

Will the magnet rare earths prices rise in 2024?

written by Matt Bohlsen | January 12, 2024

Today we take a look at the magnetic rare earths sector and two leading rare earth companies and what we can expect in 2024 and beyond.

The magnet rare earths prices have fallen in 2022 and 2023

The magnet rare earths sector was hit hard in 2023 with China's Neodymium (Nd), Praseodymium (Pr), and Dysprosium (Dy) prices falling as the global economy and EV demand slowed.

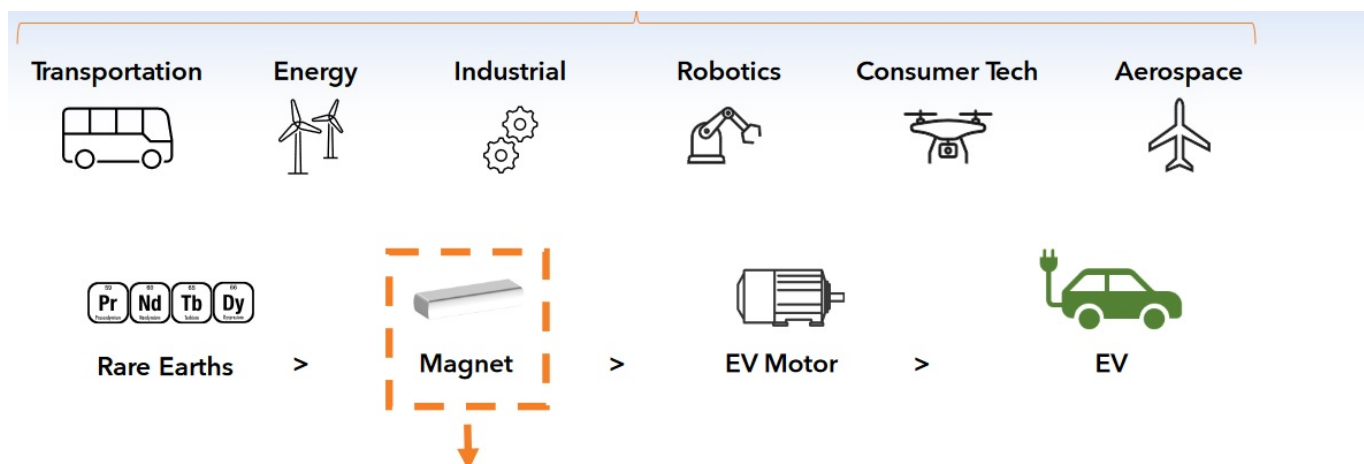
Neodymium prices came crashing down in 2022 and 2023 as demand slowed after the 2021 growth rate boom in EV sales – Now at CNY 530,000/t



Source: [Trading Economics](https://tradingeconomics.com/neodymium-price)

Global plugin electric car sales [grew by 108%](#) in 2021 causing a huge spike in EV metal prices. Then in 2022, the growth rate slowed to 56% at a time when supply of most EV metals surged. Finally in 2023, the growth rate slowed further to an estimated 28%, resulting in further price decline for the magnet metals such as neodymium.

Demand for the magnet rare earths in electric motors is driven by multiple sources with electric vehicle sales being a key driver. (90% of EV motors use rare earth magnets)



Rare earths present a single point-of-failure threat to industries that drive prosperity and security.



Source: [MP Materials company presentation](#)

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The answer to this question will largely depend on recovery in China and the global economy driving increased demand for EVs, wind turbines, and other magnets used in various industrial applications. Given the most recent trend globally has been towards future interest rate decreases (notably in the USA and China), it bodes well for a recovering consumer and hence demand. This may take a good part of 2024 to flow through with excess inventories across many sectors still needing to be worked off. If we get a strong pickup in EV demand (>40% YoY increase) in 2024, then the magnet rare earths sector woes could soon disappear.

China's December 2023 EV sales give some hope as they jumped to a record [945,000 units](#), achieving a superb 47% YoY growth rate.

