



MANGANESE

A Worldwide Industry Overview

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A Look at the World Mn Market Today

- 2006 Highlights
- Mn Alloy (production and consumption)
- Mn Alloy Unit Consumption
- Mn Ore (production and consumption)

2006 Highlights

- Highlanders Plant in US bought by Privat – capacity 140K mt of SiMn per annum
- China NDRC releases list of 70 in Q1 & 113 in Q4 qualified ferro-alloy producers
- Power tariff hike by NDRC to start Q3 '07
- Sino-Japanese SiMn Joint Venture in Inner Mongolia – capacity 150K mt per annum
- Kalahari Mn Ore Project – expected capacity of 1.5 million mt per annum

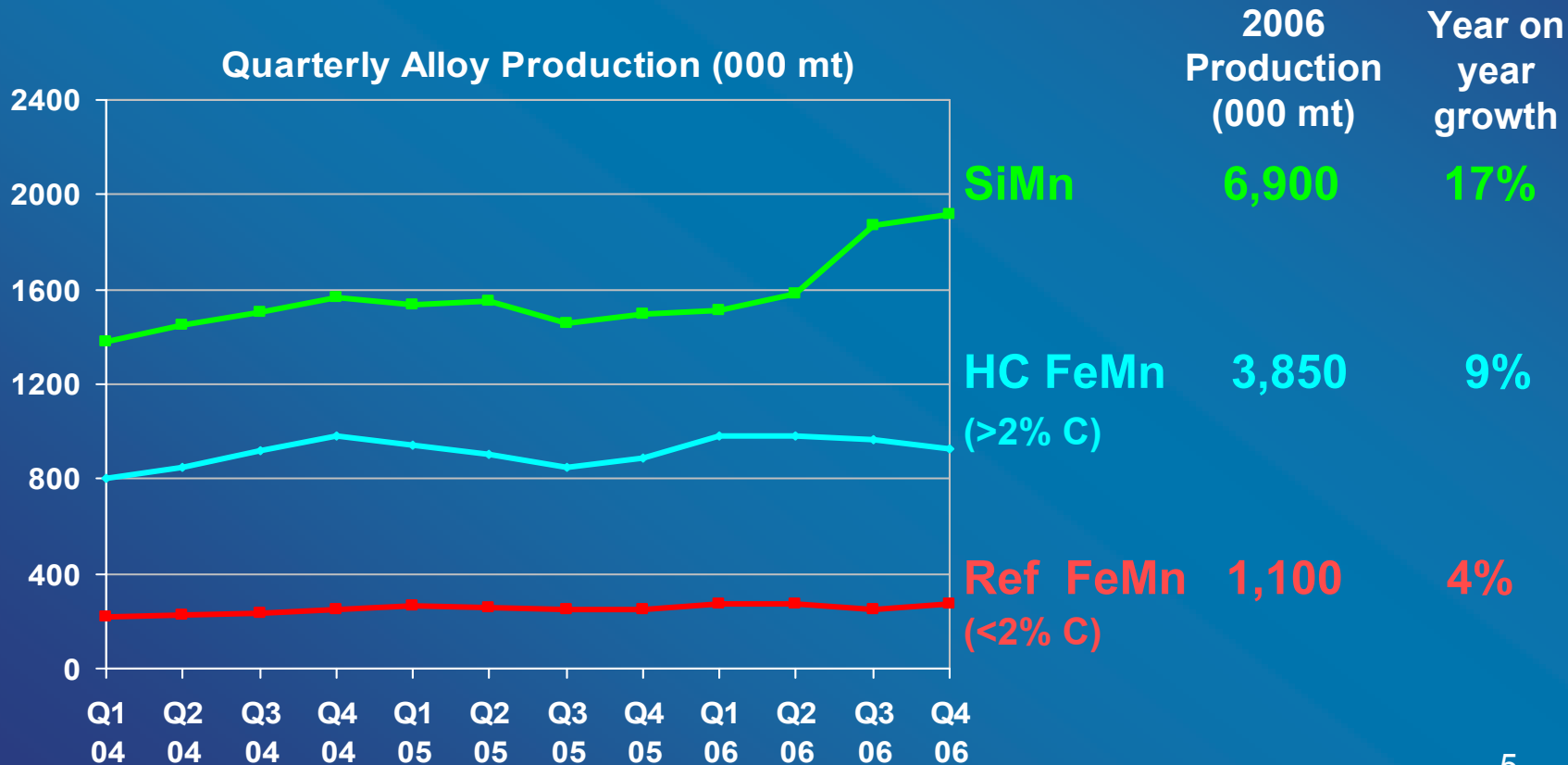


Manganese Alloys

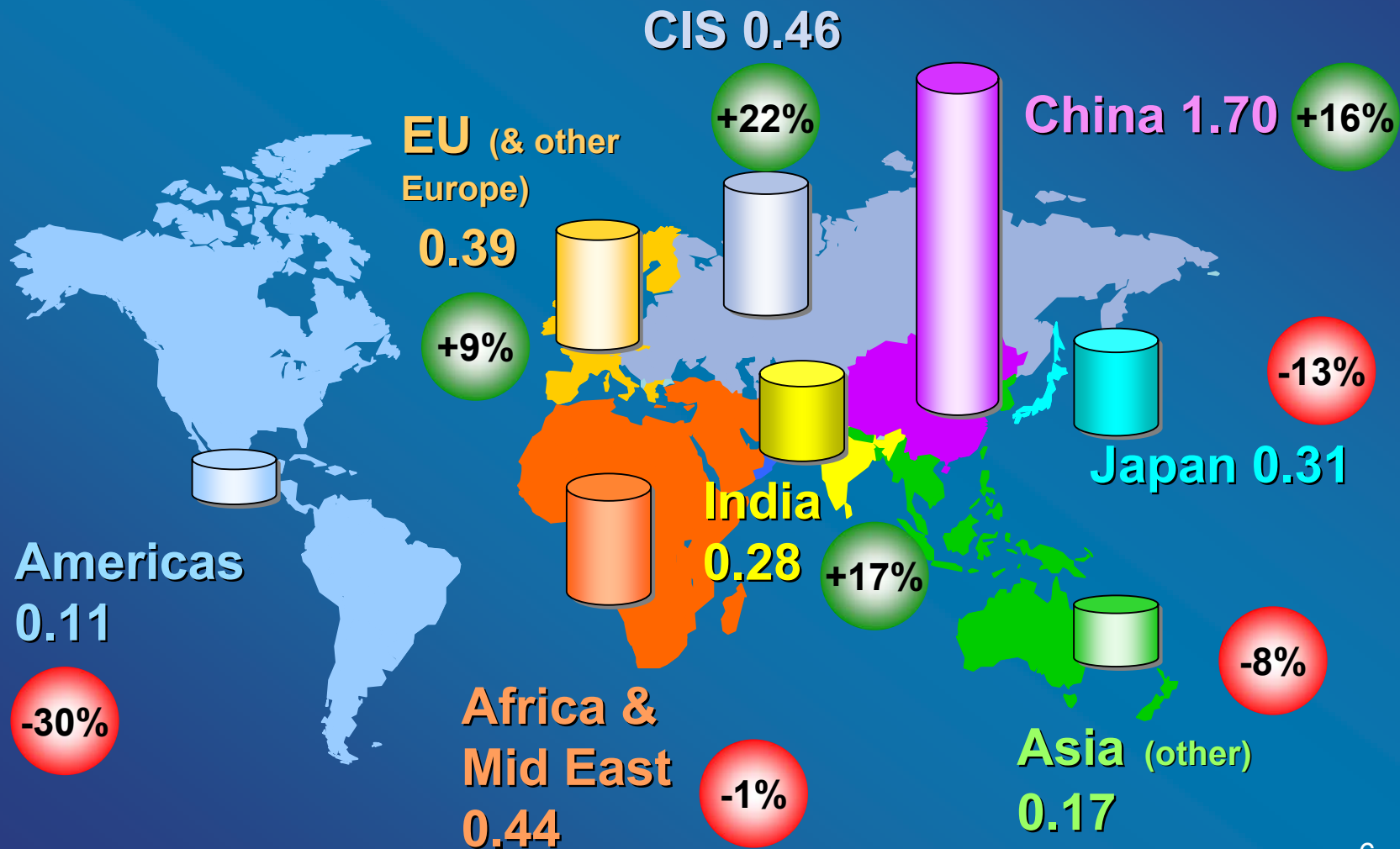


Total Mn Alloy Production

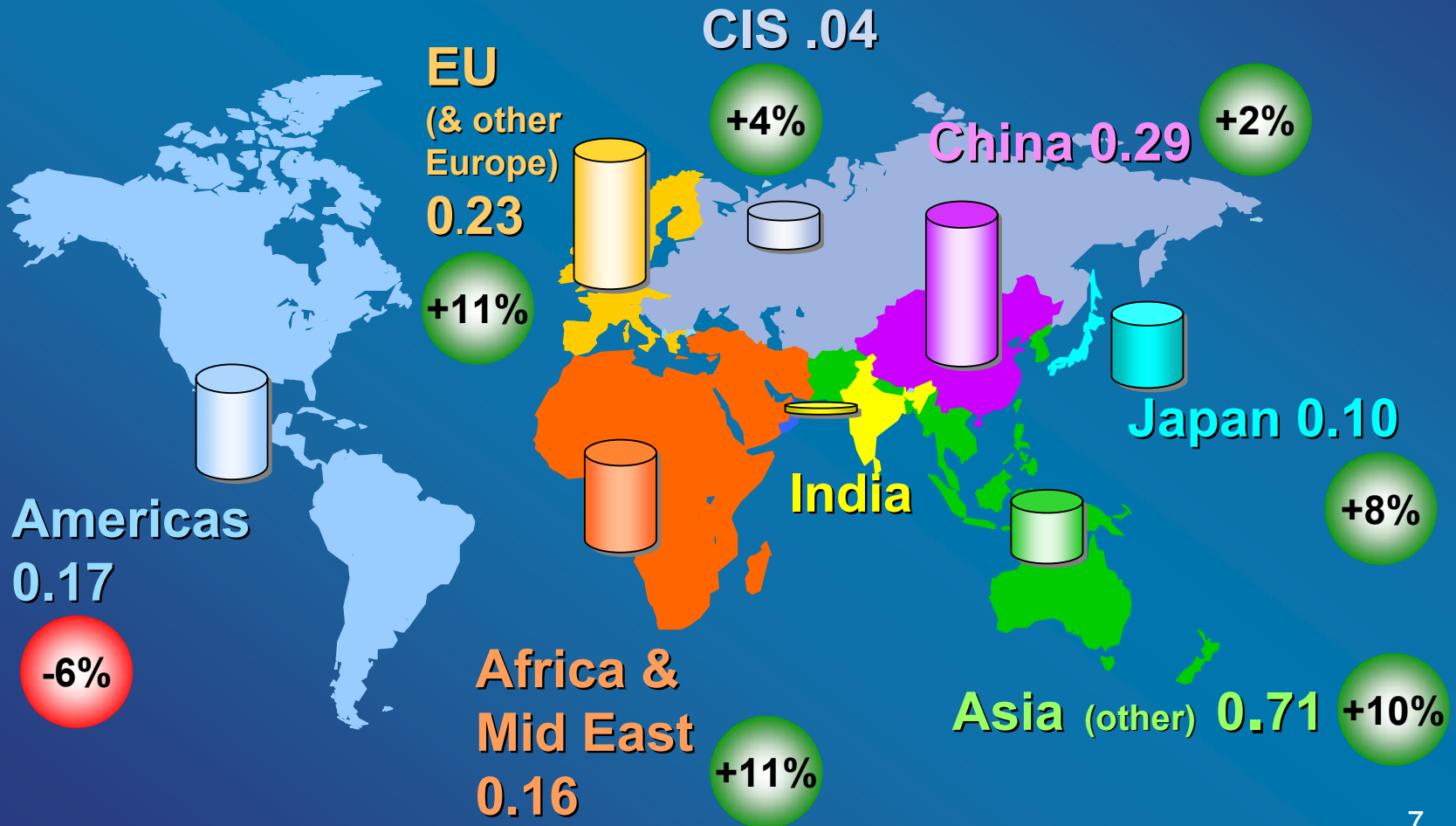
2006 World production = **11.8** mil metric tons
14% growth from 2005



