

# Impact of "Stronger for longer" on global iron ore



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Steel Success Strategies XXI  
New York, 21 June 2006



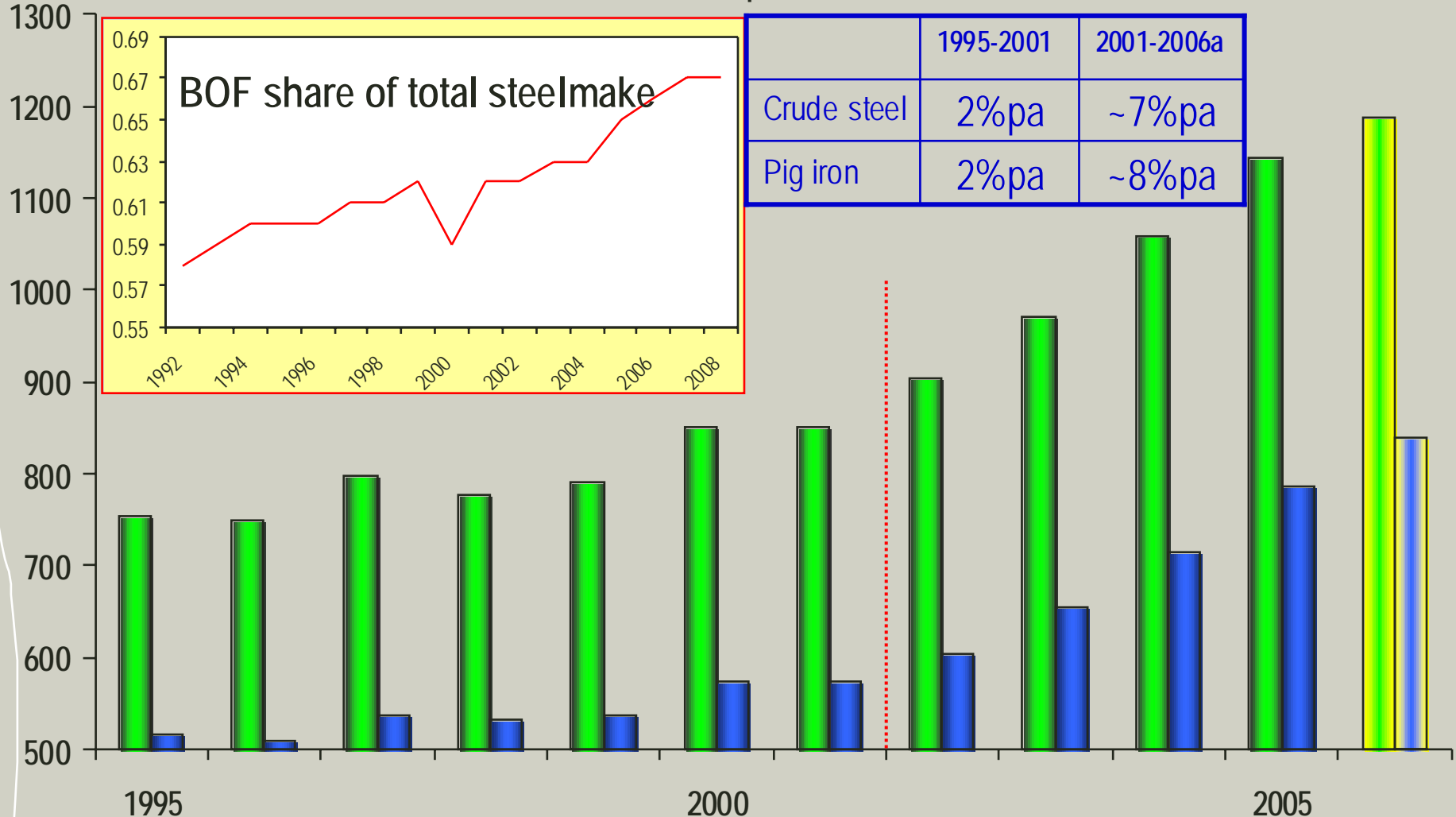
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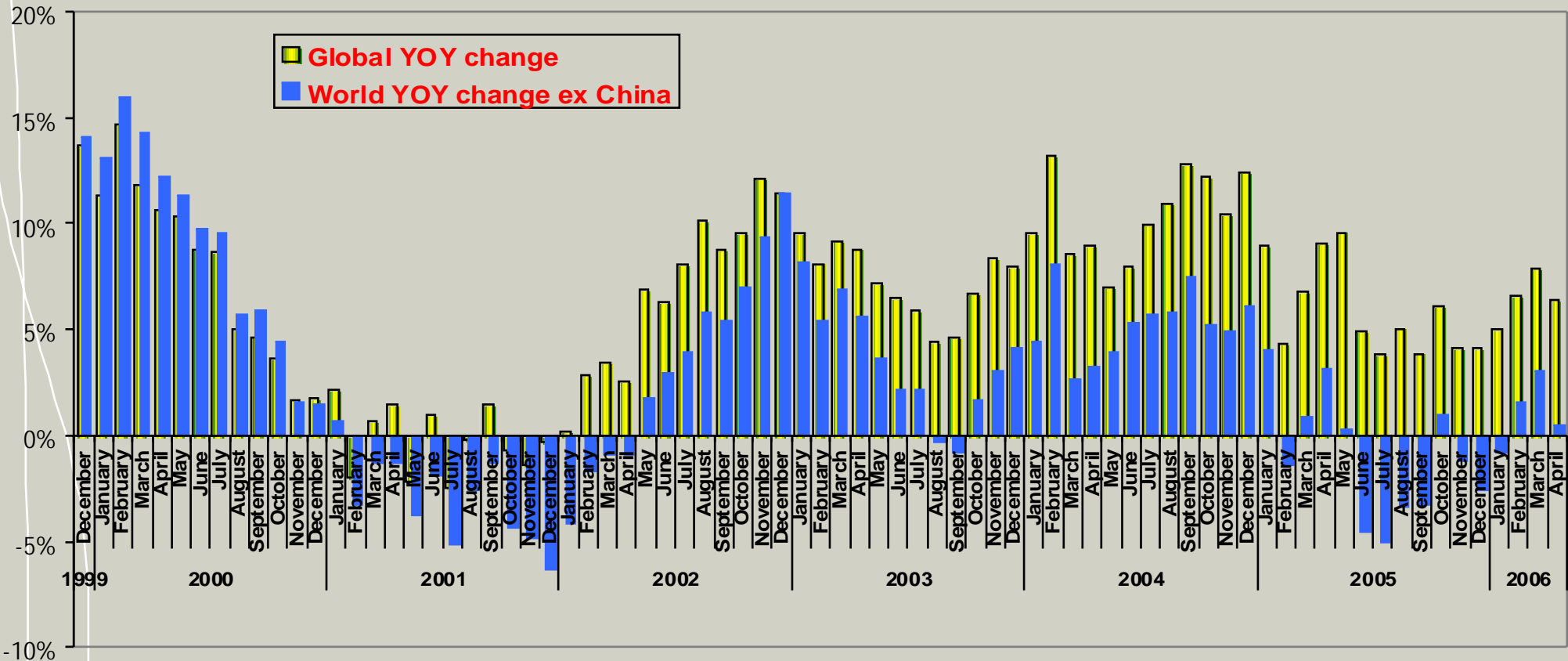
# Global steel production has followed a high growth path since 2001

