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Beyond Beijing:

The Global Race to Rebuild Rare Earth Infrastructure

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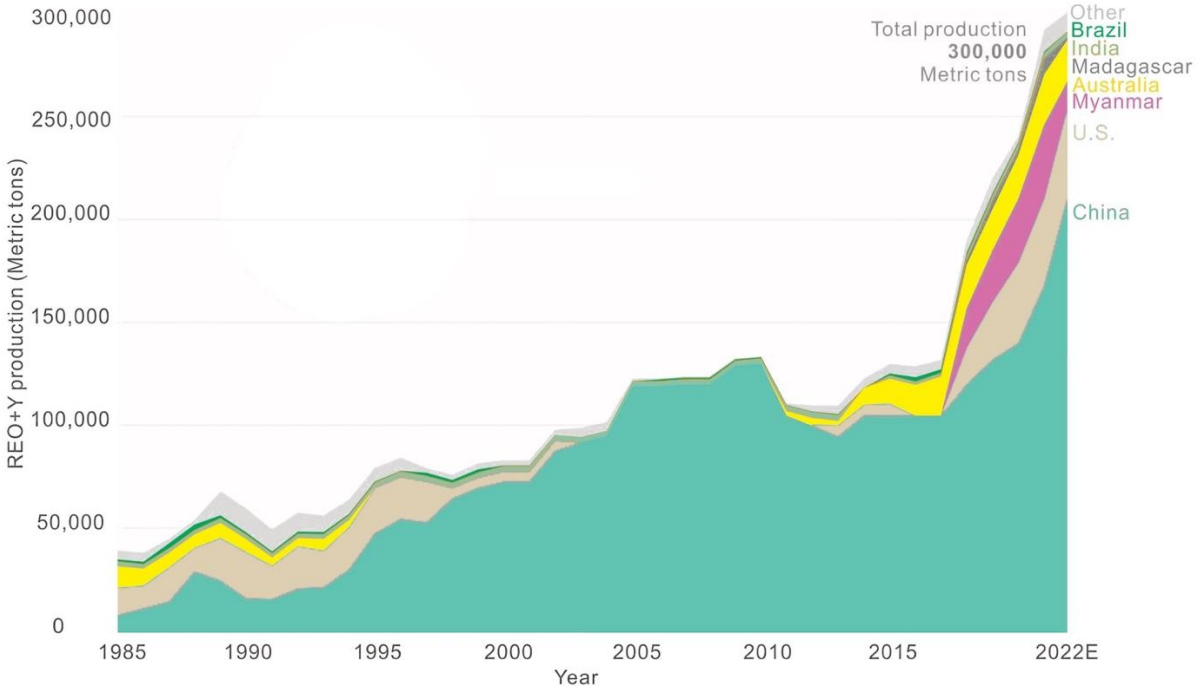
Executive Summary

- China's 2025 export restrictions on seven rare earth elements - in retaliation for new US tariffs - have disrupted global supply chains, increasing prices and affecting industries like EVs, wind power, defence, and electronics worldwide.
- The United States faced production challenges and supply shortages across critical sectors; although a temporary trade agreement with China eased some tensions, rare earths remain a major point of leverage in ongoing negotiations.
- India, heavily reliant on China for rare earth magnets, has experienced supply disruptions affecting its EV and electronics industries; in response, it is investing in domestic production, new trade partnerships, and mineral exploration.
- Japan, the first country historically impacted by Chinese rare earth controls, is now diversifying supply through overseas investments and joint efforts with the EU, while also developing rare-earth-free technologies.
- The European Union, dependent on China for over 98% of its rare earths, has condemned China's restrictions and is implementing policies to boost domestic mining, processing, and recycling as part of its Critical Raw Materials Act.
- Globally, China's actions have pushed nations to rethink critical mineral security, with the creation of long-term strategies to reduce dependency through diversification, innovation, and international cooperation.

