

The International Market for Metallurgical Coke

International Pig Iron Secretariat

IPIS

37th Members' Meeting

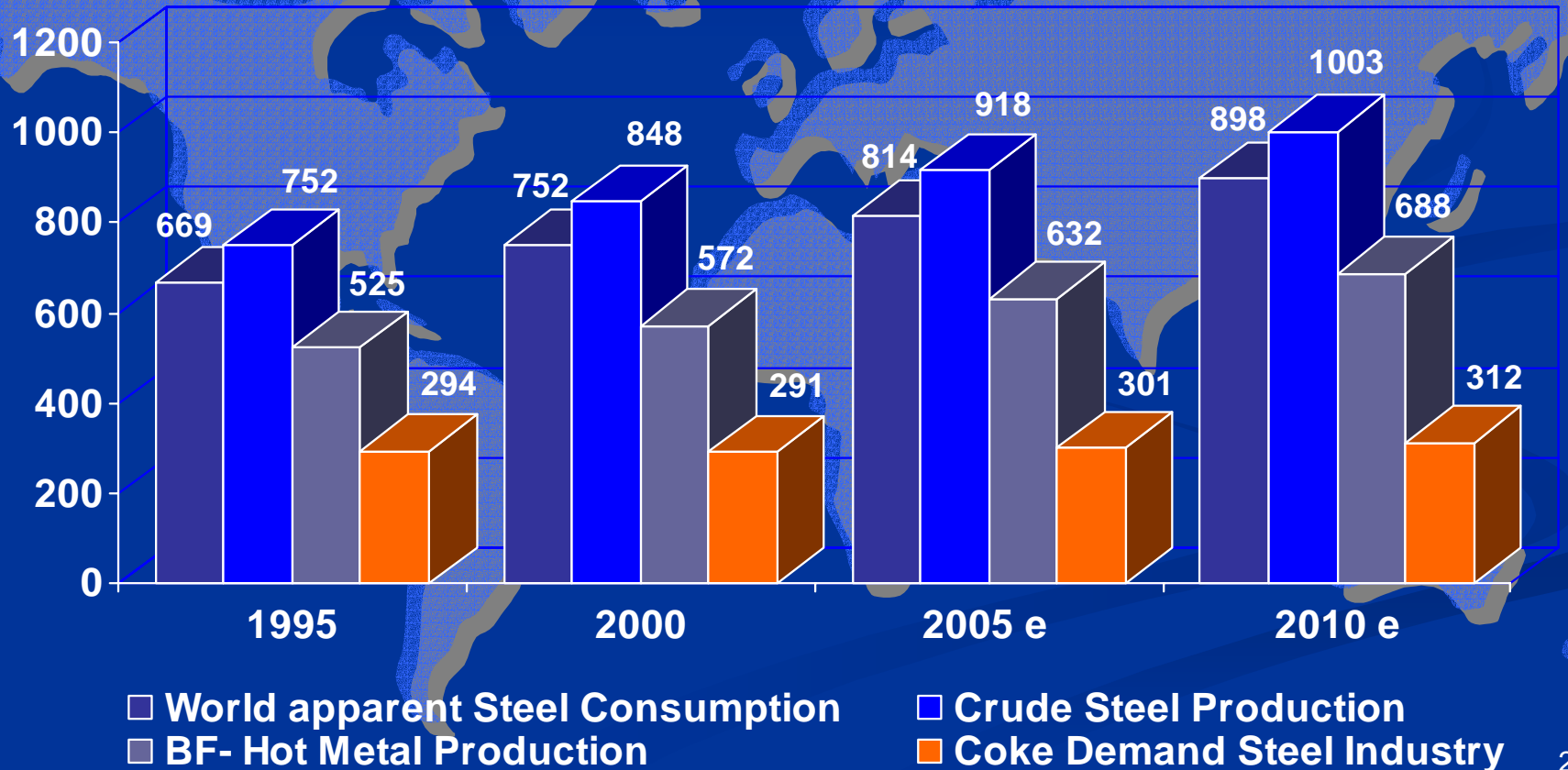
Lausanne, Switzerland

11th - 13th June, 2003

Presentation by RAG Trading GmbH

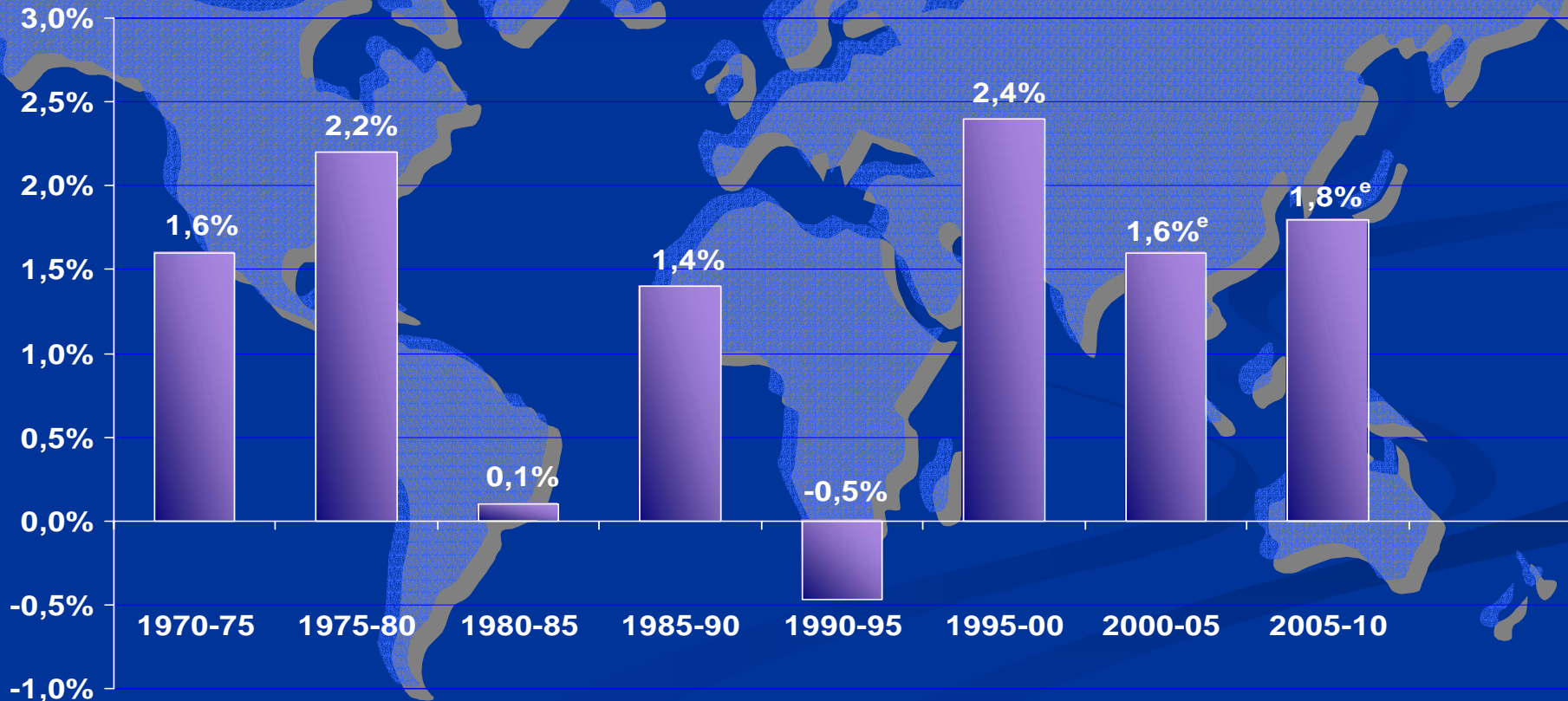
