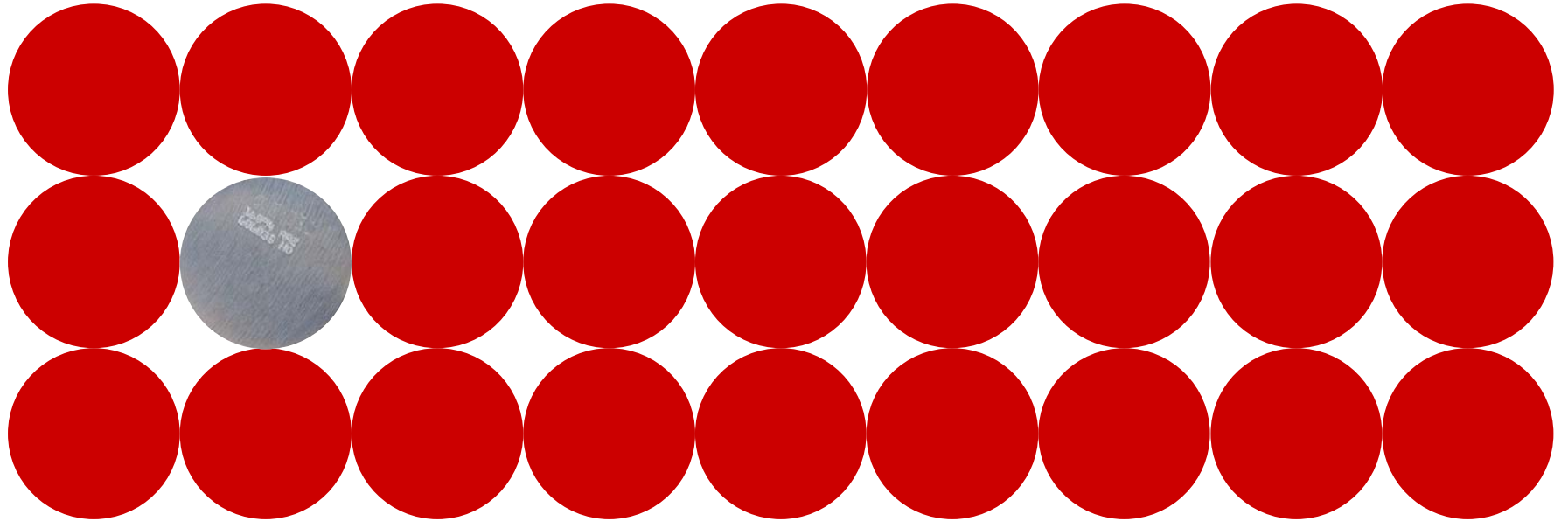


Market Outlook



Arvid Moss, Executive Vice President and Head of Energy and Corporate Business Development
December 1, 2011

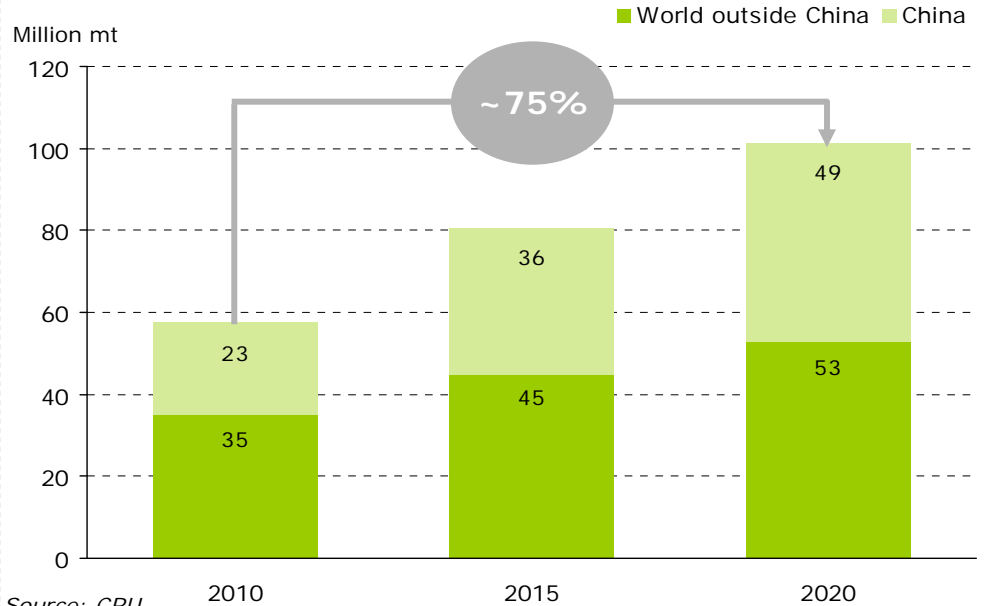
Healthy long-term growth projections

Uncertain and weakening short-term outlook

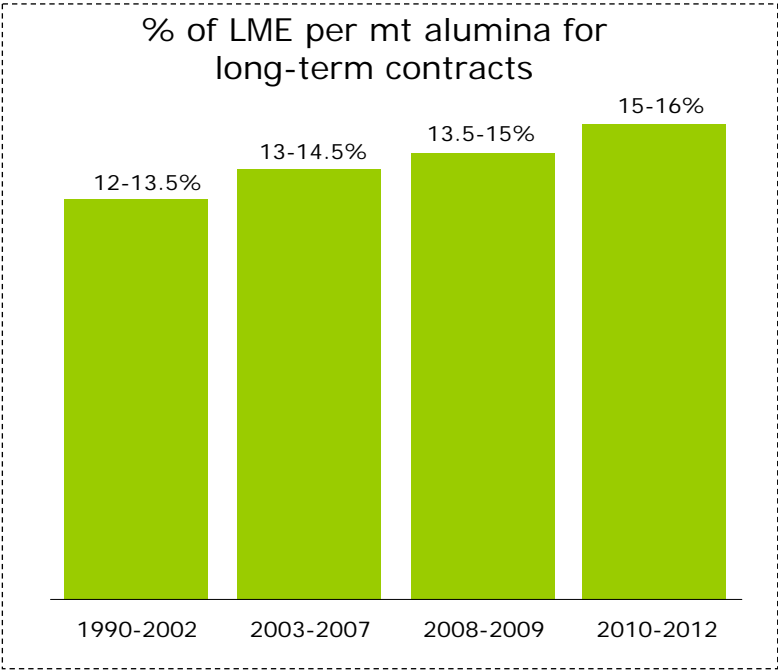
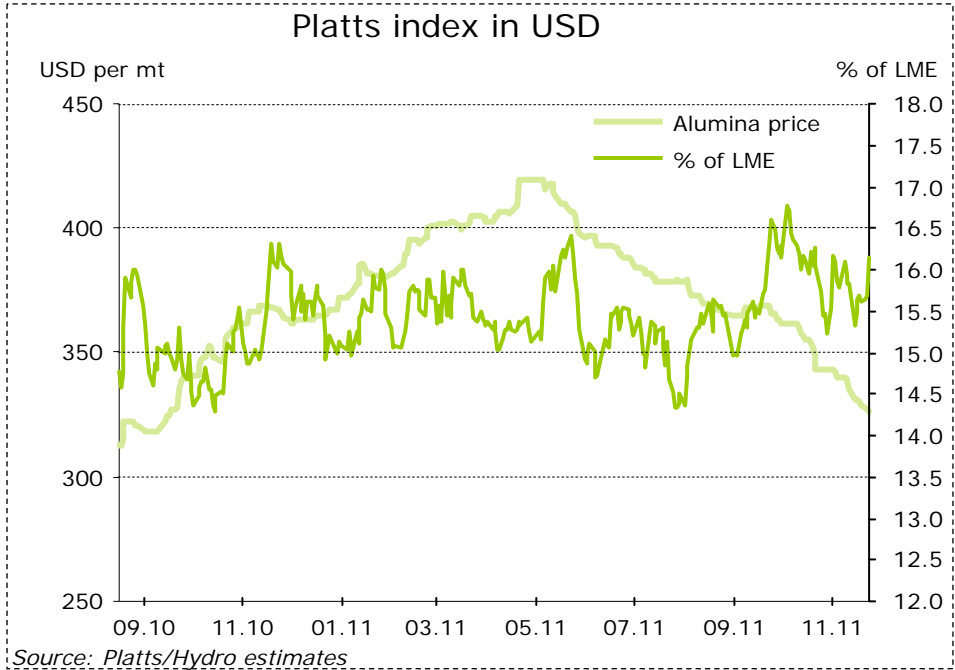
- Agenda

