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## THE PENINSULA

### Reopening the Sangdong Mine: South Korea's Quest for Tungsten

#### Autonomy

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The Sangdong tungsten mine in South Korea holds one of the world's largest single-mine tungsten reserves. After closing in the early 1990s—largely due to cheaper Chinese tungsten flooding world markets and undermining South Korea's price competitiveness—the mine is set to resume operations next year. This revival follows the acquisition of the Sangdong mining rights by Canadian company Almonty Industries in 2015. The company established a subsidiary, Almonty Korea Tungsten Corporation, to run the mining operation, which resurrected the dormant site. Domestically, this effort has been welcomed by local residents, hoping that the mine's revival will revitalize the community facing regional decline. Internationally, following a [visit](#) by US government researchers this past summer, the mine is anticipated to reliably supply tungsten abroad—primarily to the United States—although China remains the dominant global supplier. As the world looks beyond China to secure tungsten for manufacturing—not only chips and batteries but also weaponry—concerns arise in Seoul about the limitations on South Korea's autonomy over this vital metal resulting from foreign ownership over the Sangdong mine, given the country's heavy dependence on Chinese tungsten.

#### Sangdong Mine and the US-South Korea Tungsten Agreement

Sangdong is a small town in Yeongwol County in South Korea's Gangwon Province. It houses the Sangdong tungsten mine, which contains an estimated 7.9 million tonnes of proven and probable reserves and boasts the world's highest grades of tungsten. Almonty claims that the mine will operate for "100-plus years," comparing Sangdong to its "equal size" mine in Portugal, which has been running for 136 years and is expected to continue for another 50 to 60 years. The Sangdong mine used to contribute to over half of the country's exports as one of the largest tungsten producers on the planet. However, the mine shut down in 1994, mainly due to an influx of cheaper tungsten from China, which resumed exporting to the non-communist world following its economic reforms. Consequently, Sangdong—once the heart of South Korea's industrialization, generating tungsten dollars—has become nearly a ghost town, with its population dwindling to around 1,000 residents, one of the least populated towns in the country.

The mine was originally owned by the South Korean state enterprise, Korea Tungsten Mining Company (KTMC), founded in 1952 during the Korean War. Its establishment followed the US-South Korea tungsten agreement, signed the same year, as the metal emerged as a "pivotal strategic mineral in the 20th century." According to a study on South Korea's tungsten exports and the bilateral tungsten agreement, the United States classified tungsten as a strategic material for weapons production during World War II and sought alternative sources after China's Communist Revolution, turning to South Korea. Efforts to export Korean tungsten to the United States accelerated during the Korean War, which sparked South Korea's "tungsten mania" and prompted the US Department of the Interior (DOI) to send US experts to work with the South Korean government to stockpile tungsten from the Sangdong mine.

The United States agreed to "purchase all the tungsten offered by the ROK" and pay USD 65 a ton for the first two years, with the contract lasting five years or until 15,000 short tons of tungsten had been purchased. This agreement secured steady and exclusive tungsten supplies for the United States during the war and provided a stable market for Korean tungsten exports. However, a sharp drop in global tungsten prices, coupled with South Korea's early meeting of the production target, led to the agreement's conclusion. The Korean government pushed hard to continue the deal to maintain a steady revenue, which was crucial for its post-war recovery, but the contract was not renewed.

After decades of industry setbacks, influenced by unstable global tungsten prices and, notably, China's aggressive pricing and exports, KTMC was privatized in 1994 under the Kim Yong-sam administration's policy to divest state-owned enterprises, becoming the first company in the country to undergo this transition. The company was sold to the South Korean Geopyung Group, but it went bankrupt in 1998 during the Asian Financial Crisis. Since then, the ownership of the Sangdong mine transferred several times before Canadian tungsten mining and processing company Almonty Industries acquired the business in 2015. As of July 2024, the company has invested nearly KRW 130 billion (approximately USD 94 million) into the mine's redevelopment.

