Undersea rare earth metals too difficult to get, say analysts

Environment & Energy Publishing, 7-11-11

Vast deposits of rare earth metals -- integral to making clean energy products -- have been discovered in the Pacific Ocean. But analysts say extracting them would take decades and cost billions.

Japanese scientists discovered the metals 3,500 to 6,000 meters (11,500 to 20,000 feet) below sea level, marking Japan's bid to ensure a supply of the natural ingredients critical to making high-tech products. Prices for rare metals hit the roof last year when China, which produces about 97 percent of the global supply, limited its exports. The high prices hit Japan, the largest consumer of the 17 metals, particularly hard.

"Obviously they are very frustrated and very desperate for alternatives," said Luisa Moreno, analyst at the investment bank Jacob Securities.

The underwater deposit of 80 billion to 100 billion tons is far larger than any found on land. But the prospect of harvesting the metal from the ocean floor is highly speculative. Japanese scientists say the materials can be extracted with acid and pumped up to the surface. Even though the price of rare earths recently went up, others say the process is too tricky and too costly.

"The technology you would need, with the pressure and the corrosive factors that are there," said Dahlman Rose analyst Anthony Young. "I think this one falls into the camp of something that is less likely to ever be developed."

China reported on Wednesday that it is planning to reform its export program for rare earth metals, but analysts say developing mines in other countries is still important. Molycorp is already planning to open a mine in California next year and expects to extract 40,000 tons of material per year by 2013. Nascent mining companies Avalon, Rare Element Resources and Great Western Minerals also have plans in the works.

If Japan does extract the underwater resources, 1 square kilometer (0.4 square mile) could provide one-fifth of the world's annual consumption, said Yasuhiro Kato, an associate professor of earth science at the University of Tokyo. Still, many industry experts think this is impossible.

"It's ridiculous to think you'd be able to dig anything up and haul it up from those kinds of depths," said an executive at a Canadian-listed rare earth company, who declined to speak on the record because of the sensitivity of the issue. "I'll wait for the giant squid and the prehistoric monsters that will come out of the bottom of the sea first before we see any rare earths"