

Tungsten: the obscure metal testing the West's critical minerals strategy

Gary Lyons for Tungsten Mining



Pressure on Western defense stockpiles is drawing attention to a critical mineral most people rarely encounter by name: tungsten.

With a melting point of approximately 6,177°F, [tungsten withstands more heat than any other metal](#). It is exceptionally dense, hard and resistant to wear, making it valuable in cutting and drilling tools, aerospace components, electronics, energy technologies and military applications. Tungsten carbide gives industrial tools the durability to shape steel, manufacture vehicles, drill mines and machine precision components. High-density tungsten alloys are also used in counterweights, radiation shielding and many forms of ammunition.

These characteristics have made tungsten difficult to replace. In this article, [Tungsten Mining](#) explores how this has also exposed a significant challenge: the United States and many of its allies rely heavily on supply chains centred on China.

That dependence mattered when trade was relatively predictable. It matters considerably more in an era of export restrictions, expanding defense production and intensifying competition for critical materials.

China's tungsten controls changed the market.

China has long dominated global tungsten mining and processing. Estimates differ depending on whether they measure mine output, intermediate processing or finished

products, but [China has recently accounted for roughly four-fifths of global tungsten production](#).

In February 2025, [Beijing imposed export controls covering a range of tungsten-related products](#), along with products containing tellurium, bismuth, indium and molybdenum. Exporters were required to obtain licenses, adding uncertainty and friction to international supply. Media outlets and market analysts subsequently [reported](#) that Chinese tungsten exports declined sharply as the controls took effect. Tightening availability, reduced Chinese mining quotas and rising industrial and defense demand, contributed to a vigorous escalation in prices. The benchmark price for Ammonium Paratungstate, or APT, delivered to Rotterdam and Baltimore was approximately US\$335 per metric ton unit in January 2025. By June 2026, the [Fastmarkets](#) analytical platform assessed the same duty-free benchmark at US\$2,900–3,210 per metric ton unit - an increase of approximately 810% based on the midpoint of the latest range. In little more than 17 months, the Western benchmark price had risen to more than nine times its early-2025 level.

The issue extends beyond whether any individual shipment receives approval. When one country dominates production, processing knowledge and downstream capacity, licensing decisions can influence delivery times, prices, and manufacturers' ability to plan.

The United States has formally recognized this broader risk. In [January 2026](#), the White House directed negotiations and other actions addressing the national security implications of American dependence on imported processed critical minerals and products made from them. The action followed a Commerce Department investigation into whether those import dependencies threatened national security.

Tungsten is consequently posing a key question for U.S. critical minerals policy: can Washington and its partners convert concern about concentrated supply into actual mines, processing capacity, procurement agreements and strategic inventories?

Military demand is colliding with civilian demand.

The timing is particularly challenging because demand is increasing across several sectors simultaneously.

Years of military support for Ukraine, conflict in the Middle East, and efforts by the United States and allied countries to replenish ammunition and missile inventories have placed defense supply chains under pressure. Tungsten used in a cutting tool can potentially be recovered and recycled. Tungsten dispersed or destroyed in a weapon is generally unavailable for future use.

Reports [emerged](#) in March 2026 that continuing conflicts were accelerating the consumption of tungsten-bearing military equipment at the same time Chinese controls were constraining supply. The result was growing competition between defense customers and civilian industries that also require tungsten.

Those civilian uses are not marginal. Tungsten carbide is essential to many forms of advanced manufacturing. Tungsten is used in semiconductors and electronics, aerospace systems, mining equipment, automotive production, medical shielding and high-temperature applications. Its extreme melting point also makes it relevant to emerging energy and scientific technologies.

In other words, securing tungsten is not only about weapons. It is about sustaining the machine tools and industrial processes that make modern infrastructure, transportation, energy systems and defense equipment possible.

Recycling can help, and the United States has a mature tungsten-recycling industry. But scrap is not an unlimited substitute for mined material. Recent reporting has also described [Chinese buyers competing aggressively for U.S. tungsten scrap](#), sometimes offering prices domestic processors struggle to match. That has prompted debate over whether strategically important secondary materials should be allowed to leave the country without restriction.

