

# Rare Earth Elements Market Size, Share & Trends Analysis Report By Product (Cerium, Dysprosium, Erbium), By Application (Magnets, Catalyst), By Region, And Segment Forecasts, 2019 - 2025

<https://marketpublishers.com/r/R4C94F094FDAEN.html>

Date: September 2019

Pages: 208

Price: US\$ 5,950.00 (Single User License)

ID: R4C94F094FDAEN

## Abstracts

This report can be delivered to the clients within 48 Business Hours

The global rare earth elements market is anticipated to reach USD 5.62 billion by 2025, according to a new report by Grand View Research, Inc. The growing use of permanent magnets in the production of batteries for electric vehicles is expected to propel the demand for rare earth elements including neodymium, praseodymium, dysprosium, gadolinium, and terbium over the forecast period. Neodymium and praseodymium based rare earth permanent magnets are majorly used in the manufacturing of batteries.

The growing demand for electric vehicles coupled with the government initiatives on reducing the CO<sub>2</sub> emissions is expected to boost the demand for permanent magnets. In March 2019, the Chinese government reduced subsidies for electric vehicles in order to promote innovation amongst local manufacturers on account of declining costs. The incentives for electric cars with less than 400 km range decreased from 50,000 yuan to 25,000 yuan, while the incentives for vehicles ranging less than 250 km have been eliminated.

According to USGS, China holds the largest amount of reserves with 44 million tons and Malaysia holds the least amount of reserves with 30 thousand tons. It also stated that the U.S. has USD 6.2 trillion worth of mineral reserves. However, the stringent regulatory policies towards mining in the U.S. has forced the companies to import the raw materials from China. Hence, the production of raw material has been a major

challenge for the U.S companies.

The increasing prices of rare earth elements and high investments to open new mines have given rise to recycling of the product. Japan is one of the major producer of recycled rare earth elements. In 2010, Hitachi developed a new technology for recycling rare-earth magnets from air conditioners and hard disk drives. It can separate recycle magnets approximately eight times more efficiently than conventional methods. In 2012, The Honda Corporation opened the first rare earth recycling plant. The company utilized used automotive parts containing metals to produce rare earth elements.

The key players in the rare earth elements market are involved in acquisitions, expansions, and long term binding agreements with their customers. In Nov 2017, Hitachi Metals Ltd acquired Santoku Corporation, a Japanese manufacturer of alloys. This strategy was aimed at accelerating the production of neodymium magnet alloys in order to achieve sustainable growth in the global market.

Further key findings from the report suggest:

Neodymium is anticipated to register a CAGR of 8.3%, in terms of volume, from 2019 to 2025 owing to growing demand for permanent magnets

Catalyst application accounted for a revenue share of 18.7% in 2018 owing to increasing demand from automotive and petroleum refining industries.

Middle East & Africa is expected to grow at a CAGR of 6.9%, in terms of volume, over the forecast period owing to rising investment in expansion of refinery capacities

In 2016, Hitachi Metals Ltd entered into a joint venture with Zhong Ke San Huan Hi-Tech Co., Ltd. to manufacture Neodymium-Iron-Boron magnets

The major players are adopting strategies like capacity expansion and agreements with the end-use industries to cater to growing demand for rare earth elements. For instance, in January 2018, Lynas Corporation signed an agreement with Bosch, an automotive component supplier. This agreement was aimed at ensuring continuous supply of rare earth materials to Bosch.

