

Experts downplay rare earth 'crisis'

Joey Peters, *Environment & Energy Publishing*, 3-24-11

In light of China's ever-tightening grip on the rare earth metal mining market, some members of Congress have been calling for efforts to build a domestic industry.

China's rare earth exports surpassed the \$100,000-per-ton mark for the first time ever in February. The amount exported in February is almost nine times greater than one year ago.

Reports circulated last week that said China's central government will determine exports for the second half of 2011, adding to the panic over its perceived ironhanded control of the rare earth market. China controls about 97 percent of the global market for rare earths, which are made up of 17 elements used as components of various forms of clean technology, including electric car batteries and wind turbines.

China has been reducing rare earth quotas by about 5 percent a year since the past decade, but the panic over its actions took off in September 2010 with the arrest of Zhan Qixiong. Qixiong, a Chinese fishing boat captain, was arrested in Japan after being accused of intentionally ramming two Japanese patrol boats in disputed waters. Beijing responded by further cutting rare earth exports, including an embargo on exports to all of Japan.

Meanwhile, the debate in Congress has ramped up.

Last month, Rep. Leonard Boswell (D-Iowa) introduced a bill that would guarantee \$70 million in research and implementation of rare earths over the next five years. It is currently pending before a subcommittee. Also, last week four Democratic senators wrote a letter urging Interior Secretary Ken Salazar and Treasury Secretary Tim Geithner to block Chinese mining projects until the country opens up full trading of rare earths.

But panelists at a discussion yesterday sponsored by the Heritage Foundation downplayed any talk of a looming rare earth shortage crisis.

GE loosens dependence on pricey rhenium

"The sky is not falling. We're not going to run out of anything soon," said Robert Jaffe, a professor of physics at the Massachusetts Institute of Technology. "But there is a problem. We're making use of technology not used in the past."

Because they're essential to modern electronics and an expanding renewable energy industry, rare earth metals are being used in the United States at an increasing rate. The minerals, which aren't actually rare, are also used in defense weapons.

Speaking against the idea of federal subsidies to build a domestic rare earth industry, Jaffe pointed to General Electric Co., which in 2008 faced a tenfold increase in the price of rhenium, a rare earth metal it uses in turbine blades and jet engines. The engines use nickel-based superalloys, which contain rhenium.

GE anticipated a rhenium shortage and took measures to reduce its use by starting a scrap recycling program and coming up with two new nickel-based superalloys. One superalloy contained half as much rhenium, and the other contained no rhenium.

One option to counter a lowering supply of rare earths is to build a stockpile to draw from in times of

emergency.

But any stockpiling attempt would be a "disincentive to the kind of undertaking GE did," Jaffe said. He recommended more research of rare earths and coordination with the president's Office of Science and Technology Policy.

A national security issue?

Some have called for stockpiling by turning it into a national security issue. Last month, the U.S. Magnet Materials Association sent an appeal to the government and cited defense as one reason to create a domestic rare earth reserve to draw from.

Ed Richardson, the president of the trade group, also said that available mining technology in the United States can only come up with oxides that still need to be refined into alloys and then solids. In other words, the United States isn't able to transform rare earths into solid metals.

Richardson and his group advocate for creating a stockpile of the rare earth oxides, which he said would give companies the incentive to develop the final refining technology in the United States.

At the panel discussion, Steve LeVine, a contributing editor at *Foreign Policy* magazine, dismissed the national security issue. "The U.S. military doesn't regard it as a crisis -- the green energy industry does," he said.

He also maintained that rare earths are "just one piece of the pie." "We have an appetite for every major element, mineral and energy source on the planet," he added.

Derek Scissors, a researcher with the Heritage Foundation, echoed this by predicting that other metals and minerals would eventually make their way into new products and technologies. As for rising rare earth prices, Scissors linked them to basic economics.

"The market is working perfectly in this case," Scissors said. "China undercut the market and sold [rare earths] cheaply. Now they raised the price and we'll use less of them."

He said the market for rare earth metals, which amounted to \$1.4 billion worldwide last year, isn't big enough to prompt a crisis.