

Today's Notes: Chris Berry, MBA

## 1. Security of Supply (Chain) Revisited: Finally Good News For The Rare Earth Sector

We [recently](#) wrote on the global security of raw materials supply and its importance to supply chain end users worldwide across various products. Indeed the U.S. Department of Energy (DOE) recently (December 2011) released its revised *Critical Metals Strategy 2011* opinions.

We were reminded of national security importance of materials accessibility yesterday in the rare earth sector as the Chinese Ministry of Commerce released its initial 2012 export quotas for rare earth elements (REEs). Western companies that depend on REEs in their operations must have breathed a collective sigh of relief as the quotas China announced should remain about the same as in 2011; 31,100 tonnes in 2012 versus 30,184 tonnes in 2011.

Recent Chinese REE export quotas are shown below in a table from the DOE 2011 Critical Metals report (page 68).

	Export Quotas (Tonnes Rare Earth Oxides)	Annual Change
2005	65,609	-
2006	61,821	-6%
2007	59,643	-4%
2008	56,939	-5%
2009	50,145	-12%
2010	30,258	-40%
2011	30,184	-0.24%

(Source: Kingsnorth 2010 and Scott 2011)

We think the 2012 quota was announced thusly for a number of reasons. First, the 2011 quotas were not filled. Second, the decision-makers in China are realizing that it makes long-term economic sense to “play nice” on the world stage. This allows Western companies involved along the REE value chain to construct a viable business plan lest Western REE demand spiral downwards. Though substitution of REEs in products is a minor threat and unlikely, at least in the short run, we think the Chinese decision to keep export quotas stable is a response to this. There is also the issue of illegal production and smuggling of REEs out of China. The Chinese Government has indicated that they are clamping down on these activities. We must take them at their word until data surfaces which can verify or refute their claims.

As an aside, China has come under scrutiny (rightly, we believe) to focus on sustainability and the environment in their mining industries. Yesterday's announcement by the Chinese was an admission that they are taking this issue seriously.

As announced on December 27th, the 2012 initial REE export quota was lower by 27% (10,546 tonnes) when compared to 2011 levels. This will be split amongst 11 companies (seven rare earth producers and four distribution companies – all in China) that have passed environmental standards. The remainder of the announced quota is in “standby mode.” It is pending. We believe that the remainder of the quota will be released over the course of 2012 thus providing certainty to supply chain participants and integrators in planning their operations. Please remember that the Defense Logistics Agency (the DLA, Materials Stockpile Managers), the DOD and the DOE are all, or will become, end users in the REE chains.

This Christmas present to end users from the Chinese Ministry of Commerce bodes well for volatility of REE prices which are, in general, continuing to fall as fast as they rose over the past couple of years. We believe that REE prices have further to fall, thus separating the junior exploration pretenders from the contenders in the race to REE discovery and production outside of China. However, visibility on the total tonnage to be exported from China next year will ultimately help REE prices find a bottom.

The 2011 DOE Critical Metals Report shows that there are a number of materials in addition to REEs including, Magnesium, Vanadium, Indium and Cobalt that are on the “Critical Watch” list. We would add manganese, graphite, molybdenum, mercury and tungsten that are China-centric in supply and will eventually go “critical.”

It’s true that Chinese export quotas have been slashed relentlessly since 2005 which, in turn, led to the parabolic rise in REE prices. There is still potential for a supply crunch based on increasing demand and the inability of supply to increase apace. However, it is interesting that a large portion of China’s REE quota for 2011 went unfilled. China only exported 14,750 tonnes through the first eleven months of 2011 (the 2011 quota was set at roughly 30,000 tonnes). This is due, no doubt, to the slowdown in industrial demand in Western economies and until we see an economic rebound in the West, we remain skeptical of the sustainability for over 300 junior exploration companies in the rare earth sector. Charles Darwin will continue to make his presence felt for rare earth exploration companies in 2012.

That said, it is still a vital U.S. national security imperative to establish a sensible policy supporting natural resource and supporting supply chain development in the West. A combination of the public and private sectors must join forces to begin to establish a supply chain infrastructure.

We are not fans of government intervention in the free marketplace, but given the evident strategic importance of REEs, there are several ways the public sector can help including fast-tracking permitting for mining, loan guarantees and tax breaks. The vulnerabilities of reliance on China, or for that matter any foreign supplier, will still exist for some time to come - perhaps decades. But if we are clear on future Chinese REE export policy in 2012 and beyond it makes the immediate effort to establish a domestically-domiciled REE supply chain an important goal.

The REE sector has proven it is dynamic in nature and that demand and supply are unpredictable. We expect a different look and feel for this sector throughout 2012 characterized by a number of

surprises in the materials sciences arena, nascent non-Chinese production of REEs, and a smaller field of advanced exploration and development resource extractors.

We recently wrote an article for ***Micro Cap Review*** which summarizes our thoughts on the commodity markets in 2011 and 2012. It will be published in January and we plan to re-publish it here for our subscribers.

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