



Photo: Courtesy of Brenda D. Davis

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The average LME lead price in 2004 was the highest in almost 25 years and nearly double the average price in 2002. For the six years since 1998 the lead market was dogged by relatively modest, but persistent, surpluses pushing prices to all-time lows in real terms. Complaints from producers that prices this low were unsustainable, and would eventually result in a supply shortfall, went unanswered. For some time consumers of lead found no difficulty in sourcing the metal they required to manufacture their products, principally lead-acid batteries.

In late 2003 market sentiment finally changed with the realization that LME lead stocks were falling fast and there was little prospect of lead supplies increasing in the near term to meet higher demand. In fact, lead mine production was falling and there was every prospect that mine output would fall again in 2004. With the global economy set for its fastest rate of growth in a decade, resulting in rapid increases in demand for all industrial raw materials, a fuse was lit which propelled lead prices to their highest sustained levels since the inflation-fuelled years of 1979 and 1980.

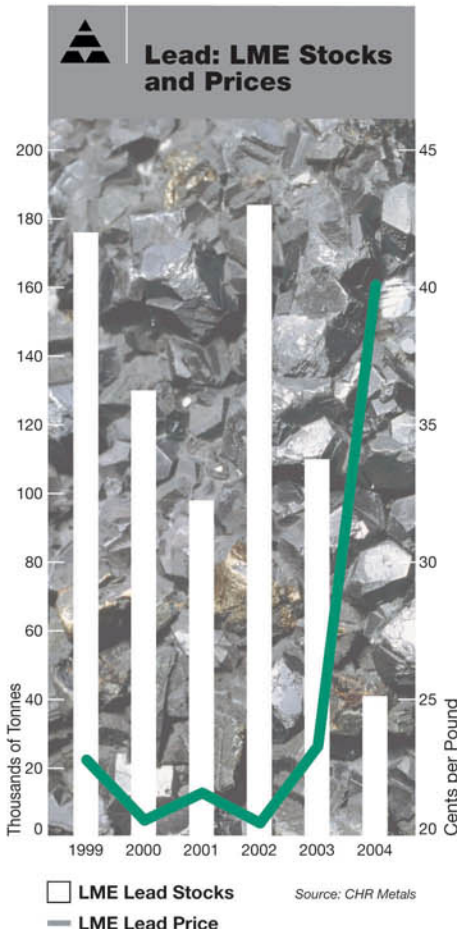
Growth of lead demand in China is certainly one factor in the improved outlook for lead prices. China's vehicle fleet is growing fast, creating a rapidly expanding market for batteries fitted in new cars, trucks and buses, and this is also providing a huge new market for replacement batteries. In addition, China requires millions of lead-acid batteries for its rapidly developing IT and telecommunication networks. And certainly most colorful, there is now huge interest in electric bicycles, today mainly fitted with lead-acid batteries, especially as many large cities have banned the use of small motorbikes in central areas.

Outside China, demand for lead also continues to grow as well, albeit at a somewhat slower pace. Even so, in recent years lead output has failed to keep pace with consumption. Up to two-thirds of lead production is already derived from recycling batteries and other secondary lead-bearing materials, and this source of supply increases directly in line with the use of batteries, but only after a lag of some years. This means that incremental demand must be met by higher mine supply. With extremely low prices in recent years lead mine output has fallen in many countries, and only in China has there been a sizeable increase. Work on developing new mine projects, required to replace production from operations closed due to exhaustion of reserves and to meet growing demand, had been put on hold. Only now, with higher metal prices, is that effort resuming. However, developing new mines, or even expanding existing operations, is a lengthy process and it will be some time yet before there is a significant increase in lead mine supply.

While sharply higher lead prices in 2004 created problems for some battery manufacturers who had difficulty in passing on higher raw material costs to their customers, there is no ready alternative to the lead-acid battery in its principal markets. Moreover, with lead-acid battery technology still in the frame to provide the power source for 42-volt electrical systems to be introduced by the auto industry in the near future, lead producers may be about to face a new challenge in meeting demand.