## Contents

### **CHAPTER 1 METHODOLOGY AND SCOPE**

- 1.1 Research methodology
- 1.2 Research scope and assumptions
- 1.3 List of data sources

### **CHAPTER 2 RARE EARTH ELEMENTS: EXECUTIVE SUMMARY**

- 2.1 Market summary

### **CHAPTER 3 RARE EARTH ELEMENTS MARKET VARIABLES, TRENDS & SCOPE**

- 3.1 Global rare earth elements market outlook
- 3.2 Rare earth elements: Value chain analysis
  - 3.2.1 Mining
  - 3.2.2 Refining
  - 3.2.3 Rare earths - suppliers/distributors
  - 3.2.4 Rare earth based product manufacturers
  - 3.2.5 Rare earths based products - suppliers/distributors
  - 3.2.6 End-use industries
- 3.3 Technology overview
  - 3.3.1 Exploration of rare earth elements
  - 3.3.2 Mining of rare earth elements
  - 3.3.3 Refining of rare earth elements
  - 3.3.4 Challenges in production of rare earth elements
    - 3.3.4.1 Difficult mining process
    - 3.3.4.2 Environmental impact
- 3.4 Regulatory framework
  - 3.4.1 European Commission
    - 3.4.1.1 Directive 2006/21/EC
    - 3.4.1.2 Directive (2008/98/EC)
    - 3.4.1.3 Directive 2013/59/Euratom
  - 3.4.2 United States Environmental Protection Agency)
- 3.5 Market Dynamics
  - 3.5.1 Market drivers
  - 3.5.2 Growing demand for electric and hybrid vehicles
  - 3.5.3 Growing demand for catalysts

- 3.5.4 Market restraint analysis
- 3.5.5 Supply-demand imbalance
- 3.6 Mine production of rare earth elements [data in metric tons of rare-earth oxide (reo)]
- 3.7 Trade analysis
  - 3.7.1 HS CODE :280530 (Rare-earth metals, scandium, and yttrium, whether or not intermixed or interalloyed)
  - 3.7.2 HS CODE :284610 (Cerium compound)
  - 3.7.3 HS CODE :284690 (Compounds, inorganic or organic, of rare-earth metals, of yttrium or of scandium or of mixtures of these metals)
  - 3.7.4 HS CODE :360690 (Ferro-cerium and other pyrophoric alloys in all forms; articles of combustible materials)
- 3.8 Business environment analysis tools
  - 3.8.1 PESTEL analysis
  - 3.8.2 Porter's five forces analysis
- 3.9 Major deals & strategic alliances analysis
  - 3.9.1 Restart of mining operations at the mountain pass
  - 3.9.2 A strategic alliance agreement between lynas and sojitz
- 3.10 Case study

## **CHAPTER 4 RARE EARTH ELEMENTS: PRODUCT ESTIMATES & TREND ANALYSIS**

- 4.1 Rare earth elements market: Product movement analysis, 2018 & 2025
  - 4.1.1 Cerium
    - 4.1.1.1 Cerium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
  - 4.1.2 Dysprosium
    - 4.1.2.1 Dysprosium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
  - 4.1.3 Erbium
    - 4.1.3.1 Erbium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
  - 4.1.4 Europium
    - 4.1.4.1 Europium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
  - 4.1.5 Gadolinium
    - 4.1.5.1 Gadolinium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
  - 4.1.6 Holmium
    - 4.1.6.1 Holmium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
  - 4.1.7 Lanthanum
    - 4.1.7.1 Lanthanum market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
  - 4.1.8 Lutetium

- 4.1.8.1 Lutetium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.9 Neodymium
  - 4.1.9.1 Neodymium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.10 Praseodymium
  - 4.1.10.1 Praseodymium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.11 Promethium
  - 4.1.11.1 Promethium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.12 Samarium
  - 4.1.12.1 Samarium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.13 Scandium
  - 4.1.13.1 Scandium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.14 Terbium
  - 4.1.14.1 Terbium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.15 Thulium
  - 4.1.15.1 Thulium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.16 Ytterbium
  - 4.1.16.1 Ytterbium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- 4.1.17 Yttrium
  - 4.1.17.1 Yttrium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