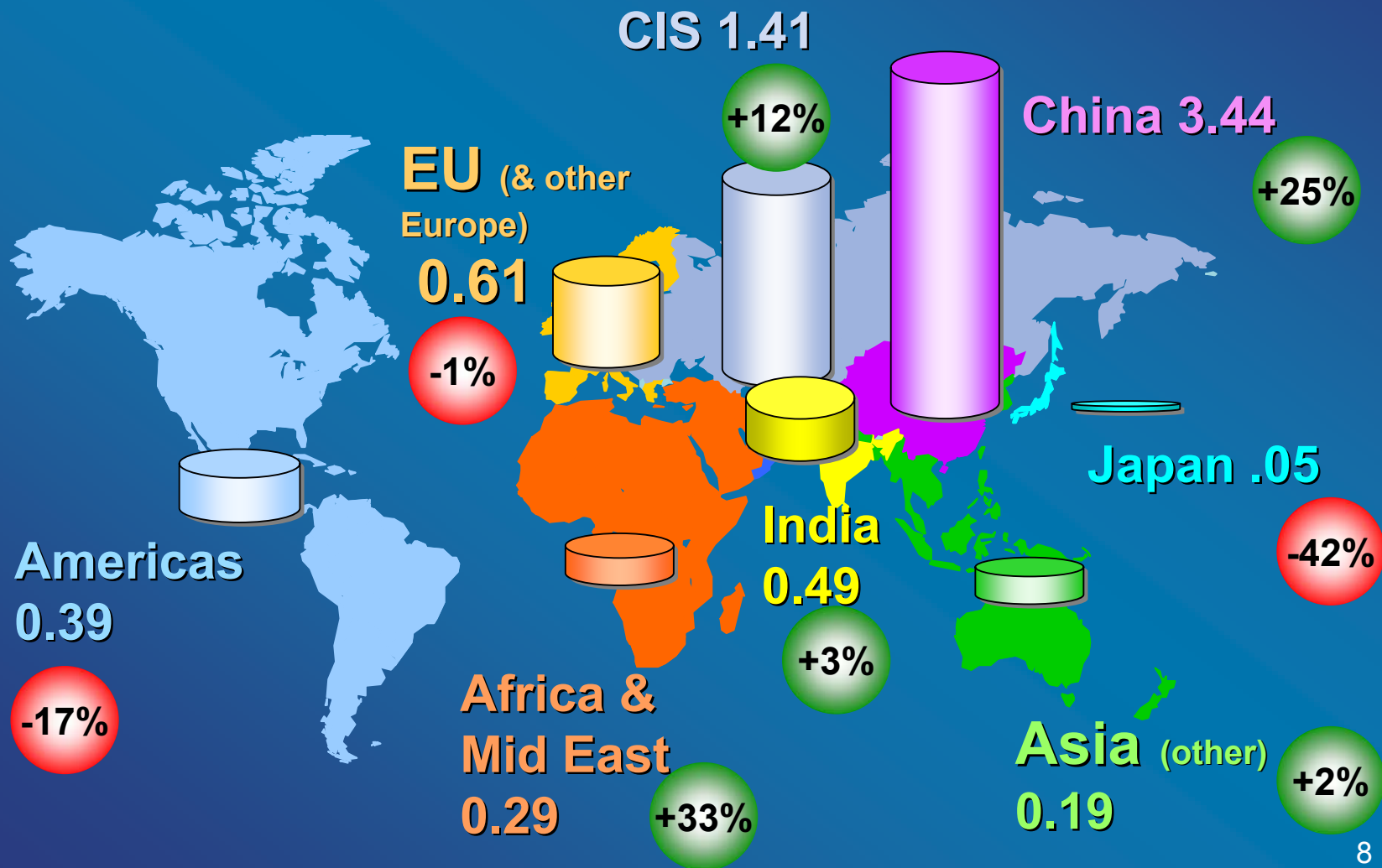
HC FeMn Production 2006 = 3.85 M mt



Ref FeMn Production 2006 = 1.1 M mt

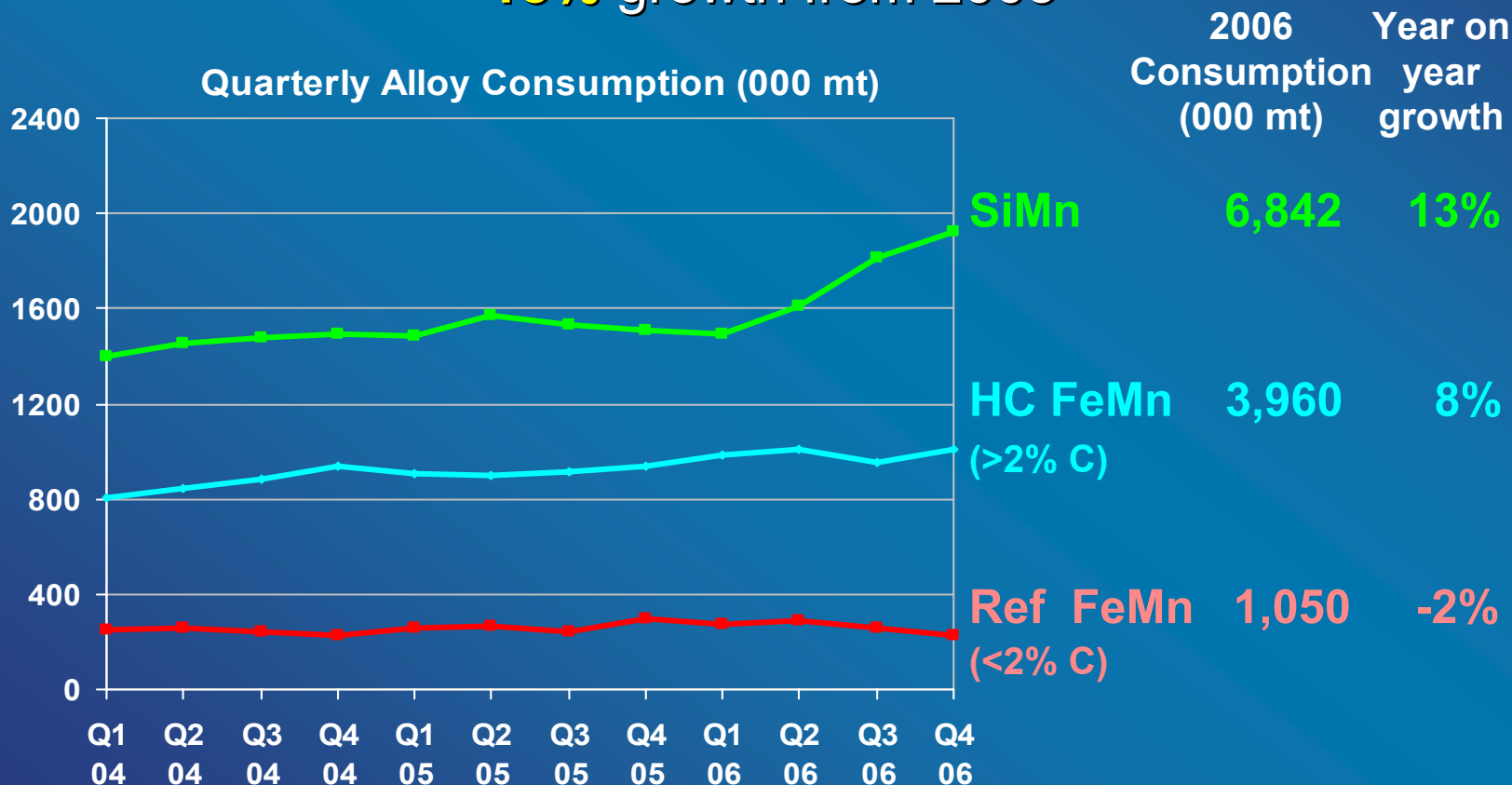


SiMn Production 2006 = 6.9 M mt



World Mn Alloy Consumption

2006 World consumption = **11.9** mil metric tons
15% growth from 2005

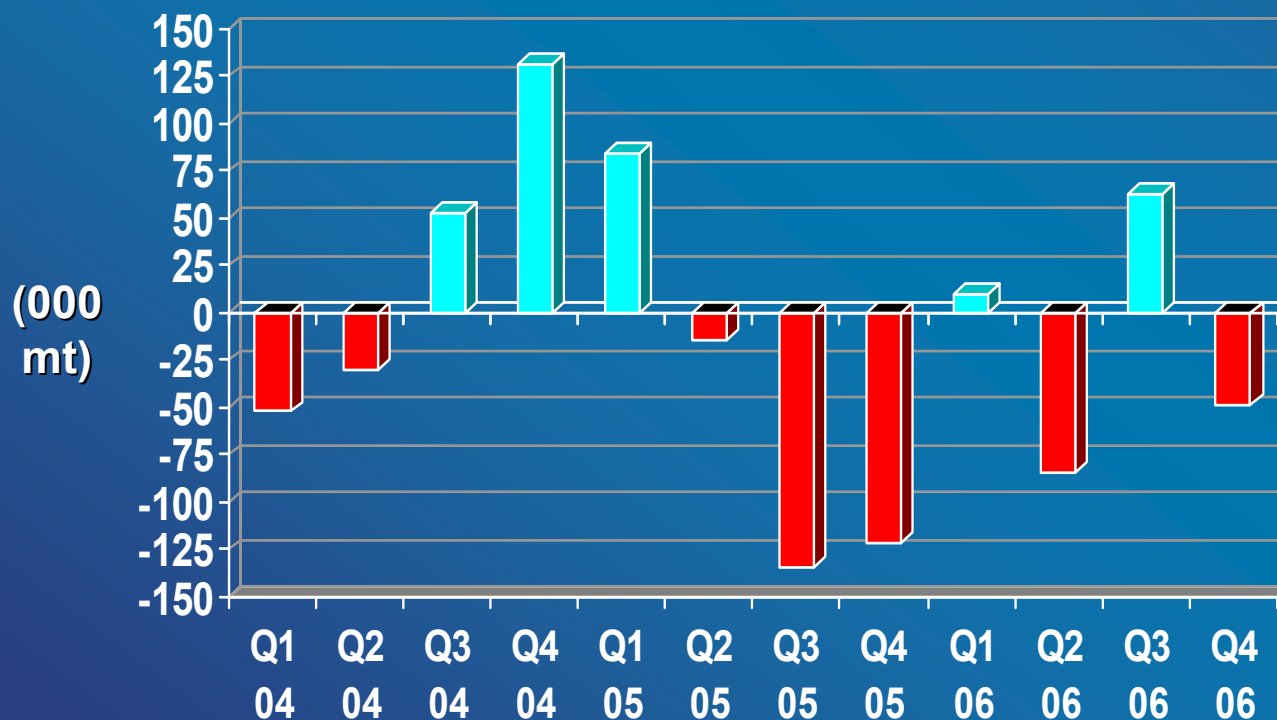


World Mn Alloy Consumption Highlights

- **China** HC FeMn up +25% yoy (1,581K mt)
SiMn +12% (2,691K mt)
- **N. America** HC FeMn up +30% (322K mt)
SiMn up +23% (to 540K mt)
Largest Consumer of Ref FeMn (235K mt)
- **W. Europe** Flat for HC FeMn (459K mt)
SiMn up -10% (781k mt)
Ref FeMn up +5% 221K mt

