

**Alcan Aluminium Limited  
Annual Report 1972**





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Washington — Executive Director of  
the International Monetary Fund

### David M. Culver

Montreal — Executive Vice President

### Dr. Donald K. David

Osterville, Massachusetts  
Director of various companies

### Nathanael V. Davis

Montreal — Chairman of the Board and  
Chief Executive Officer

### P. John Elton

London — Managing Director of  
Alcan Aluminium (U.K.) Limited

### John H. Hale

Montreal — Executive Vice President

### The Rt. Hon. Viscount Harcourt, K.C.M.G., O.B.E.

London — Chairman of Morgan Grenfell Holdings Limited

### James T. Hill, Jr.

New York — Director of various companies

### Paul H. Leman

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### Donald D. MacKay

Montreal — Executive Vice President

### Hon. James Sinclair, P.C.

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Lafarge Ltd

### Manoel B. de Sousa Pernes

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### Hon. John L. Sullivan

Washington — Attorney

### Eric F. West

Cleveland — President of Alcan Aluminum Corporation

### James A. Dullea

Westport, Connecticut

### H. H. Richardson

Montreal

### M. P. Welgel

Montreal

On pourra se procurer le texte français de ce rapport  
annuel en s'adressant au secrétariat de la Compagnie,  
case postale 6090, Montréal 101, Canada.

### Cover Illustrations

Front: Geometric design features aluminum tubing, one  
of the many semi-finished and consumer products  
fabricated by Alcan in about 35 countries.

Back, left: Colourful mosaic is made of aluminum rigid  
foil containers widely used by the food industry. Centre:  
Aluminum ingot, to be rolled and drawn into wire,  
possesses characteristics of lightness and conductivity  
essential to economic electrical transmission. Right:  
Photograph under polarized light of aluminum alloy,  
magnified 100 times, provides dramatic visual check of  
orientation of crystals in grain structure.

## Officers

### Nathanael V. Davis

Chairman of the Board and  
Chief Executive Officer

### Paul H. Leman

President

### J. W. Cameron

Executive Vice President, Smelting

### David M. Culver

Executive Vice President, Fabricating and Sales

### John H. Hale

Executive Vice President, Finance

### Donald D. MacKay

Executive Vice President, Raw Materials

### Duncan C. Campbell

Vice President, Public Affairs

### Roy A. Gentles

Vice President and Planning Coordinator

### Dr. J. F. Horwood

Vice President, Technology

### A. A. Bruneau

Secretary

### T. F. D. Simmons

Treasurer

The Annual Meeting of the shareholders of Alcan  
Aluminium Limited will be held on Thursday,  
5 April 1973, at 10 a.m. in the Hotel Bonaventure,  
Montreal.

Terms: In this report, all amounts are in United  
States dollars and all quantities are in short tons  
of 2,000 pounds each, unless otherwise stated.

"Subsidiary" indicates a company directly or  
indirectly more than 50 percent-owned whereas  
"related company" indicates a company 50  
percent or less owned.

The term "Alcan" refers to the parent Alcan  
Aluminium Limited itself, or to one or more  
subsidiaries according to the context.

## Alcan Aluminium Limited

1 Place Ville Marie, Montreal, Canada  
Mail: Box 6090, Montreal 101, Canada

# Alcan Aluminium Limited

## Highlights and Summary of the Year 1972

Alcan's consolidated shipments of aluminum reached a record level of 1,451,500 tons. Shipments of fabricated products, at a new high of 859,400 tons, accounted for 59 percent of the total. Building products and other end uses showed good gains, and fabricating gross profits were higher.

The growth over 1971 in Alcan's total shipments was, however, only 3.8% due to a drop in ingot sales. Aluminum consumption in the non communist world was higher by about 12 percent.

Under the pressure of excess world smelter capacity, sales prices, particularly for primary aluminum, continued to be unsatisfactory in 1972. Largely for this reason, Alcan's pre-tax income was less than in 1971, but the lower incidence of income taxes aided in retaining net income at \$61.2 million, slightly above 1971.

### Year ending 31 December

Sales of all aluminum products (*tons*)  
 Sales of fabricated products (*tons*)  
 Sales of fabricated products (*millions of U.S. \$*)  
 Gross revenues (*millions of U.S. \$*)  
 Net income (*millions of U.S. \$*)  
 Income per common share  
 Dividends per common share  
 Capital expenditures (*millions of U.S. \$*)

1972	1971
1,451,500	1,398,100
859,400	771,600
\$ 922	\$ 821
\$1,529	\$1,441
\$ 61.2	\$ 60.2
\$ 1.78	\$ 1.75
\$ .80	\$ 1.00
\$ 129	\$ 168

### As at 31 December

Total net assets (*millions of U.S. \$*)  
 Long-term debt (*millions of U.S. \$*)  
 Common shareholders' equity (*millions of U.S. \$*)  
 Book value per common share  
 Number of common shares outstanding (*millions*)  
 Number of common shareholders  
 Percentage of common shares held  
     By residents of Canada  
     By residents of U.S.A.  
     By residents of other countries  
 Number of employees

\$2,370	\$2,297
\$ 798	\$ 740
\$ 849	\$ 816
\$25.76	\$24.78
32.95	32.94
63,595	69,558
55.0	48.8
32.5	39.4
12.5	11.8
61,600	60,600

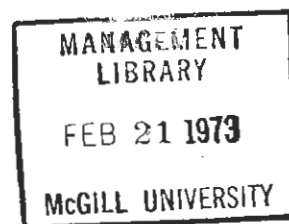
Like many major producers, Alcan subsidiary and related companies held down their smelting operating rates where necessary to an average of about 85 percent of capacity for this year. Increases in consumption are expected again in 1973 but once more prices will be the determining factor in profits.

All of Alcan's fabricating operations experienced a better year in 1972, with improvement in the United Kingdom, Canada, Europe, U.S.A. and other countries. The integrated Alcan company in Brazil had an outstanding year.

Capital expenditures in 1972 were \$129 million against a forecast of \$150 million at the outset of the year. Present estimates for 1973 are \$135 million, with emphasis on raw materials and further integration of fabricating.

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# Alcan Aluminium Limited

## Report to the Shareholders

Nathanael V. Davis, chairman of the Board, at right, with Paul H. Leman, president of the Company.



A year ago, the annual report made the following assessment of the year ahead: "The (aluminum) industry enters 1972 with excess inventories which were built up in 1971. While we believe conditions in 1972 will support a higher volume of sales, price levels will be the main determinant of Alcan's earnings. Prices having declined progressively through 1971, a reversal of this trend is essential if earnings are even to maintain 1971 levels."

Now looking back on 1972, the industry's volume of sales of aluminum did in fact increase at a vigorous rate of approximately 12 percent. However, reversal of the declining price trend, particularly for primary ingot products, did not occur although there were glimmerings of improvement as the year ended.

In these circumstances, Alcan recorded a slight increase in net income despite pre-tax income being lower than in 1971 due mainly to the unfavourable price situation. Consolidated net income in 1972 was \$61.2 million, or \$1.78 per share, compared with \$60.2 million, or \$1.75 per share in the previous year. The lower incidence of income tax contributed to a final net income slightly above the 1971 levels. These, and other financial matters, are discussed more fully in Mr. Hale's report (page 7).

the primary end of the business, the results for the year were largely sustained by the Company's fabricating sector where volume increased within a slightly firmer price structure. Almost all fabricating companies in the group turned in improved performances, as well as the Company's fully integrated operations in Brazil.

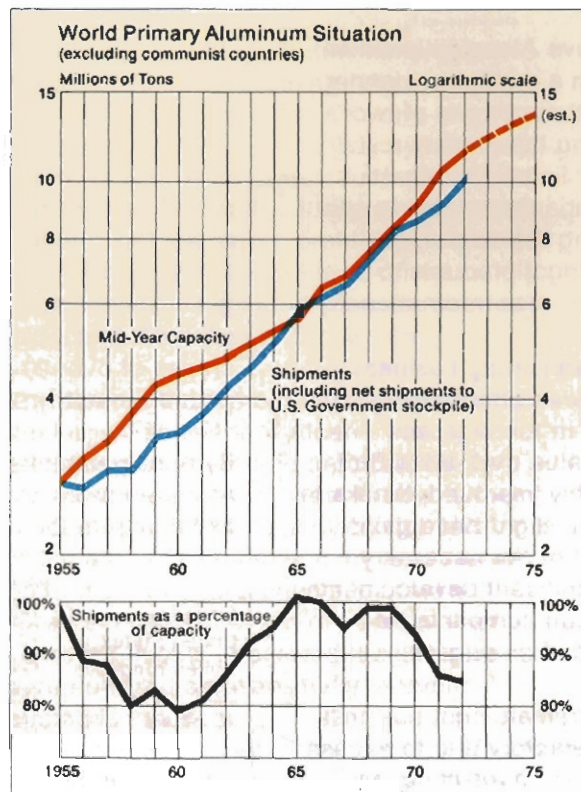
Alcan's total revenues from sales, operations and other sources in 1972 were \$1,529.4 million, an increase of six percent over the corresponding figure for 1971. The increase in dollar sales was attributable entirely to fabricated products where shipments grew by 87,000 tons. This growth kept pace with the 12 percent increase in the free world's aluminum consumption. In the difficult market for primary ingot, however, where Alcan withdrew from some distress markets, the Company's shipments were down by 34,000 tons. The net effect of these opposite trends in fabricating and ingot sales was that Alcan's total shipments of aluminum in all forms to third parties increased by only 3.8 percent, but the total of 1,451,500 tons was nevertheless an all-time record.

While 1972 has brought an encouraging revival of growth and a lessening of excess inventories hanging over the market, there still remains an excess capacity to produce primary remelt ingot. The growth of 1.9 million tons, or 20 percent, in free world smelting capacity in 1971 was followed by another gain of over 600,000 tons in 1972. Even with the estimated 12 percent increase in shipments in 1972 over 1971, shipments as a percentage of available capacity decreased slightly, as shown in the chart on the next page. While this disequilibrium is not as severe as the one experienced by the industry in the late 1950's and early 1960's, its effect on the intensity of competition has been magnified by the increased fragmentation of the aluminum industry over the period caused by the entry into the aluminum smelting field of numerous new participants without established markets for their products. Furthermore, when it is recognized that the current realized prices for primary aluminum in today's dollars are no greater than they were 15 years ago, the price in real terms has actually fallen about one-third over this period. Few major industries have had to withstand such pressure.