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Key Indicators for Blast Furnace Coke Demand (million mt)



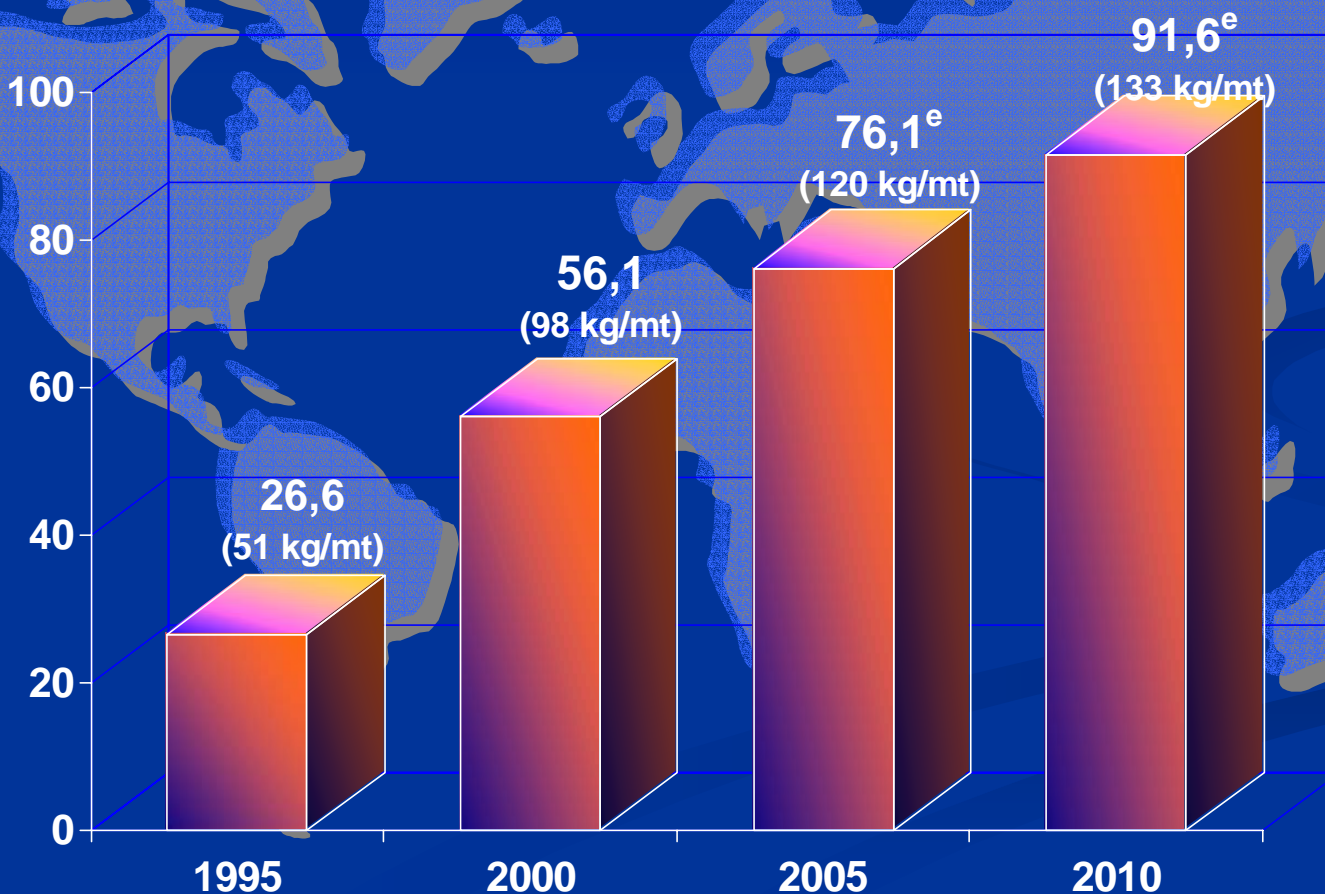
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Average Growth Rates in World Crude Steel Production 1970 – 2010^e



