpa**

**2006 – Smelter L.III expansion to 440 ktpa (Alcoa)**

**2009 – Refinery expansion to 3,500 ktpa**

# Key messages

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- Brazil is powerful in mineral resources (Bauxite and Iron ore);
- Brazil is moving toward Investment grade. Solid economic indicators;
- BHP Billiton is well positioned in Brazil with 30 years of presence and growth, and aligned with group strategic drivers;
- BHP Billiton interested in continued investment opportunities in Brazil

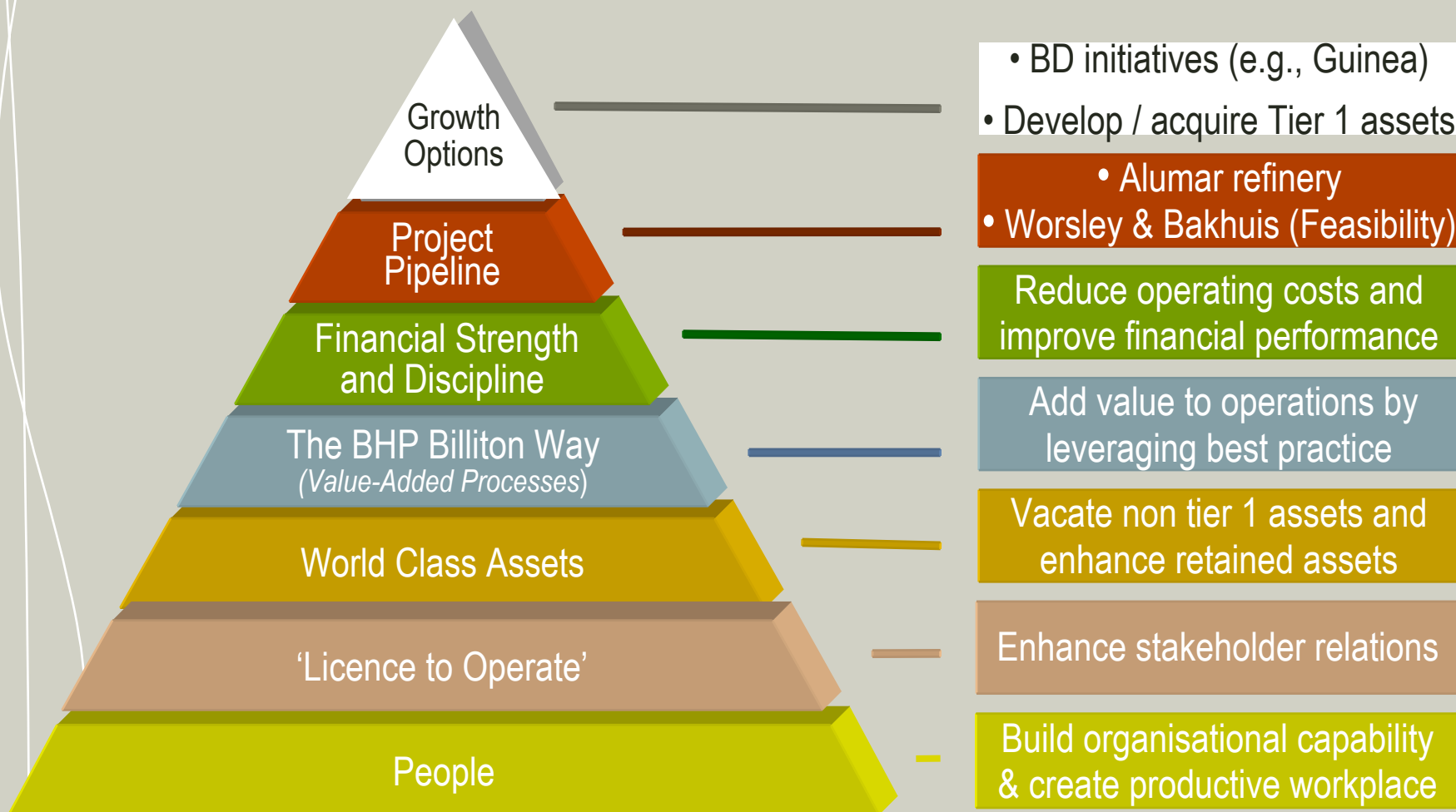
## Country outlook - Eleazar de Carvalho

## BHP Billiton presence in Brazil

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- Iron Ore CSG – Sebastião Ribeiro

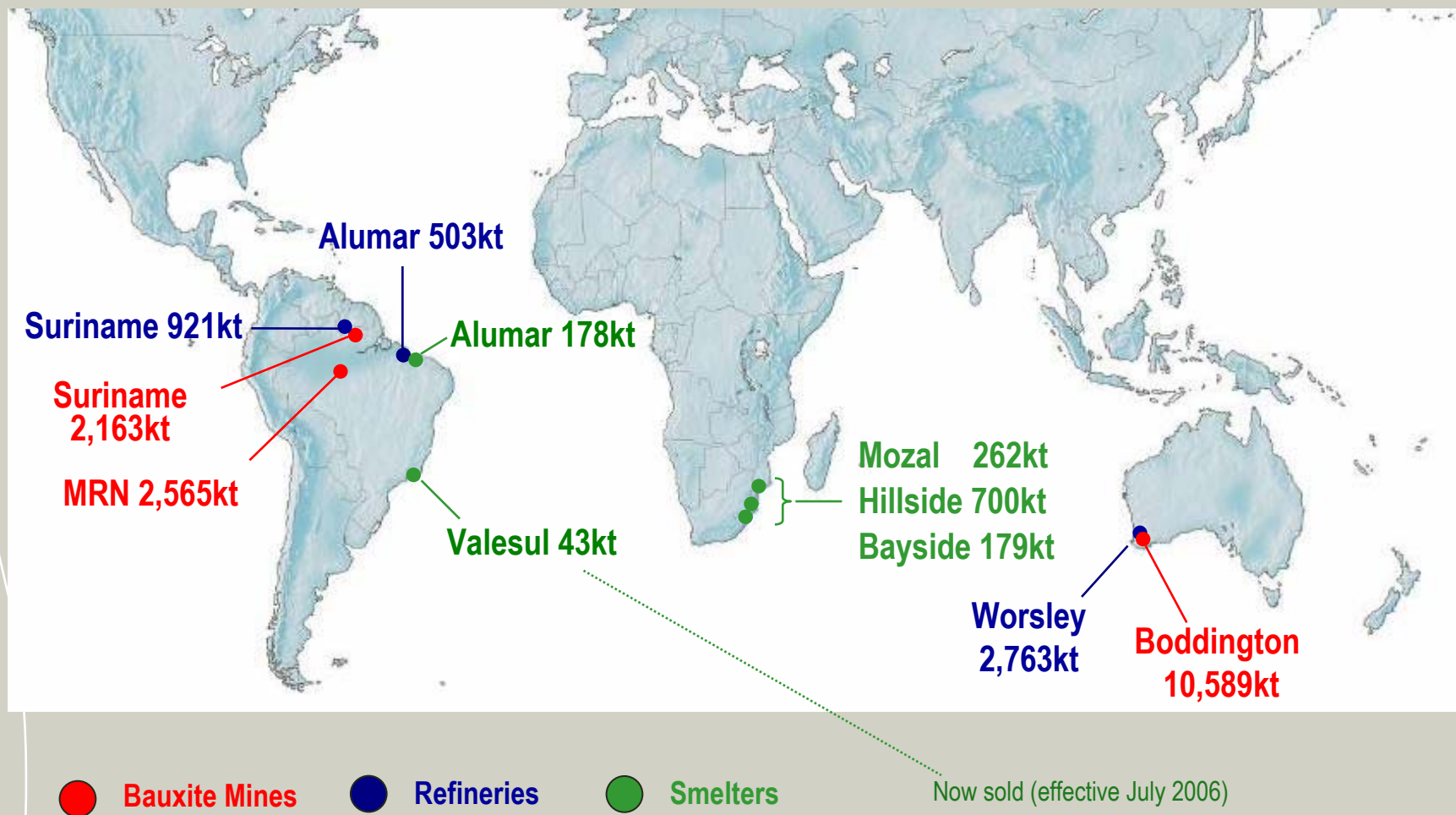
# Aluminium Strategic Imperatives – Forward View