Alcan's own smelters and those of most of its related companies operated at an average rate of approximately 85 percent of capacity

# Alcan Aluminium Limited

## Report to the Shareholders



in 1972. There were some increases, mainly in Japan, Britain and Brazil where long-planned smelters came into initial operation and, as the year ended, production rates in Canada were increased to 88 percent of capacity to meet an anticipated increase in demand. Throughout the year, the Company's inventories were maintained at low levels.

Within Alcan's consolidated operations, the most important new smelter is at Lynemouth, near Newcastle, England, which had its start-up in 1972. Work on this project was begun in 1968 but completion has been delayed by unforeseen work stoppages and other difficulties. High levels of production will not be reached until late in 1973, and meanwhile the Company's overall activities in the U.K. are heavily burdened with interest charges related to the power and smelter facilities. The 132,000-ton capacity of Lynemouth will be slightly more than one year's average growth in Alcan's consolidated world sales, and its output will be absorbed mainly in the Company's fabricating plants in the U.K. These and other important changes in Alcan's position in Britain, coming to fruition as that country enters the larger European Economic Community, are summarized on pages 21 to 24 of this report.

In the raw materials sector, construction of the large Boké project in the Republic of Guinea, West Africa, by a consortium of

aluminum producers in association with the Guinea government was carried near to completion in 1972. First bauxite shipments from this large new source are expected this year. Alcan is a major participant and is due to receive 1.3 million tons of bauxite per year from the initial output, rising to double that amount by the seventh year. Elsewhere, the Company is studying in detail its long-term position in raw materials, including a revival of a proposed joint venture project to mine bauxite in the Amazon River basin of Brazil.

Alcan's capital expenditures of \$129 million in 1972 were considerably less than the \$150 million forecast early last year. One quarter of 1972 outlays went toward completion of the U.K. smelter and powerhouse. The remainder was spent to round out and diversify the many fabricating operations, to modernize older smelters and improve environmental controls, and to strengthen and diversify the Company's alumina-producing resources. Capital expenditures for 1973 are estimated at \$135 million for priority projects with a greater proportion devoted to the fabricating sector.

As the Company enters 1973 after two difficult years for the aluminum industry, we look forward to another year of increasing consumption. Once again, however, prices are likely to be the main determinant of profits. Whereas the basic excess capacity position in primary remelt ingot may hold down prices for that product for some time yet, it seems reasonable to expect some price improvement in 1973 in the special ingot products which the Company has developed. In the fabricating sector, capacity and demand are in close balance and would appear to justify the expectation of a more rapid improvement in prices. Clearly, the year calls for a continuation of the determined efforts on the part of all of us to do what can be done to offset rising costs and to move toward a pricing structure which will bring about a return to more reasonable levels of profit for the Company and the industry.

*Nathaniel V. Davis*

Chairman of the Board

*Paul Leman*

Montreal  
7 February 1973

President



# Alcan Aluminium Limited

## Fabricating and Sales

**David M. Culver**  
*Executive Vice President*

Our main objective in the Fabricating and Sales Division is to move Alcan's aluminum production to market in a profitable manner. This is done, broadly, through one of two means: (a) by converting the primary metal into semi-fabricated or finished products in our own or related companies' plants in about 35 countries, and selling the output, or (b) selling our primary ingot products to independent fabricators, also internationally.

In the year 1972, our fabricating business under category (a) showed encouraging growth of 11.4 percent in tonnage and 12.3 percent in sales value over 1971. Profitability was considerably improved, thanks to better volume and some slight price gains, but profits still fall short of our necessary targets. There were significant developments of new products by Alcan companies in 1972. Some are described on page 6.

Under category (b) the remelt ingot business in 1972 was still unsatisfactory due to excess inventories of aluminum and resulting low prices on world markets. This situation has already been discussed in preceding pages.

### **World Markets**

Total free world consumption of primary and secondary aluminum moved strongly higher, increasing by about 12 percent in 1972, after below-normal growth of only one and six percent in the years 1970 and 1971 respectively. The vast U.S. market was impressive, with apparent domestic con-

sumption increasing by about 14 percent. Japan, the second largest aluminum user, had a good recovery, with an estimated increase of at least 20 percent compared with only six percent in 1971. In Europe, the nine EEC members also showed good recovery, registering an increase over 1971 of about 10 percent, with the U.K. and France in the lead. In West Germany, the growth was less buoyant at about five percent. Brazil also stood out with an increase of over 20 percent. Canada continued a healthy seven percent growth.

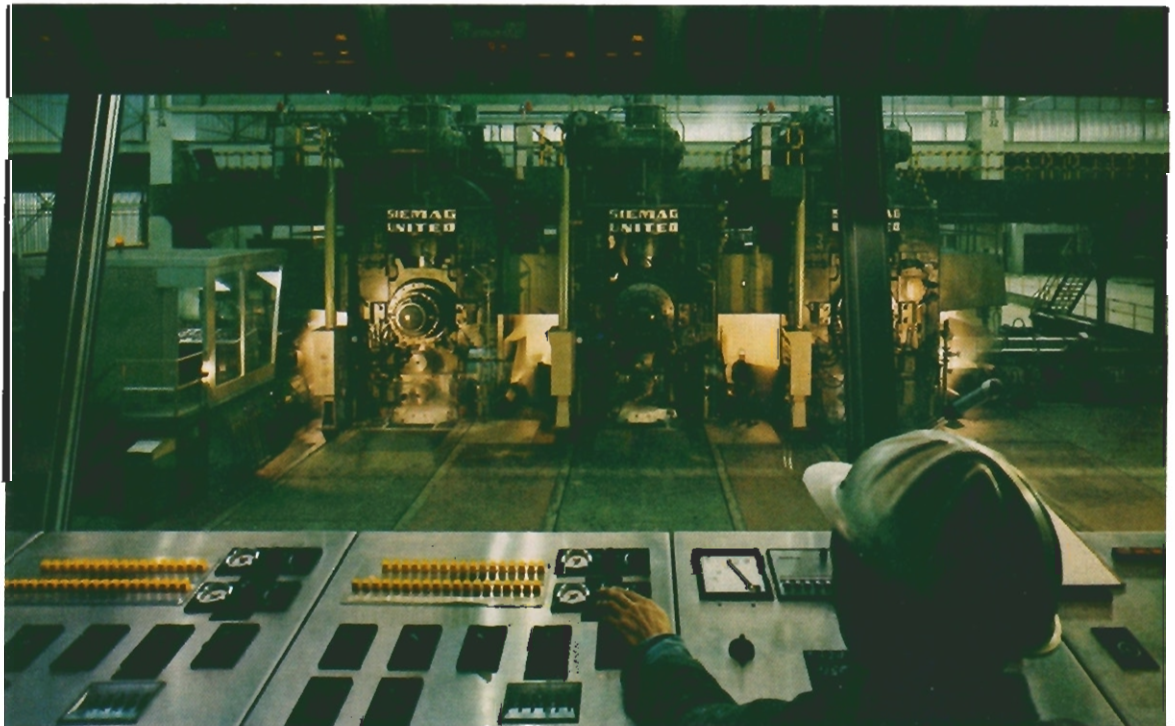
By principal market areas, Alcan's consolidated sales of aluminum in all forms were as follows, in thousands of tons.

	1968	1969	1970	1971	1972
Canada	150	152	160	189	195
United States	393	399	357	387	416
United Kingdom	174	191	222	186	210
EEC	121	158	168	148	172
All others	382	463	439	488	458
	1,220	1,363	1,346	1,398	1,451

Of these consolidated sales, fabricated products expanded by 87,000 tons to a new high of 859,000 tons, or 59 percent of total shipments. This near achievement of a 60 percent fabricated sales ratio stands in sharp contrast to 259,000 tons or 35 percent, only 10 years earlier.

This growing volume was achieved through heavy investments of more than \$600 million in fabricating plants in the past decade. Now

From control room, operator monitors automated hot-finishing train of the 300,000-ton rolling mill at Norf, Germany, in which Alcan has a 50% interest.



# Alcan Aluminium Limited

## Fabricating and Sales

that these facilities, particularly the large sheet mills in the U.S.A., Germany, Britain and Canada, are becoming fully engaged, their operating results are showing a welcome improvement after several years when they provided necessary outlets for ingot but not much profit. Although, as explained in the financial section, gross profit from aluminum sales declined in 1972, this occurred mainly in ingot profit. Fabricated products showed a gross profit increase of six percent.

The sale of sheet products continues to be the largest segment of Alcan's semi-fabricated business and an increasingly significant tonnage of sheet is now further processed by the Company by conversion to foil and by painting, forming and manufacturing into end-products for final sales. Alcan's revenue per ton of metal is thus improved, highly integrated facilities are better utilized and sensitivity to cyclical pricing is reduced.

Within the restrictions on available capital in this period, our investment emphasis in 1972 was given to those facilities, such as extrusion presses and extrusion finishing, building products, other end products and distribution facilities which will round out our fabricating program and extend our capabilities in the market place. Similar emphasis is planned for 1973.

□ Significant progress was achieved in serving the growing "shelter" markets in the

U.S.A. Sales of Alcan fabricated products in those various housing markets increased by 35 percent to over \$45 million.

□ In both Canada and the U.S.A. steps were taken to move further into the aluminum window and door business via expansion and acquisition. The Company has acquired a majority interest in V.E. Anderson Mfg Co. with headquarters in Kentucky.

□ Service centres in the U.S.A. to supply components for mobile homes and recreational vehicles were added in Pennsylvania and Michigan, bringing their number to five. A sixth is under construction in Indiana.

□ Similar activities in the U.K. and Australia during 1972 all played a significant role in maintaining the Company's profitability in otherwise difficult times.

□ In Europe, Alcan's extrusion operations in France, Germany, Belgium and Italy, and the foil operations in Switzerland and Germany produced good results.