- Price
- Macro development
- Demand
- Aluminium value chain development
- Energy development
- Cost development
- Key take aways

Demand for semis



Alumina price increasing as percent of LME



Aluminium – fundamentals and financial asset

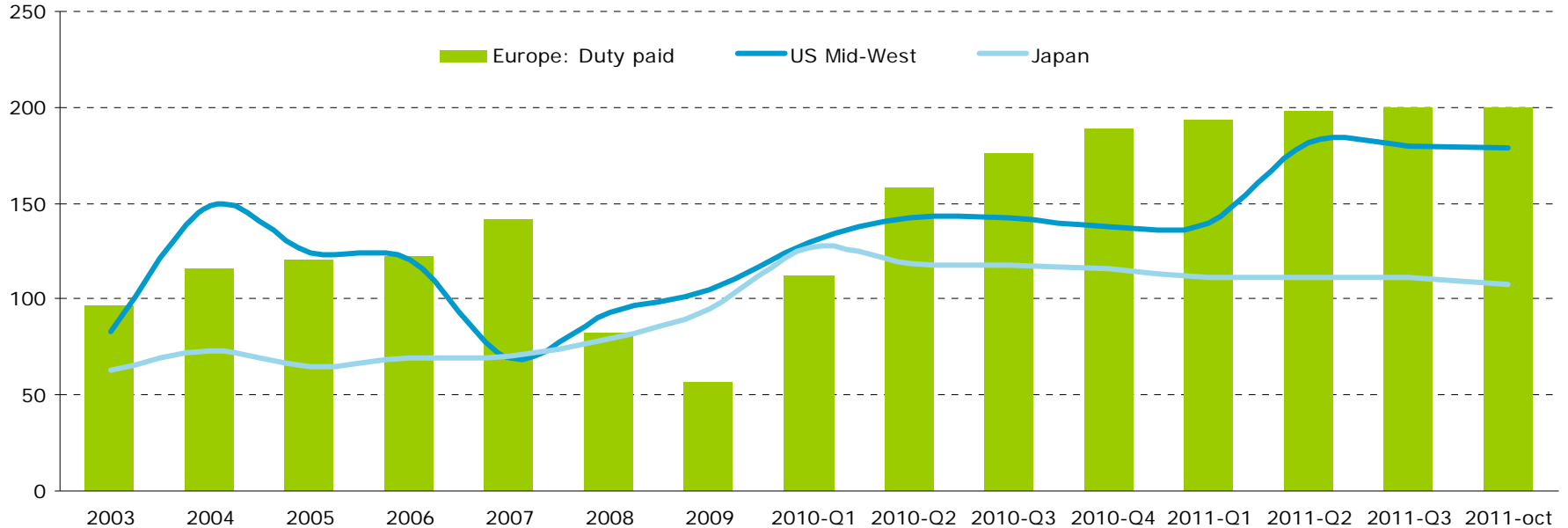
LME 3-month, USD per mt



Source: Reuters Ecowin/Hydro

Tight physical market despite high inventories

Ingot premium, USD per mt

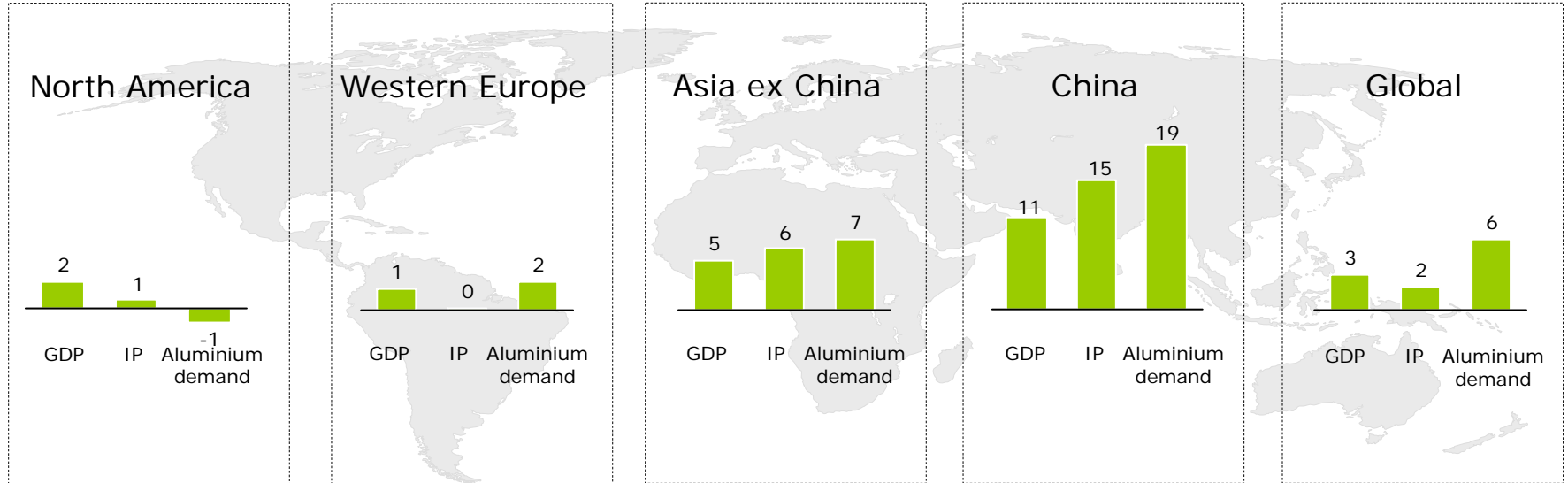


Source: Metal Bulletin/Platts

Strong aluminium demand

Stronger development than IP and GDP last 10 years

CAGR last 10 years (%)

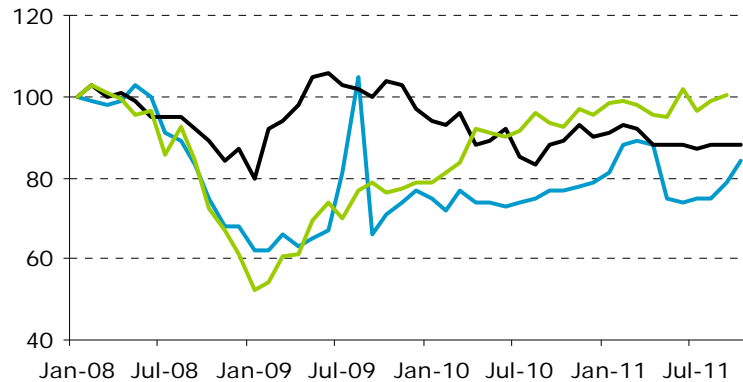


Source: CRU/Global Insight

Automotive indicators picking up - still weak construction activity

Automotive

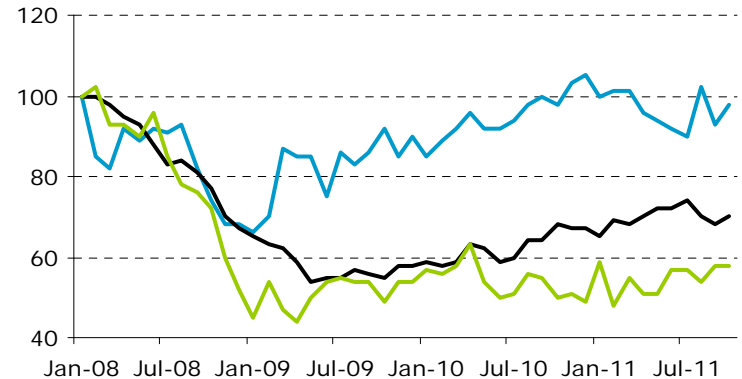
January 2008=100



— US car sales
— Eurozone cars registration
— German export motor vehicles, new orders

Construction

January 2008=100



— US architectural billings index
— EU order book construction
— US new private housing starts