## **CHAPTER 5 RARE EARTH ELEMENTS: APPLICATION ESTIMATES & TREND ANALYSIS**

- 5.1 Rare earth elements market: Application movement analysis, 2018 & 2025
  - 5.1.1 Magnets
    - 5.1.1.1 Market estimates and forecasts in magnets, 2014 - 2025 (Tons) (USD Million)
  - 5.1.2 Catalysts
    - 5.1.2.1 Market estimates and forecasts in catalysts, 2014 - 2025 (Tons) (USD Million)
  - 5.1.3 Metallurgy
    - 5.1.3.1 Market estimates and forecasts in metallurgy, 2014 - 2025 (Tons) (USD Million)
  - 5.1.4 Polishing
    - 5.1.4.1 Market estimates and forecasts in polishing, 2014 - 2025 (Tons) (USD Million)
  - 5.1.5 Glass
    - 5.1.5.1 Market estimates and forecasts in glass, 2014 - 2025 (Tons) (USD Million)
  - 5.1.6 Phosphors

5.1.6.1 Market estimates and forecasts in phosphors, 2014 - 2025 (Tons) (USD Million)

5.1.7 Ceramics

5.1.7.1 Market estimates and forecasts in ceramics, 2014 - 2025 (Tons) (USD Million)

5.1.8 Other Applications

5.1.8.1 Market estimates and forecasts in other applications, 2014 - 2025 (Tons) (USD Million)

## **CHAPTER 6 RARE EARTH ELEMENTS: REGIONAL ESTIMATES & TREND ANALYSIS**

6.1 Market: Regional movement analysis, 2018 & 2025

6.2 North America

6.2.1 Market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

6.2.2 Market estimates and forecasts, by product, 2014 - 2025 (Tons) (USD Million)

6.2.3 Market estimates and forecasts, by application, 2014 - 2025 (Tons) (USD Million)

6.3 Europe

6.3.1 Market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

6.3.2 Market estimates and forecasts, by product, 2014 - 2025 (Tons) (USD Million)

6.3.3 Market estimates and forecasts, by application 2014 - 2025 (Tons) (USD Million)

6.4 Asia Pacific

6.4.1 Market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

6.4.2 Market estimates and forecasts, by product, 2014 - 2025 (Tons) (USD Million)

6.4.3 Market estimates and forecasts, by application, 2014 - 2025 (Tons) (USD Million)

6.5 Central & South America

6.5.1 Market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

6.5.2 Market estimates and forecasts, by product, 2014 - 2025 (Tons) (USD Million)

6.5.3 Market estimates and forecasts, by application, 2014 - 2025 (Tons) (USD Million)

6.6 Middle East & Africa

6.6.1 Market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

6.6.2 Market estimates and forecasts, by product, 2014 - 2025 (Tons) (USD Million)

6.6.3 Market estimates and forecasts, by application, 2014 - 2025 (Tons) (USD Million)

## **CHAPTER 7 RARE EARTH ELEMENTS: COMPETITIVE ANALYSIS**

7.1 Key global players & recent developments & their impact on the industry

7.2 Key company/competition categorization (key innovators, market leaders, emerging players)

7.3 Vendor landscape

- 7.3.1 List of manufacturers
- 7.3.2 List of distributors
- 7.3.3 List of rare earth based product manufacturers
- 7.3.4 List of rare earth based product distributors
- 7.3.5 List of end-users
- 7.4 SWOT
  - 7.4.1 SWOT analysis Lynas Corporation
  - 7.4.2 SWOT analysis Hitachi Metals Ltd.
  - 7.4.3 SWOT analysis Shin-Etsuchemical Co., Ltd.

## **CHAPTER 8 COMPANY PROFILES**

- 8.1 Lynas Corporation Ltd
  - 8.1.1 Company overview
  - 8.1.2 Financial performance
  - 8.1.3 Product benchmarking
  - 8.1.4 Strategic initiatives
- 8.2 Alkane Resources Ltd
  - 8.2.1 Company overview
  - 8.2.2 Financial performance
  - 8.2.3 Product benchmarking
- 8.3 Northern Minerals Ltd
  - 8.3.1 Company overview
  - 8.3.2 Financial performance
  - 8.3.3 Product benchmarking
- 8.4 Arafura Resources Ltd
  - 8.4.1 Company overview
  - 8.4.2 Financial performance
  - 8.4.3 Product benchmarking
  - 8.4.4 Strategic initiatives
- 8.5 Ucore Rare Metals Inc.
  - 8.5.1 Company overview
  - 8.5.2 Product benchmarking
  - 8.5.3 Strategic initiatives
- 8.6 Hitachi Metals Ltd.
  - 8.6.1 Company overview
  - 8.6.2 Financial performance
  - 8.6.3 Product benchmarking
  - 8.6.4 Strategic initiatives