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# Aluminium CSG – Asset locations & FY06 production

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# Aluminium - BHP Billiton in Brazil

## MRN – Bauxite Mine

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Deforestation



Mining



Reforestation



Beneficiation

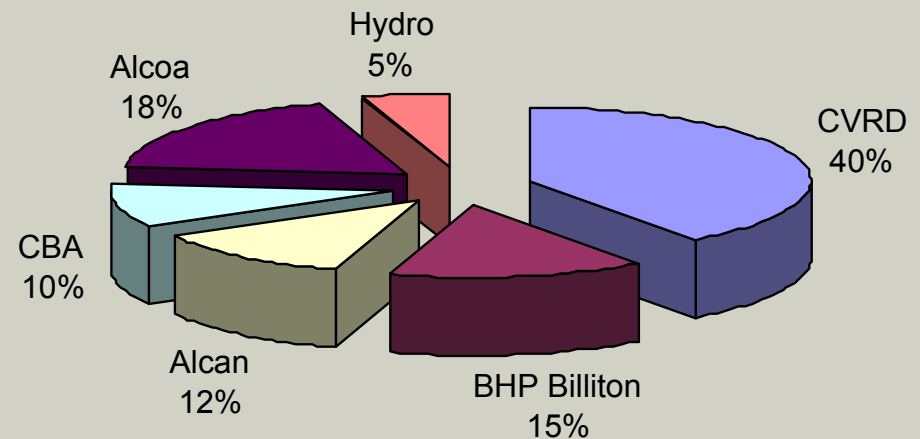


Port



Capacity 100% terms	ROM (Mt)	Production (Mt)
MRN	25.8	17.7

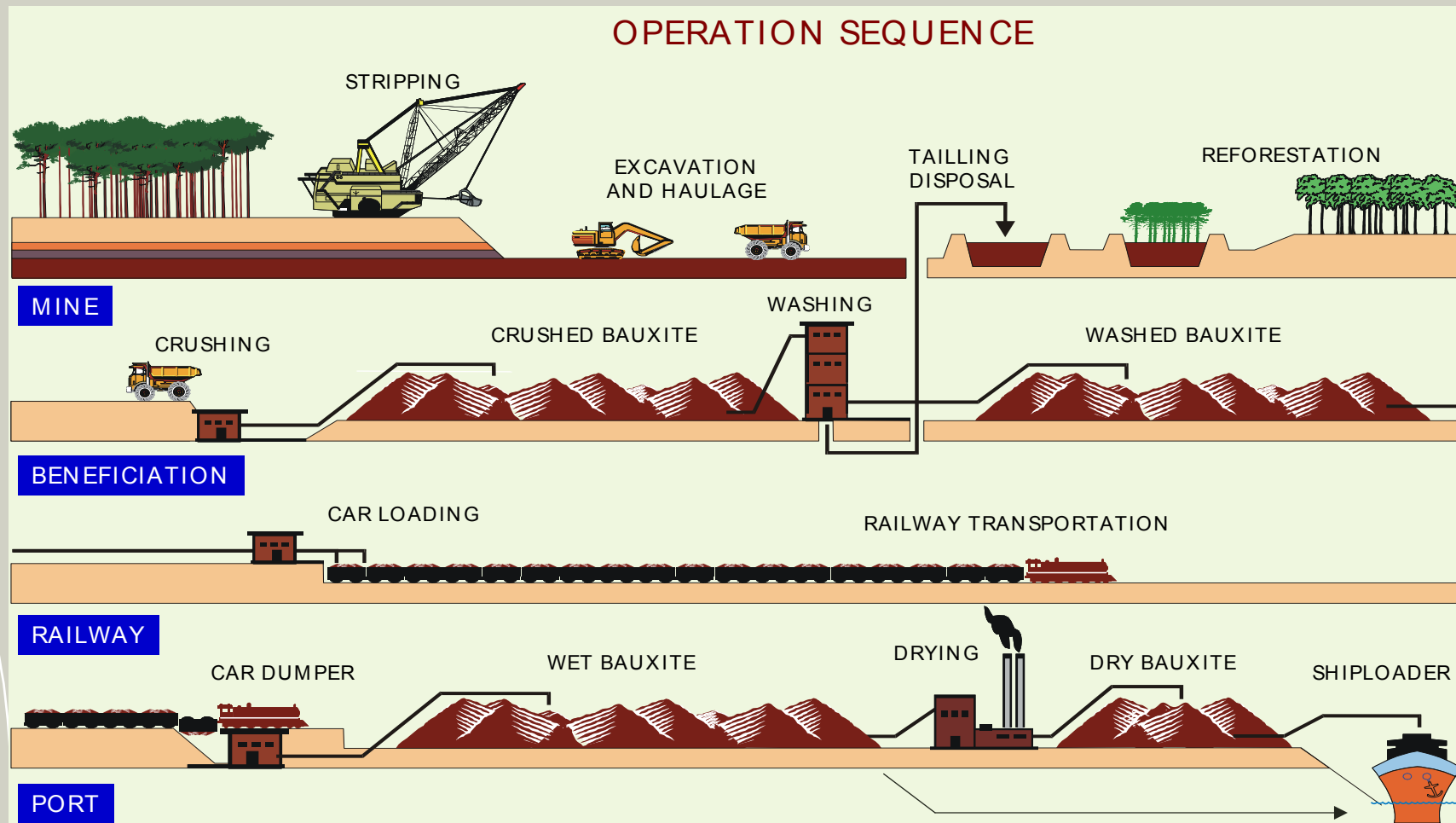
- 82 MMt of reserves
- 597 MMt of resources (\*)
- MRN looking for more deposits in the area