The past ~5 years has seen a remarkable pick up in global steel and pig iron output, compared to the previous period. This has seen BF based BOF steel's share reach 2/3 of total production.



# China has been the driver of this high grow rate

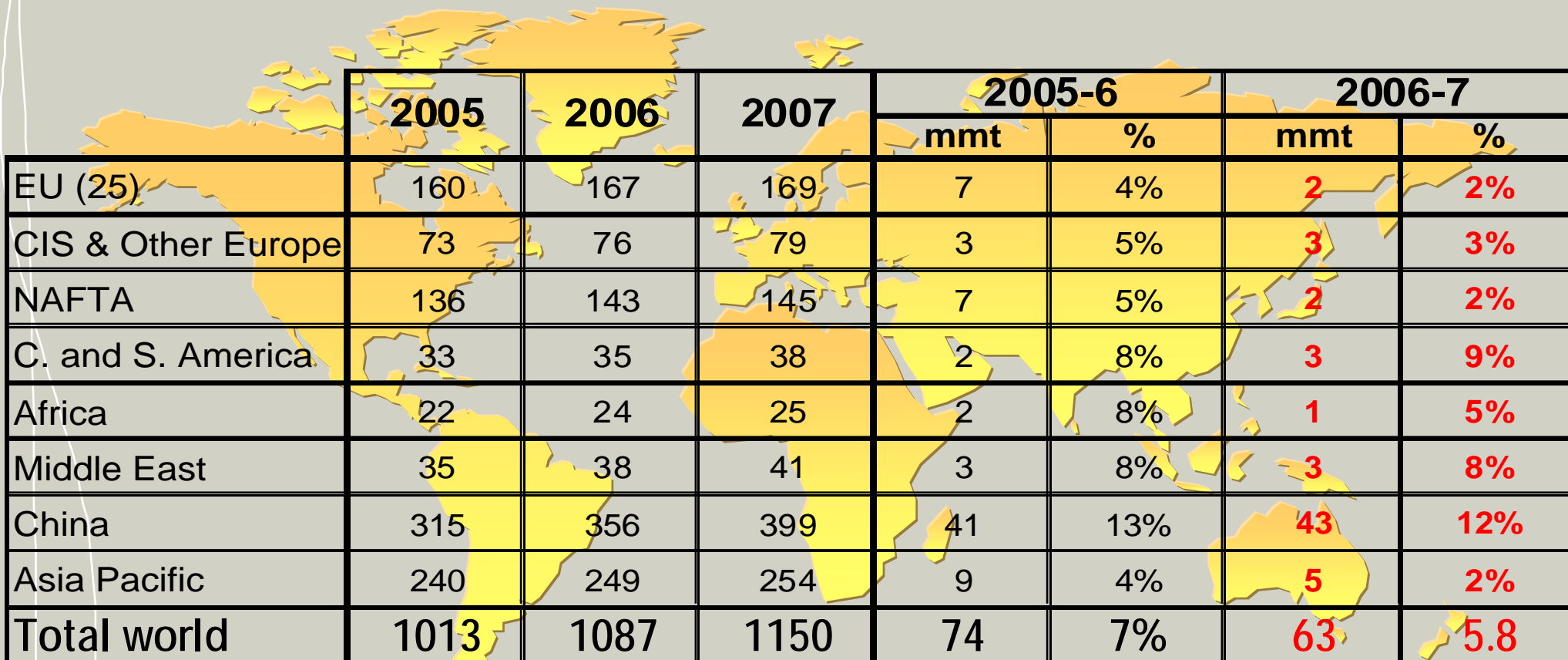
Chinese steel production has risen by over 210 million tonnes since 2001 at ~25%pa, and now corresponds to ~32% of total production. Pig iron has risen >183 million tonnes at ~22%pa and now corresponds to ~42% of global production