□ In Canada, Alcan Canada Products Limited formed a joint company with E. H. Price Limited involving an extrusion and finishing operation in Winnipeg and the setting up of a new plant in Calgary, Alberta.

In the report to the shareholders for the period ended 30 June 1972, the Company stated that an investigation was being carried out under the United States Anti-dumping Act of imports of aluminum ingot products from Canada into the United States. This investigation is continuing and it is still impossible to predict its outcome.

The LRC (light, rapid, comfortable) high-performance train designed in Canada illustrates Alcan's active interest in the development of better means of transportation.

Wide-ranging marketing activities took Alcan to the 1972 Trade Fair in Peking, People's Republic of China. Exhibit includes patented Alcan SDC self-damping conductor.





# Alcan Aluminium Limited

## Research and Development

**Dr. J. F. Horwood**  
*Vice President, Technology*

In the primary product divisions — Raw Materials and Smelting — the R & D effort was directed mainly toward technological improvements in existing processes to increase operating efficiencies and reduce costs. The application of sophisticated computer techniques to the process control of reduction cells was further developed and extended in Alcan's smelters and those of its affiliated companies. Potential new processes are also being appraised, and research has been intensified on raw materials of varying characteristics.

During the year, Alcan continued and extended its penetration of the growing market in industry for technology and engineering. The services offered to third parties now include Process technology in raw materials and smelting, Detailed engineering, Consultation, Process development and Project management. During 1972, sales in three continents included dry-scrubbing for aluminum reduction plants, cathodic protection for marine terminal installations, petroleum coke calcining, specialized potroom equipment and computer process control.

New product development was an outstanding feature of the Fabricating Division's R & D program, including the following:

- ☐ A building panel system now being sold in the U.K. and European markets.
- ☐ A novel building fascia system, GRANURAL,

which has attracted interest and sales.

- ☐ A compressed gas cylinder, manufactured in Riverside, California.
- ☐ A roof shingle system, developed by Alcan Aluminum Corporation in the U.S.A. Eight developmental sales have been made, and it has been exhibited at the National Home-Builders Association Show.
- ☐ Heat sterilizable lids and body stock for food containers, developed at Rorschach, Switzerland, for unrefrigerated storage.
- ☐ A system for manufacturing high quality lithographic plates, for which Alcan Aluminiumwerke in Germany has recently commissioned a plant.
- ☐ A painting system, developed by Alcan Aluminum Corporation, which produces painted aluminum sheet of outstanding appearance and quality for the building industry.
- ☐ A forming system, "flying forms", for placing concrete in high-rise buildings — developed by Alcan Canada Products in conjunction with Del Zotto Enterprises Ltd — which, by virtue of size and lightness, can reduce labour costs by 24 percent.
- ☐ In June 1972, Alcan Canada Products commissioned a \$1.5 million sheet processing line at Kingston, Ontario, representing nearly two years of research and development work. The line has an unconventional and novel configuration, with unique process capabilities and product flexibility well suited to the Canadian market for aluminum bottle closures, beverage can ends, and transportation and housing end-uses requiring special coatings.

New research and plant laboratory at Arvida, Canada, featuring access to inner courtyard from offices and working modules, provides positive environment to encourage essential teamwork of scientific personnel.

Experiment on high current welding of thick aluminum plate is carried out at the Banbury Research Centre, England, which specializes in the study of the fabrication of aluminum products.





# Alcan Aluminium Limited

## Finance

**John H. Hale**

*Executive Vice President*

Control of overhead expenses showed results. Improved accounting methods speeded financial reporting.

Total aluminum revenues increased by eight percent due to substantially higher fabricated products sales.

Alcan's 1972 net income of \$61.2 million increased only slightly over the 1971 level. Results throughout the year continued to be plagued by depressed aluminum prices in the highly competitive North American and European markets. In the United Kingdom, operating results showed some improvement, but results as a whole were substantially lower due to the interest and initial start-up costs of the new smelter which began limited production toward the end of the year. Lower operating rates at primary facilities in Canada and India, the latter caused by a drought-related power shortage which has continued into 1973, also had a negative impact on earnings. Alcan's equity in the earnings of companies 20-50 percent-owned decreased slightly, with lower prices in particular hurting the results of A/S Ardal og Sunndal Verk, in Norway.

Going counter to these developments were the improved results achieved by a number of fabricating subsidiaries, particularly in the United States and Europe, and by Alcan's fully integrated operations in Brazil. These improvements, together with a substantially lower incidence of income tax resulting principally from increased non-taxable gains, but also due to the availability of some loss carry-forwards and investment credits, allowed net income to show a small increase over 1971.

### **Gross Revenues**

Total revenues from sales, operations, and other sources rose six percent to a record \$1,529 million. This amount is now reported before the inclusion of Alcan's equity in the earnings of companies 20-50 percent-owned, these being profits after tax rather than revenues.

Substantially higher revenues from the sales of fabricated products overcame a decline in ingot sales to increase total aluminum sales revenues by \$85 million, or eight percent. Sales of non-aluminum products in 1972 declined slightly to \$266 million, reflecting the phasing out of the Company's direct participation in the housing industry, and the termination of calcined bauxite sales. Operating revenues from Alcan's shipping and power subsidiaries increased, showing gains of over 10 percent each. The increase in other sources of revenue included \$3.2 million of interest on the notes of the Government of Guyana, as well as higher interest income reflecting the Company's increased liquidity.

### **Gross Profit**

Gross profit on total revenues declined to \$274 million from the 1971 level of \$281 million. Included in the 1972 figure was approximately \$6 million representing the net benefit to Alcan of the effect of changing currency parities, an amount somewhat greater than in 1971.

Aluminum gross profits in 1972 declined \$13 million to \$198 million. Increased shipments of fabricated products more than offset lower unit margins to show a gross profit increase of some six percent. In the ingot sector, a more severe decline in unit margins combined with a decrease in the tonnage sold to reduce ingot gross profits by nearly one-third. Gross profit on sales of products other than aluminum and on operating revenues also declined slightly to \$58 million.

### **Overhead Expenses**

Programs instituted in the past several years to control overhead expenses, including a reduction of over 200 people, or 18 percent, in the Montreal head office staff since late 1971, are showing results. Selling, research, and administrative expenses increased at a much lower rate than revenues in 1972, with approximately \$2 million of the total increase of \$2.8 million accounted for by the revaluation of currencies in which these expenses were incurred. Continued emphasis on improved accounting systems allowed Alcan to announce its 1972 results on 19 January of this year, eight days earlier than a year ago, representing a major step forward in the speed of reporting from the more than 100 companies included in the consolidated accounts.

### **Capital Expenditures**

Alcan's expenditures on fixed assets and investments in 1972 amounted to \$129 million (before investment grants of \$10 million, mainly in the U.K.), considerably below the Company's original forecast for 1972 of about \$150 million. The comparable figure in 1971 was \$168 million. The reduction below forecast reflects the announced deferment of expenditures on the Trombetas project in Brazil, and the carry-over of expenditures on several projects into early 1973.

Construction of the U.K. smelter and powerhouse absorbed about one-quarter of the total outlays. Expenditures on a variety of fabricating projects, principally in Europe, the U.K., and South America, accounted

# Alcan Aluminium Limited

## Finance

for about another 40 percent. The balance of funds was spent in improving the raw materials processing operations in Quebec and Jamaica, in the continuing modernization of the Canadian smelter operations, and in the expansion of the primary operations in India.

Cash generation from operations decreased to \$143 million from the 1971 level of \$157 million. Dividends paid on preferred and common shares amounted to \$29 million, representing 47 percent of 1972 net income.

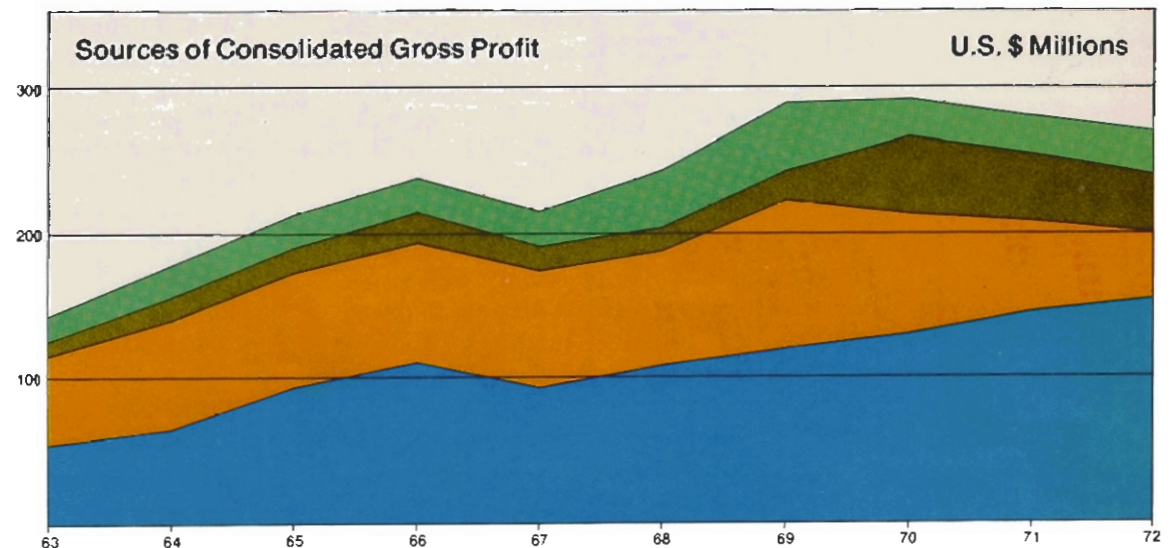
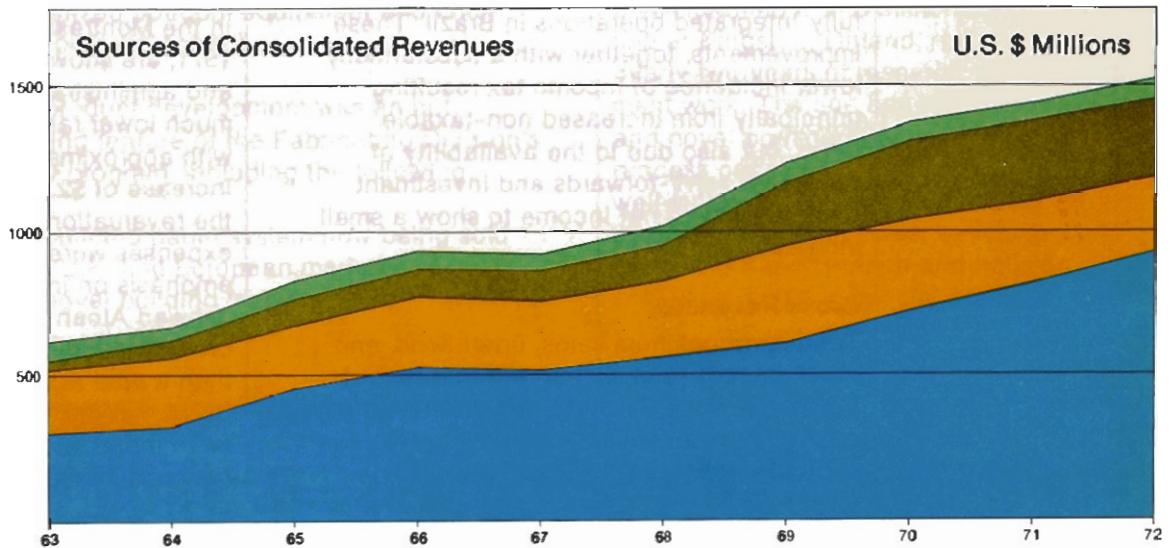
### Borrowings

