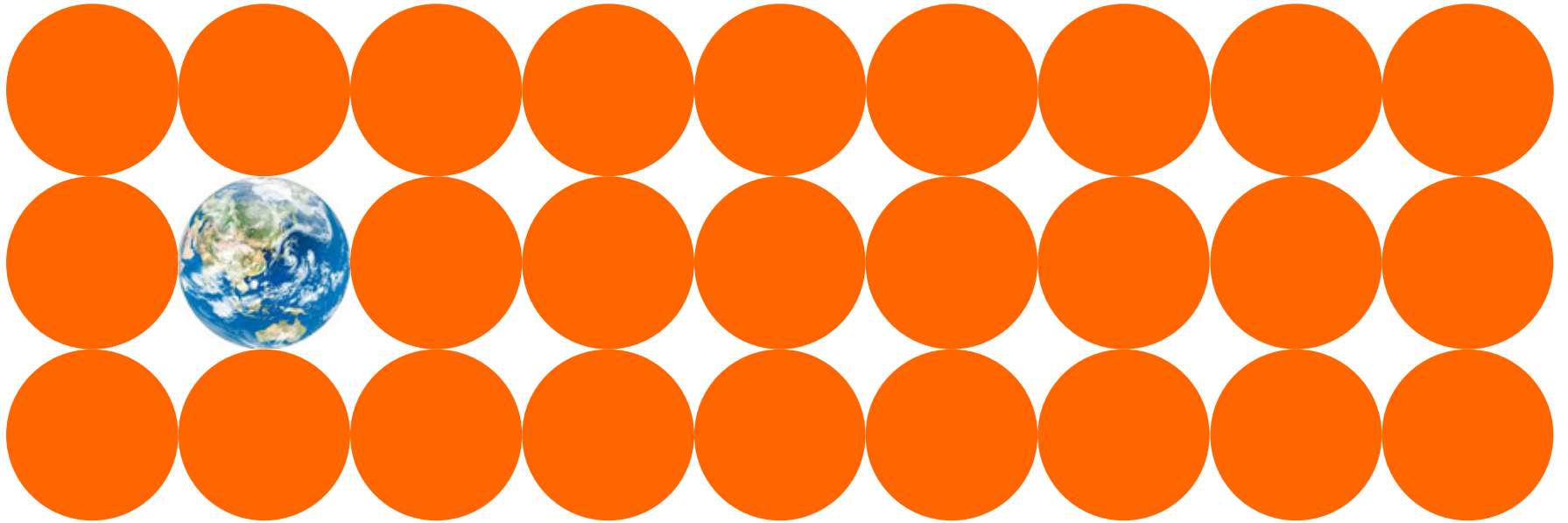


Aluminium market outlook



Arvid Moss, Executive Vice President and Head of Energy and Corporate Business Development
January 13, 2011

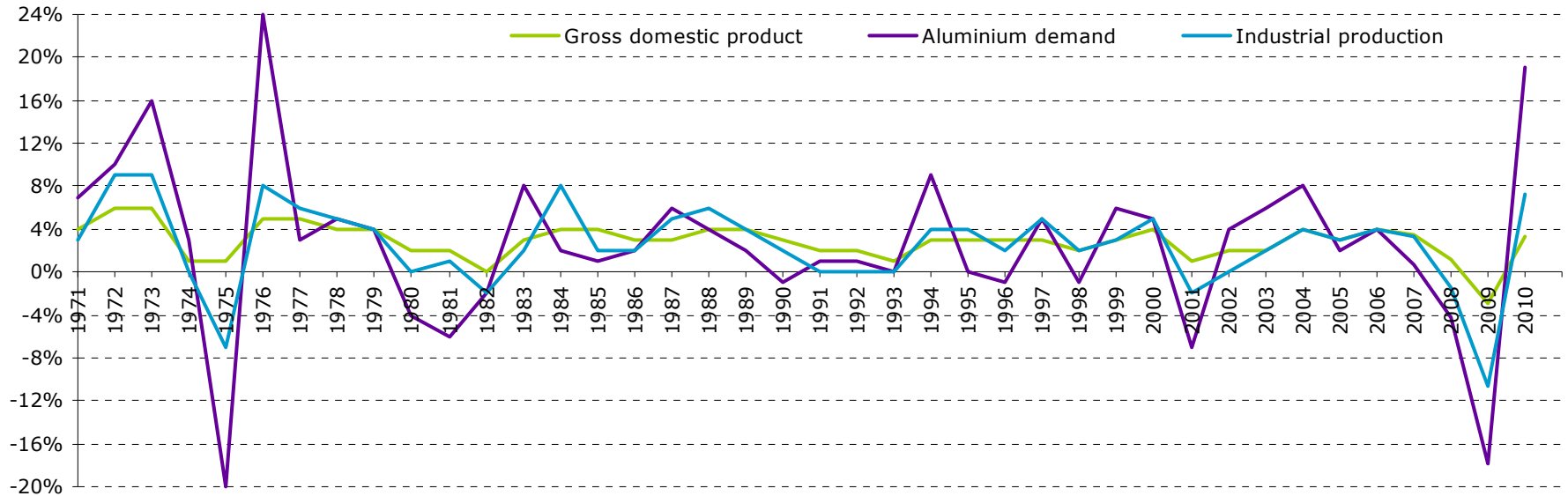
Agenda

- Market situation 2010
 - Status development from 2009
 - Restocking effect
 - Downstream development
- Mid-term development 2011 – 2014
 - Possible scenarios
 - China
 - Cost curve



