

# WebMemo



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## Rare Earths: The U.S. Government Should Not Manage Supply

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The supply of rare earth elements continues to receive a great deal of attention on both commercial and national security grounds. As ever, there are various demands from various quarters that the U.S. government act to “fix the problem.”

Most of these demands are mistaken. At present, there is no acute military need for rare earths and, when considering the full range of relevant materials, no critical commercial need. Nor is it clear that rare earths will be more important a decade from now. One possible event—a complete embargo on rare earth exports by the People’s Republic of China (PRC)—does pose risk, but even that is overstated.

As a consequence, the government’s role in rare earths supply should be sharply limited. Providing information in what is a quickly changing industry is appropriate. Funding for certain basic research may be. A military stockpile of some elements would be valuable if it is consistently reviewed and updated. A vibrant private sector should be permitted to explore federal land. But interference in commercial production in the form of any sort of subsidy is unnecessary and would probably cause outright harm.

**The Present.** The first fact in all discussions of rare earths should be how much importing them costs the U.S. Raw and refined rare earths do not fit seamlessly into existing trade categories, but in 2010, the U.S. spent at most \$1.14 billion on rare earth imports.<sup>1</sup> And this was due to a sharp price increase. In comparison, fish imports from

China were almost \$2 billion. Even with more price increases, rare earths will not be important either in the defense budget or in the cost of commercial energy.

While price is not a concern, quantity could be. Exports curbs from the PRC last year merely drove up the price in a small market, but an outright ban on exports by Beijing would for a brief time make some American industrial production effectively impossible.

An embargo’s damage to the U.S. would nonetheless be limited. The Department of Defense does not see rare earth supply as an imminent problem.<sup>2</sup> On the commercial side, any extended interruption of supply would lead to investment in alternatives and additional exploration that undermines China’s leverage. Indeed, this is already occurring due to the existing export curbs, with private capital flowing into America’s Molycorp and Australia’s Lynas, among others. Non-Chinese firms and new potential mining sites have already emerged and will continue to do so.<sup>3</sup>

Finally, an embargo is highly unlikely. Beijing already faces a losing case at the World Trade Organization (WTO) for its rare earth export quotas.<sup>4</sup>

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While WTO cases can take a great deal of time to resolve, the groundwork has been done in rare earths. A Chinese embargo would take at least a few months to have an effect and would trigger WTO-sanctioned retaliation that would match or exceed the dollar value of rare earth exports. Trade disruptions from that point would harm the PRC far more than the U.S., given the much greater volume of Chinese shipments to America and the jobs associated with them.

**The Future.** It seems an article of faith among those calling for government action that rare earths will grow in importance over time. Some of these same people failed entirely to anticipate the current status of rare earths. As an illustration, environmentalists opposed Molycorp's California mine, yet now some activists are calling on the government effectively to subsidize Molycorp output for use in environmental equipment. Technology is continuously evolving in the field, and government intervention on the basis of short-term conditions threatens to push the U.S. toward an inferior long-term path.

Another conflation of short-term with long-term conditions involves the location of deposits. The U.S. Geological Survey claims that the PRC has over one-third of known reserves of rare earths, more than the next two countries—the Russian

Federation and the U.S.—combined. But there are likely vast sources of rare earths not yet discovered. The ongoing increase in rare earth prices will spur exploration; indeed, Japan is already active in this area.<sup>5</sup> If demand for rare earths remains high, the size and distribution of known reserves will change considerably in the next decade. The notion that government must intervene in anticipation of a future shortfall ignores the evident impact of growing demand on efforts to identify additional sources and alternatives.

