

TRADIUM Market Report

China's Raw Materials Strategy Puts Western Industry Under Pressure

Rising geopolitical tensions between the United States and China significantly affected global commodity markets and various industries in the second quarter of 2025. In our market report, we outline the key developments that shaped this period and examine how market dynamics may continue to shift in the months ahead.



With the so-called "Liberation Day tariffs," the US government announced a series of duties on foreign goods on April 2. This marked a new phase in the trade dispute with China, as products from the People's Republic were hit with the highest tariffs. China responded with counter-tariffs and export controls on certain raw materials classified as critical. While the tariff measures were put on hold following negotiations, the restrictions on heavy rare earths, in place since April 4, are now fully impacting the market. The industry is reporting raw material shortages, and some manufacturers have already scaled back production.

Overall, the political and economic situation has worsened over the past three months, with new conflicts in the Middle East and renewed attacks on Ukraine after a brief period of diplomatic efforts by US President Trump. How these developments have affected prices for strategic raw materials, along with other relevant factors, is covered in our latest market report for Q2 2025.

When Rare Earths Become Truly Rare

Shortly after the US announced tariffs on Chinese goods, the major raw materials supplier responded with export restrictions on dysprosium, terbium, yttrium, gadolinium, samarium, lutetium, scandium, and their various compounds. These restrictions apply globally, not just to the US. It is not a full export ban, but companies now must apply for export licenses, a process that takes at least 45 business days. Shipping adds further delays—transport by sea can mean several additional weeks—so in total, it can take three to six months from license application to receipt of goods.

While April's export data showed no immediate impact, the full effect became clear in May, especially for dysprosium and terbium: not a single shipment left China that month. Even before the official May export figures were released on June 20, companies were already feeling the delays throughout the supply chains.

Is Stockpiling Becoming the New Normal?

Companies that started building inventories early were clearly better prepared for this situation. South Korean car manufacturer Hyundai, for example, told Reuters that it had secured enough rare earth material to last a full year.

In addition to export restrictions on certain rare earths, China's exports of permanent magnets also declined.

These magnets often rely on dysprosium and terbium to enhance performance — both materials have been

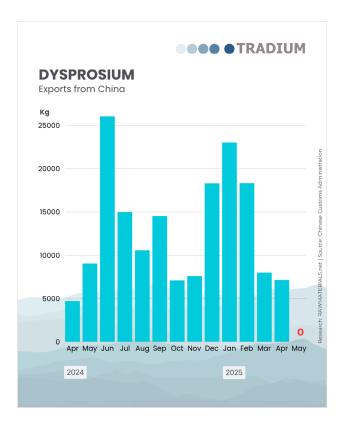
© TRADIUM GmbH Page 2 of 12

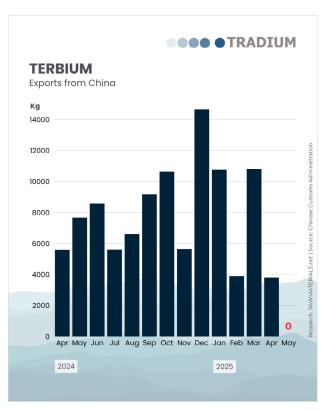
subject to trade restrictions since April, meaning they now require lengthy approval processes. These rules were tightened further in June: manufacturers must now provide additional information, <u>including details</u> about their customers and trade volumes.

In May and June, there were repeated reports of a possible agreement between the US and China, seen as a positive signal for rare earth supply chains and related products. Initial export licenses for magnets destined for the US, Europe, and Southeast Asia have already been granted. But this does not mean that trade restrictions are over.

Chinese customs can still block shipments if they deem the intended use a national security risk. Ultimately, these new rules give Beijing deeper insight into Western supply chains and production structures.

The latest developments make it clear how essential strategic stockpiling has become to help companies avoid production stops caused by raw material shortages.