- 8.7 Shin-Etsu Chemical Co., Ltd.
  - 8.7.1 Company overview
  - 8.7.2 Financial performance
  - 8.7.3 Product benchmarking
- 8.8 Greenland Minerals Ltd
  - 8.8.1 Company overview
  - 8.8.2 Financial performance
  - 8.8.3 Product benchmarking
- 8.9 Iluka Resources Limited
  - 8.9.1 Company overview
  - 8.9.2 Financial performance
  - 8.9.3 Product benchmarking
  - 8.9.4 Strategic initiatives
- 8.10 Indian Rare Earth Limited
  - 8.10.1 Company overview
  - 8.10.2 Financial performance
  - 8.10.3 Product benchmarking
- 8.11 Arnold Magnetic Technologies
  - 8.11.1 Company overview
  - 8.11.2 Product benchmarking
- 8.12 Namibia Critical Metals Inc.
  - 8.12.1 Company overview
  - 8.12.2 Financial performance
  - 8.12.3 Product benchmarking
- 8.13 Avalon Advanced Materials Inc.
  - 8.13.1 Company overview
  - 8.13.2 Financial performance
  - 8.13.3 Product benchmarking
  - 8.13.4 Strategic initiatives
- 8.14 Rare Element Resources Ltd.
  - 8.14.1 Company overview
  - 8.14.2 Financial performance
  - 8.14.3 Product benchmarking
- 8.15 China Northern Rare Earth (Group) High-Tech Co., Ltd.
  - 8.15.1 Company overview
  - 8.15.2 Product benchmarking



## List Of Tables

### LIST OF TABLES

- Table 1 Cerium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 2 Dysprosium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 3 Erbium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 4 Europium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 5 Gadolinium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 6 Holmium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 7 Lanthanum market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 8 Lutetium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 9 Neodymium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 10 Praseodymium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 11 Promethium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 12 Samarium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 13 Scandium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 14 Terbium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 15 Thulium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 16 Ytterbium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 17 Yttrium market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)
- Table 18 Rare earth elements market estimates and forecasts in magnets 2014 - 2025 (Tons) (USD Million)
- Table 19 Rare earth elements market estimates and forecasts in Catalysts, 2014 - 2025 (Tons) (USD Million)
- Table 20 Rare earth elements market estimates and forecasts in Metallurgy end-use, 2014 - 2025 (Tons) (USD Million)
- Table 21 Rare earth elements market estimates and forecasts in Polishing, 2014 - 2025 (Tons) (USD Million)
- Table 22 Rare earth elements market estimates and forecasts in glass, 2014 - 2025 (Tons) (USD Million)
- Table 23 Rare earth elements market estimates and forecasts in phosphors 2014 - 2025 (Tons) (USD Million)
- Table 24 Rare earth elements market estimates and forecasts in ceramics 2014 - 2025 (Tons) (USD Million)
- Table 25 Rare earth elements market estimates and forecasts in other applications 2014 - 2025 (Tons) (USD Million)
- Table 26 North America rare earth elements market estimates and forecasts, 2014 -

2025 (Tons) (USD Million)

Table 27 North America rare earth elements market estimates and forecasts, by product, 2014 - 2025 (Tons)

Table 28 North America rare earth elements market estimates and forecasts, by product, 2014 - 2025 (USD Million)

Table 29 North America rare earth elements market estimates and forecasts, by application, 2014 - 2025 (Tons)

