

Zinc

Patrick Chevalier

International and Domestic Market Policy Division

Telephone: (613) 992-4401

E-mail: pcheval@nrcan.gc.ca

2000 mine production: \$1.57 billion
 World rank: Second (metal production)
 Exports: \$1.68 billion

Canada	2000	2001 ^e	2002 ^f
	(000 tonnes)		
Mine production	970	980	850
Metal production	780	705	730
Usage	176	180	190

^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. Recycled zinc has become an increasingly important source of the metal in recent years. Recycled 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 recycled zinc exclusively from recycled 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 SETTLEMENT PRICES, LONDON METAL EXCHANGE FOR SPECIAL HIGH GRADE ZINC

1997	1998	1999	2000	2001 ^e
(US\$/t)				
1 313.3	1 023.3	1 077.3	1 128.1	1 050

^e Estimated.

CANADIAN OVERVIEW

- Cominco Ltd. began a series of announced production cutbacks at its Trail smelter in southern British Columbia. Zinc production was reduced by about 100 000 t for the period December 2000 to September 2001. The cutbacks were part of a plan to allow for a fixed-price power swap agreement with a major U.S. energy company. Elsewhere at Cominco, work continued in preparation for the closure of the Sullivan mine at Kimberly, British Columbia.
- Boliden Limited will temporarily halt production starting in December at its Myra Falls mine in British Columbia due to low metal prices.
- In April, Teck Corporation and Cominco announced that two companies would merge. Teck Cominco Limited was formed in July and ranks as the fourth largest North American-based base-metal mining and refining company.
- Falconbridge Limited's Kidd Mining Division in Timmins, Ontario, reduced production due to ground movement that occurred at the No. 1 mine in late December 2000.
- Breakwater Resources Ltd. suspended operations at the Langlois mine located in northwestern Quebec due to problems associated with the main

ore pass system. A decision to re-open the mine awaits financing and an improvement in the price of zinc. The company also announced the accelerated closure of the Nanisivik mine in Nunavut. The mine will be closed in September 2002.

- Work continued at Hudson Bay Mining and Smelting Co., Limited's new zinc tank house at the Flin Flon smelter. When completed before the end of this year, capacity will be increased by 15% to 115 000 t/y. Elsewhere, the company announced the permanent closure of the Ruttan mine in Manitoba for the end of May 2002.

WORLD OVERVIEW

- Noranda Inc., Teck Cominco Limited, BHP Billiton Plc and Mitsubishi Corporation announced that the Antamina copper-zinc project in northern Peru had achieved commercial production in October, more than four months ahead of the original schedule of February 2002.
- Outokumpu Oyj announced that it was getting out of base-metal mining and placed the Tara zinc mine in Ireland on care and maintenance in November, pending better zinc prices. Tara is the largest zinc mine in Europe and produces nearly 200 000 t/y of zinc in concentrate.
- ASARCO Incorporated, a wholly owned subsidiary of Grupo Mexico S.A. de C.V., announced that it would suspend its zinc mining and processing operations in the state of Tennessee in November due to low metal prices.
- Pasminco Limited was placed into voluntary administration in September in an attempt to restructure the company's debt of over A\$3.4 billion. As part of the restructuring, final bids for the sale of the new Century zinc mine in Queensland are expected before the end of the year.
- Industrias Peñoles, S.A. de C.V. opened the Francisco I Madero zinc mine in the Mexican state of Zacatecas in September. The mine will operate with a production capacity of 110 000 t/y of zinc in concentrates.
- In July, Anglo American plc postponed development of its Gamsberg zinc mine in South Africa due to economic uncertainty and low zinc prices.

LEADING WORLD ZINC PRODUCERS

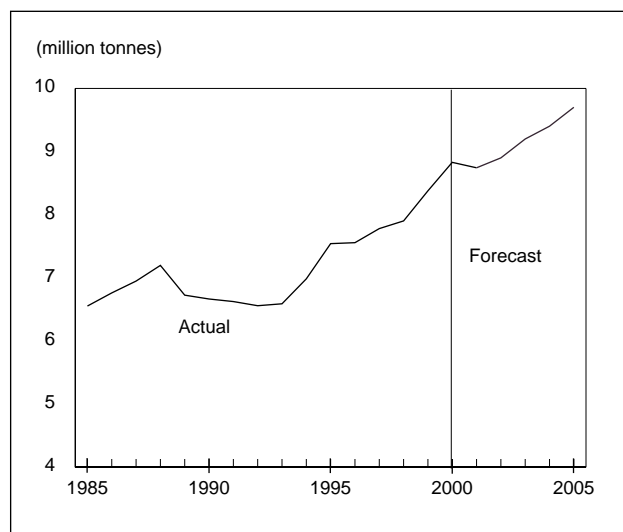
Producers Zinc in Concentrate		2001 ^e	Producers Zinc Metal		2001 ^e
		(000 tonnes)			(000 tonnes)
China	1 860		China		2 100
Australia	1 484		Canada		705
Canada	980		Japan		646
Peru	960		Australia		548
United States	830		South Korea		530

Source: International Lead and Zinc Study Group.
^e Estimated.