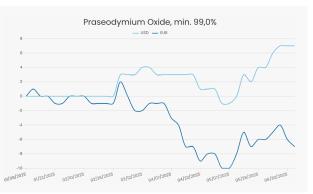


© TRADIUM GmbH Page 3 of 12









The introduction of export restrictions brought the market for rare earths and rare earth magnets to a standstill overnight. For weeks, there was no liquidity because there was simply no material available. Without product, there is no price discovery. For a trader like TRADIUM with decades of market experience, this is an extraordinary situation.

At the same time, we were flooded with inquiries from the industry, especially from companies that suddenly couldn't access Chinese material as usual. The uncertainty was noticeable, and market nervousness grew by the day. Many first had to familiarize themselves with the new export license procedures, while trade effectively came to a halt.

This situation shows how important it is not only to trade raw materials but to maintain physical inventories. Our customers benefit from the fact that we have been stockpiling critical raw materials for years, which allows us to continue delivering even in tense market situations.



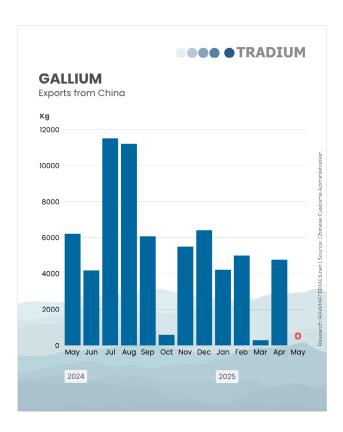
Jan Giese Senior Manager Minor Metals and Rare Earth Elements

© TRADIUM GmbH Page 4 of 12

Where Are Technology Metals Headed?

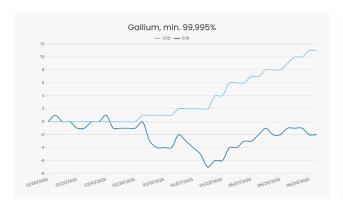
The export restrictions introduced in April for heavy rare earths follow a similar pattern to what China imposed in summer 2023 on gallium and germanium. Exporting these materials now requires a license — officially a 45-business-day process, though delays are common. Since licensing began, shipments of gallium and germanium have repeatedly faced disruptions, with falling export volumes driving prices steadily higher.

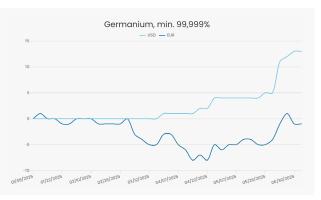
This trend accelerated further in Q2 of this year after prices had remained relatively stable in Q1. Gallium is crucial for the semiconductor industry, while germanium is used in a range of optical applications. Demand continues to grow, yet China, the dominant producer, cut exports significantly in Q2. In May, gallium exports fell to zero, and only minimal quantities of germanium left the country. This structural shortage is tightening the market, raising concerns about global supply security.





© TRADIUM GmbH Page 5 of 12







'Just get it' instead of 'just in time'. The situation with germanium in Q2 shows how much procurement realities have changed. Chinese exports fell well below normal levels, while at the same time, an entire year's worth of production is being withheld in state reserves. This has severely impacted supply chains for products like optics, high-performance semiconductors, and fiber optics.

The industry is increasingly aware of its dependence on a few supplier countries — and that supply security in critical sectors must be the top priority. Those who failed to plan ahead are now left empty-handed. Strategic stockpiling could have at least softened the current shortage.



Dr. Christian Hell Senior Manager Germanium and Minor Metals

© TRADIUM GmbH Page 6 of 12

Rhenium and Hafnium Remain Critical





Rhenium saw a significant price increase in Q2, driven by strong ongoing demand from the aerospace industry. A new medical application has also attracted attention: a rhenium-molybdenum alloy recently received approval from the US Food and Drug Administration (FDA). This alloy was already used in spinal implants and will now also be used in cardiovascular stents.

With aging populations in many parts of the world, the medical sector could become an even bigger driver of rhenium demand. Trials with rhenium alloys already show promising properties for a new generation of implants, particularly smaller, more durable models for ankle and foot joints.

While most attention in Q2 was focused on rare earth export disruptions, other critical metals like hafnium and rhenium almost fell off the radar — unfairly so. Both are strategically important for high-performance alloys in aviation and aerospace.

