

## ALUMINIUM METAL

### Industry overview

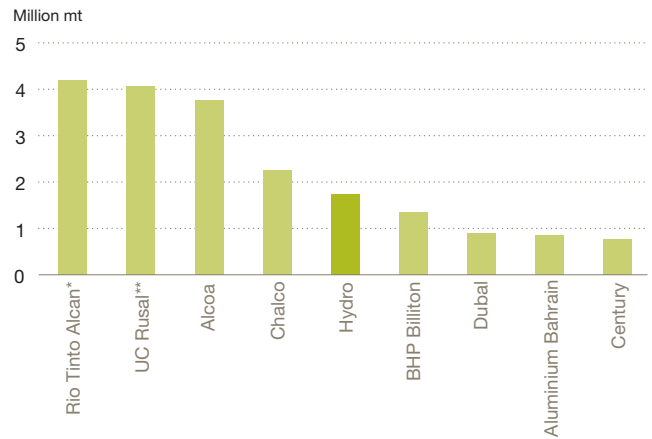
Aluminium smelting is a capital intensive, technology driven industry concentrated in relatively few companies. In recent years, China has emerged as a main consumer and producer impacting market fundamentals. Russia and the Middle East are also growing in importance as aluminium producers.

There are two raw material sources for new aluminium products: primary aluminium made from electrolysis of alumina, as well as remelting and recycling of aluminium scrap. Scrap is generated throughout the value chain when producing finished aluminium products and collected in the marketplace after the use of the products is over. The recycling process requires approximately 5 percent of the energy needed in the electrolytic primary production process. About 25 – 30 percent of new aluminium products are made from collected scrap.

### Structural developments

During the past two decades, three major global integrated companies emerged as a result of the substantial concentration of upstream aluminium activities: Alcoa, Alcan and Hydro. In addition to these three integrated companies, several large companies focused mainly on upstream operations – bauxite, alumina and/or primary metal – such as BHP Billiton, Rio-Tinto and Vale (formerly CVRD). In October 2007, Rio Tinto acquired Alcan, creating RioTintoAlcan as one of the major alumina and aluminium producers. In 2007, the Russian aluminium industry was consolidated into one major company, United Company Rusal, as a result of the merger of two Russian companies, Rusal and Sual, and the alumina assets of the Swiss natural resource group Glencore. Since the 1990s, China has emerged as a major consumer as well as producer of primary metal. Chalco has evolved as the most significant operator in China, with an estimated 2007 production of almost 2,300 million mt. In 2007, Alcoa sold its 7 percent ownership interest

### Primary aluminium production



\* Proforma figures for merger of RioTinto and Alcan

\*\* Proforma figures for merger of Rusal, Sual and Glencore

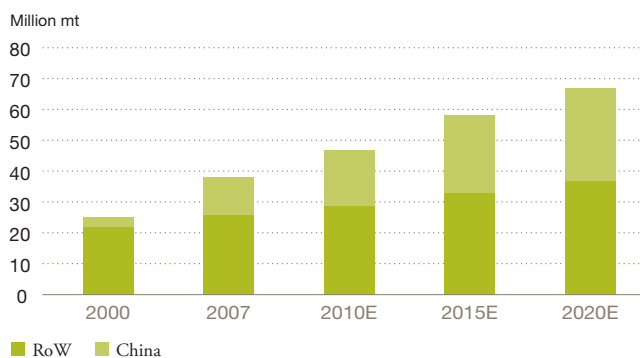
Source: CRU 2006

in Chalco. Industry analysts expect that consolidation within the metal and mining industry will continue, leading to further restructuring of the aluminium industry.

### Aluminium price developments

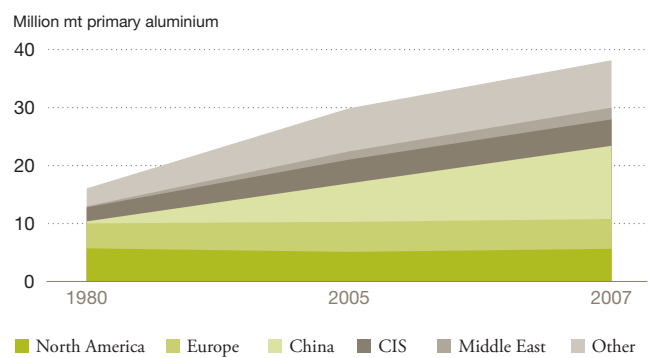
Primary aluminium in standard ingot form is traded on various metal exchanges, primarily the London Metal Exchange (LME). In the long run, prices generally reflect the market fundamentals of the physical market as well as underlying cost developments. However, trading by financial investors in the derivative markets can have a significant influence on price developments in the short and medium term, occasionally in contradiction with developments in the physical market. Price volatility, therefore, has been and may continue to be high.