It is true that there are constraints on the mining and production of certain rare earths. However, there are other elements that can play similar roles to rare earths. A joint report just released by the American Physical Society and Materials Research Society on “energy-critical elements” implies that information on rare earths alone is misleading as to the true quantity and location of the full set of potentially important minerals.<sup>6</sup>

One element of certainty is that the PRC will continue to behave in anti-competitive fashion. Chinese rare earth producers did so when they originally cut prices to drive out global competitors, and the shrinking export quotas are now driving up prices. However, Beijing's level of control should not be exaggerated. Despite much fanfare, Chinese exports exceeded their 2010 quota, and incentives

1. See U.S. Census Bureau, “U.S. International Trade Statistics,” at [http://censtats.census.gov/naic3\\_6/naics3\\_6.shtml](http://censtats.census.gov/naic3_6/naics3_6.shtml) (March 18, 2011).
2. Gopal Ratnam, “U.S. Defense Department Sees No Rare-Earths Crisis; May Aid U.S. Producers,” Bloomberg.com, October 31, 2010, at <http://www.bloomberg.com/news/2010-10-30/pentagon-sees-no-security-threat-from-rare-earths-may-aid-u-s-producers.html> (March 18, 2011).
3. Jason Scott and Elisabeth Behrmann, “Molycorp, Lynas May Add to Gains as China Restricts Rare Earths,” Bloomberg.com, October 21, 2010, at <http://www.businessweek.com/news/2010-10-21/molycorp-lynas-may-add-to-gains-as-china-restricts-rare-earths.html> (March 18, 2011); Alastair Sharp, “Canadian Rare Earth Miners Boosted by China Cuts,” December 29, 2010, at <http://www.reuters.com/article/2010/12/29/us-rareearth-idUSTRE6BS2CL20101229> (March 18, 2011).
4. John W. Miller and James T. Areddy, “Trade Judges See Flaw in China Policies,” *The Wall Street Journal*, February 18, 2011, at <http://online.wsj.com/article/SB20001424052748703561604576150301821467250.html> (March 18, 2011).
5. Geology.com, “REE: Rare Earth Elements and Their Uses,” at <http://geology.com/articles/rare-earth-elements> (March 18, 2011); Abhishek Shah, “Toshiba Leads Japanese Search for Rare Earth in Mongolia, Kazakhstan and Uranium Processing,” GreenWorldInvestor.com, November 29, 2010, at <http://greenworldinvestor.com/2010/11/29/toshiba-leads-japanese-search-for-rare-earth-in-mongoliakazakhstan-and-uranium-processing/> (March 18, 2011).
6. American Physical Society and Materials Research Society, “Energy Critical Elements: Securing Materials for Emerging Technologies,” at <http://www.aps.org/policy/reports/popa-reports/loader.cfm?csModule=security/getfile&PageID=236337> (March 18, 2011).

to ignore future restrictions will increase if the price of rare earths continues to rise.<sup>7</sup>

**Action, but Not Subsidies.** In light of the global exploration and development effort triggered by Chinese supply restrictions, the obvious way for the U.S. to bar monopoly power in energy-critical elements is to open its own lands. Federal restrictions on land use should be eased.

One of government's chief roles in any field is to provide information. More complete and more detailed information about reserves of energy-critical elements is crucial.

In addition, the government should fund basic research—but only under specific conditions:

- Research should not favor any technology path;
- Research should be in areas of incontrovertible government responsibility, such as national defense; and
- The goal of any program should be to shift research to the private sector as quickly as possible.

It may also be necessary to stockpile some elements for national security purposes. Such stockpiles will be useful only if they are frequently reexamined and modified for changing needs and availability.

What should not happen is government intervention in production. At the pace of change in the industry, demands for intervention are being made on the basis of conditions that will no longer hold when intervention takes effect. In general, government intervention stifles innovation and drives up prices. The global market response to Chinese quotas has been quick, extensive financing for alternatives. If Washington believes that rare earths are important, it should stay out of supply management.

**Stay Calm.** The rare earth discussion contains a good deal of hot air. When only specific, concrete risks are examined, the threat is mild and the necessary protective steps are modest.

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7. James T. Areddy, "Quotas Exceeded in China's Rare-Earth Exports Slide," *The Australian*, January 20, 2011, at <http://www.theaustralian.com.au/business/news/quotas-exceeded-even-though-chinas-rate-earth-exports-slide/story-e6frg90o-1225991483262> (March 18, 2011).