Source: IISI, BHP Billiton

# Short term steel demand outlook is very positive

Global economic conditions are very robust, thus predictions for steel consumption growth are more positive for 2006/7 than for 2005; ROW expected to see significant growth to complement China – the majority of growth in 2005.

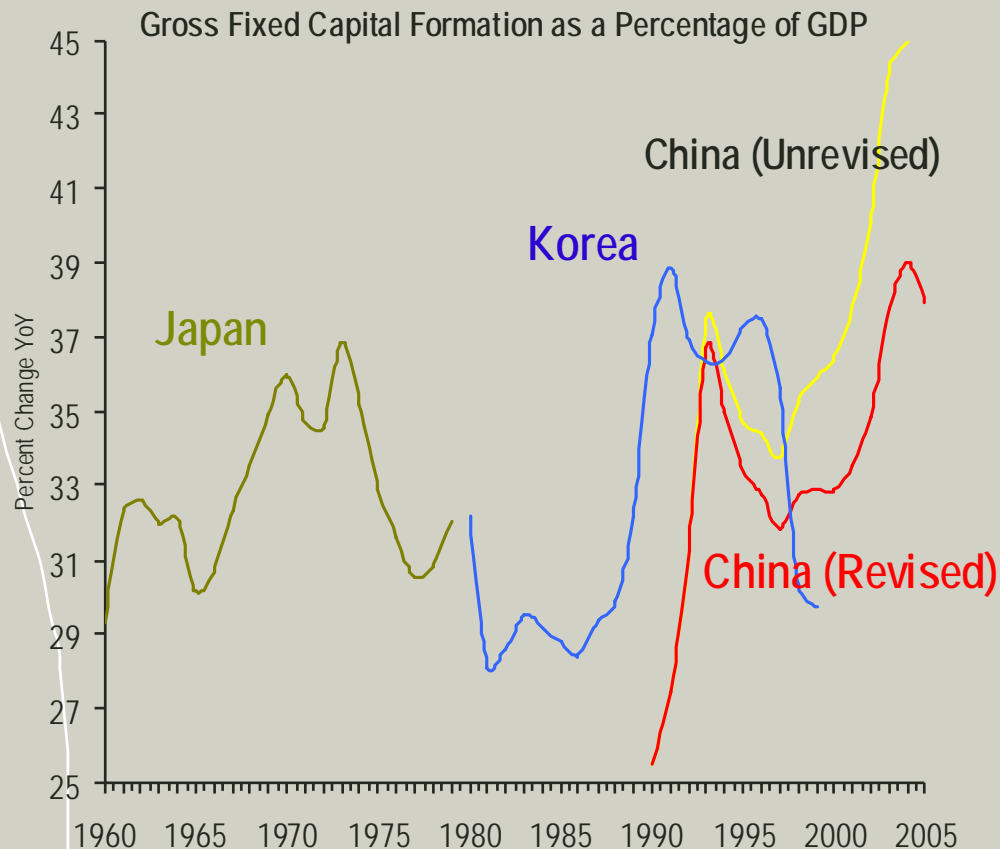


	2005	2006	2007	2005-6		2006-7	
				mmt	%	mmt	%
EU (25)	160	167	169	7	4%	2	2%
CIS & Other Europe	73	76	79	3	5%	3	3%
NAFTA	136	143	145	7	5%	2	2%
C. and S. America	33	35	38	2	8%	3	9%
Africa	22	24	25	2	8%	1	5%
Middle East	35	38	41	3	8%	3	8%
China	315	356	399	41	13%	43	12%
Asia Pacific	240	249	254	9	4%	5	2%
<b>Total world</b>	<b>1013</b>	<b>1087</b>	<b>1150</b>	<b>74</b>	<b>7%</b>	<b>63</b>	<b>5.8</b>

Source: IISI, BHP Billiton

# For steel and iron ore China is the key can high growth continue?

Chinese economic growth has consumed significant amounts of steel and iron ore, recent revisions to GDP determinations have shown a more sustainable growth path – growth drivers remain strong