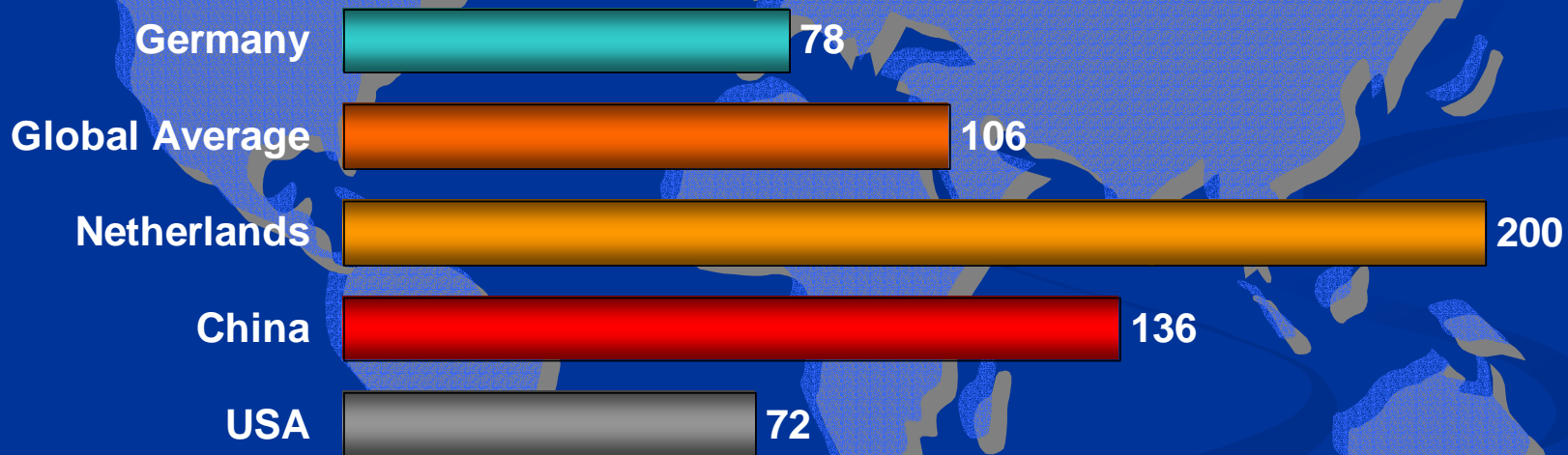
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Global Use of PCI 1995 – 2010^e (million mt)



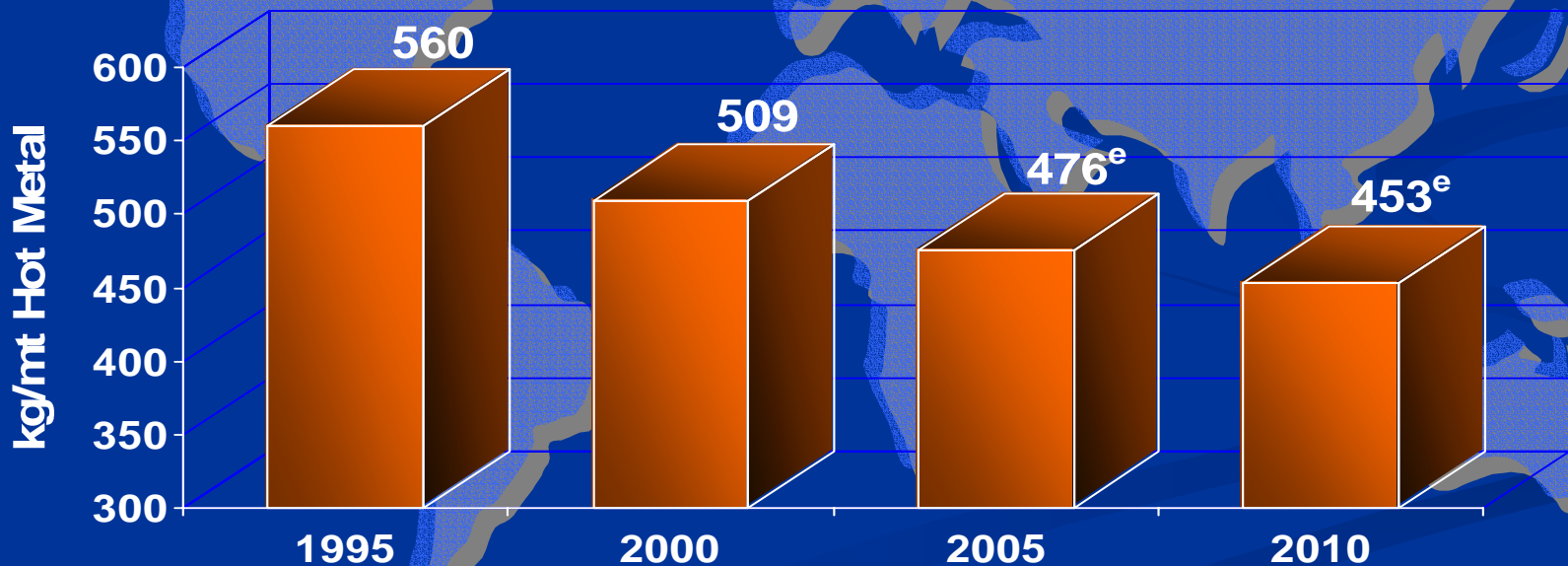
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Average PCI Rate by Selected Countries 2002
(kg/mt Hot Metal)