Principal borrowings in 1972 were a Canadian \$40 million medium-term private placement made early in the year, and a 100 million Swiss Franc long-term issue, equivalent to \$26 million, completed in May. Proceeds were used mainly to increase the Company's cash reserves in anticipation of forthcoming debt repayments. At the end of 1972, Alcan's long-term debt stood at \$847 million,

including \$49 million repayable within one year. The Company does not foresee the need for any significant borrowings in 1973.

### 1973 Capital Spending

Plans for 1973 call for outlays on capital expenditures and investments of some \$135 million. Expenditures on the U.K. smelter will again decline as construction on that project draws to a close. Modest increases are forecast by the Canadian smelter operations, and the raw materials division. Expenditures by the fabricating division will continue to be directed toward strengthening the Company's position in building products and extrusions in a number of areas of the world. Expenditures will also rise somewhat in India as work continues toward the completion of the smelter expansion at Belgaum scheduled for late 1974.



\*including profit at all successive stages of production (raw materials, power, ingot, etc.)



Alcan Aluminium  
Limited  
and Subsidiary  
Companies

Consolidated  
Statement of  
Income

year ending 31 December 1972

in thousands of U.S. dollars  
1972 1971

**Revenues**

Sales	\$1,455,607	\$1,381,371
Operating revenues	55,765	49,472
Other income (note 11)	18,012	9,796
	<b>1,529,384</b>	<b>1,440,639</b>

**Costs and expenses**

Cost of sales and operating expenses	1,160,625	1,062,525
Depreciation and depletion	94,315	97,574
Selling, research and administrative expenses	121,035	118,216
Interest on debt not maturing within one year	57,698	52,289
Other interest	10,904	11,287
Other expenses	5,387	4,476
	<b>1,449,964</b>	<b>1,346,367</b>

**Income before income taxes and other items**

**79,420 94,272**

**Income taxes**

Current	32,257	38,321
Deferred	(12,159)	(436)
	<b>20,098</b>	<b>37,885</b>

**Income before other items**

**59,322 56,387**

Equity income less minority interests (note 12)	1,912	3,790
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**Net income**

**\$ 61,234 \$ 60,177**

**Per common share**

in U.S. dollars

<b>Income (after preferred dividends)</b>	<b>\$1.78</b>	<b>\$1.75</b>
<b>Dividends</b>	<b>\$ .80</b>	<b>\$1.00</b>

Alcan Aluminium  
Limited  
and Subsidiary  
Companies

Consolidated  
Balance Sheet

Assets

31 December 1972	in thousands of U.S. dollars	
	1972	1971
<b>Current assets</b>		
Cash	\$ 45,014	\$ 31,777
Time deposits	94,906	47,627
Receivables	320,777	308,608
Aluminum	235,259	247,456
Raw materials and other supplies	196,381	193,837
	<b>892,337</b>	<b>829,305</b>
<b>Deferred receivables (note 3)</b>	<b>61,315</b>	<b>61,214</b>
<b>Deferred charges</b>	<b>4,674</b>	<b>8,251</b>
<b>Investments in companies not more than 50% owned (note 2)</b>	<b>178,173</b>	<b>174,117</b>
<b>Property, plant and equipment (note 4)</b>	<b>2,498,604</b>	<b>2,411,771</b>
Less: Accumulated depreciation and depletion	1,264,648	1,187,875
	<b>1,233,956</b>	<b>1,223,896</b>
	<b>\$2,370,455</b>	<b>\$2,296,783</b>



Alcan Aluminium  
Limited  
and Subsidiary  
Companies

Consolidated  
Balance Sheet

Liabilities

31 December 1972	in thousands of U.S. dollars	
	1972	1971
<b>Current liabilities</b>		
Payables	\$ 227,248	\$ 202,110
Short-term borrowings (principally from banks and in other currencies)	116,224	159,780
Income and other taxes	31,185	33,986
Debt maturing within one year (note 5)	49,895	32,471
	<b>424,552</b>	<b>428,347</b>
<b>Debt not maturing within one year (note 5)</b>	<b>797,733</b>	<b>739,840</b>
<b>Deferred income taxes</b>	<b>130,102</b>	<b>142,248</b>
<b>Minority Interests (note 6)</b>	<b>113,646</b>	<b>114,291</b>
<b>Shareholders' equity</b>		
4¼% Cumulative redeemable convertible preferred shares, par Can. \$40 (note 7)		
Authorized — 1,500,000 shares		
Outstanding — 1,499,998 shares (1971 — 1,500,000)	55,632	55,632
Common shares, without nominal or par value (note 7)		
Authorized — 60,000,000 shares		
Outstanding — 32,946,549 shares (1971 — 32,944,072)	212,891	212,829
Retained earnings (note 8)	635,899	603,596
	<b>904,422</b>	<b>872,057</b>
	<b>\$2,370,455</b>	<b>\$2,296,783</b>

Alcan Aluminium  
Limited  
and Subsidiary  
Companies

Consolidated  
Statement of  
Changes in  
Financial Position

year ending 31 December 1972

in thousands of U.S. dollars  
1972 1971

**Source of funds**

Net income	\$ 61,234	\$ 60,177
Depreciation and depletion	94,315	97,574
Deferred income taxes	(12,159)	(436)
From operations	<b>143,390</b>	<b>157,315</b>
New debt	109,840	99,967
Disposals of plant and equipment	8,394	11,158
Other	6,343	4,459
	<b>267,967</b>	<b>272,899</b>

**Application of funds**

Plant and equipment (net of government development grants, \$10 million in 1972, \$15 in 1971)	110,364	136,956
Investments	8,698	16,436
Debt repayments	53,147	112,799
Dividends on preferred shares	2,575	2,524
Dividends on common shares	26,356	32,944
Other	—	14,294
	<b>201,140</b>	<b>315,953</b>

**Change in working capital** (note 13)

**66,827** **(43,054)**

Working capital — beginning of year

400,958 444,012

**Working capital — end of year**

**\$ 467,785** **\$ 400,958**

Consolidated  
Statement of  
Retained  
Earnings

year ending 31 December 1972

in thousands of U.S. dollars  
1972 1971

**Retained earnings — beginning of year**

**\$ 603,596** **\$ 578,887**

Net income

61,234 60,177

**664,830** **639,064**

Dividends on preferred shares

2,575 2,524

Dividends on common shares

26,356 32,944

**28,931** **35,468**

**Retained earnings — end of year** (note 8)

**\$ 635,899** **\$ 603,596**



# Alcan Aluminium Limited and Subsidiary Companies

## Notes to Financial Statements

in millions of United States dollars

### 1. Summary of accounting policies

#### Principles of consolidation

The consolidated financial statements include the accounts of all companies more than 50% owned. In addition, under the equity accounting principle, consolidated net income includes Alcan's equity in the net income of all companies 20-50% owned and the investments in these companies have been increased by Alcan's share of their undistributed net income since acquisition. When the cost of an investment exceeds the book value of Alcan's equity therein at date of acquisition, the excess is amortized over the estimated useful life of the related fixed assets. Intercompany items and transactions between consolidated companies, including profits in inventories, are eliminated.

#### Translation of accounts into United States dollars

Since the U.S. dollar is the principal currency of international trade and is the currency to which most other currencies are fixed, and in order to present the results in as consistent a manner as possible, the consolidated financial statements are expressed in U.S. dollars.

Accounts, other than U.S. dollar accounts, included in the consolidated balance sheet are translated at rates of exchange current at year end except that (a) inventories, investments, fixed assets and accumulated depreciation and depletion are at rates current at dates of acquisition, (b) debts not maturing within one year are at rates current at dates of issue, and (c) deferred income taxes are at rates current at dates of origin. Accounts included in the consolidated statement of income, except depreciation and depletion, are translated at average rates of exchange prevailing during the year. Translation adjustments, not significant in amount, are included in income.

#### Aluminum, raw materials and other supplies

Aluminum, raw materials and other supplies are stated at cost (determined for the most part on the monthly average method) or net realizable value, whichever is the lower.

#### Depreciation and depletion

Depreciation, as recorded in the accounts, is calculated on the straight-line method using rates based on the estimated useful lives of the respective assets. Depletion, not significant in amount, is calculated on the unit of production basis.

#### Deferred income taxes

Income tax regulations in Canada and certain other countries permit the deduction from taxable income of certain items (principally depreciation) in amounts which do not coincide with those charged for financial reporting purposes. The effect of such timing differences on income taxes otherwise payable is recognized as deferred income taxes.