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Source: CHR Metals

## More than any other precious metal, silver is also known as an industrial metal, and with good reason.

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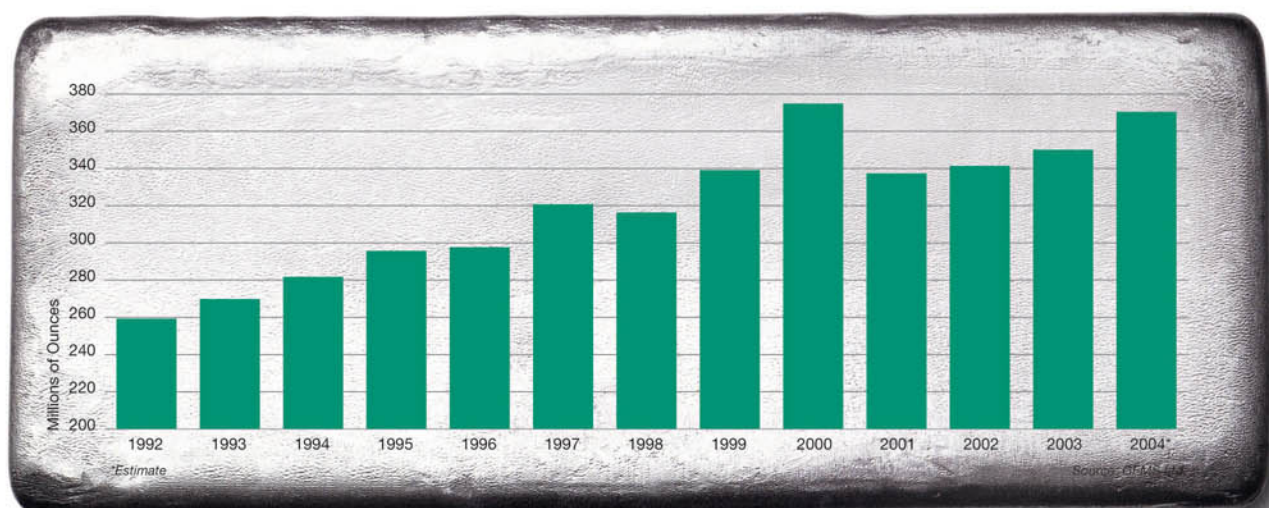
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More than any other precious metal, silver is also known as an industrial metal, and with good reason. Its unique properties include its strength, malleability and ductility, its electrical and thermal conductivity, its sensitivity to and high reflectance of light and its ability to endure extreme temperature changes. A cursory examination of the main categories of physical demand for silver shows that industrial applications account for approximately 40% of total silver demand and growing. Included in the definition of "industrial applications" are silver containing products used in electronics, brazing alloys, plating solutions, batteries, catalysts, bactericides, and the list goes on. (Note that for definitional purposes, GFMS regards photography, which accounts for around a fifth of total physical demand, as a separate category and does likewise for silver jewelry and silverware.)

Industrial applications are in many respects the bedrock of physical silver demand. This is all the more so as we look to the future. The reason for this is the strong underlying growth in demand for silver across a variety of industrial applications. By contrast, photographic demand for silver has been falling rapidly in recent years, by a quarter since the start of the decade, although the decline is far less on a net basis after allowing for the associated drop in photographic recycling. The combined category of silver jewelry and silverware, on the other hand, has performed reasonably well over the past few years but is showing signs of plateauing, partly in response to higher silver prices. The silver price is much less of a factor for most industrial applications because a silver-containing component will generally form only a tiny part of the overall cost of a manufactured product such as a computer keyboard or a cell phone. The impact on demand therefore of silver prices moving from, say, \$5 to \$7 per ounce level, is very limited, especially in the short-term.



### Industrial Demand for Silver



**New applications are expected to increase the growth of industrial demand for silver in the future.**



New applications are expected to increase the growth of industrial demand for silver in the future. The main areas of promise are fuel cells incorporating silver as a catalyst, commercial and domestic biocide and anti-bacterial products and silver sheathed high-temperature superconducting wires used in new generation powerplants and distribution grids. The successful development of these and other new uses for silver would further boost consumption of the metal, reinforcing industrial applications as the bedrock of physical silver demand.

