



New global  
Bauxite & Alumina  
business

April 29, 2011

# Cautionary note

Certain statements included within this announcement contain forward-looking information, including, without limitation, those relating to (a) forecasts, projections and estimates, (b) statements of management's plans, objectives and strategies for Hydro, such as planned expansions, investments or other projects, (c) targeted production volumes and costs, capacities or rates, start-up costs, cost reductions and profit objectives, (d) various expectations about future developments in Hydro's markets, particularly prices, supply and demand and competition, (e) results of operations, (f) margins, (g) growth rates, (h) risk management, as well as (i) statements preceded by "expected", "scheduled", "targeted", "planned", "proposed", "intended" or similar statements.

Although we believe that the expectations reflected in such forward-looking statements are reasonable, these forward-looking statements are based on a number of assumptions and forecasts that, by their nature, involve risk and uncertainty. Various factors could cause our actual results to differ materially from those projected in a forward-looking statement or affect the extent to which a particular projection is realized. Factors that could cause these differences include, but are not limited to: our continued ability to reposition and restructure our upstream and downstream aluminium business; changes in availability and cost of energy and raw materials; global supply and demand for aluminium and aluminium products; world economic growth, including rates of inflation and industrial production; changes in the relative value of currencies and the value of commodity contracts; trends in Hydro's key markets and competition; and legislative, regulatory and political factors.

No assurance can be given that such expectations will prove to have been correct. Hydro disclaims any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.



## Strategically attractive assets

- Long position in bauxite and alumina in resource-constrained world
- New business opportunities
- Positive market development since signing

# Integration process well underway



- Solid management team
- Global organization
  - Headquarters, Rio de Janeiro, Brazil
  - Operations, Para State, Brazil
  - Marketing, Lausanne, Switzerland
  - Workforce of 6 500 people in Brazil
- Stakeholder relations well established
  - Authorities
  - Customers
- Social dialogue developing positively
- Expansion projects maturing

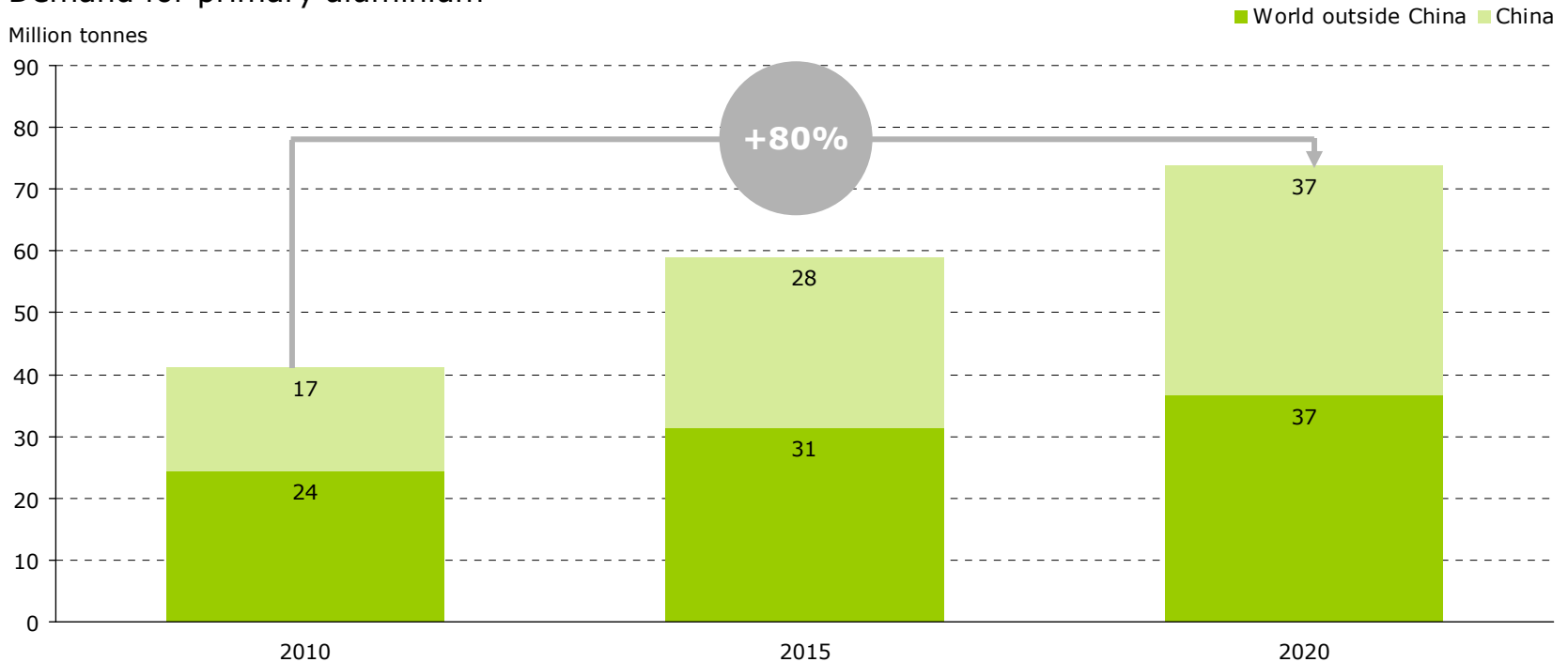
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# Market outlook

# Significant aluminium demand growth expected

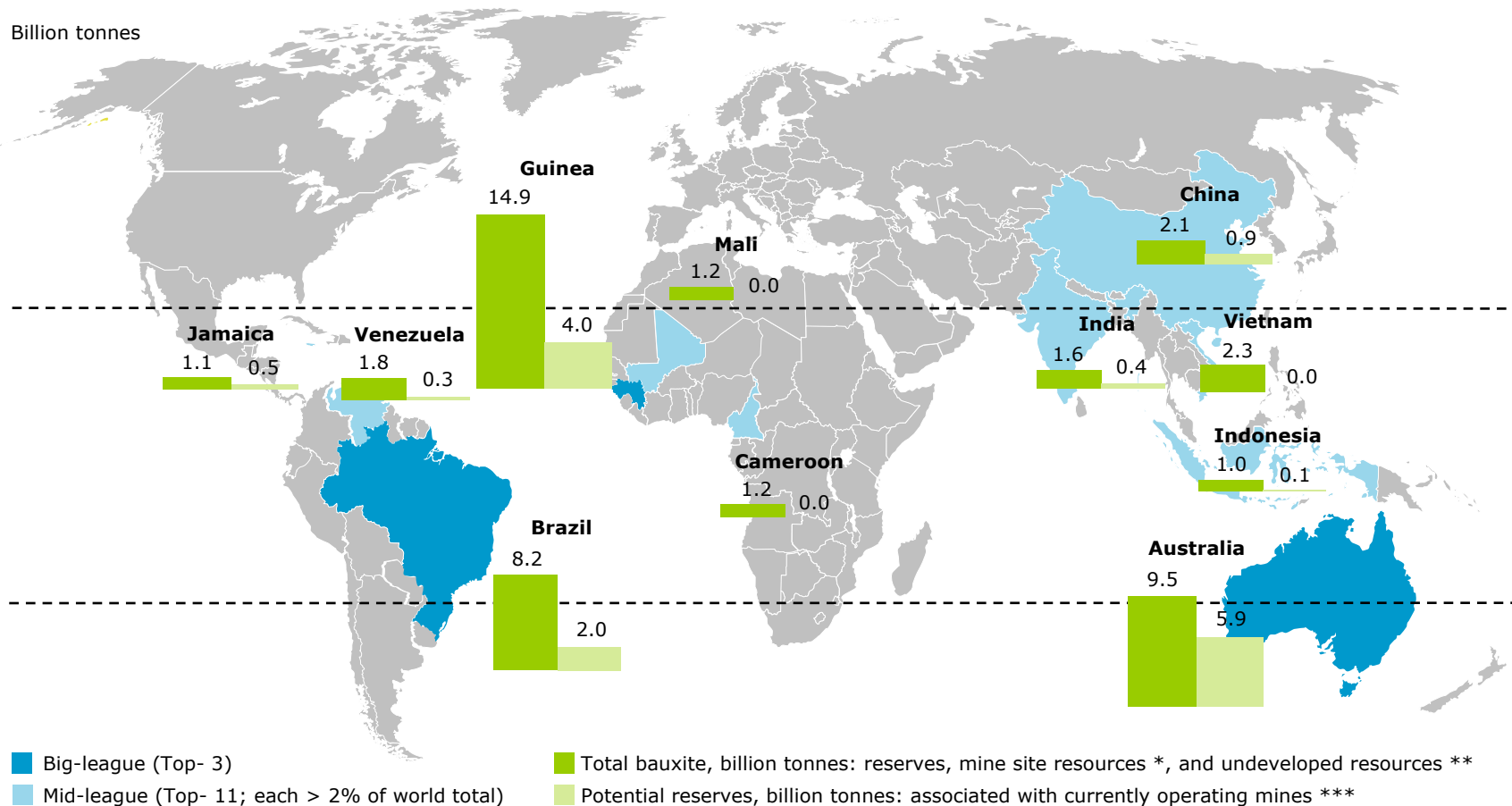
## Demand for primary aluminium

Million tonnes



Fight for raw materials to continue  
Resource-constrained world

# 66% of bauxite reserves in 3 countries



\*) Mine site resources are known bauxite resources that do not currently qualify as reserves for various reasons

\*\*) Undeveloped resources might or might not become feasible for new mines (quality, size, access, etc)

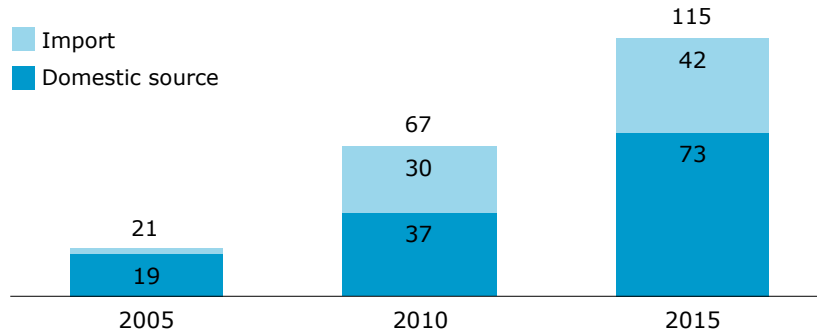
\*\*\*) Potential reserves = current reserves (economically extractable) + 70% of mine site resources. Undeveloped resources are excluded.

Source: Roskill and Hydro analysis

# China dependent on bauxite imports

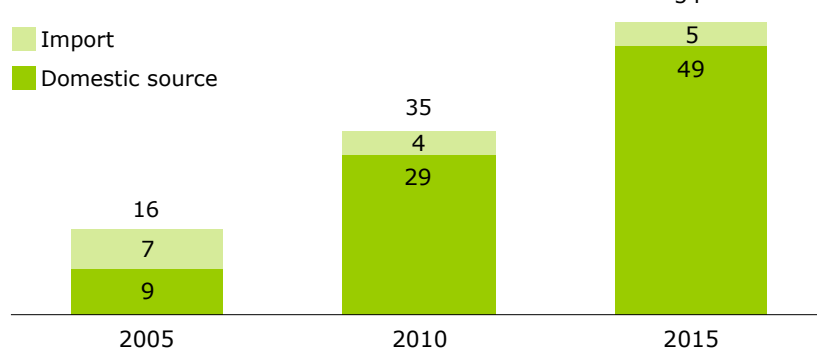
## Chinese bauxite sourcing

Million tonnes



## Chinese alumina sourcing

Million tonnes

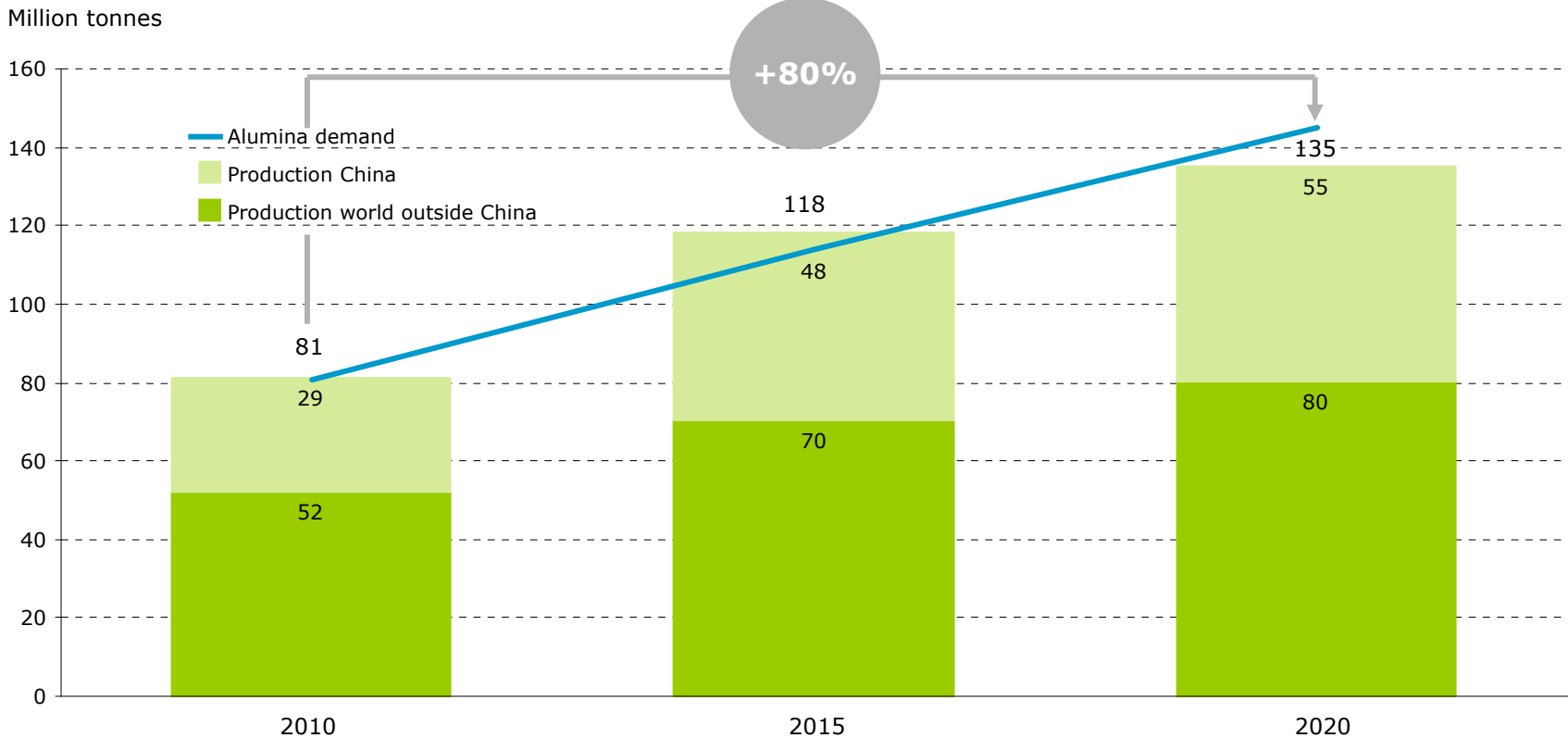


- Domestic bauxite reserves estimated at 1.3-2.0 billion tonnes
- Quality of domestic bauxite resources deteriorating
- Indonesia supplies ~75% of imported bauxite
  - The balance mainly from Australia
- China to be relatively balanced in alumina
  - Minor imports
- New alumina capacity mainly based on domestic bauxite

Source: Antaika / Hydro



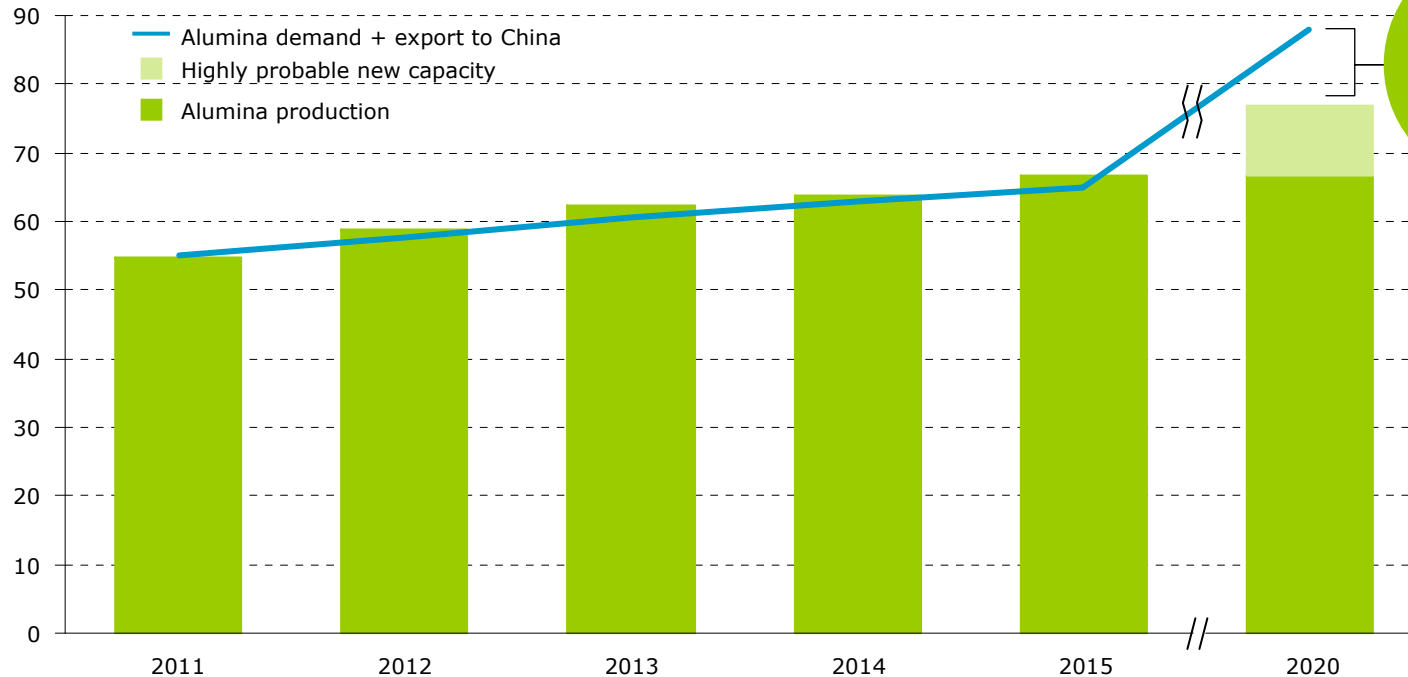
# Significant alumina demand growth expected



\*2020 production world outside China includes 10 million tonnes of highly probable projects  
Source: Hydro analysis/ Antaika

# Alumina market expected to remain balanced

Alumina balance world outside China, million tonnes



6-10 million tonnes

	2011	2012	2013	2014	2015	2020
Export to China	3.5	3.5	4.0	4.5	4.5	5.0
Idled capacity	5.1	4.2	4.2	3.5	3.5	3.5

Source: Hydro analysis / CRU

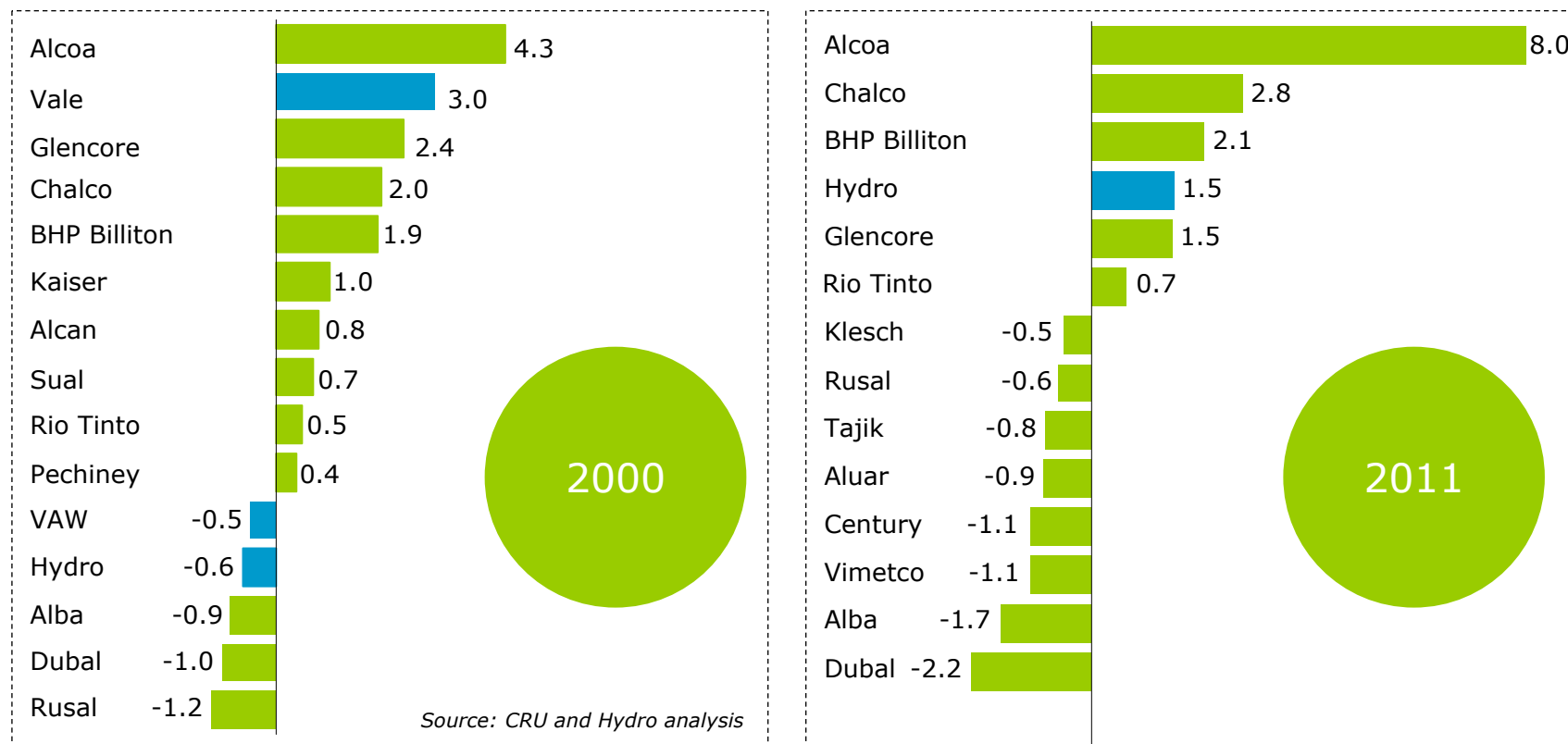
# Upside potential and downside risk

Long-term  
industry

- +/- China demand growth
- +/- Demand growth outside China
- + Restriction on Indonesian bauxite export
- Indian alumina capacity growth
- Guinea development
- + Potential rise in alumina price

# Alumina market is consolidating

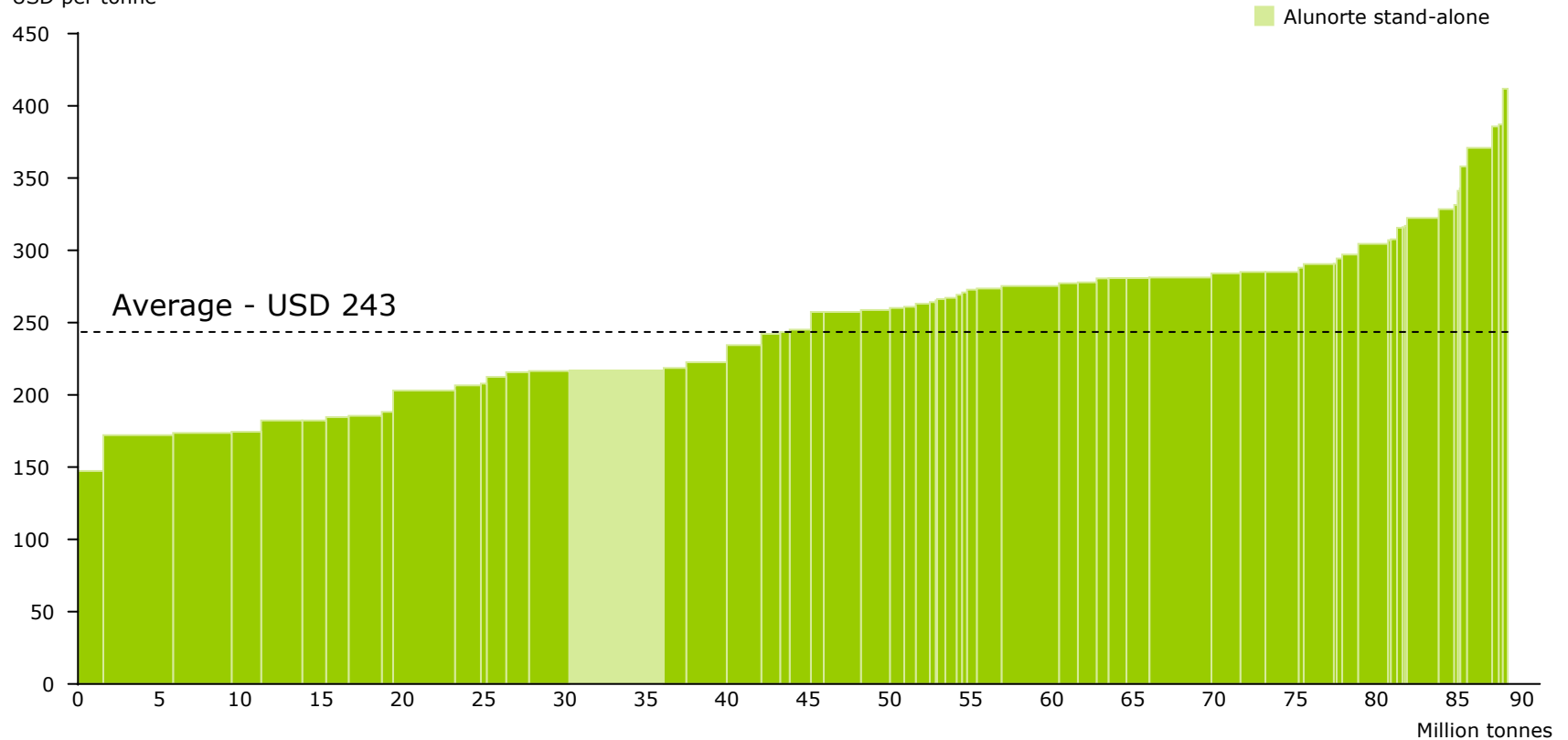
Net long alumina position, million tonnes



# Attractive cost position

Global business operating cost curve 2010

USD per tonne



Source: CRU

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## World-class operations

# High-quality asset portfolio



## MRN bauxite mine

- 5% ownership
- Volume off-take agreement for Vale's 40% stake
- Capacity 18 million tonnes

## Paragominas bauxite mine

- 60% ownership, 100% by 2015
- One of the world's largest bauxite mines
- 2010 production 7.5 million tonnes
- Nameplate capacity of 9.9 million tonnes
- Possible expansion to 15 million tonnes
- Long-life resource

## Alunorte alumina refinery

- 91% ownership
- World's largest alumina refinery
- 2010 production 5.8 million tonnes
- Nameplate capacity of 6.3 million tonnes
- Bauxite supplied from Paragominas and MRN
- World-class conversion cost position

## CAP alumina refinery project

- 81% ownership
- CAP refinery (Phase I) is planned to be in operation in 2015
- Paragominas expansion to be developed in parallel
- Investment estimates and expansion concepts under evaluation
- Full utilization of the existing bauxite pipeline

## Alpart alumina refinery

- 35% ownership
- Capacity 1.65 million tonnes of alumina
- Fully integrated with bauxite
- 100% curtailed since mid-2009

Bauxite licenses

Refining and mining competencies

External supply contracts

Sales contract portfolio

# Paragominas

One of the world's largest bauxite mines

- 2010 production: 7.5 million tonnes
- Targeting significant production increase
- Possible expansion: up to 15 million tonnes
- Current reserve life: 30 years
  - ~300 million tonnes
  - Long-life resource

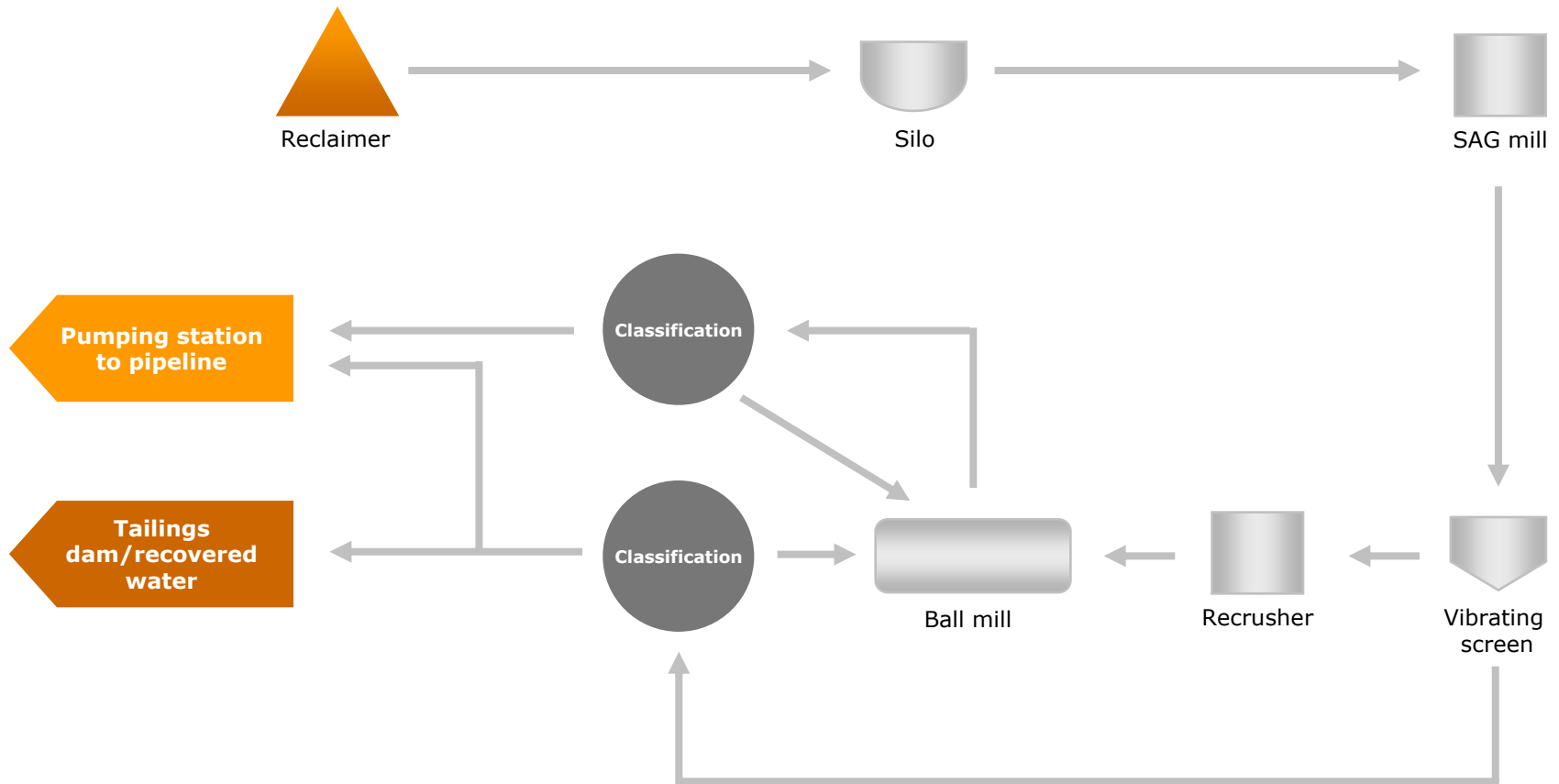


# Paragominas – production process

- Production process
  - Strip mining allows for quick environmental recovery
  - Bauxite found in 0.5-2.5 meter layers 4-18 meters below ground
- 244 km pipeline from Paragominas to Alunorte
  - Only bauxite slurry pipeline in the world
  - 15 million tonnes annual capacity
  - Low environmental impact
- High-quality bauxite
  - Gibbsite bauxite with 48-49% available alumina and 4.5-5% of reactive silica
  - Absence of organics reduces investments and cash cost at Alunorte



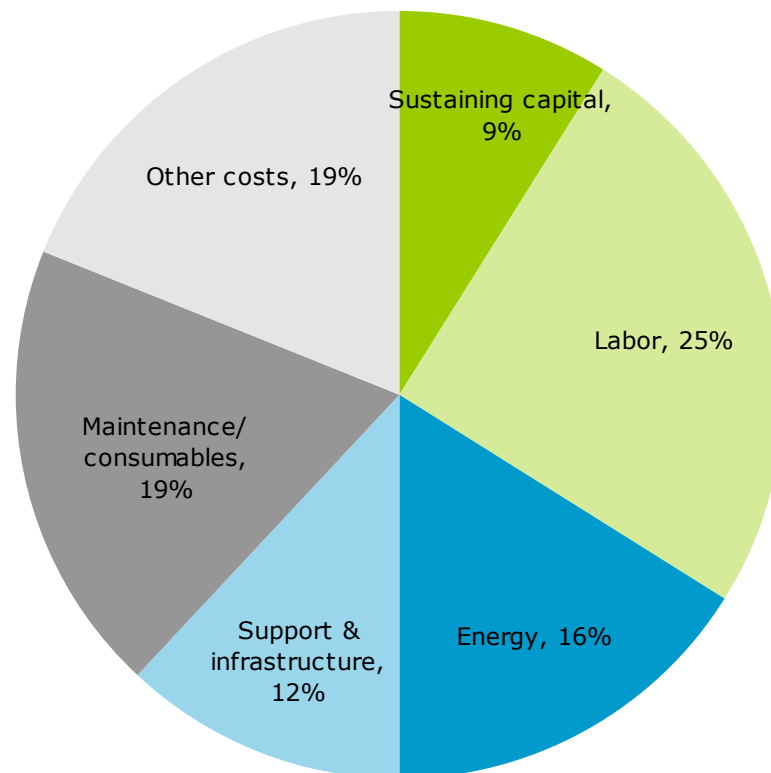
# Paragominas – production process



# Paragominas bauxite mining costs

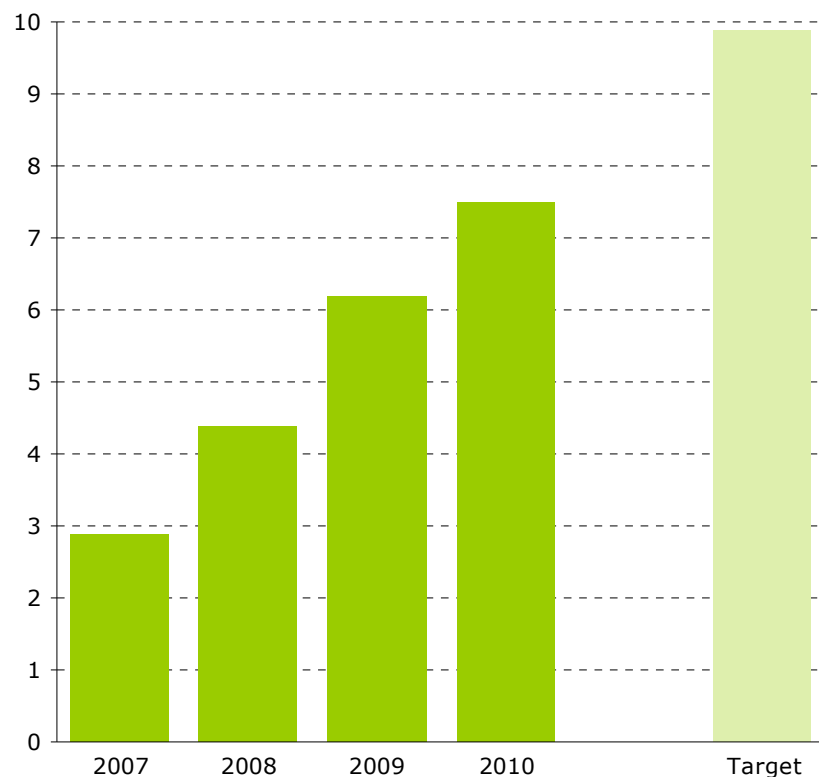
- Labor largest cost factor
  - Influenced by Brazilian wage level
  - Productivity improvements
- Maintenance/consumables
  - Influenced by Brazilian inflation
- Energy cost – power and fuel

Paragominas bauxite mining costs 2010



# Paragominas priorities

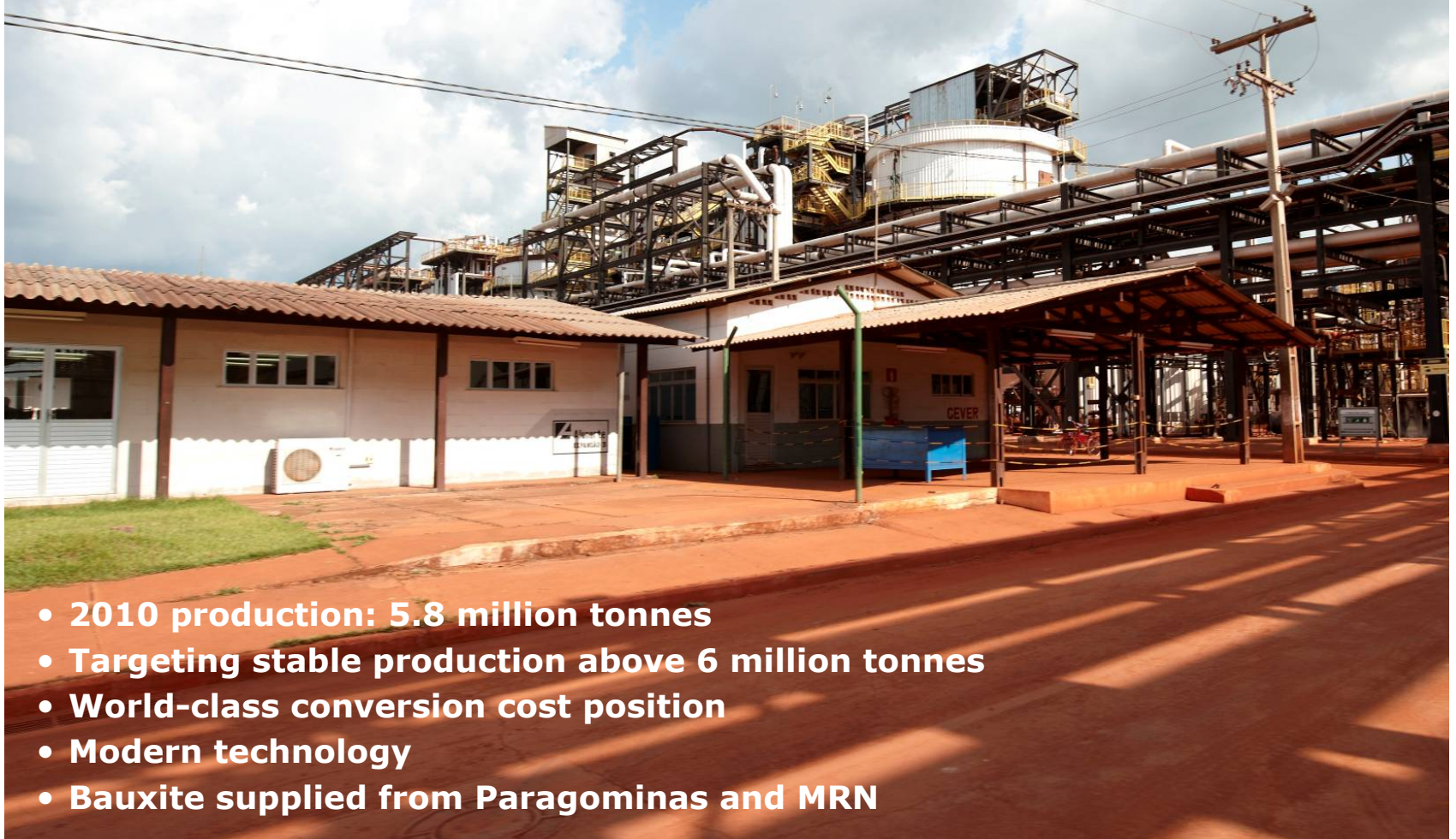
Bauxite production, million tonnes



- Operational improvements
  - Housekeeping and safety
  - Improve performance stability
    - Beneficiation plant
    - Dewatering filters in Alunorte
    - Stripping ratio
    - Recovery rate
  - Improved production system
- Target significant production increase
  - Nameplate capacity of 9.9 million tonnes

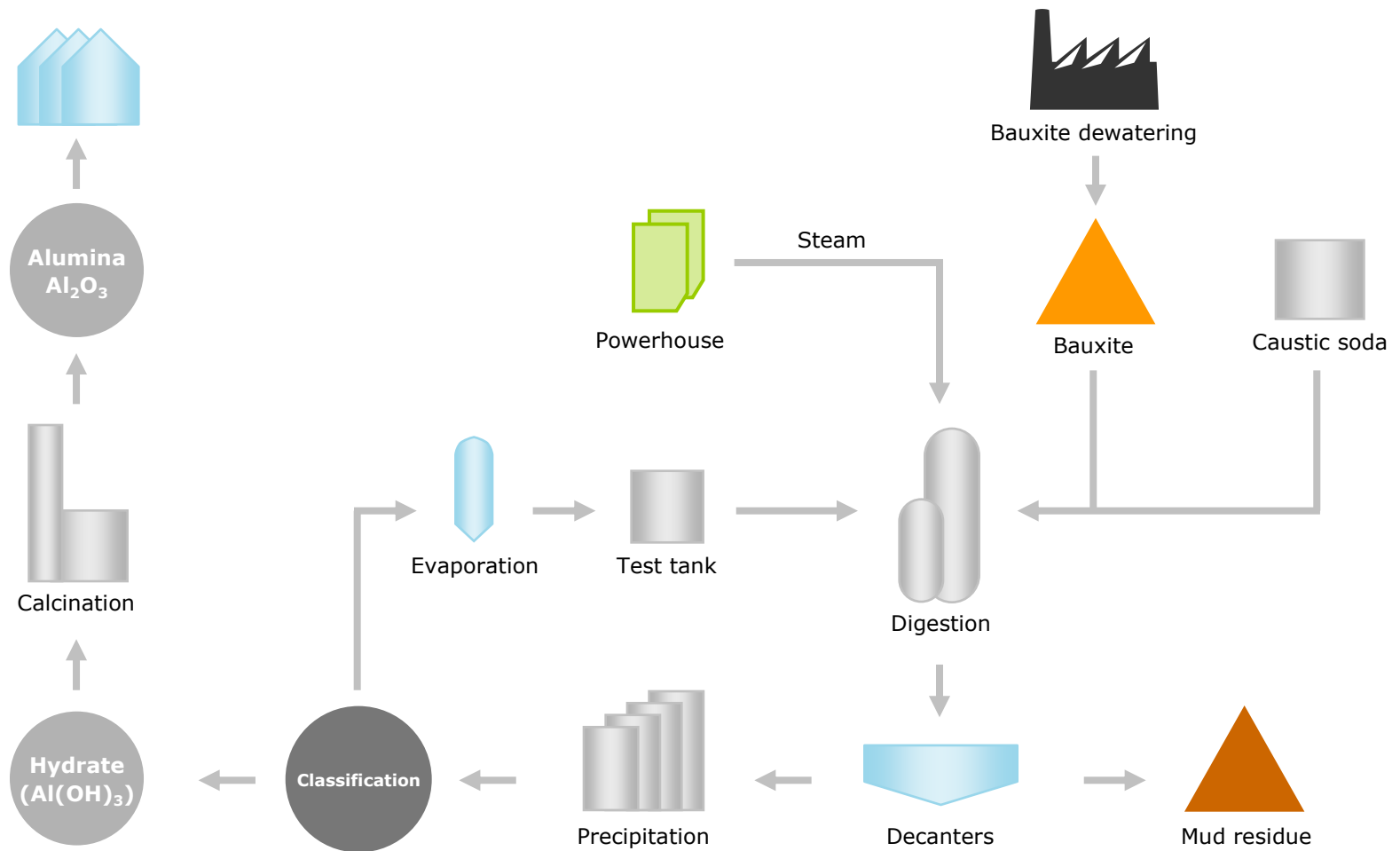
# Alunorte

World's largest alumina refinery



- 2010 production: 5.8 million tonnes
- Targeting stable production above 6 million tonnes
- World-class conversion cost position
- Modern technology
- Bauxite supplied from Paragominas and MRN

# Alunorte - production process



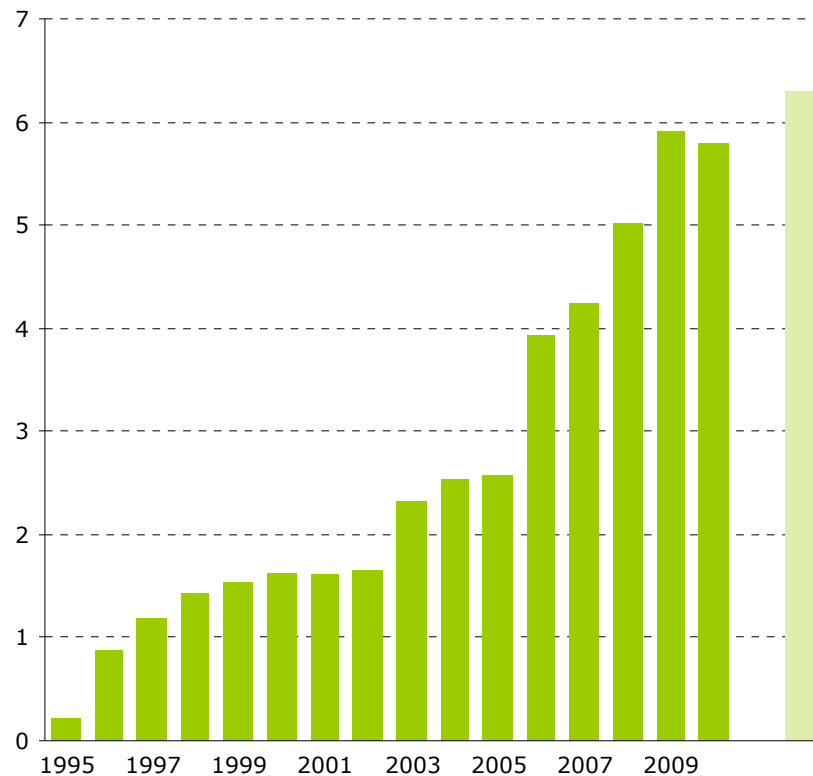
# Excellent Alunorte alumina quality



- High-quality bauxite as basis
- Low content of fines
- Low content of non-organic materials
  - Iron, silica, gallium, phosphor and titanium
- High degree of consistency
  - Low variability on high quality alumina

# Alunorte priorities

Alumina production, million tonnes



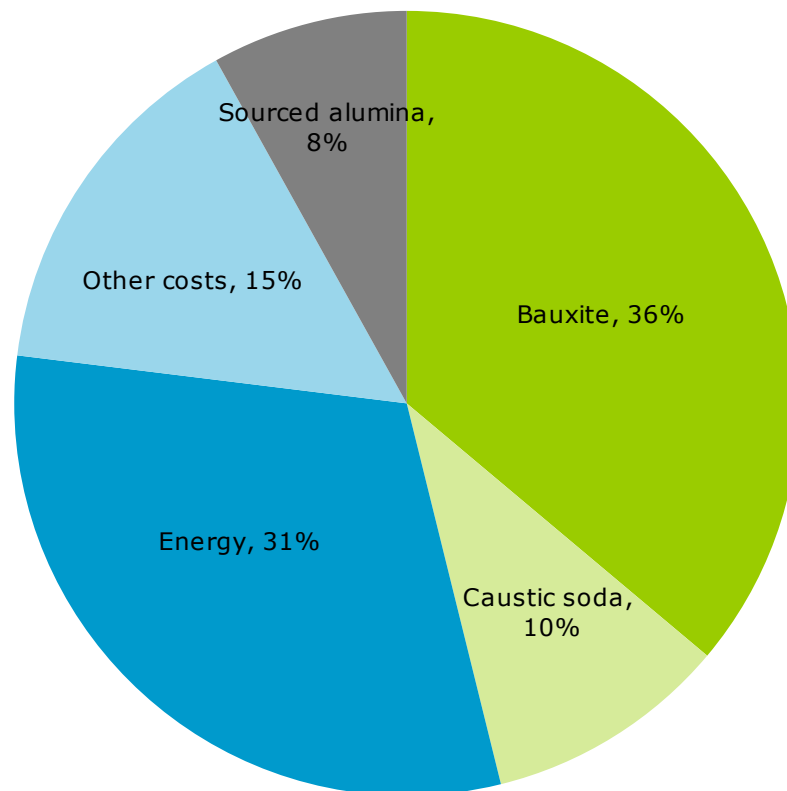
- Operational improvements
  - Housekeeping and safety
  - Improve plant efficiency
    - Performance in older lines
    - Availability of coal boilers
    - Dewatering filters
    - Port costs
  - Improved production system
- Targeting stable production above 6 million tonnes
  - Nameplate capacity of 6.3 million tonnes



# Favorable integrated alumina cash cost position

- Integrated alumina cash cost position 2010
  - USD 238 per tonne
  - Alunorte, Paragominas and sourced alumina
- Bauxite
  - Cash cost to be improved as Paragominas increase production and pipeline is fully utilized
- Energy
  - First-quartile energy consumption – 8 MJ/t
  - Energy mix of heavy fuel oil and coal
- Caustic soda
  - Competitive caustic soda consumption due to bauxite with low level of reactive silica
- Other costs
  - Maintenance, labor and other
- Sourced alumina
  - Alumina purchased for resale

Integrated alumina cash cost position 2010



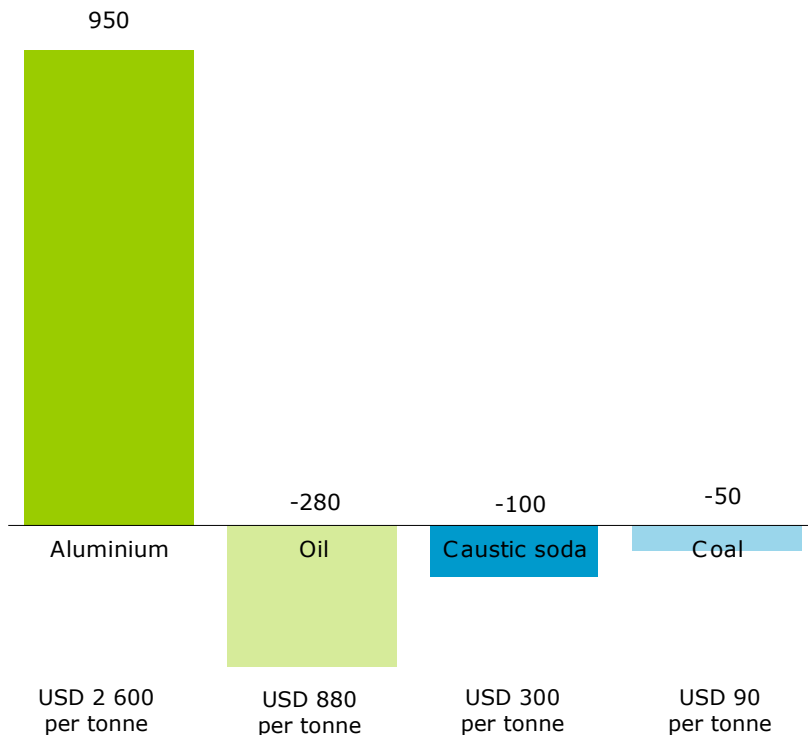
# Pro forma operational and financial performance

<b>Bauxite &amp; Alumina</b>	<b>Q1 2010</b>	<b>Q2 2010</b>	<b>Q3 2010</b>	<b>Q4 2010</b>	<b>Q1 2011</b>	<b>Year 2010</b>
Underlying EBIT (NOK million)	205	448	348	223	237	1 225
Underlying EBITDA (NOK million)	643	912	813	693	725	3 061
Alumina production (kmt)	1 394	1 521	1 442	1 448	1 336	5 805
Sourced alumina (kmt)	539	557	488	556	453	2 141
Total alumina sales (kmt)	1 843	2 056	2 023	2 018	1 762	7 941
Realized alumina price (USD)	293	299	277	311	329	295
Integrated alumina cash cost (USD)	231	223	247	251	266	238
Bauxite production (kmt)	1 745	1 845	1 918	2 017	1 720	7 524
Sourced bauxite (kmt)	1 544	2 081	2 064	2 143	1 711	7 832
Bauxite sales (kmt)						885

# Bauxite & Alumina sensitivities

Sensitivities on underlying EBIT  
if +/- 10% in price

NOK million



## Revenue impact

- ~13-14% of 3-month LME price per tonne alumina
- ~One month lag

## Cost impact

### Bauxite

- ~2.4 tonnes bauxite per tonne alumina
- Pricing partly LME-linked for bauxite from MRN

### Caustic soda

- ~0.09 tonnes per tonne alumina
- Formula prices based on average of CMAI and Harriman US export, pricing per quarter or per shipment.

### Energy

- ~0.13 tonnes coal per tonne alumina
  - 1 year contracts
- ~0.11 tonnes heavy fuel oil per tonne alumina
  - Long-term supply commitments, price follows market
- Increased use of coal as energy source in Alunorte

# Expansion projects - CAP and Paragominas III



- Capacity
  - CAP alumina refinery I
    - 1.9 million tonnes
  - Paragominas bauxite mine expansion III
    - Up to 15 million tonnes
- Time schedule
  - CAP refinery I planned to produce in 2015
  - Paragominas expansion developed in parallel
- Investment estimates and expansion concepts under evaluation
- Competitive cost position
  - Full utilization of existing bauxite pipeline
- Technology and project execution for CAP built on Alunorte experience

# Key operational priorities



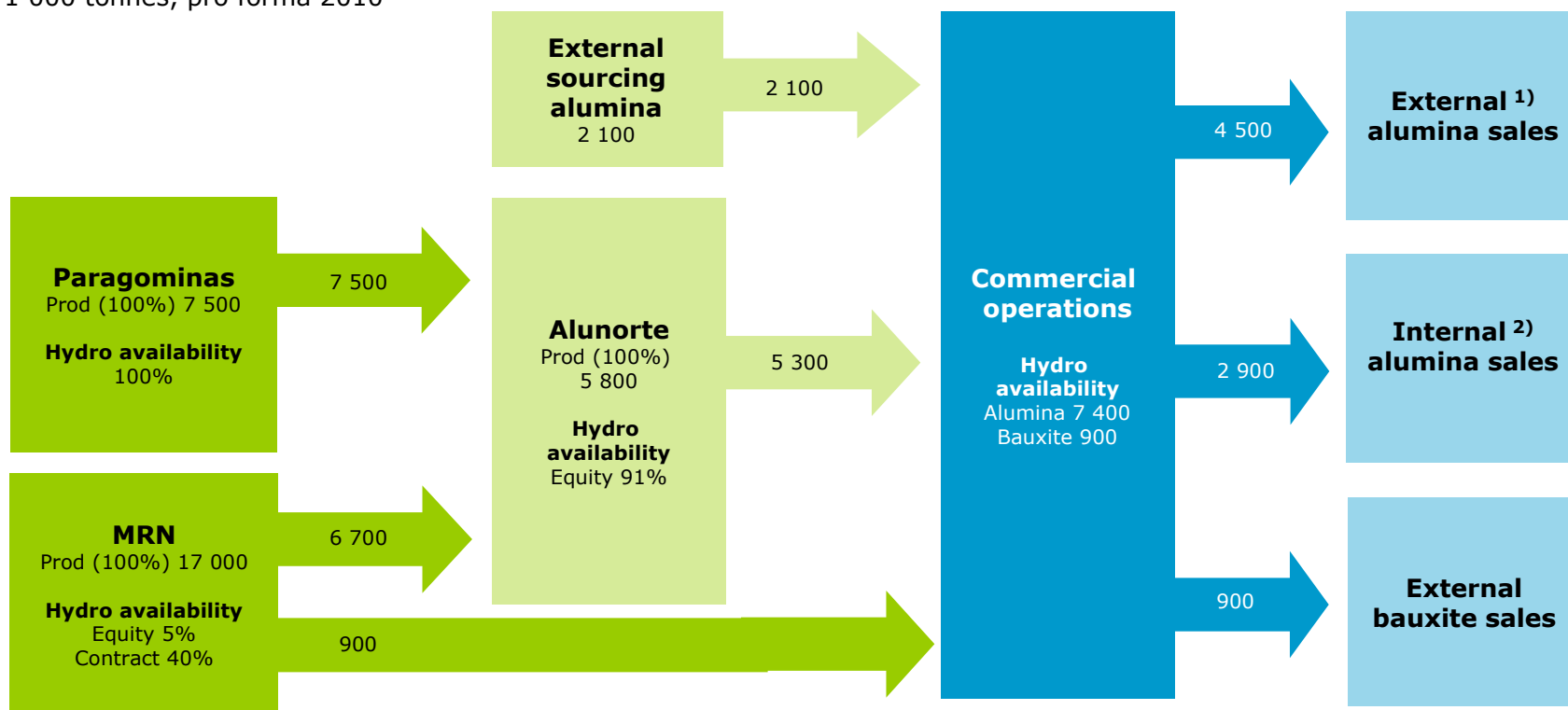
- Maximize synergies between Alunorte and Paragominas
- Become industry benchmark in HSE and CSR
- Implement integrated management system
- Improve efficiency to achieve nameplate production capacity

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## Commercial strategy

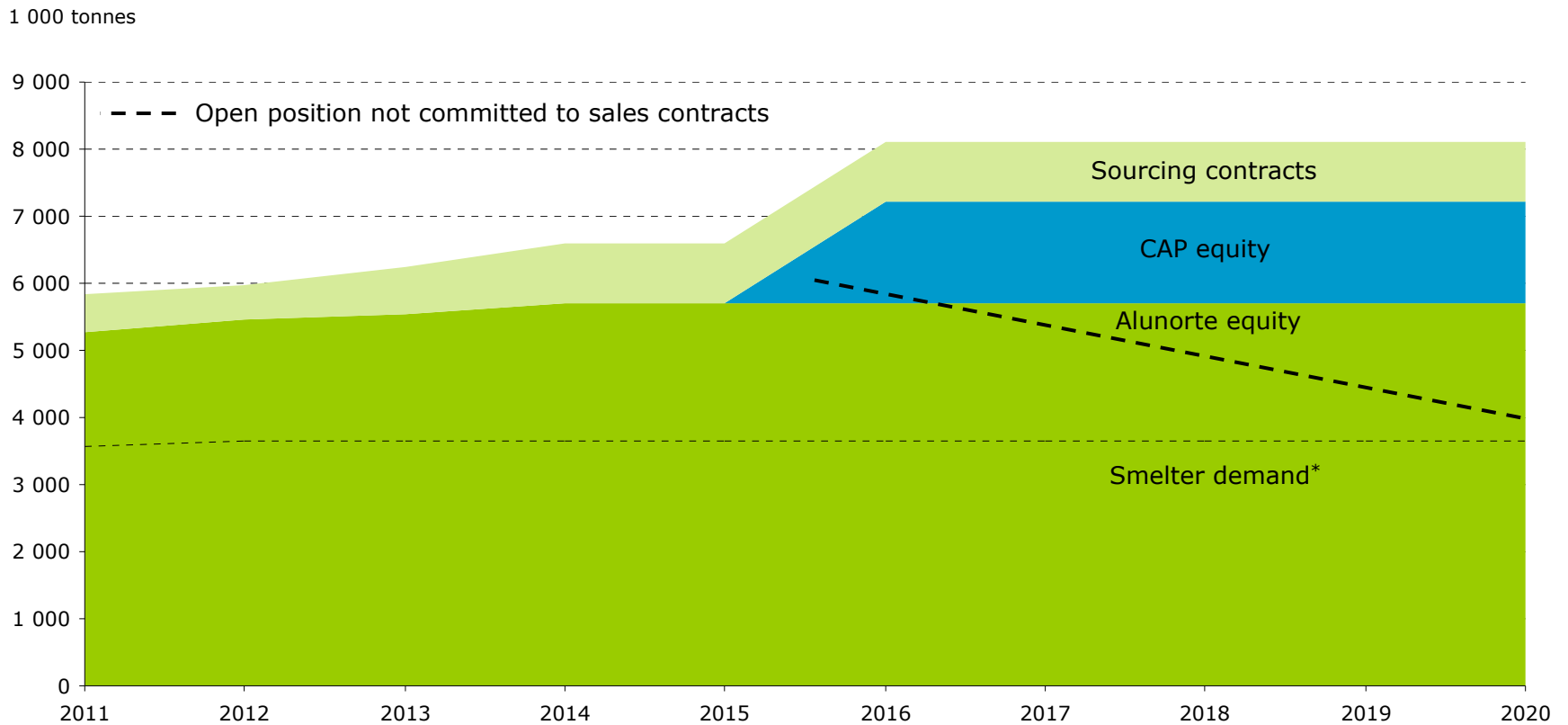
# Business model – volume flows

1 000 tonnes, pro forma 2010



- 1) Third party customers and non-consolidated joint ventures
- 2) Fully owned smelters and consolidated joint ventures

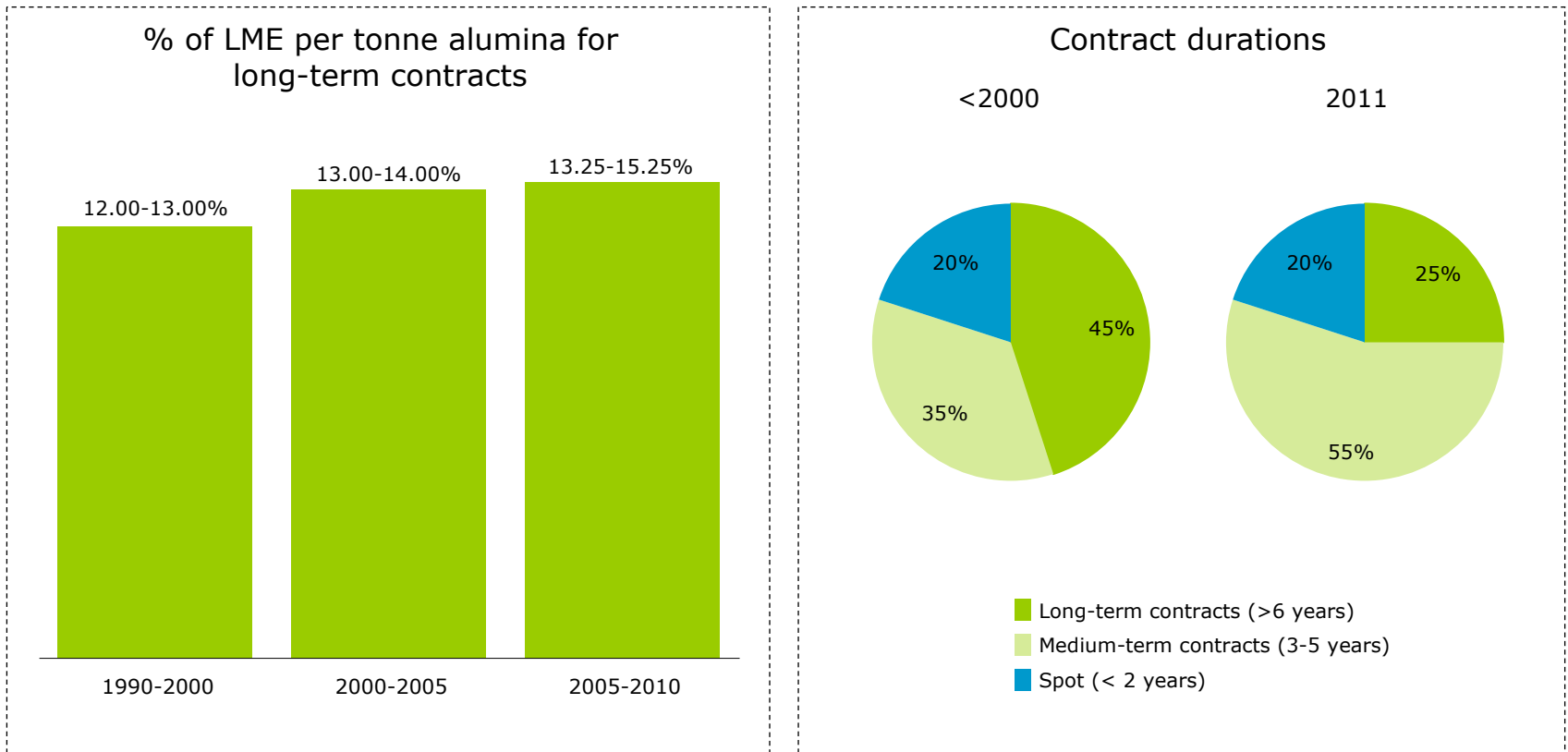
# Attractive alumina position



\*Sunndal 3 line assumed back in operation, Neuss and Sørødal at 2010 production level



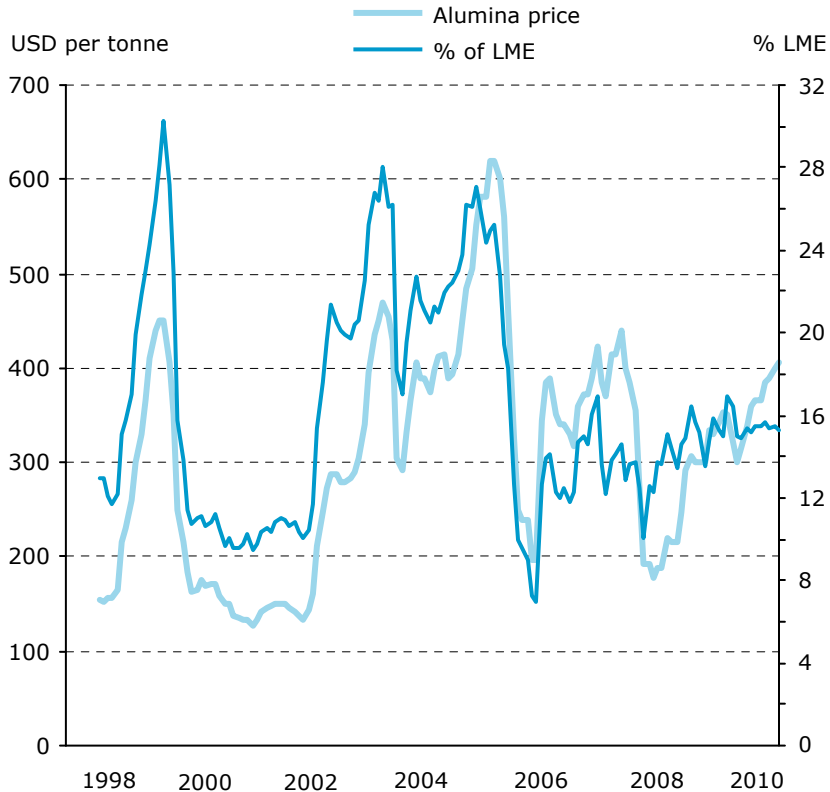
# Shift towards shorter contract durations



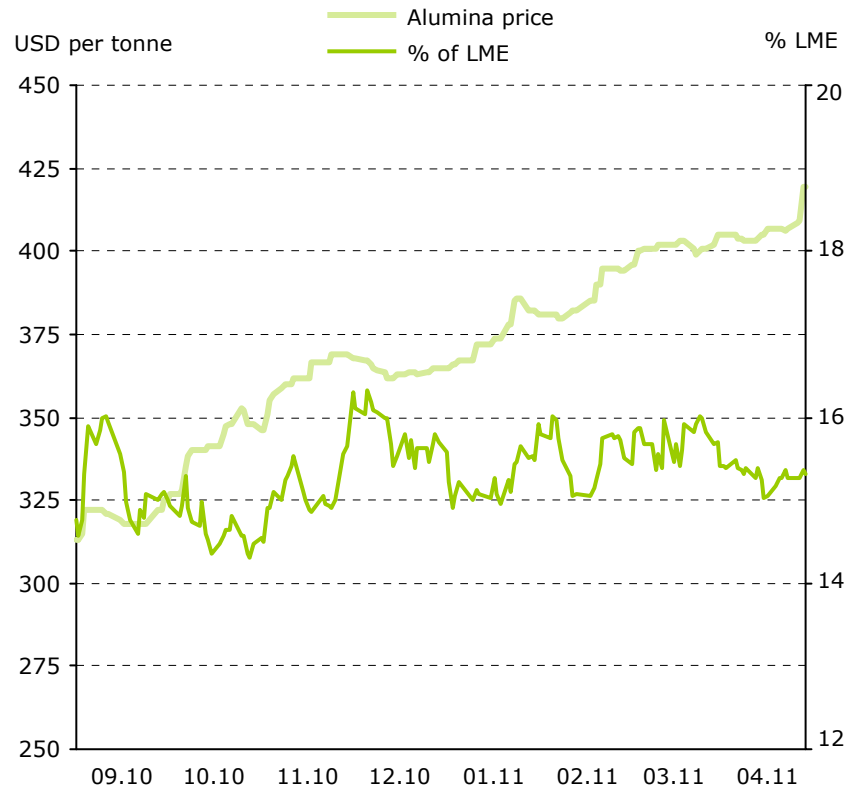
Source: Hydro estimates

# Alumina price development

Historical alumina price



Platts index in USD\*



Source: Reuters/CRU/Platts. \*Platts started spot notifications in August 2010

# Alumina pricing shifting from LME-link to alumina market fundamentals



- Future pricing should reflect the fundamentals of the bauxite and alumina value chain
- Bauxite, a fight for cost efficient resources going forward
- Index pricing and shorter term contracts

# Hydro's commercial strategy



- Move towards index pricing
  - Currently not offering medium/long-term LME linked contracts
- Actively promote index pricing
- Focus on contracts with 1-4 year duration
- Focus on selling to end-users
- Hydro's existing combined sales portfolio
  - Average alumina price ~13-14% of LME
    - Similar percentage expected for 2011-2015
  - Minor volumes available for sale before 2016
  - Majority of sales contracts expire in 2016-2018

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## Summary

# Strong social and environmental commitment

- Strategic partnerships to establish basis for multi-party dialogue
  - Social program/community investments based on input from stakeholders
- Reforestation
  - World-leading experts to review rehabilitation program
- Health and safety top priority
  - Ambition to be industry benchmark
  - Hydro's values and culture important for further improvements



# Bauxite & Alumina priorities



- **Successful integration**
- **Increase capacity utilization**
- **Operational excellence and strong cost focus**
- **Benchmark social and environmental performance**
- **Capitalize on significant long position in alumina**
- **Develop growth opportunities**



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