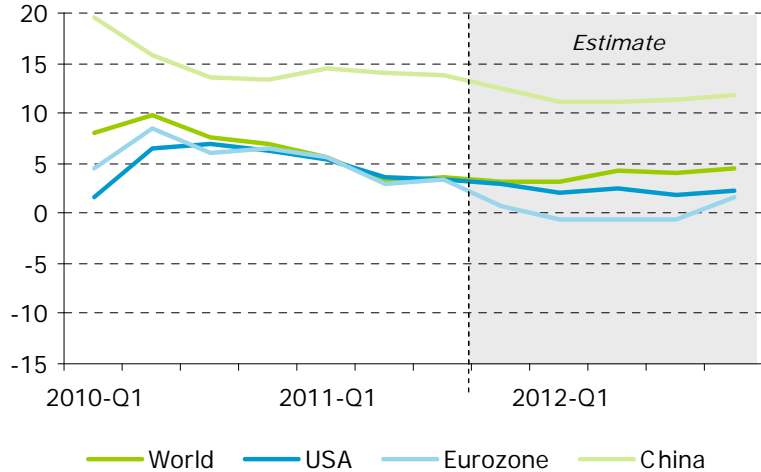
Source: US Department of Commerce, Deutsche Bundesbank, American Institute of Architects, ECB, Directorate General for Economic and Financial Affairs

IP-growth estimated to weaken

Especially in Eurozone

Global IP

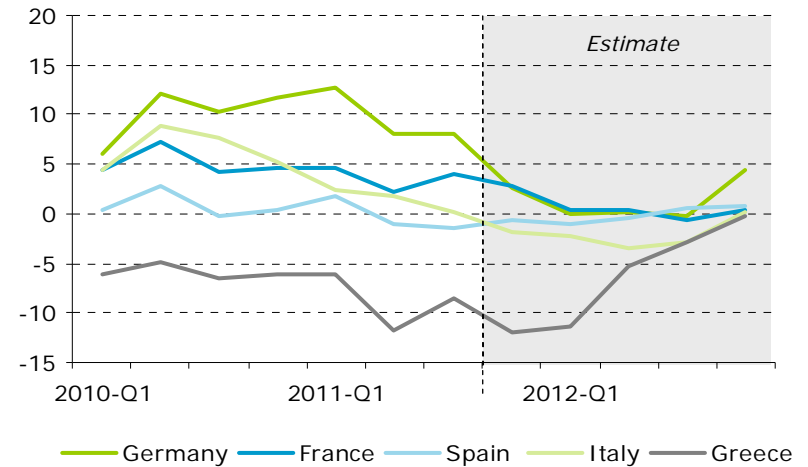
Quarterly, %-change from a year earlier



Source: Global Insight

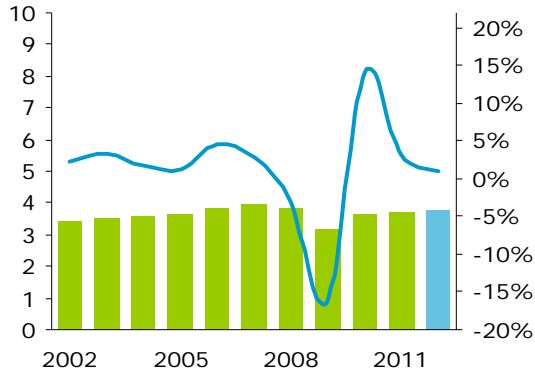
IP selected EU countries

Quarterly, %-change from a year earlier

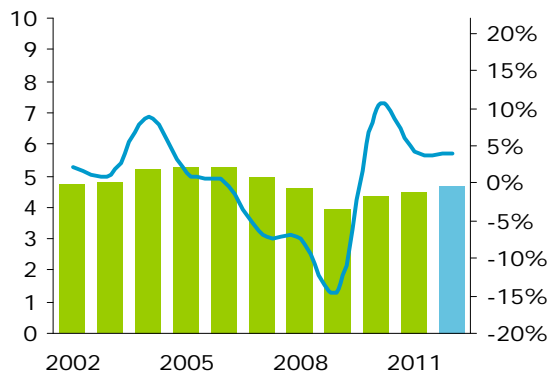


Rolled products consumption

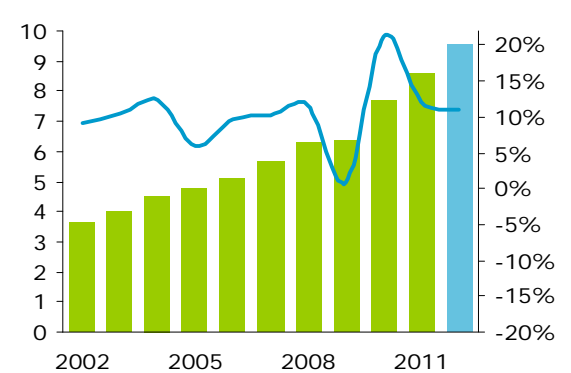
Western Europe
Million mt



North America
Million mt



Asia Pacific
Million mt



- Soft landing assumption for 2012
- Ongoing substitution supporting demand in transport
- Normalizing stock levels

- Strong transport markets
- Packaging market saturated
- Moderate recovery in construction during 2012

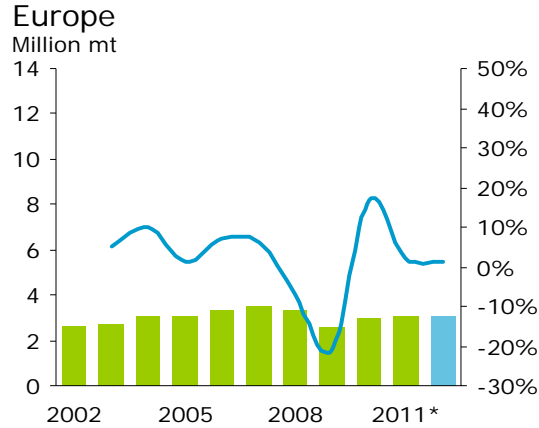
- Growth continue on high level
- Strong domestic demand within the automotive and packaging segments
- Risks regarding to export markets

Source: CRU/Hydro

■ Million tonnes

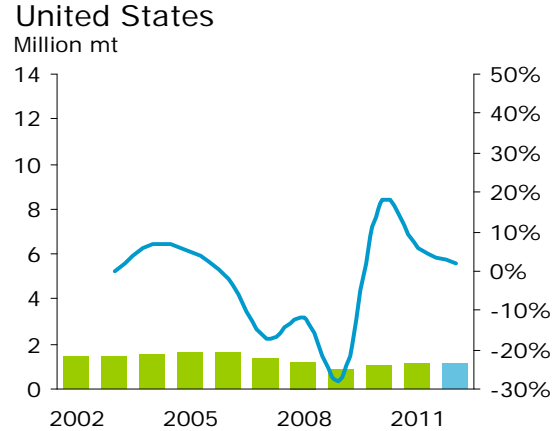
— % growth (RHS)

Extruded products consumption

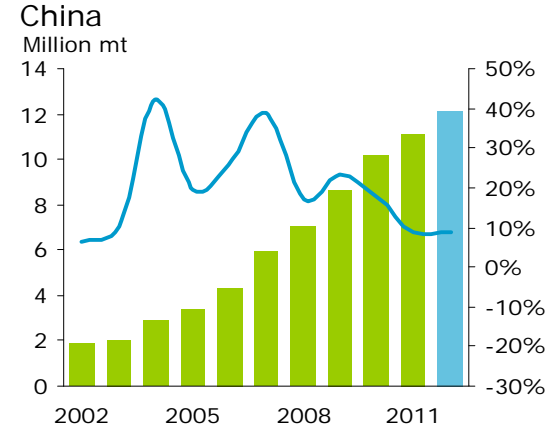


- Building activity remains weak in Europe, especially in Southern Europe
- Consumer confidence low, weak growth expected

Source: EAA/AA/CRU/Hydro ■ Million tonnes — % growth (RHS)

