Market Research Center Launches Global Rare Earth Elements Industry (2025–2032) Report

Global Rare Earth Elements Market to Reach USD 14.7 Billion by 2032, Driven by EV Boom and Clean Energy Transition

Global Rare Earth Elements Market

TOKYO, JAPAN, April 11, 2025 /EINPresswire.com/ -- Rare Earth Elements (REEs) are a group of 17 chemically similar metallic elements, including the 15 lanthanides, plus scandium and yttrium. Despite their name, they are relatively abundant but difficult to extract due to their dispersion in the Earth's crust. REEs are vital in high-tech and clean energy applications such as electric vehicles, wind turbines, magnets, batteries, and electronics. Their unique magnetic and optical properties make them essential for modern technologies, driving their strategic importance in global supply chains and industrial innovation.

The global rare earth elements (REE) market is poised for robust expansion, projected to grow at a CAGR of 10.6% between 2025 and 2032, rising from US$ 7.2 billion in 2025 to approximately US$ 14.7 billion by 2032. This growth is primarily driven by the escalating demand for permanent magnets used in electric vehicles (EVs), wind turbines, and other advanced technologies that support global energy transition goals.

Market Drivers and Growth Trends

Rare earth magnets, particularly neodymium-based types, have become indispensable in the production of electric motors for BEVs, FCEVs, and PHEVs. The shift away from internal combustion engines, coupled with ambitious decarbonization policies worldwide, is fueling demand for REEs. Approximately 80% of EV motors are expected to use Permanent Magnet Synchronous Motors (PMSMs) in the near future, with automotive OEMs securing partnerships to support magnet sourcing outside of China. The global EV market sold 17.1 million units in 2024 and is forecast to exceed 45 million units by 2030.

Beyond mobility, REEs are key to clean energy technologies such as wind turbines, where direct-drive systems use powerful magnets made from neodymium, praseodymium, dysprosium, and terbium. A single wind turbine can require over 1 ton of REE magnets per megawatt. By 2030, wind power capacity is projected to reach 228 GW, further cementing the strategic importance of REEs.

Supply Chain Dynamics and Geopolitical Influence

China continues to dominate the REE landscape, controlling around 70% of global production and over 85% of processing capacity. It also accounts for nearly 90% of global permanent magnet production. However, concerns about supply chain security are prompting Western nations to diversify sources. New mining and processing initiatives are underway in Australia, Africa, South America, and the U.S.

Price volatility remains a significant challenge. From 2019 to 2023, prices for heavy rare earths like terbium surged by over 70%, while demand for neodymium and praseodymium drove up prices by 15–17%. This volatility, combined with geopolitical risk and environmental considerations, is encouraging investments in sustainable alternatives such as recycling.

Recycling and Circular Supply Chain Initiatives

Recycling is emerging as a viable path to alleviate supply pressure. Although only 1% of REEs are currently recycled, companies such as Cyclic Materials, backed by Jaguar Land Rover and Microsoft, are working to scale up recovery from end-of-life products. For example, recycled neodymium magnets can meet up to 5% of global demand outside of China, supporting ethical sourcing and a circular economy.

In the U.S., Noveon Magnetics has developed a method for producing neodymium magnets from recycled materials, achieving over 99% recovery while reducing energy consumption by 90% and halving carbon emissions.

Product Insights

Light rare earth elements (LREEs) such as neodymium and praseodymium continue to lead the market, driven by demand for permanent magnets. In 2025, neodymium will remain a cornerstone element due to its magnetic properties and thermal stability. Australia's Nolans Project, supported by a AUD 200 million investment, aims to supply 4% of global NdPr demand by 2032.

Lanthanum, another abundant LREE, is essential in NiMH batteries and specialized optical glasses. Demand is being supported by automotive applications and energy-efficient lighting technologies.

Application and End-Use Trends

In 2025, permanent magnets will account for about 80% of total REE consumption. These are

critical for automotive, consumer electronics, wind turbines, and industrial automation. Catalysts for the petrochemical industry, glass and ceramic manufacturing, and advanced healthcare devices also contribute to the market's diversification.

Regional Outlook

• Asia Pacific: Dominates global consumption, with China as both the top producer and consumer. China's continued investment in extraction technology and export restrictions on processing know-how are cementing its leadership. Japan and India are also expanding capabilities via joint ventures and local investments.
• Europe: Imports 98% of its REEs, primarily from China. Nations like Sweden and Germany are investing in domestic extraction projects to reduce dependency. Sweden's LKAB initiative aims to supply 18% of European demand by 2026.
• North America: Despite significant reserves, the U.S. relies heavily on imports due to high costs and processing complexity. However, rising military and renewable energy demands are incentivizing domestic investments. Each F-35 fighter jet, for example, uses approximately 400 kg of REEs.

The market is highly consolidated, with China-based companies leading the pack. However, international firms such as MP Materials (U.S.) and Lynas Rare Earths (Australia) are expanding operations. Strategic collaborations, sustainable technologies, and global investments are shaping the next wave of competitive advantage.

As the world accelerates toward electrification and clean energy, rare earth elements are positioned as critical enablers of technological innovation. Despite supply challenges and pricing volatility, the global REE market is expected to thrive through strategic diversification, circular economy initiatives, and increased government and corporate investment in sustainable sourcing.

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