Strong recovery in 2010 from crisis

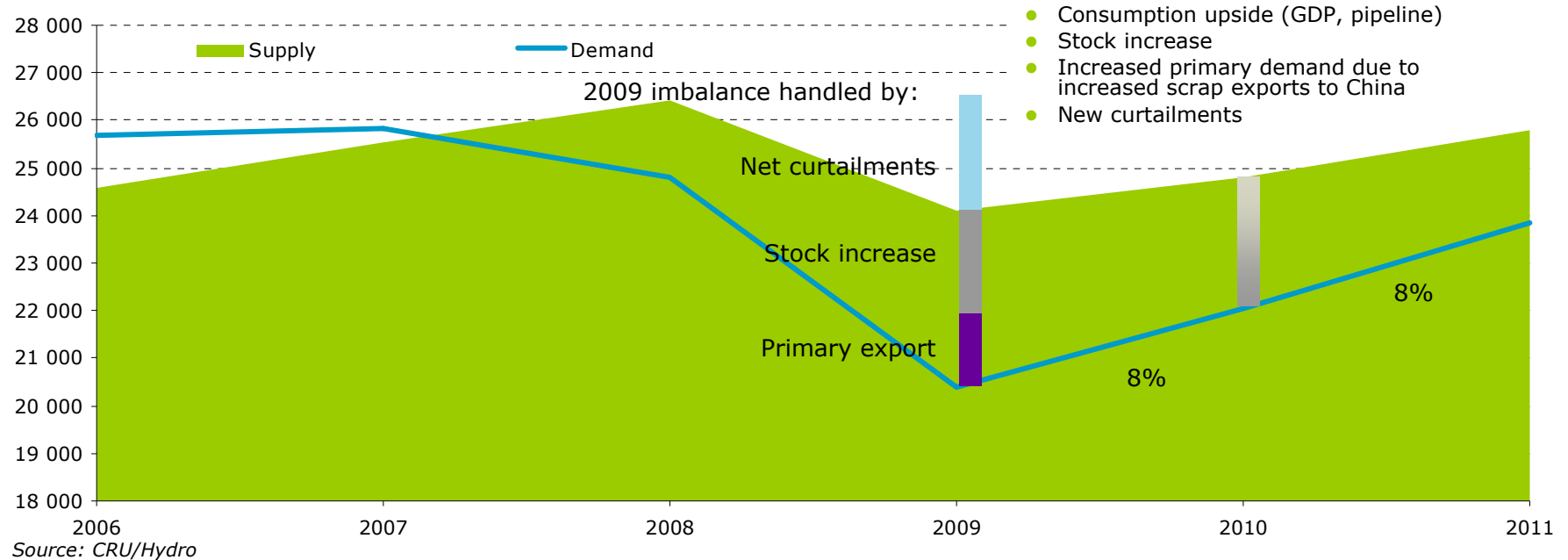
Change year-on-year world outside China



Source: Global Insight/CRU/Hydro

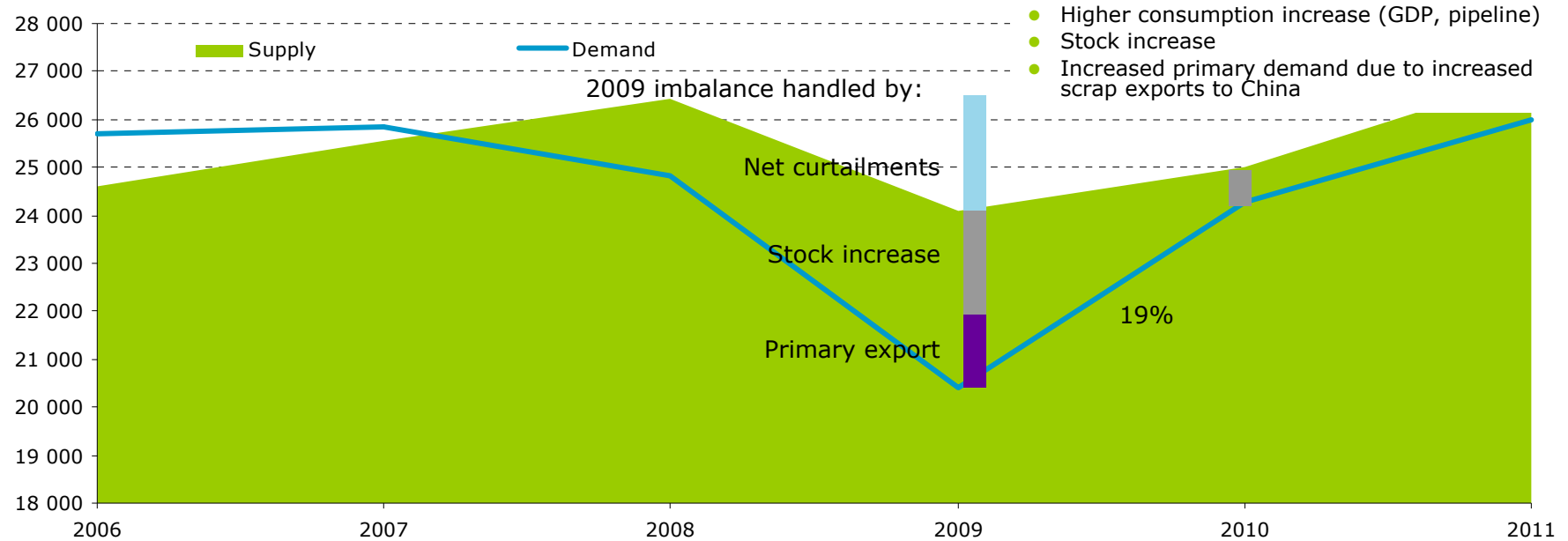
2010 balance – our expectations

World outside China, 1 000 tonnes



2010 balance - outcome

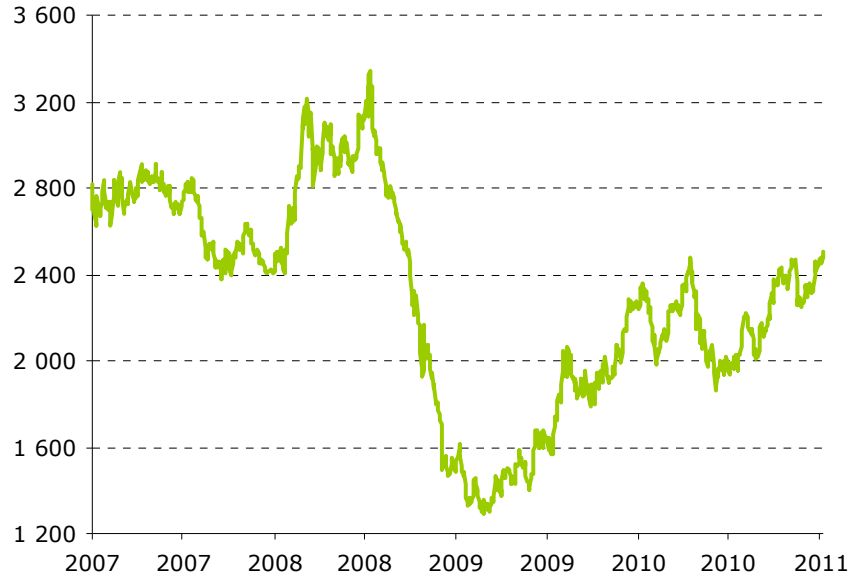
World outside China, 1 000 tonnes



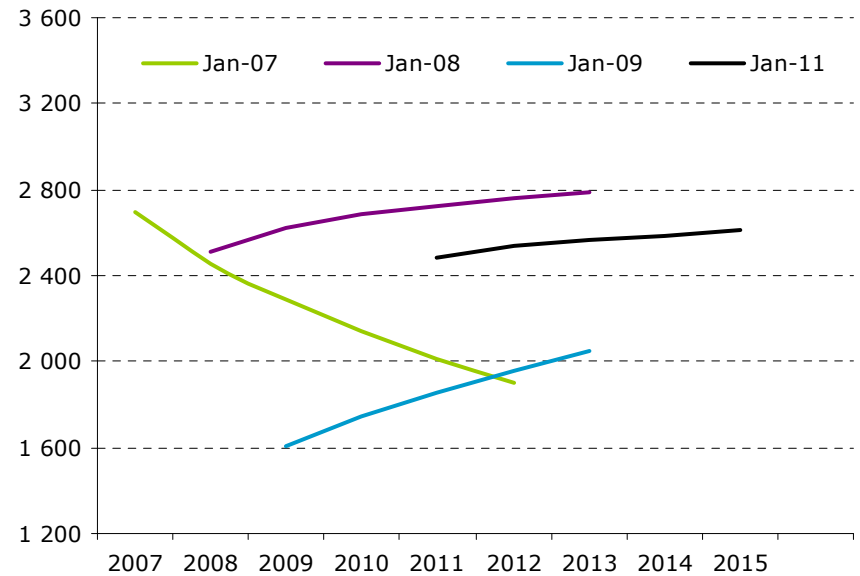
