

BRITISH SULPHUR | CONSULTANTS

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Joanne Peacock, Principal Consultant British Sulphur Consultants

Creon: Sulphur and Sulphuric Acid 2007

Moscow 17th December 2007

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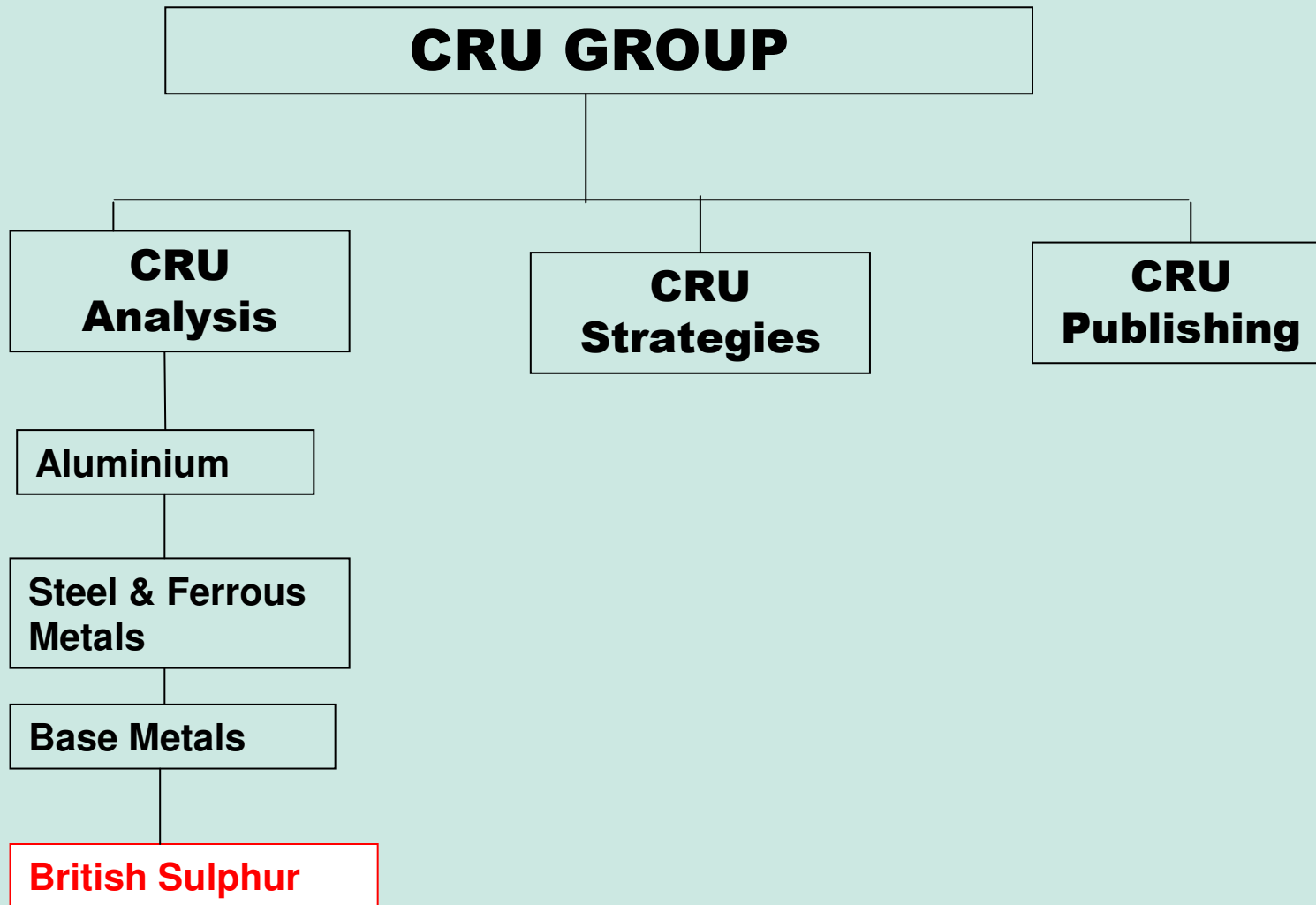
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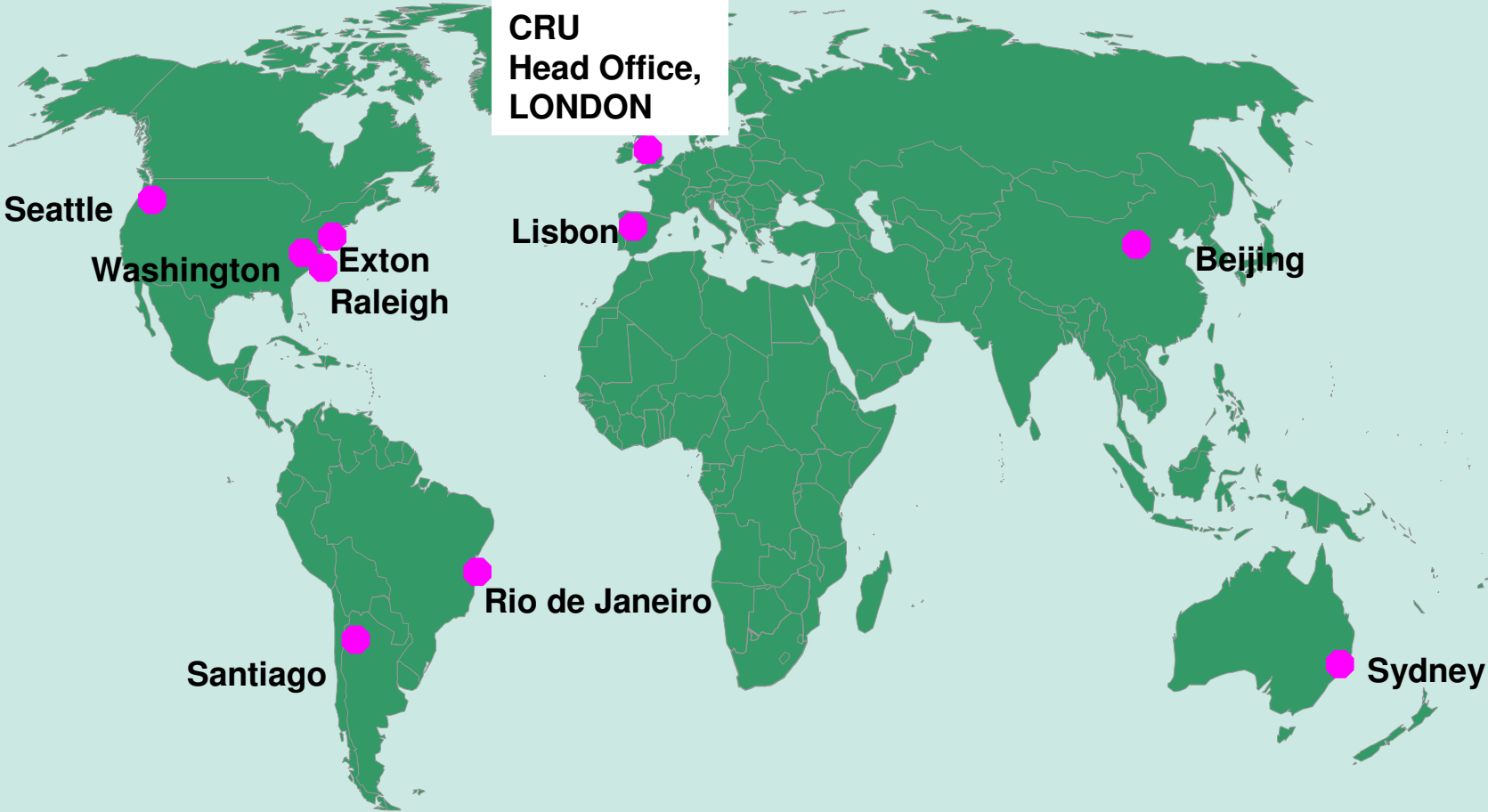
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- **Business Research, Consulting, Publishing, Events**
- **Metals, Mining, Fertilizers, Chemicals, Cable, and Power Industries**
- **> 200 Employees**
 - **Management Consultants**
 - **Engineers**
 - **Geologists**
 - **Economists**
 - **Chemists**
 - **Journalists**
- **Annual Sales exceeding \$25m**





Global Representation:

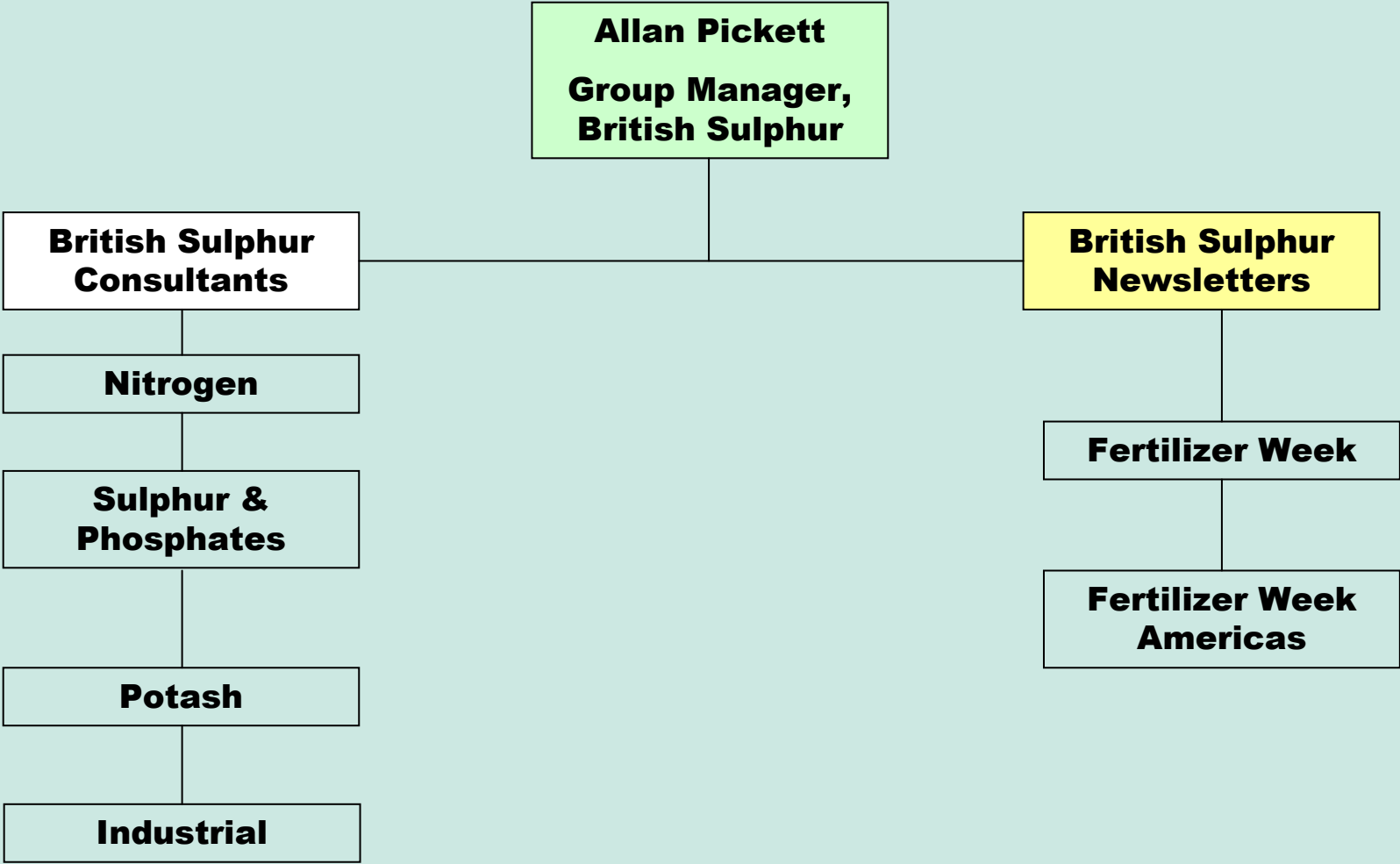


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British Sulphur Structure



British Sulphur

- Fertilizers/Chemicals Division of CRU
- 13 full-time consultants...
- ...plus 6 market intelligence staff...
- ...and 4 support staff
- Largest & longest established
- Based in London, UK; Raleigh and Washington DC, USA; and Beijing, China





Sulphuric Acid : Global Supply and Demand 2006-2010, and beyond..

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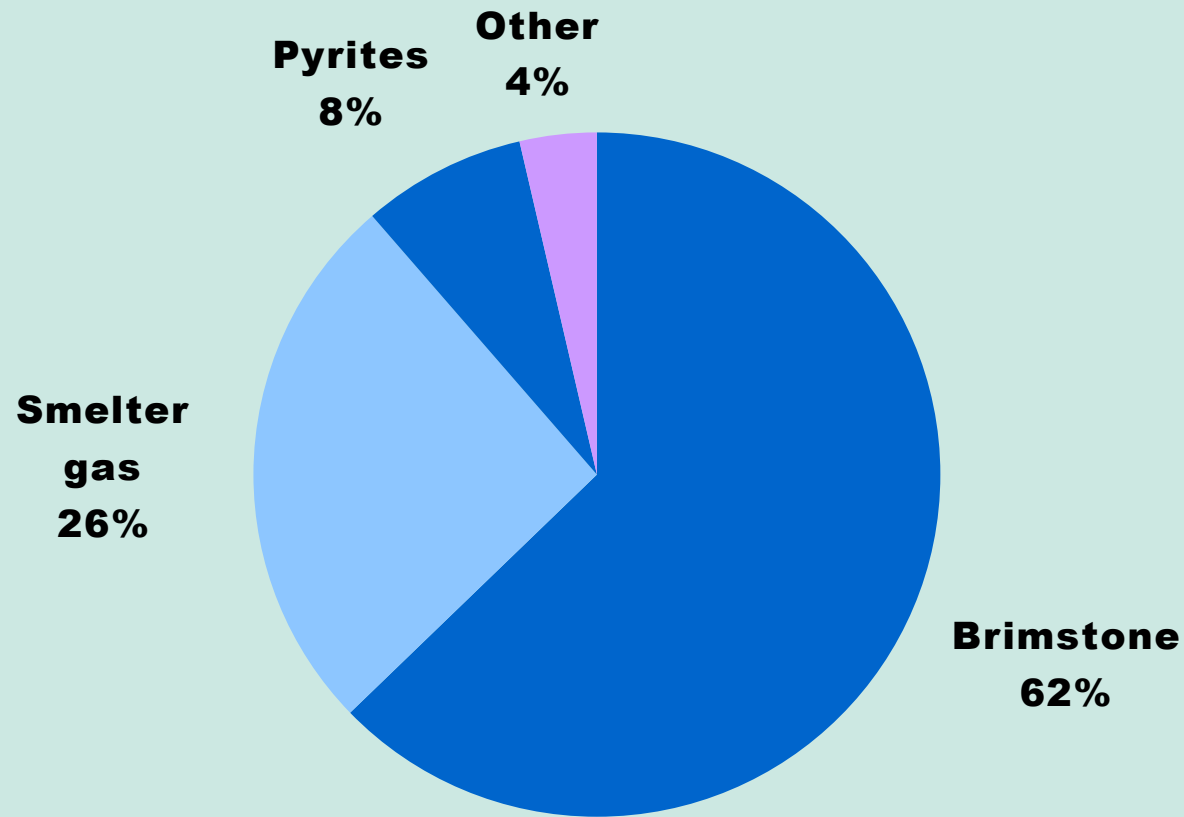
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Agenda:

- **The current situation.**
- **Demand outlook to 2010.**
- **Supply outlook to 2010.**
- **Balance outlook to 2010.**
- **Beyond 2010...**
- **Conclusions**



World sulphuric acid supply totalled 200 million tonnes in 2006 of which smelter acid accounted for 26%