2. Investments in companies not more than 50% owned	1972	1971
At cost plus equity in undistributed net income since acquisition		
Companies 50% owned (cost \$90 million)	\$137	\$134
Companies 20% to 50% owned (cost \$33 million)	35	34
At cost		
Companies less than 20% owned	6	6
	<u>\$178</u>	<u>\$174</u>

Summarized below is the financial position, as at 31 December 1972, of the 20-50% owned companies which are located mainly in Australia, Germany, Japan and Norway.

	50%	20% to 50%
Working capital	\$179	\$111
Property, plant and equipment (net)	472	554
Other assets (net)	83	18
	<u>734</u>	<u>683</u>
Less:		
Deferred taxes	58	34
Debt	426	502
Net assets	<u>250</u>	<u>147</u>
Alcan's equity in net assets	<u>125</u>	<u>33</u>
Alcan's share of net income* — 1972	6.6	1.6
— 1971	7.1	1.4
Dividends received by Alcan — 1972	2.7	1.2
— 1971	3.8	1.1

\*Where a company operates as a joint venture supplying materials to each participant, Alcan's share of its net income is applied to the cost of the materials so obtained.

**Alcan Aluminium  
Limited  
and Subsidiary  
Companies**

**Notes  
to Financial  
Statements**

*in millions of  
United States dollars*

**3. Deferred receivables**

Deferred receivables include \$52.1 million (\$52.7 in 1971) arising from the nationalization in 1971 of Alcan's bauxite and alumina assets in Guyana. This amount, bearing interest at 6% per annum, is receivable from the Government of Guyana over the period 1974 to 1991.

<b>4. Property, plant and equipment, at cost</b>	1972	1971
Land, and water rights	\$ 64	\$ 62
Mineral properties, rights and development	17	16
Raw material, power and other facilities	957	917
Smelting facilities	731	693
Fabricating facilities	730	724
	<u>\$2,499</u>	<u>\$2,412</u>

Capital projects are expected to involve the expenditure of some \$135 million in 1973.

**5. Debt not maturing within one year**

	1972	1971
Aluminum Company of Canada, Ltd		
*Bank loans under \$160 million revolving credit agreement, due 1976/1980	\$100	\$100
9½% Sinking fund debentures, due 1995	100	100
9¾% Sinking fund debentures, due 1991 (Can. \$60 million)	59	59
4½% Sinking fund debentures, due 1980	40	41
7½% Serial debentures, due 1976/1979 (Can. \$40 million)	40	—
5.10% Notes, due 1973/1992	90	92
3½% Note, due 1974 (Can. \$40 million)	38	38
Other debt, due 1973/1974	25	30
Alcan Aluminum Corporation (U.S.A.)		
4¾% Notes, due 1973/1984	36	38
Other debt, due 1973/1990	16	17
Alcan Aluminium (U.K.) Limited (consolidated)		
*Notes, due 1979/1981 (£15 million)	36	36
8% Debenture stock, due 1981/1986 (£6 million)	15	15
9% Loan stock, due 1989/1994 (£11 million)	27	28
10½% Loan stock, due 1989/1994 (£8 million)	19	19
Other debt, due 1973/1979 (£7 million)	21	18
Alcan Aluminium (Europe) S.A. (consolidated)		
5½% Bonds, due 1987 (Sw. F. 100 million)	26	—
Bank loans, due 1973/1984	16	24
Indian Aluminium Company, Limited		
Debentures and bank loans, due 1973/1984 (principally rupees)	39	33
Other companies		
Bank loans	44	17
Debentures and notes	60	66
	<u>847</u>	<u>771</u>
Less: Debt maturing within one year included in current liabilities (equivalent to \$50 million at year-end rates of exchange)	49	31
	<u>\$798</u>	<u>\$740</u>

\*Interest fluctuates with lender's prime commercial rate.

After allowing for prepayments, sinking fund and other requirements over the next five years amount to \$49 million in 1973, \$64 in 1974, \$51 in 1975, \$67 in 1976 and \$61 in 1977.

**6. Minority interests in subsidiary companies**

	1972	1971
Preferred shares	\$ 49	\$ 53
Common shares	43	41
Retained earnings	22	20
	<u>\$114</u>	<u>\$114</u>

Notes  
to Financial  
Statements

in millions of  
United States dollars

**7. Alcan preferred and common shares**

Under the conversion privilege of the 4¼% preferred shares, 1,499,998 common shares are subject to issuance on a share for share basis at any time prior to 15 July 1973. These preferred shares are also subject to redemption in whole or in part at any time at the option of the Board of Directors on thirty days' notice at Can. \$43 per share.

At 31 December 1972, 155,600 Alcan common shares were under option to officers and other employees at various prices, as indicated below, under Share Option Plans approved by the shareholders. During 1972, no further options were granted or exercised.

Price in Can. \$	Year of grant	Number of shares under option			Year of expiry
		1 January 1972	Expired or cancelled in 1972	31 December 1972*	
\$25.875	1963	46,600	—	46,600	1973
\$33.0625	1967	49,500	49,500	—	—
\$33.0625	1967	115,500	6,500	109,000	1977
		211,600	56,000	155,600	

\*Including shares under options granted to directors and officers of the Company: 23,600 in 1963 and 26,500 in 1967.

Options to purchase Alcan shares were also issued in connection with the acquisition in 1969 of a business in the United States. During 1972, options for 2,475 shares were exercised and the remaining options expired. Common share capital was increased by Can. \$25 per share for the shares issued.

There would be no significant reduction of income per common share if all the options and conversion privileges had been exercised.

**8. Retained earnings**

Consolidated retained earnings at 31 December 1972 include \$156 million which, pursuant to the provisions of certain debt issues of Aluminum Company of Canada, Ltd, is not distributable as dividends either in cash or in kind to Alcan, the holder of its common shares.

Consolidated retained earnings at 31 December 1972 also include about \$150 million, some part of which may be subject to certain taxes on distribution to the parent company. No provision has been made for such taxes because these earnings have been reinvested in the business.

**9. Commitments**

Alcan and certain subsidiaries have financial commitments, long-term leases, purchase agreements and tolling arrangements. These include long-term cost sharing joint ventures with other aluminum companies in respect of bauxite mining, alumina production and the semi-fabrication of aluminum. Under these arrangements, the subsidiaries are required to pay their respective share of the operating costs of the facilities, including the amount required to service the long-term debt issues of the joint ventures. The fixed portion of the commitments under these and other arrangements amounts to \$13.9 million in 1973, \$16.0 in 1974, \$16.9 in 1975, \$16.9 in 1976, \$18.4 in 1977, \$19.4 in 1978 and lesser annual amounts up to 1992. In addition, commitments for charter hire of ships amount to \$6.9 million in 1973 (\$8.7 paid in 1972), \$3.2 in 1974, \$2.3 in 1975, and lesser annual amounts up to 1981.

See also reference to capital expenditures in note 4 and debt repayments in note 5.

**10. Geographical distribution of capital employed**

	Canada	United States	South America and Caribbean	United Kingdom	Continental Europe	All Other	Total
Working capital	\$ 216	\$ 112	\$ 44	\$ 16	\$ 43	\$ 37	\$ 468
Fixed capital	1,365	195	297	271	123	248	2,499
Less: Accumulated depreciation	(815)	(72)	(153)	(74)	(58)	(93)	(1,265)
Investments and other assets	10	10	68	5	90	61	244
Capital employed — 31 December 1972	\$ 776	\$ 245	\$ 256	\$ 218	\$ 198	\$ 253	\$1,946
— 31 December 1971	\$ 757	\$ 242	\$ 253	\$ 215	\$ 155	\$ 246	\$1,868

**11. Other income**

	1972	1971
Interest	\$10.6	\$ 4.4
Net gain from sale of investments	3.9	2.1
Net gain from disposal of fixed assets	1.7	(1.7)
Other	1.8	5.0
	\$18.0	\$ 9.8



**Alcan Aluminium  
Limited  
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*in millions of  
United States dollars*

	1972	1971
<b>12. Equity income less minority interests</b>		
Alcan's equity in net income of companies 20-50% owned	\$ 8.2	\$ 8.5
Less: Minority shareholders' interest in net income of subsidiary companies	6.3	4.7
	<u>\$ 1.9</u>	<u>\$ 3.8</u>
<b>13. Changes in working capital</b>	1972	1971
Current assets		
Cash and time deposits	\$ 60.5	\$(10.2)
Receivables	12.2	14.4
Aluminum, raw materials and other supplies	(9.7)	26.6
	<u>63.0</u>	<u>30.8</u>
Current liabilities		
Payables and short-term borrowings	(18.4)	89.5
Income and other taxes	(2.8)	(4.0)
Debt maturing within one year	17.4	(11.6)
	<u>(3.8)</u>	<u>73.9</u>
Net increase (decrease)	\$ 66.8	\$(43.1)

**14. Pension plans**

Alcan and its subsidiaries (with some exceptions) have established pension plans in the principal countries where they operate, for the greater part contributory and generally open to all employees. With respect to these plans, Alcan and its subsidiaries incurred a pension expense of \$14.1 million in 1972 (\$11.6 in 1971). Assets in the pension funds are virtually in balance with the liabilities for pension benefits accrued to 31 December 1972.

**15. Remuneration of directors and officers**

The Company has 14 directors and three honorary directors. Their remuneration, together with that of past directors, was paid by the Company and amounted to \$65,318 in 1972 (\$71,630 in 1971). The Company has 11 officers, five of whom are directors of the Company. The aggregate remuneration received by these officers and by past officers amounted to \$1,248,216 in 1972 (\$1,258,246 in 1971) of which \$966,293 was paid by Aluminum Company of Canada, Ltd and \$281,923 by subsidiary management and service companies.

**Auditors'  
Report**

**Price Waterhouse & Co.**

chartered accountants

5 Place Ville Marie Montreal 113 Que.

6 February 1973

To the Shareholders of Alcan Aluminium Limited

We have examined the consolidated balance sheets of Alcan Aluminium Limited and subsidiary companies as at 31 December 1972 and 1971 and the related consolidated statements of income, retained earnings, and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and accordingly included such tests of accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion these financial statements present fairly the consolidated financial position of the companies as at 31 December 1972 and 1971 and the results of their operations and the changes in their financial position for the years then ended, in accordance with generally accepted accounting principles applied on a consistent basis.