Lynas Rare Earths Ltd. (ASX: LYC) ("Lynas") update

The big recent Lynas news ([announced December 7, 2023](#)) is that the first feed of material from the Mt Weld Mine has been introduced into the new Kalgoorlie Rare Earths Processing Facility in Western Australia, leading to first production and ramp-up of the Facility. A great achievement for Lynas, especially given that the Kalgoorlie Rare Earths Processing Facility is Australia's first value-added rare earths processing facility. Lynas [stated](#):

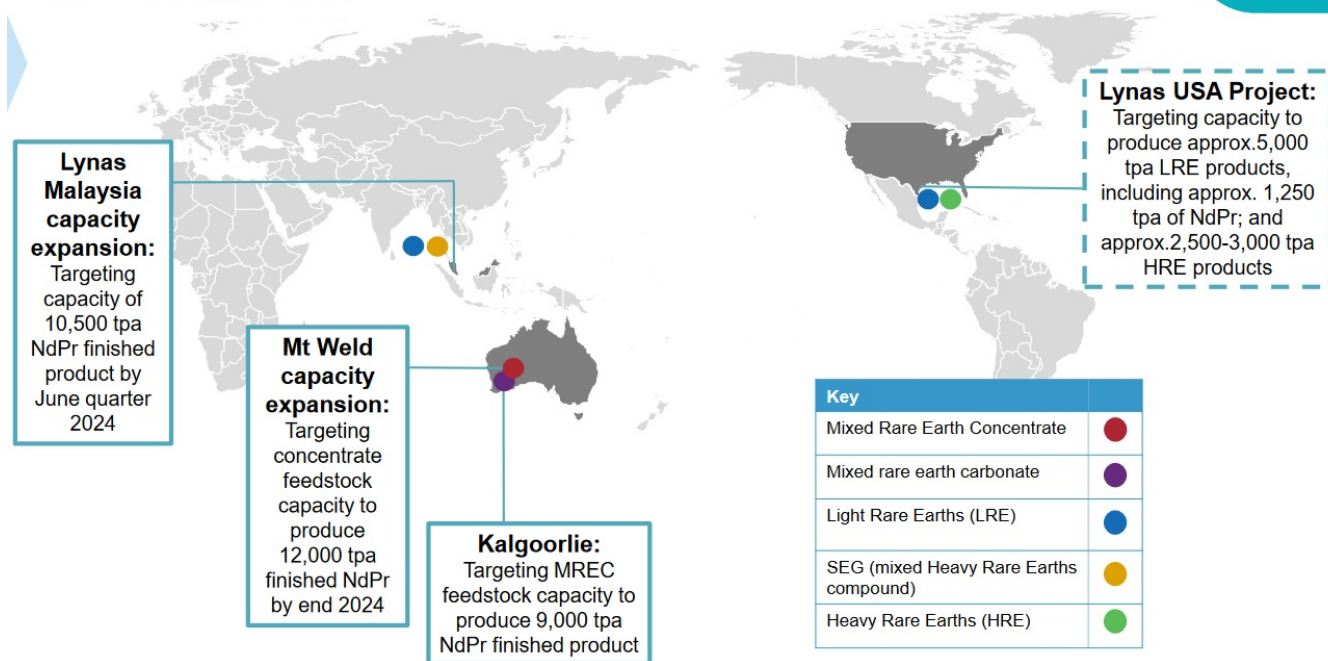
The Lynas Malaysia plant is currently shutdown as works to increase downstream processing capacity are completed. Production will recommence in January 2024. Mixed Rare Earth Carbonate (MREC) from the Kalgoorlie Rare Earth Processing Facility will be progressively introduced to the Lynas Malaysia plant commencing late in the March quarter and increasing as the controlled ramp up of the Kalgoorlie facility is progressed...."

Once their expansions are completed, Lynas intend to increase their production capacity to [10,500tpa NdPr](#) (Neodymium-Praseodymium). Lynas produced [6,142t of NdPr](#) in FY 2023.

2024 will see the Mt Weld Mine expansion and further work on Lynas' US Rare Earths Processing Facility Project targeted to be operational by [July 2025 – June 2026](#).

Lynas is expanding its rare earths mining and processing capabilities through to 2025/26

Growing scale and increasing capacity to meet forecast demand growth



23

Source: [Lynas company presentation](#)

MP Materials Corp. (NYSE: MP) (“MP Materials”) update

MP Materials owns and operates the Mountain Pass Rare Earth Mine and Processing Facility in California, USA. In the past MP Materials had to ship their concentrate to China for processing; however, they have a target to bring this back to the USA.