Source: CRU/Hydro

Commodity as asset class affects aluminium

LME 3-month, USD/tonne



LME USD/tonne

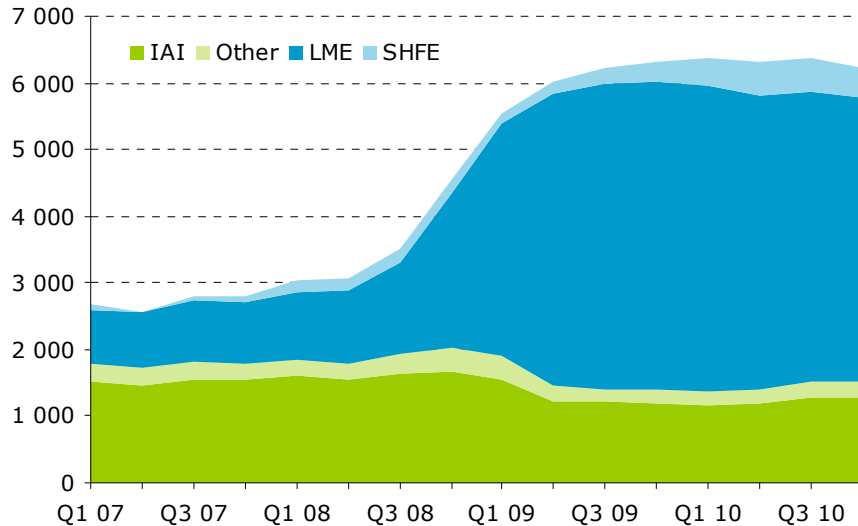


Source: Reuters Ecowin/Hydro

High inventories well known in market

World reported primary aluminium inventories

1 000 tonnes

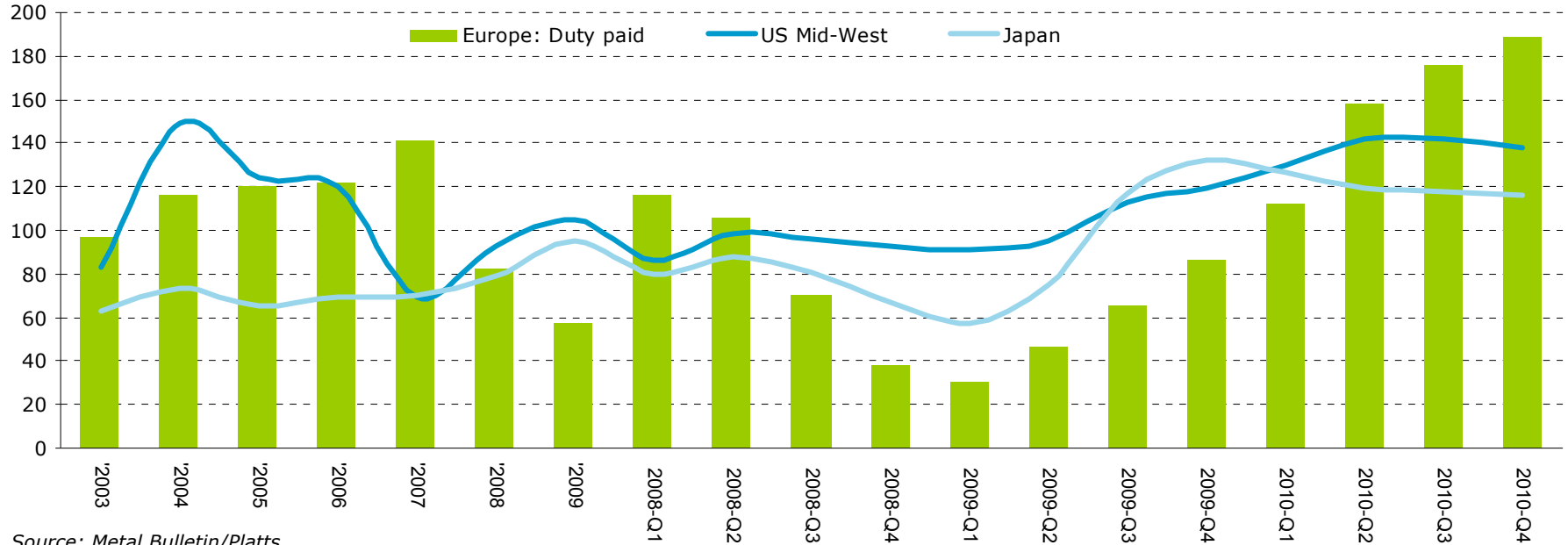


Source: CRU

- Different views on unreported inventories