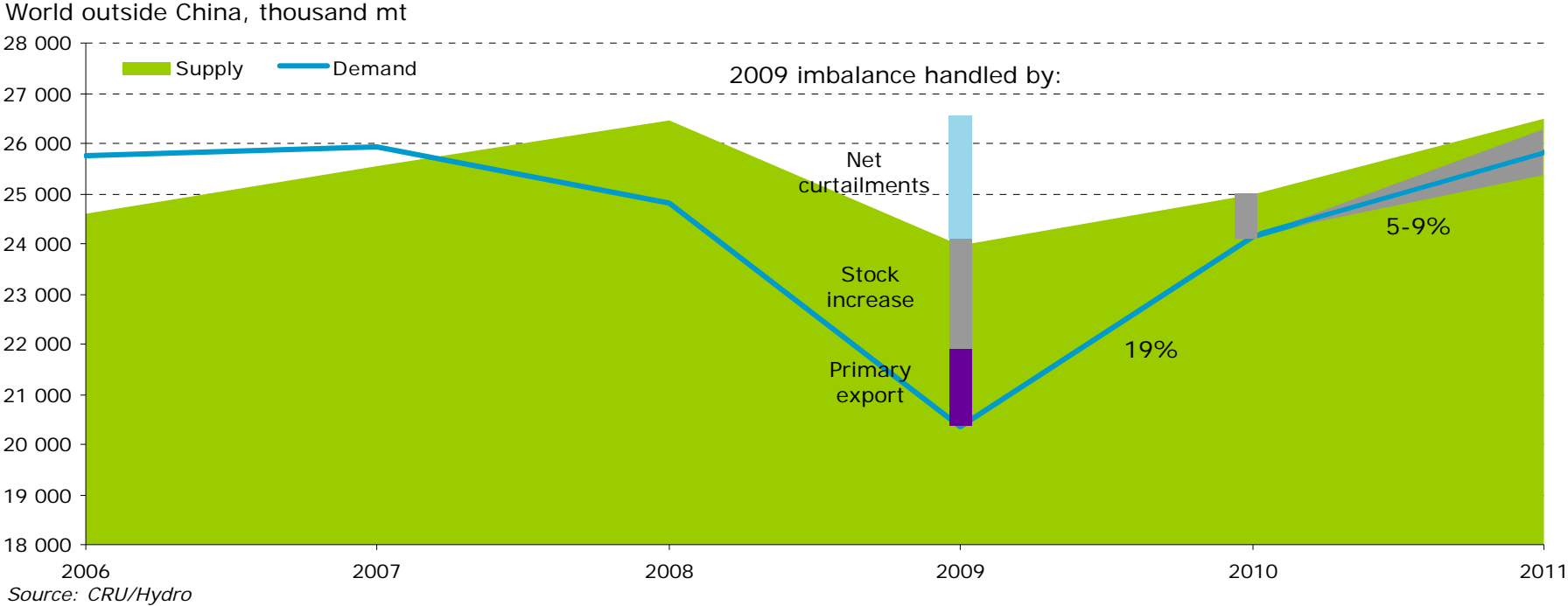


- 2011 growth in US shipments driven by duties on Chinese extrusion imports
- Transport and automotive segment expected to stay strong



- Growth driven by the construction segment
- High production of motor vehicles
- Large investments within infrastructure, such as railway

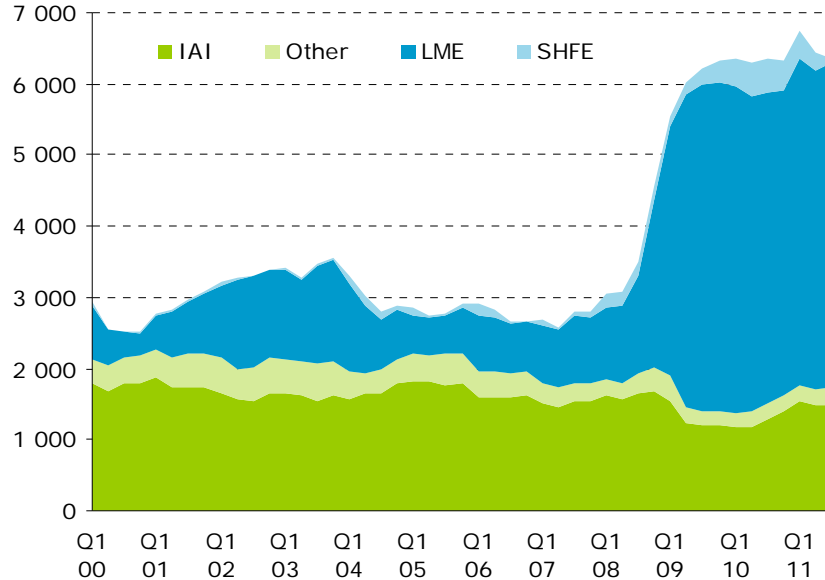
2011 balance – our expectations



Inventories at high level

World reported primary aluminium inventories

Thousand mt



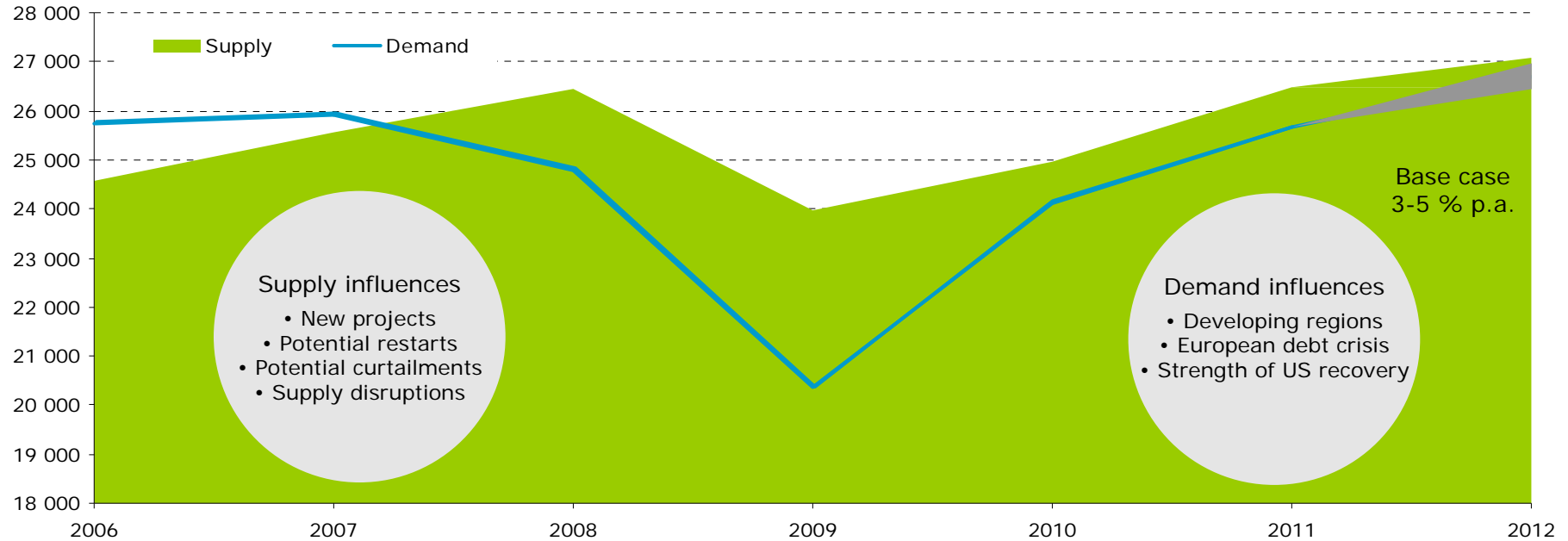
- High inventories well known in market
 - Different views on unreported inventories
- Estimated total reported and unreported inventories ~11 million tonnes
 - Represents ~3 months of consumption
- Financial deals still attractive