Hafnium is also benefiting from the continued growth of the nuclear sector, driven by new reactor designs in the US. It is also an essential raw material for semiconductor production. The challenge remains: both metals are rare, hard to access, and often under strict government control. The real risk is not price — it's access.



Frank Meier Senior Manager Minor Metals

© TRADIUM GmbH Page 7 of 12

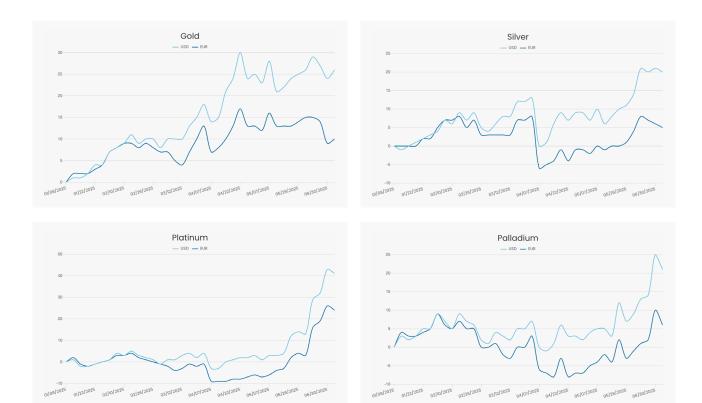
Bismuth: A Crisis Below the Radar?

In addition to developments around gallium, germanium, and heavy rare earths, China's expanded export controls also caught the attention of commodity markets in Q2. In February, China announced stricter rules for additional metal compounds and certain product forms starting March 1, 2025. Bismuth is a good example of the potential consequences: since March, Chinese customs data shows that no unprocessed bismuth metal has been exported.

At the same time, exports of bismuth trioxide — one of the most common pre-processed forms for industry — have increased since the beginning of the year. This is because bismuth trioxide is not currently subject to export license requirements. Producing trioxide by simply burning metal is relatively cheap, but converting it back to metal is far more complex and expensive. Since no bismuth metal has left China in the last three months, industries that rely on the pure metal are now forced to either take on this extra processing step themselves or purchase more expensive material, already on the market.

In Europe, bismuth prices have risen sharply in recent months, creating a price gap compared to China. The European electronics industry is particularly affected, as environmental regulations require the use of bismuth compounds for lead-free soldering processes.

Precious Metals: From Record to Record



© TRADIUM GmbH Page 8 of 12

Precious metals showed exceptional momentum in Q2. Gold repeatedly broke records and set new all-time highs. Silver and platinum also posted strong gains — market movements of this scale are rare, even for these historically volatile sectors. TRADIUM's Senior Manager Precious Metals, Philipp Götzl-Mamba, has analyzed the situation in detail:

Precious metals made history in Q2. Gold hit an all-time high in both USD and EUR — \$3,500 per ounce and €97 per gram. Driven by geopolitical uncertainty, gold reinforced its role as a safe haven and even overtook the euro as the world's second-largest reserve currency in central banks.

This strength was also reflected in its relationship with silver. The gold-silver ratio rose above 100 — something that's only happened four times in the past 100 years. This relative undervaluation of silver pushed it to a 14-year high and confirmed the theory that silver follows gold's price movement, but with greater volatility. You can see this in the trading range of \$7.70 per ounce, or 26 percent, over the last quarter. Still, silver remains nearly 40 percent below its all-time high in USD — meaning further potential remains. In addition to geopolitical tensions, the growing levels of global debt are also fueling gold's ongoing strength.

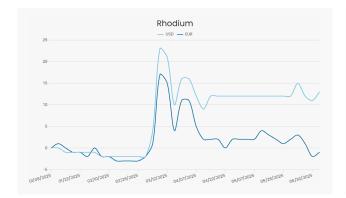
That's not all. The platinum group metals also moved back into focus. After months of stagnation, platinum prices began a noticeable upward trend, driven by ongoing physical market deficits. First, the psychological threshold of \$1,000 per ounce was crossed, followed by a sharp rally. By the end of Q2, platinum was trading near \$1,450 per ounce — a gain of over 45 percent within just three months. Strong demand from the jewelry and investment sectors, particularly in Asia, along with tightening financing conditions, helped platinum reach its highest price in a decade.

