MANOHAR PARRIKAR INSTITUTE FOR DEFENCE STUDIES AND ANALYSES
मनोहर पर्रिकर रक्षा अध्ययन एवं विश्लेषण संस्थान

MP-IDSA
Commentary

China and the Critical Minerals Race

Anveshi Bisht

September 23, 2026

Summary

International partnerships and increased technology transfers are vital to counter China's dominance of critical minerals supply chains.

The subset of critical minerals known as rare earth minerals, consisting of 17 metallic minerals, is vital to strategic industries spanning sectors such as defence, communications and clean technology. As a result, nations are racing to secure supplies to protect their strategic and economic interests.

As the importance of critical minerals continues to grow across multiple strategic fields, China's chokehold on the supply chain has become an increasing source of concern. This, in turn, has led to multiple pacts and agreements such as the Minerals Security Partnership (MSP), the Quad Critical Minerals Framework, and Pax Silica, as nations scramble to secure supply chains. These initiatives seek to diversify supply sources, increase investment in alternative production and processing capacity, strengthen recycling, and build a network of trusted partners across strategically important mineral and technology supply chains.

Despite this, China still holds a strong position in critical minerals. This has been due to China's strategic policy decisions that have moved beyond control of mineral ores. Instead, consolidation of midstream processes and IP accumulation has set the stage for a new era of lasting technological dependence.

Over the past few years, China's dominance of critical minerals has given it near-hegemony in supply chains. It not only has near-complete control of the minerals themselves, but also dominates their processing. China's dominance across critical mineral supply chains is no coincidence; its success stems from policy, not geography.[1]

China's investment in rare earths dates back to the 1950s, with scaling up continuing over the following decades and accelerating under the economic reforms of the 1980s. The 1990s perhaps marked one of the most pivotal policy shifts, when the Chinese government declared rare earth elements (REE) as 'protected and strategic minerals'.[2] Identifying REEs as strategically important led to the consolidation of fragmented supply chains across China.

China banned foreign investment in all rare earth mining, and any foreign firm seeking access to minerals was required to partner in joint ventures with Chinese state-owned enterprises. During this period, growing environmental concerns also constrained REE mining and processing in the United States and Europe, leading

[1] Kristin Vekasi, **"Securing Supply Chain Resiliency for Critical Rare Earth Metals"**, in Sophia Kalantzakos (ed.), *Critical Minerals, the Climate Crisis and the Tech Imperium*, Vol. 65, Springer, 2023, pp. 45–68.

[2] Philip Andrews-Speed and Anders Hove, **"China's Rare Earths Dominance and Policy Responses"**, The Oxford Institute for Energy Studies, June 2023.

Western governments and companies to subcontract pollution-intensive stages of the beneficiation process to China.

This attempt to limit costs associated with the most hazardous aspects of rare earth refining, in turn, led to the slow transfer of industrial capacity to China. A notable example was the transfer of certain aspects of the beneficiation process from the Mountain Pass mine in Southern California to China, allowing minimally processed ore concentrates to be shipped to China for intensive refining.[3] Efforts to reduce environmental costs led to further subcontracting, prompting industries such as rare earth magnet production to move to China. Over time, such outsourcing contributed to the gradual relocation of processing capacity and technical expertise to China, strengthening its position across the rare-earth supply chain.

It is important to note that Chinese dominance does not come from merely expanding mineral production alone; it also comes from a chokehold on midstream processes, i.e., the technologies essential for processing and separating, which vary according to different minerals.[4] This is because, despite their name, rare earths are relatively abundant. The need to process and refine them makes them hard to obtain.

