

SILVER

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

Domestic Production and Use: In 2015, U.S. mines produced approximately 1,100 tons of silver with an estimated value of \$560 million. Silver was produced at 3 silver mines and as a byproduct or coproduct from 37 domestic base- and precious-metal mines. Alaska continued as the country's leading silver-producing State, followed by Nevada. There were 24 U.S. refiners that reported production of commercial-grade silver with an estimated total output of 2,000 tons from domestic and foreign ores and concentrates and from old and new scrap. The physical properties of silver include high ductility, electrical conductivity, malleability, and reflectivity. In 2015, the estimated domestic uses for silver were electrical and electronics, 29%; coins and medals, 25%; photography, 8%; jewelry and silverware, 7%; and other, 31%. Other applications for silver include use in antimicrobial bandages, clothing, pharmaceuticals, and plastics, batteries, bearings, brazing and soldering, catalytic converters in automobiles, electroplating, inks, mirrors, photovoltaic solar cells, water purification, and wood treatment. Mercury and silver, the main components of dental amalgam, are biocides, and their use in amalgam inhibits recurrent decay.

Salient Statistics—United States:	2011	2012	2013	2014	2015^e
Production:					
Mine	1,120	1,060	1,040	1,180	1,100
Refinery:					
Primary	790	796	800	800	800
Secondary (new and old scrap)	1,710	1,660	1,700	1,400	1,200
Imports for consumption ²	6,410	5,070	5,080	4,960	6,700
Exports ²	904	946	409	383	900
Consumption, apparent ³	8,310	6,890	7,410	7,150	8,100
Price, average, dollars per troy ounce ⁴	35.28	31.22	23.87	19.37	16.00
Stocks, yearend:					
Industry	150	109	110	120	130
Treasury Department ⁵	498	498	498	498	498
COMEX	3,650	4,610	5,350	5,610	5,000
Employment, mine and mill, ⁶ number	632	709	819	792	750
Net import reliance ⁷ as a percentage of apparent consumption	66	60	63	64	72

Recycling: In 2015, approximately 1,200 tons of silver was recovered from new and old scrap, about 15% of apparent consumption.

Import Sources (2011–14):² Mexico, 54%; Canada, 26%; Poland, 4%; Peru, 3%; and other, 13%.

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

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

Government Stockpile: The U.S. Department of the Treasury maintains stocks of silver (see salient statistics above).

Events, Trends, and Issues: The estimated average silver price in 2015 was 17% lower than the average price in 2014. The Engelhard daily price of silver in 2015 fluctuated through several cycles. The price began the year at \$15.61 per troy ounce and increased to \$18.40 per troy ounce on January 21, the highest level of the year, before cycling downward to \$14.20 on August 27, the lowest price since August 2009. At the end of October, the price was \$15.60 per troy ounce. The price decrease was attributed to weak global silver demand for coins, industrial uses, and jewelry manufacture. In October, however, these trends appeared to reverse and demand and prices started to increase.

SILVER

In 2015, lower silver prices resulted in a 5% increase in global consumption of silver for jewelry. Global industrial silver consumption increased slightly owing to increased demand from crystalline silicon photovoltaic cell and ethylene oxide producers, which more than offset the reduced demand from the photography and computer industries. During the first half of 2015, investment demand for silver was strong, with exchange-traded funds increasing silver holdings and annual coin sales increasing to the fifth highest level on record. The U.S. Mint temporarily suspended sales of silver coins after exhausting its inventory on July 7; however, sales resumed on July 27 on an allocated basis.

World silver mine production increased slightly in 2015 to 27,300 tons, principally as a result of increased production from mines in Mexico and Russia. Domestic silver mine production decreased by 7%. The Lucky Friday Mine in Idaho (the fourth-ranked domestic silver-producing mine) produced less silver in 2015 because of lower millhead ore grade and throughput, and the Bingham Canyon Mine in Utah (the fifth-ranked producer) produced less silver, owing to lower mill throughput during continued cleanup and redevelopment of the east pit wall following a landslide in 2013.

World Mine Production and Reserves: Reserves for Peru and Russia were revised based on new information from Government sources.

	Mine production		Reserves ⁸
	2014	2015 ^e	
United States	1,180	1,100	25,000
Australia	1,720	1,700	85,000
Bolivia	1,340	1,300	22,000
Canada	493	500	7,000
Chile	1,570	1,600	77,000
China	4,060	4,100	43,000
Mexico	5,000	5,400	37,000
Peru	3,780	3,800	120,000
Poland	1,260	1,300	85,000
Russia	1,330	1,500	20,000
Other countries	5,040	5,000	50,000
World total (rounded)	26,800	27,300	570,000

World Resources: Although silver was a principal product at several mines, silver was primarily obtained as a byproduct from lead-zinc mines, copper mines, and gold mines, in descending order of production. The polymetallic ore deposits from which silver was recovered account for more than two-thirds of U.S. and world resources of silver. Most recent silver discoveries have been associated with gold occurrences; however, copper and lead-zinc occurrences that contain byproduct silver will continue to account for a significant share of future reserves and resources.

Substitutes: Digital imaging, film with reduced silver content, silverless black-and-white film, and xerography substitute for traditional photographic applications, which used silver. Surgical pins and plates may be made with stainless steel, tantalum, and titanium in place of silver. Stainless steel may be substituted for silver flatware. Nonsilver batteries may replace silver batteries in some applications. Aluminum and rhodium may be used to replace silver that was traditionally used in mirrors and other reflecting surfaces. Silver may be used to replace more costly metals in catalytic converters for off-road vehicles.

^eEstimated.

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

²Ores and concentrates, refined bullion, and doré; excludes coinage, and waste and scrap material.

³Defined as mine production + secondary production + imports – exports + adjustments for Government and industry stock changes.

⁴Engelhard quotations.

⁵Balance in U.S. Mint only, includes deep storage and working stocks.

⁶Source: U.S. Department of Labor, Mine Safety and Health Administration. Only includes mines where silver is the primary product; Greens Creek Mine is included under zinc.

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

⁸See [Appendix C](#) for resource/reserve definitions and information concerning data sources.