- Estimated total reported and unreported inventories ~11 million tonnes
 - Represents ~3 months of consumption
- Financial deals locking up metal

Tight physical market despite high inventories

Ingot premium, USD/tonne

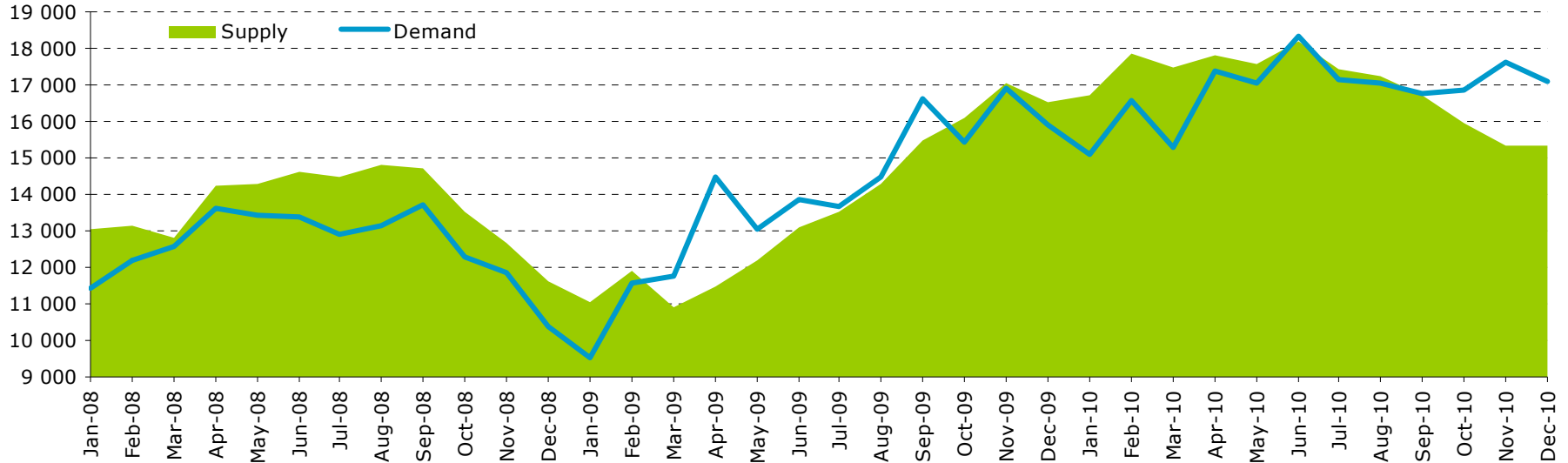


Source: Metal Bulletin/Platts

Production cuts in China due to energy issues

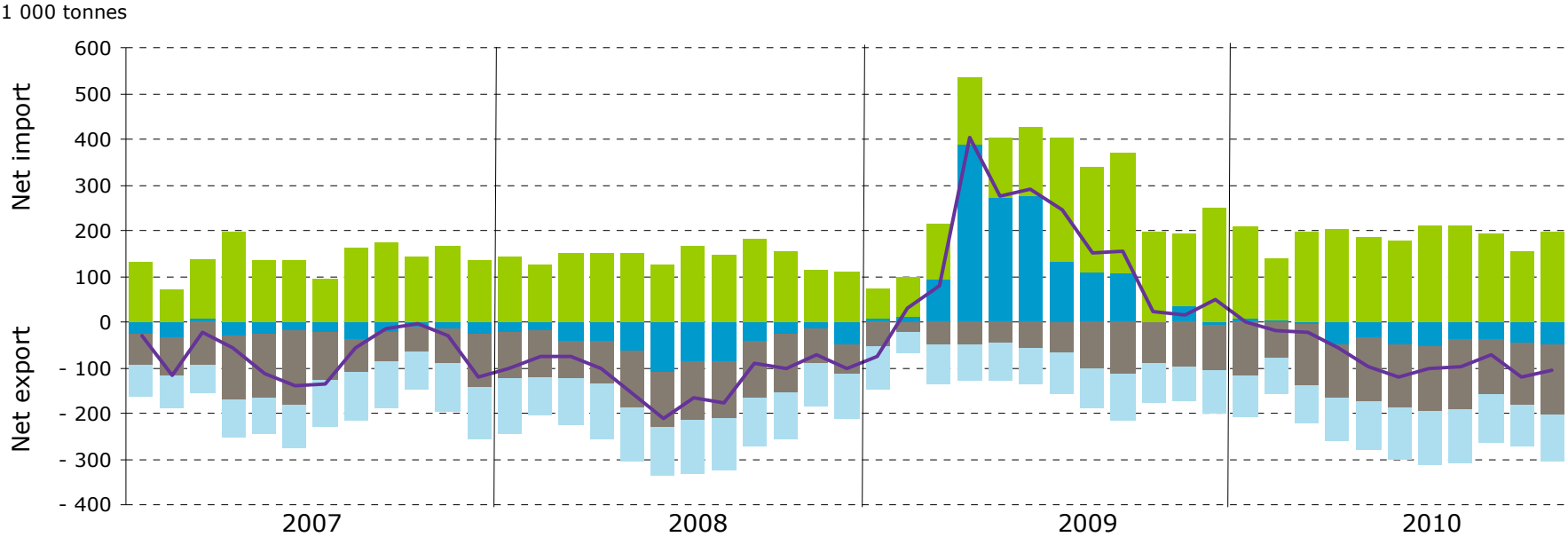
China (annualized)