(\*) Competent person: see appendix 1 information

# MRN Production Process

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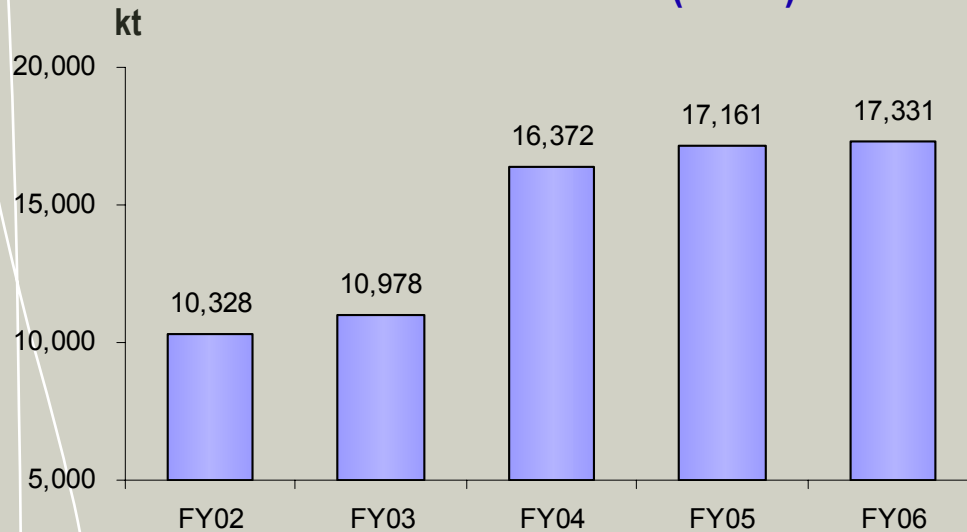


# Aluminium - BHP Billiton in Brazil

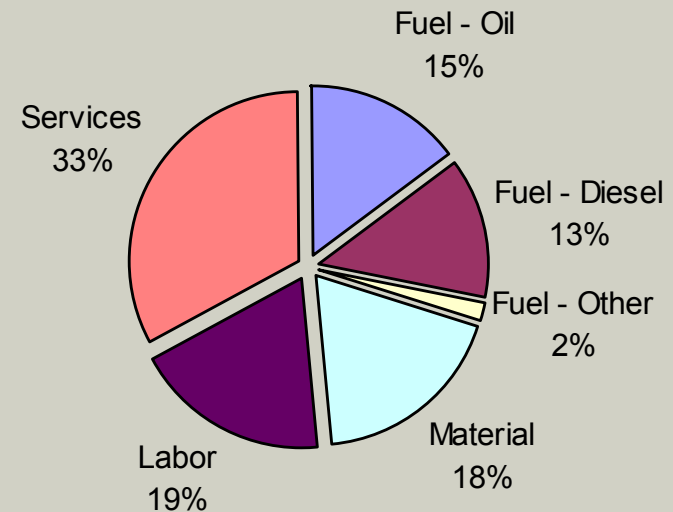
## MRN – Bauxite Mine

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### Production Performance (100%)



### Cost Breakdown – YTD 07



# Aluminium - BHP Billiton in Brazil

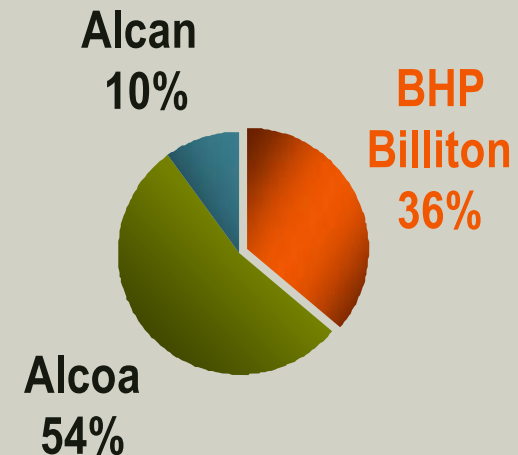
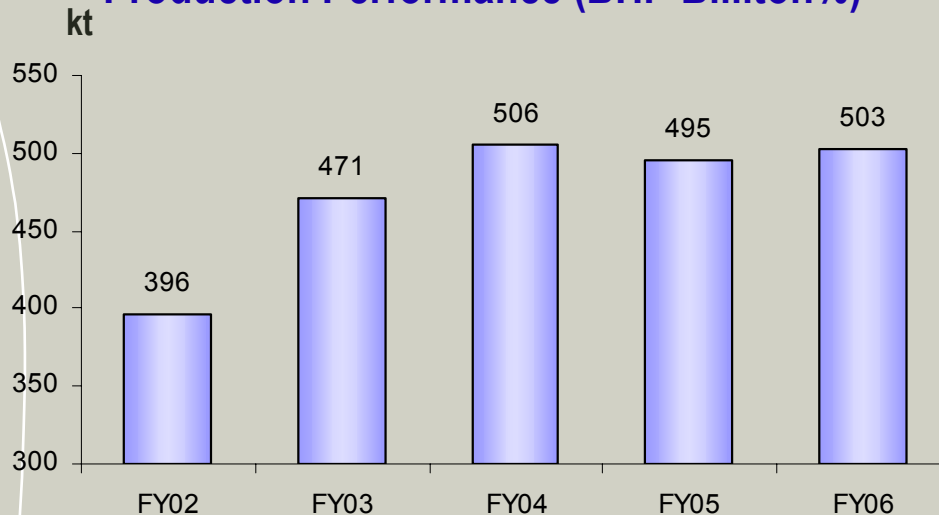
## Alumar Refinery