Source: CRU

Healthy demand growth expected

Manageable supply/demand balance

World excluding China, thousand mt



2006

2007

2008

2009

2010

2011

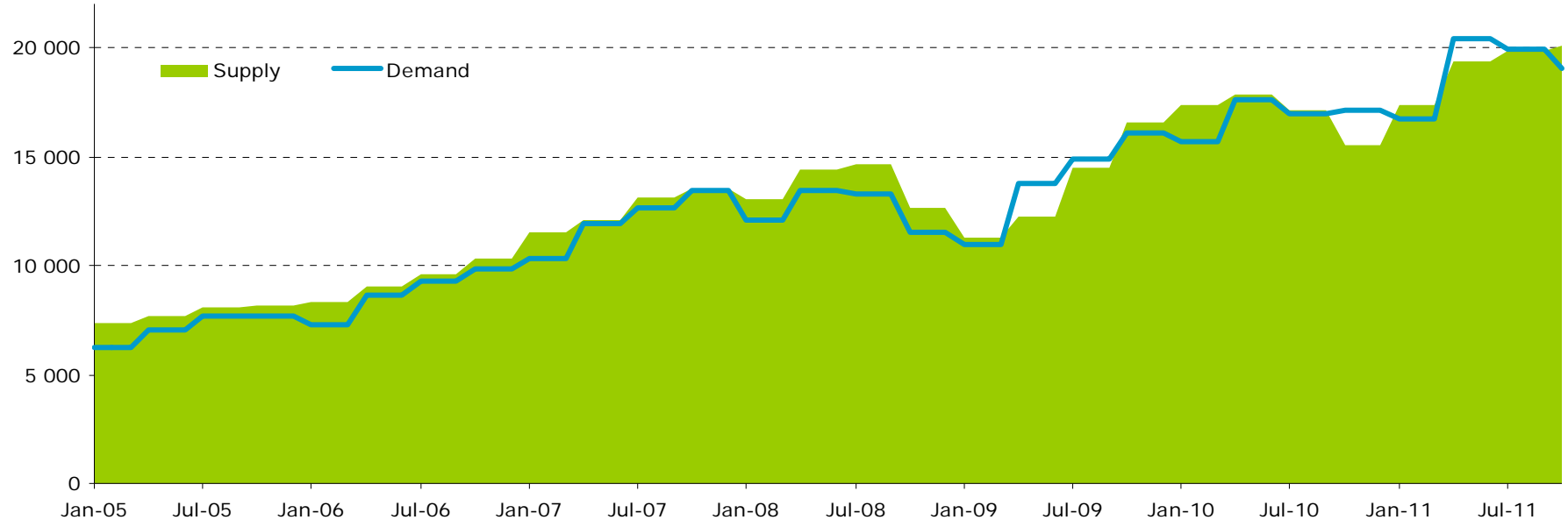
2012

Source: CRU/Hydro

Strong Chinese primary aluminium demand

Balanced supply/demand

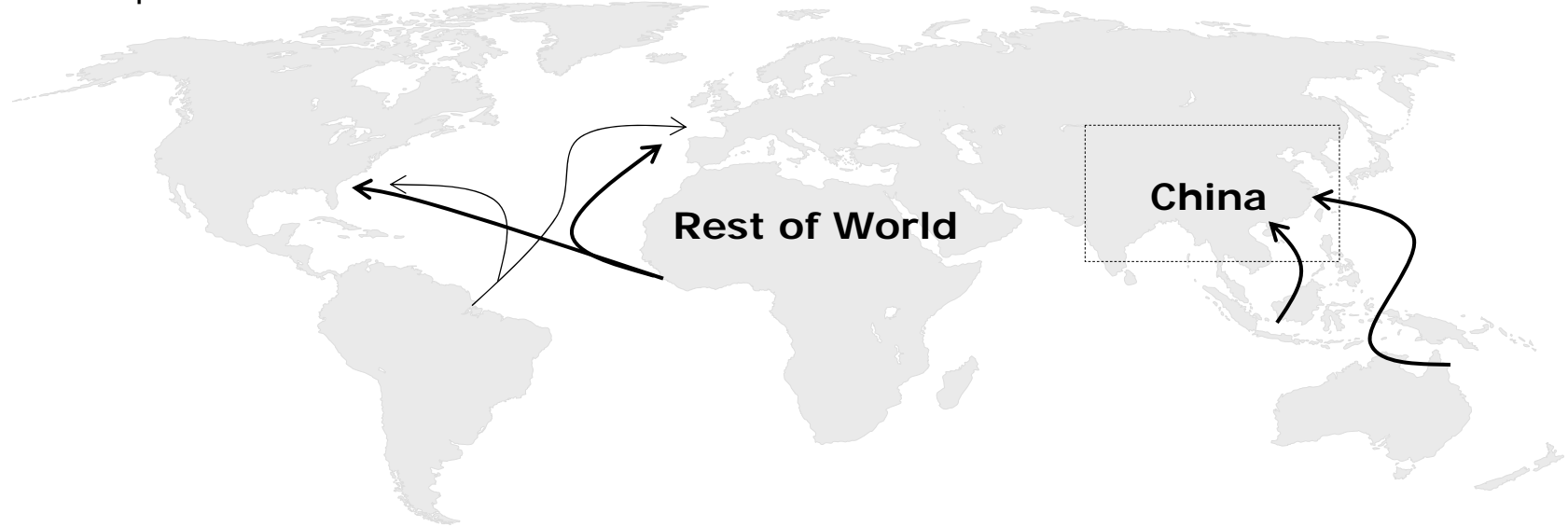
China, thousand mt, annualized



Source: CRU

Third party sales ~20% of global bauxite production

Bauxite production 2011: ~250 million mt

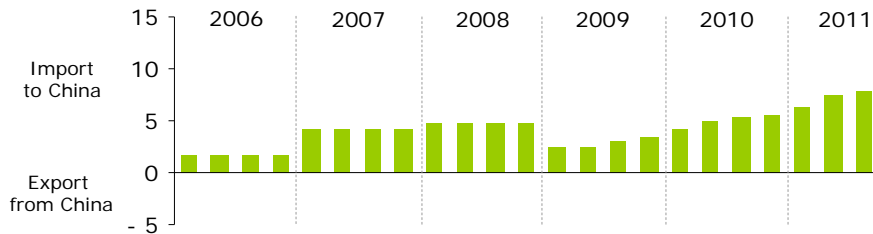


Source: Antaike/Hydro

China highly dependent on bauxite import



Annualized aluminium equivalents*, million mt

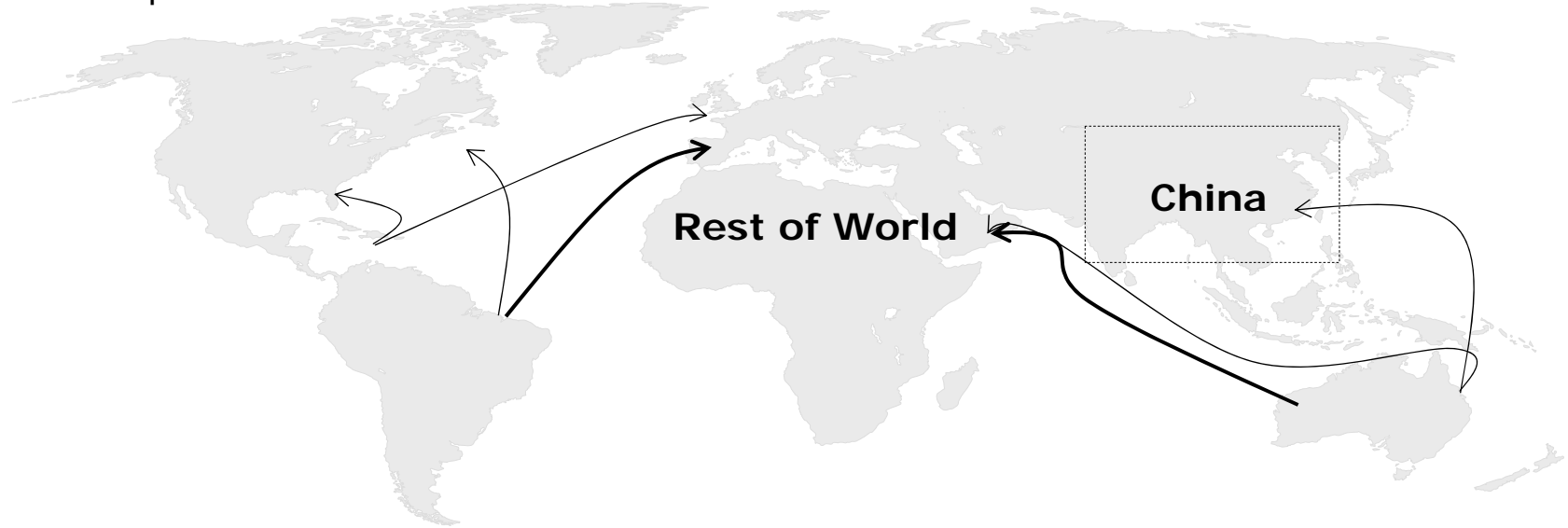


- Share of imported bauxite in China in 2011: ~43%
- Quality of domestic bauxite resources is deteriorating
- Indonesia supplies 80% of imported bauxite, Australia the remaining 20%