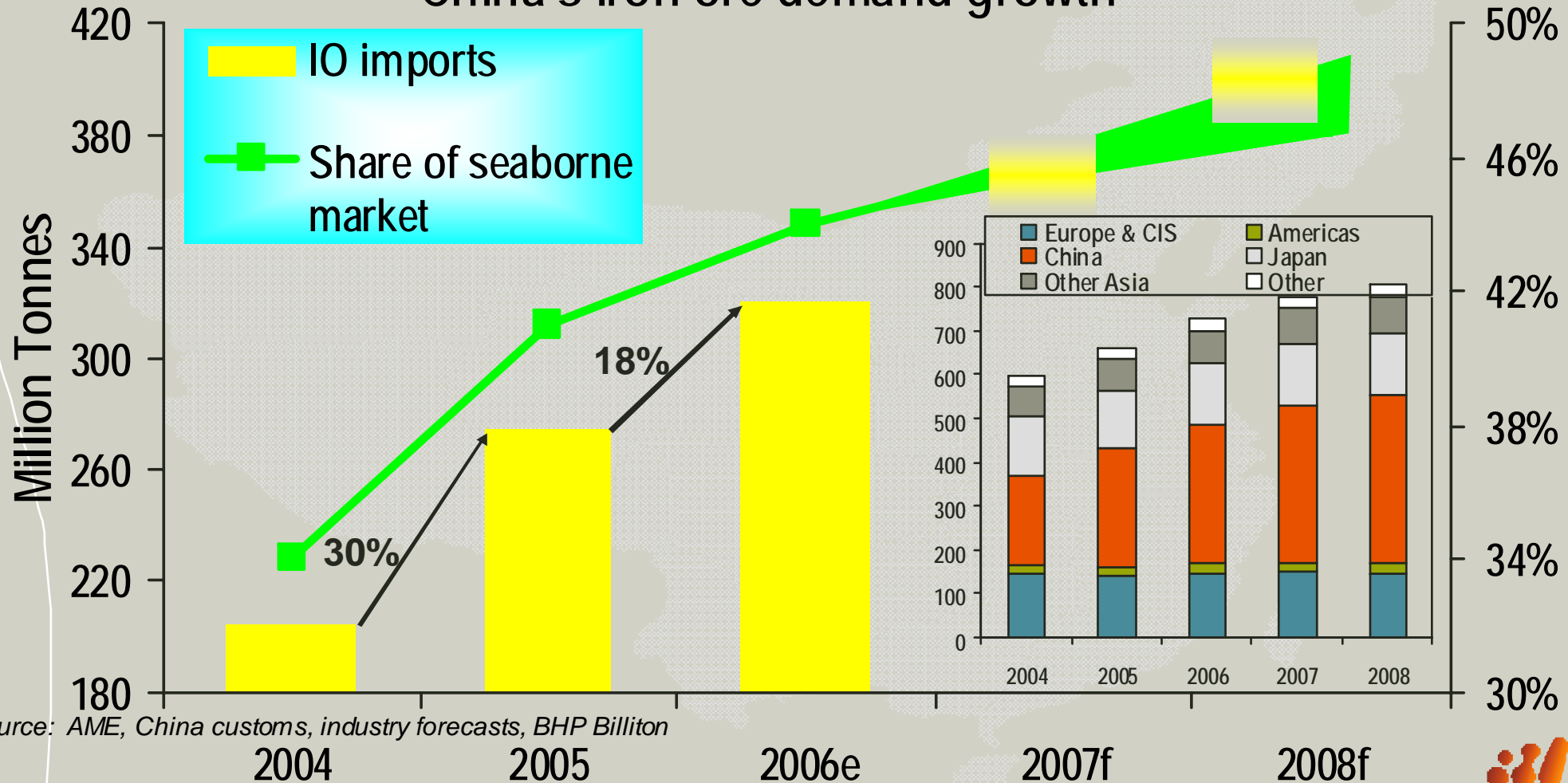
- **China's growth drivers remain strong**
  - Urbanisation
  - Demand for infrastructure
  - Growth in working age population
  - Rising middle class lifting domestic demand
  - Productivity and closing quality gap
- Strong savings rate
- Large trade surplus and foreign reserves
- Pro-growth policies
- Rapid ability to de-bottleneck

Source: World Bank, NBS, BHPB Estimates

# Demand from China will drive iron ore demand

China makes up the bulk of future growth in seaborne demand, consequently China's share of the seaborne iron ore market is also increasing, from 34% in 2004 to 41% in 2005 and to ~44% in 2006.

