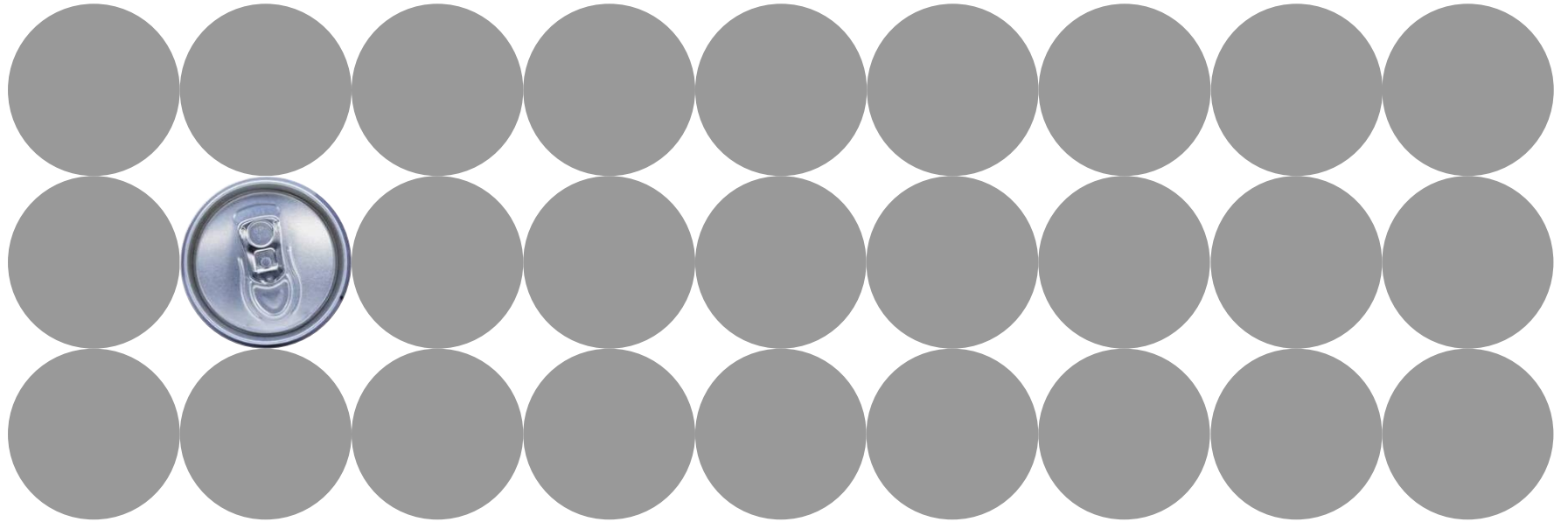


Aluminium Metal



Jan Arve Haugan, Senior Vice President and Acting Head of Aluminium Metal
September 25, 2008

Key messages

We focus on a strong performance culture

- Leading health, safety and environmental performance
- Increasing output from existing facilities
- Aluminium Metal Production System ensures continuous improvements
- Facing the industry-wide cost pressure

We develop our business

- Alunorte expansion 3 completed before time and on budget
- New alumina refinery with Vale – CAP
- Qatalum progressing according to plan
- Next generation smelter technology in test phase – key for further growth in aluminium

