Zinc

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1997 mine production:	$1.9 billion
World rank:	Second
Exports:	$1.8 billion

Canada	1997	1998[e]	1999[f]
	(000 tonnes)		
Mine production	1 069	1 060	1 075
Metal production	700	745	750
Consumption	154	161	163

[e] Estimated; [f] Forecast.

Zinc is used in the automotive and construction industries for the galvanization of steel and manufacture of die-cast alloys, in the production of brass, in semi-manufactures such as rolled zinc, and in chemical applications. Promising new applications for zinc are in the manufacture of zinc-air batteries and in galvanized steel studs as an alternative to wood in residential construction. Secondary zinc has become an increasingly important source of the metal in recent years. Secondary zinc includes high-purity refined zinc, remelted zinc of a purity less than 98.5% zinc, and zinc scrap used in the production of zinc alloys. Canada currently produces only a minor amount of secondary zinc exclusively from secondary feeds in primary zinc smelters. However, refined zinc from the processing of electric arc furnace dusts or from the de-zincing of galvanized steel scrap may become important in the future.

ANNUAL AVERAGE PRICES, LONDON METAL EXCHANGE FOR SPECIAL HIGH GRADE ZINC

1994	1995	1996	1997	1998[e]
		(US¢/lb)		
45.3	46.8	46.5	59.8	46

[e] Estimated; [f] Forecast.

CANADIAN OVERVIEW

- Agnico-Eagle started a new zinc circuit at the LaRonde mine in September. The zinc-rich zone is being developed in the existing gold mine in northwestern Quebec and is expected to produce 52 000 t/y of zinc in concentrate by 2000.

- In September, HBMS opened the $17.1 million Chisel North zinc mine project, which effectively replaces the Photo Lake mine, which was closed due to ore exhaustion. In November, HBMS released information on its newest ore deposit near Flin Flon, Manitoba, called the Triple Seven deposit. Development of the Konuto Lake copper-zinc mine west of Flin Flon in northern Saskatchewan continued in 1998; it is expected to start commercial production in the first quarter of 1999. Konuto Lake will produce 3500 t of zinc annually.

- Breakwater Resources announced in August that it would extend indefinitely the five-week shut-down at its Caribou, New Brunswick, zinc-lead mine. The company cited metallurgical results that have been steadily improving but that have not reached the desired levels, and current weak metal prices, as factors that led to the shut-down.

- Anvil Range closed the Faro lead-zinc mine in the Yukon in February due to low metal prices. The company went into receivership in April.

- In November, Inmet announced it was suspending milling operations at its Winston Lake mine. In December, the company announced the suspension of all operations at Winston Lake as a result of low zinc prices. The company also announced that it had lowered its estimates for ore reserves in the lower Pick Lake zone. A decision on whether to permanently close the mine or put it on care and maintenance until zinc prices improve is expected in early 1999.

WORLD OVERVIEW

- Rio Algom, Noranda and Teck announced in September that they will proceed with plans to develop the US$2.2 billion Antamina copper-zinc mine project in Peru.

- Anglo American announced plans to develop a US$980 million zinc mine and smelter project at the Gamsberg deposit in South Africa's Northern Cape province.

- The first phase of a two-phase expansion project was completed in October at the Cajamarquilla zinc refinery near Lima, Peru. The refinery, owned by Cominco of Canada (82%) and Marubeni Corporation of Japan (17%), expanded its production capacity to 120 000 t/y of refined zinc. The second phase will eventually double the plant's annual capacity to 240 000 t when completed.

LEADING WORLD ZINC PRODUCERS

Producers Zinc in Concentrate	1998[e]	Producers Zinc Metal	1998[e]
	(000 tonnes)		(000 tonnes)
China	1 200	China	1 400
Canada	1 060	Canada	745
Australia	993	Japan	615
Peru	844	United States	390
United States	730	Korea (Rep. of)	387

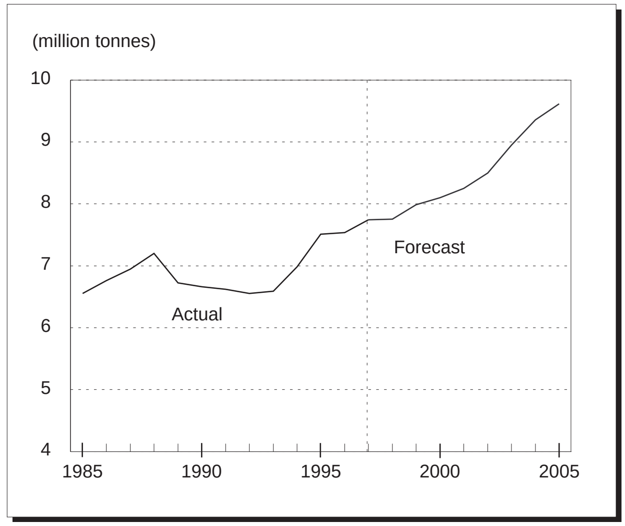
Source: International Lead and Zinc Study Group.
[e] Estimated.