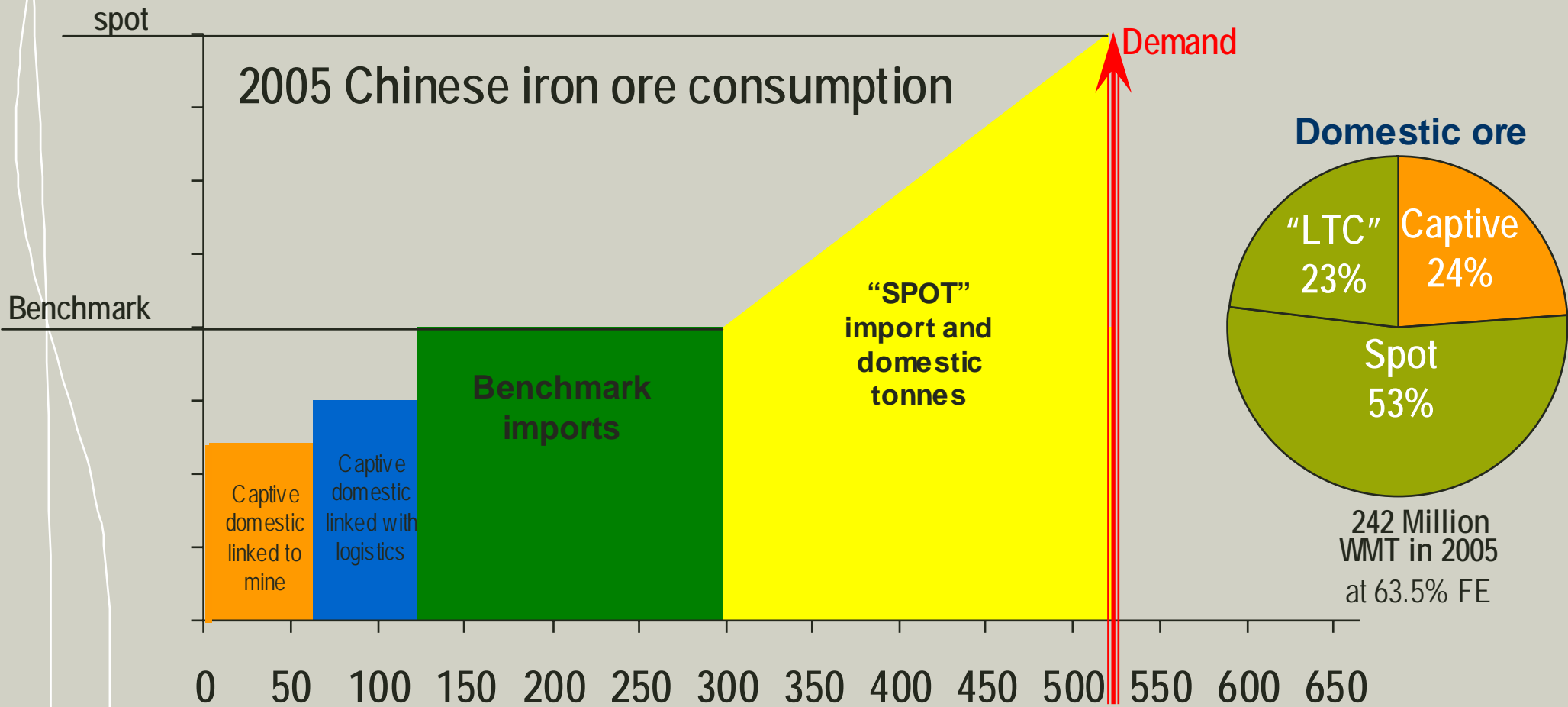
## China's iron ore demand growth



Source: AME, China customs, industry forecasts, BHP Billiton

# China's iron ore dynamics – interplay between domestic and imports

Iron ore demand and supply dynamics are complex. The rapid demand growth has seen a strong growth in higher cost imported and domestic ores the majority of which are sold as "spot"