*Price Waterhouse & Co.*

Chartered Accountants

# Alcan Aluminium Limited

## A Ten-Year Summary

Adjusted to give effect to changes in accounting practices.

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
<b>Operating Data (in thousands of tons)</b>										
<b>Aluminum sales by consolidated subsidiaries</b>										
Ingot and ingot products	531	508	503	561	563	614	742	655	626	592
Fabricated products	331	354	490	554	541	606	621	691	772	859
Total	862	862	993	1,115	1,104	1,220	1,363	1,346	1,398	1,451
<b>Fabricated products sales by all subsidiary and related companies</b>										
	507	579	629	725	701	800	862	937	1,033	1,167
<b>Production of primary aluminum</b>										
Canada	626	740	728	788	878	873	969	903	945	880
Subsidiary and related companies outside Canada	214	245	269	286	521	585	720	849	935	973
<b>Consolidated Income Statement Items (in millions of U.S. dollars)</b>										
<b>Revenues</b>										
Sales of aluminum ingot and ingot products	215	219	224	251	249	271	342	321	284	267
Sales of aluminum fabricated products	301	333	461	523	514	560	611	723	821	922
Sales of all other products	54	73	87	100	104	127	224	268	277	266
Operating revenues	46	51	55	53	52	49	48	52	49	56
Other income	5	7	7	6	8	15	14	10	10	18
	621	683	834	933	927	1,022	1,239	1,374	1,441	1,529
Income before income taxes and other items	60	94	115	128	100	128	144	119	94	79
Income taxes	29	45	56	58	44	59	65	54	38	20
Equity in net income of companies 20-50% owned	4	5	4	4	7	7	11	11	9	8
Minority interests and Alcan preferred dividends	6	7	8	6	6	5	7	7	7	8
Extraordinary gains	—	—	—	11	—	—	—	9	—	—
Income for common shareholders	29	47	55	79	57	71	83	78	58	59
<b>Consolidated Balance Sheet Items (in millions of U.S. dollars)</b>										
Working capital	275	277	308	306	399	323	384	444	401	468
Property, plant and equipment (net)	944	938	1,003	1,043	1,074	1,085	1,130	1,223	1,224	1,234
Investments in companies owned 50% or less	57	63	59	60	118	157	177	170	174	178
Long-term debt	547	520	575	566	676	608	668	751	740	798
Deferred income taxes	136	137	138	146	150	148	144	150	142	130
Minority interests	78	78	82	82	81	84	92	112	114	114
Shareholders' equity	534	562	592	645	710	747	808	847	872	904
Total net assets	1,440	1,465	1,586	1,664	1,823	1,867	2,047	2,215	2,297	2,370
<b>Per Common Share (in U.S. dollars)</b>										
Income (after preferred dividends but before extraordinary gains)	0.95	1.53	1.78	2.19	1.74	2.17	2.52	2.11	1.75	1.78
Extraordinary gains	—	—	—	0.36	—	—	—	0.27	—	—
Income (after preferred dividends)	0.95	1.53	1.78	2.55	1.74	2.17	2.52	2.38	1.75	1.78
Dividends paid	0.60	0.65	0.82	0.92	1.00	1.02	1.12	1.20	1.00	.80
Funds generated from operations	2.97	3.62	4.07	5.06	4.14	4.63	4.94	5.33	4.70	4.27
Book value	15.41	16.30	17.27	18.91	20.27	21.42	22.85	24.03	24.78	25.76
<b>Other Statistics</b>										
Capital expenditures (net of government development grants — in millions of U.S. dollars)	65	67	133	113	176	136	156	165	153	119
Funds generated from operations (in millions of U.S. dollars)	93	115	129	160	136	152	165	178	157	143
Return on average equity (as a percentage)	6.2	9.1	10.0	13.2	8.7	10.0	11.0	9.8	7.0	6.9
Number of common shareholders at year end (thousands)	51	50	52	57	67	73	72	76	70	64
Number of employees at year end (thousands)	53	54	60	64	63	61	62	67	61	62

# Alcan Aluminium Limited

## Raw Materials

**Donald D. MacKay**  
*Executive Vice President*

Alumina supplies from own plants in Canada, Jamaica and a related company in Australia filled 96 percent of needs in 1972.

Joint projects to produce more alumina in Australia and to mine bauxite in Guinea are due to enter service in 1973.

The Raw Materials Division successfully fulfilled its function to provide bauxite and alumina to group smelting facilities, on the best terms possible, and to pursue a combination of short and long-term plans to enable the Division to meet the group's growing requirements for the future.

Alcan procured metal grade bauxite in 1972, for its Quebec alumina plants, from group sources, and by purchases from third parties, including Guyana Bauxite Company, at competitive prices. Contracts for additional bauxite supplies from these third party sources have been negotiated, also at competitive prices, for the period 1973-74.

Alcan's requirements of alumina for its own use, and to fulfill contractual sales commitments, in 1972, were some 2.9 million tons. The Company's Canadian alumina plants produced 44 percent of the total, and its Jamaican plants 40 percent, with the balance coming from its affiliated company in Australia (12 percent) and from other sources (4 percent). The capacity of the Canadian alumina plants was reinforced during the year.

In Jamaica, Alcan Jamaica Limited produced 1,164,000 tons of alumina at its two plants. Considerable progress was made in overcoming processing problems. Alcan Jamaica Limited's labour contract falls due for renegotiation early in 1973. Efforts will be continued to offset rising labour rates and the increasing costs of purchased materials such as caustic and fuel oil.

In Australia, Queensland Alumina Limited, in which Alcan has a 21 percent interest, provided Alcan with 354,000 tons of alumina, largely for use at the Kitimat smelter in Canada and the Kurri Kurri smelter in Australia. The ongoing expansion of the Australian alumina plant's rated capacity from 1,428,000 to 2,240,000 tons per annum suffered delays during the year due to numerous stoppages by the construction work force which led to a shutdown of construction work late in October. Work was resumed at the end of November. The project should be completed in September 1973, with some production starting in the third quarter. Alcan's share of the rated capacity will then reach 480,000 tons per annum. Alcan holds important bauxite mining rights in Queensland, for which long-term development plans are under consideration.

In Malaysia, Southeast Asia Bauxites mined and shipped some 700,000 tons of bauxite,

mainly for use by Alcan's affiliate in Japan.

In France, S.A. des Bauxites et Alumines de Provence produced 420,000 tons for use by third-party customers in Europe.

In the Boké region of the Republic of Guinea, construction of rail and port facilities and mining installations for the new large-scale bauxite development made good progress during the year. This project, in which Alcan has a 27 percent interest, is expected to begin production in the second half of 1973. A formal inauguration by the Guinea Government is projected for May. The total cost of the project, now estimated at about \$320 million, is shared by the Guinea Government and the six aluminum producers participating in the project. Alcan's share of the initial production will be at the rate of 1.3 million tons per annum and will increase progressively to 2.6 million tons by the seventh year of operation. The question of the most economical ways in which to utilize Alcan's share, in order to meet the increasing alumina demand in the European area in particular, continues to receive intensive study. Various alternatives are under active consideration.

In Brazil, Alcan took a decision, in July, for economic reasons, to defer the construction phase of its proposed bauxite mining project in the Amazon River region. Attempts to make arrangements with other bauxite users whose takings of Amazon bauxite, together with Alcan's own estimated requirement, would permit the construction of a project of viable size (3 million tons per annum), had proved unsuccessful, because of the prevailing surplus capacity in the world aluminum industry, and the commitments to other bauxite projects nearing completion.

On 19 December, Alcan and Companhia Vale Do Rio Doce (CVRD), the leading Brazilian iron ore company, signed a memorandum of understanding concerning a joint study of the timing and scale of the re-activation of the Amazon project, in which Brazilian shareholders will hold 51 percent and other shareholders 49 percent of the voting capital. During the study period, CVRD and Alcan will approach Brazilian and other companies as possible participants or customers to make the project viable. Meanwhile, Alcan continues with its program of bauxite exploration in the area.

The Alcan shipping group continued the efficient bulk transportation of bauxite and alumina within the Alcan system.



# Alcan Aluminium Limited

## Smelting

**J. W. Cameron**  
*Executive Vice President*

Alcan's subsidiary and related companies produced 1,853,000 tons of aluminum in 1972. This compares with the 1971 production of 1,880,000 tons and reflects restraint in view of the continued excess ingot supply on world markets.

Canadian production decreased to 880,000 tons from 945,000 tons in 1971. Operations for the year averaged 85 percent of capacity but, by year end, the operating rate had been increased to about 88 percent of capacity to meet improving demand and the need for greater inventory flexibility.

Primary production outside of Canada, including that of Alcan's related companies, was 973,000 tons, compared with 935,000 tons in 1971. This marks the first year that production from subsidiary and related smelters outside of Canada has exceeded that from our Canadian smelters. Production was reduced in Norway, Sweden and Italy but increases were registered in Japan, Spain, Brazil and Australia where strong national demand in all cases required higher production from the smelters built to serve those markets.

In Canadian operations, the Company placed continuing emphasis on productivity, cost control, working conditions, and environmental concerns. Approximately \$25 million of capital expenditure will be allocated to these areas in 1973 compared with \$19 million invested in 1972. Internal and external en-

vironmental projects will account for \$7.2 million of the 1973 program. Major 1972 environmental expenditures were \$1.7 million for an electrostatic precipitator at Arvida and \$1.5 million to extend Alcan's patented system for dry scrubbing of the effluents of "vertical stud" reduction cells.

The program of firming up the supply of fluo-ride and fluorspar continued in 1972 and our fluorspar reserves in Newfoundland were substantially improved as a result of exploration.

The construction of a petroleum coke calcination plant in Edmonton, Alberta has been authorized at a cost of \$6.8 million. Commencing in 1975, it will produce 180,000 tons of high quality petroleum coke annually, to serve the needs of the Kitimat smelter and provide for sales to third parties. We are negotiating joint venture possibilities with other interested parties.

