THE SILVERINSTITUTE

Silver News

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High Lease Rates, Tight Liquidity and Investor Interest Resulted in Record Silver Prices in 2025: *World Silver Survey 2026*

Unsettling Geopolitical Conditions Also Factor in Lofty Prices

Last year was when "silver's deficit finally caught up with it, as lower inventories and metal being pulled out of London or tied up in exchange-traded products (ETPs) created explosive conditions for lease rates and prices," noted the just-published *World Silver Survey 2026*. "Having started 2025 below $29, its price broke a series of all-time records, peaking at $84 in December, before rallying further into 2026. The annual 2025 silver price average climbed by 42% y/y to just over $40."

Also of note is that last year the silver market deficit hit its fifth straight year, according to the *Survey*, which is researched by consultancy Metals Focus and published by the Silver Institute.

Silver's relationship to gold also shifted in 2025 as the year progressed from a ratio of 107:1 in April and, remaining above 85:1 through to late September; the ratio plunged over the course of the third quarter, trading below 55:1 in December. This was the lowest level since March 2013. "Exceptionally strong physical demand, tight inventories and robust industrial metal prices, copper in particular, fueled silver's outperformance of gold during that period," the *Survey* concluded. "This trend eventually became self-fulfilling, as investors that had previously favored gold shifted their attention to the white metal."

The gold to silver ratio shifted radically in 2025.

Highlights of the report included:

Silver Demand

Total silver demand fell by 2 percent last year to 1.13 billion ounces (Boz), as a 14 percent jump in coin and bar demand almost offset losses across other key segments including industrial demand, which declined by 3 percent to 657.4 million ounces (Moz). Electrical and electronics demand fell by 2 percent.

Demand for brazing alloys rose by 1 percent, supported by continued strength in the automotive and aerospace sectors. On a regional basis, East Asia and South Asia accounted for the majority of losses in 2025, while demand in Europe and North America remained broadly stable.

Global silver jewelry fabrication fell by 8 percent last year with India recording the steepest decline at 20 percent. European demand fell by 10 percent while North America dropped by 7 percent. East Asia proved more resilient, with China recording a 5 percent gain, benefiting from gold (cont'd)

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substitution and product innovation, while Thailand surged by 24 percent on strong exports to India

Silverware demand fell by 21 percent to a four-year low. The losses were concentrated in India where far higher prices weighed on discretionary spending.

Conversely, coin and net bar demand rose by 14 percent in 2025. Strong gains were recorded across most regions, except in the US. India led with a 33 percent increase, while Europe posted its first rise in three years.

Silver Supply

Global silver mine production rose by 3 percent to 846.6 Moz in 2025, driven by higher by-product output from copper operations in Peru and the ramp-up of Polymetal JSC's Prognoz mine in Russia. Smaller gains were recorded in China and Morocco, although these were partly offset by lower output from key operations in Mexico and a decline in Indonesia.

North American output fell by 3 percent to its lowest level in 10 years, while supply from Central and South America rose by 5 percent. Asia fell by 1 percent.

Outlook for Silver in 2026

Total demand this year is forecast to fall modestly by 2 percent to 1.11 Boz. Double-digit losses are expected in jewelry and silverware, as the impact of higher prices continues. Industrial demand is projected to decline by 3 percent, chiefly due to a further and marked slowdown in PV offtake. Some of these losses will be mitigated by firmer coin and net bar demand, which is expected to jump by 18 percent.

"Looking ahead, we remain constructive towards silver for the rest of 2026," the *Survey* noted.

"Policy uncertainty remains unusually high, sovereign debt fears are, if anything, worsening in the face of war-related fiscal pressures, and concerns about the future role of the US currency also remain relevant. The Iran war has complicated the short-term outlook, but in our view on balance strengthens the longer-term case for precious metals. Our base case is that the situation will be contained, and that the recent pressure that rising US rate expectations have placed on precious metals prices will be temporary."

A press-release summary of *World Silver Survey 2026* is available at the Silver Institute website, and a complimentary PDF version of the *Survey* can be downloaded here.

Silver Nanowires Increase their Usefulness with Simple Insulation Change

Just when you thought that silver nanowires could not be more versatile, a group of Korean scientists have developed a new insulating layer to encase the wires that results in greater electrical conductivity and more durability.

Silver nanowires are so thin – thousands of times thinner than human hair – that they not only conduct electricity but also allow light to pass through as well. These properties make them ideal as electrodes in electronic devices such as sensors and wearables, as these applications require both.

Most silver nanowires are coated with an insulating layer of polyvinylpyrrolidone (PVP), a polymer often used as a pharmaceutical binder, which prevents the wires from touching each other and causing short circuits. While necessary, the insulator lowers the conductivity of the wires which means that the electrodes in sensors are less sensitive.

Now, however, researchers at Korea's Ulsan National Institute of Science and Technology (UNIST) have developed a process to replace the PVP with ethylene glycol through a simple process: submerging the silver nanowires and their PVP covering into a solution of ethylene glycol. This eliminates the PVP coating and replaces it with a covering of ethylene glycol which not only improves the electrical conductivity but also protects the wires from moisture in addition to enhancing transparency.

"The replacement of PVP led to a 43% decrease in electrical resistance, effectively nearly doubling the conductivity," the researchers noted in their report in *Angewandte Chemie International Edition*, a journal of the German Chemical Society. The article was published in September but has recently attracted the attention of those who see applications beyond the laboratory. In a prepared statement, Ji Hoon Seo, senior researcher at the Korea Electric Power Research Institute (KEPRI), and one of the researchers, said: "While traditional power cables are protected by external insulations to ensure electrical stability, the insulating PVP coating on AgNWs posed a challenge by increasing resistance. The new ligand exchange method provides a simple, scalable solution without complex processing or high-temperature treatments. This technology has great potential for applications in flexible displays, wearable sensors, electronic paper, and transparent heating devices in next-generation electronics."