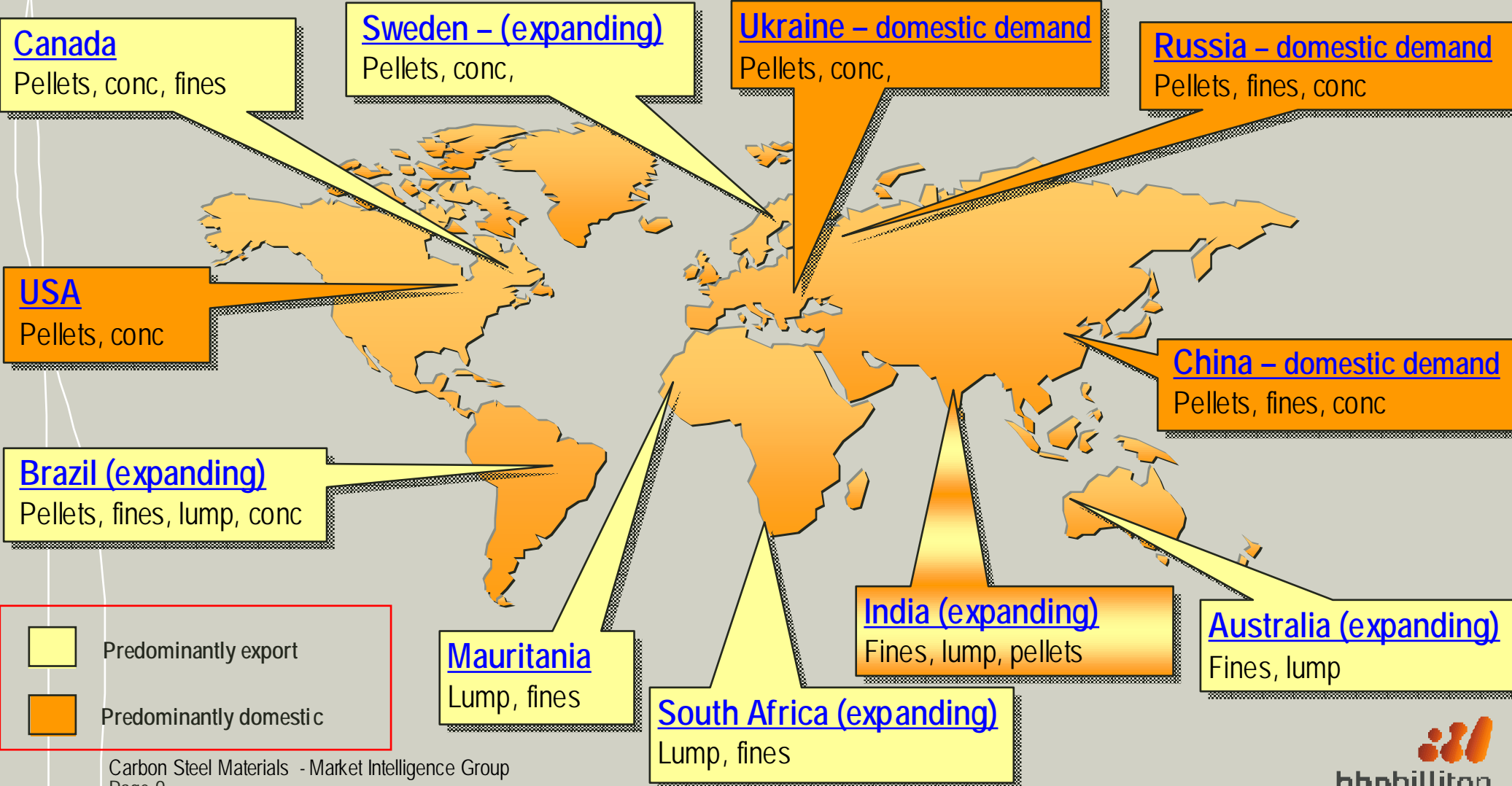


Source: China Customs, Xinhua News Agency, China Maritime Co, www.steelhome.com.cn, BHP Billiton



# Iron ore supply sources struggling to match demand

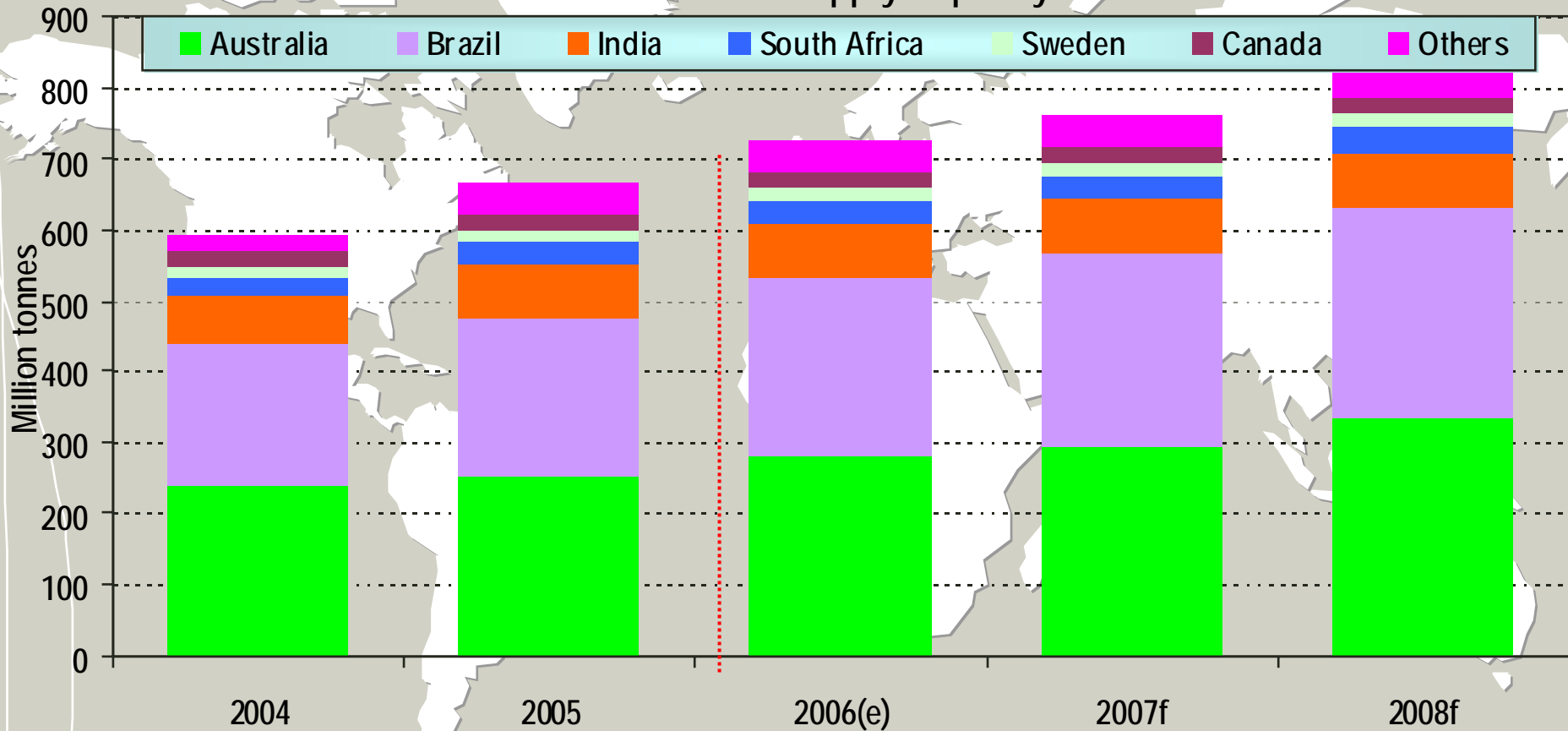
Supply dynamics are determined by mine, port and rail constraints, although additional iron ore can be mined the sheer size of increases required pose major challenges in the current mining boom.