1 000 tonnes



Source: CRU

China remains balanced in aluminium



Source: Antaika/Hydro

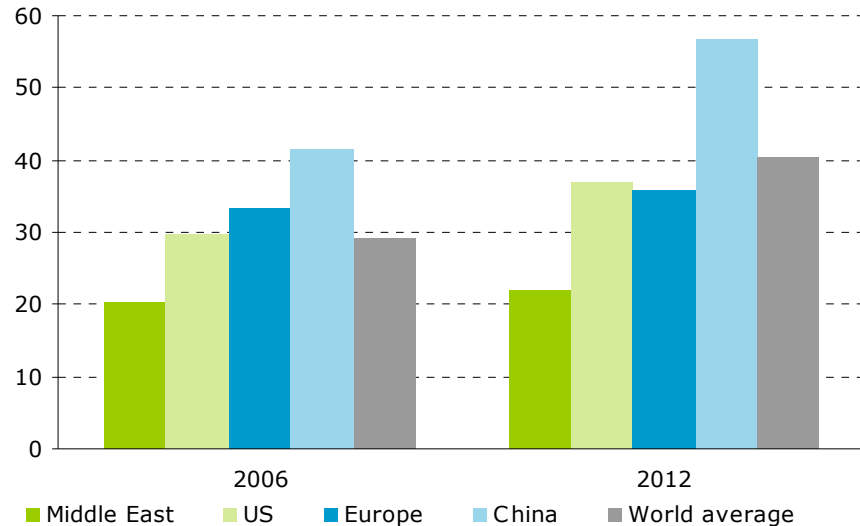
Primary / alloyed Scrap metal Semis Fabricated Total net



Significant rise in Chinese power prices

Average power prices for aluminium industry

USD/MWh

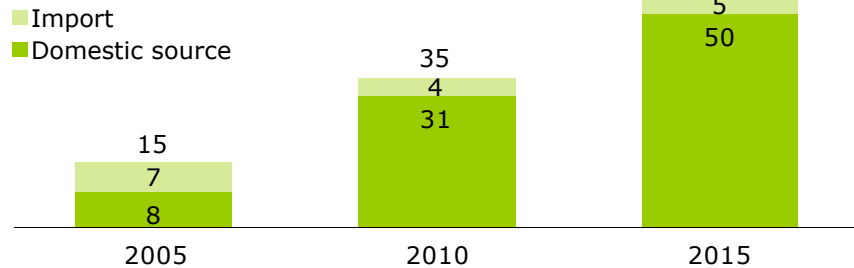


Source: CRU

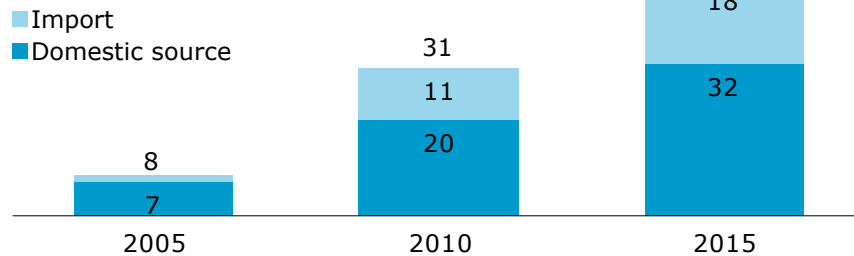
- Short-term actions to meet 2010 target of 20% reduction in energy consumption/GDP vs 2005
- Average power costs continues to increase
 - Industry restructuring taking place
- Aluminium's share of power has increased
 - From ~2% in 2000 to >5% in 2010
- Power price not expected to decrease

China is dependent on bauxite imports

Alumina coverage aluminium production



Bauxite coverage alumina production



- Share of imported bauxite in China in 2010: ~35%
- Quality of domestic bauxite resources is deteriorating
- New capacity mainly based on domestic bauxite
- Indonesia supplies 75% of imported bauxite

Source: Antaika / Hydro

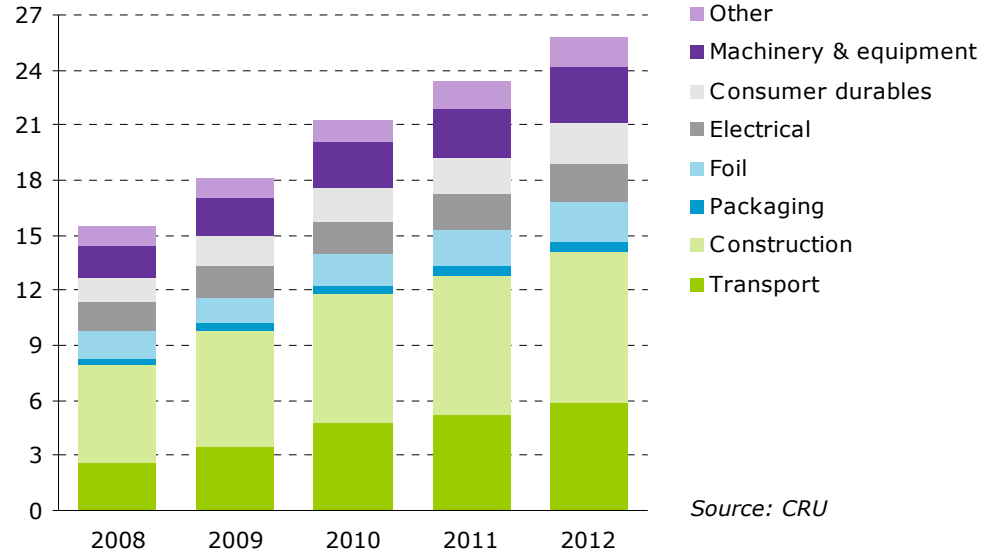
China expected to remain balanced medium term