Source: Antaike/Hydro ■ Bauxite *Bauxite to aluminium conversion factor: 5.4

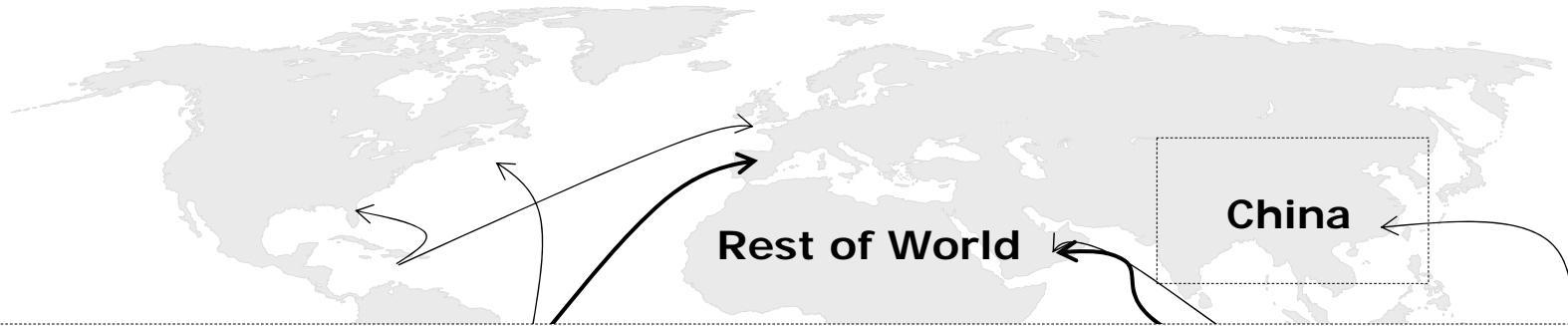
Third party sales ~35% of global alumina production

Alumina production 2011: ~90 million mt

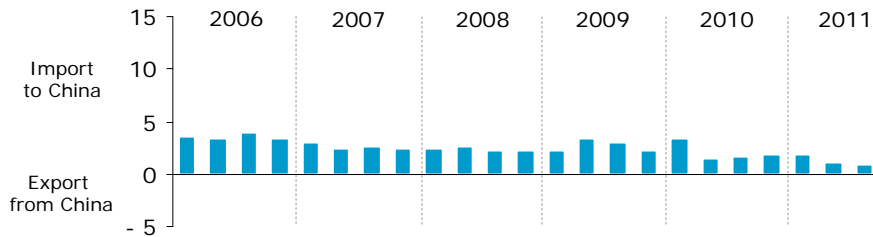


Source: Antaike/Hydro

Chinese domestic alumina capacity increasing



Annualized aluminium equivalents*, million mt



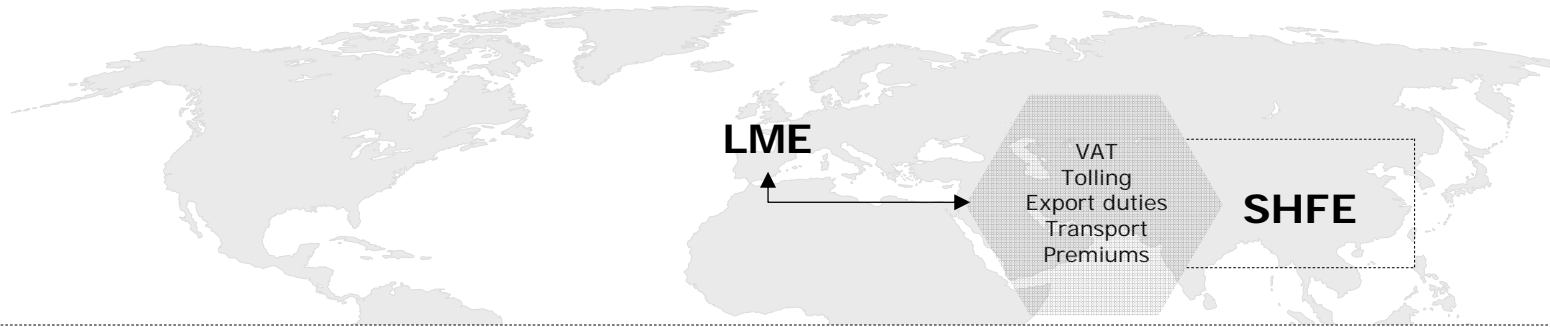
- ~65 % of smelter production in China is not integrated with alumina
- China has capacity to be balanced in alumina

Source: Antaike/Hydro

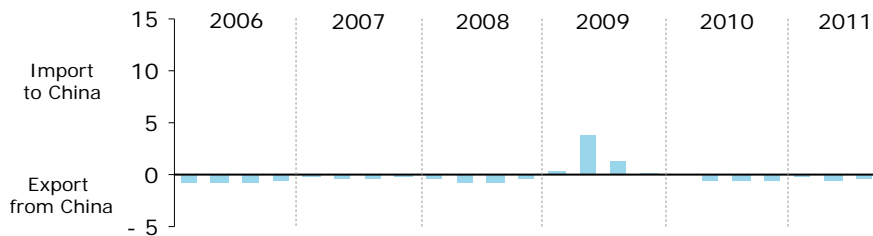
■ Alumina

*Alumina to aluminium conversion factor: 1.925

Chinese trade barriers for primary aluminium



Annualized aluminium equivalents, million mt



- Declared goal of self-sufficiency in primary aluminium
- Arbitrage opportunities between LME and SHFE in 2009

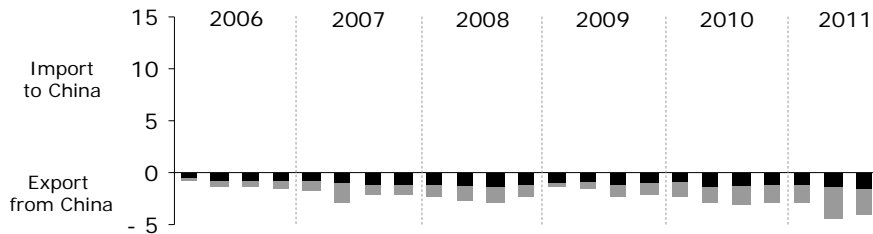
Source: Antaike/Hydro

■ Primary Aluminium

China increasing exports of fabricated and semis



Annualized aluminium equivalents, million mt

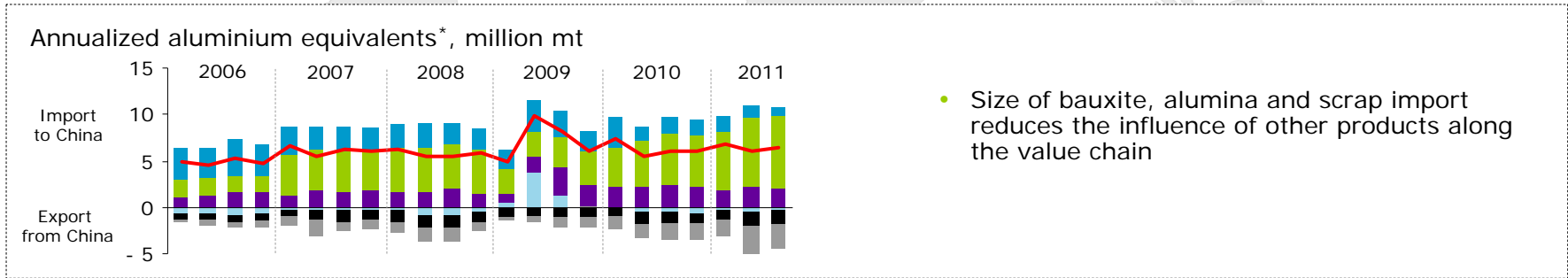


- Majority of exports to Asian markets
- Challenged by antidumping measures in the US and Europe
- Declared goal of exporting higher value added products

Source: Antaike/Hydro

■ Fabricated ■ Semis

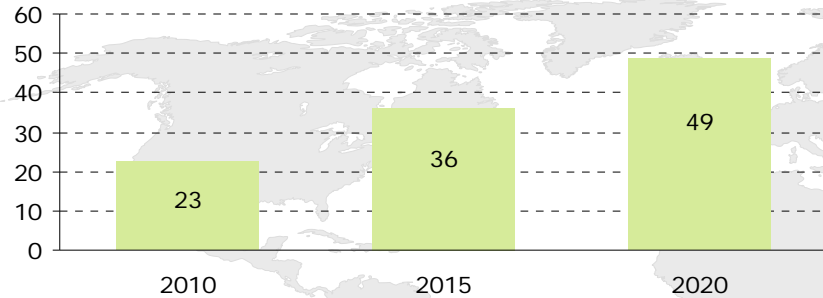
China – significant net importer of aluminium



Source: Antaike/Hydro

Demand will increase substantially...