The question of new primary supply therefore remains urgent – and Australia, a long term American business partner and ally, and [a leading mining jurisdiction](#), may be a big part of the answer.

Australia and the United States are building a critical minerals partnership.

The importance of jurisdictional stability is sometimes overlooked in critical minerals debates. A mineral occurrence is not automatically a dependable source of supply. However, Australia's potential role in strengthening U.S. tungsten security is no longer simply a matter of geology or longstanding diplomatic ties. The two countries have established a formal policy framework intended to accelerate investment in critical mineral mines, processing facilities and secure supply chains.

In October 2025, the United States and Australia [signed](#) the United States–Australia Framework for Securing of Supply in the Mining and Processing of Critical Minerals and Rare Earths. The agreement was designed to support minerals required by the countries' defense industries, advanced-technology manufacturers and wider industrial bases.

The framework calls for coordinated investment, government financing support, faster permitting, offtake arrangements and measures to address unfair trade practices and

distorted commodity pricing. It also provides for cooperation on recycling, geological mapping and the identification of projects capable of filling priority supply-chain gaps.

At the time of the Framework signing, Australian Prime Minister, Anthony Albanese, stated "There are no closer friends and allies than the United States of America and Australia. Cooperation on critical minerals and rare earth supply chains is testament to the trusted partnership between Australia and the United States as strategic defence allies."

As part of the initiative, the United States and Australia committed to take measures to provide at least \$1 billion each in financing for projects located in the two countries. The broader partnership identified a pipeline of approximately \$8.5 billion in prospective critical-minerals projects in Australia and the United States. Potential government support mechanisms include loans, guarantees, equity investment, insurance, regulatory facilitation and assistance finalizing purchase agreements.

The framework also establishes a U.S.–Australia Critical Minerals Supply Security Response Group, led by the U.S. Secretary of Energy and the Australian Minister for Resources. Its purpose is to identify priority minerals and supply vulnerabilities and develop coordinated plans to accelerate the delivery of processed materials. The framework is a policy and programmatic action plan rather than a legally binding treaty, but it provides a practical structure through which projects can be assessed and supported.

Australia brings considerable capacity to that partnership. [According to the Australian Embassy in Washington](#), the country has the geological potential to supply 36 of the 50 commodities on the U.S. critical minerals list and already produces 29 of them. Australia has identified approximately 680 deposits aligned with the U.S. list, about 90% of which are available for investment and development by U.S. firms.

Those resources are supported by an established mining-services sector, experienced technical personnel, transparent reporting requirements and stable legal and regulatory institutions. Australia is also a U.S. treaty ally, a member of the Five Eyes intelligence partnership and, with the United Kingdom, a member of the [AUKUS](#) security partnership.

For Washington, this makes Australia more than an alternative source of raw materials. It offers the possibility of building an integrated allied supply chain in which Australian resources are developed with U.S. investment, supported by coordinated government policy and delivered to American defense and advanced-manufacturing customers.

Tungsten is well suited to this model. It is essential to defense production, high-performance tooling, aerospace, electronics and other advanced industries, yet its global supply remains highly concentrated. Australian miners could therefore help address both an industrial requirement and a national-security challenge.

The global challenge is moving from resources to resilient supply.

America, and the world more generally, does not lack tungsten prospects. The more pressing problem is turning geological resources into dependable supply before the next disruption.

That will require more than higher commodity prices. New projects need financing, processing solutions, qualified customers and purchase agreements that recognize the strategic value of geographically diverse production. Governments may also need to coordinate stockpiling, defense procurement, export-credit support and investment in downstream conversion.

No Australian project can independently replace China's tungsten industry. Nor should diversification be understood as severing all trade with China. A more realistic objective is to ensure that North American manufacturers and defense agencies are not dependent on a single country for an irreplaceable material.

Allied resources could form part of that network, alongside new mines, recycled material and processing capacity in the United States, Canada, Europe and other partner countries.

For decades, tungsten's greatest strength was its ability to perform demanding work without attracting much public attention. The geopolitical environment has changed that. The obscure metal inside drill bits, aircraft, electronics and military systems is now revealing how much industrial power depends on materials most people never see - and how urgently the United States and its allies must secure them.