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Rare Earth Elements: Under pressure, global industry responds with new solutions

https://marketpublishers.com/r/R3888FCD943EN.html
Date: February 2018
Pages: 24
Price: US$ 995.00 (Single User License)
ID: R3888FCD943EN

Abstracts

Rare Earth Elements: Under pressure, global industry responds with new solutions

SUMMARY

Rare earth elements have transformed industry and consumer products. Smartphones and highly efficient jet engines, among other products, have become dependent upon hard to extract elements, almost all of which are exported from China.

This presents industry with very real problems. Not only are profitable reserves dwindling but supply is determined by the Chinese government, leaving many industries exposed.

However, alternative materials are being developed; recycling is becoming relevant; and means of not using rare elements are entering mainstream production. Despite the problems associated with rare earth elements, industry is undergoing substantial changes to solve the difficulties, heralding new and innovative ideas.

Higher demand is causing industry to find means of improving the security of supply, and several methods have emerged to help.

Now that is changing: industry is waking up to the benefits on offer to product disassembly. However, even successful efforts so far remain small in scale compared to the extent of consumption.

Big shifts in rare earth element use are emerging due to the development of substitute materials. Still in infancy, substitutes to metals such as indium are gradually creating

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possibilities that industry will be able to radically reduce consumption of these materials over the coming years.

SCOPE

Explores the impact of rare earth elements on industry

Analyses overdependence of rare elements across major industries

Looks at the development of substitute materials

Assesses the impact of geopolitics on rare elements

Examines developments in recycling of rare earth elements

REASONS TO BUY

What progress has been made towards substitute materials?

Can recycling have a major role to play in recovering rare elements?

Can industry become less dependent upon rare earth elements?

Will efforts to not use rare earth elements prove successful?

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About

Rare earth elements have transformed industry and consumer products. Smartphones and highly efficient jet engines, among other products, have become dependent upon hard to extract elements, almost all of which are exported from China. Higher demand is causing industry to find means of improving the security of supply, and several methods have emerged to help. Rare earth elements have become ubiquitous in high-tech manufacturing thanks to properties not found elsewhere on the periodic table; without them products such as smartphones and fuel-efficient jet engines would not be possible.

Increasing demand has led several companies with global reach to seek out partnerships with mining companies or to source rare elements directly. Increased demand has led other companies to seek reductions in usage by utilizing old ideas but updating them with modern materials. Recycling rare earth elements has long been held up as a solution to supply problems, except efforts towards achieving methods of reclaiming elements have for a long time been limited and have failed to attract widespread attention.

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