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- **Actual Alumina capacity: 1.5 mtpa**
- **Alumina capacity after expansion: 3.5 mtpa**
- **Number of Employees: 532**
- **Number of Contractors: 363**
- **ISO 14000, OHSAS 18001, ISO 9001, SA 8000**



**Production Performance (BHP Billiton%)**



# Aluminium - BHP Billiton in Brazil

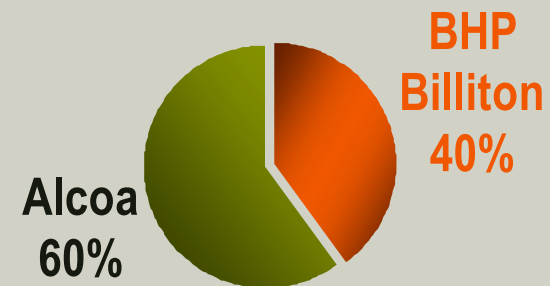
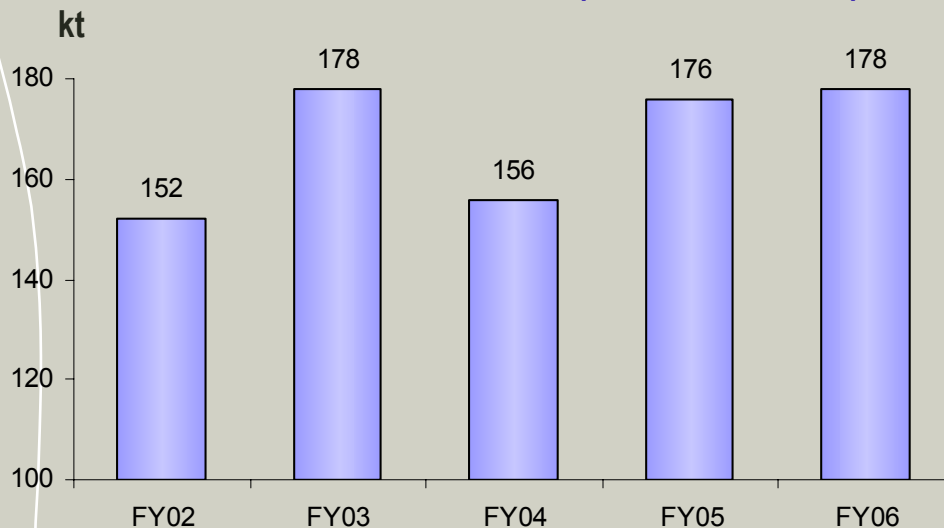
## Alumar Smelter

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- **Aluminium Capacity: 440 ktpy**
- **Number of Employees: 1174**
- **Number of Contractors: 776**
- **ISO 14000, OHSAS 18001, ISO 9001, SA 8000**
- **Long Term Energy Contract**



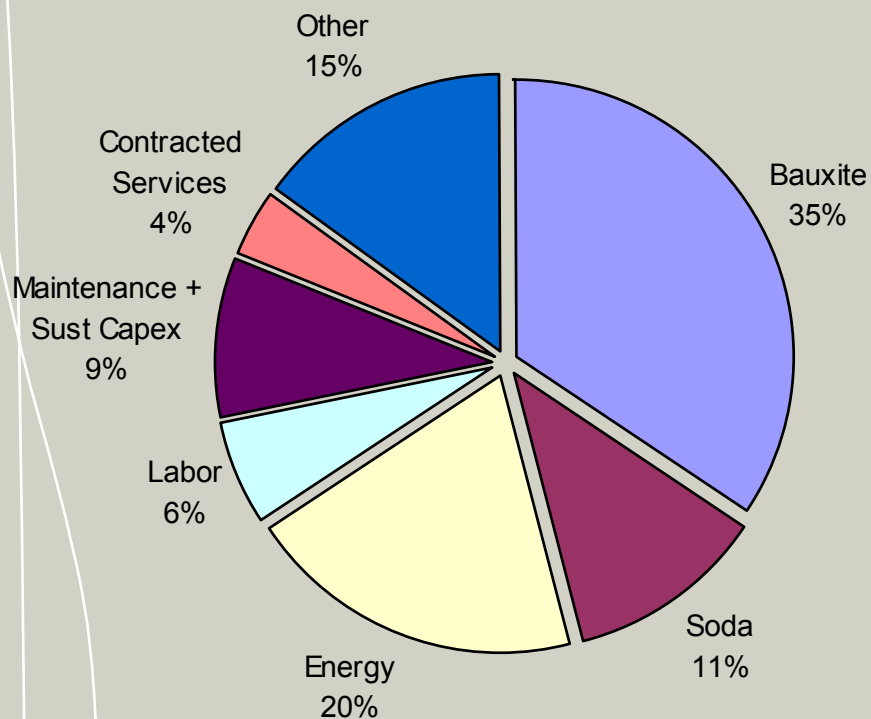
**Production Performance (BHP Billiton%)**