### China driving global demand primary aluminium



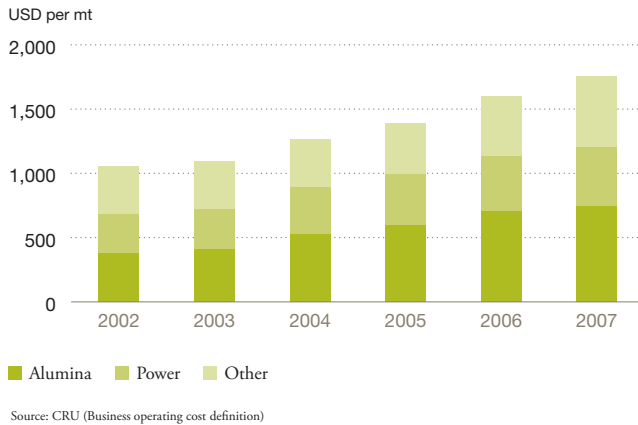
Source: CRU

### Global production increase



Source: CRU

## Industry smelter cost



During recent years, there has been an upward shift in the cost curve for primary aluminium production, triggered mainly by a significant increase in energy prices. High energy prices have also influenced the cost of producing, and consequently the price for, alumina, as well as other important input factors. Increasingly, future production of primary aluminium production is expected to be developed in energy rich areas where power prices are more competitive than market prices in developed energy markets such as Europe and the US. Such countries and regions are expected to include the Middle East, Russia, Iceland and some countries in Africa, Asia and South America.

## Operational information

### Introduction

Hydro's primary aluminium plants are comprised of a reduction plant containing potlines and a casthouse where liquid and remelt aluminium is cast to form value-added products such as extrusion ingots, primary foundry alloys, sheet ingot and wire rod, in addition to standard ingots.

Approximately two metric tons of alumina are required to produce one metric ton of aluminium. Over the last decade, we have mainly met our alumina supply through a combination of equity investments in alumina production and a portfolio of medium to long-term contracts.

Energy represents on average about 25 to 30 percent of the operating costs associated with primary aluminium production. We have access to self-generated power covering a significant part of our captive consumption and have negotiated long-term contracts for a majority of our production worldwide, with the exception of our smelter in Neuss, Germany which operates on short-term power contracts.

Carbon anodes used and consumed in the smelting process account for approximately 15 to 20 percent of the total pro-

## Aluminium price in USD/mt



duction cost of primary aluminium. Most of our smelters produce anodes on-site. During the last years we have expanded our capacity of anode production both at our Årdal plant in Norway and in our part-owned company Aluchemie in the Netherlands. In addition, we have upgraded the anode facility at our Kurri Kurri plant in Australia. Our new plant under construction in Qatar will have an anode plant with capacity aligned to the production of primary metal.

Our proprietary technology plays an important role in securing our competitive position. We believe our technology serves as an industry benchmark for environmental performance, and sets high standards for safety and productivity.

We have a strong commitment to safety and systematically review and follow several key performance indicators. One of these, the TRI rate (total recordable injuries per million hours worked) for 2007, declined by about 10 percent to 5.6 in 2007 compared with 6.1 in 2006 and 15 in 2002. We are targeting a further 20 percent reduction in 2008.

### Bauxite and alumina

#### EQUITY INVESTMENTS IN ALUMINA

Hydro's major alumina investment is its 34 percent participation in Alunorte, a Brazilian alumina refinery. After an initial expansion of the plant in 2003, annual capacity reached approximately 2.4 million mt, enabling Hydro to secure access to 810,000 mt of alumina per year. During 2006, the second expansion of the Alunorte refinery was completed and increased annual capacity to approximately 4.4 million mt. A third expansion started in 2006 and is expected to increase total annual production capacity by approximately 6.5 million mt by 2009.

We also have a 35 percent equity interest in the Alpart alumina refinery in Jamaica, which has an annual production capacity of approximately 1.65 million mt.

Bauxite for Alunorte is sourced under long term contracts from MRN, in which Hydro has an equity interest, and from the Paragominas mine which is owned by Vale, under long-term contracts based on prices linked to the LME and alumina prices. Earnings from our investment in MRN are included in Financial income. Alpart has its own captive bauxite mine.