KEY PICTURE: Global Rare Earth Production



Source: United States Geological Survey

1. Rare Earths Under Pressure: The Strategic Fallout of China's Export Controls

Rare earth minerals are a group of 17 elements critical to modern technology, used in everything from electric vehicles and wind turbines to smartphones and missile systems. Because these elements are found in limited areas, global supply chains are vulnerable to disruptions. In April 2025, China, which holds the largest reserves (44 million tonnes) and controls over 90% of global processing, restricted exports of seven rare earths, causing global concern.[1]

The export controls that were introduced in retaliation for tariff hikes on Chinese goods by US President Donald Trump apply to seven rare earth elements and related magnets used in defence, energy, and automotive industries. The restrictions covered seven of the 17 REEs - samarium, gadolinium, terbium, dysprosium, lutetium, scandium, and yttrium - and now require exporters to obtain special licenses to ship these materials abroad[2] through a process that is somewhat unclear and can take anywhere from six or seven weeks to several months.[3]

While China hasn't officially limited the volume of rare earth exports, delays in customs clearance have disrupted supply and driven up prices. These sharp price increases have started to impact economic activity in other countries.[4]

These elements are also vital for producing parts used in electric vehicles, wind turbines, data equipment, aerospace technology, and military systems. As a result, automakers in the US, Europe, and Japan have had to halt production. Since rare earths require complex refining and China dominates both mining and processing, these restrictions have highlighted global vulnerabilities and turned rare earth supply into a key issue of economic security, prompting countries to consider strategic responses.[5]

2. Effects on India

Recently, China has stopped or significantly delayed key exports to India, including rare earth magnets. These components are vital for India's high-tech industries like electronics, electric vehicles, and wind energy. By blocking their export to Indian companies, China is effectively slowing India's progress in advanced manufacturing - an important focus of the 'Make in India' and Production-Linked Incentive schemes.[6]

For example, due to a drop in rare-earth supplies, Indian carmakers like Maruti Suzuki and JSW MG Motor India are experiencing raw material delays. These restrictions have raised concerns about potential production slowdowns in India's EV and electronics industries, which imported 540 tonnes of magnets from China in the last financial year.[7]

India's electric vehicle (EV) industry relies on China for nearly 90% of its rare earth imports. However, although China's dominance in rare earths poses a strategic challenge for India, it also presents an opportunity for the country to strengthen its own capabilities.[8] In response, India has started diversifying its sources, strengthening rare earth partnerships with countries like Australia, the US, and Japan.[9] It is also actively negotiating with Chile and Peru to secure critical mineral supplies - especially copper - through its ongoing free trade agreement talks, aiming to reduce its reliance on China by diversifying import sources. To further reduce vulnerability, India is also launching a new incentive program to boost domestic magnet production.[10]

Finally, India is ramping up Production-Linked Incentive schemes to boost local manufacturing of key components. If Chinese exports continue to be unreliable and alternatives prove costly or slow, India may be compelled to reassess its trade strategy, shifting toward more dependable suppliers while strengthening its domestic capabilities.[11]

Indeed, India holds the world's third-largest rare earth reserves, estimated at 6.9 million tonnes, primarily in monazite-rich coastal sands. Despite this potential, extraction is challenging due to low concentrations and the presence of radioactive elements like thorium. Thus, the National Critical Mineral Mission, launched in July, aims to strengthen domestic mining and processing, with 1200 exploration projects planned through 2030.