CONSUMPTION OUTLOOK

An increase of 3.0% in world zinc consumption in 1999 to 7 990 000 t is forecast, following an estimated 0.1% increase in 1998. Slower but continued economic growth in North America should result in increased zinc demand of over 2% in 1998, with Europe also showing an increase of just over 2%. Demand in Japan is expected to fall by about 11%. In 1999, the growth in North America (3.5%) and Europe (1.9%) is expected to continue and demand should start to recover in Japan, the Republic of Korea and some Southeast Asian nations.

Beyond 1999, world zinc consumption is forecast to grow by an average 2.8%/y to 2005. Galvanizing will remain the dominant end use of zinc and exhibit the largest increase in consumption during the forecast period, followed by brass and die-cast alloys.

Figure 1
World Zinc Consumption, 1985-2005



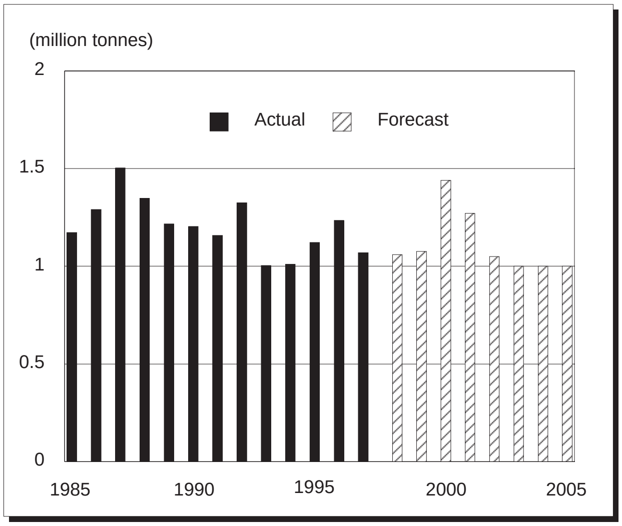
Source: Natural Resources Canada.

CANADIAN PRODUCTION OUTLOOK

Canada's mine production of zinc is expected to reach 1 060 000 t in 1998, a decrease of 1% compared to 1997. The closure of Anvil Range's Faro operations and Breakwater's Caribou and Restigouche mines in mid-year was offset by increased mine production at existing mines and the start-up of the zinc circuit at Agnico-Eagle's existing gold mine in late September. For 1999, a 2% increase in zinc mine production is forecast as mines that opened late in 1998 complete a full year's production. Beyond 1998, production is predicted to remain at a level between 1 300 000 and 1 400 000 t/y to the year 2001. Mine production is then expected to gradually decrease as older mines become exhausted unless exploration, including that within existing mine infrastructures, leads to additional mineable reserves.

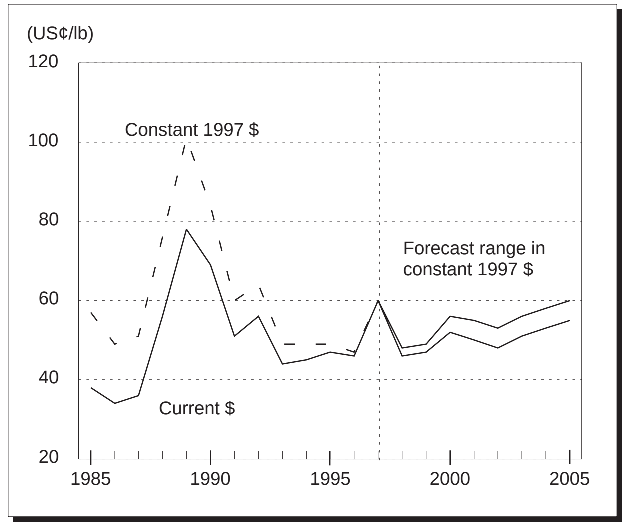
Zinc metal production in Canada was up 6% over last year as a result of the completion of the 20 000-t/y expansion projects at Cominco's Trail operations in British Columbia and at Noranda's Valleyfield zinc refinery in Quebec.

Figure 2
Canadian Mine Production of Zinc, 1985-2005



Source: Natural Resources Canada.

Figure 3
Zinc Prices, 1985-2005
Annual LME Settlement



Source: Natural Resources Canada.

PRICE OUTLOOK

Zinc demand is expected to remain strong throughout the rest of 1998 with limited additional Western World smelter capacity for increased metal production. A slight zinc metal deficit is forecast for Western World markets in 1998, primarily as the result of a substantial decrease in exports from China to the West. Despite the fall in LME stocks to levels well below 350 000 t, zinc prices are expected to remain weak for the remainder of 1998 and to average about US$1025/t (46¢/lb) for the year.

For 1999, the zinc market is expected to remain fairly balanced, with a slight deficit forecast overall. The continued market weakness in Japan and other Southeast Asian nations is expected to continue to exert downward pressure on prices, which should average about US$1000/t (45¢/lb).

Beyond 1998, investments made in the zinc industry in recent years are expected to result in large increases in mine and smelter capacity near the turn of the century. Continued growth in galvanizing markets, combined with a gradual recovery in overall markets, is expected in the remainder of the forecast period, with zinc prices rising to US55¢-60¢/lb by 2005.