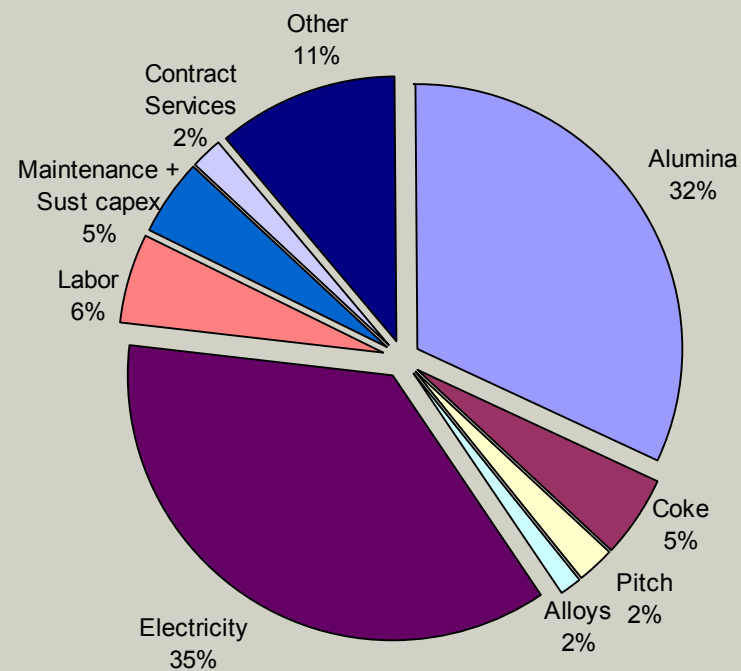
# Cost Breakdown – YTD 2007

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## Alumar Refinery

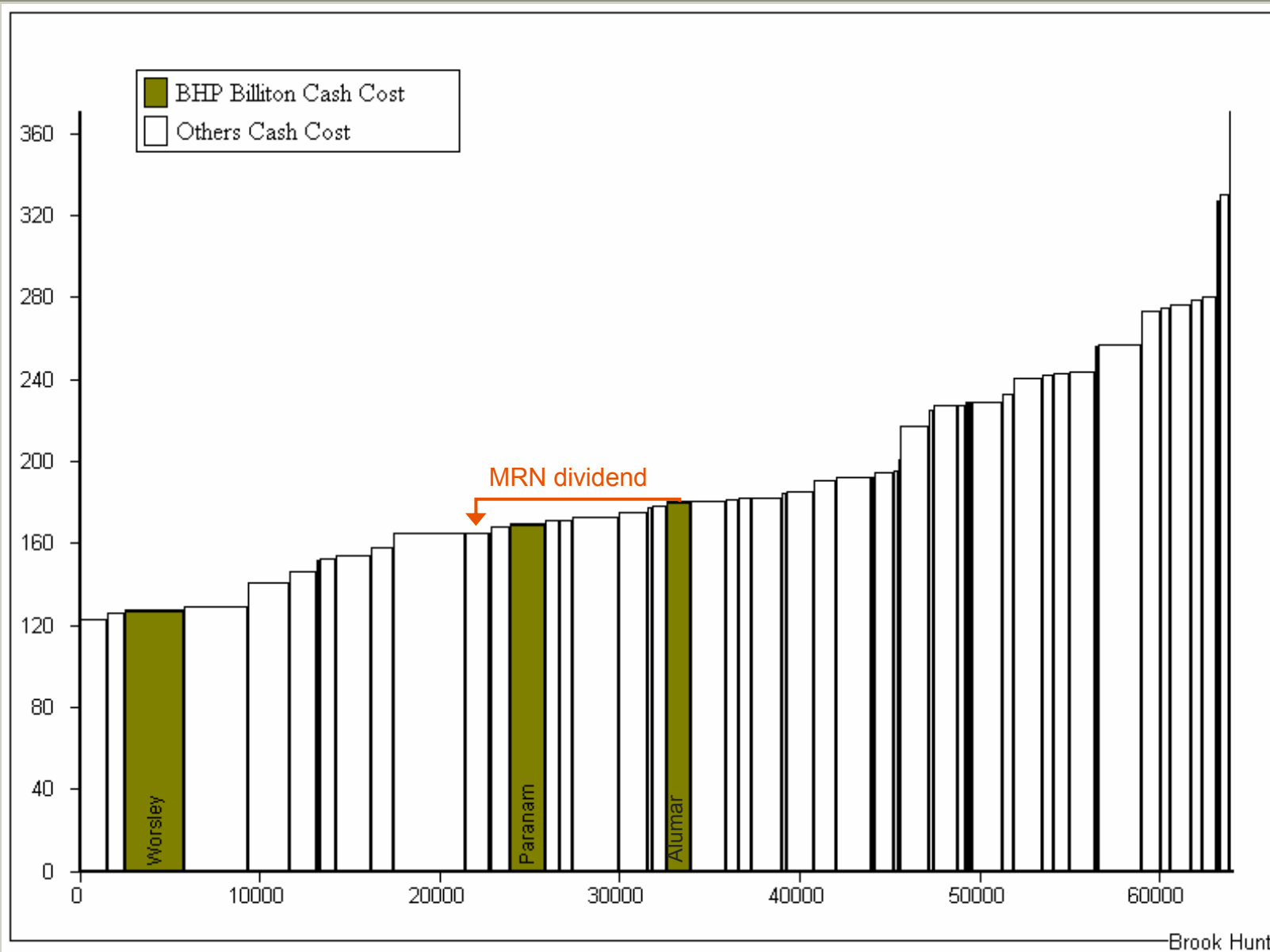


## Alumar Smelter



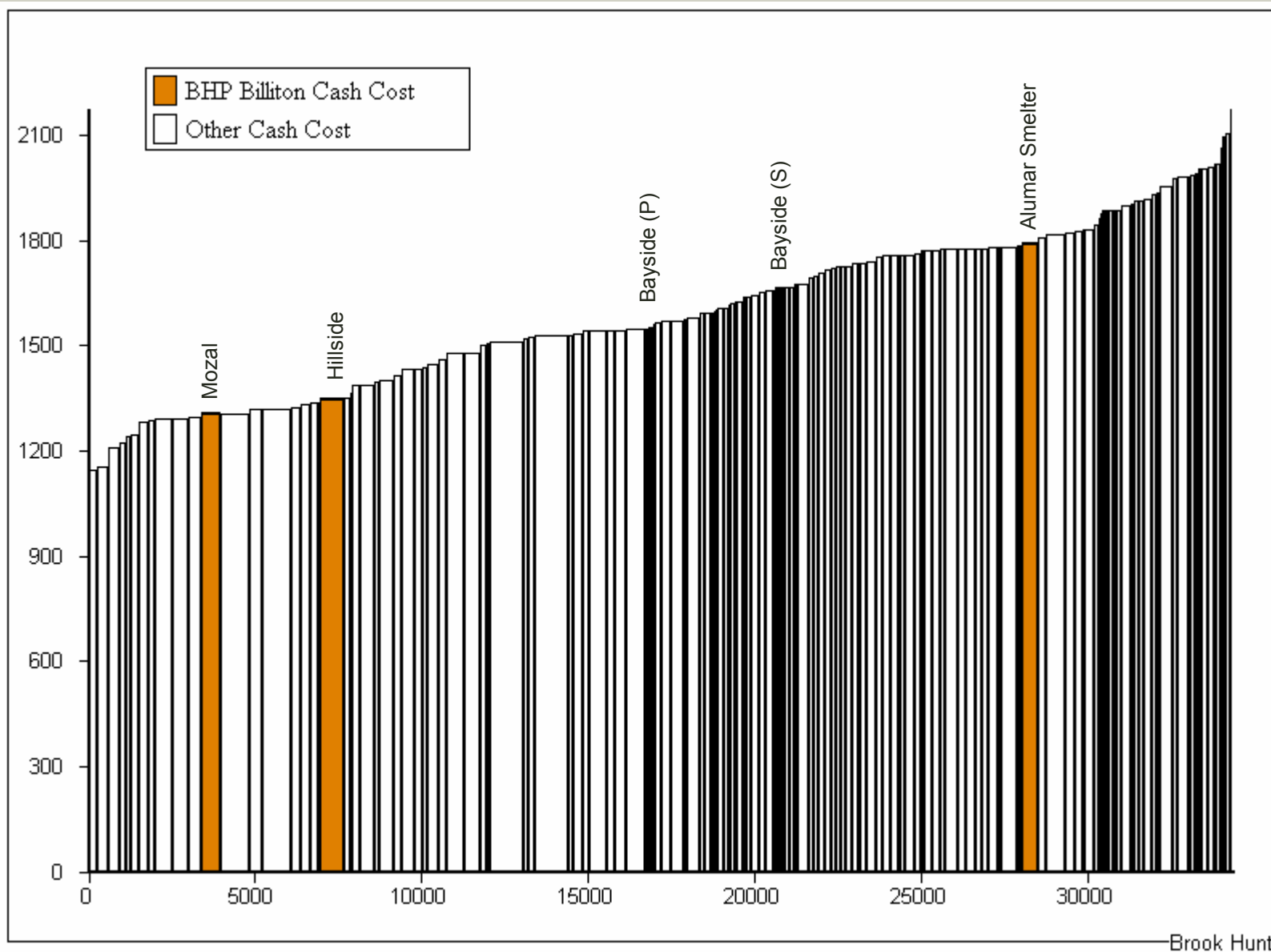
# Cost curve Refineries - 2007

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# Cost curve Smelters - 2007

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# Alumar Refinery Expansion

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- BHP Billiton share 36%
- Share of approved Capex **US\$ 725M**
- Initial production date **Q2 CY 2009**
- Incremental production 100% basis - 2 mtpa



- Capex increase (40%) following BHP Billiton's review of the estimate and inclusion of additional contingencies & forex impact.