As such, China has expanded its dominance beyond upstream extraction by focusing on solvent extraction techniques. Additionally, this process is backed up by a growing regime of intellectual property patents, securing knowledge rights over key parts of the rare earth supply chain. This, in turn, deters competitors from acquiring critical expertise while simultaneously dissuading attempts at duplication.[5]

China's export control law (ECL) passed in 2020 marked another major shift in Chinese policy toward critical minerals. It moved the country beyond securing and consolidating the supply chain to leveraging it. While the ECL aims to establish a foundation for regulating dual-use products, military items and nuclear materials, as well as technologies tied to national security and non-proliferation concerns, the law has increasingly been used to weaponise critical minerals.[6] There is little doubt that the timing stems from the on-and-off trade war that erupted between the US and China in 2018.

---

[3] Julie Michelle Klinger, **"Rare Earth Frontiers: From Terrestrial Subsoils to Lunar Landscapes"**, *Cornell University Press*, 2017, pp.110–113.

[4] Idris Demir, Asım Mustafa Ayten, Soner Top et al., **"Rare Earth Elements in the Global Economy: Usage, Recovery, and the Quest for Supply Security – A Review"**, *Mining, Metallurgy & Exploration*, Vol. 43, 17 April 2026, pp. 2061–2092.

[5] Dwayne Woods, **"A Stackelberg Model of China's Rare Earths Strategic Lead"**, *Journal of Chinese Political Science*, 20 October 2025.

[6] Giovanna Maletta and Fei Su, **"China's Export Control Framework: Domestic Developments and International Positioning"**, Stockholm International Peace Research Institute (SIPRI), 29 April 2026.

Since 2021, China has increasingly imposed export controls on an ever-growing list of critical minerals. In December 2023, it banned exports of technology for rare earth extraction, separation and smelting, extending leverage beyond the minerals themselves to the knowledge that makes global rare earth production possible.[7] Given the growing importance of REEs, especially in light of China's clean energy ambitions and increasing geopolitical tensions, there is little doubt that the framework imposed by the ECL will continue to be used to either exert or ward off strategic pressure.

Deng Xiaoping famously stated that "the Middle East has oil, China has rare earths". In retrospect, this has become an apt reflection of the global critical mineral landscape. China's protracted dominance across the critical mineral supply chain stems from a mix of long-term vision and policy, consolidation of mid-stream processes, supply-chain integration, sustained research and development, and an expanding regime of intellectual property patents that seek to 'shut the door on the way out'.

Although countries such as the US, Australia and India are trying to shore up their rare-earth resources, they still lag behind China in the scale and integration of processing, separation, refining, downstream manufacturing capacity and now IP accumulation.

A comprehensive strategy that integrates resilient supply chains, international partnerships, and increased technology transfer is therefore vital. Friend-shoring in critical minerals must move beyond increased mining and stockpiling and focus more on technological co-development and IP-sharing so progress can be achieved up the value chain, avoiding new forms of technological dependence. For countries such as India, this means national initiatives must treat indigenous research and development, patenting, innovation in separation and refining, and recycling as strategic priorities alongside securing raw materials.

[7] Haelim Anderson and Haotian Shi, **"China's Export Control Architecture and Its Use of Critical Minerals as Strategic Pressure Points"**, Andersen Institute for Finance and Economics, 29 April 2026.

About the Author

Ms. Anveshi Bisht is Research Intern at the Manohar Parrikar Institute for Defence Studies and Analyses, New Delhi.

Manohar Parrikar Institute for Defence Studies and Analyses is a non-partisan, autonomous body dedicated to objective research and policy relevant studies on all aspects of defence and security. Its mission is to promote national and international security through the generation and dissemination of knowledge on defence and security-related issues.

Disclaimer: Views expressed in Manohar Parrikar IDSA's publications and on its website are those of the authors and do not necessarily reflect the views of the Manohar Parrikar IDSA or the Government of India.

© Manohar Parrikar Institute for Defence Studies and Analyses (MP-IDSA) 2026

Manohar Parrikar Institute for Defence Studies and Analyses
1, Development Enclave, Rao Tula Ram Marg
New Delhi 110 010 India
T +91-11-2671 7983 F +91-11-2615 4191
www.idsa.in
Twitter @IDSAIndia
www.facebook.com/ManoharParrikarInstituteforDefenceStudiesAnalyses