

Critical Minerals: A Strategic Lever for China in Counterbalancing the United States

Hsu, Yin-Er | Analyst, The Regional Development Study Center, CIER

In recent years, the U.S.-China trade war, the outbreak of the COVID-19 pandemic, and geopolitical shifts such as the Russia-Ukraine war have heightened uncertainties surrounding global supply chains. Major countries, including the United States, the European Union, and Japan, have become increasingly aware of the risks posed by supply chain disruptions to national and economic security. As a result, they have begun assessing vulnerabilities and levels of import dependency in the supply chains of critical domestic industries. Clean energy technologies, which play a pivotal role in achieving global net-zero carbon goals, have elevated the importance of strengthening the resilience of critical mineral supply chains as a key strategic priority.

China is one of the earliest nations to exploit and utilize its critical mineral resources, recognizing the connection between these resources and economic modernization. The country views the application of mineral resources as a crucial pathway to achieving its strategic goal of building a moderately prosperous society. Economic development has consistently been prioritized over the environmental pollution caused by mineral extraction and refining.

With the globalization of supply chains and advancements in industrial technologies driving increased global demand for critical minerals such as rare earths, many advanced economies, including the U.S. and EU member states, have gradually withdrawn from upstream mining and extraction activities due to environmental concerns. Leveraging its relatively low costs in mineral resources, labor, and manufacturing, China has capitalized on this trend to dominate the upstream and midstream segments of many global critical mineral supply chains.

Amid escalating U.S.-China trade disputes and intensifying competition, China, which controls significant global reserves of rare and precious minerals, has employed export restrictions as a countermeasure to U.S.-led containment strategies. In July 2023, China announced further export controls on gallium, germanium, and over 36 other metals. By November, it had tightened restrictions on rare earths and subsequently added graphite and antimony to its export control list.

While these export restrictions on critical minerals such as rare earths, gallium,

and germanium have reinforced China's dominance in the global mineral market, the country faces limitations due to its lack of advanced high-purity refining technologies. This restricts its competitiveness in downstream industries. Furthermore, rather than outright banning exports, China has implemented stricter and more complex export review processes, which could delay shipments by Chinese companies. These delays may lead to increased prices for raw materials and related products. However, the extent of price increases will depend on factors such as the rigor of China's controls, market supply and demand dynamics, and supply chain relationships. The impact on countries like the U.S., the EU, and Japan remains to be seen.

©Chung-Hua Institution for Economic Research 2024