

# BRIEFING PAPER



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## Ensuring Access to Rare Earths *Are WTO Disciplines on Export Restrictions Enough?*

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*Global supply of rare earths has been inhibited by China's policies which prohibit/limit exports, which have been purportedly undertaken with salutary objectives like mineral conservation and public health. This has inhibited growth in strategic sectors; particularly, defence and renewable energy. Net-Importing countries have resorted to the WTO to counter with the shortage of rare earths through disciplines which balance export restrictions with valid objectives like mineral conservation. They have also started exploring alternate avenues for guaranteeing supply of rare earths.*

*While it is pertinent to evaluate WTO norms on export restrictions, this Briefing Paper considers whether relying on WTO norms and the Dispute Settlement Mechanism (DSM) can independently assure a country of its rare-earth supplies. It concludes that independently relying in WTO disciplines will not suffice. It also considers if the currently evolving disciplines on export restrictions can cripple valid mineral-conservation plans, and offers suggestions to justify such policies.*

### Introduction

Rare Earths (REs) are minerals which are fairly widely dispersed and, hence, neither 'rare' nor 'earths'. However, these 17 metallic minerals divided into light, medium and heavy rare earth metals which are widely used for catalysts, metallurgical applications, glass polishing and ceramics, permanent magnets and phosphors are extremely difficult to process and separate. They have become indispensable in the last few years owing to their usage in strategic sectors like transportation, defence and renewable energies.

Critical rare earth elements (CREEs) (including neodymium, europium, terbium, dysprosium and yttrium) are widely used in renewable technologies like hybrid electrical vehicles, wind turbines, solar panels and electric batteries.

Figure 1 depicts the uneven distribution of REs in the world- it is apparent that has substantial reserves. China permitted its companies to export only 21,226 tonnes of rare-earth metals in the year 2012 through the operation of export restraints or export restrictions. Export restraints (ERs) are a border measure that takes the form of a government law or regulation which expressly

limits the quantity of exports or places explicit conditions on the circumstances under which the exports are permitted, or that takes the form of a government-imposed fee or tax on exports of the products calculated to limit the quantity of exports.

Export restraints include export quotas, export duties, restrictions on the right to export and administrative requirements which inhibit the exports of the said materials through cumbersome procedures. Other measures include minimum prices, and non-automatic licensing requirements.<sup>1</sup>

As result of export restrictions maintained by China, countries like Japan, India and the USA which are net importers of rare-earths faced a resource shortage, particularly of heavy rare earth metals. The measures taken by countries to explore alternate sources of supply are outlined in Part II. However, a crisis-like situation manifests when a country like China with its considerable stores of REs restricts exports.

If a Member country restricts access to mineral resources in line with purported conservation objectives, the other Member countries have an option to turn to the WTO to address resource

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nationalism and ensure supply side security. In a move to initiate legal sanction against China's actions, recently, the United States, the European Union and Japan have instituted a dispute<sup>2</sup> to consider China's fetters on exports through export duties, minimum export price requirements, export licensing and administration of quantitative restrictions of REs, tungsten and molybdenum.

Part III of the paper presents the WTO Dispute on *Raw Materials*<sup>3</sup>, one of the most significant attempts at dealing with resource nationalism undertaken by the WTO. The conclusion discusses if the WTO DSM can be instrumental in ensuring access to REs, and how countries which have been identified as alternate sources of supply of REs can deal with the new disciplines on ERs.

### Policies to Ensure Supply-side Security: A Global Picture

Though measures taken to ensure supply-side security seem positive, appallingly, environmental concerns may be swept aside in the policy-debates over supply-side security. The commissioning of a rare earth oxide processing plant by Lynas was delayed in Malaysia owing to appeals from environmental activists. Processing of these metals involves multiple steps which use metallurgy, chemistry and solvent extraction techniques. It is a lengthy, expensive process of which one of the critical steps is removing the radioactive material (uranium and thorium) from the ore.

If the radioactive residue is not properly dispensed with, an environmental hazard may be

triggered. Developing countries with (comparatively) lenient environment-regulation regimes should be wary of processing plants set up in their locales.