#### **Reducing Reliance on Chinese Critical Minerals**

Tungsten is most notably used in semiconductors, electric vehicle batteries, automobiles, weapons, and industrial cutting machines due to its exceptional hardness and high energy density. According to the US Geological Survey data, China accounted for over 80 percent of the world's tungsten production in 2023, reaching 63,000 metric tons, followed

by Vietnam, the second-largest producer, with 3,500 metric tons. In response to China's dominance in tungsten production and export, the US DOI designated tungsten as a critical mineral in 2018.

On the legislative front, the Restoring Essential Energy and Security Holdings Onshore for Rare Earths Act of 2022, or the REEshore Act of 2022, was introduced to reduce US dependence on foreign sources, particularly China, for critical minerals like tungsten. The legislation prohibits the use of rare earth metals processed or refined in China in sensitive US Department of Defense (DOD) systems by 2026 and requires the DOD and DOI to establish a strategic reserve of these materials by 2025. This May, the DOD issued a final rule restricting the acquisition of certain metals and magnets, including tungsten, from China, along with Iran, Russia, and North Korea, effective January 2027. On tariffs, the United States Trade Representative (USTR) announced its plans to impose a 25 percent tariff on Chinese minerals, including tungsten, stating that "the concentration of critical minerals mining and refining capacity in China leaves our [US] supply chains vulnerable and puts our [US] national security and clean energy goals at risk."

Given China's history of using critical mineral exports as a tactical tool—most recently with export controls on germanium and gallium effective August 2023, followed by antimony starting September 2024—global efforts to diversify critical mineral supply chains, including tungsten, have become increasingly urgent. In February 2023, Seoul announced a strategic mineral procurement strategy, which selected 33 critical minerals, including tungsten, "for management with regard to economic security" with the goal of "mitigating its reliance on imports from a select few countries."

In diplomatic relations, Seoul's commitment to critical minerals was highlighted by the launch of the Korea-Africa Critical Minerals Dialogue during the first Korea-Africa Summit, focusing on cooperation between Korea's advanced technology and Africa's mineral resources. South Korea also signed a memorandum of understanding (MOU) with Canada to strengthen critical mineral supply chains, aiming to reduce reliance on China by leveraging Canada's mineral wealth and South Korea's manufacturing capabilities. In addition, Seoul assumed the chairmanship of the US-led Minerals Security Partnership (MSP), and at its first MSP meeting as chair in September, Foreign Minister Cho Tae-yul spotlighted the Mahenge Graphite Project in Tanzania, for which Korea leads the Working Group.

### **South Korea's Autonomy over Tungsten**

Against this backdrop, South Korea confronts the unfortunate reality of housing a pile of locally mined, high-quality tungsten reserves yet having limited control over them. As the world's largest tungsten consumer per capita, South Korea's 95 percent reliance on Chinese tungsten imports has been a persistent issue. While Almonty plans to first allocate 45 percent of its annual output to the US market and likely set aside the remaining 55 percent for South Korea, which signals a positive shift for South Korea to substantially reduce dependence on China, there are concerns in Seoul that the foreign ownership and operation of the Sangdong mine—once the nation's greatest asset—underscores potential limitations on Korea's autonomy over its mineral resources. Amid China's looming and unpredictable weaponization of tungsten exports, combined with the upcoming US presidential election and its potential impact on global trade, these concerns surrounding

tungsten autonomy and ownership are closely tied to broader apprehensions about economic sovereignty and national security, especially given Seoul's status as a semiconductor and battery manufacturing powerhouse.

Such concerns clearly demonstrate the need for long-term investment in domestic mineral resource development, extending beyond immediate profitability considerations. This includes building processing facilities, such as the [tungsten oxide plant](#), which Almonty and Yeongwol County have agreed to construct through an MOU signed this year. This development is especially noteworthy as [Russia and North Korea](#) ranked as the third and fourth largest tungsten producers in 2022 and 2023, presenting a challenge for the United States and its key allies, particularly South Korea. Just as tungsten was crucial during World War II, reflecting the geopolitical dynamics of that era, it is once again essential for securing technological advancements and strengthening security initiatives amid the intensifying US-China competition. The question of Korea's ability to exercise control and maintain a stable supply chain for this strategically important metal is facing renewed scrutiny in today's evolving landscape.

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