# Seaborne iron ore supply outlook

Capacity to meet the rapidly growing demand will come from the traditional suppliers of Australia and Brazil. India has challenges meeting its own future demand and may result in falling exports.

## Seaborne Iron Ore Supply Capacity

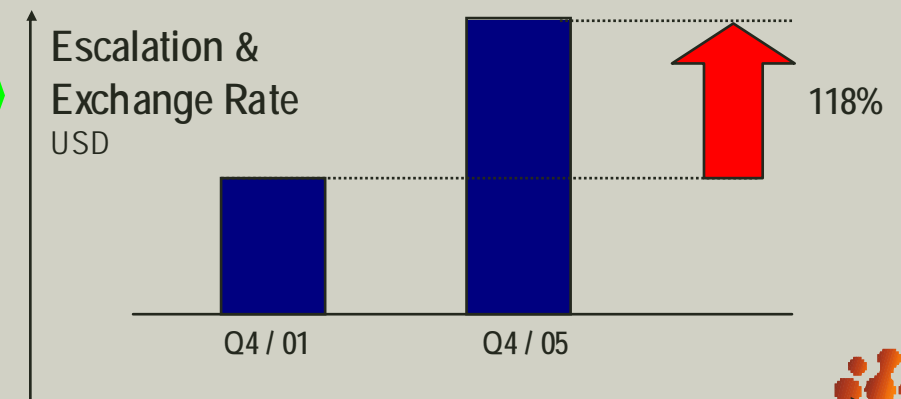
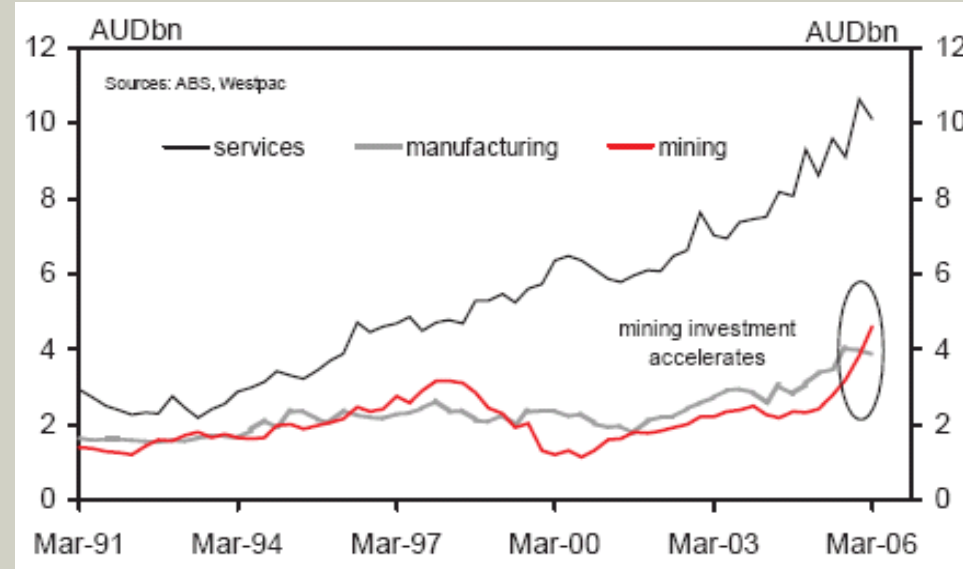
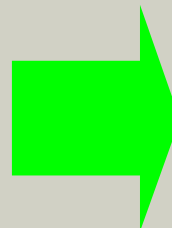
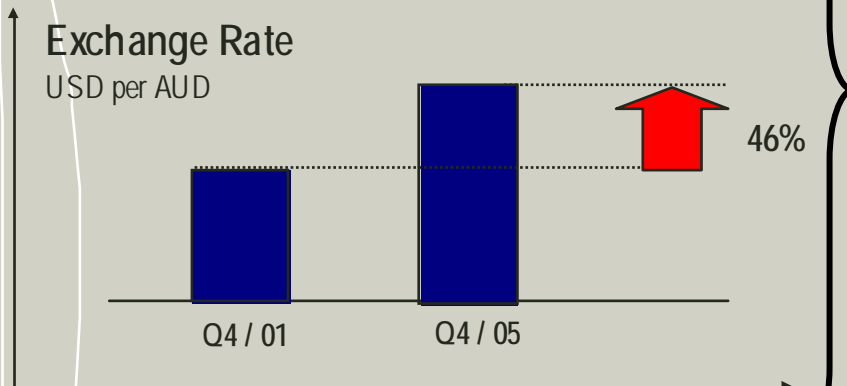
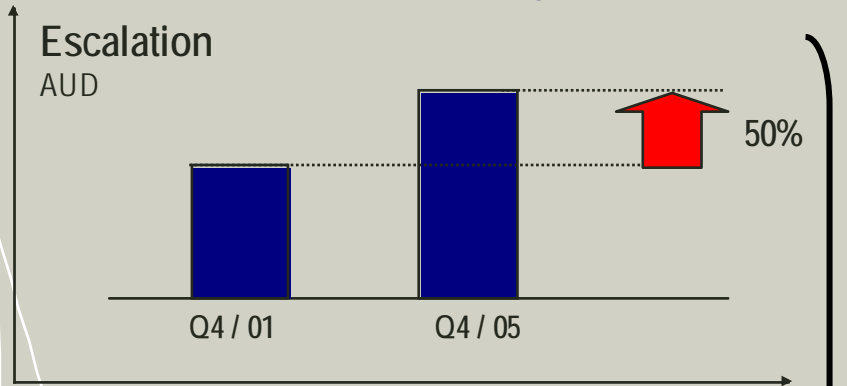