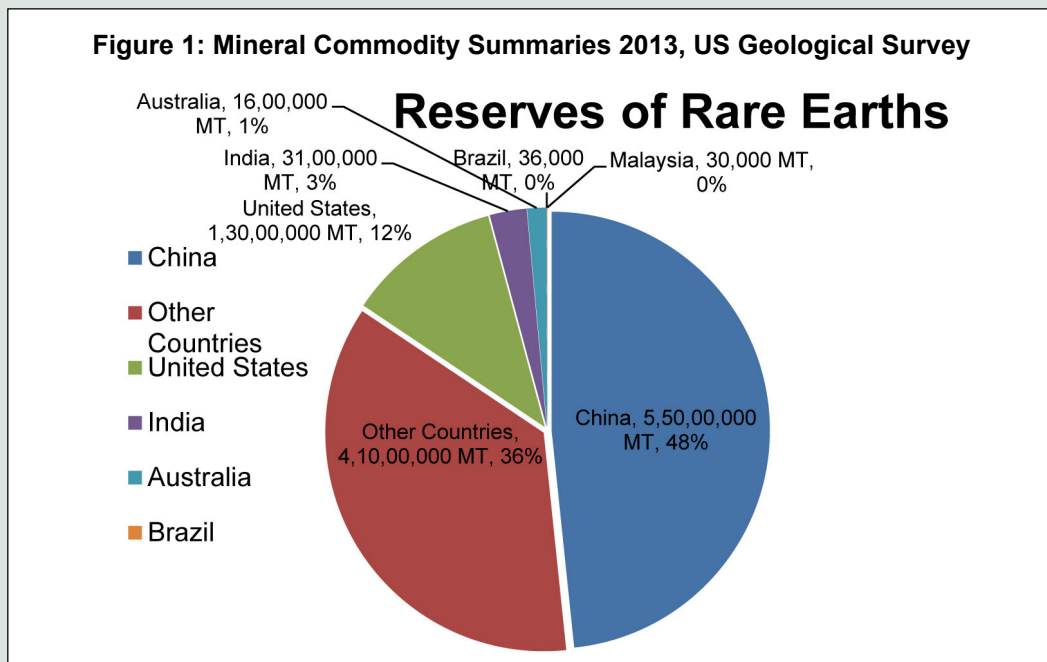
### Net Importers

In response to a potent RE resource-shortage, the measures taken in response to ensure supply side security are fairly diverse:

- Net importers amongst developed countries like Japan and the United States are already exploring alternate sources of RE reserves in other countries. Japan has signed an agreement to export rare earths from India, a country which possesses skilled engineers, cheap labour, and solvent extraction technology.<sup>4</sup> A 10,000 ton per year monazite processing plant is to be commissioned in the near future.
- Molycorp (a company in the United States) is reopening Mountain Pass (a rich source of rare earths which was closed down owing to environmental hazards in processing the ore), and Lynas Corp (an Australian company) is opening Mount Weld (to focus on light rare earth elements like lanthanum and cerium). Together, both will both produce 30-35 percent of global demand.

### Countries with Supplies of REs

Countries which are currently being identified as alternate sources of supply of REs (like India) should be watchful of the commitments they



undertake, especially pertaining to extraction and export of REs. If, at a later point of time they wish to reserve some amounts for domestic processing industries, or to limit extraction, the current disciplines on export restrictions may operate to their detriment.

### *White Paper on Rare Earths – China*

However, all of these alternate options can be said to be insignificant in comparison to China’s stores of heavy REs and CREEs. Currently, as per a recent policy document released by China, the White Paper on Rare Earths, several moratoriums have been instituted on mining activities and processing of rare earths. Mine production in China reduced drastically from 105,000MT in 2011 to 95,000MT in 2012.<sup>5</sup>

These may be in consonance with the objective of mineral conservation. China is currently extracting light rare earth elements such as lanthanum and cerium. This could be to counter supplies of these elements by Lynas in Malaysia. Further, China also professes to be engaged in

recycling attempts for permanent magnet materials, waste nickel metal hydride batteries, fluorescent lamps, etc. Though China presents that is open to free trade in rare earths, it states smuggling activities whittle down the available supplies of rare earths.<sup>6</sup>

### **ERs in the Raw Materials Dispute**

The *Raw Materials* dispute is significant because it qualified a country’s sovereign right over its raw materials, after it submits to WTO norms. Though established principles of international law state that a country wields complete control over the resources present in its territory owing to an exercise of its sovereignty, the main significance of the *Raw Material’s* finding is that it qualified a country’s sovereign right over its raw materials, which extended to prohibiting exports through trade policy measures.

