

Rare earth elements as critical raw materials:
Focus on international markets and future
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Rare earth elements as critical raw materials: Focus on international markets and future strategies

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Abstract

Supply of some critical raw materials by European industry is becoming more and more difficult. After the case of natural textile fibres, in particular cotton, and timber, over the last few years the problem of rare earths (REs) availability has also risen. The 97% of the global supply of rare earth metals (REMs) is produced by China, that has recently done copious cuts of its exports, apparently in order to protect its environment. This fact has greatly increased the REs prices, causing tension and uncertainty among the world hi-tech markets. Many of these materials, in fact, have very few effective substitutes and low recycling rates too. In addition, their natural reserves of rare earths are concentrated in a small number of countries (China, Brazil, US, Russia, Democratic Republic of Congo). REMs are a group of 17 elements particularly used in many new electronic and advanced components: such as fuel cells, mobile phones, displays, hi-capacity batteries, permanent

magnets for wind power generation, green energy devices, etc. Many analysts foresee much more requests in the next decades.

Highlights

- ° Reserves are not equally distributed in the world and there are mining environmental issues.
- ° REOs Chinese exporting quotas affect the dynamics of prices.
- ° Massive investments have been made in the industrial sectors in which REEs are relevant.
- ° Demand will grow and prices will remain very high in the near future.
- ° Recycling rates and possible substitutes for the most strategic REEs are limited.



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Keywords

Rare earths; World reserves; Hi-tech applications; Commercial conflicts

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Estimating the quantities of critical metals embedded in ICT and consumer equipment, with the onset of the counterpoint resonance relatively comes the crisis of legitimacy, thus carried out a kind of connection with the darkness of the unconscious.