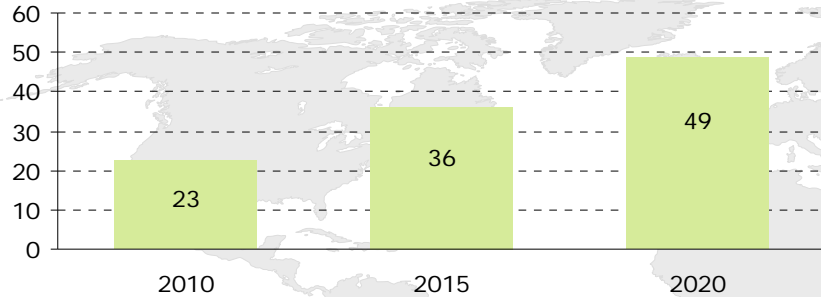
Demand for semis, China, million mt



China's demand for semis expected to increase substantially going forward...

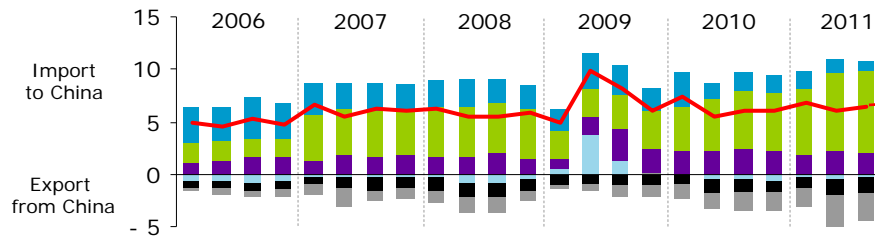
...as a consequence, China will be increasingly short upstream

Demand for semis, China, million mt



China's demand for semis expected to increase substantially going forward...

Annualized aluminium equivalents*, million mt



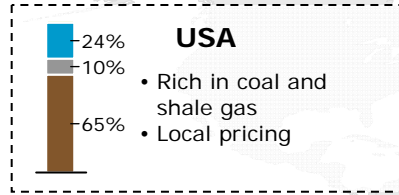
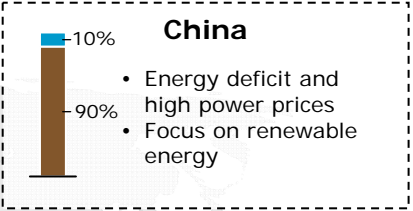
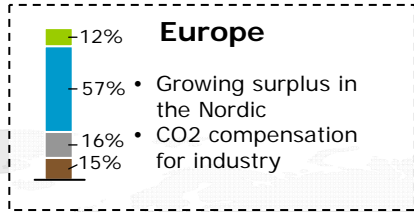
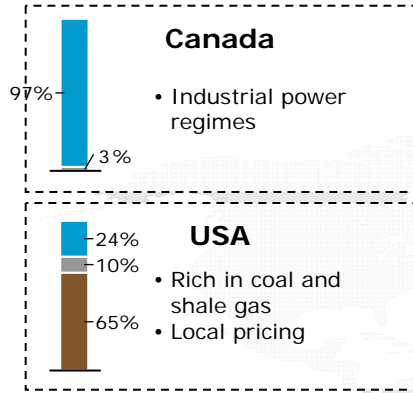
Illustrative development

...which translates to increased net imports for China upstream in the aluminium value chain

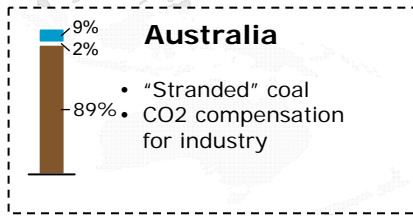
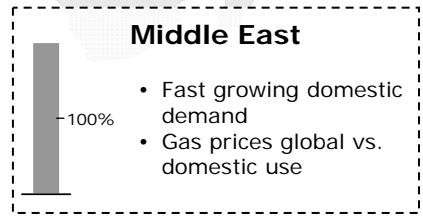
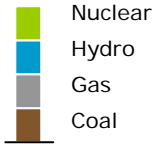
Source: CRU/Antaiko/Hydro

*Bauxite/alumina to aluminium conversion factor: 5.4/1.925

Regional differences in smelter power sourcing

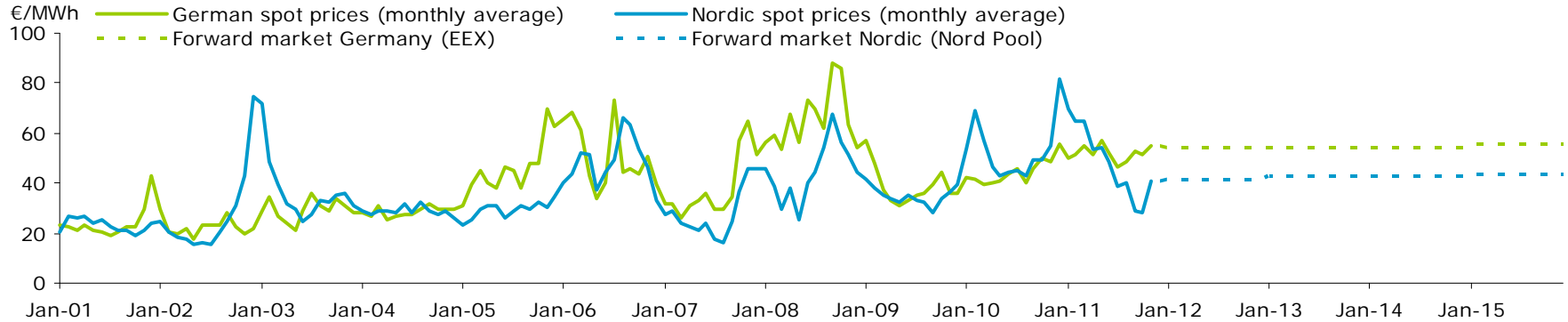


Power source used in aluminium smelters in 2011



Source: CRU/Hydro

Volatile European electricity market



German power market

- Nuclear capacity being phased out
- Share of renewable capacity increasing strongly
- Dependent on exchange with neighbor countries
- Persisting high coal and gas prices
- Low CO₂ price
 - Less emissions due to economic slowdown

Nordic power market

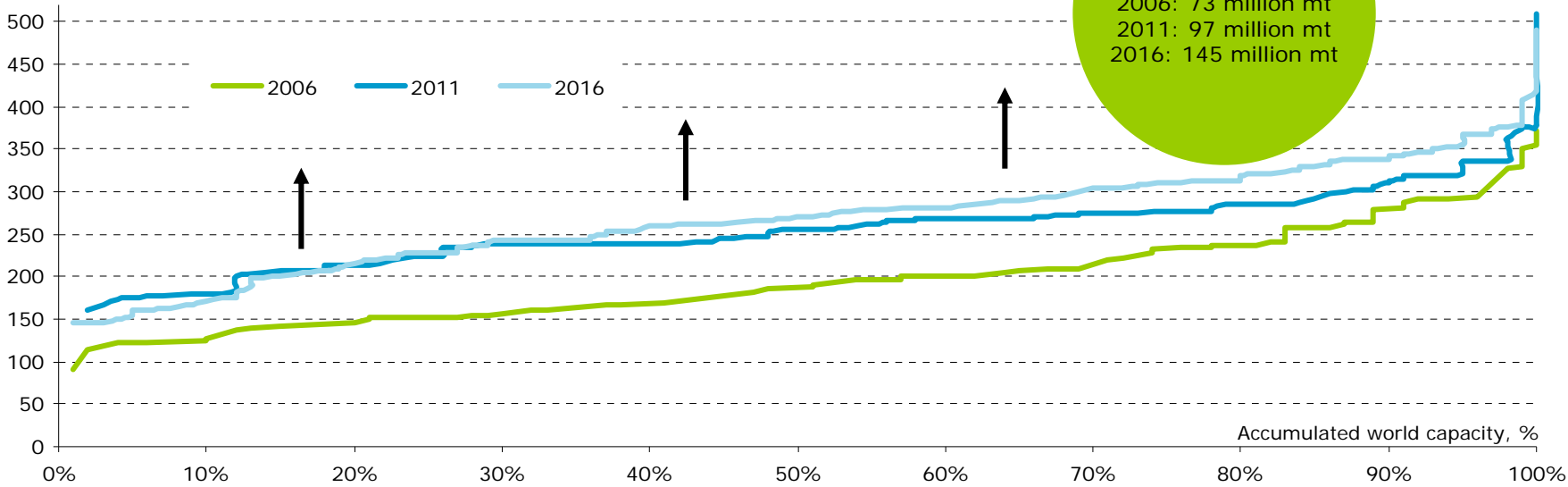
- Growing energy surplus
- Increasing volatility
 - Dependency on weather
 - Dependency of unpredictable renewable power
- Persisting high coal prices
- Low CO₂ price impact due to low CO₂ price