Global Mn Alloy Supply & Demand

The world Mn alloy supply & demand balance



2006 Supply Demand Balance

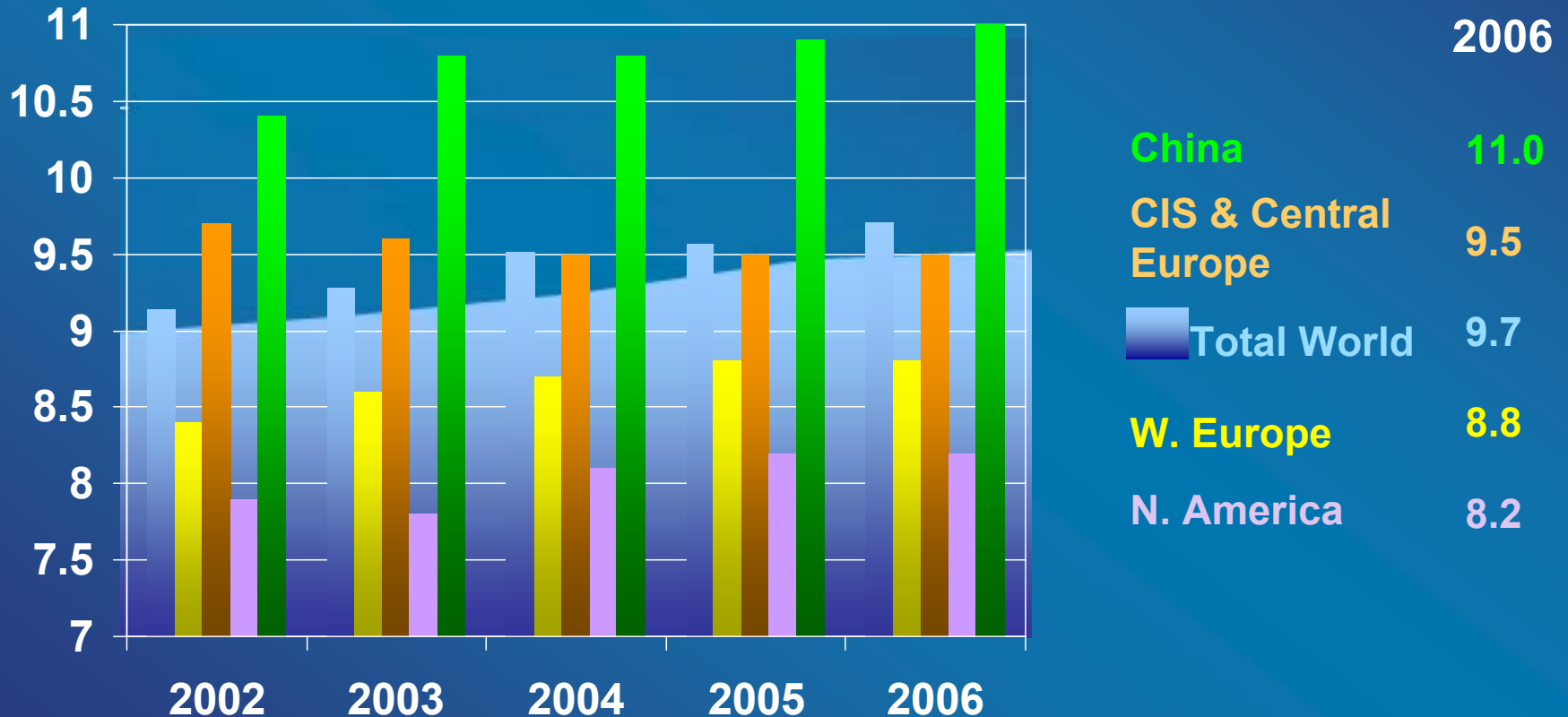
SiMn	+36K
HC FeMn	-109k
Ref FeMn	+13k
<hr/>	
Total	-60k

Steel Production (M mt)

	2005	2006	Change yoy
World Total	1128	1239	+10%
China	349.0	421.5	+21%
Asia (ex China)	243.5	254.4	+4%
Americas	171.4	176.6	+3%
Africa & Mid East	54.2	56.3	+4%
CIS & Central Europe	144.2	155.0	+7%
W. Europe	166.6	175.4	+5%