Their target is to grow their mine output by 50% over the next four years and to build separation capacity in the USA with annual production of 6,000 tpa NdPr oxide. The third stage of their plan is to build a greenfield production facility in Texas targeting ~1,000tpa of finished NdFeB (Neodymium Iron Boron) magnets. They already have General Motors (NYSE: GM) as a foundational customer.

MP Materials is working towards Stage II and Stage III of their plan to bring rare earths processing and magnets production to

the USA



Stage I: Concentrate Production

- Largest ex-China producer
- ~15% global market share in 2022
- "Upstream 60K" strategy to grow output 50% over the next four years

Stage II: RE Separations

- Separation, refining and finishing capabilities to convert RE concentrate into separated REOs
- >6k mt NdPr oxide annual production target
- Lanthanum, Cerium and SEG+ production

Stage III: RE Magnets

- Greenfield production facility in Texas targeting ~1k mtpa of finished NdFeB magnets
- General Motors as foundational customer
- To deliver intermediate product ahead of magnet completion
- Buy, build and/or JV

Source: [MP Materials company presentation](#)

Closing remarks

2024 should see a year of consolidation for the rare earths sector as some experts are telling me. Some [forecasts](#) are for NdPr supply deficit to begin as early as 2024; however, this will largely depend on China demand, the global economy, EV sales, and new NdPr supply hitting the market.

The two Western magnet rare earths leaders Lynas and MP Materials (and some other key players) are progressing their plans to further build a western supply chain and should be largely complete within the next 2-4 years if it goes to plan. This all supports the building of an end-to-end Western rare earths and magnets sector this decade. Stay tuned.

Appia and the demand for the critical Heavy Rare Earths

written by Jack Lifton | January 12, 2024

The rare earths necessary for the manufacturing of the magnets needed for the type of electric motors that can drive electric cars fall into two categories, the basic critical permanent magnet rare earths, neodymium (Nd) and praseodymium (Pr), and the critical, critical rare earths necessary for that purpose, dysprosium (Dy) and terbium (Tb). Without the addition of Dy and/or Tb to the alloy based on NdPr (a natural mixture called didymium) the magnetic material produced will not be able to maintain its (magnetic) strength at the high operating temperature and cycles of heating and cooling experienced daily by the electric drive motors to be used in EVs.

A Landmark Moment: U.S. Dept. of Defense Makes Bold Moves in Rare Earth Magnet Manufacturing

written by Jack Lifton | January 12, 2024

The world of rare earth permanent magnet manufacturing just received a jolt of excitement. A new announcement from the Department of Defense has revealed a significant investment in a domestic manufacturing plant, a move that holds implications not

just for defense, but also for the wider commercial sphere.

American Rare Earths' Melissa Sanderson on the 'potentially rich deposit' of magnetic materials in Wyoming

written by InvestorNews | January 12, 2024

Jack and Melissa also discussed geopolitical elements in the rare earths' landscape. Despite potential shifts in the White House and its policy approach to mining and natural resources, Melissa expressed optimism. She referenced an unprecedented bipartisan agreement on the Hill. On one side, the left is driven by the demands of climate change and the pursuit of a more sustainable economy. On the other, the right is focused on national security and the reduction of dependence on foreign entities like China.

Weathering the rare earth prices storm, all eyes are on

Neo Performance

written by InvestorNews | January 12, 2024

“Neo Performance Materials’ organization today is the closest that North America has yet come to a totally vertically integrated rare earth permanent magnet supplier. Now, the company has acquired and is moving to bring a significant rare earth deposit in Greenland into production. When that occurs, it will be the first company outside of China, ever, to be a totally vertically integrated manufacturer of rare earth permanent magnets. We should all be watching Neo Performance as if our (self-sufficient and secure) independent economic lives depend on it.” – Jack Lifton, Co-Chairman, Critical Minerals Institute

Hastings Technology Metals Poised to Emerge as a Major Player in the Rare Earths Market

written by InvestorNews | January 12, 2024

With all the talk of on-shoring, near-shoring, friend-shoring, or whatever is the popular term this week, it’s easy to lose sight of the fact that most commodities are global in nature. I know I’ve become fixated on North American solutions when it comes to critical materials and rare earths but that’s a somewhat myopic view. There are plenty of countries out there,

near and far, that we consider our friends and who may or may not have cost advantages that overcome any incremental transportation fees to compete in our domestic market. Thus, we shouldn't fall into the trap of thinking that just because the U.S. Inflation Reduction Act, and other similar legislation, look to limit parts of the world from contributing to "made at home" solutions, as perhaps, North American miners and explorers aren't necessarily the best option.