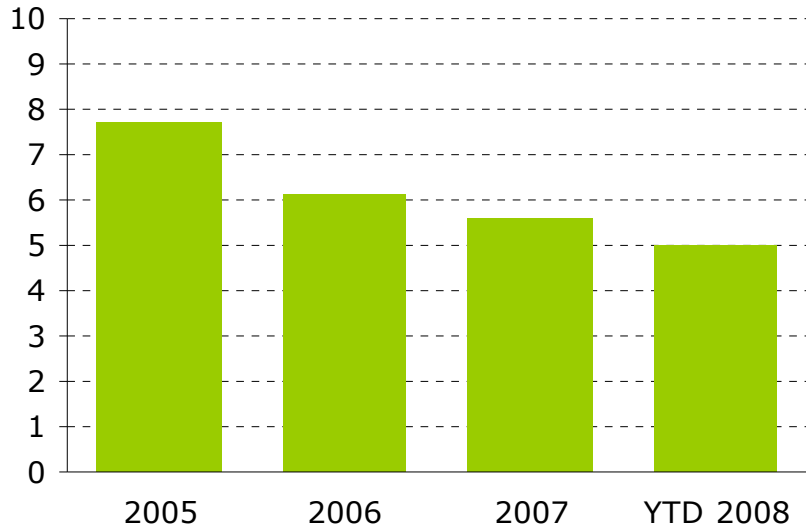
1

**We focus on a strong
performance culture**

Strong performance culture

Continuous safety improvement

TRI per million hours work

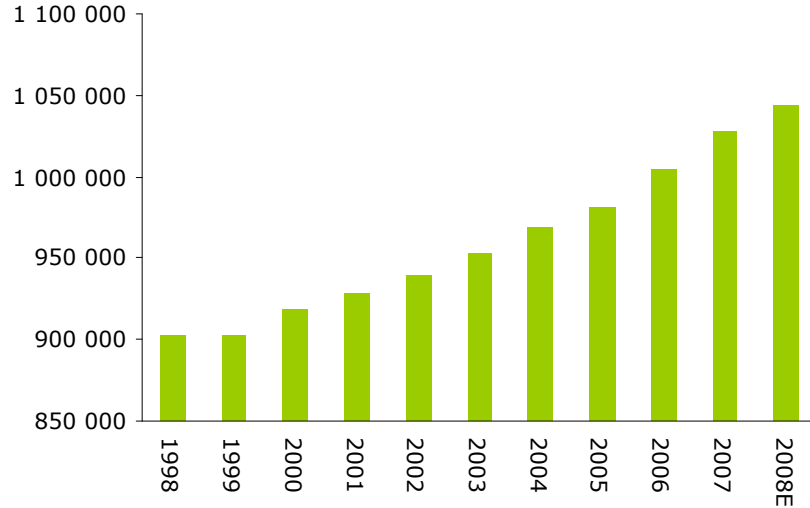


- Well below average in Europe
- Drive improvement in work environment and environment
- Leading Safety Program at each plant
- Increased focus on proactive response – better risk awareness
- Report routines and accountability standardized

Strong performance culture

Increased production

Electrolysis output in tonnes*



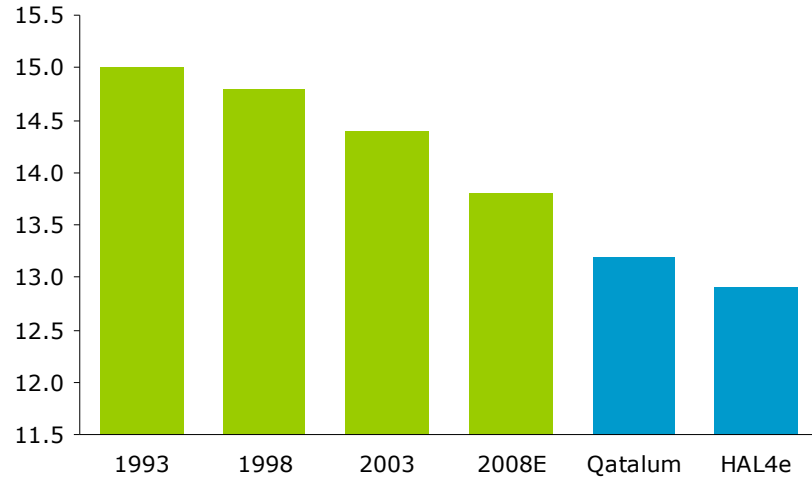
* Volume development for fully owned lines in operation from 1998 to 2007, excluding closing and start up of new lines during this period.

- Amperage increase in all lines
- A major contributor to improvement in productivity
- By continued technological and operational improvements
 - Low cost creep – low capital expenditures and operating costs

Strong performance culture

Reduced specific energy consumption

kwh / Kg aluminium*



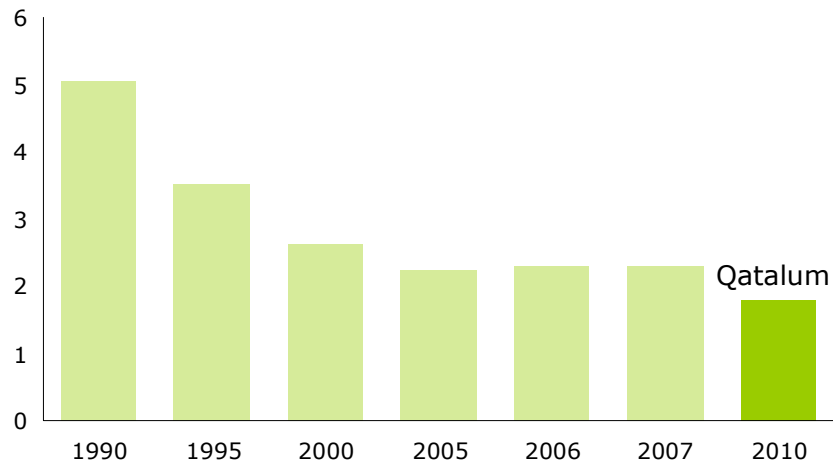
- Specific energy consumption per kilo aluminium significantly reduced
- Further reduction in energy targeted
 - New cell technology
 - Optimized process control
 - Improved operational stability

