

Mongolia's rare earths diplomacy and its geopolitical implications

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August 12 2023

Note: This article appeared in *The Diplomat* on August 12 2023.

Mongolia, rich in minerals especially copper and rare earths, but sandwiched between China and Russia, is making a pivotal shift toward a 'third neighbour' – the United States. During a recent [visit to Washington](#), Prime Minister Oyun-Erdene Luvsannamsrai aimed to fortify US ties concerning critical minerals and particularly to enhance cooperation in rare earth mining. Additionally, Mongolia and the US brokered an 'Open Skies' aviation agreement, intended to bolster direct trade.

Should these agreements be realised and rare earths air-shipped from Mongolia to the United States, what are the implications for China-US strategic competition?

'Chokepoint' strategy

The China-US relationship has been the world's most pivotal bilateral dynamic since the end of the Cold War. Recently, competition has taken precedence over cooperation between these two superpowers, with Beijing and Washington jockeying for advantage from trade and technology to control over critical mineral supply chains.

Global supply chains have evolved due to two intertwined factors: advancements in ICT and cross-border logistics, along with the reduction in institutional barriers facilitated by organisations like the WTO. As a result, supply chain management has become crucial for optimising efficiency, cost-effectiveness, and uninterrupted capital and information flows for both businesses and national economies.

However, supply chains present a [paradox](#): As they grow more complex, weaving in multilayered arrays of suppliers each chosen for their competitive advantages, they also become more vulnerable to external shocks. This includes natural disasters, pandemics, and unpredictable geopolitical shifts. Recent events like the China-US tech war and the economic sanctions on Russia following its invasion of Ukraine highlight the fragility of today's global supply chains.

In the context of a volatile geopolitical environment, certain chokepoints within supply chains are regarded as potential vulnerabilities. A '[chokepoint](#)' denotes a critical and irreplaceable component or link within a supply chain, susceptible to control by potentially adversarial entities. At its core, a chokepoint is characterised by a form of monopoly. While businesses may wield monopolies to achieve heightened economic gains, nations often cultivate them for political objectives. Beyond the establishment of monopolies to create strategic chokepoints, an alternative and more aggressive strategy also exists: targeting an opponent's chokepoint to intentionally disrupt their crucial supply.

In the competition between the United States and China, both nations are employing chokepoint strategies. To start, the US utilised its dominant position within semiconductor supply chains to exert extensive technological and geopolitical influence. This manoeuvre effectively curbs China's progress in advanced chipmaking. China, in response, has implemented its own countermeasures, including export controls of critical metals. These reciprocal actions have transcended the realm of economic sanctions, signifying a broader form of economic warfare between the two powers.

In the midst of these various measures and countermeasures, China holds a wild card: its control over the separation and refinement of rare earths. Presently, China [is the sole provider](#) of a continuous, uninterrupted supply of high-energy permanent magnets suitable for high-temperature applications such as electric motors used in EVs.

The geopolitics of rare earths

Rare earths play a crucial role in numerous modern technologies. Specifically, the rapid growth of renewable energy and related technologies, such as electric vehicles, wind and solar energy, spurred a [37 percent increase](#) in rare earths demand in 2022, a trend expected to continue for at least the next five years. Yet, the supply chains for rare earths are mired in geopolitical vulnerability. Notably, China boasts the most substantial natural reserves of all 17 rare earth elements and has cultivated a unique ability to refine and separate each one.

Moreover, since 2012, China has intensified its efforts to move up the value chain. Notably, it has consolidated rare earth mining and processing under state-owned enterprises and established pivotal research centers. Despite commencing patent filings nearly two decades after the United States and Japan, China held more than [80 percent](#) of all rare earth-related patents by 2020.

China is now the largest importer and exporter of rare earths, meaning it controls the bulk of rare earth processing including refinement, separation, and fabricating magnet materials. During the [first half of 2023](#), China imported 90,920 tons of rare earth ores and metals, a substantial portion from the United States, and exported 26,236 tons of refined rare earths, primarily magnet materials. While theoretically feasible, decoupling from China's rare earth supply chains would involve substantial costs and potentially disruptive supply chain stability.