Potential long-term importer

- Primary aluminium exports continue to be discouraged through export taxes
- Potential long-term imports partly based on Chinese companies investing abroad
- Continued exports of value-added products expected
 - China focus more on domestic markets
 - Continued imports of scrap

Semis demand China

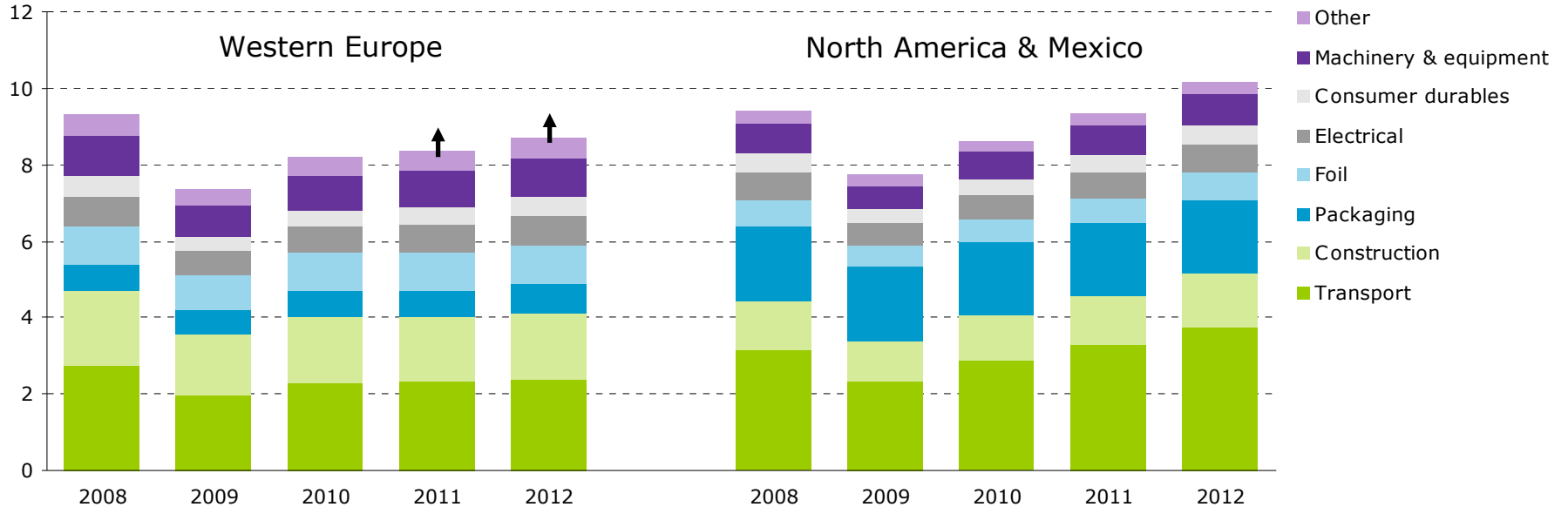
million tonnes



Source: CRU

Downstream development indicates return to underlying growth

Demand, million tonnes

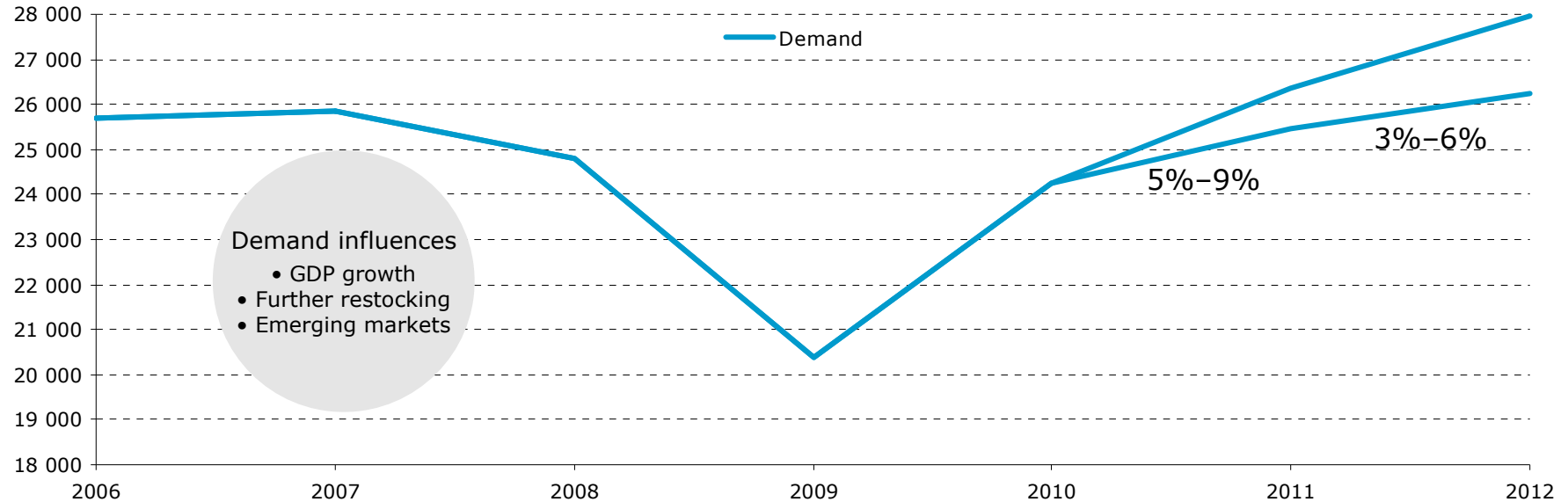


Source: CRU

Mid-term development scenario thinking

World outside China

1 000 tonnes

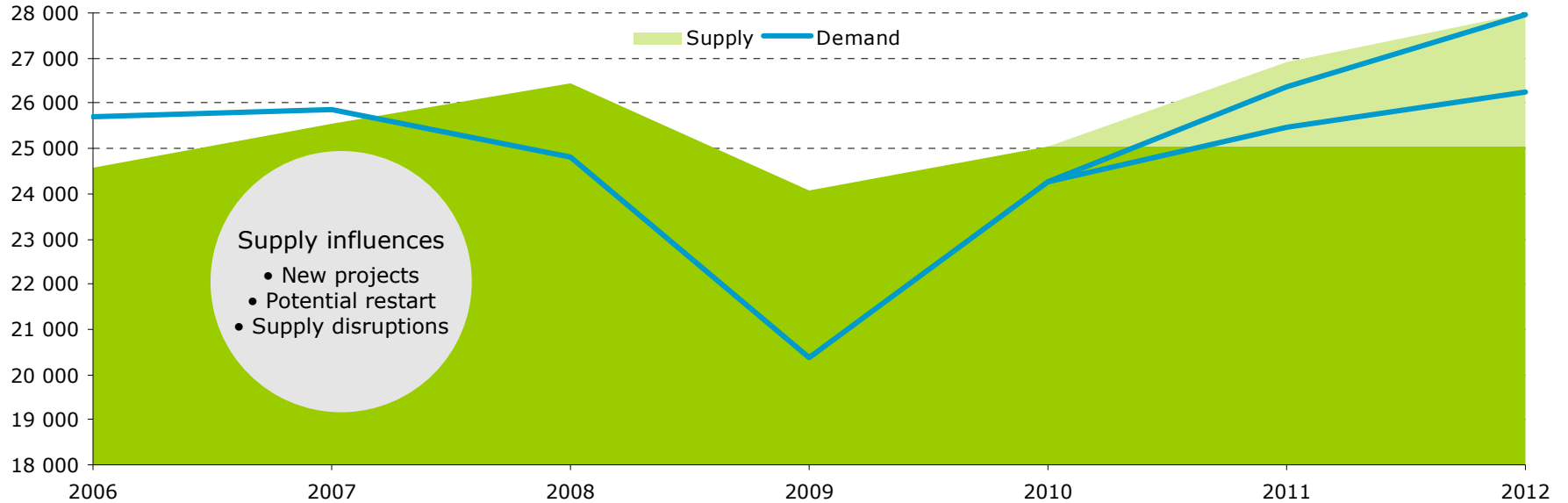


Source: CRU/Hydro