* Average specific energy consumption from 100%-owned Norwegian smelters

Strong performance culture

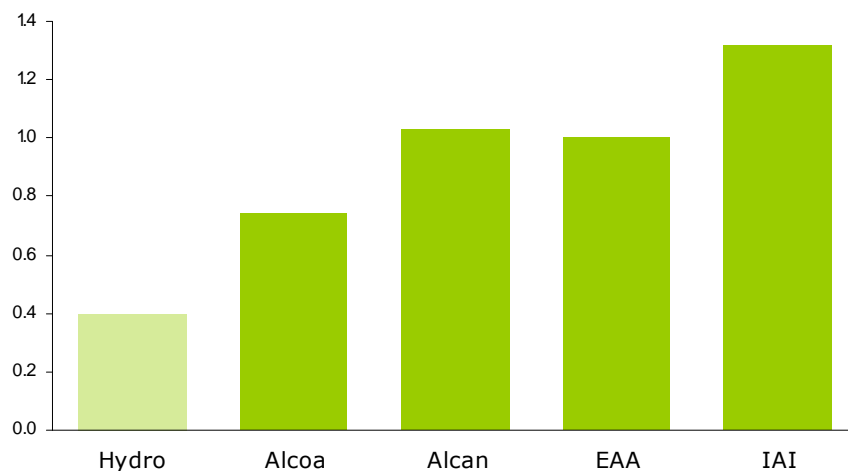
Reduced specific emissions

Kg CO₂e / kg aluminium*



* Average specific emissions from 100%-owned Norwegian smelters

Specific emissions kg fluorine / tonne aluminium**



** Hydro majority-owned smelters

Source: Hydro (2007), Alcan Sustainability Report 2007 (2006), Alcoa Sustainability Report 2007 (2006), IAI 2008 (2007), EAA 2008 (2005)

Aluminium Metal Production System

AMPS is not a project – it's a way of operating!



Standardized work processes



Defined customer and supplier relationships



Optimized flow



Dedicated teams



Visible leadership

A systemized method for development of operational excellence and continuous improvements

- Product quality
- Cost
- Safety

Positive results

- Process stability in operations
- Product quality towards customers
- Increased output

AMPS implementation



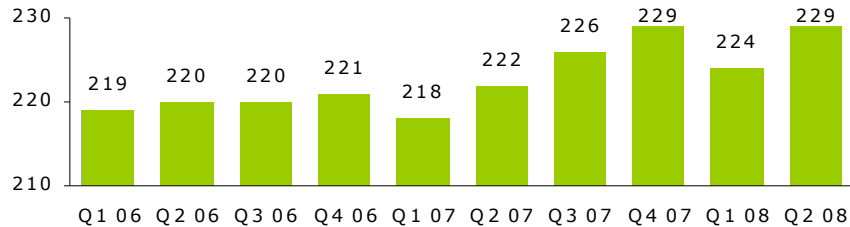
Progress according to plan

- Implementation in Norwegian plants started in 2007
- Implementation outside Norway starts October 2008
- To be implemented in Qatalum