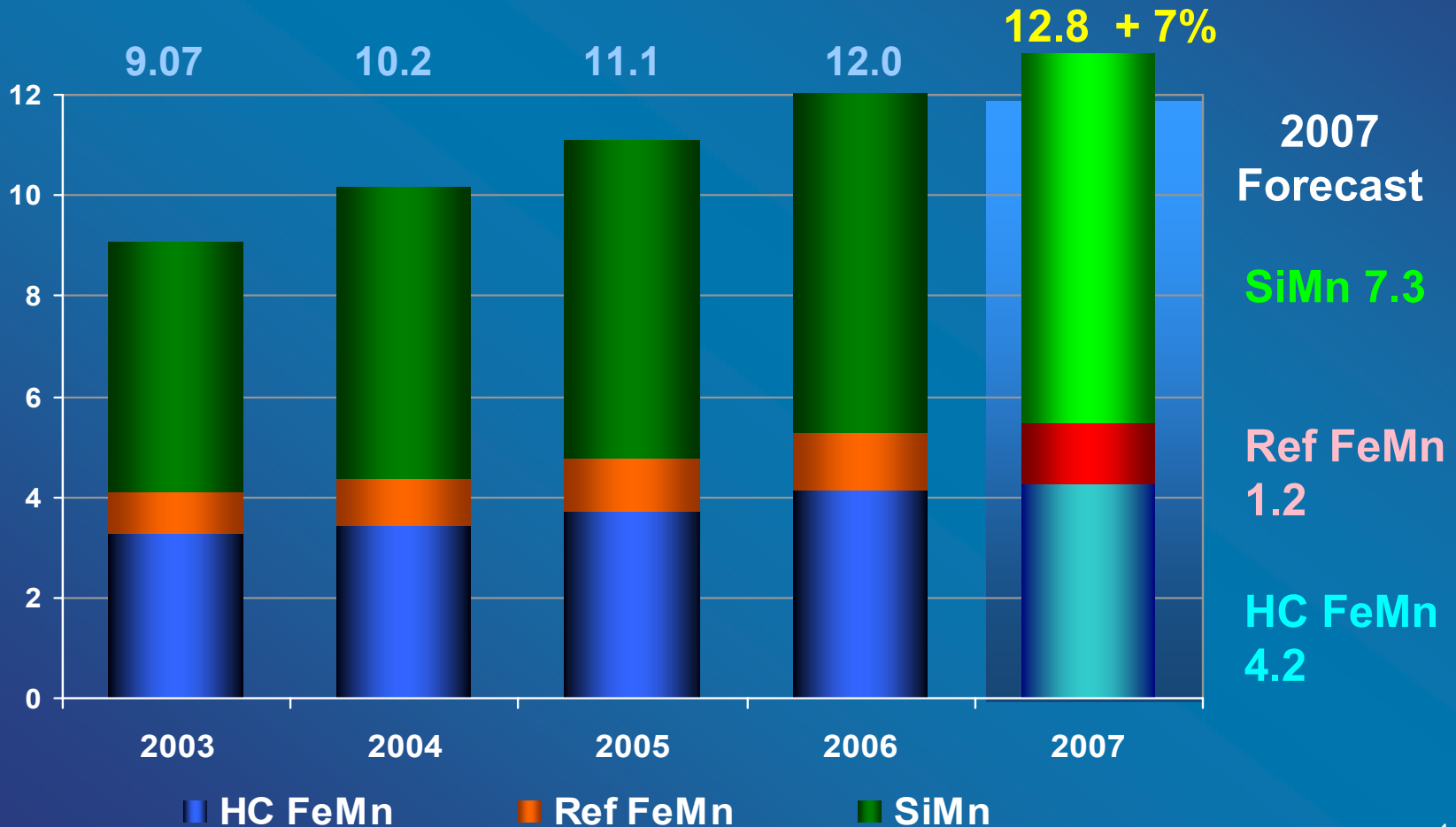
Trends in Mn Alloy Unit Consumption by region (kg/mt steel)





Annual Mn Alloy Real Consumption

History and Forecast (000 mt)