Table 30 North America rare earth elements market estimates and forecasts, by application, 2014 - 2025 (USD Million)

Table 31 Europe rare earth elements market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

Table 32 Europe rare earth elements market estimates and forecasts, by product, 2014 - 2025 (Tons)

Table 33 Europe rare earth elements market estimates and forecasts, by product, 2014 - 2025 (USD Million)

Table 34 Europe rare earth elements market estimates and forecasts, By application, 2014 - 2025 (Tons)

Table 35 Europe rare earth elements market estimates and forecasts, By application, 2014 - 2025 (USD Million)

Table 36 Asia Pacific rare earth elements market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

Table 37 Asia Pacific rare earth elements market estimates and forecasts, by product, 2014 - 2025 (Tons)

Table 38 Asia Pacific rare earth elements market estimates and forecasts, by application, 2014 - 2025 (USD Million)

Table 39 Asia Pacific rare earth elements market estimates and forecasts, by application, 2014 - 2025 (Tons)

Table 40 Asia Pacific rare earth elements market estimates and forecasts, by application, 2014 - 2025 (USD Million)

Table 41 Central & South America rare earth elements market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

Table 42 Central & South America rare earth elements market estimates and forecasts, by product, 2014 - 2025 (Tons)

Table 43 Central & South America rare earth elements market estimates and forecasts, by product, 2014 - 2025 (USD Million)

Table 44 Central & South America rare earth elements market estimates and forecasts, by application, 2014 - 2025 (Tons)

Table 45 Central & South America rare earth elements market estimates and forecasts, by application, 2014 - 2025 (USD Million)

Table 46 Middle East & Africa rare earth elements market estimates and forecasts, 2014 - 2025 (Tons) (USD Million)

Table 47 Middle East & Africa rare earth elements market estimates and forecasts, by product, 2014 - 2025 (Tons)

Table 48 Middle East & Africa rare earth elements market estimates and forecasts, by product, 2014 - 2025 (USD Million)

Table 49 Middle East & Africa rare earth elements market estimates and forecasts, by application, 2014 - 2025 (Tons)

Table 50 Middle East & Africa rare earth elements market estimates and forecasts, by application, 2014 - 2025 (USD Million)

## List Of Figures

### LIST OF FIGURES

- Fig. 1 Rare earth elements market volume, 2015, (Kilotons)
- Fig. 2 Rare earth elements market volume & revenue, 2014 - 2025 (Kilotons) (USD Million)
- Fig. 3 Value chain analysis
- Fig. 4 Market driver relevance analysis (Current & future impact)
- Fig. 5 U.S hybrid electric vehicles, by revenue (Thousands)
- Fig. 6 India crude oil production capacity, (MMT)
- Fig. 7 Global FCC market, by volume (Kilotons)
- Fig. 8 Market restraint relevance analysis (Current & future impact)
- Fig. 9 Global rare earth reserves, by volume (%)
- Fig. 10 PESTEL Analysis
- Fig. 11 Porter's Five Forces Analysis
- Fig. 12 Rare earth elements market: Product movement analysis, 2018 & 2025
- Fig. 13 Rare earth elements market: Application movement analysis, 2018 & 2025 (Kilotons)
- Fig. 14 Rare earth elements market: Regional movement analysis, 2018 & 2025 (Kilotons)
- Fig. 15 SWOT Analysis Lynas Corporation
- Fig. 16 SWOT Analysis Hitachi Metals Ltd.
- Fig. 17 SWOT Analysis Shin-Etsu Chemical Co., Ltd.

## I would like to order

Product name: Rare Earth Elements Market Size, Share & Trends Analysis Report By Product (Cerium, Dysprosium, Erbium), By Application (Magnets, Catalyst), By Region, And Segment Forecasts, 2019 - 2025

Product link: <https://marketpublishers.com/r/R4C94F094FDAEN.html>

Price: US\$ 5,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/R4C94F094FDAEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below

and fax the completed form to +44 20 7900 3970