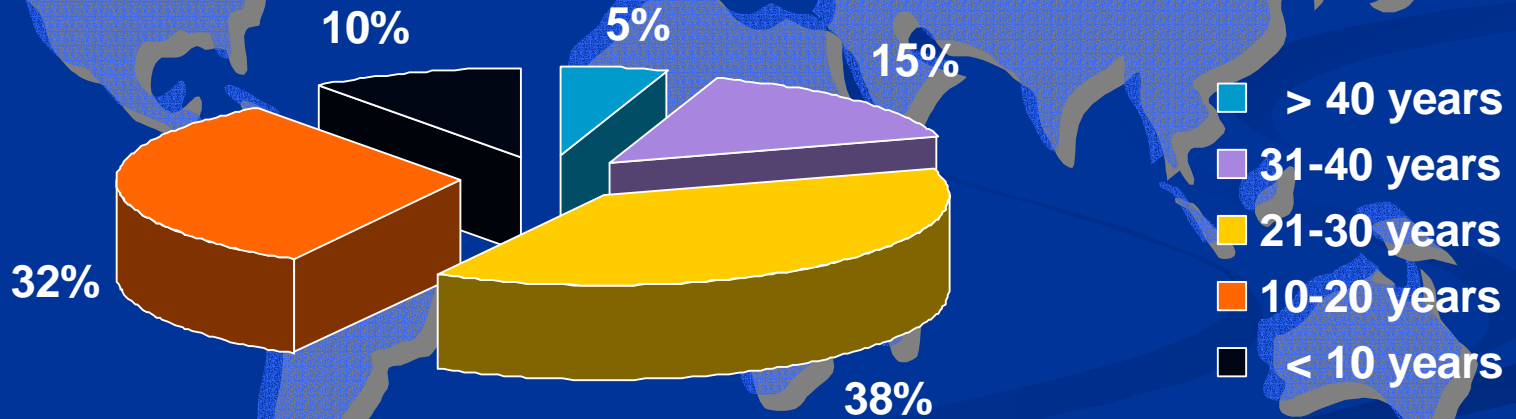
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Average Coke Rate (BF Coke & Coke Fines)
1995 – 2010^e



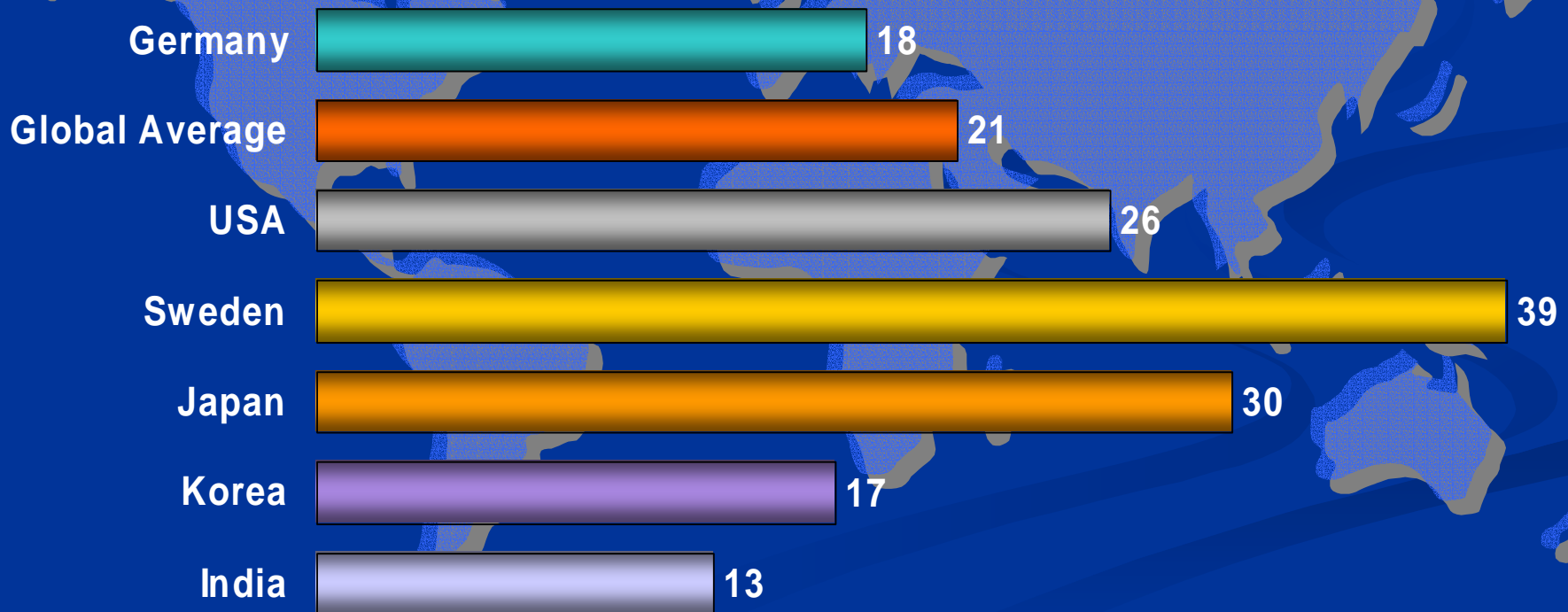
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Age Profile of Global Coke Making Capacity 2002



