

Hot political summer as China throttles rare metal supply and claims South China Sea

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The United States and Europe have been remarkably insouciant about supplies of rare earth minerals so crucial to frontier technologies, from hybrid engines to mobile phones, superconductors, radar and smart bombs.

Lack of strategic planning by the West has allowed China to acquire a world monopoly on this family of seventeen metals. Assumptions that Beijing would never risk its reputation as a global team player by abruptly strangling supply have proved naive.

China's commerce ministry has cut export quotas for these metals by 72pc for the second half of this year. It is perhaps the starkest move to date in the Great Power clash over scarce resources.

The Pentagon and the US Energy Department are still scrambling to work out what this means for US security. An interim report from the Government Accounting Office (GAO) has laid bare just how delicate the situation has become.

"The US previously performed all stages of the rare earth material supply chain, but now most rare earth materials processing is performed in China, giving it a dominant position. In 2009, China produced about 97 percent of rare earth oxides. Rebuilding a U.S. rare earth supply chain may take up to 15 years," it said.

Fifteen years?

China's rare earth blockade is becoming more piquant by the day as the country swaps threats with the US over the South China Sea. I leave it to scholars at The Hague to evaluate China's claim to "indisputable sovereignty" over waterways that carry half the world's freight shipping. One does notice that much of the sea is a long way from China, and close to Vietnam, the Philippines, and Brunei. There are no settled communities on the islands. The Falklands parallel is invalid.

What is new is that China has chosen to press the issue by calling these waters a "core interest" like Tibet and Taiwan, and is conducting live-fire naval and air exercises.

Equally new is that the Obama administration has chosen to resist, a change of tack after sponsoring China's fuller inclusion in world governance through the G20 and the IMF.

"We oppose the use or threat of force by any claimant. Legitimate claims to maritime space in the South China Sea should be derived solely from legitimate claims to land features," said Secretary of State Hillary Clinton. In plain English, "back off".

The foreign ministry called this "an attack on China" and accused Washington of trying to "coerce"

smaller countries to take sides in the dispute. There is more than a whiff of "encirclement" fever in these exchanges, like German neurosis in the decade before 1914 that became self-fulfilling. A ring of states around China are indeed beefing up their military ties with the US. Why might that be?

The GAO report said the US had been self-sufficient in rare earth minerals for most of the post-War era. The key mine at Mountain Pass in California shut down in the 1990s when China flooded the market with exports and drove Western mines out of business. One by one, US-based processing plants owned by German and Japanese firms switched operations to China. There are none left.

Cutting-edge weapon technologies are classified, but the GAO said the M1A2 Abrams tank and the Aegis Spy-1 radar both rely on Chinese samarium. The US Navy's DDG-51 Hybrid Electric Drive Ship needs neodymium, which enhances the power of magnets at high heat. The Hell Fire missile requires Chinese components, as do a host of functions in satellites, avionics, night vision equipment, and precision-guided munitions.

Some of the metals such as terbium, dysprosium, thulium, and lutetium, europium, cerium, and lanthanum are more important than others, but crudely speaking they are the salt of life for the high-tech revolution -- sprinkled in iPads, Blackberries, plasma TVs, water filters, or lasers.

Each Toyota Prius uses a fistful of rare earth elements, which is why Toyota has purchased the rare metals dealer Wako Bussan. Cerium is used in catalytic converters for diesel engines. Terbium is key for low-energy light-bulbs that cut power costs by 40pc. Neodymium is used in hard-disk drives, wind turbines, and the electric motors of hybrid cars. Fresh research in Tokyo shows that rare metals can cut friction on power lines, slashing leakage.

Countries that cannot obtain these minerals --at any price -- will not play much part in the technology revolution.

Japan already has a "Strategy for Ensuring Stable Supplies of Rare Metals". Japanese companies have been stockpiling feverishly for the last five years -- which may be one reason why China decided to cut off supplies. The West has been caught off guard.

The US Magnetic Materials Association said America has drifted into a "silent crisis" and needs to crank up its own supply chain within three to five years. "Immediate action must be taken to free the US from complete foreign dominance."

Rare metals are not in fact very rare. Large amounts exist in the US, Canada, Australia,, South Africa, Russia, Sweden, Vietnam, and above all Greenland with a third of the world's known reserves. What is rare is to find them in viable concentrations. The metallurgy is complex. The frequent presence of radioactive Thorium complicates matters. Extraction is capital intensive.

Yet the current situation is clearly intolerable. Congress is demanding action through amendments to the National Defence Authorization Act. It is fair bet that the Western powers will soon funnel large sums of money into this very small niche.

Adventurous investors may want to look at Molycorp Inc, which is reopening the Mountain Pass mine but struggled with a share issue last week. Together with Arafura and Lynas Corp in Australia, it hopes to produce some 50,000 tonnes of rare earth metals by mid-decade. That is not enough for world needs. Avalon Rare Metals in Canada is a start-up play for the ultra brave. Greenland Minerals and Energy may tempt some.

Beijing's export curb is understandable on one level. China's own industry will need most of its output within three or four years. The crunch will come one way or another. But as our Beijing correspondent Peter Foster has reported, the export limits seem designed to compel foreign technology companies to locate plants in China. This looks like a breach of World Trade Organization rules.

Once again we see how China plays the globalization game, taking full advantage of WTO access to western markets without opening its own to the same degree, and all the while holding down its

currency for mercantilist gain.

My hope is that this rare earth move was as much cock-up as conspiracy. Surely the Politburo does not really think that China can act in this arbitrary fashion without eliciting a response?