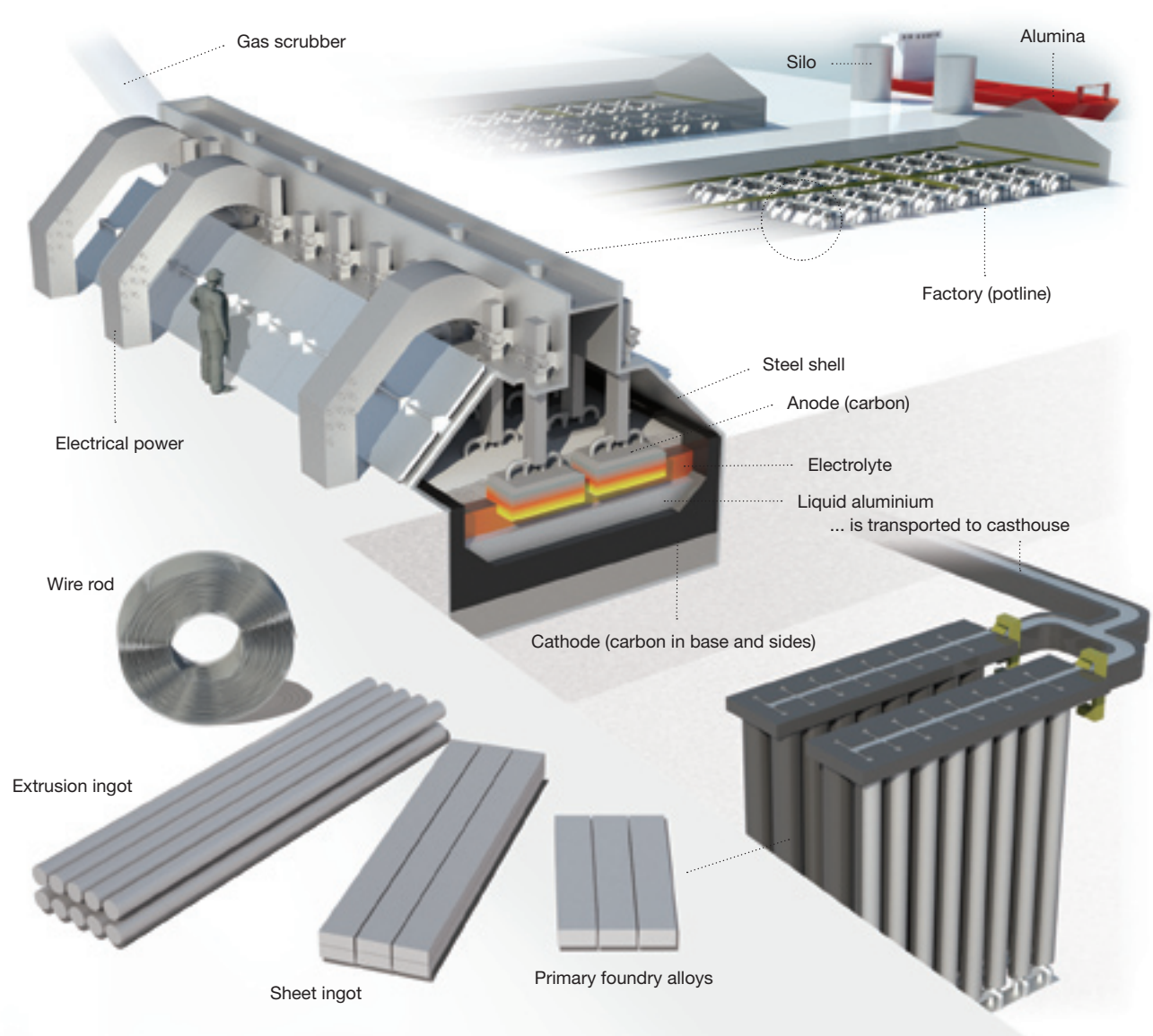
We purchase our equity share of alumina from Alunorte based on prices linked to the LME with a lag of one month. The financial effects of our equity ownership in Alunorte are

reflected in Share of profit (loss) in equity accounted investments and comprise a substantial portion of the underlying results of our bauxite and alumina operations.

**LONG TERM CONTRACTS**

In June 2003, Hydro and Comalco, now RioTintoAlcan (RTA), signed one of the largest alumina supply contracts in the history of the aluminium industry. Under the agreement, RTA will supply Hydro with 500,000 mt of alumina annually from 2006 through 2030. In September 2007 Hydro exercised an option under this contract increasing the volume

**Aluminium smelting process**



Primary aluminium is produced in reduction plants where pure aluminium is formed from alumina by an electrolytic process. This process is carried out in electrolytic cells, in which the carbon cathode placed in the bottom of the cells forms the negative electrode. Anodes, which are made of carbon, are consumed during the electrolytic process when the anode reacts with the oxygen in the alumina to form CO<sub>2</sub>. The process requires electric energy, about 13 kWh per kilo aluminium produced in modern production lines.

from 500,000 mt per year to 900,000 mt per year from 2011 and for the duration of the contract. The basis for the option was the recently announced expansion of RTA's Yarwun refinery in Australia.

In addition to the equity interests in alumina production capacity mentioned above and the long-term RTA contract, we have a number of short-, medium- and long-term purchase contracts to secure alumina for our own smelters. These contracts typically have pricing formulas based upon a percentage of the LME price.

