COMMODITIES AT A GLANCE

Special issue on rare earths

N°5







COMMODITIES AT A GLANCE

Special issue on rare earths

N°5





NOTES

The Commodities at a glance aims to collect, present and disseminate accurate and relevant statistical information linked to international primary commodity markets in a clear, concise and friendly format.

This edition of the *Commodities at a Glance* has been prepared by Alexandra Laurent, Statistical assistant for the Special Unit on Commodities (SUC) of UNCTAD, under the overall guidance of Samuel Gayi, Head of SUC, and the direct supervision of Janvier Nkurunziza, Chief of the Commodity Research and Analysis Section of SUC.

The report has benefitted from background information provided by Yan Zhang and Komi Tsowou.

The cover of this publication was created by: Nadège Hadjemian, UNCTAD.

Desktop publishing and graphics were performed by the Prepress subunit with the invaluable collaboration of Nathalie Loriot of the UNOG Printing Section.

For further information about this publication, please contact the Special Unit on Commodities (SUC), UNCTAD, Palais des Nations, CH-1211 Geneva 10, Switzerland, tel. +41 22 917 5676, e-mail: commodities@unctad.org.

DISCLAIMER

The opinions expressed in this publications are those of the author and are not to be taken as the official views of the UNCTAD secretariat or its member States.

The designations employed and the presentation of the material do not imply the expression of any opinion on the part of the United Nations concerning the legal status of any country, territory, city or area, or of authorities or concerning the delimitation of its frontiers or boundaries.

Material in this publication may be freely quoted or reprinted, but acknowledgement is requested, together with a copy of the publication containing the quotation or reprint to be sent to the UNCTAD secretariat.

This publication has not been formally edited.

COPYRIGHT

The current report is intended to be published on a six-monthly basis. If you are interested in receiving the electronic version of the issues to come, please send an e-mail to: commodities@unctad.org.

UNCTAD/SUC/2014/1

NOTES ii

STATISTICAL DATA SOURCES

Data on Rare Earths are sparse and there is no dedicated international public institution that monitors the rare earth market to provide authoritative and objective statistics on the sector. As a result, this report has attempted to combine several sources of information in order to present the most possible accurate picture on the rare earths market. All data sources are indicated under each graph and table and a list of references is provided at the end of the document.

When there are large differences among sources of information (as in the case of reserves, for instance), all sources of information are presented individually.

As usual in this report series, only data that are accessible free of charge are used in order to allow the reader to follow-up easily on the information provided. Note that given the rapid changes in market information, new developments may have occurred since the drafting of the document.

ABBREVIATIONS IN THIS PUBLICATION

REE Rare Earth Elements

LREE Light Rare Earth Elements
HREE Heavy Rare Earth Elements

USGS United States Geological Survey

ROW Rest of the world
REO Rare Earth Oxides

BRICS Brazil, Russian Federation, India, China, South Africa

BRIC Brazil, Russian Federation, India, China

DSB Dispute Settlement Body

US\$ United States Dollar

MW Megawatt

CONTENTS

CONTENTS

CHAF	PTER 1	INTRODUCTION	1
CHAF	PTER 2	RARE EARTH PRODUCTION	7
1.	Rare Earth	Production Cycle	g
2.	Historical V	World production	10
3.	Rare Earth	production in China	13
CHAF	PTER 3	RARE EARTH DEMAND.	15
1.	Rare earth	uses	18
2.	Countries I	ikely to support Rare Earth demand	19
3.	Sectors lik	ely to affect Rare Earth demand	21
CHAF	PTER 4	RARE EARTH PRICES	25
1.	The influer	nce of China in Rare Earth Price Formation	28
2.	Steps take	n by consuming countries, outside China, to adapt to high prices	31
CON	CLUSION		39
BIBLI	OGRAPH	Υ	41

LIST OF FIGURES

CHAPTER	R 1 INTRODUCTION
Figure 1.	Distribution of world rare earth reserves, 2012 (per cent): different estimates
CHAPTER	2 RARE EARTH PRODUCTION
Figure 2.	Rare Earth production process
Figure 3.	Long term evolution of world rare earth production, 1900-2012 (tons)
Figure 4.	Distribution of producing countries, 1995, 2005, 2012 (per cent)
Figure 5.	Chinese leading REE company and the ten world leading rare earth mining companies by market capitalization (excluding China), 2 December 2013 (million US\$)
CHAPTER	R 3 RARE EARTH DEMAND
Figure 6.	Final sectors using rare earth materials as an input
Figure 7.	Main semi-final industries using Light Rare Earth Elements (LREEs) as inputs
Figure 8.	Main semi-final industries using Heavy Rare Earth Elements (HREEs), plus Scandium and Yttrium as inputs
Figure 9.	Evolution of the GDP per capita in the BRICS and the developed countries, 1970-2012 (US\$ per capita)
Figure 10.	Chinese REEs demand as a percentage of: (1) world REEs demand and (2) Chinese REEs production, 2000, 2005, 2012 (per cent)
Figure 11.	World rare earths demand by end-use, 2012e and 2015f (per cent)
Figure 12.	Personal Technology Demand Outlook, 2010-2015 (million units)
Figure 13.	World cumulative wind power capacity, 1996-2030 (megawatt)
CHAPTER	R 4 RARE EARTH PRICES
Figure 14.	Chinese REE production and Chinese export quotas, 2000-2013 (REO tons)
Figure 15.	Example of prices of rare earth and value addition along the marketing chain (US\$ per kilo)
Figure 16.	Unit value of rare earth imports in Japan, EU-27 and the United States, 2000-2012 (US\$ per kilo)
Figure 17.	Rare earth criticality matrix, short-term (to 2015)
Figure 18.	Rare earth criticality matrix, medium-term (2015-2025)
Figure 19.	Percentage change of selected rare earth oxide prices, 2012-2014 (per cent)
Figure 20.	Percentage of individual rare earth element extracted from the main REE producing areas, 2013 (per cent)
Figure 21.	Forecasts of production surplus and deficit situation for selected rare earth elements, 2015 (tons)

CONTENTS

LIST OF TABLES

CHAPTER	1 INTRODUCTION	1
Table 1.	"Light" and "Heavy" rare earth elements	3
Table 2.	Comparative table on the concentration of REEs and selected industrial and precious metals in earth crust (parts per million (ppm)	4
CHAPTER	2 RARE EARTH PRODUCTION	7
Table 3.	Distribution of production quotas within the various provinces of China, 2007-2011 (per cent)	13
CHAPTER	3 RARE EARTH DEMAND	15
Table 4.Globa	al wind power capacity installed by countries/areas, 2011, 2020 megawatt and percentage)	24
CHAPTER	4 RARE EARTH PRICES	25
Table 5.	Allocations of REE export quotas in China, 2013 (tons)	29
Table 6.	China's rare earth export taxes, 2007-2011 (per cent)	31
Table 7.	State of rare earth mines and projects around the world	33

预览已结束, 完整报告链接和二

https://www.yunbaogao.cn/report/index/report?rej