# Project Status Summary

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- Zero LTI accidents, Project TIFR 1.19
- 3.5 million man-hours worked to date
- Overall progress 30% complete
- Engineering 60% complete
- Procurement 35% complete
- Construction 10% complete



- Integrated team operational under Alcoa Management with SNC-Lavalin Program Manager, Hatch Engineering and Camargo Correa Construction
- Alliance contracts agreed with 3 major Brazilian contractors for Civil, Mechanical, and Electrical construction

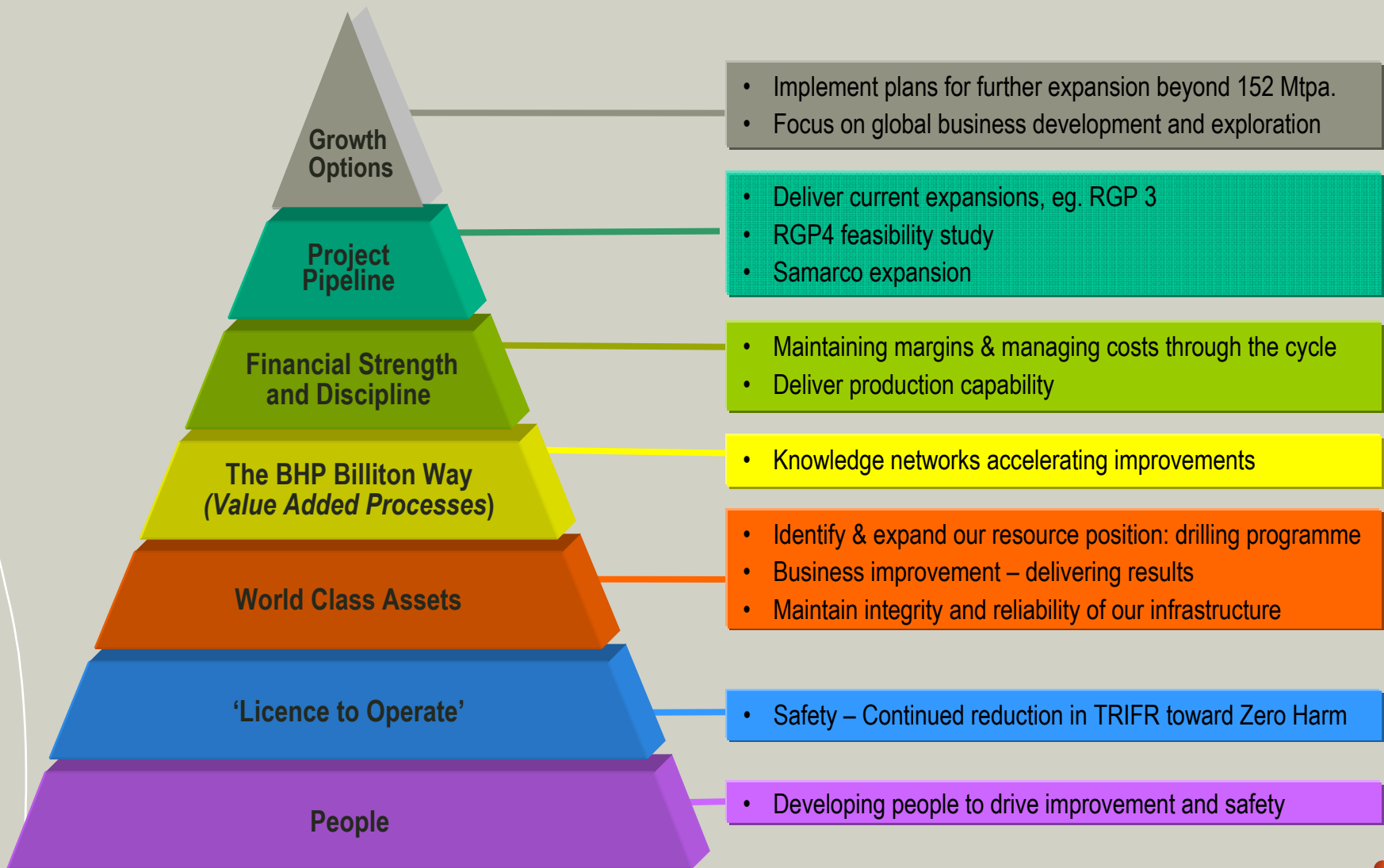
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# BHP Billiton Iron Ore - Strategic Framework

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# BHP Billiton Iron Ore Overview