#### BUSINESS DEVELOPMENT

Several new business development opportunities have been identified in order to explore the possibility for new ventures within bauxite/alumina. In July 2007, Hydro signed a Memorandum of Understanding (MoU) with the Brazilian mining group Vale (formerly CVRD) with the intention of building a new alumina refinery close to the existing Alunorte refinery in Brazil. In November 2007, Hydro entered into a joint venture agreement with United Minerals Corporation (UMC) with the intention of exploring for bauxite in Kimberley, Western Australia. The agreement gives Hydro a 75 percent interest in the partnership.

We are evaluating several project opportunities in many of the bauxite rich regions in the world with a focus on participating in integrated bauxite/alumina projects to further strengthen our equity coverage of cost competitive alumina.



Hydro has a number of short, medium and long-term purchase contracts to secure alumina to our own smelters.

#### Primary aluminium

We produced primary aluminium at 10 wholly or partly owned primary aluminium plants in 2007. Many plants operated at record production during 2007. To optimize our casthouse capacity for the production of midstream aluminium products, we supplement the metal produced by our smelters with remelt metal. The following tables include primary aluminium and total casthouse production and at our plants during the last three years:

#### Primary aluminium production (mt) <sup>1)</sup>

	Location	2007	2006	2005
Karmøy	Norway	289,000	288,000	277,000
Årdal <sup>2)</sup>	Norway	205,000	232,000	233,000
Sunnidal	Norway	367,000	357,000	362,000
Høyanger <sup>3)</sup>	Norway	58,000	60,000	78,000
Søral (Hydro's 49.9% share)	Norway	80,000	82,000	81,000
Slovalco	Slovakia	160,000	158,000	159,000
Neuss	Germany	231,000	226,000	225,000
Stade <sup>4)</sup>	Germany	-	54,000	60,000
HAW (33.3% share) <sup>5)</sup>	Germany	-	-	40,000
Kurri Kurri	Australia	173,000	164,000	152,000
Tomago (12.4% share)	Australia	64,000	64,000	63,000
Alouette (20% share)	Canada	115,000	114,000	96,000
Total primary aluminium production		1,742,000	1,799,000	1,826,000

- 1) Production volumes for the part owned companies indicated in the table represents our proportion of total production based on our equity interest. For financial reporting purposes, Søral is accounted for as an equity investment while Tomago, Alouette and Qatalum are consolidated on a proportional basis. Slovalco is fully consolidated in terms of financial results and volumes. Our investment in HAW was also accounted for as an equity investment prior to disposal.
- 2) Shut down of Søderberg production line completed end of June 2007.
- 3) Shut down of Søderberg production line completed end of February 2006.
- 4) Shut down of production completed end of 2006.
- 5) Shut down of production completed end of 2005.

**Total casthouse production (mt)**

	Location	2007	2006	2005
Karmøy	Norway	<b>356,000</b>	354,000	333,000
Årdal	Norway	<b>315,000</b>	318,000	323,000
Sunndal	Norway	<b>456,000</b>	425,000	408,000
Høyanger	Norway	<b>85,000</b>	83,000	89,000
Sørål (Hydro's 49.9% share)	Norway	<b>80,000</b>	82,000	83,000
Slovalco	Slovakia	<b>186,000</b>	175,000	177,000
Neuss	Germany	<b>332,000</b>	331,000	305,000
Stade <sup>1)</sup>	Germany	-	54,000	60,000
HAW (33.3% share) <sup>2)</sup>	Germany	-	-	80,000
Kurri Kurri	Australia	<b>177,000</b>	163,000	151,000
Tomago (12.4% share)	Australia	<b>63,000</b>	64,000	62,000
Alouette (20% share)	Canada	<b>115,000</b>	113,000	95,000
Total casthouse production		<b>2,164,000</b>	2,162,000	2,166,000

1) Shut down of plant completed end of December 2006.

2) Shut down of plant completed end of December 2005.

**MEETING THE ENERGY NEEDS OF OUR SMELTERS**

We have access to self-generated power and have negotiated long-term contracts for the majority of our production worldwide with the exception our remaining German metal plant. Following the expiration of power contracts in 2005 and substantial increases in power costs in Germany, we have covered the energy needs for our Neuss smelter in the short-term market. Power for Neuss in 2008 has been covered, and we are working to secure power for that smelter in 2009. German energy prices have increased dramatically over the last years. The energy cost for aluminium production in Germany now exceeds the industry average by a factor of 2.

Internal supply contracts between our hydro-power production operations and our aluminium metal business cover about 50 percent of the energy consumption of our wholly-owned Norwegian smelters. The remainder is covered by external supply contracts with the Norwegian electricity company, Statkraft. Certain contracts with Statkraft that expired in the summer of 2006 have been replaced with new contracts through the year 2020. Compared with the expired contracts, the pricing structure of the new contracts has increased energy costs for our smelters beginning in the second half of 2006 and will gradually increase our energy costs through 2010 due to phasing of price adjustments. The pricing structure of internal contracts was changed from 1 January 2006, also increasing energy costs for our aluminium operations. Long-term availability of electricity at predictable prices is considered a prerequisite for the further development of the Norwegian operations, particularly since Nordic spot market prices can be highly volatile.



