REEMAG Achieves Major Milestone in Sustainable Magnet Production with Successful Scale-Up of Recycled NdFeB Magnets

written by Raj Shah | January 22, 2025

January 22, 2025 (Source) – REEMAG LLC ("REEMAG" or the "Company"), a leader in sustainable rare earth magnet recycling, and a portfolio company of Cove Capital LLC, proudly announces a significant breakthrough in its mission to transform the rare earth magnet industry with low-carbon footprint solutions. The company has successfully scaled its innovative and proprietary carbon-free recycling process from a single NdFeB (neodymium-iron-boron) magnet to handle a quantity approximately 100 times larger, while maintaining the same outstanding performance metrics as the single-magnet process.

This achievement demonstrates the feasibility of producing high-performance recycled rare earth magnets at scale, marking a crucial step toward reducing global dependence on mined rare earth materials, whilst also minimizing the environmental impact of the actual magnet production process. By utilizing recycled materials and our advanced proprietary processes, this will enable REEMAG to manufacture magnets that are competitive in both cost and quality compared to newly mined magnets from traditional supply chains, including China.

"This leap from single-magnet processing to batch production demonstrates our commitment to sustainable technology and operational excellence. Remarkably, we've maintained our

industry-leading efficiency metrics throughout this expansion, ensuring that our larger-scale operations deliver the same outstanding performance as our initial single-magnet process," said Pini Althaus, CEO of REEMAG LLC.

"This achievement not only solidifies our position as a frontrunner in rare earth element magnet recycling, but also significantly enhances our potential for positive environmental impact. By efficiently recovering these critical minerals at scale, we're actively contributing to the reduction of electronic waste and the conservation of valuable natural resources. Our investors can take pride in supporting a company that's not just talking about sustainability but actively revolutionizing it through cutting-edge technology and scalable solutions," added Pini Althaus.

A Sustainable and Competitive Alternative to Mined Magnets

Rare earth magnets, crucial for technologies like electric vehicles, wind turbines, and consumer electronics, are mainly sourced from non-sustainable mining operations in China. This geographic bottleneck presents significant risks to supply chain stability and sustainability. REEMAG's process effectively addresses these challenges by:

- **Reducing Dependence on Mining:** Utilizing end-of-life magnets as feedstock eliminates the sole reliance on new mining operations, reducing the carbon footprint and environmental impact.
- **Cost Competitiveness:** The company's innovative approach allows its recycled magnets to compete with the price of newly mined magnets from China, ensuring a sustainable solution without sacrificing affordability.
- **Supply Chain Resilience:** Diversifying the magnet supply chain helps alleviate the geopolitical risks of single-

source dependency and the projected shortfall rare earths required to establish an independent supply chain.

With this success, REEMAG is ready to further expand its production capabilities by scaling up batch sizes and forming partnerships with industries that rely on rare earth magnets. The company envisions leading the transition to a circular magnet economy, where end-of-life products are converted into new, high-quality magnets without the environmental and geopolitical challenges associated with mining.

Future Outlook

The global NdFeB magnet market is anticipated to experience substantial growth in the coming years, fueled by the rising demand for electric vehicles, renewable energy systems, and advanced electronics. Market research indicates that the NdFeB magnet market was valued at approximately $11.3 billion in 2022 and is expected to exceed $20 billion by 2030, with a compound annual growth rate (CAGR) of 8-10%. This swift expansion underscores the pressing need for sustainable solutions to fulfill market demand while tackling environmental and supply chain challenges.

The United States is experiencing a surge in demand for rare earth elements, essential for various high-tech applications and defense systems. The global demand for rare earth oxides is forecasted to increase from 171,300 metric tons in 2022 to 238,700 metric tons by 2030, indicating a substantial rise in U.S. demand as well.

The EU’s demand for rare earth metals is expected to increase sixfold by 2030 and sevenfold by 2050, driven by the transition to renewable energy and electric mobility.

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About REEMAG LLC

REEMAG is a leader in sustainable rare earth magnet production. By recycling end-of-life NdFeB magnets and utilizing its advanced proprietary carbon-free process, the company creates high-performance magnets with a significantly reduced carbon footprint. REEMAG is dedicated to transforming the magnet industry through innovation, sustainability, and supply chain resilience.

About Cove Capital LLC

Cove Capital was founded in 2015. With offices in Melbourne and New York (head office), Cove Capital invests in mining, renewable energy, and clean technology. Since 2018, Cove Capital has been at the forefront of investment and development in critical minerals projects. Cove Capital, under the visionary leadership of Mr. Pini Althaus, brings unparalleled knowledge and extensive experience to the critical minerals industry.