Palladium, ruthenium, and iridium also recorded price increases and renewed demand. These developments reflect a market environment defined by supply shortages, rising demand, and limited liquidity — all factors currently providing strong support for precious metal prices.



Philipp Götzl-Mamba Senior Manager Precious Metals

© TRADIUM GmbH Page 9 of 12





Supply Chains Are (Slightly) More Diverse

It's unlikely that the geopolitical importance of critical raw materials will fade in the coming quarters. Application areas such as the energy transition, mobility, and digitalization continue to drive robust demand. Increasingly, another sector is moving into focus: the military. Initiatives like the recently adopted new NATO targets for higher defense spending are expected to further boost demand for strategic metals and increase pressure on the markets in the quarters ahead.

The growing focus on raw material security is also evident in efforts to diversify Western supply chains. Accelerated approval processes for selected resource projects and new steps toward the controversial practice of deep-sea mining have led to progress, especially in the US. The EU is also moving forward with its Critical Raw Materials Act, which includes partnerships with resource-rich countries.

Meanwhile, China has spent years securing access to resources abroad and now controls large parts of the value chain — from raw material extraction to final products — across many key commodities. The West remains far behind in this area.

This raises the key question of how flexible industry can be in practice:

"The majority of industrial buyers still rely on 'just in time' — with deliveries arriving only days after an order is placed. That reduces capital tied up in inventory and fits neatly into a metrics-driven business model. But how long this approach can survive in an era of growing uncertainty and constant supply chain disruptions is questionable," says Matthias Rüth, Managing Director of TRADIUM.

This report is a collaboration between TRADIUM and Rawmaterials.net.

© TRADIUM GmbH Page 10 of 12

TRADIUM & Rawmaterials.net in the Media

Throughout Q2 2025, TRADIUM and Rawmaterials.net have been sought-after sources for expert commentary on critical raw materials. Selected media coverage:

Capital:

Rare Earths: 'China Flexes Its Muscles' - June 30, 2025

Die ZEIT:

Rare Earths From China: We're Caught in a Trap! - May 9, 2025

Handelsblatt:

Experts See Potential for a Precious Metal Comeback – June 4, 2025

China Triggers Raw Material Crisis – First Companies Cut Production – June 4, 2025

n-tv:

'China Flexes Its Muscles': Rare Earth Exports Drop to Zero – June 28, 2025

'Supply Could Collapse Within Weeks' - April 22, 2025

China's Superweapon in the Trade War Targets the Whole World - April 19, 2025

SpringerProfessional:

'China's New Export Rules Worsen the Situation' - June 30, 2025

UNICRI:

United Nations Interregional Crime and Justice Research Institute (UNICRI): Crimes Associated With Critical Minerals in Southeast Asia: Trends, Challenges and Solutions – April 2025

Wirtschaftswoche:

China Wants This Many Details Before Shipping Rare Earths - June 7, 2025

ZDF:

Rare Earths Are Running Short – June 19, 2025

© TRADIUM GmbH Page 11 of 12

About TRADIUM

Founded in 1999, TRADIUM GmbH is a privately owned company based in Frankfurt am Main, Germany. We supply a wide range of high-tech industries—including electronics, automotive, glass, ceramics, and dental technology—with technology metals, rare earths, and precious metals. TRADIUM works globally with a trusted network of international producers. Our long-standing partnerships ensure reliable sourcing, market proximity, and up-to-date product availability. Companies without dedicated storage can use our high-security bonded warehouse operated by partner METLOCK.

About Rawmaterials.net

Rawmaterials.net is the first news portal dedicated exclusively to rare earths and technology metals. It offers breaking news, in-depth analysis, expert interviews, and historical insights—all in one place. Its content is relevant to both industrial buyers and private individuals interested in physical assets.

© TRADIUM GmbH Page 12 of 12