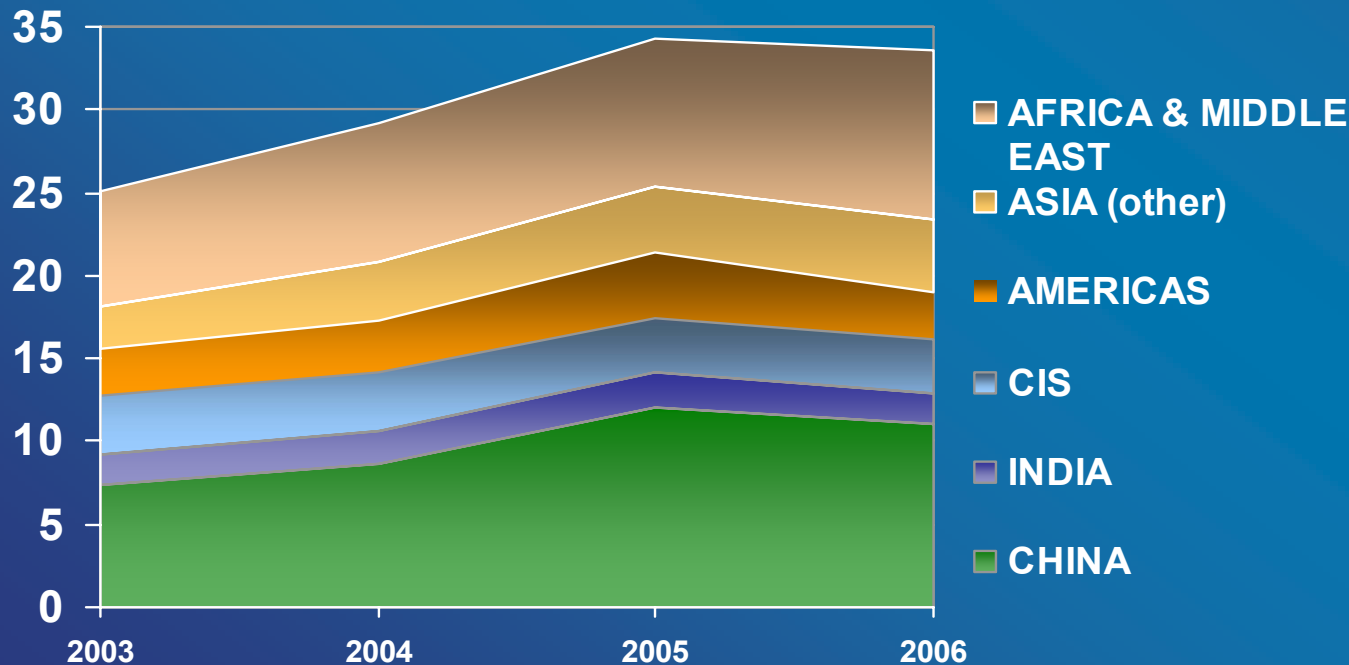
Manganese Ore



Mn Ore Production

2006 World production = **33.7** mil (wet) mt, **-3%** growth yoy, however Mn content = **11.8** mil mt up **+2%** yoy

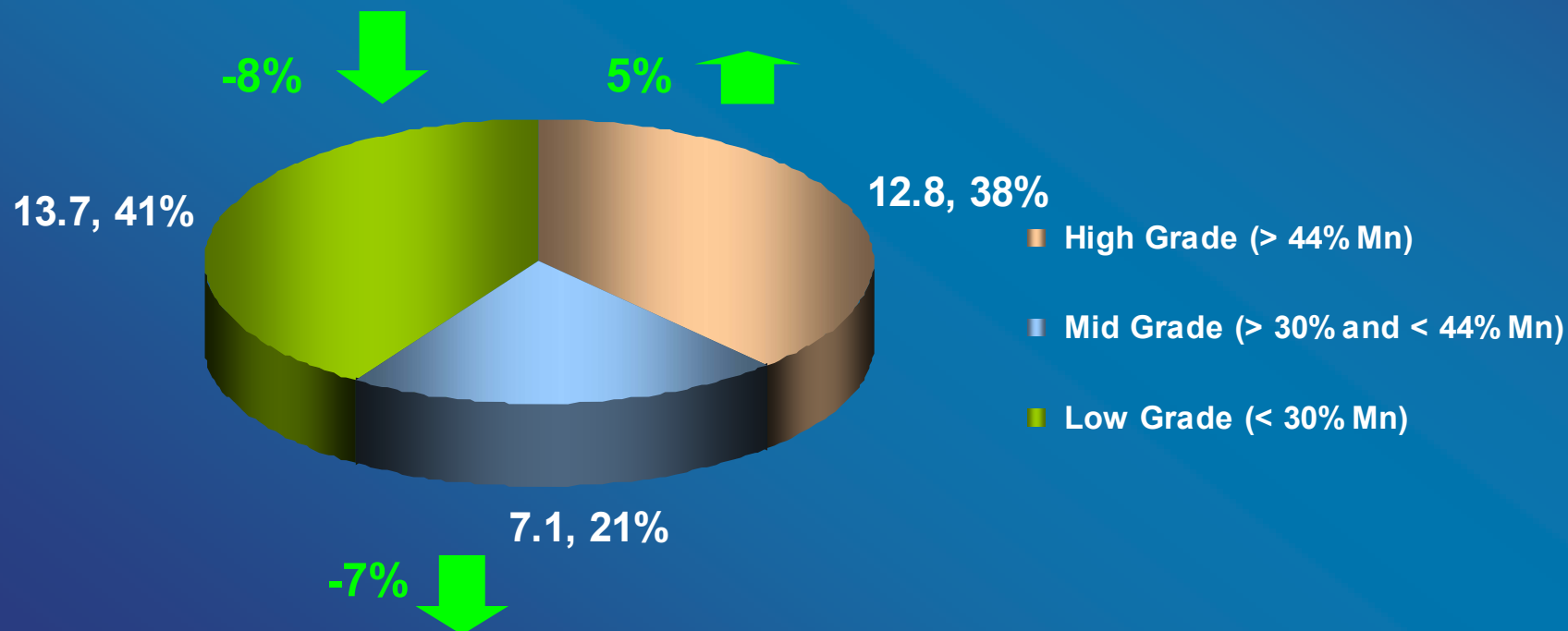
Quarterly Mn Ore Production - wet (000 mt)