One such example is [Hastings Technology Metals Limited](#) (ASX: HAS | OTCPK: HSRMF), a Company engaged in the exploration, development, and mining of rare earths and specialty metals in Western Australia. This Perth-based company is primed to become the world's next producer of neodymium and praseodymium concentrate (NdPr). Hastings' flagship Yangibana Project (which comprises a mine and beneficiation plant at the Yangibana site, and a hydrometallurgical plant at Onslow), in the Gascoyne and Pilbara regions of Western Australia, contains one of the most highly valued NdPr deposits in the world with NdPr:TREO ratio of up to 52%. The Project is permitted for long-life production, with offtake contracts signed and debt financing in an advanced stage. The first product to ship is targeted for H1/2025. Hastings also owns and operates the Brockman project, Australia's largest heavy rare earths deposit, near Halls Creek in the Kimberley.

Earlier this month, the Company increased the mineral reserves at the [Yangibana Project](#) and it now has JORC-compliant Proved and Probable Ore Reserves of 20.93 million tonnes at 0.90% TREO which includes a 37% component NdPr, making it one of the largest and highest-grade rare earths projects in the world. The company has made significant progress in advancing the project over the past few years, with a Pre-Feasibility Study completed in 2018 and a Definitive Feasibility Study (DFS) completed in 2020. The DFS confirmed that Yangibana is a highly viable

project, with low operating costs and strong economic returns.

But where I find this story gets interesting is all the various financial dealings that Hastings is involved in. More than half of ~A\$400 million of total debt financing required for the Yangibana Project has been secured from the Northern Australia Infrastructure Facility (NAIF), which recently increased its financial support to A\$220 million with a 12½-year tenor. Hastings also completed a Two-Tranche Placement to raise A\$110 million in new equity to progress the Yangibana Project in October 2022. Nothing unusual about these two deals but here's the one that intrigues me. On October 14, 2022, the Company announced the completion of the acquisition of an approximate 19.9% shareholding in [Neo Performance Materials Inc.](#) (TSX: NEO) for an aggregate price of C\$134.6 million. [The acquisition](#) was funded by a A\$150 million cornerstone investment in Hastings by Wyloo Metals.

It would appear that the management team at Hastings does not doubt that this mine is moving forward. The NEO acquisition provides Hastings with a strategic stake in NEO and exposure to the global downstream processing of rare earth materials into magnets, critical components of environmentally friendly products such as electric vehicles and wind turbines. Additionally in October (seemingly a very busy month for the Company), Hastings signed a non-binding offtake Memorandum of Understanding (MOU) with [Solvay](#), a French-based global leader in Materials, Chemicals, and Solutions. The deal outlines the intent of both parties to enter into a binding commercial offtake agreement for the supply of Mixed Rare Earth Carbonate (MREC). Under the agreement, the supply of an initial 2,500 tonnes per annum of MREC will be sent from Hastings' Yangibana Project to Solvay's plant in La Rochelle, France. Deals like this might explain why NAIF was comfortable increasing its financial support for the project.

Lastly, it's worth mentioning that Hastings has implemented rigorous environmental and social sustainability standards to ensure that its operations are in line with international best practices. This commitment and transparency were recognized with an exceptional ESG risk rating by Morningstar Sustainalytics with Hastings ranked 4th out of 159 companies rated in the Diversified Metals Mining subindustry category and placed 9th out of 193 companies in the Diversified Metals industry category. Hastings also undertook an EcoVadis assessment and achieved 68/100 which placed the company in the top 5% of companies assessed. This has not only helped the company attract investment from socially responsible investors but also win recognition for its efforts.

Hastings Technology Metals looks ready to take on the rare earths supply market and become a force to be reckoned with. The Company had A\$172.2 million in cash and equivalents as of December 31, 2022 and seemingly no issues raising additional capital as needed. Agreements are in place for ~70% of production for the first 10 years and there is still plenty of blue-sky exploration upside to further expand the resource at Yangibana. It appears I need to start looking past my own backyard for resource opportunities that are world-class.