

China's Rare Earth Monopoly

Written by Gal Luft & Yaron Vorona
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Earlier this year, China announced a 72% reduction in the export quotas for rare-earth metals for the second half of 2010, sending tremors across America's industrial complex. Rare earths are a group of 17 metals vital to the production of precision-guided munitions, cruise missiles, radar and other defense systems, as well as consumer electronics and renewable-energy technologies such as wind turbines, solar panels and hybrid vehicles. Such metals are often compared to the yeast in bread—small in proportion but huge in contribution.

The rationale behind Beijing's decision to cut exports: China produces 97% of the world's rare earths, and its fast economic growth requires that more of its metals production remain at home for domestic use. But last month's unofficial embargo on shipment of rare-earth elements to Japan in response to the detention of a Chinese fishing-boat captain whose boat collided with a Japanese patrol boat shows that, for China, rare-earth metals are not only iPod ingredients but also tools of economic warfare. As Chinese leader Deng Xiaoping noted in 1992: "The Middle East has oil, China has rare earths."

It is not the first time China has signaled its readiness to use its rare-earth monopoly in such a way. Last summer, when the Obama administration imposed import tariffs on Chinese tires, the Chinese Ministry of Industry and Information Technology floated a proposal suggesting that the export of the rarest of the rare earths be terminated immediately.

China's domination over a global supply of raw materials key to America's military-industrial complex and China's demonstrated readiness to use this domination as a weapon are undeniably a national-security vulnerability. Because of rare earths' unique role in maintaining America's technology work force, qualitative military edge, and energy future, Washington should work to diversify America's technology metals supply chain and remove obstacles to building a competitive domestic rare-earth mining, processing, and refining industry.

This should not be a tall order. After all, one-fifth of the world's known commercially available non-Chinese rare-earth reserves are concentrated in the United States. In fact, until the 1970s, the California-based Mountain Pass Mine (then owned by Chevron) was the world's largest supplier of rare earths. But in the decades since, China's lower production cost, due to weak environmental enforcement and significant wage differentials, has brought the U.S. rare-earth industry to extinction.

To restore America's industrial sovereignty, the U.S. should emulate China's success in taking over the rare-earths market. China has always ensured that its defense and energy policies are harmonized with supplementary resource policies that provide abundant raw materials of all sorts. The U.S. government, on the other hand, has no such policy synchronization. An April 2010 report by the Government Accountability Office stated that despite the metals' importance to national security, "the Department of Defense has not yet taken department-wide action to address rare earth material dependency."

Another reason for China's domination is research. China has two national laboratories devoted entirely to rare earths, and the Chinese Society of Rare Earths has 100,000 registered researchers. About 50 foreign companies are operating in the 3,850-acre Baotou Rare Earth Hi-Tech Zone in China's Inner Mongolia. Like China, the United States should support basic

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research and development and invest in academic activities that advance the domestic supply chain, primarily developing industrial processes that are less rare-earth intensive. The United States also should create geographic centers of excellence to improve methods for the extraction, processing, use and recycling of rare-earth materials.

Like China, the U.S. government could support domestic rare-earth projects by streamlining the regulatory processes associated with reviewing and approving permits for specific rare-earth mines located within the country. The U.S. government could also provide loan guarantees for domestic and international non-Chinese developments. The Japan Oil, Gas and Metals National Corp. (JOGMEC) and the Korean Resources Corp. (KORES), state-owned entities that provide assistance to Japanese and Korean companies in securing supplies of mineral resources, are one model to consider. With JOGMEC's support, Japanese companies struck a deal to set up a rare-earth mine in Vietnam and are working on a similar effort in Australia. KORES, for its part, this summer bought a 60% stake in a Chinese rare-earth company. These operations will ensure metals supply for Japan's and Korea's auto industries.

Ultimately, the responsibility for ensuring a supply chain of raw materials falls on the defense, automotive, electronics and energy industries. They need to recognize the risks of having a single source for their raw materials and to invest in mitigating those risks. But industry cannot address this vulnerability alone. It is up to Washington to break China's rare-earth monopoly and to ensure that American technology manufacturers never find themselves in the same situation their Japanese colleagues just faced.

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