2006 Prod	Growth YOY
10.2	13%
4.4	13%
2.9	-26%
3.2	-3%
1.9	-14%
11	-8%

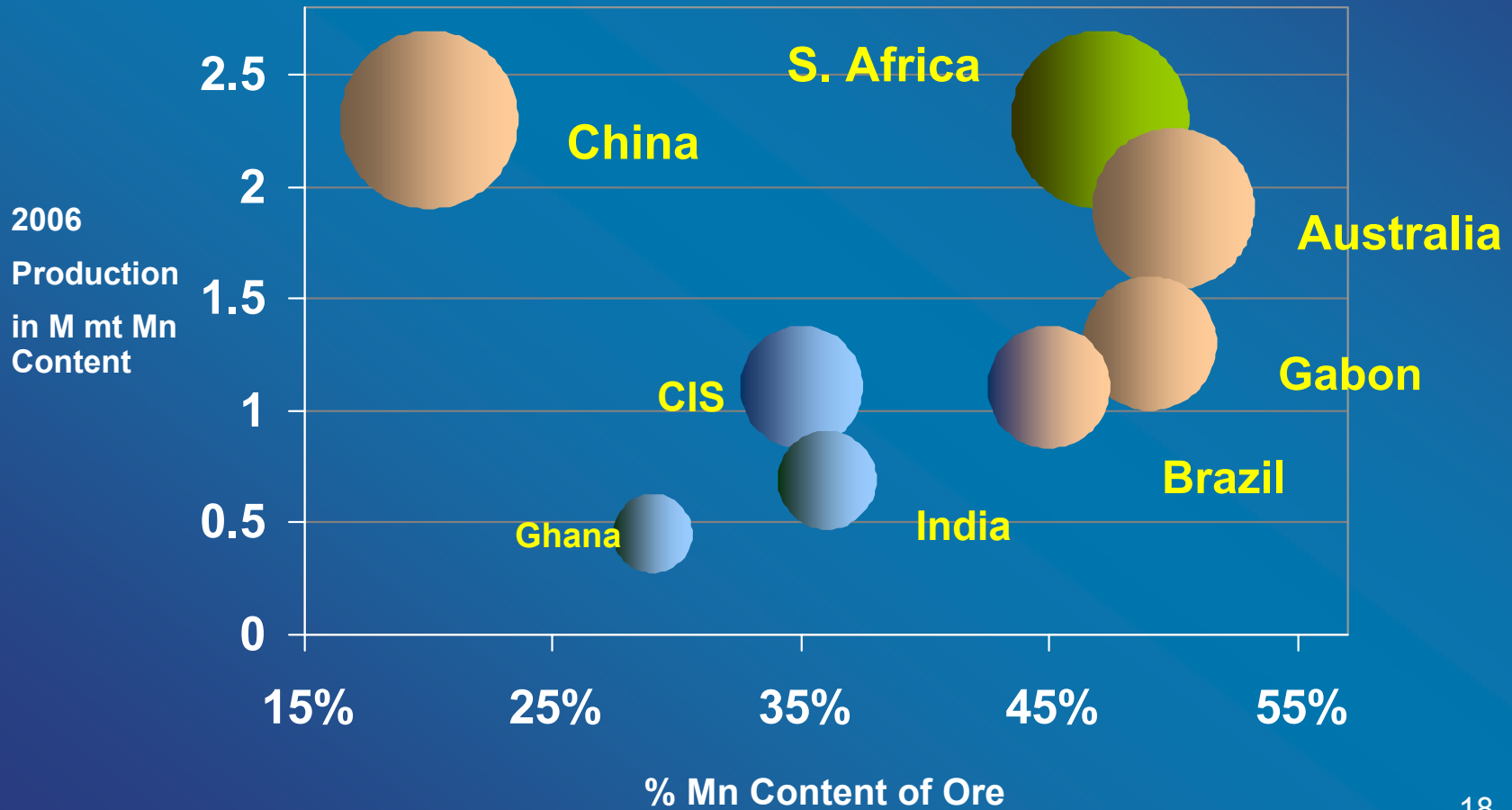
Mn Ore Production

2006 World Mn Ore production by grade
33.7 million mt wet (**11.8 M** mt content)



Top 8 Mn Ore Producers 2006

(M mt Mn content)

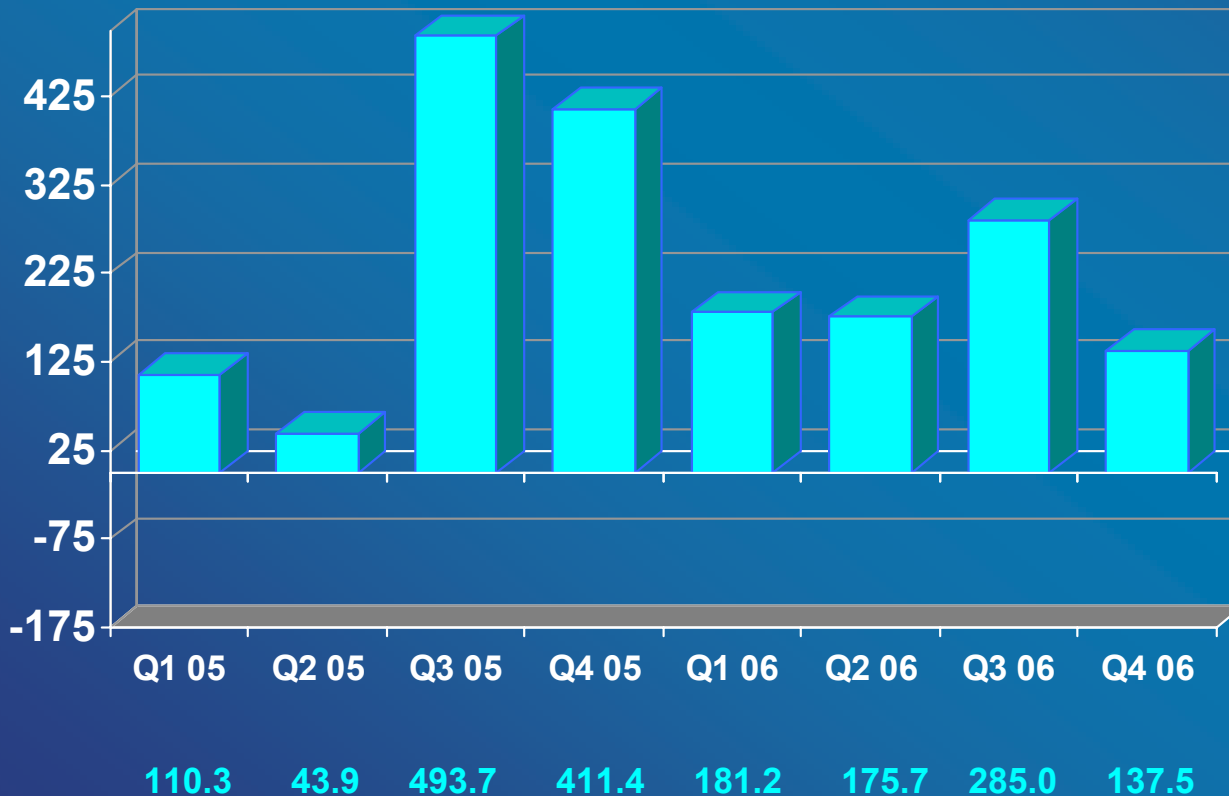


Mn Ore Consumption Highlights (in M mt Mn Content)

- **Total World** 11.1 million mt in mt content (33.3 million mt wet). Up 4% YOY
- **China** China up a healthy 19% to 5.1 million mt in Mn content
- **Europe** Down 15% to 872K Mt in Mn content
- **Americas** Down 23% to 858K Mt in Mn content



Mn Ore Supply and Demand Balance (in 000 mt Mn Content)



The Balance:
137.5K for Q4
779.4K for the year

Summary of Key Points

- Steel reaches historic levels, driving demand for Mn alloys
- Mn Alloys showed strong growth in production
- Negative growth in Mn Ore (wet) production, but positive growth in Ore in Mn content production.
- Upward trend in global Mn alloy unit consumption to **9.7kg/mt**
- Total Mn Alloy Real Consumption forecast of **12.8 M mt** in 2007



Questions?

Thank you