

SILVER

(Data in metric tons¹ of silver content unless otherwise noted)

Domestic Production and Use: In 2004, U.S. mine production of silver was about 1,200 tons, with an estimated value of \$184 million. Alaska replaced Nevada as the leading U.S. silver producer. Precious-metal ores accounted for less than one-half of domestic silver production; the remainder was recovered as a byproduct from the processing of copper, lead, and zinc ores. There were 21 principal refiners of commercial-grade silver, with an estimated total output of 3,100 tons. About 30 fabricators accounted for more than 90% of the silver used in arts and industry. The remainder was used mostly by small companies and artisans. Aesthetic uses of silver for decorative articles, jewelry, tableware, and coinage were overshadowed by industrial and technical uses. Industrial and technical uses include photographic materials, electrical and electronic products, catalysts, brazing alloys, dental amalgam, and bearings.

| Salient Statistics—United States: | 2000 | 2001 | 2002 | 2003 | 2004^e |
|---|-------------|-------------|-------------|-------------|-------------------------|
| Production: | | | | | |
| Mine | 1,860 | 1,740 | 1,420 | 1,240 | 1,200 |
| Refinery: | | | | | |
| Primary | 2,780 | 2,640 | 2,580 | 1,410 | 1,400 |
| Secondary | 1,680 | 1,060 | 1,030 | 1,600 | 1,700 |
| Imports for consumption ² | 3,810 | 3,310 | 4,600 | 4,510 | 3,700 |
| Exports ² | 279 | 963 | 624 | 181 | 340 |
| Consumption, apparent ^e | 6,300 | 5,800 | 7,700 | 5,430 | 6,200 |
| Price, dollars per troy ounce ³ | 5.00 | 4.39 | 4.62 | 4.91 | 6.46 |
| Stocks, yearend: | | | | | |
| Treasury Department ⁴ | 220 | 220 | 220 | 220 | 220 |
| COMEX, CBT ⁵ | 2,920 | 3,340 | 3,290 | 3,260 | 3,200 |
| National Defense Stockpile | 458 | 200 | — | — | — |
| Employment, mine and mill, ⁶ number | 1,500 | 1,100 | 1,000 | 980 | 900 |
| Net import reliance ⁷ as a percentage of apparent consumption ^e | 43 | 44 | 68 | 56 | 54 |

Recycling: About 1,700 tons of silver was recovered from old and new scrap in 2004.

Import Sources (2000-03):² Mexico, 44%; Canada, 34%; United Kingdom 11; Peru, 7%; and other, 4%.

Tariff: No duties are imposed on imports of unrefined silver or refined bullion.

Depletion Allowance: 15% (Domestic), 14% (Foreign).

Government Stockpile: The Defense Logistics Agency transferred all of the remaining silver in the National Defense Stockpile to the U.S. Mint for use in the manufacture of numismatic and bullion coins. The transfer marked the end of silver requirements for the National Defense Stockpile.

Stockpile Status—9-30-04⁸

| Material | Uncommitted inventory | Committed inventory | Authorized for disposal | Disposal plan FY 2004 | Disposals FY 2004 |
|-----------------|------------------------------|----------------------------|--------------------------------|------------------------------|--------------------------|
| Silver | — | — | — | — | — |

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Events, Trends, and Issues: Silver use in photography fell for the fifth successive year. The decline exceeded that of the 2 previous years combined by more than 4%. In 2004, estimated sales of digital cameras could increase 31% to reach 23 million units compared with a modest fall in sales of conventional cameras. The switch to digital cameras by the consumer and the professional sectors is expected to gradually reduce the share of cameras using film. As new technology is introduced and the costs of digital cameras become more competitive with conventional cameras, this trend should accelerate.

In 2004, silver prices averaged \$6.46 per troy ounce, up about 30% year-on-year. Prices were driven by increased investor interest and higher fabrication demand.

The deficit between world silver fabrication demand and world silver supply (mine production and scrap) remained large in 2004 at about 1,700 tons.

World Mine Production, Reserves, and Reserve Base:

| | Mine production | | Reserves ⁸ | Reserve base ⁸ |
|-----------------------|-----------------|-------------------|-----------------------|---------------------------|
| | 2003 | 2004 ^e | | |
| United States | 1,240 | 1,200 | 25,000 | 80,000 |
| Australia | 1,872 | 2,230 | 31,000 | 37,000 |
| Canada | 1,309 | 1,300 | 16,000 | 35,000 |
| Chile | 1,250 | 1,300 | NA | NA |
| China | 2,500 | 2,600 | 26,000 | 120,000 |
| Mexico | 2,569 | 2,850 | 37,000 | 40,000 |
| Peru | 2,774 | 2,800 | 36,000 | 37,000 |
| Poland | 1,200 | 1,200 | 51,000 | 140,000 |
| Other countries | 4,100 | 4,000 | 50,000 | 80,000 |
| World total (rounded) | 18,800 | 19,500 | 270,000 | 570,000 |

World Resources: More than two-thirds of U.S. and world resources of silver are associated with copper, lead, and zinc deposits, often at great depths. The remaining reserves are in vein deposits in which gold is the most valuable metallic component. Although most recent discoveries have been primarily gold deposits, significant future reserves and resources are expected from major base-metal discoveries that contain silver. While the price of silver and improved technology may appear to increase the reserves and reserve base, the extraction of silver from these resources will be driven by demand for the base metals.

Substitutes: Aluminum and rhodium can be substituted for silver in mirrors and other reflecting surfaces. Tantalum can be used in place of silver for surgical plates, pins, and sutures. Stainless steel is an alternate material used widely in the manufacture of table flatware. Nonsilver batteries being developed may replace silver batteries in some applications. Silverless black and white film, xerography, and film with reduced silver content are alternatives to some uses of silver in photography.

^eEstimated. NA Not available. — Zero.

¹One metric ton (1,000 kilograms) = 32,150.7 troy ounces.

²Refined bullion, plus silver content of ores, concentrates, precipitates, and doré; excludes coinage, waste, and scrap material.

³Handy & Harman quotations.

⁴Balance in U.S. Mint only.

⁵COMEX: Commodity Exchange Inc., New York. CBT: Chicago Board of Trade.

⁶Source: U.S. Department of Labor, Mine Safety and Health Administration.

⁷Defined as imports – exports + adjustments for Government and industry stock changes.

⁸Includes silver recoverable from base-metal ores. See [Appendix C](#) for definitions.