Source: Customers statistics, AME, Tex, industry forecasts, BHP Billiton

# Growth challenge – rising construction costs

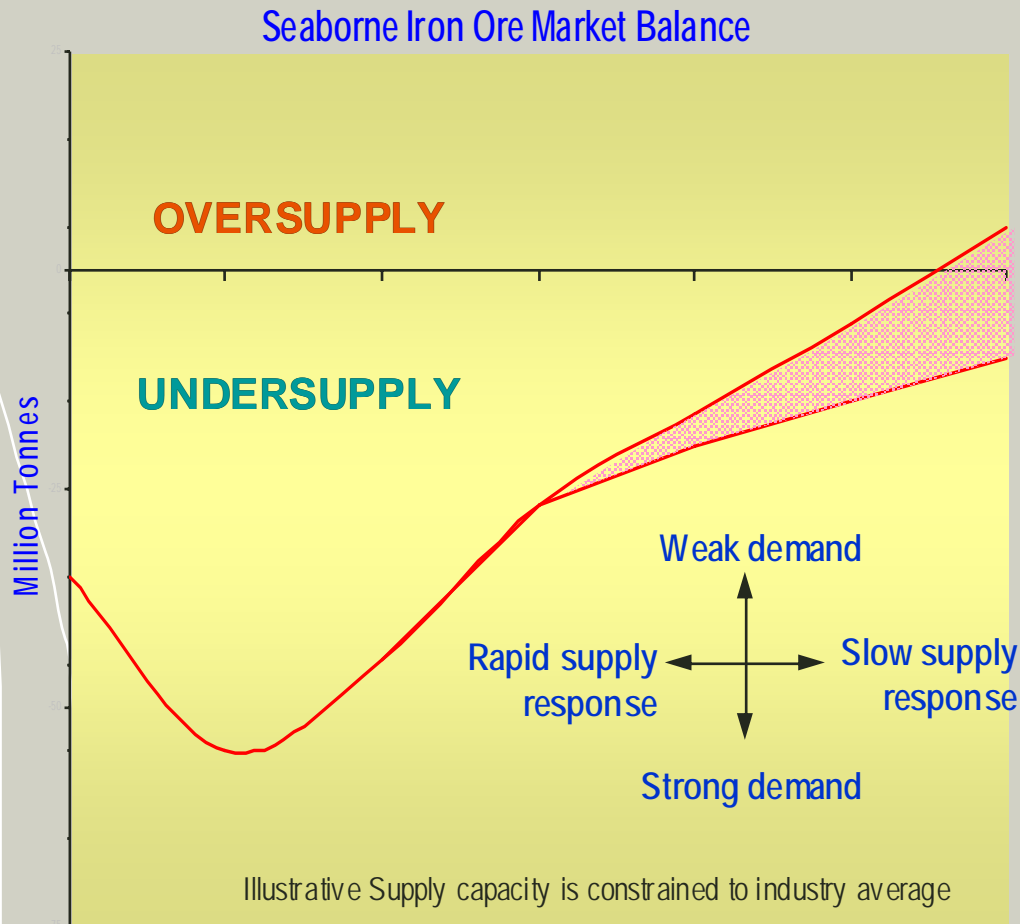
Whilst capital investment has risen sharply in mining, rising costs and exchange rates continue to pose problems in meeting strong demand for minerals including iron ore

## Construction Projects in Western Australia Impact of Escalation and Exchange Rate Movement 2001–05



# Stronger for longer – set to remain

Balancing supply and demand is likely to take longer than originally thought as delays in additional supply and stronger absolute demand have seen stronger for longer become the norm.



- Challenges inc rising costs are impacting and delaying the delivery of new capacity from traditional low cost producers
- Supply gap has been met by high cost producers – India, domestic China, others
- Rising Indian domestic demand is seeing local shortages and pressure to reduce exports
- China's domestic growth, whilst spectacular raises environmental concerns and is of very low ROM grades
- Smaller producers lack volumes to significantly impact the overall supply demand balance

# Benefits of seaborne raw materials

- **Iron Ore**

- Generally higher Fe content
- Improved sinter and BF performance – lower slag and fuel rates
- Increased flexibility with direct charge material – lump, pellets

- **Met Coal**

- Higher CSR and strength values in coke
- Improved utilisation of generally poorer domestic coals
- Resultant superior coke results in higher BF productivity and lower fuel rates

- **Ferroalloys**

- Higher Mn content and improved Mn/Fe ratio
- Lower trace elements eg P

## Concluding remarks

- Global steel outlook remains very positive
- China's growth is predicted to continue at a strong pace in the medium term, driving pig iron and iron ore demand
- Iron ore producers are aggressively seeking to expand but are facing significant challenges due to costs and shortages
- Bring global seaborne iron ore back into balance is therefore likely to take longer leading to a prolonged "stronger for longer" environment
- Using seaborne raw materials gives a range of benefits to the steelmaker which will see continued growth in the seaborne market



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