DEMAND OUTLOOK

According to the International Lead and Zinc Study Group (ILZSG), global demand for refined zinc metal is expected to contract by 0.7% in 2001 and by 3.1% in the Western World. In 2002, however, demand is forecast to increase by 1.8% worldwide and by 1.3% in the West. The fall in 2001 will be heavily influenced by a predicted 10.7% decrease in the United States, reflecting negative trends in the construction and automotive industries, the main end-use sectors for galvanized steel. In 2002, a limited recovery in the United States of 3.6% is predicted.

Figure 1
World Zinc Use, 1985-2005



Source: Natural Resources Canada.

The European outlook is not as severe with a reduction of 0.8% expected in 2001 followed by a rise of 0.4% in 2002. Despite expected falls in Japan, South Korea and Taiwan (China), overall demand in Asia is expected to continue to grow, by 2.8% in 2001 and 2% in 2002, primarily as a consequence of further increases in China.

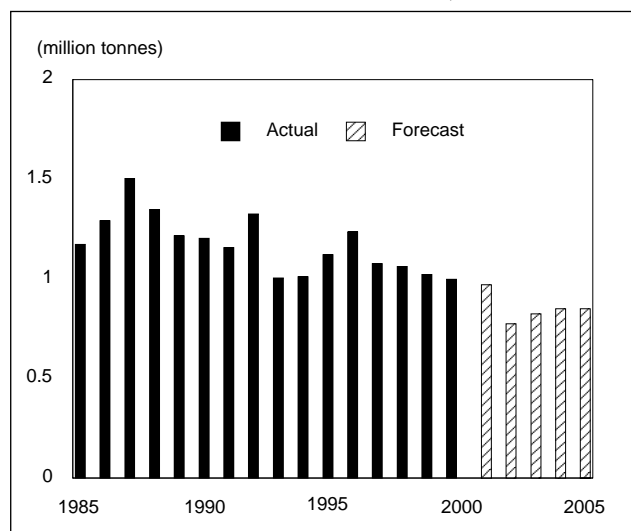
Overall, galvanizing will remain the dominant end use of zinc and exhibit the largest increase in demand during the forecast period, followed by brass and die-cast alloys.

CANADIAN PRODUCTION OUTLOOK

Zinc mine production is expected to be about 2% lower in 2001 compared to 2000. Lower output as a result of the closure of the Langlois mine and reduced production at a number of other mines was largely offset by increased production at the new circuit at Agnico Eagle Limited's LaRonde mine. Mine production overall is expected to decrease by about 13% in 2002 as a result of the closures of the Sullivan and Myra Falls mines in December 2001 and the Polaris, Nanisivik and Ruttan mines in 2002.

Zinc metal production in Canada is expected to decrease by about 10% over 2000 but to rise again by 3.5% in 2002 as the full effects of the expansion at Flin Flon come on stream.

Figure 2
Canadian Mine Production of Zinc, 1985-2005



Source: Natural Resources Canada.

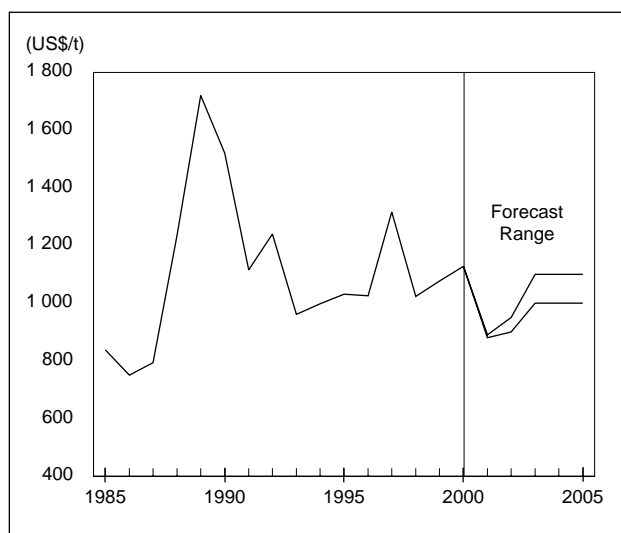
PRICE OUTLOOK

After maintaining a cash settlement price of around US\$1050/t on the London Metal Exchange (LME) in the first quarter of 2001, zinc prices followed a downward trend, reaching record lows of less than \$740/t by mid-November. A number of zinc producers are under severe financial pressure with no near-term relief for price increases expected.

While consumer stocks remained relatively constant over the year, stocks on the LME rose sharply at the start of the year from just over 300 000 t and continued to climb to over 400 000 t by mid-November. Overall, after taking into consideration releases from the U.S. Defense National Stockpile, the ILZSG envisages a substantial surplus of refined metal supply over demand in both 2001 and 2002. The Group acknowledged that the scale of the surplus in 2002, currently estimated at about 500 000 t, could be reduced if present production plans are curtailed as a consequence of low market price levels. Prices will continue to reflect the oversupply in the market and are expected to average about US\$890/t in 2001 and to rise to average \$920/t in 2002.

Beyond 2002, continued growth in galvanizing markets, combined with good growth overall for principal zinc markets, is expected in the remainder of the forecast period with zinc prices ranging from US\$1100-\$1200/t through to 2005.

Figure 3
Zinc Prices, 1985-2005
Annual LME Settlement



Source: Natural Resources Canada.

Note: Information in this article was current as of November 9, 2001.

NOTE TO READERS

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