Mid-term development scenario thinking

World outside China

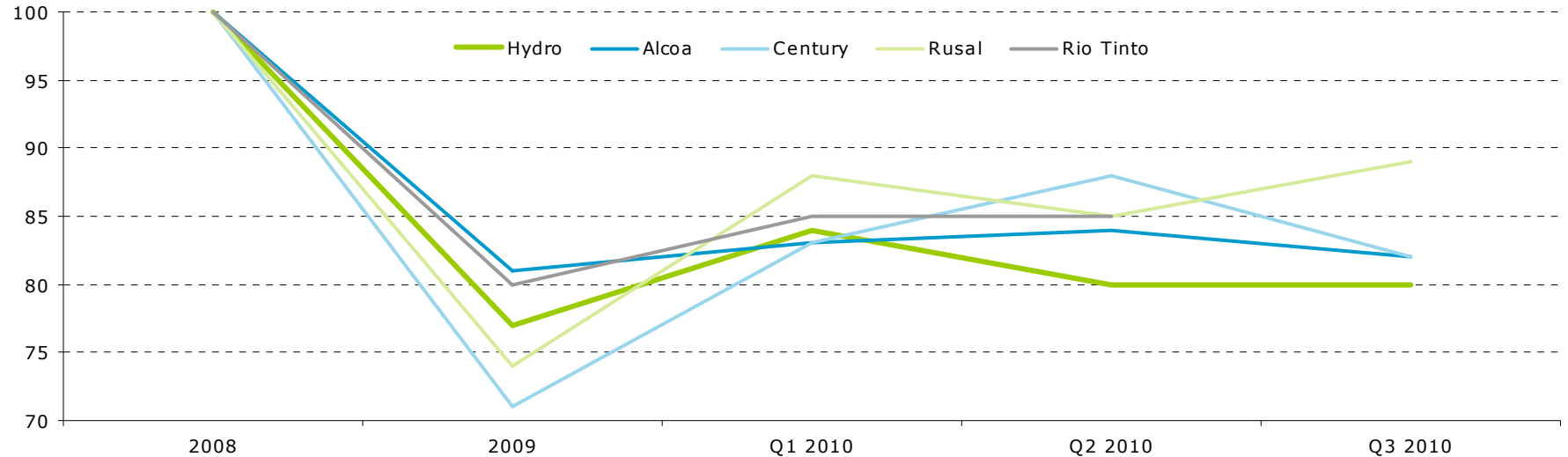
1 000 tonnes



Source: CRU/Hydro

Relative improvement in cost position

Cash cost indexed

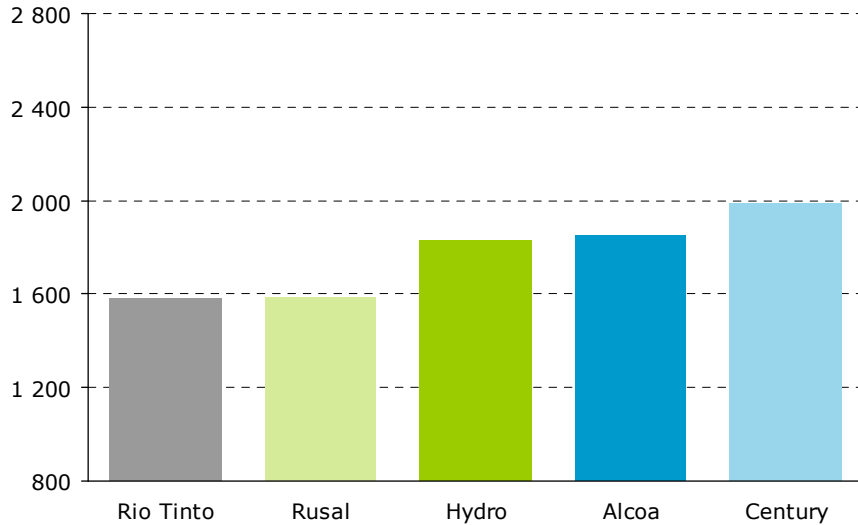


Estimated primary aluminium production cash costs including casthouse margin based on company reports. Assumptions: Hydro cash costs increased by USD 50/tonne for relining cost in order to compare with Alcoa. Pricing: Century 1 month LME cash lag, Hydro 3 months and 20 days LME forward lag, Alcoa, Rio Tinto and Rusal 15 days LME cash lag.

Strong focus to further improve cost position

Estimated primary aluminium production cash costs