Beyond just rare earths, China is the leading and most cost-effective supplier of many [critical minerals](#) vital for clean energy transition. Given the geopolitical and environmental risks tied to mining and processing minerals, concerns about rare earth supply security have intensified. Recognising their potential vulnerability to Chinese restrictions, Western governments are actively seeking to level the playing field. This includes seeking to diversify mining sources and building facilities independent of China's input.

In the face of geopolitical competition between the US-led West and China, more nations, including Mongolia, are gravitating toward the democratic bloc to mitigate risks from China's dominance in critical supply chains. Reacting to a series of export controls and technology sanctions on semiconductors imposed against it, China has felt compelled to employ reciprocal actions.

For example, Beijing, with precision and deliberation, initially curtailed exports of [gallium and germanium](#) – two rare metals integral to the manufacturing of several strategically significant products, including military weapons systems. This move came in the wake of China's [new Foreign Relations Law](#) enacted on July 1, which asserts that the nation may employ countermeasures when facing external restrictions. Moreover, the recent introduction of [China's drone export control policy](#) indicates a potential escalation in these tit-for-tat measures.

In light of China's countermeasures, the Pentagon is investigating partnerships with US and Canadian companies to recycle rare metals from waste and refine both gallium and germanium. Furthermore, the United States has declared [limitations on American investments](#) in China's tech sector.

Given this backdrop, the Mongolian prime minister's visit to Washington to discuss potential rare earth collaborations can be seen as bolstering the United States' position, potentially tipping the balance of power in this geopolitical tug-of-war.

Can Mongolia's rare earths diplomacy shift the power balance?

The potential rare earth partnership between the United States and Mongolia holds promise for mutual gains. For the US, the collaboration could serve to diversify its sources of rare earths. Meanwhile, Mongolia stands to benefit from expanded diplomatic ties and potential US investments that could fuel its economic growth. However, as with any international relationship, the devil is in the details.

Several significant barriers cast shadows over the potential partnership. First, the economic viability of mining rare earths, which come in oxide concentrations ranging from **1 percent to 70 percent**, is far from guaranteed. Uncertainties persist regarding the quality of Mongolia's rare earth reserves and the requisite investment for extraction and processing.

Second, Mongolia may face domestic opposition to rare earths mining operations, which come with a heavy environmental cost. Across its entire **value chain**, this process consumes substantial energy and water resources while generating various wastes and pollutants, including toxic mining residues, wastewater laden with heavy metals, radioactive waste, and air pollutants such as carbon dioxide and sulfur dioxide. China learned this lesson the hard way: **Reports** indicate that it could take anywhere from 50 to 100 years for the environment to fully recover in a county in Jiangxi Province where heavy rare earth deposits are rich. The estimated price tag for this restoration is approximately 38 billion yuan, equivalent to around \$5.5 billion.

Third, the absence of critical infrastructure in Mongolia, including adequate roads for transporting heavy machinery and reliable electricity, compounds the challenges. Ironically, Mongolia's best hope for addressing this situation is China. The two countries **have agreed** to cooperate on a variety of infrastructure projects, including cross-border railways, trade ports, and roads and highways.

Lastly, Mongolia's landlocked status leaves it reliant on road transport to reach the nearest Chinese ports for global trade. While the 'Open Skies' aviation agreement offers an alternative, the cost of air shipping minerals can easily negate any economic benefits. Additionally, the agreement's implementation depends on the consent of either China or Russia, as their airspace must be crossed for flights to proceed.

Therefore, though bolstered ties between the United States and Mongolia could be disadvantageous for China geopolitically, Mongolia's pivot seems more symbolic than rooted in economic pragmatism. The potential drawback of this shift is that it could jeopardise the existing cooperation between China and Mongolia. China remains the **most significant destination** for Mongolia's mineral exports, including copper and coal. Should Mongolia decisively tilt toward the West, Mongolia's exports could face constraints.

Conclusion

As China-US tensions escalate, other countries often feel pressured to align with one of these superpowers. Smaller countries have less weight in shifting the China-US dynamic than larger ones, and nevertheless their decisions reflect shared geopolitical anxieties. As pointed out by **Oyun-Erdene**, countries like his own could suffer greatly if superpower competition boiled over.

In the race against time to combat climate change, global unity rather than fragmentation is the need of the hour.

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