AMPS – continuous improvements

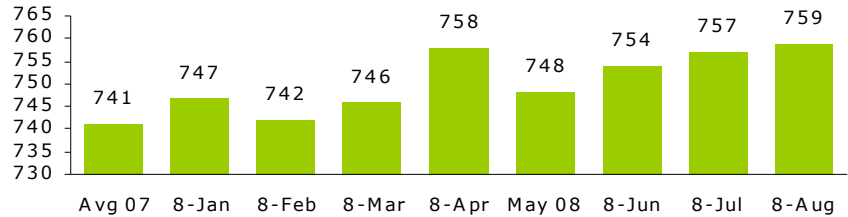
Low-cost creep

1 000 mt, excluding closed capacity, 100%-owned lines in Norway



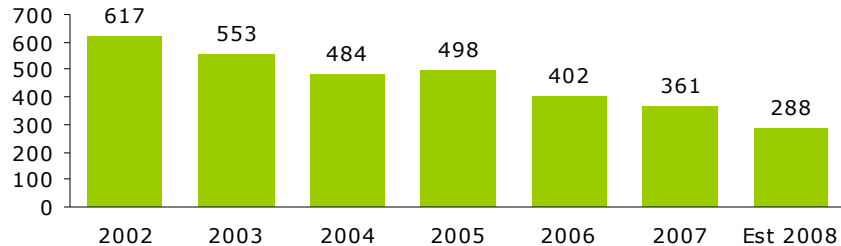
Increased production

Sunddal SU 4 average production mt/day



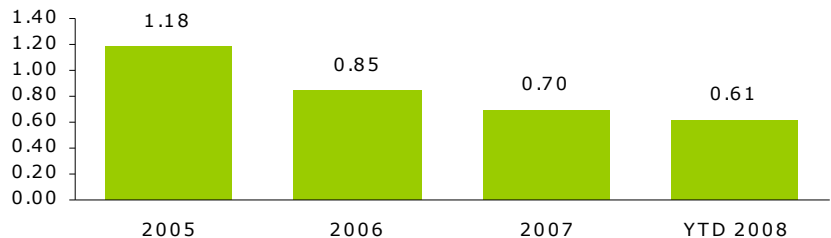
Reduced emissions

1 000 mt, Karmøy Søderberg mt CO2e per year



Improved quality

Claims and complaints per 10 000 mt sold volume, 100%-owned lines

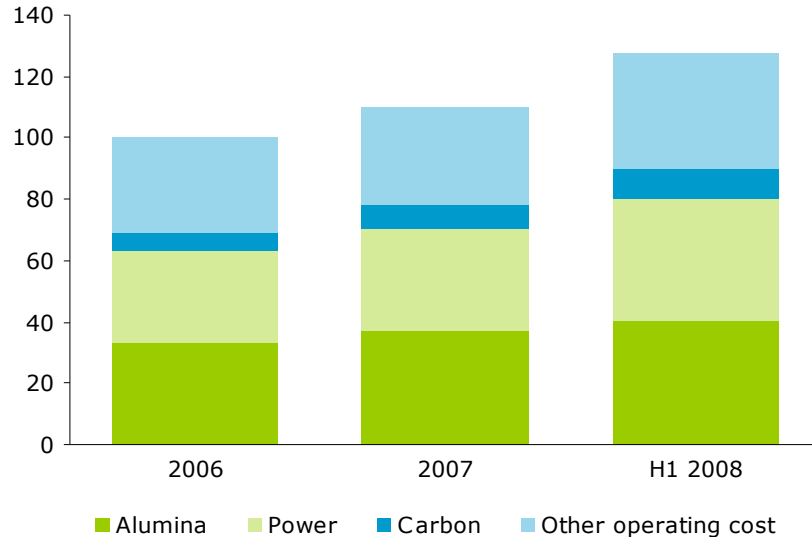


* 100%-owned smelters

Addressing the cost challenge

Smelting production cost

Costs in USD per tonne indexed, 2006=100 *



*100%-owned smelters

Alumina

- Equity and LME-based contracts

Power

- Long-term contract portfolio and equity supply

Carbon

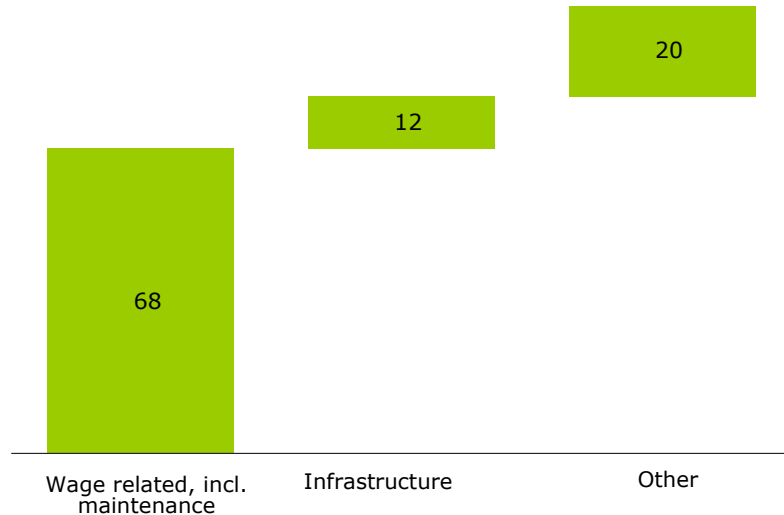
- Stronger focus on procurement
- Change supply portfolio focusing on cost efficiency