However, India still faces major hurdles, including limited refining technology, technical expertise, and infrastructure. Nonetheless, experts believe that with sustained investment, policy reform, and international collaboration, India can turn its rare earth limitations into strategic leverage.[12]

3. Effects on the US

The US-China trade relationship is currently deeply complicated, shaped by years of shifting tariffs that have been imposed, lifted, and reimposed since 2018. What began under Trump's first term and continued through the Biden years has intensified sharply since Trump returned to office in January 2025.[13] Trump's second term revived the confrontational tone of his first, with a more transactional and unpredictable approach,[14] making tariffs a central part of his economic agenda and introducing broad duties on nearly all countries in April 2025.[15]

As the US ramped up its restrictions, China responded by sharply tightening its export controls, starting to use export restrictions on key minerals as one of its strongest economic tactics. By May 2025, it had put limits on at least 16 important minerals and alloys that are used in everything from smartphones to F-35 fighter jets. These moves hit the US and allied supply chains hard, giving China a strong hand in its ongoing trade and tech negotiations with the US.[16]

Thus, after months of escalating tariff battles and retaliatory measures, the US and China reached a tentative trade agreement in mid-June 2025 aimed at stabilising markets and restoring fractured supply chains. The deal followed a volatile period marked by sweeping tariffs (peaking at 145%) on Chinese goods and China's countermeasures, including tariffs and export controls on critical minerals. Initial talks in Geneva led to a temporary tariff rollback and a 90-day pause on new trade barriers, but tensions resurfaced when Trump accused China of not easing rare earth restrictions as promised.[17]

A breakthrough came after a June 5 phone call between Trump and Xi, followed by negotiations in London, where both sides agreed "in principle" on a framework to implement previous commitments. Under the deal, China pledged to resume rare earth exports and supply key materials like magnets, while the US agreed to restore access for Chinese students and set a blended tariff rate of 55% on Chinese goods. Trump declared the relationship "excellent", though the agreement still awaits formal sign-off from both leaders.[18]

4. Effects on the European Union

On July 10, 2025, the European Parliament passed a motion criticising China's export restrictions on rare earth elements, highlighting growing trade tensions between the EU and China. The European Union is highly vulnerable when it comes to rare earth elements, relying on imports for over 98% of its supply, mostly from China. These minerals are vital for green technologies and high-tech manufacturing. The EU's industrial strategy relies significantly on stable access to these materials, as industries that depend on rare earths produce around €1 trillion in yearly output and support millions of jobs across Europe. In response, China swiftly rejected the EU's stance, with its EU mission accusing the bloc of politicising trade and applying double standards.[19]

With demand projected to increase fivefold by 2030, policymakers are increasingly concerned about the strategic implications of the reliance on China. To reduce its reliance on Chinese rare earths, the EU has launched a broad strategy focused on resource security. The 2023 Critical Raw Materials Act sets targets for domestic extraction (10%), processing (40%), and recycling (25%), while encouraging strategic partnerships and streamlining approvals for key projects. The EU is also backing exploration in Sweden, Finland, and Portugal, investing in sustainable mining, and supporting 14 active rare earth projects. It is also partnering with countries like Australia, Canada, and Vietnam, and promoting recycling through research, regulation, and initiatives like SUSMAGPRO, though current rare earth recycling rates remain below 1%.[20]

5. Effects on Japan

Japan was the first country to face Chinese rare earth export restrictions as early as 2010 after a territorial dispute near the Senkaku Islands, where a Chinese fishing boat collided with a Japanese Coast Guard vessel. In retaliation, China sharply cut rare earth exports to Japan, prompting a significant drop in imports. In response, Japan launched two key strategies: securing rare earth supplies outside China and reducing reliance on them. It invested in companies like Lynas in Malaysia and Caremag in France, aiming to cover up to 20% of its demand for heavy rare earths. Japan is also advancing rare earth-free motor technology, with mass production expected by 2027–2028, starting with small EVs.[21]

In addition, in response to China's tightening controls on rare earth exports, Japan and the European Union are strengthening their collaboration to reduce dependence on Chinese supply chains, particularly through joint public-private partnerships. As part of this effort, they are launching a new "economic two-plus-two" dialogue, bringing together their foreign and economic ministers to identify specific areas of cooperation, including the joint development of critical mineral supply chains. Japan aims to simplify EU regulations and explore opportunities for its companies to participate in EU-led projects under this new framework.[22]

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