Source: Nord Pool, EEX

Alumina cost curve lifted by cost pressure

Business operating cost alumina

USD per mt

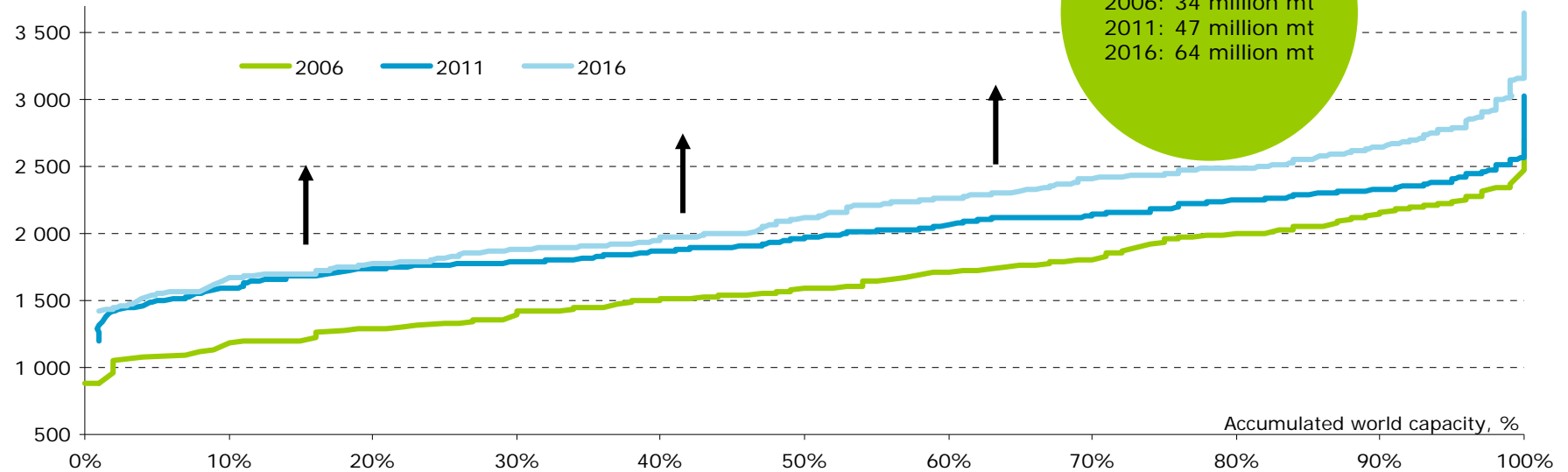


Source: CRU, 2011: LME USD 2 438 per mt. Same LME and currency assumptions

Aluminium cost curve lifted by cost pressure

Business operating cost aluminium

USD per mt

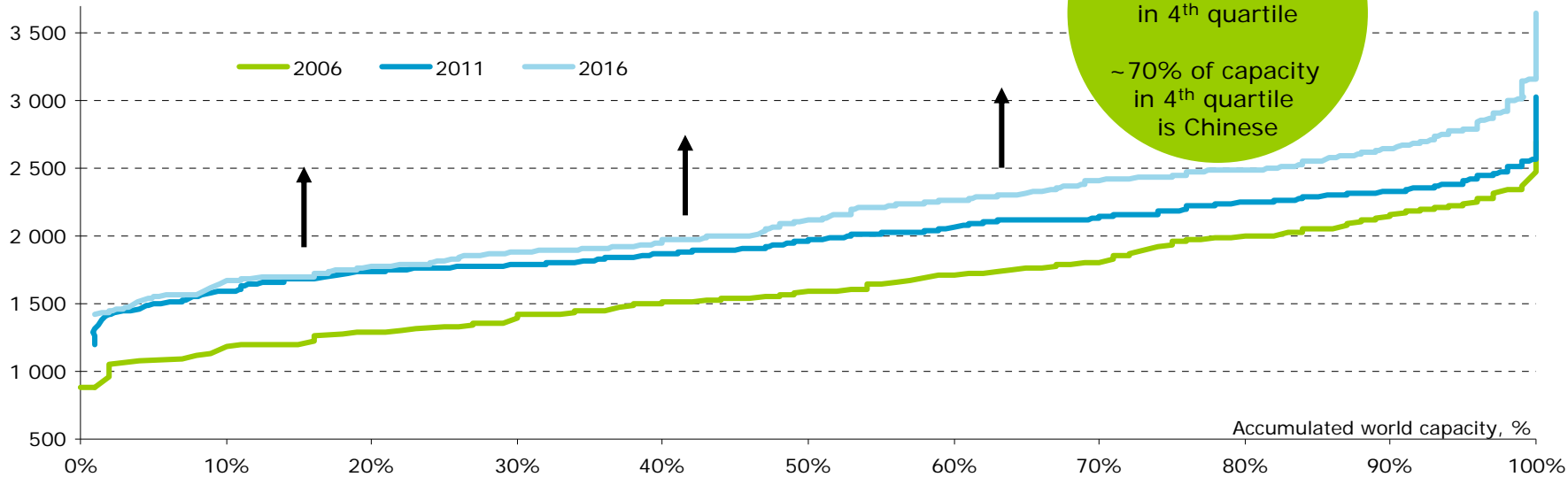


Source: CRU, LME USD 2 438 per mt. Same LME, alumina and currency assumptions

Aluminium cost curve lifted by cost pressure

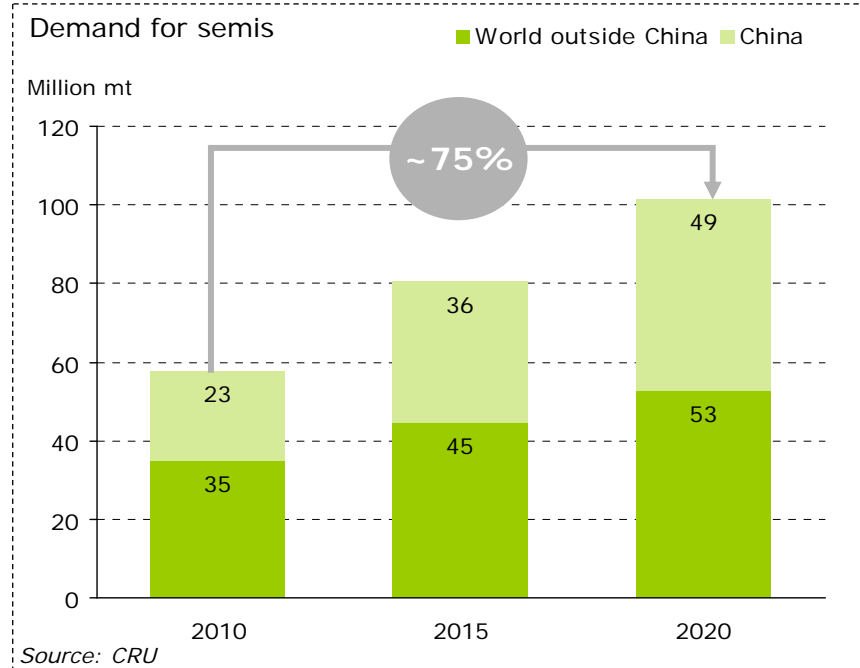
Business operating cost aluminium

USD per mt



Source: CRU, LME USD 2 438 per mt. Same LME, alumina and currency assumptions

Market outlook summary



Lower growth expected in 2012

- European debt crisis
- Positive impact from US recovery
- Continued growth in China and developing regions

Still strong long term projections

- Emerging markets
- Urbanization
- Infrastructure building
- China short on upstream aluminium

Aluminium price dependent on

- Macroeconomic development
- Energy prices and USD impacting the cost support level
- Raw material price development
- Attractiveness of financial deals



www.hydro.com