

<http://asi.anu.edu.au>

Policy Background Paper



**MacArthur
Asia
Security
Initiative**

The Australian National University

No. 5, 30 September 2011

China's Rare Earths and Global Resource Security

Jeffrey D. Wilson



Australian
National
University

MacArthur
Foundation

INTRODUCTION

RARE earth minerals (REMs) – a hitherto poorly known set of minerals – have recently stormed onto world headlines. Described by some analysts as the “*next oil*” in global geopolitics, rare earths have become a major new concern for global resource security due to increasingly restrictive supply policies. Rare earth prices have surged as a result, and the governments of major consuming states, such as Japan, South Korea, the European Union, and the US, have begun efforts to develop new, more secure sources of rare earths supply.

REMs are a group of seventeen metallic elements. Despite being relatively plentiful in the earth’s crust, because of their geo-

chemical composition REMs only rarely occur in the concentrated deposits necessary for commercial exploitation. REMs are used in a range of high-technology industrial applications, such as energy-saving lighting, high-performance batteries, and permanent magnets used in renewable energy generation. However, they are also essential in several advanced military technologies, particularly weapons guidance systems, radar, and satellites.

Despite several countries possessing commercially-viable REM deposits, the dominant global supplier is currently China. The United States – hitherto the world’s primary supplier – began exiting the rare earths market in the late 1990s, due to the costly and environmentally-damaging production process. Following the closure of California’s Mountain Pass mine in the US in 2002, China inherited the position of world’s leading producer and, in 2009, accounted for some 97 percent of global production.

This almost total dependence on one key supplier poses risks for the resource security of consuming economies – a situation where REMs can be *physically obtained at reasonable prices*. It exposes consumers to the risk that restrictive changes to Chinese policy may physically limit their access to REMs, or rapidly increase the price of REMs, or both. Indeed, when such an eventuality occurred in 2010, it catalyzed the emergence of rare earths security concerns.

CHINA’S NEW RARE EARTH POLICIES

The first signs of such a shift came in mid-2010. While China had maintained a set of REM exports quotas since 2000 (set at 47,000 tons per annum), in July 2010 it announced a 40 percent cut to the annual quota, effective immediately. Although the decision was officially justified as an environmental protection measure, several industry analysts interpreted the policy as an attempt to restrict supply, in order to either force up world prices or encourage consuming industries to circumvent the quota by relocating to China.

Used in a range of high-technology industrial and military applications, rare earth minerals have recently become a key global resource security concern.

Dependence on a single dominant supplier, such as China, poses risks for the resource security of consuming economies. Since 2010, China has implemented a set of policies that has restricted supply of REMs to world markets.

As a result, consumer states have become anxious about the national and economic security consequences that might result from potential supply restrictions and have begun to sponsor new entrants to the world rare earths market.

International anxiety over REM supply security then intensified after Japan's detention of a Chinese fishing vessel near the disputed Senkaku/Diaoyu islands in September. Following some diplomatic discord over the incident, Japanese firms reported that Chinese customs officials had ordered an embargo of all rare earth exports to Japan. Although the decision was widely perceived by international observers as linked to the arrest of the fishing vessel's captain, the Chinese government denied that any official rare earths ban against Japan was in place. This "unofficial" embargo ran for two months, by which time US and European importers were also reporting acute shortages.

Further Chinese restrictions on REM exports followed – first through an increase in export taxes from 10 percent to 15–25 percent in December, and then through the creation of a strategic REM stockpile in January 2011. As a result of the cuts to quotas, the Japanese embargo, and tax increases, international rare earth prices surged – with increases by mid-2011 ranging between 50 percent (for europium) to 2000 percent (cerium).

RESOURCE SECURITY ANXIETIES

The Chinese government rejects suggestions that its policies are an attempt to restrict the world supply of REMs. Rather, it argues they are an environmental protection measure, made in response to serious toxic waste problems caused by the industry in Jiangsu and Inner Mongolia provinces. Inevitably, the changes in policy have led to a surge in anxiety amongst consumers.

In the US, concerns have centered on the national security implications of rare earth dependence. Such fears were stoked following a governmental report of April 2010, which noted rare earths are essential components in a range of critical defense equipment. Should the US suffer a Chinese REM embargo, its defense materiel supply chain (and hence military capabilities) would be severely affected.