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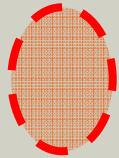
- Iron Ore became stand-alone CSG in November 2006
- Global Iron Ore headquarters in Perth, Western Australia
- Responsible for global iron ore development
- No change for customers - CSM marketing model remains (iron ore, metallurgical coal and manganese)
- Integrated mine, port and rail operations in the Pilbara “Western Australia”
- 50% share of Samarco in Brazil
- More than 7000 direct employees and contractors in WA
- 8.7% of WA employees Indigenous (Jan 07)



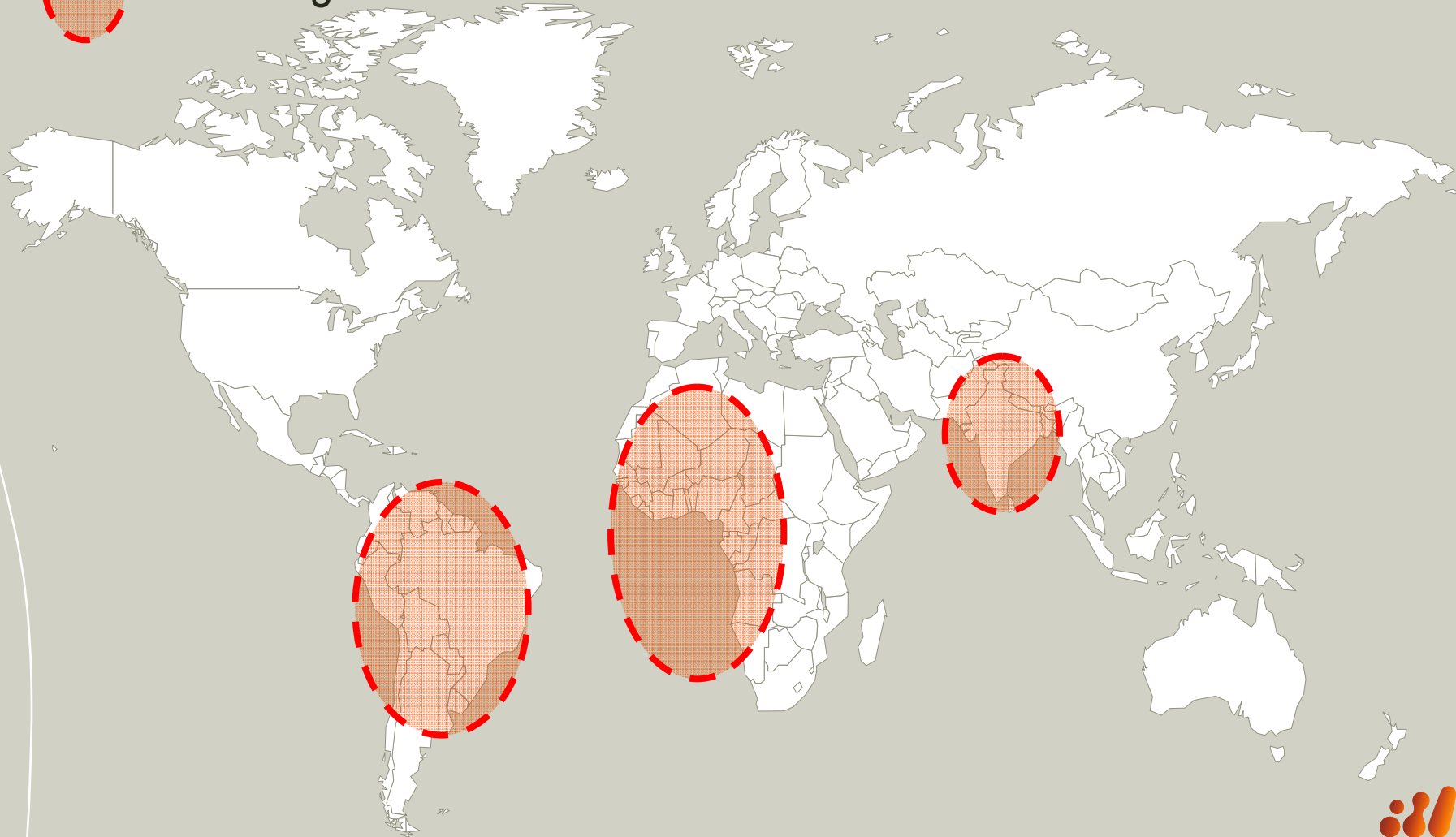


# Brazil is one of the focus regions outside WA

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Focus regions outside WA



# Iron Ore - BHP Billiton in Brazil

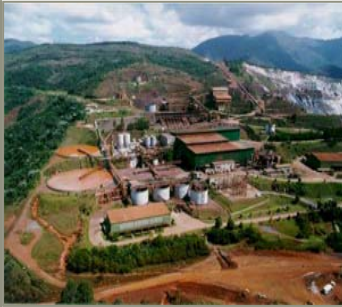
## Samarco Mineração S.A.

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**Mining**



**Beneficiation**



**Pipeline**



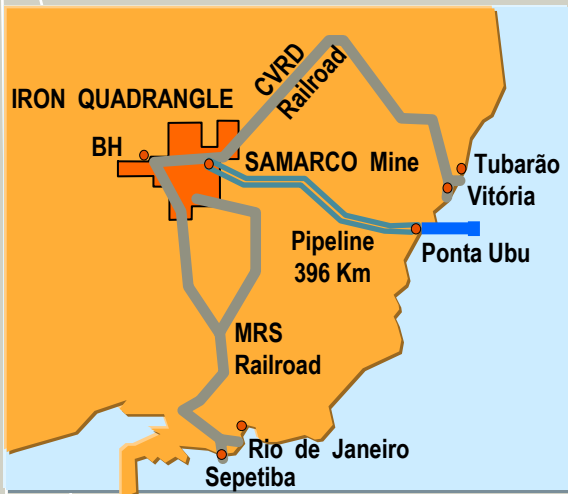
**Pelletizing**



**Port**



100% terms	Mining (*) (wmt)	Beneficiation (dmt)	Pipeline (dmt)	Pelletizing (dmt)	Sales (dmt)
Optimized	20.9	16.5	16.5	14.0	15.9
Expansion Project	34.3	24.75	24.75	21.6	23.9