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Sulphuric Acid Trade 2006

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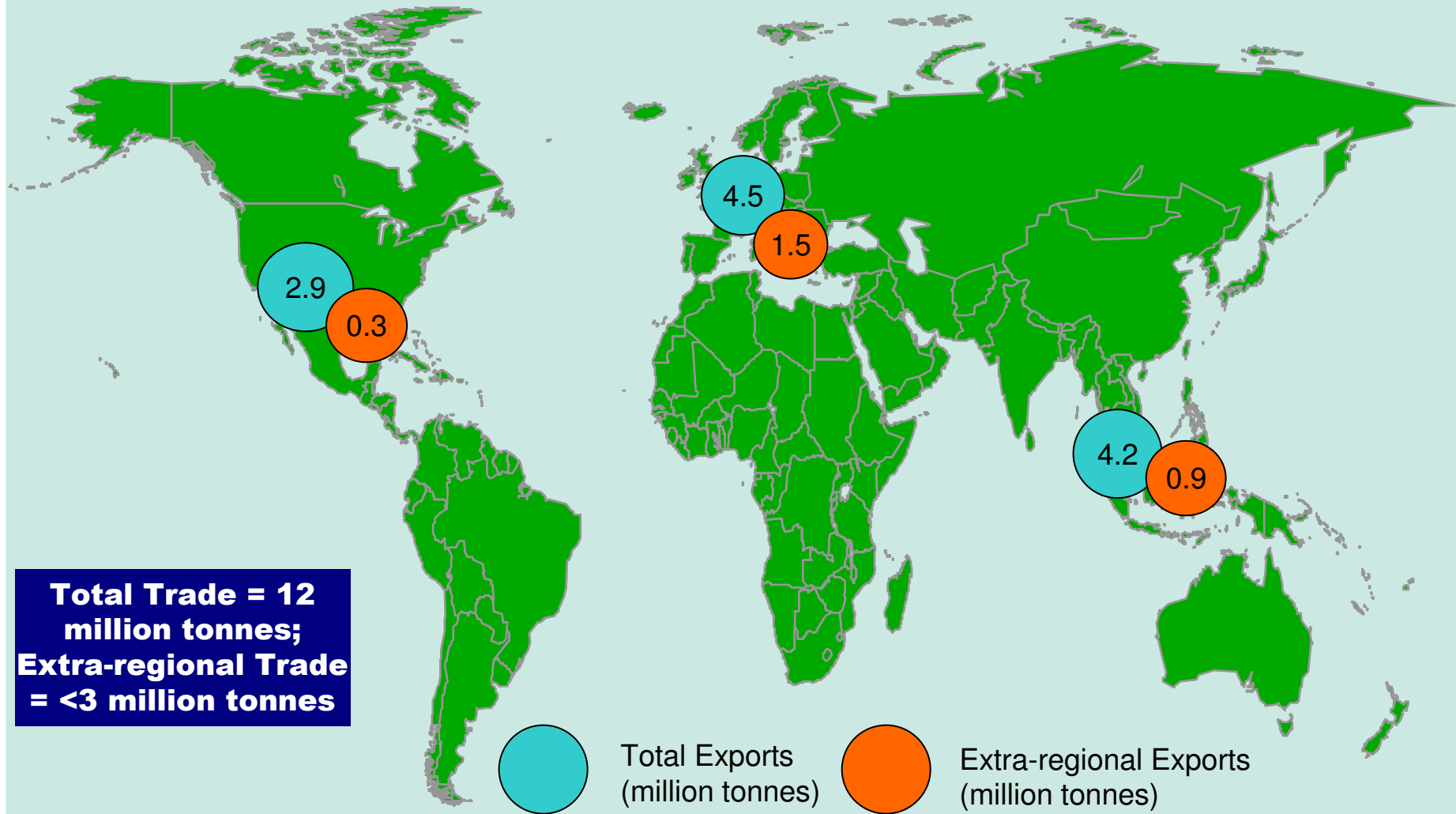
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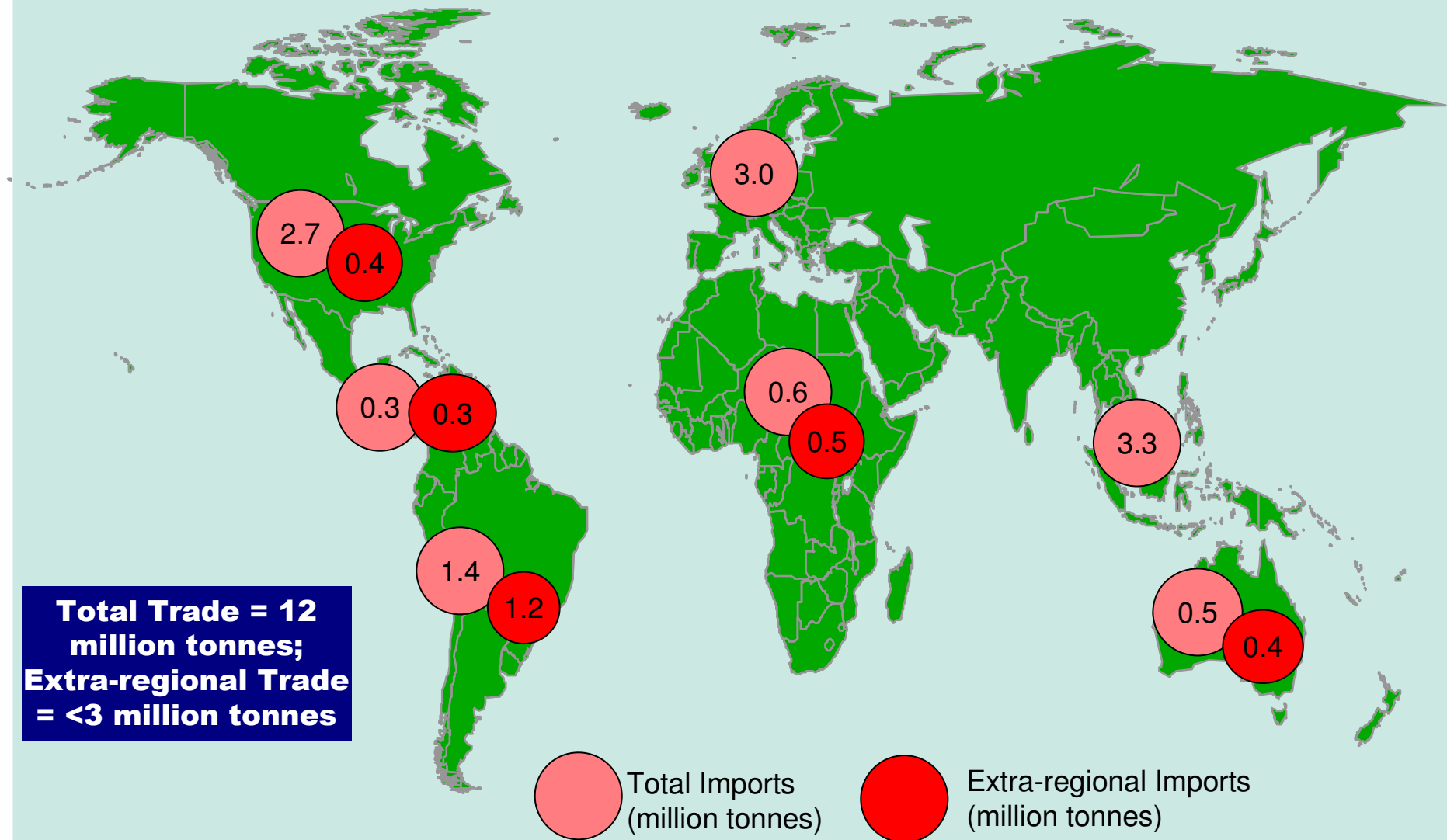
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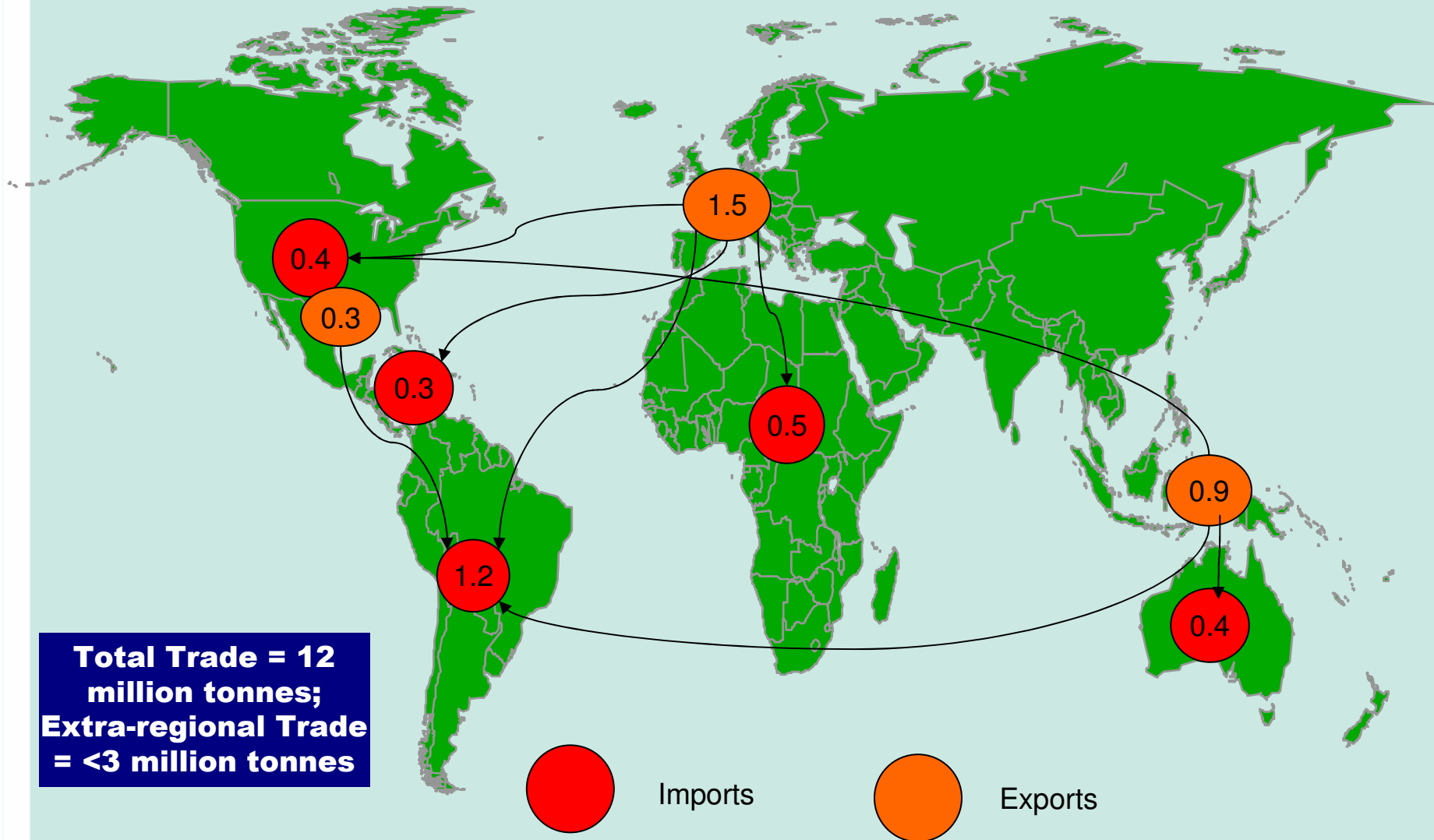
Exports dominated by:



Imports dominated by:



Joining the dots....



**Total Trade = 12 million tonnes;
Extra-regional Trade = <3 million tonnes**

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Base Data: IFA, BSC, GTIS

The picture in 2007:

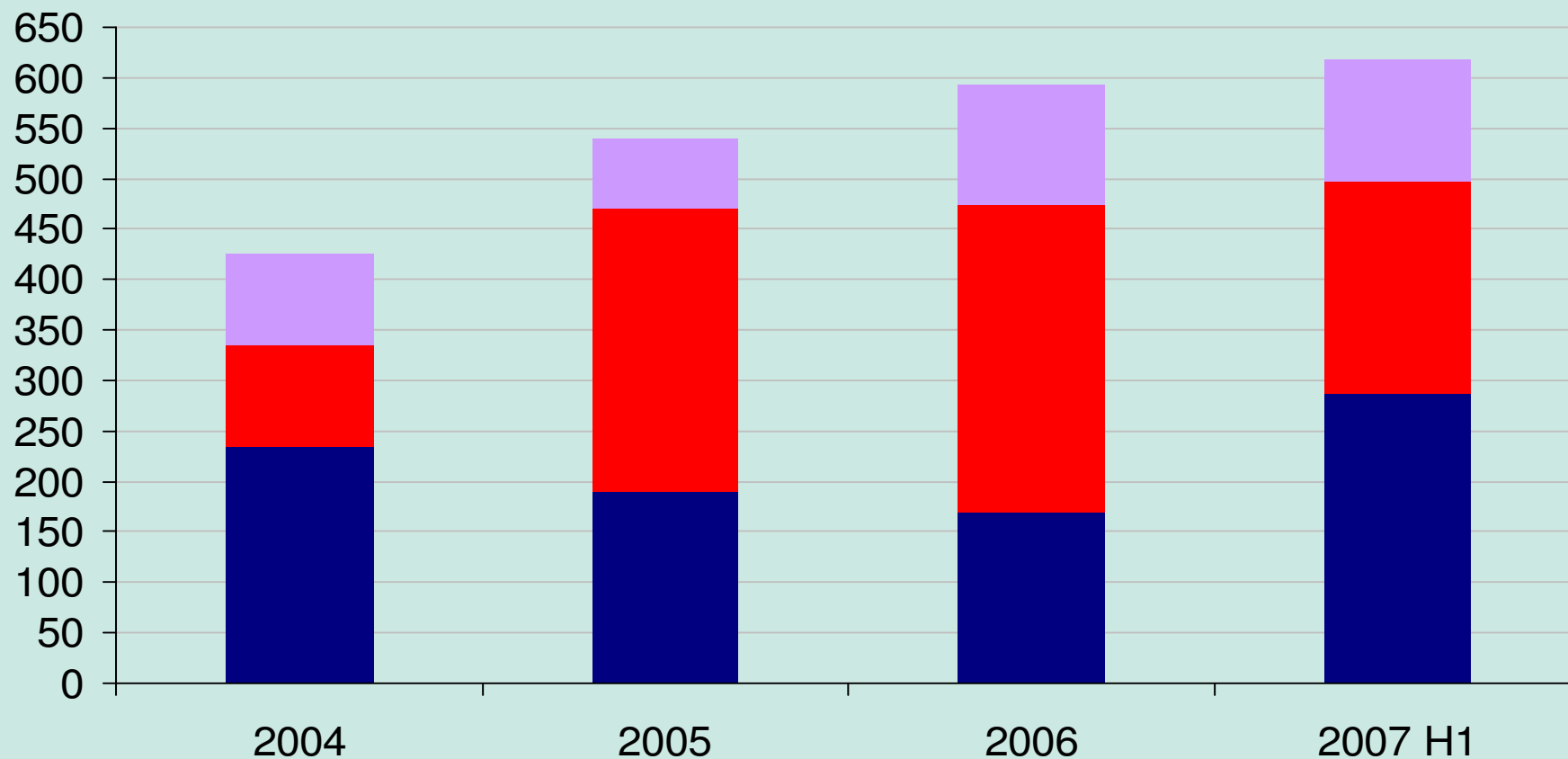
- Higher acid exports from Canada, but US market still tight.
- Lower exports from Central America, due to industrial action in Mexico.
- South American imports heading towards 2 million tonnes.
- Exports from Europe lower due to planned maintenance shutdowns.
- Higher exports from Asia due to slightly lower imports into China, and new export availability from India.
- Higher imports into Australia.



Acid Imports - Chile 2004-2007

(thousand tonnes)

■ Asia ■ Americas ■ Europe

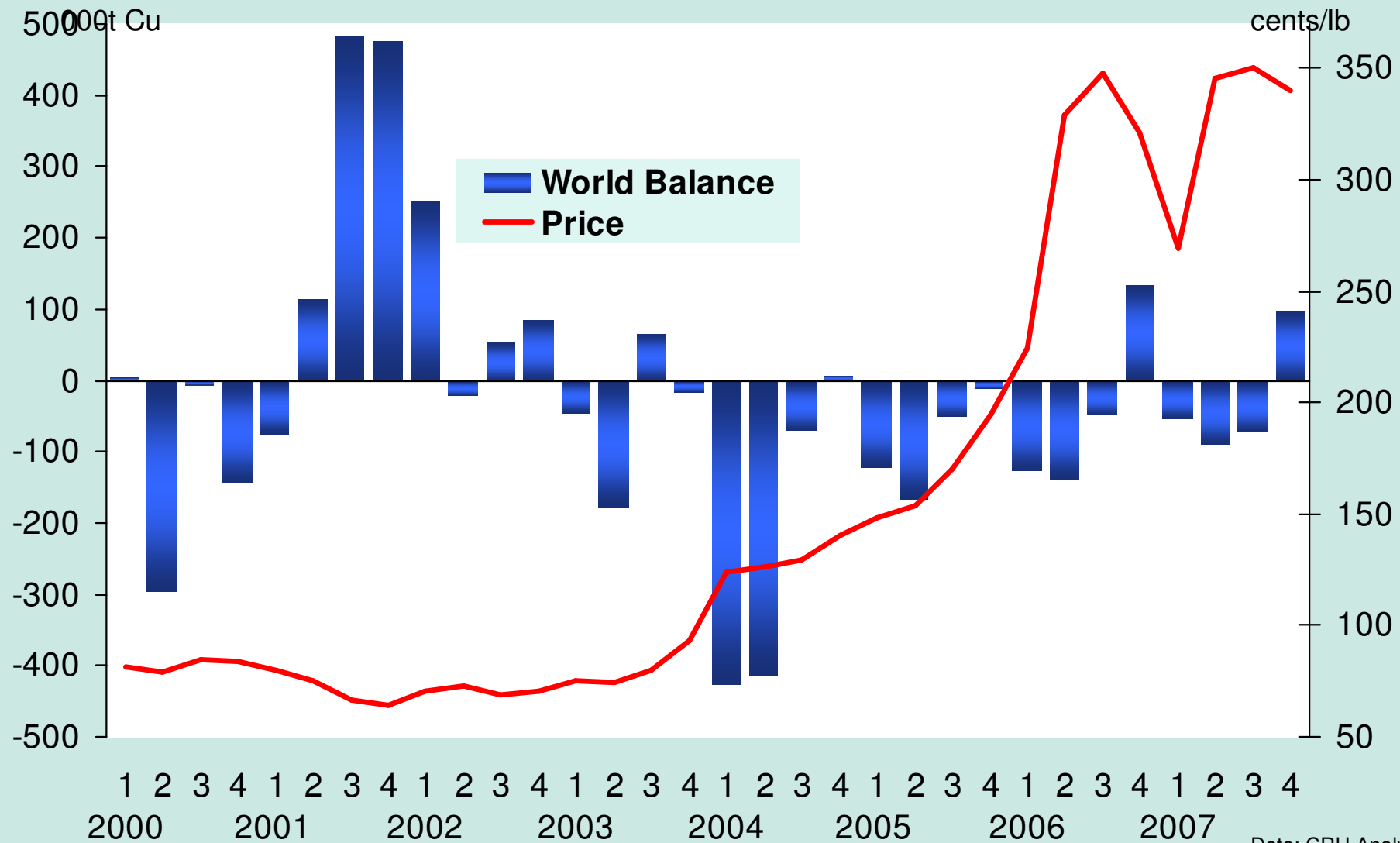


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LME Copper Cash Price & Supply/Demand Balance, Quarterly, 2000-2007



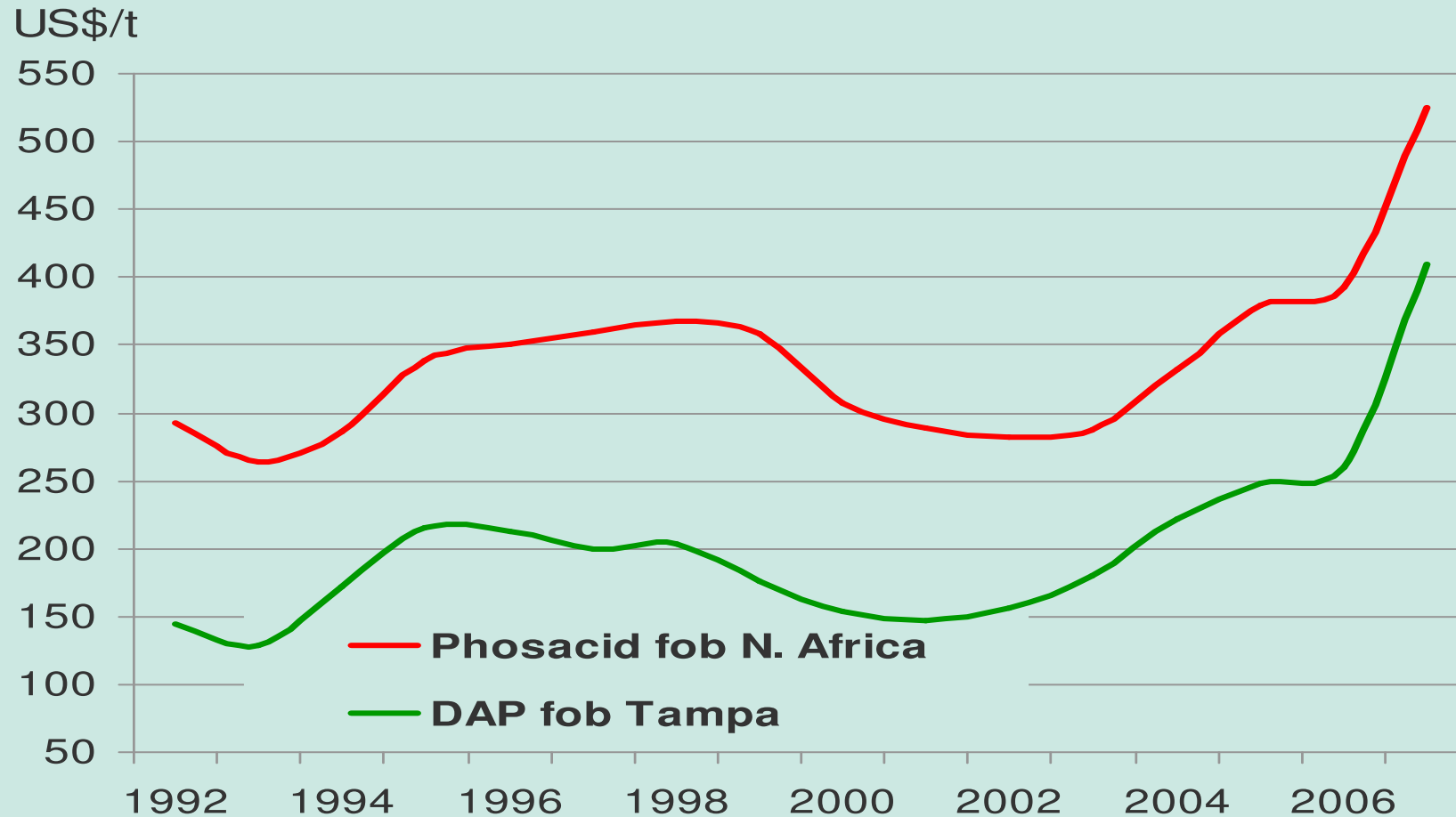
Data: CRU Analysis

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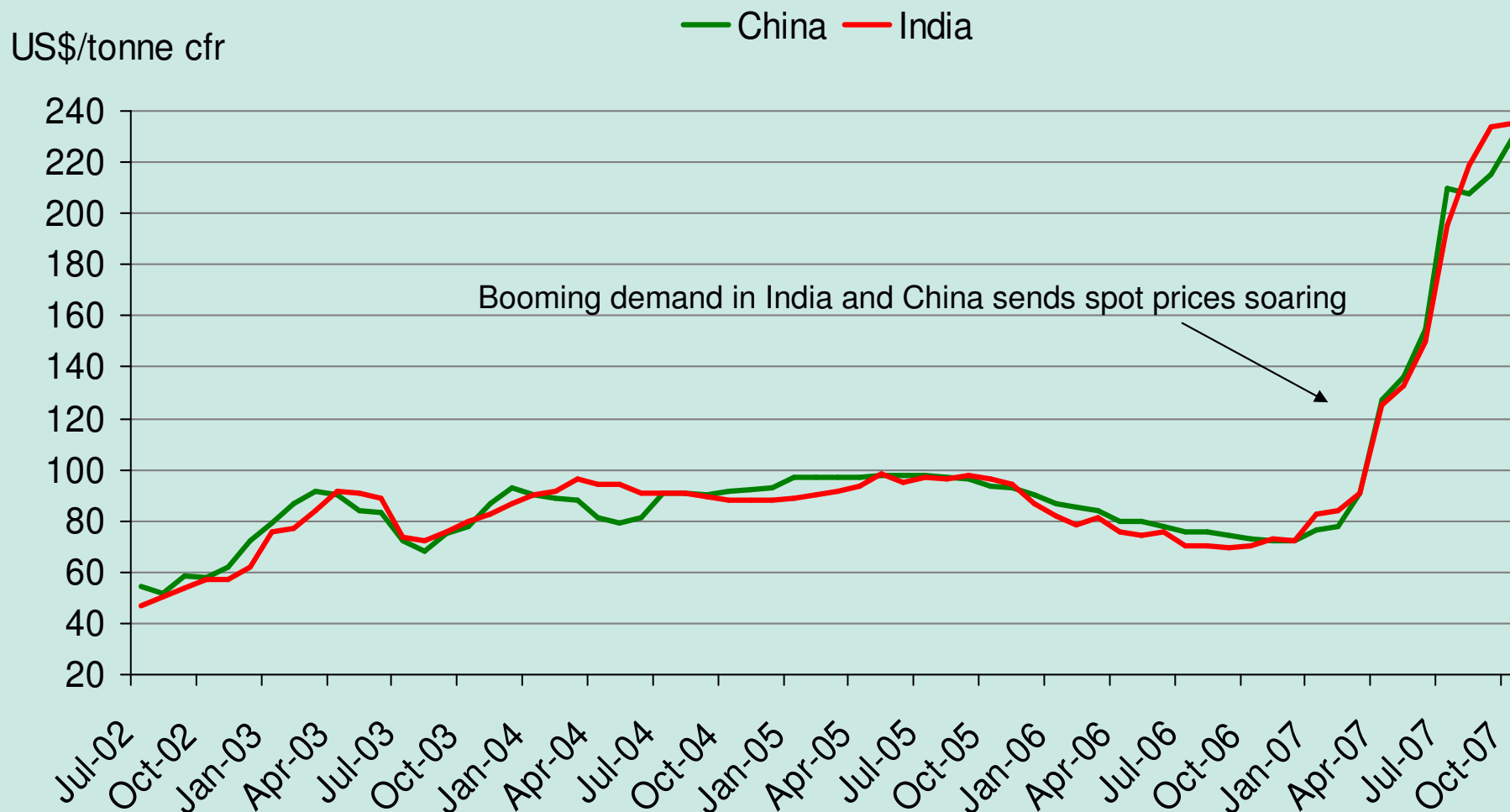
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Cyclical Phosphate Prices



International Sulphur Prices 2002-2007



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Sulphuric Acid Prices

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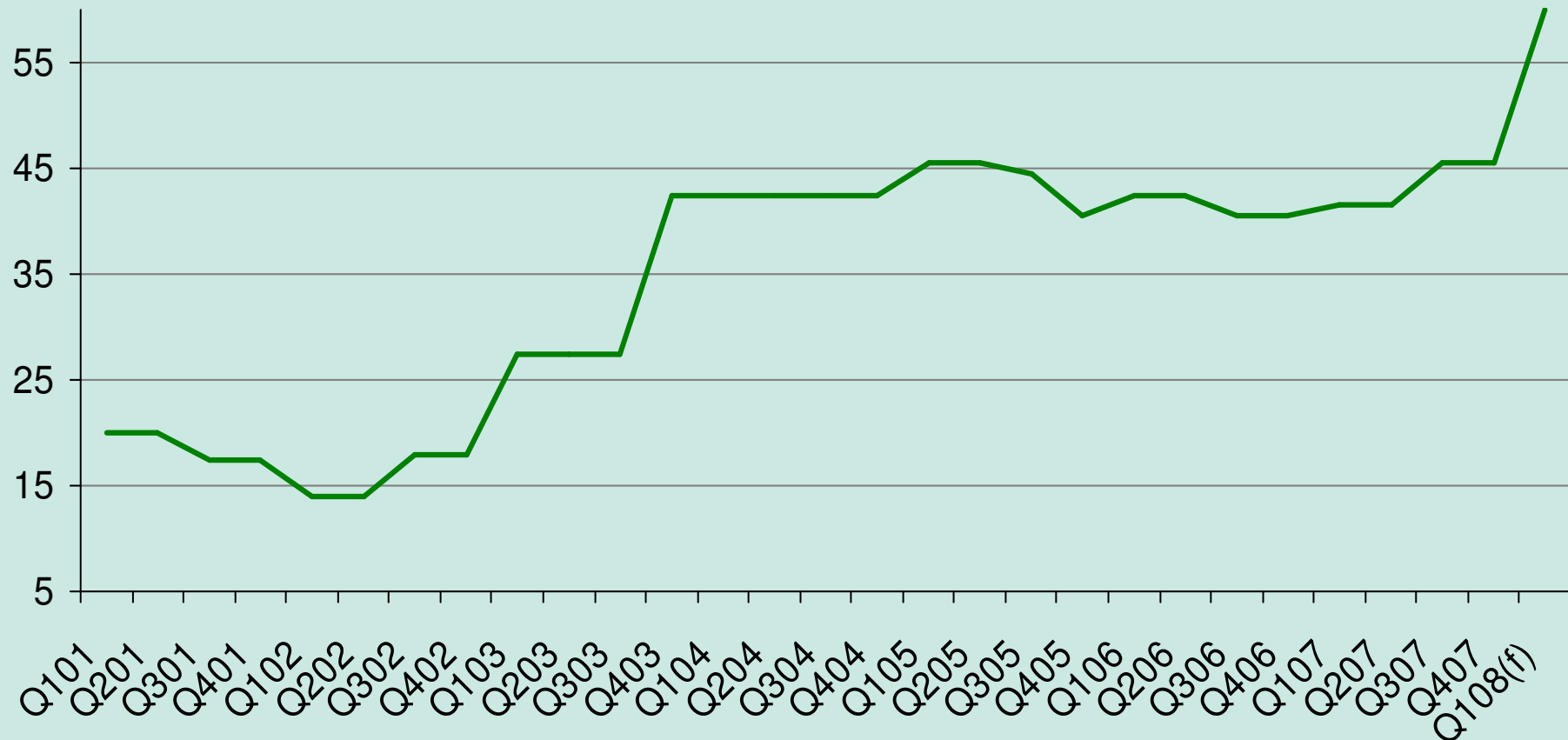
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Sulphuric Acid Price, NWE 2001-2007

€/tonne cfr



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Other key prices 2008 vs 2007:

- Chile – Contract price 2008: \$180-\$200
 - versus \$65-75 2007
 - Spot prices during 2007 - \$200-300
- Brazil – Contract price 2008: \$150-\$180
 - versus \$70-85 2007
 - Spot prices during H2 2007 - \$200-300





The Outlook to 2010 - Demand

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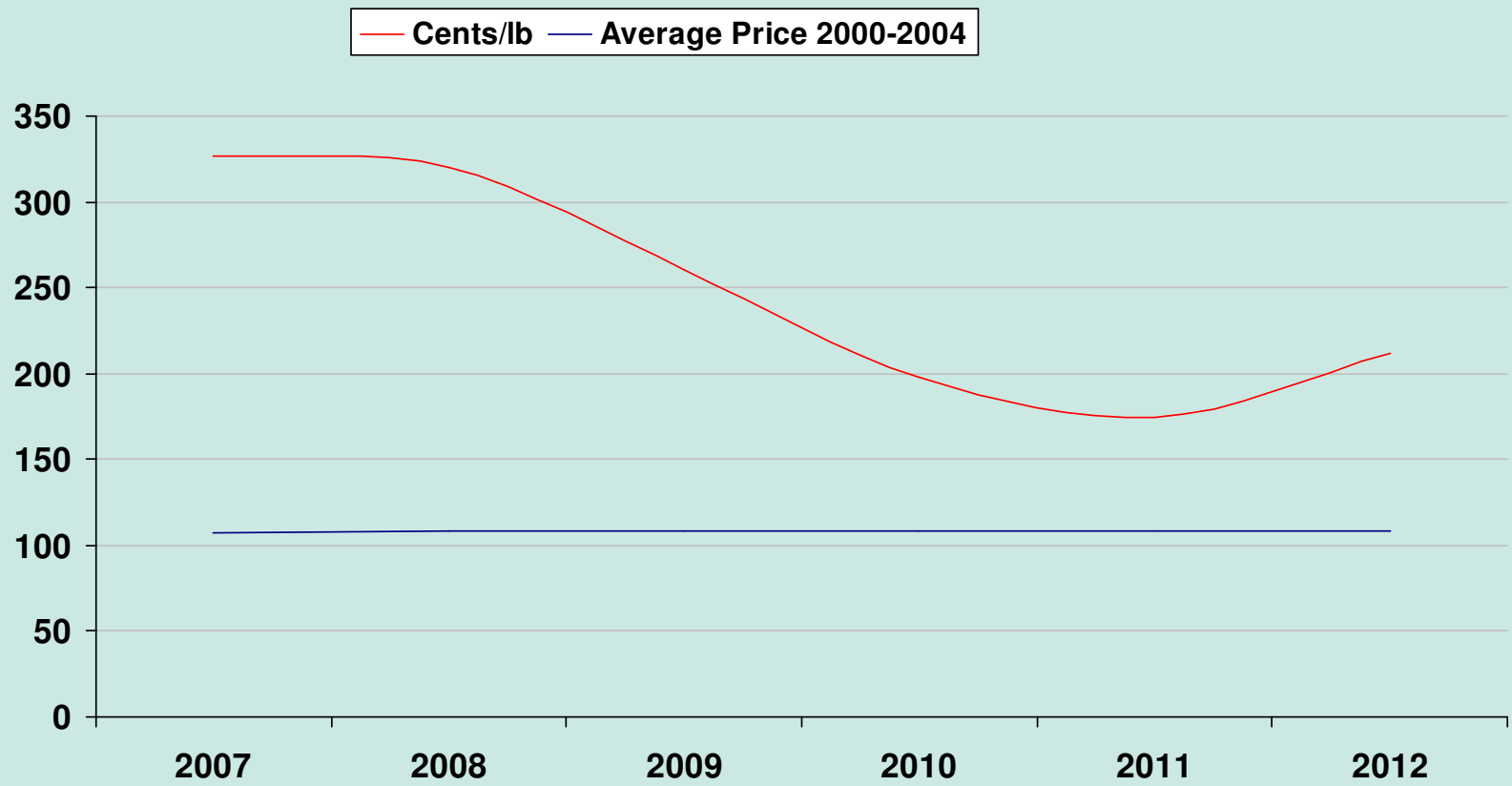
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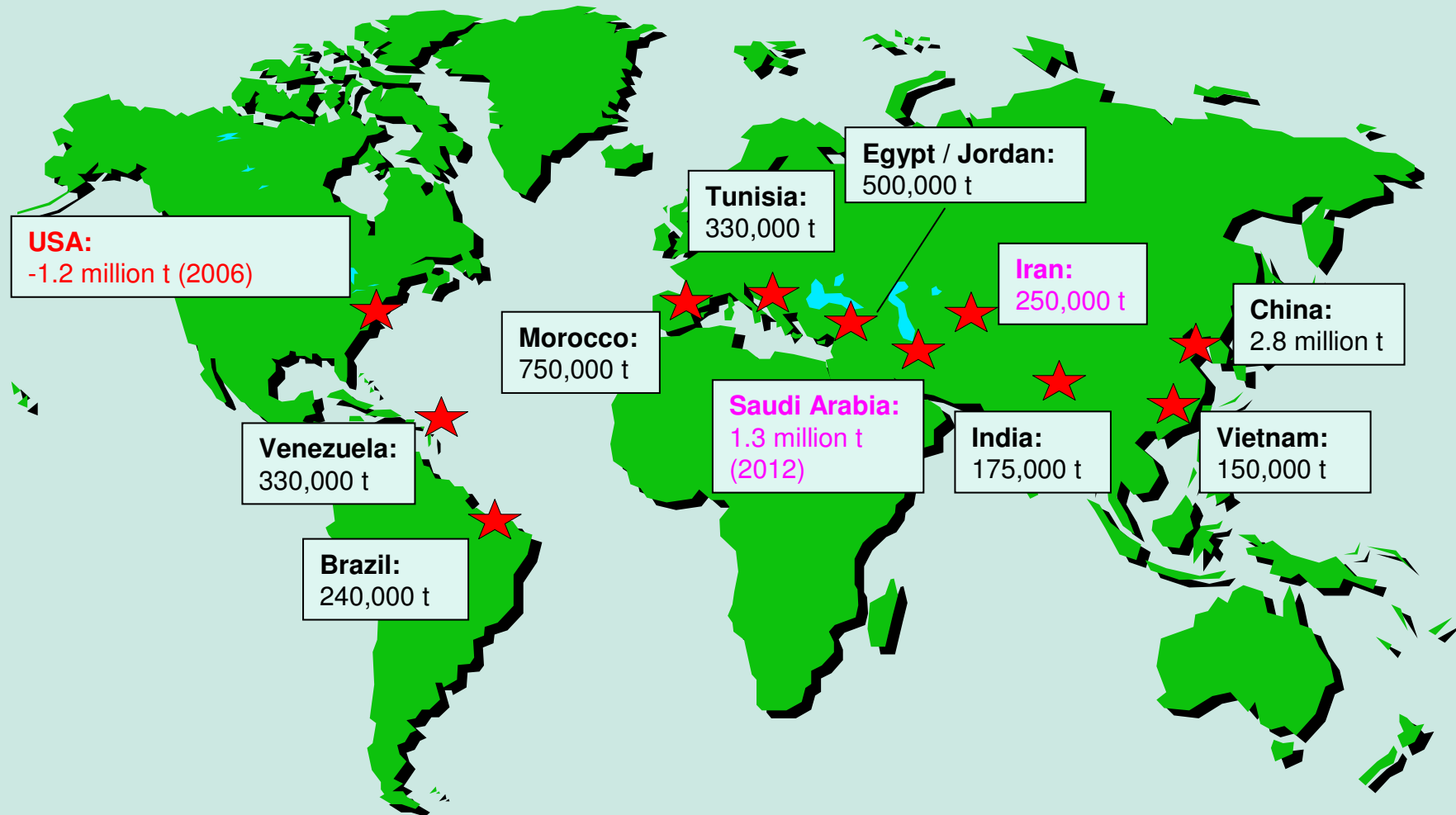
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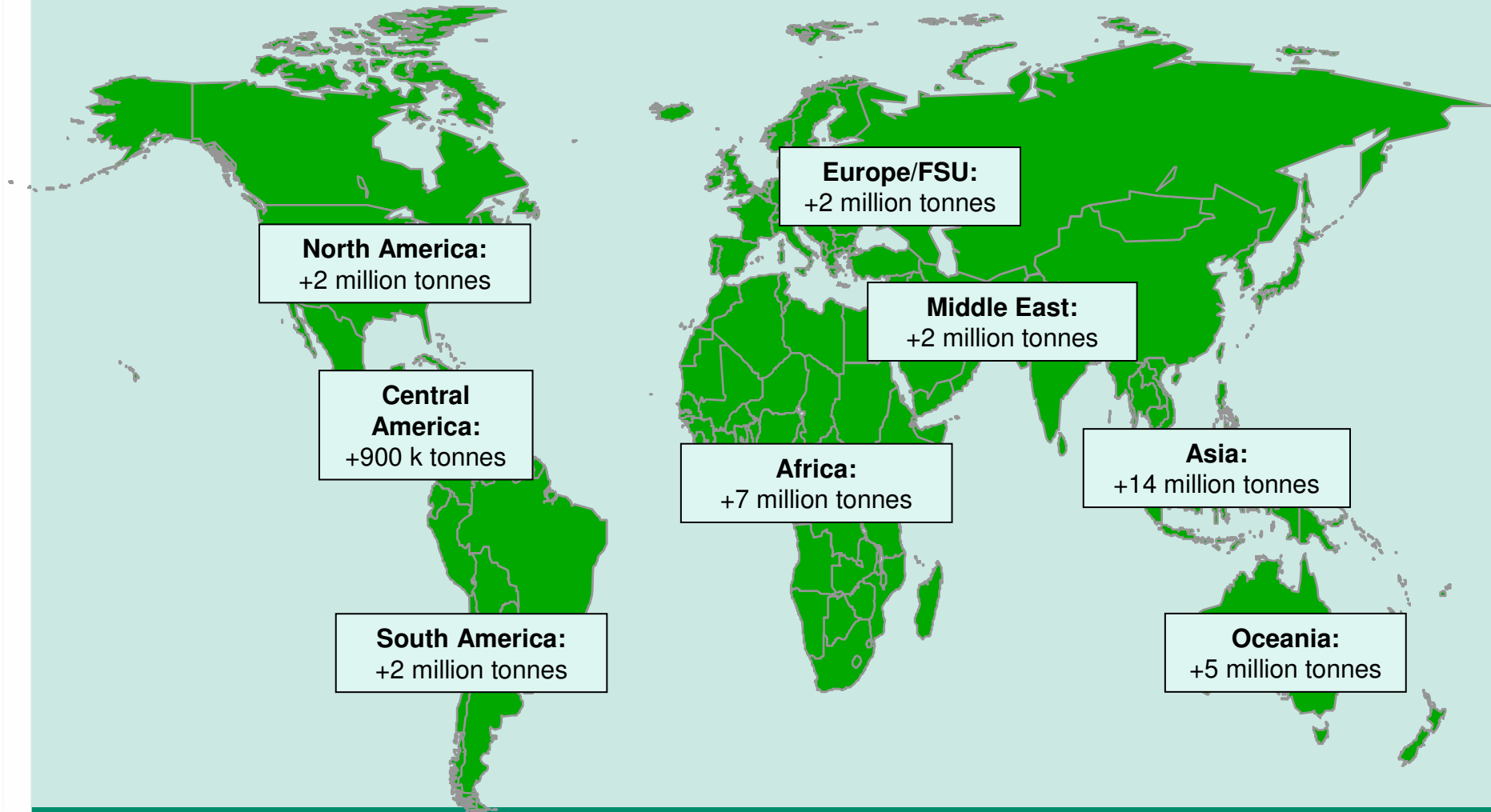
LME Copper Cash Price Forecast 2007-2010 (Source – CRU Analysis)



Forecast Phosphoric Acid Production Capacity Changes to 2010:



Within the next five years sulphuric acid demand is forecast to rise by 34 million tonnes:





The Outlook to 2010 - Supply

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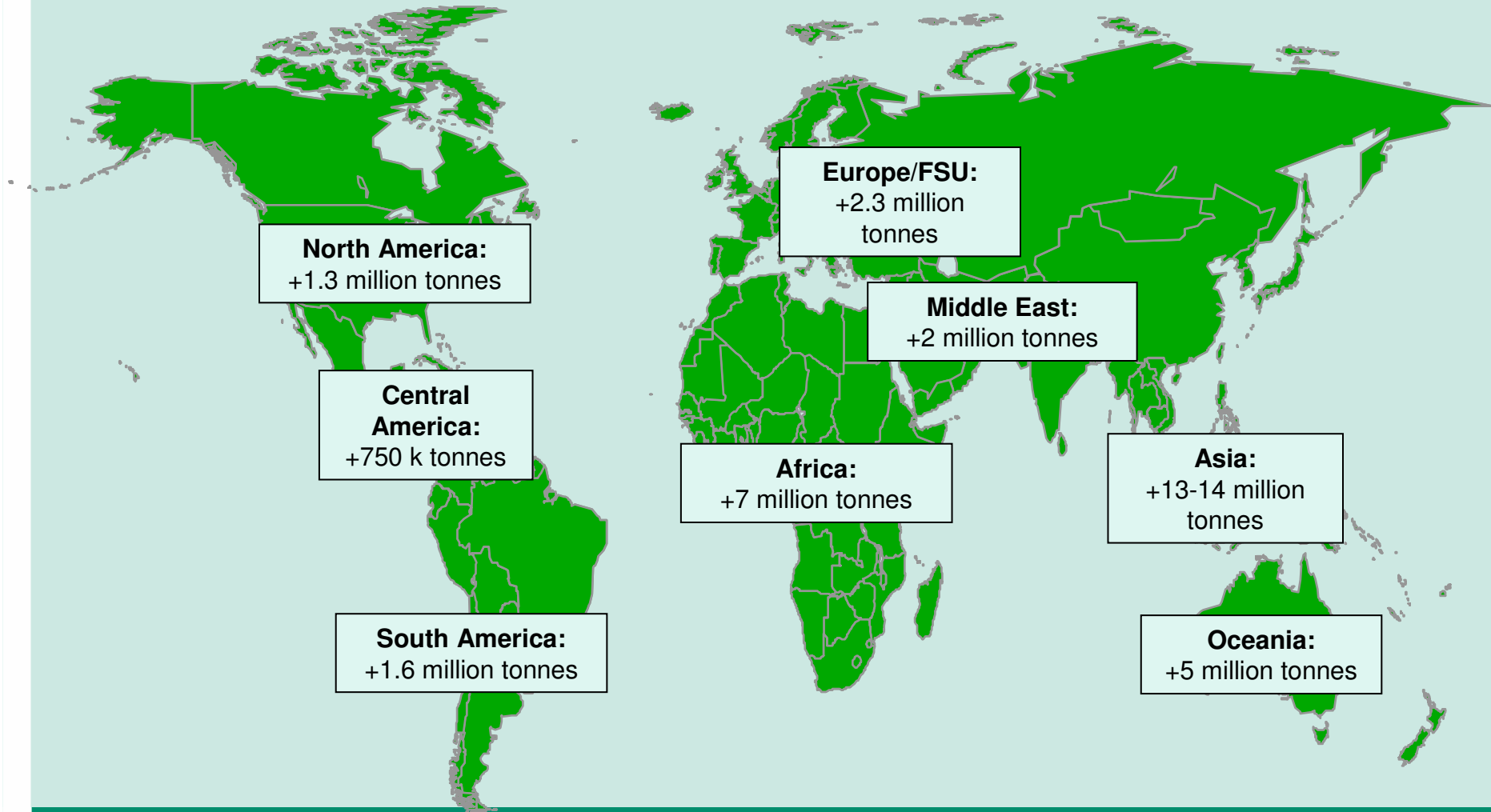
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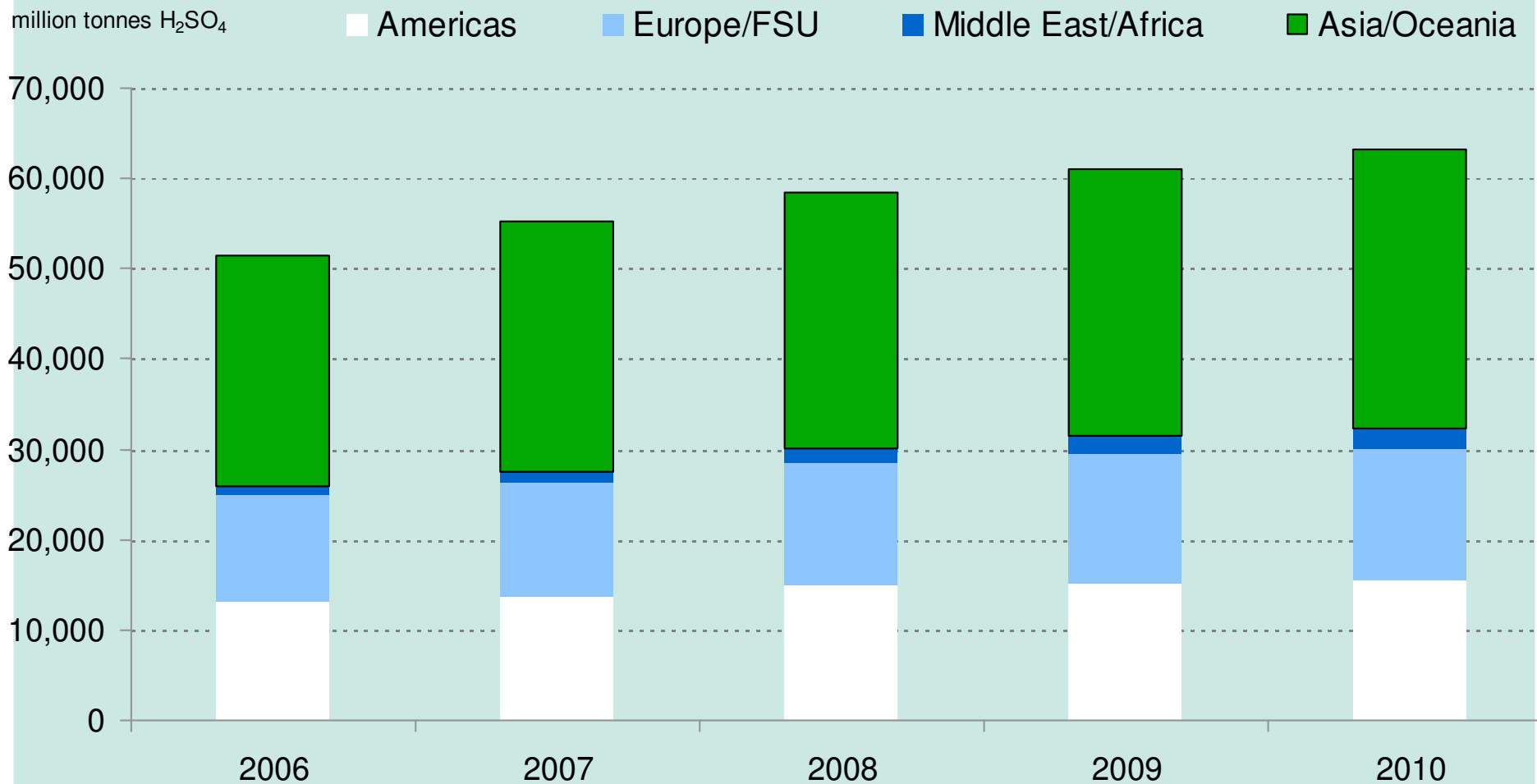
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Known sulphuric acid production increases to 2010:



World Involuntary Acid Production 2006-2010

11.5 million tonnes new production



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➤ **23 million tonnes voluntary production**

- **Sulphur burning**
- **Power generation**
- **Pyrites**

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The Outlook to 2010 - Balance

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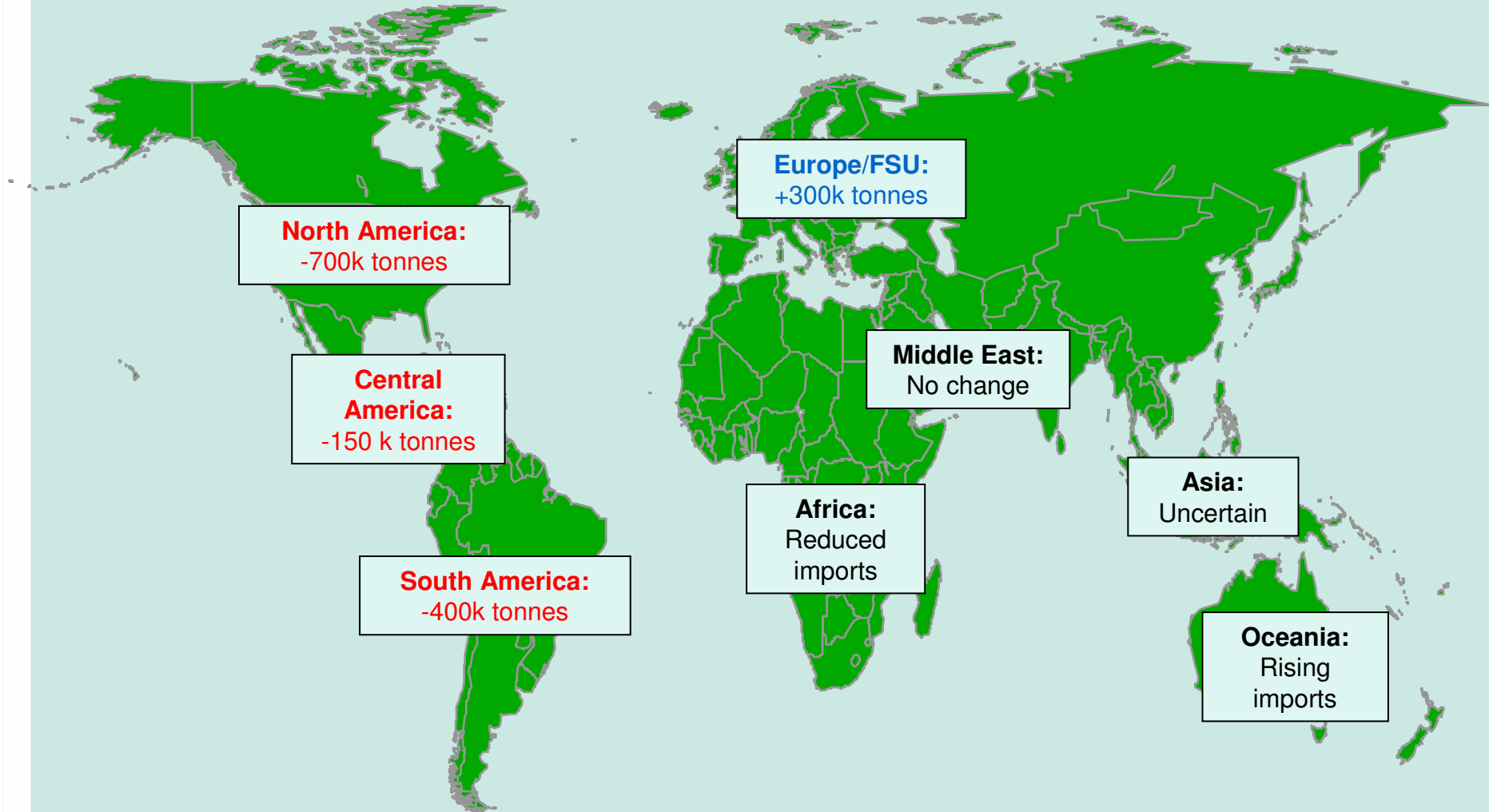
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Projected changes to regional acid balances:



Conclusions:

- **2006 may have been the start of a new era for sulphuric acid.**
- **The market is forecast to remain in theoretical deficit until at least 2010.**
- **Conditions appear ripe for further additions to voluntary capacity in a number of key markets.**
- **However....**





Beyond 2010???

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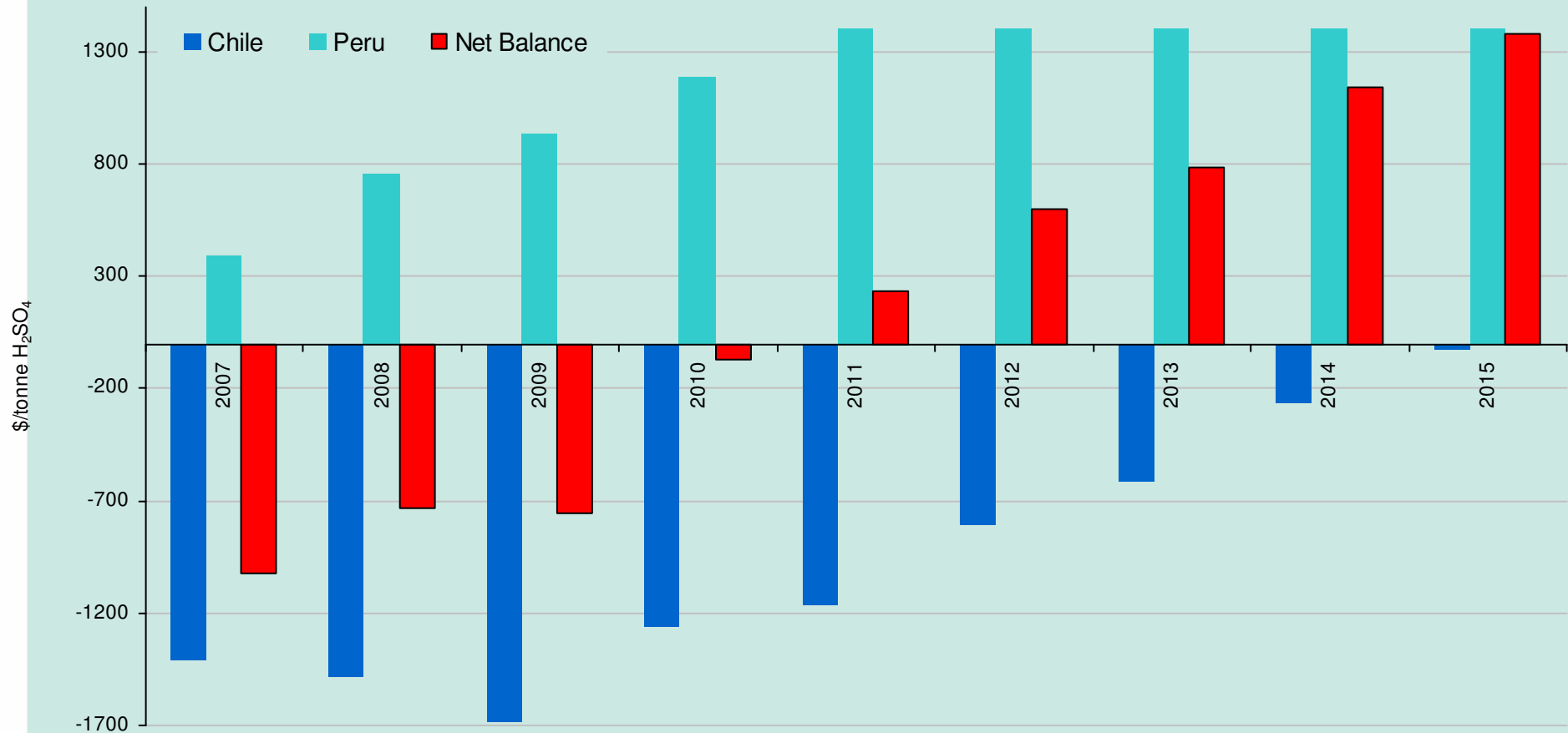
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Key uncertainties – South America:

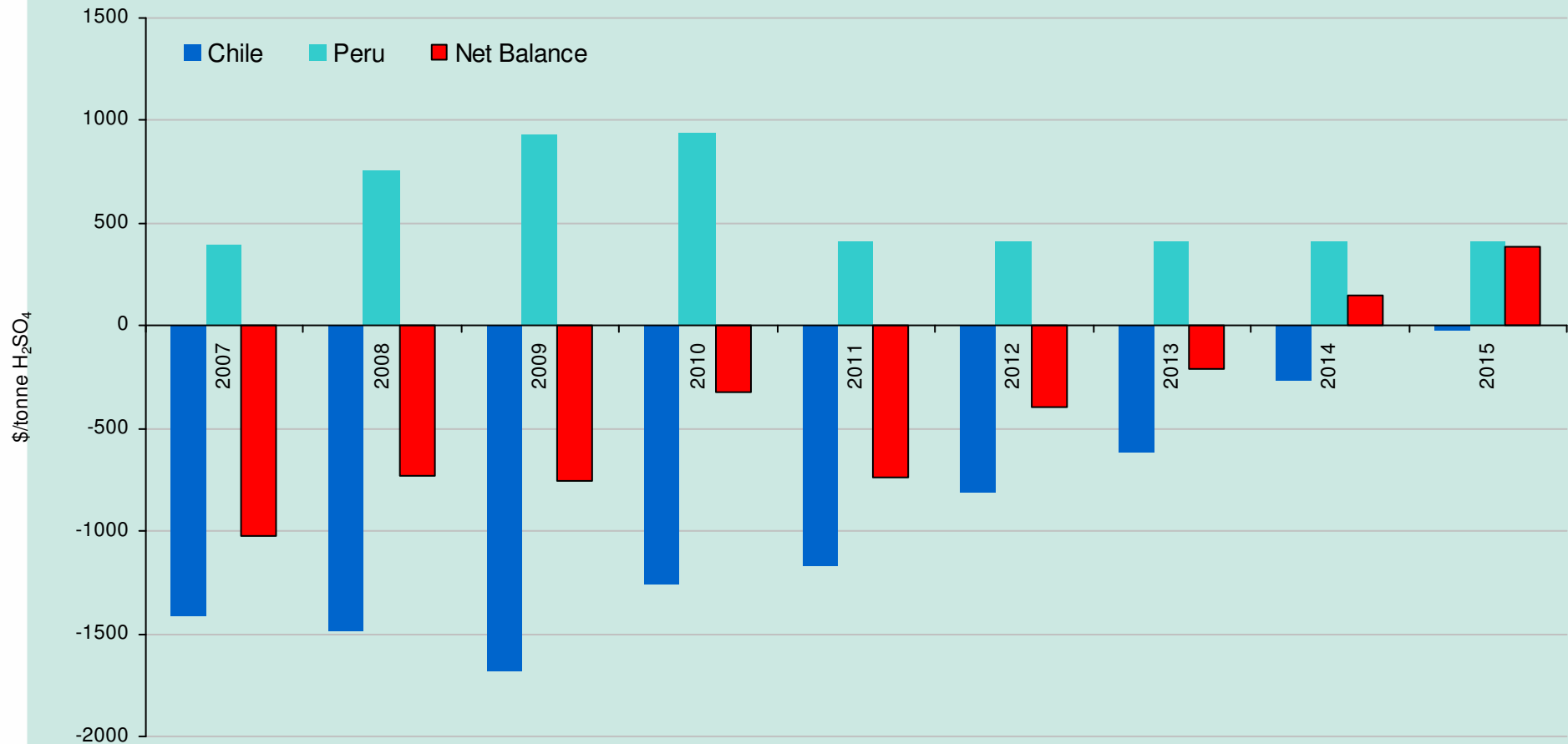
- **Copper price may weaken from 2012, reducing demand in South America.**
- **Involuntary acid production will grow.**



Chile-Peru Acid Balance Forecast 2007-2015 – Case 1



Chile-Peru Acid Balance Forecast 2007-2015 – Case 2

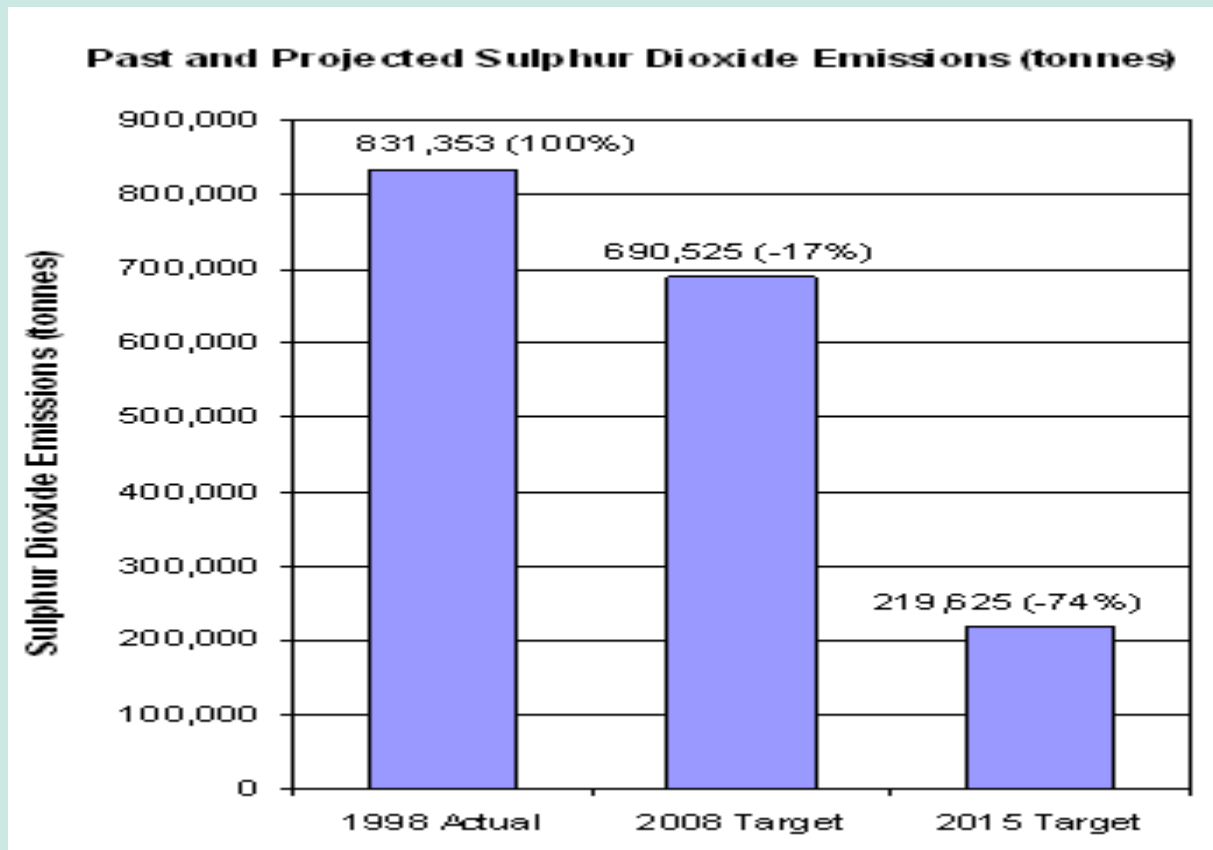


Uncertainties - supply:

- **Involuntary acid supply could further increase in a number of key markets from 2010/2011:**
 - **Central Europe**
 - **South America**
 - **China**
 - **Africa**
 - **Canada**



Canadian environmental targets for improved sulphur dioxide capture



Conclusions:

- **2006 may have been the start of a new era for sulphuric acid.**
- **The market is forecast to remain in theoretical deficit until at least 2010.**
- **Conditions currently appear ripe for further additions to voluntary capacity in a number of key markets.**
- **However, market likely to return to surplus beyond 2010, preventing structural changes from taking place.**





Upcoming Conferences and Exhibitions:

Fertilizer Latin America 2008
20-22 January 2008, Miami, USA

Phosphates 2008
17-19 February 2008, Paris, France

Nitrogen 2008
20-23 April 2008, Moscow, Russia

7th World Copper Conference
8-10 April 2008, Santiago, Chile

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Sulphuric Acid

Ten Year Forecast & Market Analysis Service

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