

Lead

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2001 mineral production: \$108.3 million

World rank

(metal production): Seventh

2001 exports: \$243.7 million

Canada	2001	2002 (e)	2003 (f)
	(000 t)		
Mine production	154	90	80
Refined production	231	258	260
Use (refined)	55	62	65

(e) Estimated; (f) Forecast.

Lead-acid batteries for automotive, industrial and consumer purposes account for about 75% of the world's demand for lead. Lead's corrosion-resistant nature also makes it suitable for applications in sheeting for roofing purposes, while its radiation attenuation properties prevent the emission of harmful radiation from television, video and computer monitors. Certain dispersive or readily bio-available uses, such as lead in gasoline, in piping for drinking water systems, and in household paints, have been or are being phased out in Canada and in certain other countries due to health concerns.

ANNUAL AVERAGE SETTLEMENT PRICES, LONDON METAL EXCHANGE

1998	1999	2000	2001	2002 (e)
(US\$/t)				
528.4	502.2	454.2	476.0	452.0

(e) Estimated.

CANADIAN OVERVIEW

- Teck Cominco Limited's Polaris mine on Little Cornwallis Island, Nunavut, closed on September 3 after 21 years of operation due to ore reserve depletion. Work has started on mine decommissioning and rehabilitation, which is expected to be completed by October 2004. The mine produced some 666 000 t of lead in concentrates over its life.
- The Nanisivik mine on northwestern Baffin Island, Nunavut, closed at the end of September after 26 years of operation. The mine, owned and operated by CanZinco Ltd., a wholly owned subsidiary of Breakwater Resources, was closed due to a combination of ore reserve depletion and weak prices.
- Teck Cominco Limited temporarily closed its Trail, British Columbia, smelter for the month of August to cut production in response to weak market conditions.
- Noranda announced in early December that annual lead production at its Belledune smelter would be reduced by 22% in 2003. Low treatment charges and the generally weak forecast for the lead market were cited as the reasons for the company to operate the smelter on an eight-month seasonal basis, while shutting down for four consecutive months each year, beginning in July 2003.
- Recycled lead producer Nova Pb, Inc. received environmental approvals to recycle aluminum pot liners no longer needed by aluminum smelters. This new recycling activity will require the use of a rotary kiln previously devoted to lead smelting. As a result, Nova's lead smelting capacity will decrease from the current 100 000 t/y to 50 000 t/y.

WORLD OVERVIEW

- BHP Billiton will close its Pering lead-zinc mine in South Africa at the end of 2002. The announcement reflects weak market conditions for zinc.
- Outokumpu resumed production at its Tara zinc mine in Ireland in mid-September after ceasing operations in

November 2001. The company expects to mine some 800 000 t of ore by the end of 2002. For 2003, the mine expects to produce 2.6 Mt of ore.

- The Doe Run Resources Corporation avoided bankruptcy by reaching a deal with its bondholders. The Herculaneum smelter continued to operate at 62% of its operating capacity in an effort to reduce costs and produce specialty alloys.
- U.S.-based lead recycler and lead-acid battery producer, Exide Technologies, and its three U.S. subsidiaries (Exide Delaware, Exide Illinois, and Royal Battery Distributors) filed for Chapter 11 of the United States Bankruptcy Code in April. Operations outside the United States were not affected.
- The Lead Industries Association, Inc., based in the United States, closed in April as a result of insufficient insurance to cover litigation. Established in 1928, the Association had been named as a co-defendant in a number of law suits, many of which were related to the use of lead in paint.

LEADING WORLD LEAD PRODUCERS

Producers Lead in Concentrate		Producers Lead in Metal	
	2002 (e)		2002 (e)
	(000 t)		(000 t)
Australia	670	United States	1 335
China	550	China	1 200
United States	450	Germany	380
Peru	290	United Kingdom	370
Mexico	142	Australia	300
Canada	95	Japan	280
Morocco	75	Canada	260

(e) Estimated.

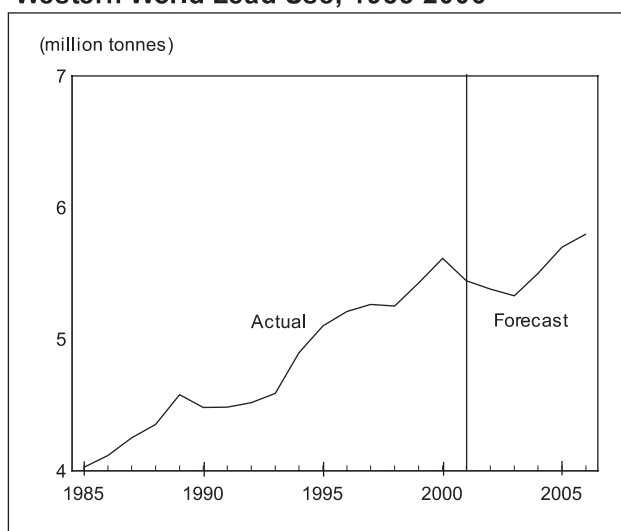
DEMAND OUTLOOK

According to the International Lead and Zinc Study Group (ILZSG), demand for refined lead metal in the United States is expected to decline by 6.8% in 2002 and by a further 2.5% in 2003, due mainly to a fall in demand for industrial batteries used in the telecommunications and information technologies (IT) sectors. This reduction is expected, however, to be balanced by rises in Asia of

4.0% in 2002 and 3.9% in 2003, driven by continued robust growth in China. As a consequence, the Group is not expecting any major short-term fluctuations in overall world demand for refined lead metal, which is forecast to decline by 0.6% in 2002 and then to rise by 1.1% in 2003.