Collective labour agreements will be negotiated in 1973 for all five Canadian smelters and for the fluorspar mining operation at St. Lawrence, Newfoundland. During 1972, Alcan employees at Kitimat voted to disaffiliate from the United Steel Workers of America and joined the newly-formed Canadian Aluminum, Smelter and Allied Workers Union. The employees at three of our four Quebec smelters broke away from the Confederation of National Trade Unions to form la Fédération des Syndicats du Secteur Aluminium.

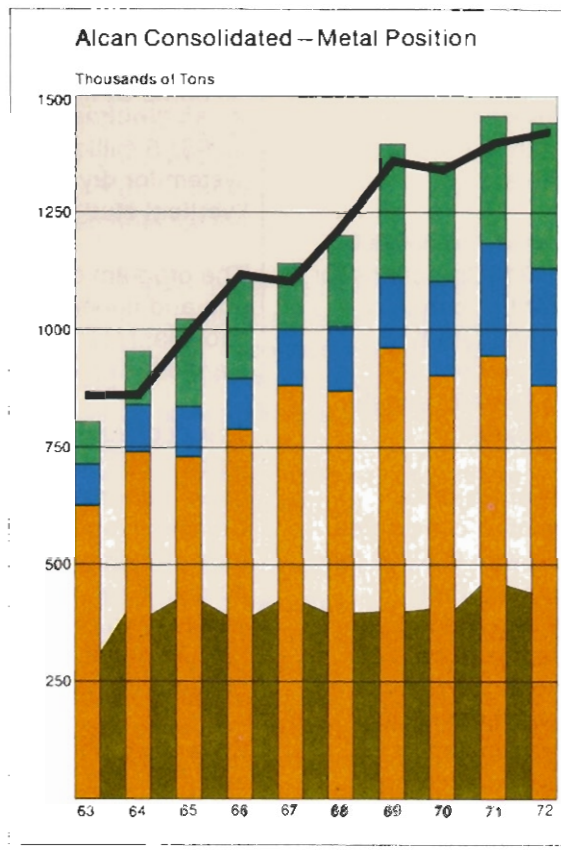
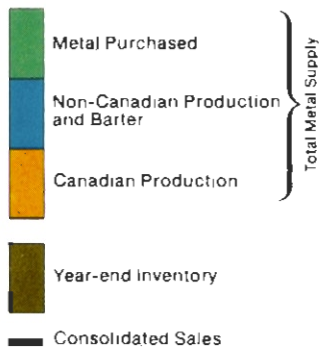
Direct chilled cast sheet ingot at the Kitimat, British Columbia smelter is tested with ultrasonic equipment as a routine measure in quality control.

Alcan's most modern smelter at Kurri Kurri produces primary aluminum for the Company's fabricating plants and customers in Australia.



# Alcan Aluminium Limited

## Smelting



Alcan Australia Limited's smelter at Kurri Kurri is operating at 43,000 tons of its rated annual capacity of 50,000 tons. It can be quickly brought to rated capacity when sales and fabricating outlets require it. Meanwhile, smelter efficiencies and production costs continue to show improvement.

In Brazil, the Aratú smelter of Aluminio do Brasil Nordeste S.A. reached its first stage production capacity of 11,000 tons. With the Saramenha smelter, operations are at a combined production rate of 41,000 tons annually; expansion to meet future needs of the Brazilian market can be made rapidly. Alcan holds 25 percent equity in a new joint venture for the construction and operation of a petroleum coke calcination plant intended to serve the total needs of the Brazilian aluminum industry.

First pots at the new Alcan (U.K.) smelter at Lynemouth, near Newcastle, England, went on power in March and production gradually increased to about 25 percent of the planned total by year's end at very encouraging efficiencies. Following construction problems in 1972, the thermal power plant will be completed in 1973 and Lynemouth smelter will then reach its full planned capacity of 132,000 tons to serve Alcan's fabricating operations and ingot customers mainly in the U.K. market.

The combination of an illegal strike at the Belgaum smelter of Indian Aluminium Company, and lack of monsoon rains which forced power cuts at this and at the company's two other smelters at Hirakud and Alupuram, reduced smelter production there by some 7 percent. Indal's 1972 production of 91,000 tons is expected to rise to 96,000 tons in 1973. Additional production facilities, scheduled for completion late in 1973, will increase the Belgaum capacity to 83,000 tons from 52,000 tons. This expansion, being financed by the further public issuance of Indal capital stock in accordance with Indian Government licensing requirements, will reduce Alcan's equity in Indal from its present 65 to about 55 percent.

In Japan, a second potline at the Tomakomai smelter of Nippon Light Metal Company, 50 percent-owned by Alcan, was completed. At Niigata, the remainder of the first potline of the planned expansion program will be started in 1973 and the second is due to be producing in 1974. Rated capacity of the Company's three smelters at the end of 1972 was 374,000 tons and actual production for this year was 306,000 tons.

In Norway, A/S Ardal og Sunndal Verk (ASV), owned 50 percent by Alcan, operated at 80 percent of capacity during 1972 in response to prevailing market conditions. Production of Ingot was 294,000 tons, compared with 290,000 tons in 1971, when production had been reduced by modernization activities as well as by some disruptions of power supply.

In Spain, the 22,000-ton expansion of the Avilés smelter of Empresa Nacional del Aluminio, S.A. (Endasa), in which Alcan has a 25 percent interest, is nearing completion and start-up is expected in the spring of 1973. Production from the Avilés smelter, and from Endasa's Valladolid smelter, was close to their combined capacity of 90,000 tons to meet part of the growing demand of the Spanish market.



## Alcan in the United Kingdom

### New smelter joins leading U.K. fabricator

As a leader of the Industrial Revolution in the 19th century, Britain also took an early lead in the development of the new metal aluminum. Primary smelting started there on a small scale before 1890, but it was in the development of alloys and fabricating techniques that Britain showed particular progress. Although smelting capacity in the U.K. did not keep pace, Britain became one of the most advanced nations in the fabrication and usage of aluminum. In 1972, with consumption of more than 700,000 tons of primary and secondary aluminum, the U.K. was the fourth largest market, after the U.S.A., Japan and Germany.

Alcan's role in British aluminum development dates back about 70 years when its Canadian aluminum ingot first found an export market there. By 1909, Alcan had established its first permanent sales office in the U.K. and in 1926 acquired its first fabricating plant, a foundry near Birmingham.

Through the years, the British subsidiary, then known as Northern Aluminium Company, played a major role in the growth of the fabricating industry. With construction in 1930 of its first sheet mill and extrusion plant at Banbury, Oxfordshire, followed by the much larger works at Rogerstone, Monmouthshire, during and after World War II, "Northern" became a leading name. Alcan established at Banbury in 1938 its first research laboratory and this has since grown considerably to become one of the

important world centres of aluminum research.

During World War II, the bulk of the British government's requirements of vital aluminum came from Alcan's smelters in Canada. These were greatly expanded, partly with the aid of wartime loans from the British government which are still being repaid. Through the years, Alcan (U.K.) Limited has been the principal supplier of primary ingot to independent U.K. fabricators and these sales continue to be important to Alcan as a world seller.

In 1960, the name of Northern Aluminium was changed to Alcan Industries Limited, and later Alcan Aluminium (U.K.) Limited became the holding company for all British operations, including Alcan (U.K.) Limited. Today this entity, with gross assets of close to \$300 million and an annual turnover of around \$250 million, accounts for one-sixth of the Company's total revenues and has a leading position in Britain's semi-fabricating industry.

Due to steadily increasing consumption in Britain, the late 1960's saw the emergence of a large investment in smelter capacity by the industry. Until that time, with smelting capacity of less than 50,000 tons, Britain had been the only major consuming market of world stature with virtually no domestic smelters. The government of the day decided this situation should be amended and, as a consequence, three companies have built a total of 350,000 tons of primary capacity.

Facilities are gathered around Lynemouth smelter, near Newcastle. Colliery, (upper left) sells coal to thermal power-house (upper right) which delivers power to smelter. Deep water harbour is also close by.









## Alcan in the United Kingdom

1. Kodak Limited new building at Hemel Hempstead has windows made of Alcan Booth extrusions; partitioning systems throughout are by Tenon Contracts Limited, an Alcan Booth subsidiary.

2. Yacht PACHA has all-welded plate hull of Alcan Booth aluminum alloy, and spars and booms of sophisticated hollow sections extruded at the Banbury plant.

3. Alcan Booth Systems, which handle sale of aluminum siding, supplied material from Banbury to Northwest Housing for the 450 houses of this development in Lancashire.

4. Common alloy sheet and coil are produced at the large Rogerstone plant of Alcan Booth Sheet Limited in South Wales.

5. Start-up in 1972 of one of the four potrooms of the Lynemouth smelter of Alcan (U.K.) Limited. The plant's four potrooms are scheduled to be capable of producing at the rate of 132,000 tons per year.

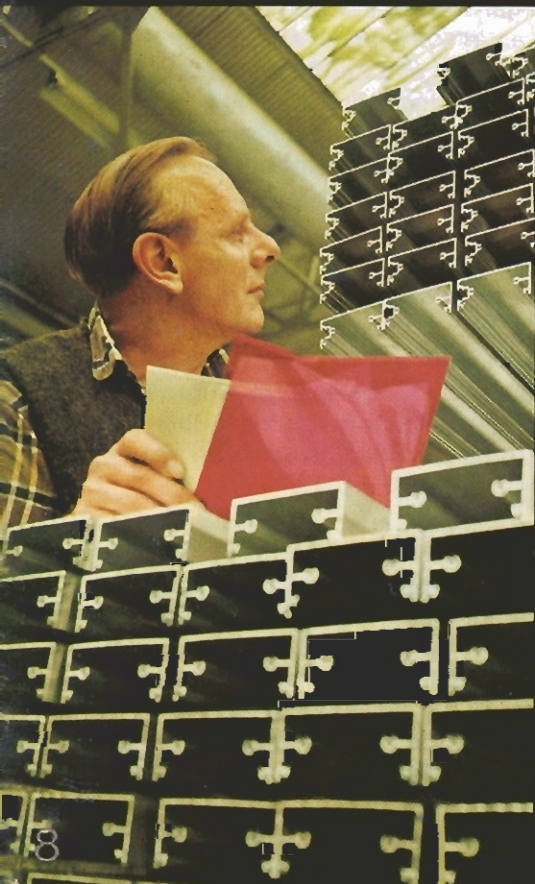
6. The Alcan trade name is carried on a range of household foil products manufactured by Alcan Polyfoil, Chesham. Industrial markets for semi-rigid foil containers are served by Alcan Ekco, also of Chesham.