In 2004, we completed an expansion of our Sunndal plant which is now the largest and, we believe, most modern aluminium plant in Europe.

**PRIMARY ALUMINIUM SMELTERS**

We have acquired a substantial number of our primary aluminium plants through two major acquisitions: the acquisition of the Norwegian state-owned aluminium company, Årdal og Sunndal Verk (ÅSV) in 1986 and the acquisition of VAW Aluminium AG in 2002. The Årdal, Sunndal and Høyanger plants were acquired as a result of the ÅSV acquisition. The Neuss, Stade and Kurri Kurri plants and the interest in the Alouette and Tomago plants were acquired as a result of the VAW acquisition.

**Karmøy, Norway.** Aluminium production at our plant on Karmøy commenced in 1967. Karmøy is located near Hauge-sund on the west coast of Norway. The plant had about 630

employees at the end of 2007. Production lines at the plant consist of two prebake lines and one Søderberg line. The Søderberg line is planned to be shut down at the end of 2009 due to stricter emission standards (see discussion on plant closures later in this section). The casthouses at Karmøy delivered 286,000 mt of extrusion ingot and 70,000 mt of wire rod in 2007. The industrial site also contains a R&D center, a rolling mill, an extrusion plant and other downstream activities which are part of our Aluminium Products operations.

**Årdal, Norway.** The metal plant is located in Årdal at the end of Sognefjorden on the west coast of Norway. Årdal has been producing aluminium since 1948, and the plant had about 550 employees at the end of 2007. Årdal produced primary aluminium on two prebake lines and one Søderberg line until the line was closed in June 2007, reducing annual production capacity at Årdal by 50,000 mt. Two casthouses at Årdal delivered 193,000 mt of sheet ingot and 122,000 mt of foundry alloys in 2007. Årdal also produced 194,000 mt anodes mainly for use in the Norwegian smelting system. The industrial site also contains a technology and competence center with about 90 employees.

**Sunnal, Norway.** The metal plant is located in Sunndal, at the far end of the Sunndalsfjord in Møre and Romsdal approximately 90 km east of Molde on the west coast of Norway. Aluminium production in Sunndal started in 1954 and the plant had about 750 employees at the end of 2007. In 2004, we completed an expansion of our Sunndal plant which is now the largest and, we believe, most modern aluminium plant in Europe. Sunndal produces primary aluminium from two prebake lines. The casthouse at Sunndal delivered 357,000 mt of extrusion ingot and 99,000 mt of foundry alloys in 2007.

In 2007, we completed a project to expand production of foundry alloys at the plant by adding a second production line. We also started another project relating to fume treatment in early 2007 in order to meet future regulations for fluoride emissions. Total investment cost of these developments amounted to roughly NOK 600 million.

**Høyanger, Norway.** The metal plant is located in Høyanger halfway into the Sognefjorden on the west coast of Norway. Høyanger started production in 1918 as the first aluminium smelter established in Norway, and had about 130 employees at the end of 2007. Following the closure of the Søderberg line in February 2006, the plant produces primary aluminium from one prebake line. The casthouse at Høyanger delivered 85,000 mt of sheet ingot in 2007.

**Neuss, Germany.** The metal plant is located on the river Rhine closed to Neuss in North Rhine-Westphalia. Neuss, which is Germany's largest electrolysis plant, started production in 1961, and had about 610 employees at the end of 2007. Neuss produces primary aluminium from three prebake lines. The



Kurri Kurri produces primary aluminium completed an upgrade in all operational areas during 2006.

casthouse at Neuss delivered 332,000 mt of rolled products ingot to the Alunorf rolling mill in 2007. Neuss achieved record production of both primary metal and sheet ingot in 2007. The volume of remelted foil scrap was approximately 20,000 mt in 2007, an increase from 2006 partly due to the start-up of a new remelting furnace. Power for our operations at Neuss for 2008 has been secured by short-term contracts, and we are working in an effort to secure our energy needs for 2009. The industrial site also contains a technology and competence center with about 20 employees.

**Kurri Kurri, Australia.** Aluminium production in Kurri Kurri commenced in 1969, and the plant had about 490 employees at the end of 2007. Kurri Kurri produces primary aluminium from three prebake lines and completed an upgrade in all operational areas during 2006, including a new carbon-baking furnace, modernization of one potline and construction of a new casting facility to produce foundry alloy ingots. Casthouse production levels for extrusion ingot and foundry alloys reached almost 107,000 mt



Slovalco is the only aluminium producer in Slovakia and the plant produces primary aluminium from one prebake line based on Hydro's proprietary reduction technology.

and 58,000 mt, respectively in 2007. In addition, the plant produced 12,000 mt of ingots/T-bars. Power for operations at Kurri Kurri is secured under a long-term contract through 2017.

**Slovalco, Slovakia (55.3 percent share).** Slovalco is a Slovakian limited company with Ziar nad Hronom, Slovakia (ZSNP a.s.) as the other shareholder (44.7 percent). Slovalco has been fully consolidated in terms of financial results and volumes since 2004. Slovalco is located in Ziar nad Hronom in central Slovakia, and the plant had about 600 employees at the end of 2007. Slovalco is the only aluminium producer in Slovakia and the plant produces primary aluminium from one prebake line. The casthouse at Slovalco delivered 132,000 mt (Hydro share) of extrusion ingot and 54,000 mt (Hydro share) of foundry alloy in 2007. Power for operations at Slovalco is secured under a long-term contract through 2012.

**Sørål, Norway (49.9 percent share).** Sørål is a Norwegian limited company with RioTintoAlcan (RTA) and Hydro as the two shareholding partners. Sørål is accounted for as an equity investment and our proportional share of production volumes is included in the table above. Sørål is situated on the outer edge of the Hardanger fjord about mid-way between Haugesund in the south and Bergen in north, and had about 385 employees at the end of 2007. Sør-Norge Aluminium Ltd, Sørål's predecessor, was launched in June 1962 and the smelter started up in November 1965, followed by expansions in 1997 and 2003. The casthouse at Sørål delivered 80,000 mt (Hydro share) of extrusion ingot in 2007. Power for operations at Sørål is secured under a long-term contract through 2013.

**Tomago, Australia (12.4 percent share).** Tomago is a Joint Venture with RioTintoAlcan (51.55 percent), GAF (36.05 percent) and Hydro as the joint venture partners. Tomago is proportionally consolidated and our share of production volume is included in the table above. Tomago is located on about 13 kilometers north-west of Newcastle in New South Wales, Australia. The plant had about 1,030 employees at the end of 2007. Tomago is the largest aluminium producer in Australia and ranks among the world's lowest operating cost smelters. The smelter was started in 1964 and expanded in 1992, 1998, 2002 and 2006. The plant consists of three prebake lines. The casthouse at Tomago delivered 12,000 mt of extrusion ingot, 4,000 mt of sheet ingot and 47,000 mt of ingots in 2007 (Hydro share).

**Alouette, Canada (20 percent share).** Aluminerie Alouette is a Joint Venture with Rio Tinto Alcan (40 percent), AMAG (20 percent), SGF/Marubeni (20 percent) and Hydro (20 percent) as the joint venture partners. Alouette is proportionally consolidated and our share of production volume is included in the table above. Alouette located in Sept-Iles on the north shore of the St. Lawrence River in Quebec, Canada. The plant had about 1,085 employees at the end of 2007. Alouette is the largest aluminium producer in North America, and also ranks

among the world's lowest operating cost smelters. The plant started production in June 1992, and an expansion of the plant was completed in May 2005. Alouette consists of two prebake lines. The casthouse at Alouette delivered 115,000 mt of ingots (Hydro share) in 2007.

#### PLANT CLOSURES

Stricter emission standards established by the Norwegian Pollution Control Authority (SFT) in accordance with the Oslo and Paris Convention (OSPAR) relating to the use of Sørderberg technology became effective at the beginning of 2007. Sørderberg technology is based on open cells that produce higher emissions and yield lower productivity than modern prebake cells. Hydro decided not to upgrade Sørderberg lines in Høyanger, Årdal and Karmøy to comply with the new standards. The Sørderberg line was closed down in Høyanger in February 2006, and the Årdal Sørderberg line in June 2007. The closures removed approximately 70,000 mt from our annual primary aluminium capacity.

In February 2007, an application filed by Hydro to continue production on the Sørderberg line at Karmøy until the end of 2009 was declined by SFT. Combined emissions from the pre-baked and Sørderberg lines at Karmøy are comparable with best modern aluminium production in the European Union, and are within the SFT-limits. Following an appeal to the Norwegian Environmental Ministry, new emission limits were granted enabling continued operation of the Sørderberg line until the planned shutdown at the end of 2009.

We were not able to renew or replace the electricity contracts related to our German activities on sustainable terms and conditions after 2005. As a result, we decided to close the plant in Stade and, together with our co-owners, we decided to close the HAW smelter in Hamburg. HAW production was shut down at the end of 2005 and Stade was phased out by the end of 2006, removing approximately 110,000 mt from our annual primary aluminium capacity. These closures, combined with the shutdown of the Sørderberg production lines discussed above, reduced less competitive capacity by a total of 180,000 mt by the end of 2007. We have largely replaced this capacity by new, cost-efficient production from the expansion of our Sunndal plant in Norway and the part-owned Alouette plant in Canada, as well as production increases resulting from continuous improvement measures throughout our production system.

#### PROJECTS

##### *Qatalum*

The Qatalum project is a 50 percent joint venture with Qatar Petroleum to construct a new, integrated primary aluminium plant with a gas-fired power plant in Qatar's Mesaieed industrial city. The project is progressing according to schedule and was 9 percent completed at the end of 2007. The final decision to proceed with the development was taken in July 2007. Construction is scheduled to begin in the first quarter of 2008

and liquid metal production is expected to commence by the end of 2009. Qatalum will be the largest greenfield primary aluminium plant ever built in one step, and is an important element in our strategy to reposition our upstream aluminium operations. Primary aluminium capacity is expected to be 585,000 mt annually (100 percent) when the plant is fully operational, and future expansion potential could increase production to 1.2 million mt per year. The total project includes the potrooms, anode production, two casthouses, a gas-fired power plant as well as port and service facilities.

The estimated capital investment for the total Qatalum project is approximately USD 5.6 billion (excluding net operating capital and capitalized interest). Operating costs are expected to be among the lowest in the industry, making Qatalum a highly competitive smelter. A key strength is Qatalum's dedicated electrical power generation plant that will be supplied with gas from Qatar Petroleum under a long-term gas contract.

The Qatalum casthouses will have the capacity to deliver all metal produced as value-added products, serving customers in Europe, Asia and North America.

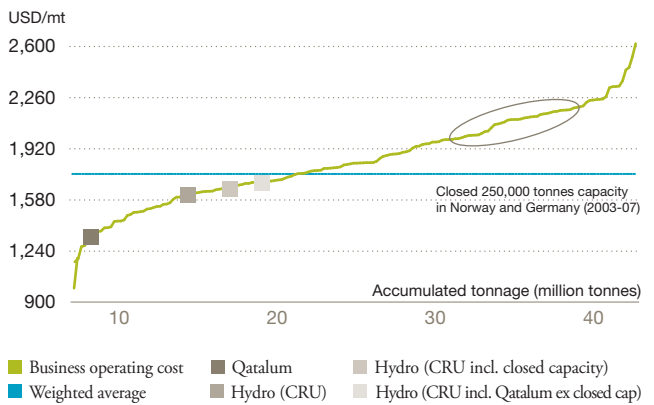
*Other project developments*

Hydro has an ambition to expand its upstream aluminium activities worldwide. Our growth efforts will be directed towards projects that can improve Hydro's cost position in the industry, while maintaining a strong focus on sustainable development.

We are evaluating several smelter opportunities, including expansions of our smelter operations in Norway (Karmøy and Sogn), Australia (Kurri Kurri) and the possible doubling of the Qatalum capacity. Key considerations include power cost and duration, access to qualified work-force, investment level per tonne, expansion opportunities, location and access to markets to sell Hydro's value added products. In addition all potential projects are subject to various risk analyses including general political and country risk assessments.

**Growth and restructuring efforts**

Improved cost position



Source: CRU, 2007. Business operating cost definition. Assumptions 3 month LME 2,705 USD/tonne and 3 month LME lagged 1Q 2,747 USD/tonne. Alumina spot 329 USD/tonne. Hydro numbers for Qatalum

*Commercial*

**REMELTERS**

We have established remelt and refining plants for conversion of scrap metal and standard ingot into extrusion ingot in all major European markets, as well as in the United States. In Europe, facilities are located in Luxembourg, United Kingdom, Germany, Spain and France.

Remelt activity, including remelted metal for casthouses integrated with our primary metal plants, and third-party sourcing represents about half of our external sales of metal each year.

Operations at the Ellenville remelter in New York ceased at the end of September 2007. Activities to dispose of the assets are in progress.



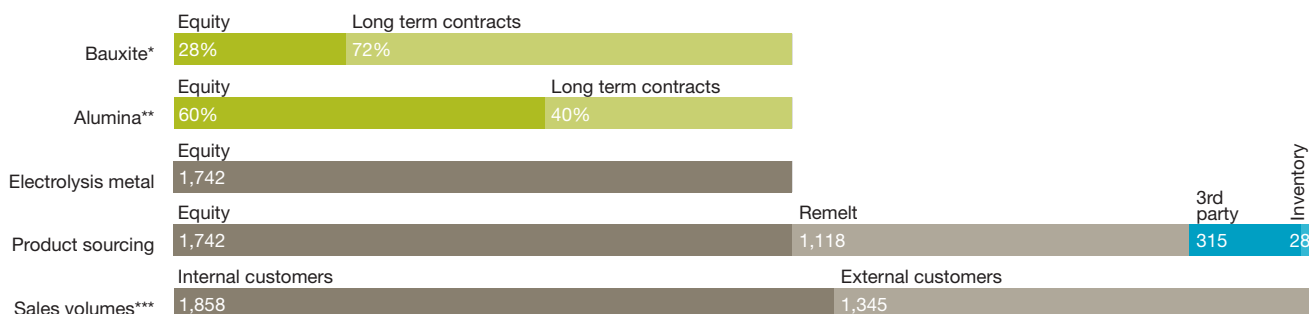
Construction at Qatalum is scheduled to begin in the first quarter of 2008. The project was 9 percent completed at the end of 2007.



Remelt activity represents about half of our external sales of metal each year.

## Aluminium Metal value chain

Percent and 1,000 mt



\* Bauxite expressed as alumina equivalents (approx. 2 tonnes bauxite per tonne alumina)

\*\* Alumina expressed as aluminium equivalents (approx. 2 tonnes alumina per tonne aluminium)

\*\*\* Excluding ingot trading volumes

In addition to remelting scrap returned from customers and purchased from third parties, aluminium standard ingot is procured globally under a combination of short and long-term contracts, with the major sources in the CIS, South America and Southern Africa.

### SALES, DISTRIBUTION AND TRADING ACTIVITIES

Most of our aluminium is sold in the form of value-added cast-house products such as extrusion ingot, sheet ingot, wire rod

and foundry alloys. In 2007, we sold about 1,870 thousand mt of extrusion ingot, about 600 thousand mt of sheet ingot and about 540 thousand mt of wire rod and foundry alloys. We also sold about 200 thousand mt of standard ingots.

Our most important product is extrusion ingot which is sold to extruders producing aluminium profiles used mainly the building and construction industry. Other important end use segments include the transport and general engineering market

### Remelt production (mt)

	Location	2007	2006	2005
<b>Europe</b>				
Clervaux	Luxembourg	111,000	115,000	102,000
Deeside	United Kingdom	55,000	50,000	39,000
Rackwitz	Germany	65,000	62,000	57,000
Hannover	Germany	21,000	23,000	18,000
Luce	France	50,000	48,000	44,000
Azuqueca	Spain	66,000	61,000	56,000
<b>US</b>				
Ellenville <sup>1)</sup>	New York	33,000	44,000	37,000
St. Augustine	Florida	36,000	32,000	37,000
Henderson	Kentucky	81,000	89,000	86,000
Monett	Missouri	53,000	64,000	62,000
Commerce	Texas	81,000	88,000	90,000
Phoenix	Arizona	33,000	44,000	37,000
Total remelt production		685,000	720,000	665,000

1) Shut down of plant completed end of October 2007.

sectors. Our key market region for extrusion ingot is Europe, followed by the US and Asia.

Our second most important product, sheet ingot, is sold to European rolling mills, with packaging and transportation as the most important end-use segments. Foundry alloys are sold to foundries producing cast parts primarily for the automotive industry. Our largest market for foundry alloys is Europe, but Asia is becoming increasingly important. Wire rod is sold to wire and cable mills in Europe for power transmission and other electrical applications.

We also produce and sell high purity aluminium products, which are mainly used in the electronics industry in products like electrolytic capacitors, semiconductors and flat panel displays.

In addition to marketing our own products, we have several long-term commercial agreements including a remarketing agreement with UC Rusal, currently providing 130,000 mt per year of extrusion ingot from the Sayanogorsk smelter located in Siberia and an agreement with Talum in Slovenia for 105,000 mt of foundry alloy and extrusion ingot.

A key component to our market approach are our regional market teams serving customers with commercial, technical, logistic and scrap conversion services. Optimized solutions such as our customer service programmes and our on-line customer portal add further value and help build and reinforce customer relationships.

Our commercial operations also include sourcing and trading activities to secure a competitive supply of alumina and aluminium standard ingots to Hydro's global production system and manage risks through hedging activities. Our main hedging objectives are to secure our margins in our mid- and downstream businesses and obtain the prevailing average LME price for our smelting system. Our commercial operations act as an internal broker for all LME hedging transactions by our business units in order to consolidate our exposure positions, reduce transaction costs and utilize our trading knowledge and expertise.

Aluminium standard ingot is a global aluminium product traded on the London Metal Exchange (LME). Our sourcing portfolio consists of Hydro's own equity production of standard ingot and medium and long-term third-party purchase contracts. We also enter into third-party contracts to optimize our total portfolio position and to reduce logistics costs. Our total ingot transaction volume was about 1.0 to 1.2 million mt in 2007.

The alumina supply to Hydro's smelters is mainly sourced from our own equity production (Alunorte, Brazil and Alpart, Jamaica), and the balance is covered by medium- and long-term third-party contracts. In addition, we enter into sales contracts with third-party customers that include both aluminium producers and traders. Alumina is sometimes used in combination with metal trading and sourcing activities, for example, by supplying a third-party smelter with alumina and receiving metal as compensation. Our total alumina transaction volume amounted to roughly 4 to 5 million mt in 2007.