Over the long term, lead demand is expected to maintain an average annual growth rate of 1.5-2.0%. The battery sector will continue to account for most of the growth, with the newly industrialized nations of Southeast Asia expected to continue to record the most rapid growth as the vehicle population expands.

Figure 1
Western World Lead Use, 1985-2006



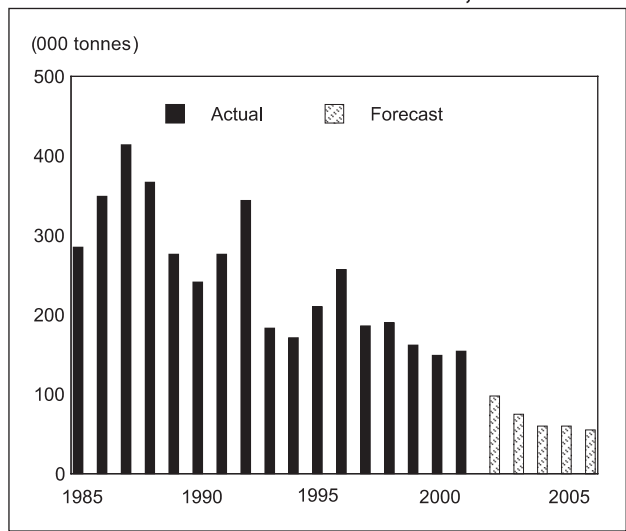
Source: Natural Resources Canada.

CANADIAN PRODUCTION OUTLOOK

Refined production of lead in Canada is expected to be 14% higher in 2002 compared to 2001, primarily due to the return to normal levels of production at Teck Cominco's Trail smelter in British Columbia.

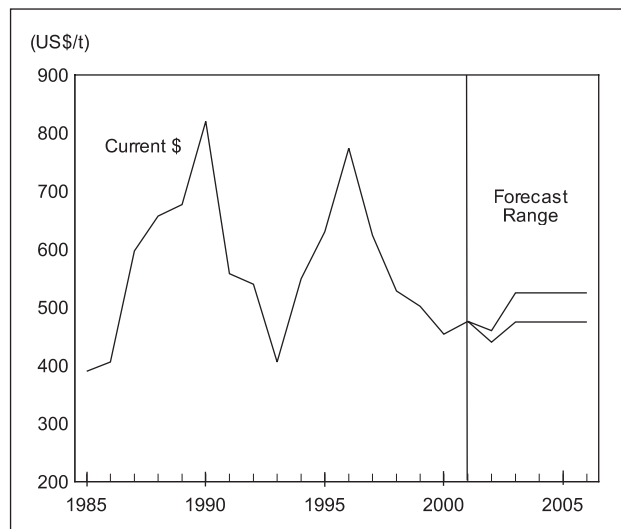
Canadian lead mine production in 2002 is forecast to decline by about 42% from the level in 2001 as a result of the closure of the Sullivan mine in British Columbia at the end of 2001 and the closure of the Polaris and Nanisivik mines in Nunavut in the third quarter of 2002. Mine production is expected to decline a further 10% in 2003.

Figure 2
Canadian Mine Production of Lead, 1985-2006



Source: Natural Resources Canada.

Figure 3
Lead Prices, 1985-2006
Annual LME Settlement



Source: Natural Resources Canada.

PRICE OUTLOOK

Cash London Metal Exchange (LME) settlement prices for lead traded within the range of between US\$450 and \$500/t over the year. Prices peaked at US\$538/t in early January and then fell to reach a minimum for the year of US\$402.50/t in October. Prices rallied somewhat to trade in the \$450/t range by the end of November. Overall, lead prices are expected to average about US\$450/t for the year. LME stocks followed a steady rise from a minimum of 97 000 t at the start of January and rose to a peak of 197 400 t in early August. They then continued a slow downward decline to reach 180 175 t at the end of November, still almost double the amount in January.

Taking information supplied by its member countries and their industry advisors into consideration, including releases from the U.S. National Defense Stockpile, the ILZSG's October forecast indicated that the supply of refined lead metal will exceed usage in the Western World by a modest amount in both 2002 and 2003. The net result on prices is that they are expected to average about US\$460/t in 2002. In the longer term, prices are expected to average between US\$500 and \$550/t to the year 2005.

Note: Information in this article was current as of December 5, 2002.

NOTE TO READERS

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