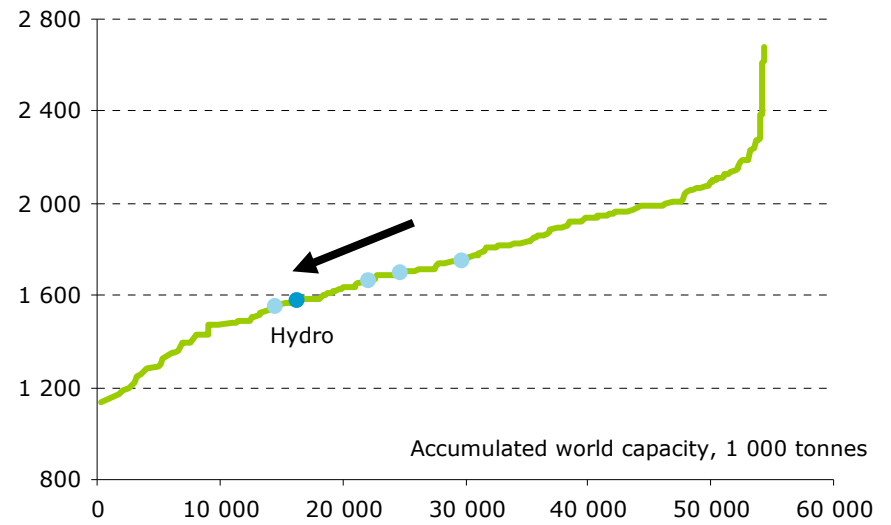
First half 2010, USD/tonne



Source: see previous slide

Business operating cost 2014

USD/tonne

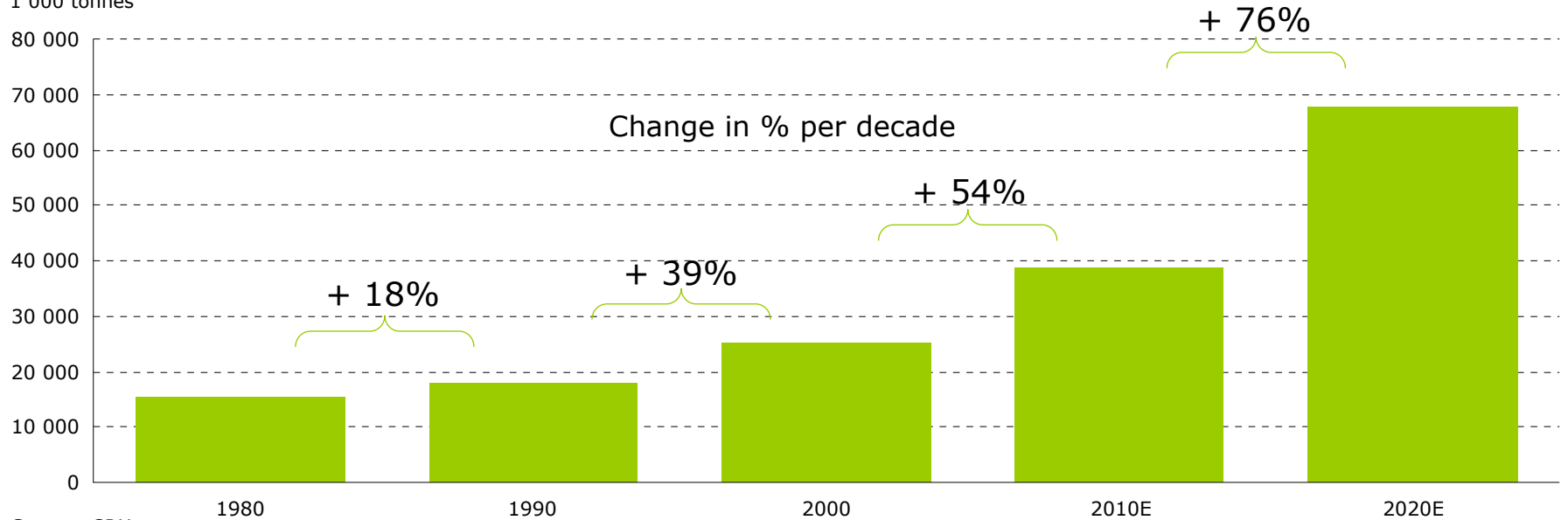


Source: CRU, BOC 2014: LME 2 145 USD/tonne (real 2010)

Firm long-term demand for aluminium

Primary aluminium consumption

1 000 tonnes



Source: CRU

Points to watch

- Manageable supply/demand balance
- Demand development
 - Macro development
 - Further filling of pipeline
- Supply development
 - Restarts outside China dependant on market fundamentals
 - New capacity
- Investor influence on LME
 - Financial deals/stocks
- China balance





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