Want more Carbon Dioxide as a Building Block for Industrial and Consumer Products?

A Bird's Nest of Silver Nanowires May be the Answer

Carbon dioxide is often considered a waste product – it is produced by gasoline engines – but it has many uses such as in carbonated soft drinks and as a precursor to other chemicals and products such as fertilizers and for making methanol, which is used in paints, plastics and adhesives. Carbon dioxide is even used in the production of pharmaceuticals such as aspirin.

The most direct industrial way to produce carbon dioxide in large amounts is by oxidizing solid carbon at an electrode which produces carbon dioxide as a byproduct.

While this is the most efficient way to produce carbon dioxide, it has a drawback: the electrodes become saturated with the liquid they're in – the electrolyte – to the point where the electrode no longer can react and produce carbon dioxide. Engineers call this 'flooding.'

To combat flooding, a research team at the Korea Advanced Institute of Science & Technology (KAIST) has developed a silver nanowire network – like a bird's nest – over the electrode that repels liquids and prevents saturation.

The team noted that they achieved 86% efficiency in producing carbon dioxide with their silver nanowire configuration, compared to 33% to 60% in similar non-silver nanowire-based systems (such as copper).

In their journal article appearing in *Advanced Science*, the team noted that silver nanowires do more than conduct electricity. They act as a 'tandem catalyst' that produces carbon monoxide to feed other catalysts, thus enhancing carbon dioxide output.

While we often think of carbon dioxide as a waste product, it is widely used in concrete block production.

Silver-Nickel Alloy Catalyst Moves the Green World Toward Hydrogen

As the world moves away from fossil-fueled vehicles and power plants, interest in hydrogen is growing steadily. Not only is hydrogen clean-burning – leaving only water – but it is easier to store and transport than petroleum-based fuels.

Conventional methods of producing hydrogen, however, such as steam methane reforming (SMR) or water electrolysis, have disadvantages that silver may help to overcome. For example, SMR requires high temperatures and leaves an unsustainable carbon dioxide byproduct. Water electrolysis is a cleaner process but is highly dependent upon expensive amounts of electricity.

One up-and-coming method known as dehydrogenation – literally, removing hydrogen – can be performed at low temperature and pressure, without requiring large electrical power.

The process uses formic acid – the chemical released by ants – and a catalyst of silver-nickel. While scientists have experimented with catalysts composed of nickel alone, the addition of silver enhances the amount of hydrogen gas produced.

In their report in the journal *Surfaces and Interfaces*, the research team from the University of Lahore and the University of Sargodha, both in Pakistan, the King Khalid University in Saudi Arabia and others noted that of all other catalysts they tested the silver-nickel alloy was the most stable and allowed for long-term use: "Such stabilizing effect stimulates long-term use of catalytic process; thus, the silver-nickel system proves to be a much more favorable candidate from an economic perspective for hydrogen production at industrial scale." They added: "This work emphasizes the importance of reaction conditions in obtaining catalytic high performance and reveals the effective durability of the silver-nickel bimetallic catalyst, thus conferring it with great potential for practical, eco-friendly hydrogen generation."

Zero-emission, hydrogen-fueled vehicles are replacing some diesel trucks.
Source: Fastech

Silver Helps Yet Another Battery Be Safer and Last Longer

In their quest for safer, low-cost batteries, engineers continue to explore power sources that don't use lithium. Although lithium-ion batteries are generally safe, some have ignited when stored or charged incorrectly, causing house fires and fatalities.

One alternative is a battery that uses vanadium oxide, a compound often used as a catalyst for industrial processes and also as a cathode for batteries. Like lithium-ion batteries, however, vanadium-oxide batteries also suffer from dendrites, crystal growths that can cause failures. (See *Silver May Keep Lithium Batteries Safer and Longer Lasting*, February 2026, *Silver News*.)

Lithium-ion batteries with a silver vanadium-oxide alloy can prevent lithium-ion batteries from igniting.
Source: UL Research Institutes/Fire Safety

As with lithium-ion batteries, silver is added to prevent this, not as a coating but by means of a silver vanadium oxide alloy, according to researchers.

"Electrochemical tests demonstrated that the optimized silver vanadium oxide cathode exhibits significantly enhanced performance compared to the pristine [vanadium oxide] including high-rate capability and excellent cycling stability . . . This work confirms that Ag modification is an effective strategy for enhancing the structural stability and electrochemical properties of vanadium-based cathode materials for advanced [batteries]," according to the authors of the report in ACS Publications. The China-based researchers represent the School of Materials Science and Engineering, Shanghai University of Engineering Science; Huizhou EVE Lithium Energy Co., Ltd., Huizhou; Suzhou Boson Material Technology Co., Ltd., Suzhou; and Chifeng Yuntong Nonferrous Metals Co., Ltd., Chifeng.

2026 Kookaburra Silver Bullion Continues Tradition

The release of the 2026 Australian Kookaburra 1-oz silver bullion coin marks the 37th year of the bird's series, which first debuted in 1990, according to the Perth Mint. The coin was the mint's first major silver bullion collection to feature native Australian wildlife.

The current mintage was 500,000 for the .9999 pure legal tender coin, which also features a micro-engraved security feature within the design that can only be seen under magnification.

The Mint's stock has been depleted, but it is available for sale from authorized dealers listed on the Mint's website. The retail cost is around US$100.

Source: Perth Mint

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