Instituted by United States, EU and Mexico, the impugned measures had been imposed by China prohibiting or limiting the exportation of certain

**Table 1: General Exceptions and Other Provisions in the GATT Pertaining to Resource Nationalism (as interpreted in *Raw Materials*)**

<b>Provision in the GATT</b>	<b>What It Means</b>	<b>Conditions for Application</b>
Exception to the ban of export restrictions [XI(2)]	Allows WTO members to impose them (trade restrictive measures) temporarily “to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party”.	The resource has to be essential (important, necessary or indispensable) and a critical shortage of the resource must prevail. The measures must be exercised temporarily.
Domestic Industry [XX(i)]	Restrictions on exports of domestic material are allowed when such restrictions are necessary to ensure essential quantities of such materials to a domestic processing industry.	Export restrictions on domestic materials cannot be imposed to increase protection for the domestic industry.
Mineral Conservation XX(g)	Allows the imposition of measures relating to the conservation of exhaustible natural resources	Must relate to the conservation of an exhaustible natural resource – a <i>substantial</i> relationship has to be established between export measures and conservation objective and must operate in conjunction with domestic production [no requirement for the restriction on domestic production to be effective]
Public Health XX(b)	Allows measures necessary to protect human animal, or plant life or health;	Should be necessary [panel gauges importance of interest or values at stake, the extent to which the measure would contribute towards the achievement of the motive, then the measure will be juxtaposed against other less trade restrictive alternatives (covered later)].

forms of bauxite, coke, fluorspar, magnesium, manganese, silicon carbide, silicon metal, yellow phosphorus, and zinc (the ‘Raw Materials’).

The provisions in the GATT which protect member-countries against resource nationalism are as follows: while Article II of the GATT stipulates that WTO Members cannot apply tariffs at rates which are higher than those which are “bound” in their schedules of concessions, Article XI(1) provides that no prohibitions or restrictions other than duties, taxes or other charges may be imposed on the importation of any product or on the exportation or sale for export of any product unless imposed temporarily to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party. Article XI is the key provision which deals with export restriction, apart from the other provisions identified in Table 1.

In furtherance to these provisions which apply to all members of the WTO, China is governed by extra commitments undertaken under its Protocol of Accession – for example, it is not allowed to maintain export tariffs on products which are not listed in its Annex. Notably, the Annex does not include either most of the raw materials covered in the dispute or any of the rare earths.

In this case, four types of export restraints were imposed on the different raw materials: (i) export duties; (ii) export quotas; (iii) minimum export price requirements; and (iv) export licensing requirements. The *Raw Materials* dispute provides guidance on points relating to the applicability of General Exceptions enshrined under the GATT Agreement to obligations (provided in Table 1).

As is evident in ‘conditions for application’, there is a prohibition on extending the application of these measures in furtherance of protectionist objectives.

### ***Export Restrictions to Alleviate a Critical Shortage of an Essential Material***

China established that the element bauxite was essential to its industrial needs. China resorted to the exception under Article XI:2 which justifies a ‘temporary measure’ for the specific case of a ‘critical shortage’ for an ‘essential’ material, on claiming it used export restrictions because estimated that it had a 16 year reserve for bauxite and a 4.5 year reserve for fluorspar (at the 2009 rate of extraction).

Based on the fact that the export quota applied to bauxite had been existent since 2000, the Panel inferred that China wished to maintain the measure *until new technology lessened the demand for refractory-grade bauxite*. The time of

application of the measure would be far from ‘temporary’. Hence, though the Panel acknowledged that “refractory-grade” bauxite was currently ‘essential’ to China, China had failed to demonstrate that the export quota was ‘temporarily applied’ and that there was a ‘critical shortage’ of refractory-grade bauxite in China.

### ***Public Health***

In response to China’s claim that the imposition of the export quotas and duties were essential to limit pollution to further the protection of the health of its citizens, the panel found that China had been unable to demonstrate that the export duties and quotas would lead to a reduction of pollution in the short or long term.

The panel noted that alternative measures such as (i) investment in more environmentally friendly technologies; (ii) recycling of consumer goods; (iii) increasing environment standards; (iv) investing in infrastructure necessary to facilitate recycling of scrap; (v) augmenting local demand for scrap; (vi) introduction of production restrictions or pollution controls, would be less trade-restrictive.

### ***Conclusion***

Ensuring supply to rare earth elements has become an area of concern owing to a combination of irregular geographic distribution of resources, and restrictive trade policies (with or without legitimate mineral conservation objectives).

#### ***• Is It Futile to Resort to the WTO DSM to Ensure Supply of Rare Earths?***

There are two elements pertinent to addressing this query. The first is the specific question of whether the WTO DSM will mirror the findings from Raw Materials in Rare Earths, and the second is the overarching question of implementation of WTO DSM rulings by resource-rich countries.

#### ***Element 1: Similarity between RE Ruling and Raw Materials***

One may be led to believe that the WTO DSM will frown upon all export-restraint or export restrictions aimed at mineral conservation. Specifically, in the case of China, this notion may be further strengthened by additional commitments on export tariffs undertaken in China’s Accession Protocol.