Other operating cost

- Continued focus on efficiencies and scale effects

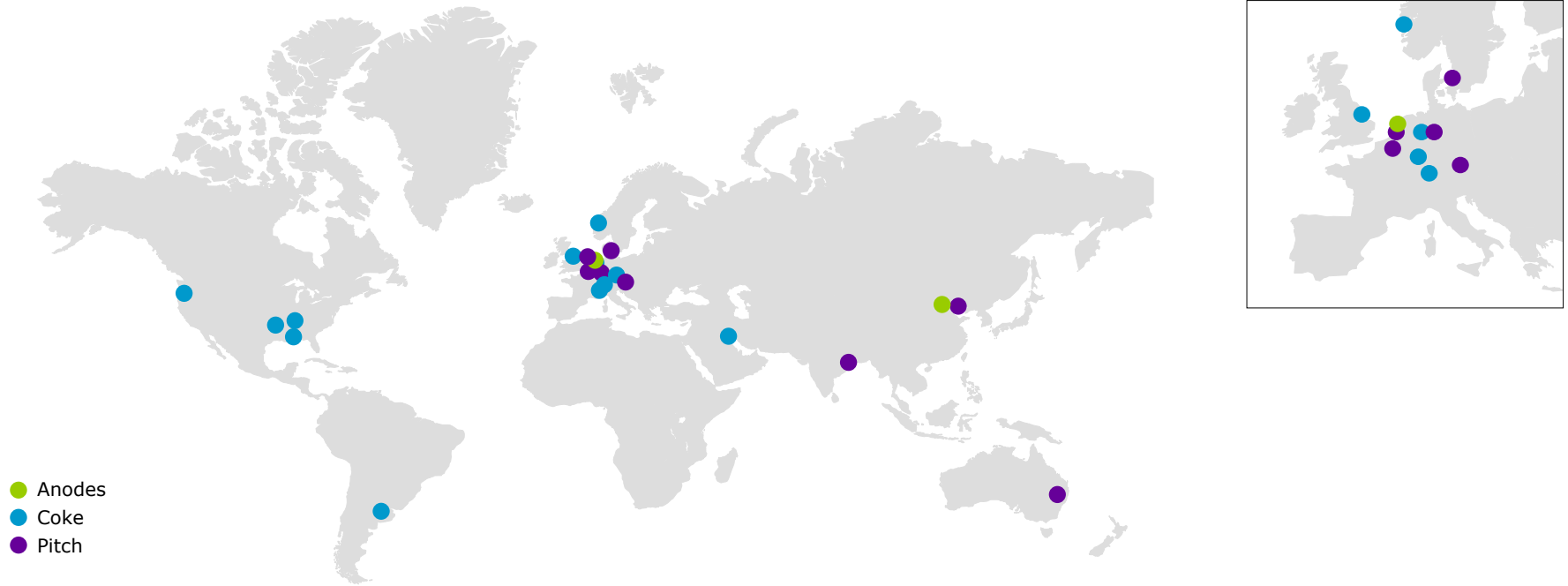
Other operating cost

Continued focus on efficiencies



- Productivity – tonnage “creep” without adding capacity cost
- Organisational development – AMPS
- Maintenance planning – preventive maintenance

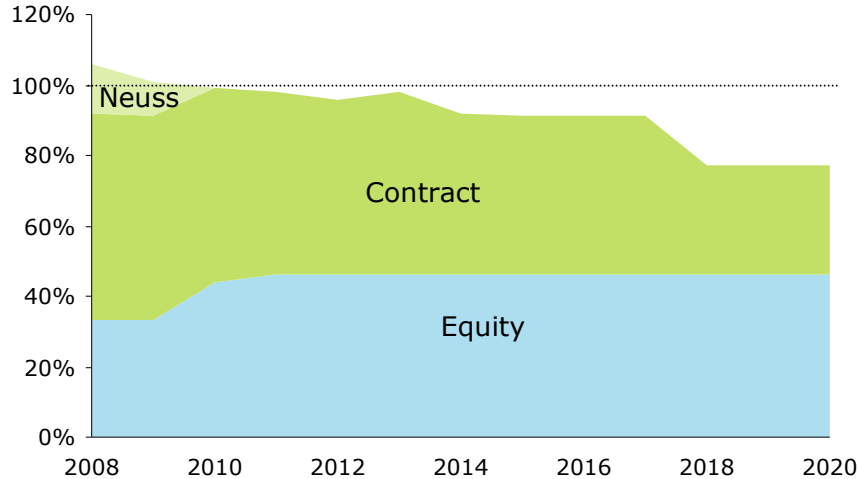
Global carbon sourcing



Solid power portfolio going forward

Power coverage through 2020

Percent



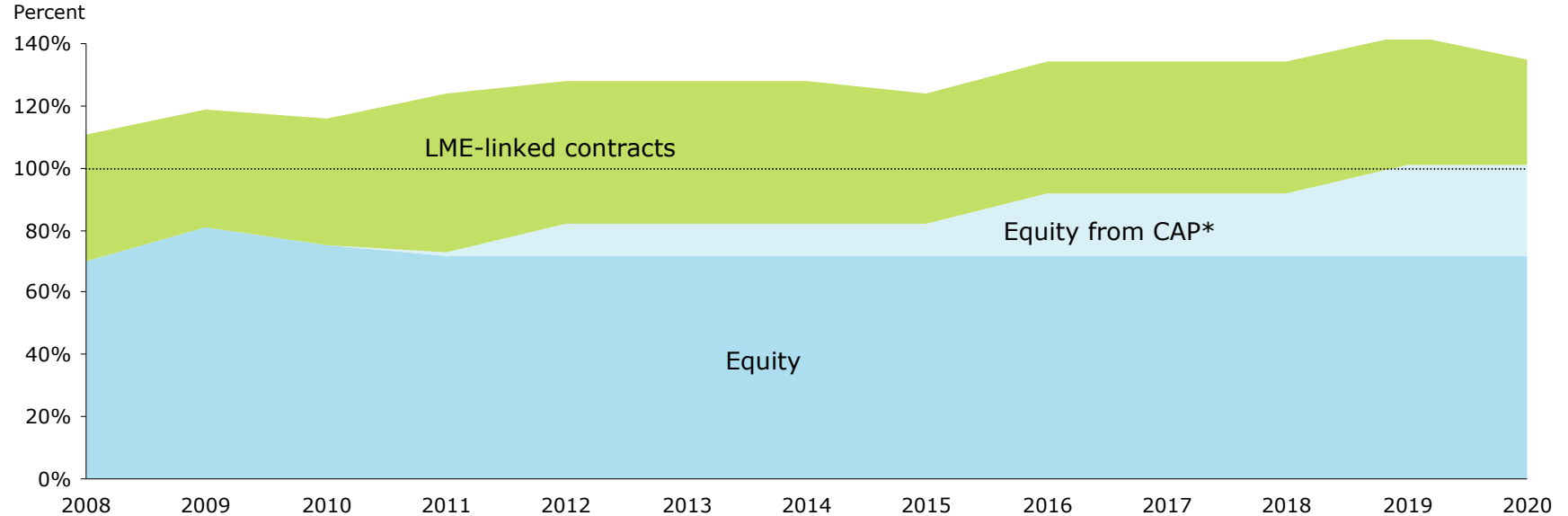
Based on existing smelter capacity and decided smelter projects/closures
Norwegian equity power production included at normal level (9.4 TWh)