Elsewhere, fears have focused on the economic security implications of Chinese restrictions. In Japan, concerns have centered on the importance of stable REM supply to the electronics industry, which was badly affected by Chinese supply suspension in 2010. For its part, the European Commission expressed similar fears over the restrictive Chinese policies, in the context of the importance of rare earth-based magnets for renewable energy technologies.

These concerns have also been felt at the diplomatic level. Japan, the US, and the EU have all publicly criticized China for changing its REM policies. Additionally, in August 2011, the WTO ruled against China on an existing dispute relating to its export restrictions on a range of non-rare earth minerals,



Photo: Thorius on Flickr

opening the door for a future legal challenge against its REM quotas.

Such a legal challenge would likely succeed, as REMs are not amongst the 84 products China may apply export controls to under its 2001 WTO accession protocol. Nonetheless, the Chinese government refuses to change its approach, recently arguing that its rare earth policies are WTO-compliant and vowing to vigorously defend any legal challenge.

RACE FOR NEW SUPPLIERS

In the meantime, as consumers try to break their dependence on increasingly constrained Chinese supply, the race to sponsor new entrants to the world REM market is on:

- ▶ the US Congress is debating the bipartisan-sponsored RESTART Act, which, if passed, will grant federal funding for new rare earth mines in the US;
- ▶ the European Commission has proposed Africa as a new REM supplier, and is considering new lending policies for the region aimed at promoting new REM suppliers; and
- ▶ the Japanese government has signed rare earth cooperation agreements with the US and Australia. Japanese companies have entered into joint-venture financing arrangements with Molycorp (US) and Lynas Metals (Australia), which are each establishing REM processing operations.

However, none of these diversification initiatives have yet come to fruition. Until they do, the international REM market will continue to be dominated by one major player. Whatever China's recent policies were intended to achieve, they have undoubtedly triggered a major resource security panic amongst the world's REM consumers. Accordingly, so long as the Chinese monopoly lasts, other governments will continue to sponsor new entrants into the market. ■

ABOUT THE AUTHOR

Jeffrey D. Wilson
Departmental Visitor
School of International, Political & Strategic Studies
College of Asia & the Pacific
The Australian National University (ANU)

Jeffrey Wilson is currently a departmental visitor in the School of International, Political & Strategic Studies at the ANU. He completed his Bachelor of Economic and Social Sciences (Hons) from the University of Sydney, and his PhD in International Relations at the ANU. His current research considers the political economy of resource politics in the Asia-Pacific, with a focus on how governments and firms have responded to resource security problems. Dr Wilson has authored several articles and book chapters on international resource politics in the Asia-Pacific, including a review of Chinese resource investment in Australia in the *Australian Journal of International Relations* in June 2011.

TERMS OF USE

Permission is freely given to publish this paper in its entirety or in part in any newspaper, wire service, internet network, newsletter or blog, providing that full credit is given to the author(s), the Department of International Relations (ANU), and the MacArthur Foundation. Kindly inform the editor (see below) and provide details as to where and when the publication occurred.

ABOUT THE ANU-MACARTHUR ASIA SECURITY INITIATIVE

In May 2009, the John D. and Catherine T. MacArthur Foundation launched the Asia Security Initiative (ASI) – a world-wide network of 27 policy research institutions which aimed to develop new ideas for overcoming the security challenges faced by Asia-Pacific nations. The ANU has been one of the Initiative's partner institutions through the ANU-MacArthur Asia Security Initiative (ANU-MASI) Partnership. This Partnership has led to numerous research conferences and publishing outcomes, including the Asian Security Seminar Series and the *ANU-MASI Policy Background Paper Series*.

CONTACT THE EDITOR

David Envall
Editor
ANU-MASI Policy Background Paper Series
Department of International Relations
School of International, Political & Strategic Studies
College of Asia & the Pacific
The Australian National University
E-mail: anumasi@anu.edu.au
<http://asi.anu.edu.au/papers>

Please cite as: Wilson, Jeffrey D. (2011) "China's Rare Earths and Global Resource Security," *ANU-MASI Policy Background Paper*, No. 5, 30 September.