However, a few facets of RE policy which are distinct from concomitant facts in the *Raw Materials* dispute may influence the panel.

1. Health concerns pertaining to the radioactive residue such as uranium and thorium may be regarded fairly seriously by the Panel – this premise is strengthened by the fact that operations in Mountain Pass in California had ceased for this reason.
2. If China is able to prove in good faith that restrictions on domestic extraction are exercised in conjunction with restraints on export (as is being conveyed through the Chinese White Paper on Rare Earths), the principles applied in the *Raw Materials* ruling may not be simplistically extended in its application to rare earths.
3. China is also engaged in recycling of its RE reserves. This provides a stronger argument for resorting to General Exceptions under the GATT because it is exploring less trade restrictive alternatives.

*Element 2: China's Implementation of WTO DSM Rulings on Raw Materials, and Extension to Rare Earths*

Though experts argue that trade policy is inefficient in limiting the usage of export restrictions by resource-rich countries citing figures where China has reduced exports of REs, the statistics on exports of certain CREEs (particularly dysprosium) demonstrate otherwise in certain cases. The value of export of dysprosium has increased by nearly 33 times in 2012 than 2011 to more than 33mn USD.

However, the export of neodymium has reduced to less than half of what was exported in 2011 (45 mn) and the value of exports of terbium (3 mn) has reduced to a fraction that was exported in 2011.<sup>8</sup>

Hence, the exact empirical impact of the *Raw Material* ruling in Chinese trade policy on rare earths should be explored critically before dismissing trade policy as a futile solution.

To sum up, it is not certain that the WTO DSM will pronounce against China in the specific case of China's restraints on rare earths. However, WTO disciplines on ERs have evolved to account for the current realities of resource shortage, and to identify protectionist objectives in mineral-conservation plans. Hence, countries should continue to explore alternate avenues.

- *Countries with Considerable RE Reserves: Way Forward*

India and other developing nations will need to be alert to the possibility of mirroring mineral-conservation policies because for example, India's reserves are fairly limited (refer Figure 1).

Owing to the indispensable nature of Res, countries should undertake a thorough analysis of the repercussions of exporting these metals instead of maintaining a domestic stockpile. re-assess its capacity in dealing with radioactive emissions. Further research on the practice of maintaining country stockpiles of rare earth-elements should be undertaken.

Countries which possess some reserves of REs, solvent extraction technology, cheap labour, water, land, and electricity should keep in mind the following to not run afoul of WTO disciplines if they opt to restrain exports under any of the provisions covered in Table 3.

Prior to taking recourse to the 'Public Health' exception, countries will be required to present that they have explored alternate environmentally friendly technologies.

A WTO-Friendly Mineral Conservation Plan should illustrate the following principles:

- The resource is exhaustible
- Mineral conservation is the primary(not merely incidental) motive of the policy;
- Export restrictions operate in conjunction with prohibitions on extraction of the resource; this can offset the argument that the export restriction provides a subsidy to the downstream industry.

Given the critical importance of developing processing capacities, the pertinence of 'Economic Diversification' under the GATT (Article XXXVI:5 – unexplored until now) should be evaluated along with Article XX(i) of the GATT which states that restrictions on exports are allowed when these restrictions are *necessary* to ensure essential quantities to a domestic processing industry.

It states that developing countries may pursue economic diversification through the development of domestic industries to process primary products. It remains to be explored if this would extend to maintaining a stockpile to encourage building a domestic capacity.

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## Endnotes

- 1 *United States- Measures Treating Export Restraints as Subsidies.*
- 2 DS 433, China-Measures Related to Exportation of Rare Earths, Tungsten and Molybdenum. Panel has been composed on 24<sup>th</sup> September 2012.
- 3 Appellate Body, WT/DS394/AB/R, China-Measures Related to the Exportation of Various Raw Materials, appellate body report issued on 30 January 2012.
- 4 Japan signs pact to import rare earths from India to reduce reliance on China, Economic Times, November 16, 2012, available online at [http://articles.economictimes.indiatimes.com/2012-11-16/news/35154947\\_1\\_rare-earth-koichiro-gemba-social-security-agreement](http://articles.economictimes.indiatimes.com/2012-11-16/news/35154947_1_rare-earth-koichiro-gemba-social-security-agreement).
- 5 Source Mineral Commodity Summaries 2013, US Geological Survey.
- 6 Information Office of the State Council (2012), Situation and Policies of China's Rare Earth Industry, Foreign Languages Press Co. Ltd., Beijing, China.
- 7 AB Ruling, *Raw Materials*.
- 8 ITC Calculations based on General Customs Administration of China statistics.