7. Strong alloyed plate from the Kitts Green, Birmingham plant of Alcan Booth Sheet Limited meets the exacting demands of high technology aircraft such as the Concorde, the European A300B Air Bus and America's F-111.

8. Shop-front sections are inspected before dispatch from the Banbury plant of Alcan Booth Extrusions Limited.

9. This 140-inch wide mill is the principal item of hot-rolling equipment at the Kitts Green plant, specialized in the production of strong alloyed plate and sheet.

10. The Norwich plant of Freight Bonallack Limited, an Alcan Booth subsidiary, serves the rapidly expanding market for insulated freight containers.



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# Alcan in the United Kingdom

## Streamlining and expansion



- ⚡ Power generation
- ▲ Primary smelter
- ▼ Secondary smelter
- Fabricating plant
- ⊙ Research centre
- Area Headquarters

One of the three new British smelters has been built by Alcan at Lynemouth, near Newcastle, Northumberland. The \$160 million complex involving port facilities, a 390,000-kilowatt powerhouse and a 132,000-ton smelter, started production in 1972 and will be capable of operating at full capacity before the end of 1973. The powerhouse is fired by coal located one mile from the plant and supplied by the National Coal Board from one of the most efficient mines in Western Europe. This highly advanced smelter will supply some of the needs of Alcan's fabricating companies in Britain, as well as maintain Alcan's position with its third party customers. The balance of the requirements will be brought in from Alcan's Canadian smelters and from its related companies in Norway.

Most of the funds for the smelter project, after allowing for U.K. government capital grants, were raised in the United Kingdom. At present, Alcan Aluminium (U.K.) Limited is wholly owned by Alcan but the equivalent of about \$27 million of its convertible loan stock is held by the British public and, if converted from 1976 onwards, could lead to a substantial local equity participation in the U.K. subsidiary.

The recent changes in Alcan Industries Limited (now part of Alcan Booth Industries

Ltd) have also been significant. The catalyst for change was the merger with the third largest U.K. fabricator, James Booth Aluminium Limited, in 1970. Kaiser Aluminum, who had previously held 50 percent of the equity of James Booth, took a 25 percent interest in the new enlarged company, Alcan Booth Industries Limited, which became the largest unit in the U.K. fabricating industry.

After the merger, Alcan Booth introduced an extensive rationalization program with the object of improving efficiency and increasing productivity. Over an 18-month period which ended during 1972, not only were major equipments such as rolling mills and extrusion presses moved between plants, but a reduction of 30 percent in staff and workforce took place. The latter was done largely by voluntary methods, and with a high degree of employee-management cooperation which ensured the completion of the program on schedule. The new Alcan Booth Industries organization has now taken shape. With de-centralization the keynote, the Group's business has been divided into product divisions with their own managements and profit responsibility.

In parallel with the streamlining of rolling and extrusion operations at four main locations, Alcan Booth has been broadening the scope of its operations by downstream investment, starting with the acquisition of a large foil enterprise in 1965. This was accelerated by the merger with James Booth and has now put Alcan in the fields of shopfronts, road-vehicle bodies and freight containers, office partitioning, household foil, semi-rigid foil containers, wire, and a range of building products, as well as operating the largest warehousing chain in Britain.

Alcan now finds itself better prepared than ever before to serve the large market for semi-fabricated aluminum in Britain, a market which in the last quarter of 1972 showed a remarkable upsurge. After several years of unsatisfactory returns in fabricating, Alcan Booth is moving towards an improved profit position during 1973.

Britain goes into 1973 with the new opportunities and challenge of membership in the European Economic Community of almost 300 million people. In such an enlarged trading area or common market, where its industrial customers have room for growth, Alcan in Britain looks forward to its own enlarged opportunities, particularly for some of its specialized products.

# Alcan Aluminium Limited

## Principal Operating Subsidiaries and Related Companies

31 December 1972

### North America

#### Canada

Aluminum Company of Canada, Ltd  
Alcan Canada Products Limited  
Alcan Ingot Limited  
Alcan Pipe Limited\*  
Alcan-Price Extrusions Limited\*\*  
Aluma Building Systems, Inc.\*\*  
Roberval and Saguenay Railway Company, The  
Saguenay Power Company, Ltd  
Saguenay Shipping Limited  
Saguenay Transmission Company, Limited  
Supreme Aluminum Industries Limited\*\*\*

#### United States

Alcan Aluminum Corporation  
V. E. Anderson Mfg Co.\*  
Fabral Corporation\*\*

#### Bermuda

Alcan (Bermuda) Limited

### Caribbean

#### Guyana

Sprostons (Guyana) Limited

#### Jamaica

Alcan Jamaica Limited  
Alcan Products of Jamaica Limited  
Sprostons (Jamaica) Limited

#### Trinidad

Chaguaramas Terminals Limited  
Geddes Grant Sprostons Industries Limited\*\*\*  
Sprostons (Trinidad) Limited

### Latin America

#### Argentina

Camea S.A.I.C.\*\*\*

#### Brazil

Alcan Alumínio do Brasil S.A.  
Alumínio do Brasil Nordeste S.A.  
Mineração Rio do Norte S.A.

#### Colombia

Alumínio Alcan de Colombia, S.A.\*

#### Mexico

Alcan Alumínio, S.A.\*  
T. K. F. Engineering and Trading de Mexico, S.A.\*\*

#### Uruguay

Alcan Alumínio del Uruguay S.A.\*

#### Venezuela

Alcan de Venezuela, S.A.  
T. K. F. Engineering & Trading de Venezuela S.A.

### Europe

#### Belgium

Alcan Aluminium Raeren S.A.

#### Denmark

Aluminord A/S\*

#### France

Aluminium Alcan de France  
Alcan-Schwartz, Filage et Oxydation\*  
S.A. des Bauxites et Alumines de Provence  
Société Industrielle de Transformation et de  
Construction (SITRACO)\*\*\*

#### Germany

Alcan Aluminiumwerke GmbH  
Alcan Aluminiumwerk Nürnberg GmbH  
Alcan Folien GmbH  
Aluminium Norf GmbH\*\*

#### Ireland

Unidare Limited\*\*\*

#### Italy

Alcan Alluminio Italiano S.p.A.  
Alcan Angeletti & Ciucani Alluminio S.p.A.

#### Netherlands

Alcan Europe N.V.

#### Norway

A/S Ardal og Sunndal Verk (ASV)\*\*  
A/S Nordisk Aluminiumindustri\*\*†  
DNN Aluminium A/S\*\*

### Europe (Continued)

#### Spain

Empresa Nacional del Aluminio, S.A. (ENDASA)\*\*\*

#### Sweden

Gränges Essem AB\*\*\*

#### Switzerland

Aluminiumwerke A.-G. Rorschach

### United Kingdom

Alcan Booth Extrusions Limited\*  
Alcan Booth Sheet Limited\*  
Alcan Castings & Forgings Limited\*  
Alcan Design Products Limited\*  
Alcan Ekco Limited\*\*\*  
Alcan Enfield Alloys Limited\*\*  
Alcan Foils Limited\*  
Alcan Polyfoil Limited\*  
Alcan (U.K.) Limited  
Alcan Wire Limited\*  
P.J. Bailey (Patent Glazing) Limited\*  
Thomas Bennett Limited\*\*\*  
Freight Bonallack Limited\*  
Johnson & Bloy Aluminium Pigments Limited\*\*\*  
E.C. Payter & Co. Limited\*  
Saguenay Shipping (U.K.) Limited  
Tenon Contracts Limited\*  
Ulam Light Metal Company (1954) Limited\*\*\*

### Africa

#### Ghana

Ghana Aluminium Products Limited\*

#### Guinea

Halco (Mining) Inc.\*\*\*

#### Nigeria

Alcan Aluminium of Nigeria Limited\*  
Flag Aluminium Products Limited\*

### South Africa

Alcan Aluminium of South Africa Limited\*  
Republic Aluminium Company (Pty) Limited\*

### Asia

#### India

Indian Aluminium Company, Limited\*

#### Japan

Nippon Light Metal Company, Ltd\*\*  
Toyo Aluminium K.K.\*\*

#### Malaysia

Alcan Malaysia Berhad\*  
Southeast Asia Bauxites Limited\*  
Johore Mining and Stevedoring Co. Ltd\*

#### Thailand

Alcan Thai Company Limited\*\*

### South Pacific

#### Australia

Alcan Australia Limited\*  
Alcan Queensland Pty Limited  
Kawneer Company Pty Limited\*  
Queensland Alumina Limited\*\*\*  
Wm Breit & Company Pty Ltd\*

#### New Zealand

Alcan New Zealand Limited\*  
Alcan Alloys Limited\*  
Aluminium Anodizers Limited\*\*\*  
Aluminium Conductors Limited\*\*\*

### International Sales

Alcan Alumínio (America Latina) Limited — Latin America  
Alcan Asia Limited — Japan, Afghanistan, Pakistan and  
certain areas of Asia  
Alcan Southeast Asia Limited — Hong Kong, India,  
Philippines and certain areas of Asia  
Alcan S.A. — Continental Europe (excluding Germany  
and Scandinavia), Middle East, North Africa  
Alcan Metall GmbH — Germany  
Alcan (U.K.) Limited — U.K., Scandinavia  
Alcan Sales (Division of Alcan Aluminum Corporation) —  
U.S.A. and Caribbean  
Alcan Trading Limited

Unless otherwise indicated, companies are 100% owned

\*Less than 100% owned but more than 50%

\*\*50% owned

\*\*\*Less than 50% owned

†100% owned by A/S Ardal og Sunndal Verk (ASV)