- Long term power coverage
- Equity power and competitive contract prices
- Neuss on cash basis

Well covered with alumina

CAP positions Hydro for further growth in metal

Alumina coverage



*CAP is illustrated with the first stage plus two expansions. Only the first stage has been decided.

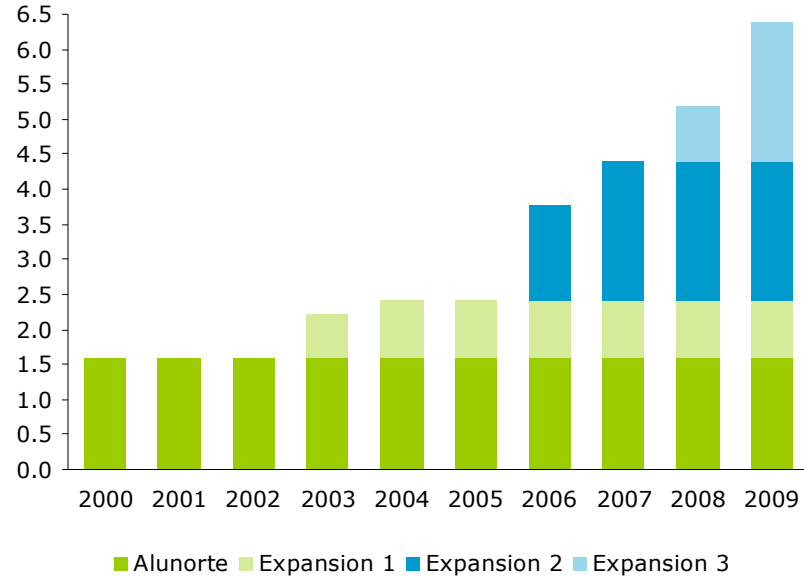
2

**We develop
our business**

Alunorte – world's leading alumina refinery

Highly competitive cash cost

Production development in million tonnes



EXPANSION 3



Expansion 3 from 4.4 million tonnes to 6.3 million tonnes. The world's largest alumina refinery.



Completed before time. Construction start Q2 2006. Start up July 2008.

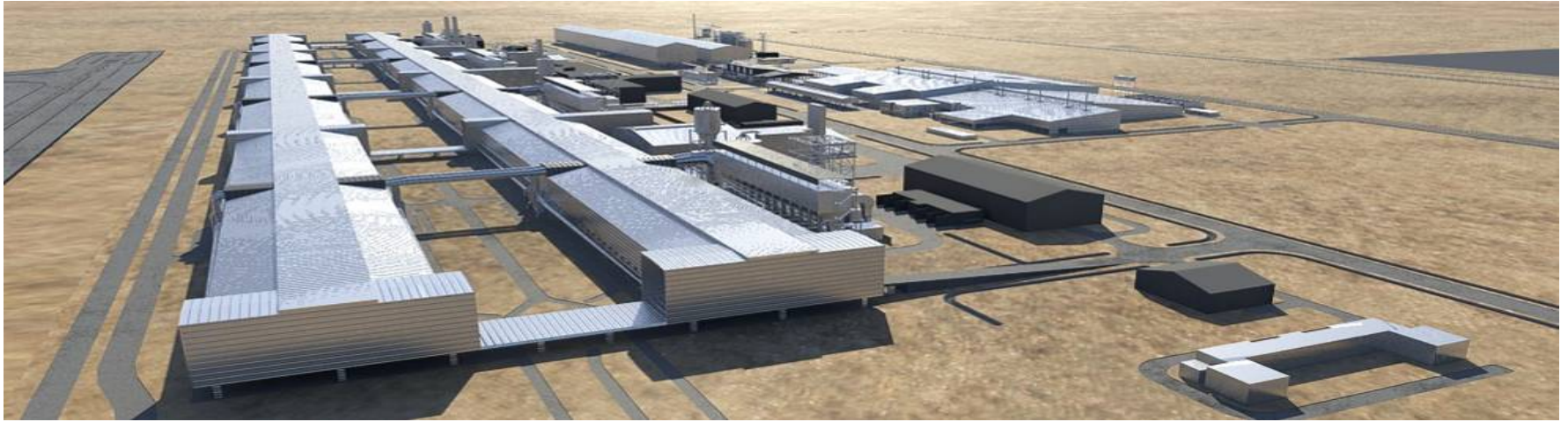


Completed on budget in Reais.

CAP – new world class alumina refinery



- Important step to further expand equity alumina production
- The new plant will have an initial capacity of 1.86 million tonnes per year
 - Significant expansion potential which could bring the final output up to 7.4 million tonnes per year
- Investment estimate first stage USD 2.2 billion (100%)
 - Hydro share 20%
- Production start-up scheduled 2011
 - Construction start in 2008

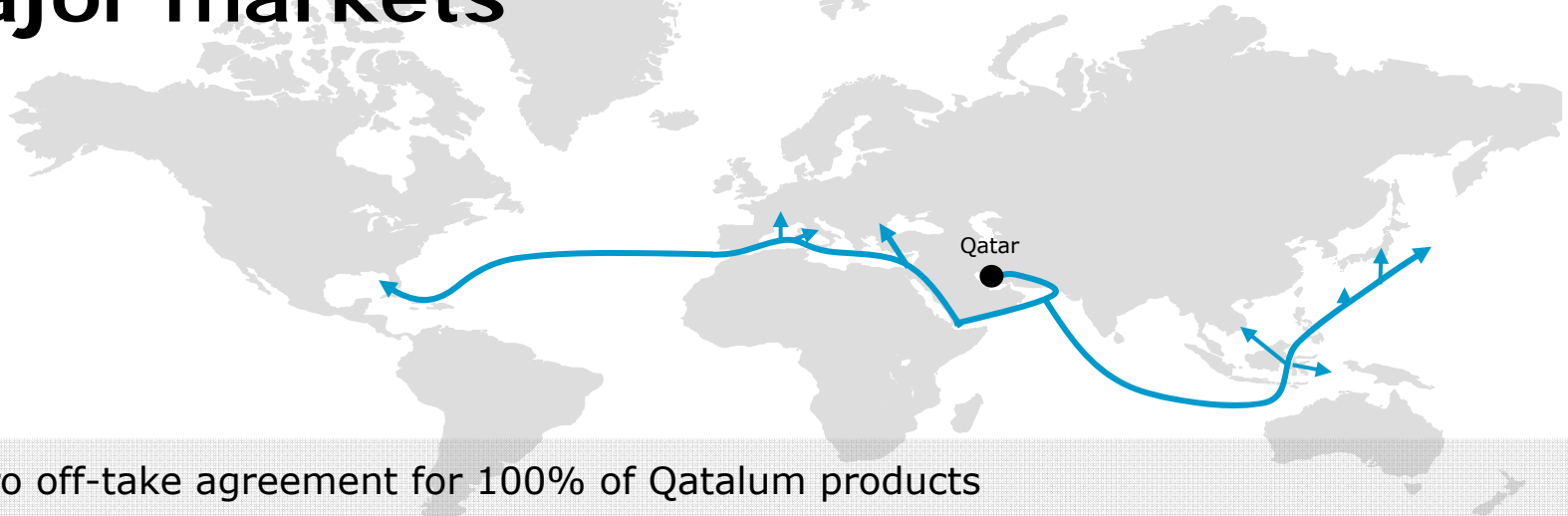


Qatalum – according to plan

Large-scale organizational build-up

- Multi-national organization
- Recruitment and organization development
- Operational preparedness

Qatalum: well positioned to serve all major markets



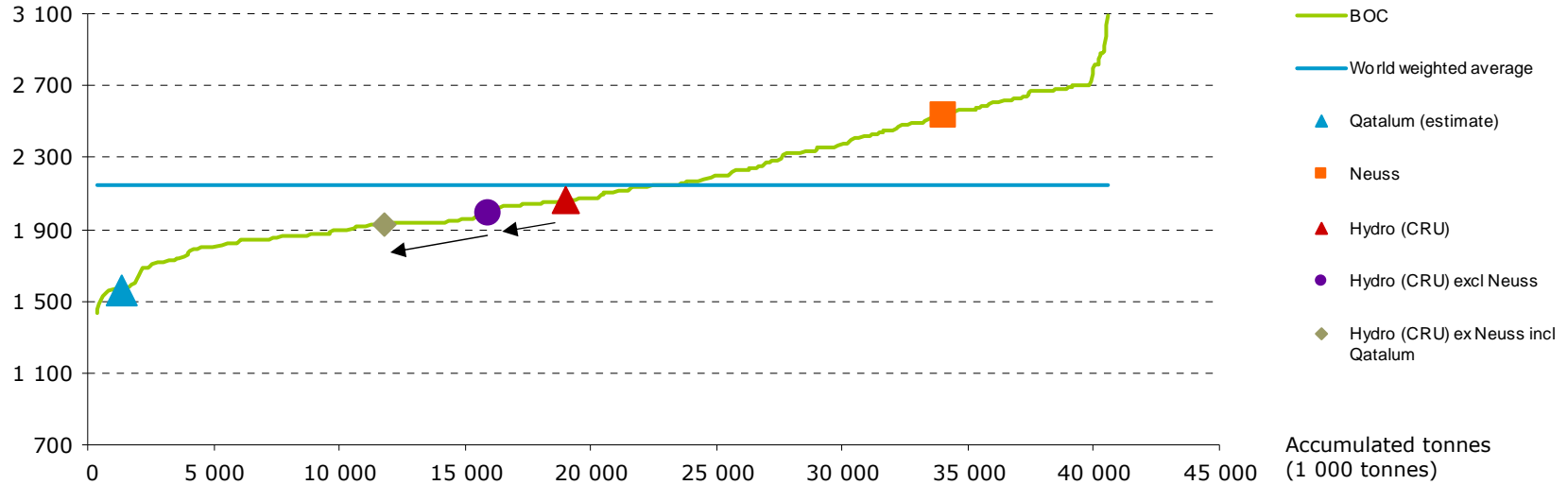
Hydro off-take agreement for 100% of Qatalum products

- First metal by end of 2009
- Building up to a sales volume to ~600 000 tonnes per year through 2010
- Targeting markets in Asia, Europe and the U.S.
- Product focus: extrusion ingot, primary foundry alloys and standard ingot

Hydro cost position better than average

Qatalum will improve average position – Neuss runs on cash basis

USD/tonne



Source: CRU, 2008. Business operating cost definition. Assumptions 3 month LME 2 943 USD/tonne and 3 month LME lagged 1Q 2 833 USD/tonne. Alumina spot 352 USD/tonne. NOK/USD 5.16

Develop technology to fulfill ambitions



2007

HAL300 technology

- Low diffuse emissions
- Good working environment
- SU4, Qatalum



2009

HAL4e technology

- Improved energy efficiency
- Benchmark GHG
- Prepared for CO₂ concentration



2020

Beyond HAL4e

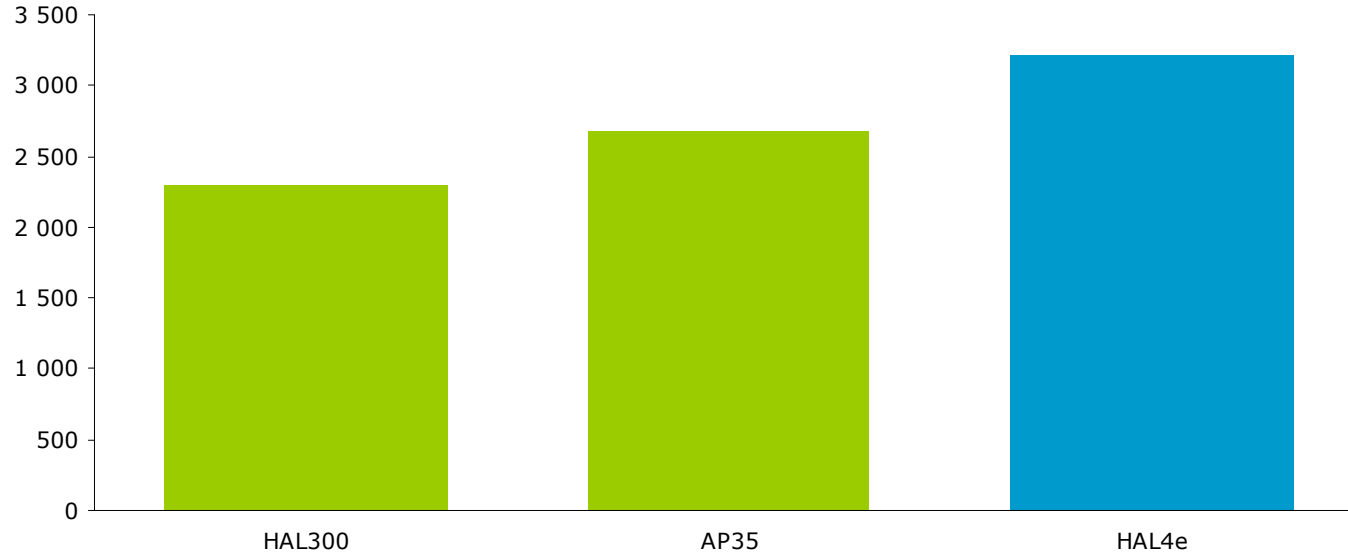
- Zero PFC concept
- Simpler CO₂ capture
- New materials and cell design
- Smelter layouts

HAL4e technology



Production increase: 40% per cell

Kg aluminium/cell/day



Novel smelter concepts



- Concentrate and separate CO₂ from process gas
- Energy recovery
- Next generation process control
- Anode production technologies
- Automation
 - Cranes
 - AGV
 - Material transportation

Technological leadership

– entry to partnership



- Technology as entry-ticket to joint venture partnerships
- ...and to supplier relations
- Low specific investment cost
- Leading health, safety and environmental performance
- Technical knowhow and operational excellence

Key messages

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www.hydro.com