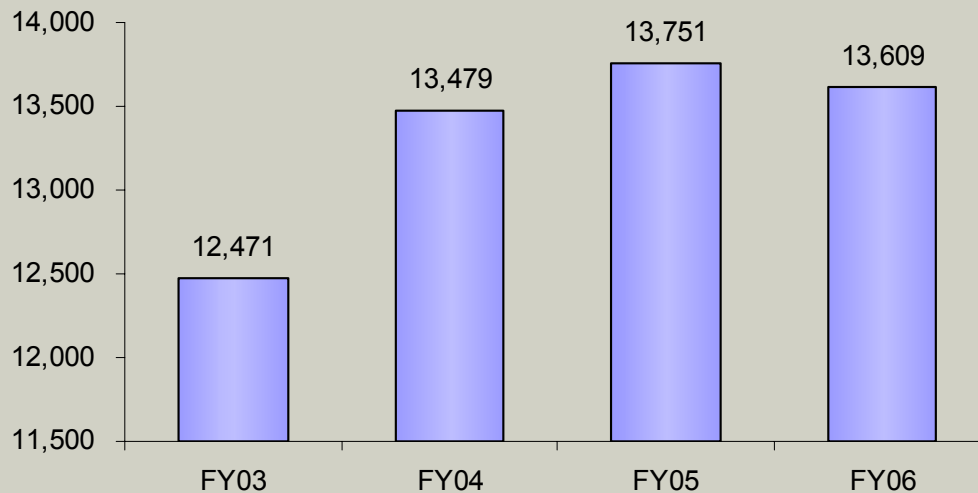
- 50/50 JV with CVRD
- Expansion Project Completion – **H1 CY 2008**
- Slurry Pipeline – Low Transportation Cost
- Leader in concentrating low grade iron ore itabirites in Brazil
- Sales – 100% Seaborne Market
- 31% Own Generated Power Supply

(\*) Samarco own ore mining, excluding 3<sup>rd</sup> party purchase

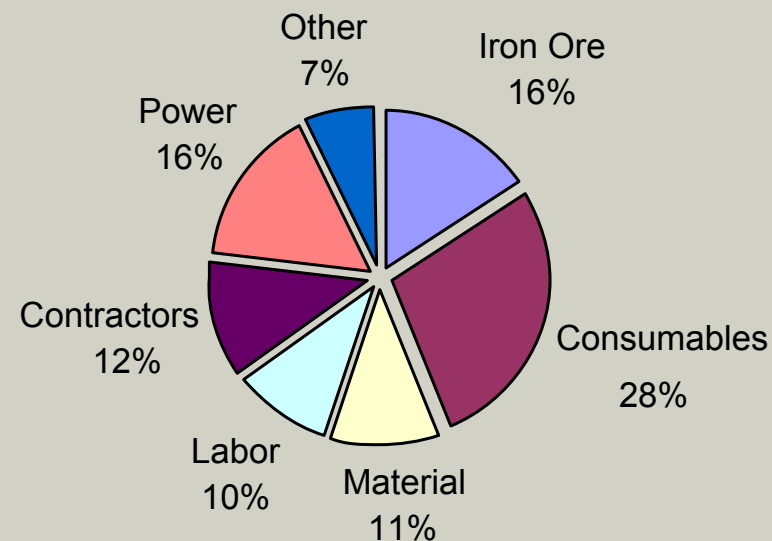
# Iron Ore - BHP Billiton in Brazil Samarco Mineração S.A.

40

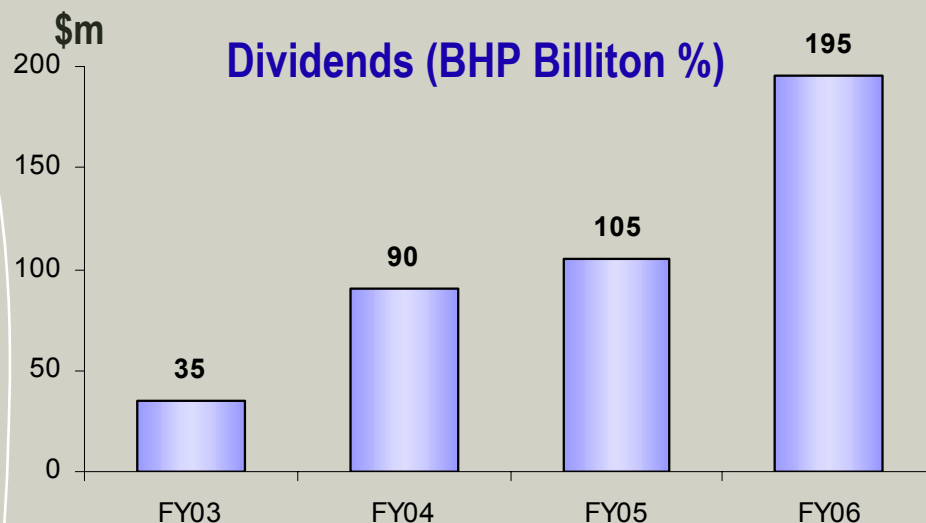
**DMT**      **Production Performance (100%)**



**Cost Breakdown – YTD 07**



**Dividends (BHP Billiton %)**





# Samarco Expansion

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## Project Objective

- To increase production of pellets by 7.6mtpa to 21.6mtpa.

## Project deliverables

- Increased mining fleet and equipment
- New Concentrator at Germano
- 400 km slurry pipeline between Germano and new Pellet Plant at Ponta Ubu
- New 7.6 mtpa Pellet Plant at Ponta Ubu
- Upgrade of stockyard and ship loading facilities at Ponta Ubu.



# Project Status Summary

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**Safety:** 9 million man hours expended with CIFR < 0.1 per million hours.

## **Progress**

**As at end January 2007 all major work fronts have commenced construction:**

- ***Overall project progress – 55% complete***
- ***Engineering – 95% complete***
- ***Procurement – all major equipment ordered and in process of being delivered.***
- ***Construction – 26% complete***
- **On schedule to commence production H1 CY 2008.**

## **Cost**

- **Original budget of R\$ 3.112M (nominal) – healthy status against budget.**
- **In BHP Billiton (50%) terms approved capital cost of US\$ 590m (nom.)**



# bhpbilliton

## Appendix 1 – MRN reserves and resources

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The MRN ore reserves and resources are based on information compiled by J P C de Melo Franco, who is a member of the Australian Institute of Mining and Metallurgy. Mr Melo Franco is employed by Mineração Rio do Norte SA. He has sufficient experience with the estimation, assessment, evaluation and economic extraction of large scale copper mining operations and projects. This experience is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking, and as such he qualifies as a Competent Person as defined in the 1999 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves