Aluminum

Wayne Wagner
International and Domestic Market Policy Division
Telephone: (613) 996-5951
E-mail: wwagner@nrcan.gc.ca

2001 primary metal production: $5.8 billion[e]
World rank: Fourth
2001 exports (unwrought): $4.9 billion
Installed capacity: 2.7 Mt/y

Canada	2001	2002 (e)	2003 (f)
		(000 tonnes)	
Production	2 600	2 700	2 700
Use of primary aluminum	747	800	800

(e) Estimated; (f) Forecast.

Aluminum, in both its pure and alloyed form, is used to make a wide variety of products for the consumer and capital goods markets. Aluminum's largest markets are transportation (30%), packaging (18%), building and construction (19%), electrical (9%), consumer goods (7%), and machinery and equipment (6%). North America uses the largest amount of all regions in the world, accounting for 31% of total world demand. Asia accounts for 28% and Europe accounts for another 25%.

AVERAGE (THREE-MONTH) ALUMINUM PRICES, LONDON METAL EXCHANGE

1999	2000	2001	2002 (f)
	(US$/t)		
1 360 (62¢/lb)	1 550 (70¢/lb)	1 440 (65¢/lb)	1 350 (61¢/lb)

(f) Forecast.

CANADIAN OVERVIEW

- Canada's production of primary aluminum is expected to increase by 5% to 2.7 Mt in 2002 from 2.583 Mt in 2001 resulting from full production at Alcan's new 400 000-t/y smelter at Alma, Quebec. Monthly Canadian production statistics can be obtained on Natural Resources Canada's Internet site at http://mmsd1.mms.nrcan.gc.ca/mmsd/production/default_e.asp.

- Aluminerie Alouette plans to invest $1.4 billion to expand capacity to 550 000 t/y. Preliminary work has begun and the first metal is expected in early 2005 with full capacity expected later in the year. Partners in the smelter include Alcan Inc. (40%), Aluminium Austria Metall Québec (20%), Norsk Hydro ASA (20%), Société générale de financement du Québec (13.33%), and Marubeni Québec Inc. (6.66%). Further details are available on the company's web site at www.alouette.com.

- Alcoa (www.alcoa.com) continued investigating the possibility of expansions at its existing smelters, including all three of its smelters in Canada. Alcoa participated in discussions on power with the Quebec government and Hydro-Québec, and obtained a block of power to upgrade the Baie Comeau smelter. Discussions continue on a doubling of the Lauralco smelter.

- Alcan's 275 000-t/y Kitimat smelter continued to suffer from low water levels in the Nechako Reservoir. The smelter had been operating at a rate of 180 000 t/y when the company announced in June that it would start bringing 60 000 t of capacity back on line. (Alcan has a web site at www.alcan.com.)

- Alcoa Inc. and the Province of Newfoundland and Labrador have now terminated discussions on a possible hydro-electric power expansion and a possible aluminum smelter located in that province (www.alcoa.com and www.gov.nf.ca).

- The Alberni Aluminium Company has been formed to proceed with work towards the development of a US$1.5 billion aluminum smelter that will produce 360 000 t/y (www.bchydro.bc.ca, www.albernir-egion.com, and www.ktdal.com).

- The aluminum industry has signed both general and company-specific agreements on the reduction of greenhouse gases with the Quebec government (http://aia.aluminium.qc.ca and www.gouv.qc.ca).

- The Aluminium Association of Canada links the Canadian aluminum industry, aluminum users, the public and government. Further information and links to web sites of Canadian primary aluminum producers can be found on the Association's site at http://aia.aluminium.qc.ca.

WORLD OVERVIEW

- Power costs have declined from their highs in the western United States and about 0.3 Mt/y of primary aluminum capacity has been restarted. However, about 1 Mt/y of approximately 3.8 Mt/y of capacity remains affected. The timing of restarts is still uncertain.

- Smelters in Brazil have returned to full production after reducing production in 2001 due to a lack of rainfall.

- Smelter expansions/closures under way, proposals, and studies reported include:

Country/Project/Company	Comments
Argentina – Aluar	Deferred 140 000-t/y expansion.
Australia – Aldoga consortium	Proposed 500 000-t/y smelter near Gladstone. Feasibility studies under way.
Australia – Boyne Island	Proposal to expand by 200 000 t/y deferred.
Australia – WMC Limited/Alumina Limited	Transfer of aluminum interests.
Bahrain – Aluminium Bahrain	Expansion of 250 000 t/y in capacity under way.
Bahrain – Aluminium Bahrain	Agreement with Alcoa on study of 250 000-t/y expansion by 2005 to total capacity of 1 Mt/y.
Brazil – Albras	Expanded facilities now operating at 405 000 t/y.
Chile – Alumysa, Noranda	Environmental studies conducted for new 440 000-t/y smelter and hydro-electric facilities.
China – Aluminium Corp. of China (Chalco)	Waiting for approvals on proposal to triple the capacity of the Pingguo aluminum smelter to 355 000 t/y by 2006.
China – Henan Wanji Aluminium	Completed expansion of capacity from 60 000 t/y to 180 000 t/y.
China – Jiamusi Aluminium Smelter	Seeking investors for 100 000-t/y expansion.
China – Lanzhou Aluminum Co.	Completed expansion of capacity to 200 000 t/y. Cooperation agreement with Pechiney for study of new 260 000-t/y smelter.
China – Mianchi Smelter	Expansion of smelter under way - 55 000 t/y.
China – Qingtongxia Aluminium Co. – Alcan	Alcan signed MOU with Qingtongxia on purchase of 50% of smelter and option on a 150 000-t/y expansion.
Ghana – Volta smelter – Kaiser Aluminum Corp.	80 000-t/y reduction in production expected in 2003 due to low water levels.
Iceland – Isal smelter – Alcan	Studies under way for possible expansion.
Iceland – Alcoa	Project studies under way on new 322 000-t/y smelter after Joint Action Plan signed in April. Replaces Noral project.
India – Nalco Angul smelter	100 000-t/y expansion under way. First metal in August. Partial privatization under way.
Mozambique – Mozal smelter	Construction of 250 000-t/y expansion underway.
Russia, Alucom – Taishet	Pilot plant for 300 000-t/y smelter.
Russia, Irkutsk – Russian Aluminium	500 000-t/y smelter proposal.
Russia, Sayanogorsk – Russian Aluminium	290 000-t/y expansion approved. Construction to start in 2003.
Sarawak, Bintulu – Dubai Aluminium	500 000-t/y smelter proposal.
South Africa, Hillside – BHP Billiton	Construction of 130 000-t/y expansion under way.
Unknown – Aluminium Pechiney	Seeking partners for a proposed new AP50 – 460 000-t/y smelter, likely in South Africa.

- Bauxite mine and alumina plant proposals and changes reported include:

Country/Company/Project	Comments
Australia – Rio Tinto – Comalco	1.4-Mt/y alumina refinery at Gladstone in central Queensland to start production in 2004.
Australia – WMC Limited/Alumina Limited	Alumina interests transfered to new operating company.
Brazil – CVRD – Alunorte refinery	Expansion by 350 000 t/y due on stream in early 2003. Feasibility study for further 1-Mt/y expansion under way.
Brazil – CVRD – Bauxite mine in Para State	Studies under way for potential 5-Mt/y mine.
China – Chalco	Waiting for approvals on proposal to double the capacity of the Pingguo refinery to 850 000 t/y in 2003.
China – Mianchi	Seeking financing – proposal for 600 000-t/y refinery.
India – Gujarat	750 000-t/y alumina refinery delayed pending power supply.
India – Alcan, Indal	Utkal project restarted, initial capacity 1.5 Mt/y, second stage to 3 Mt/y.
Jamaica – Alpart – Kaiser Aluminum	200 000-t/y expansion of refinery approved.
Suriname – Paranam Alcoa/BHP Billiton	250 000-t/y expansion of refinery approved.
United Kingdom – Burntisland – Alcan	120 000-t/y chemical alumina refinery closed.
Venezuela – Bauxilium	Expanding by 350 000 t/y.

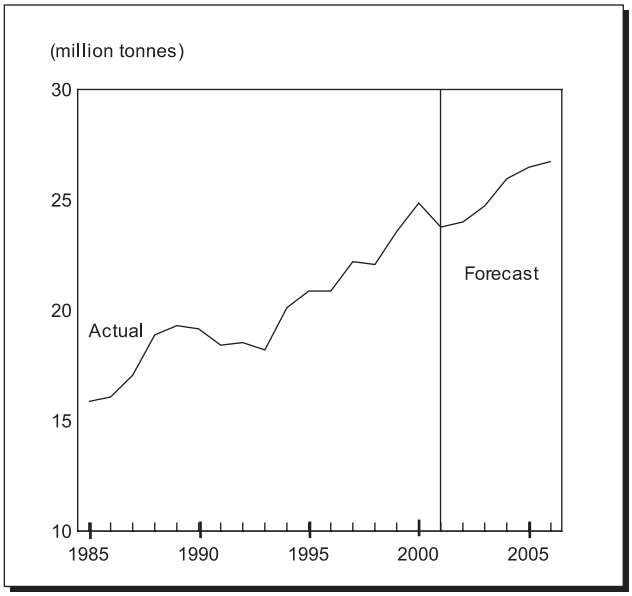
- Incremental expansions, generally at lower levels, continue in Chinese aluminum and alumina production. Aluminium Corp. of China (Chalco) issued shares in a public offering, in part to fund further expansion of its interests. Initiatives to reduce emissions may require modernization of Soderberg plants and slow the rate of growth as older plants are replaced.

DEMAND OUTLOOK

The world's apparent use of primary aluminum is estimated to be approximately 24.6 Mt in 2002, about 4% higher than the 23.8 Mt used in 2001. In 2003, world demand for aluminum, dependent on the world economy, is expected to be at or below its long-term trend of 3% annual growth. In the longer term, aluminum's long-term annual growth of 1-3% is expected to continue through the middle part of this decade. The transportation and packaging markets are expected to lead the increase in demand for aluminum.

Canada's reported use of primary aluminum increased in 2001 to 735 931 t from a revised figure of 722 496 t in 2000, and is expected to increase to 750 000 t in 2002. In the longer term, use is expected to increase at a rate of 2-5% annually. In the past, these figures have contained some amounts of run-around scrap, which have been removed from amounts reported for 2000 and 2001.

Figure 1
World Primary Aluminum Use, 1985-2006



Sources: Natural Resources Canada; International Consultative Group on Nonferrous Metals Statistics.

CANADIAN AND WORLD PRODUCTION OUTLOOK

Canadian installed capacity for the production of primary aluminum is now 2.7 Mt/y with the completion and ramp-up in production from Alcan's new smelter at Alma. Canadian production rates will remain near this level for the next two years depending on production at Kitimat. With the announced expansion of the Alouette smelter and modernization of Alcoa's Baie Comeau smelter, capacity is expected to be above 3 Mt/y in late 2005.

Studies are under way on several brownfield expansions and greenfield smelters and, should positive decisions result, this capacity could increase in the longer term. Other smelter expansion projects in Quebec (at A.B.I. and Lauralco) are dependent on the negotiation of additional long-term power supply contracts with Hydro-Québec. Decisions and the results of work on possible new capacity in British Columbia are still pending.

Canada is expected to produce approximately 2.7 Mt of primary aluminum in 2002 and a similar amount in 2003. Primary production in 2001 of 2.6 Mt had an estimated value of $5.8 billion, ranking Canada fourth after China, Russia and the United States.

World production of primary aluminum increased to an estimated 24.7 Mt in 2001, up slightly from a revised figure of 24.5 Mt in 2000. Production is expected to increase to more than 26 Mt in 2002.

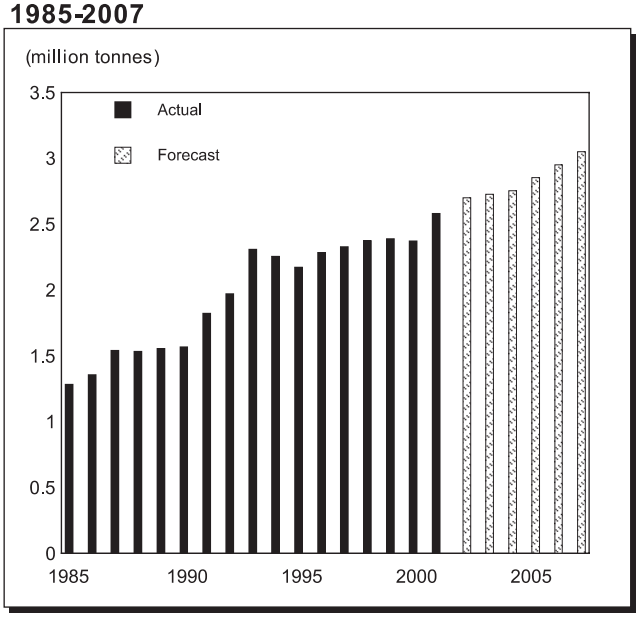
The International Aluminium Institute (IAI) indicates that members' world daily average primary aluminum production for the year to October was 57 900 t, up 1600 t/d from a comparable period in 2001, reflecting restarts in North and South America and expansions elsewhere in the world. Additional information can be obtained from the IAI's web site at www.world-aluminium.org.

IAI inventories of unwrought aluminum have fallen over the last year and were reported at 1.54 Mt in October, down from 1.74 Mt in October 2001. IAI total inventories have similarly fallen from 3.08 Mt last October to 2.86 Mt in October 2002. On the other hand, primary aluminum inventories at the London Metal Exchange (LME) have increased steadily throughout the year from 0.8 Mt in January to 1.3 Mt at the end of October.

PRICE OUTLOOK

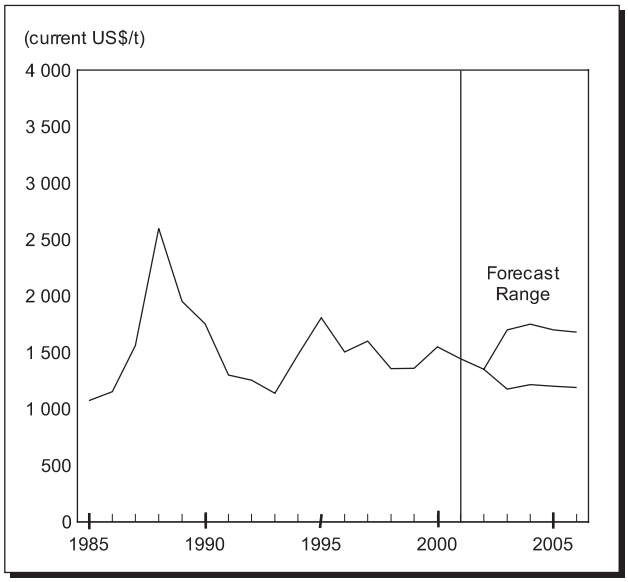
Cash prices for primary grade aluminum remained weak in the early part of the year but now appear to have stabilized. LME cash prices started the year at approximately US$1325/t (60¢/lb), declined to around US$1285/t (58¢/lb) in July, and have since risen to US$1375/t (63¢/lb) in November.

Figure 2
Canadian Primary Aluminum Production, 1985-2007



Source: Natural Resources Canada.

Figure 3
Aluminum Settlement Price, 1985-2006
Annual LME Settlement



Sources: Natural Resources Canada; http://metalprices.com (Internet site).

At the time of writing, prices appeared to have stabilized from the declines seen since early 2000. Prices have started to show some strength and, if the economies of the world increase in 2003, increased demand could result in stronger prices in the short term. If the economy remains at current levels, the prices can be expected to remain in the mid-to-lower part of their longer-term price range of between US$1200 and $1800/t (55¢ and 82¢/lb, likely in the range of 60¢-65¢). Daily metal prices can be obtained from various news services, journals and newspapers, as well as from the LME's web site at www.lme.co.uk and from http://metalprices.com.

Note: Information in this article was current as of November 1, 2002.

NOTE TO READERS

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