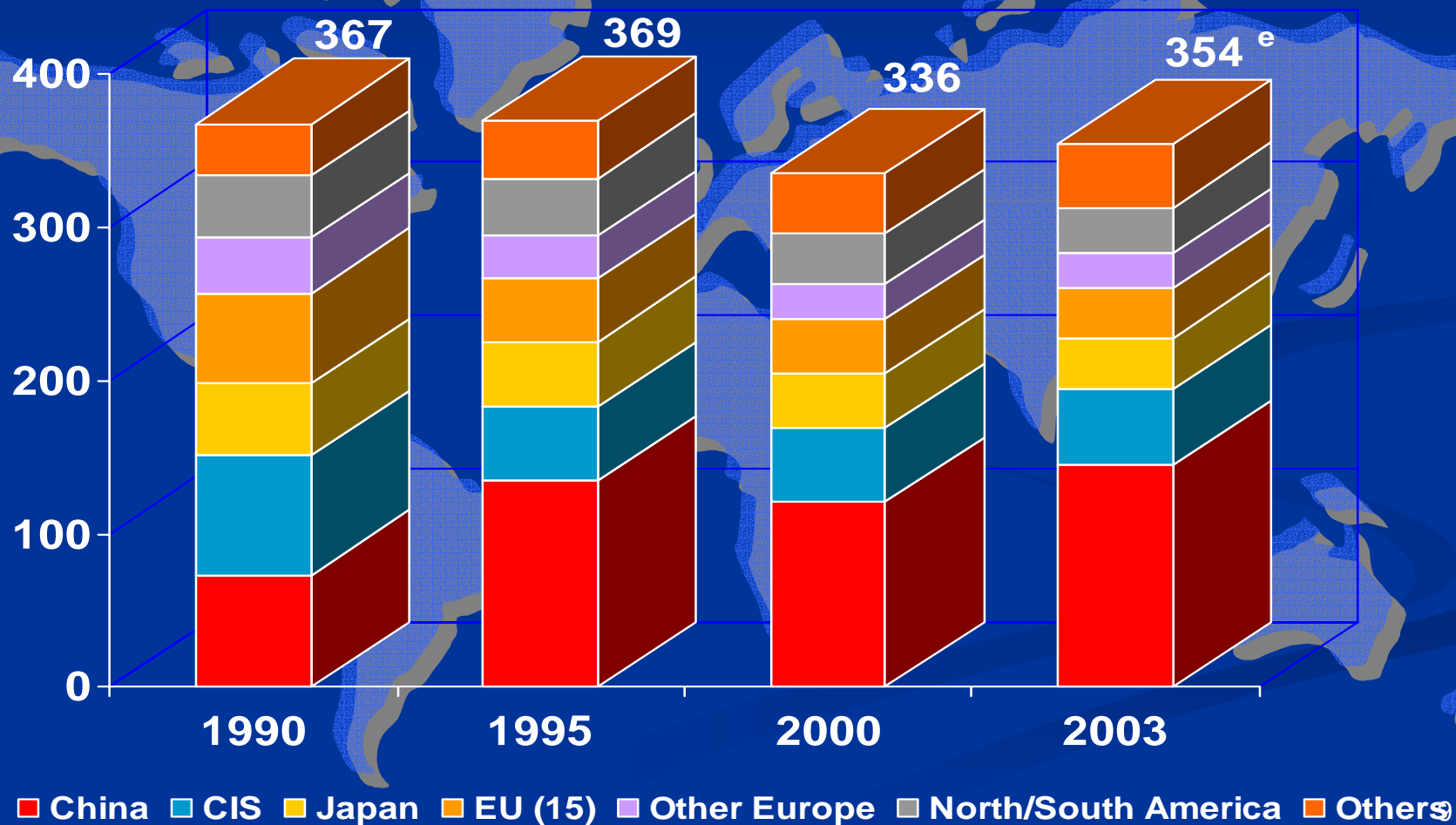
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Age Profile of Coke Capacity by Selected Countries
2002 (average age in years)



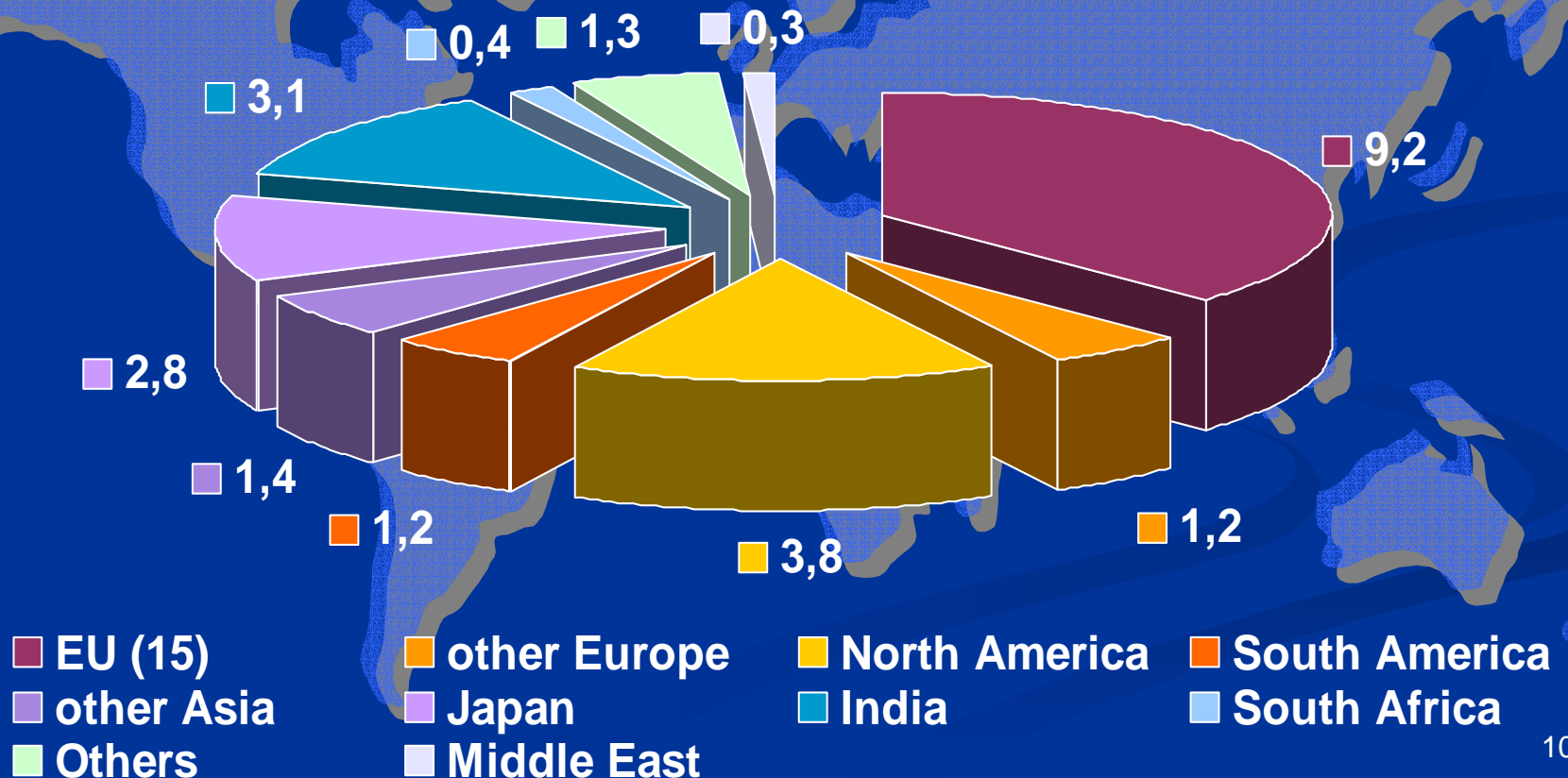
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World Coke Production 1995 – 2003^e (million mt)



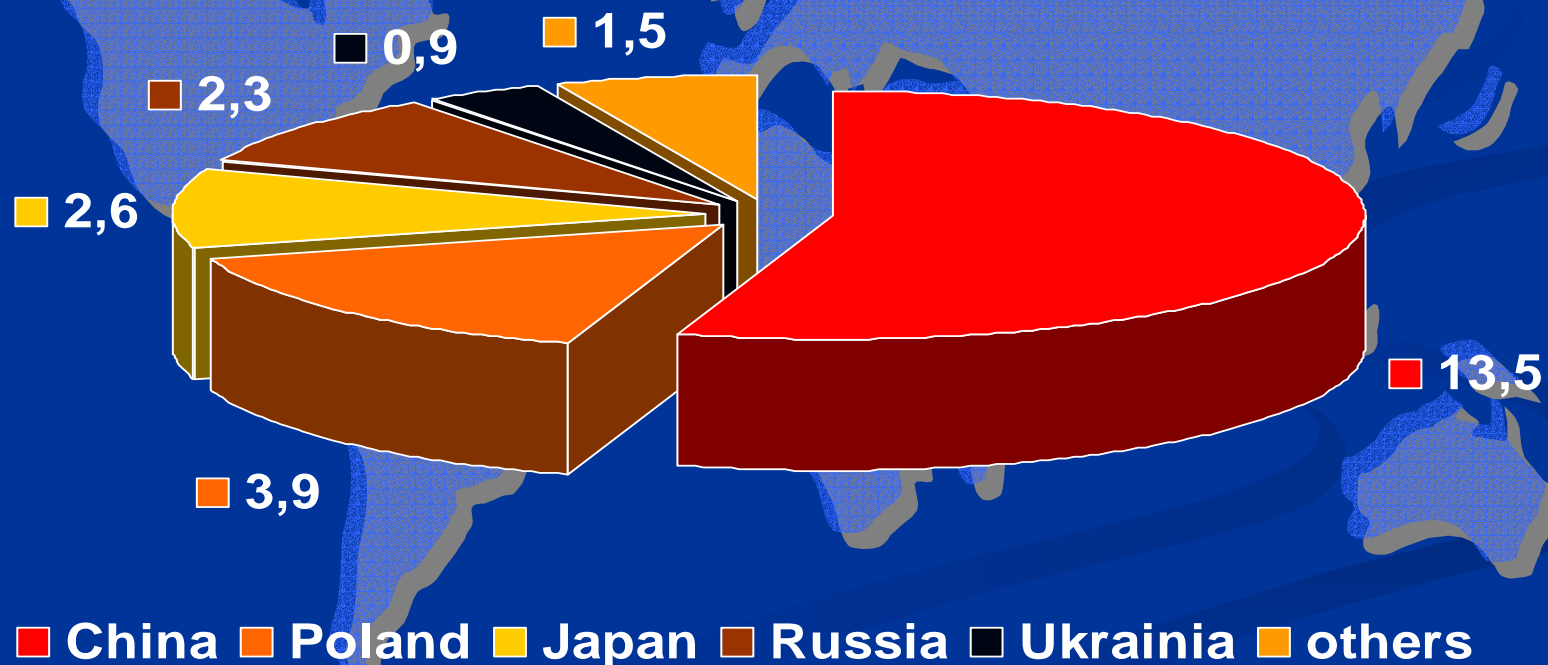
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Coke Imports by Country & Region in 2002 (mill. mt)
(seaborne and cross-border trade)



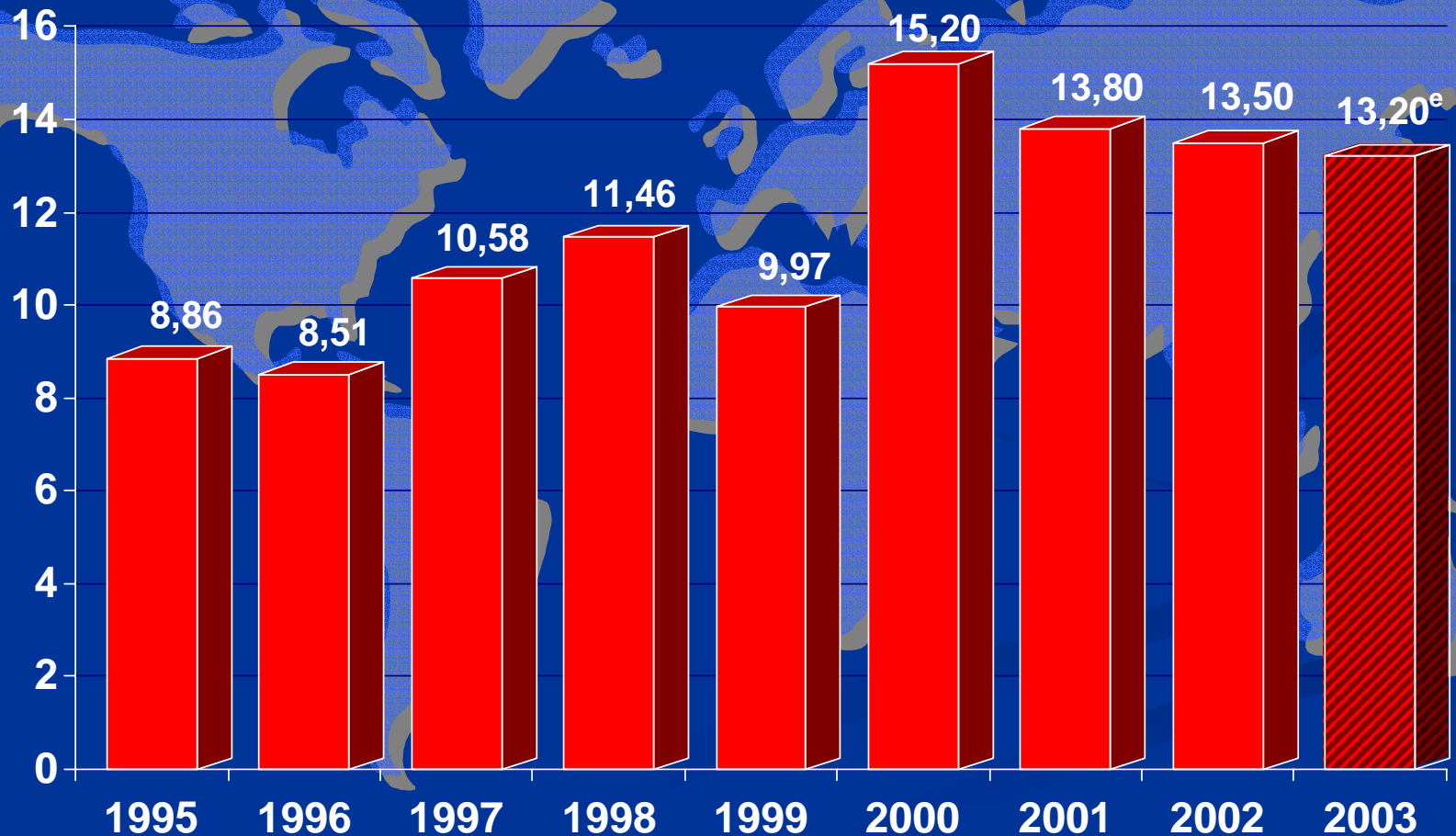
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Coke Exports by Country & Region in 2002 (million mt)
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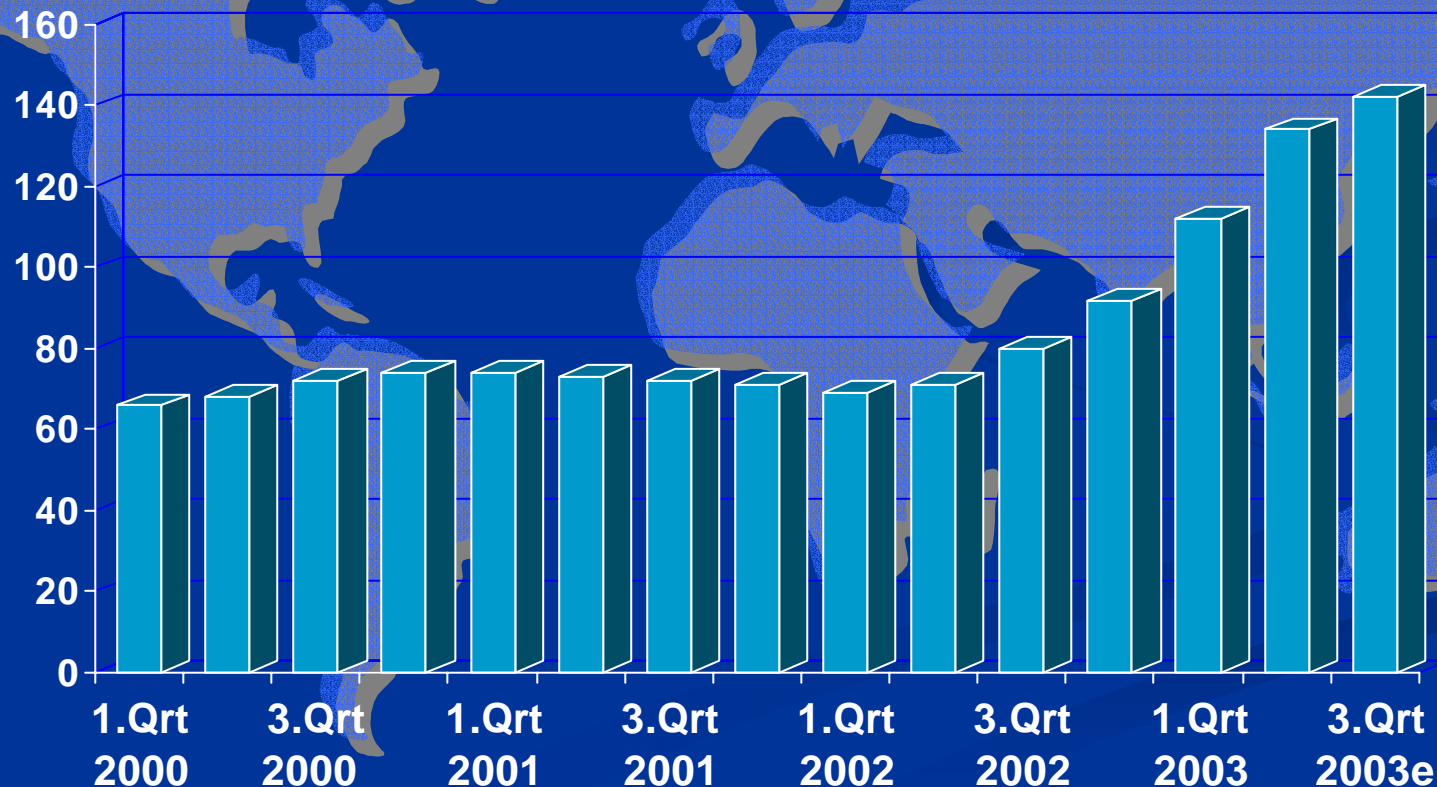
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Chinese Coke Exports 1995 – 2003^e (million mt)



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Blast Furnace Coke Price Development China 10,5% Ash, USD/mt FOB Chinese Port



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China - Key Factors for the Present Coke Shortage

- Closure of heavily polluting, overaged beehive oven capacity (up to 70 million mt)
- Closure of unsafe coal mines (up to 280 million mt) and chronic shortage of good quality, more expensive coking coals
- Strong and steadily growing demand from the domestic steel industry
- Domestic coke demand is likely to absorb all newly built capacity (up to 10 million mt in 2003)
- Rising capital costs as more modern technology is applied

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Concerns of Blast Furnace Operators

Key Issues

- Limited availability of traded coke
- Exposure to rising cost and dependence on China
- High cost for re-building existing or adding new coke capacity
- Difficulty to meet environmental regulations

Options

- Continue to rely and depend on the market
- Enter into strategic alliances and secure long term capacity and supply
- Invest and re-built old and/or add new capacity
- Increase PCI use or switch to EAF steelmaking
- Stop integrated steelmaking !

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Conclusions

- Medium term outlook suggests stable international demand for coke but market will remain tight
- Chinese coke demand will continue to grow fast
- Chinese supply will struggle to follow domestic demand
- Exports from China will remain under pressure despite new capacity added
- Supply from other sources will be limited
- Except replacements, no significant capacity will be added in other parts of the world
- Prices are going to remain high ...

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Thank you
for your attention !