

# NeoTerrex Minerals' Mathieu Stephens on Unlocking Quebec's Rare Earths Potential

written by InvestorNews | March 15, 2024

In a compelling conversation with Tracy Weslosky at PDAC 2024, Mathieu Stephens, the President, CEO, and Director of [NeoTerrex Minerals Inc.](#) (TSXV: NTX), shared insights into the company's strategic pivot towards rare earths exploration, a move prompted by both serendipity and strategic analysis. NeoTerrex stumbled upon significant rare earth elements like neodymium (Nd) and dysprosium (Dy) in an old prospector report from Quebec, leading to the staking of what would become a key project for the company. Stephens, with a rich background in gold and base metals, articulated his fascination with rare earths, particularly due to their applications in green energy technologies and the strategic importance of developing domestic production capabilities in Canada. His anecdote, "I've never been as excited about any minerals as much as neodymium and the other rare earths," underscores the company's commitment to this new direction.

Amidst this strategic shift, NeoTerrex is advancing its rare earths projects located in Quebec, focusing on the Mount Discovery property, which the company wholly owns. The announcement of a maiden drill program is a significant milestone, reflecting both the project's potential and the logistical challenges faced due to unexpected warm weather affecting the start date. The planned 2,000-metre drill campaign aims to explore the King showing, where promising surface values hint at substantial depth extensions. Stephens's mention of the company being "fully cashed up" highlights a strong financial

position, allowing for a focused exploration strategy without the immediate need for external financing. This approach is bolstered by the presence of experienced capital market players on the team, promising a careful yet ambitious exploration and possibly strategic partnerships in the future.

The recent [news release](#) detailing the upcoming drill program on the Mount Discovery property reinforces the company's proactive stance in exploring rare earths potential. The program's aim to delineate areas of promising mineralization and its strategic approach to ascertain both lateral and depth extensions of mineralized zones showcase NeoTerrex's methodical exploration philosophy. With a diverse geological landscape and robust infrastructure supporting the project, NeoTerrex stands at the forefront of unlocking Quebec's rare earths potential, contributing to the strategic diversification of Canada's mineral production capabilities.

To access the complete interview, [click here](#)

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## About NeoTerrex Minerals Inc.

The Company is currently advancing its prospective rare earths projects located in the province of Quebec, with most of its activities focused on its Mount Discovery property. The Company owns a 100-percent undivided interest in certain mineral claims located in southwestern Quebec constituting the Mount Discovery property. The Property was acquired due to its rare earth element potential.

To know more about NeoTerrex Minerals Inc., [click here](#)

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# Global Rare Earths Market Heats Up as China Implements Export Ban

written by Tracy Weslosky | March 15, 2024

China's recent decision to ban the export of [rare earth processing technology](#) marks a significant shift in the global rare earths market. This move, aimed at protecting China's dominance in the strategic metals sector, encompasses technology for extracting and separating rare earths, as well as the production technology for rare earth metals, alloys, and some magnets. The ban has major implications for industries reliant on these materials, such as electronics, clean energy, and defense.

In response to this development, experts from the [Critical Minerals Institute](#) (CMI) have shared their insights. Melissa "Mel" Sanderson, a director at CMI, characterizes China's move

as predictable and in line with their stated intentions. She stresses the importance of the United States responding proactively, emphasizing the need to advance initiatives in greener, cleaner spaces like bio-extraction, and to invest in conventional technologies. Sanderson warns of the risks of over-reliance on nations like Australia, which have their own market priorities and limitations.

The consensus among experts is clear: the recent developments serve as a crucial wake-up call for the United States, emphasizing the need to prioritize technological advancements, particularly in sustainable sectors. They stress the importance of investing in traditional processing and separation technologies to prevent limitations in capacity. CMI Director [Peyton Jackson](#) further elaborates, "The U.S. government [granted](#) Lynas Rare Earths Ltd. (ASX: LYC) \$300 million for a project feasibly achievable with just \$30 million invested at White Mesa Utah. Production at White Mesa is expected to begin in January 2024, as scheduled. This exemplifies a vital point: often, solutions are more straightforward than they initially seem. It falls upon us to bring attention to these simpler, yet effective, approaches."

CMI Co-Chair [Jack Lifton](#) comments: "The ban will impact mostly non-Chinese countries that are building rare earth processing and fabricating facilities de novo. Western companies, such as Solvay, Neo Performance (Sil-Met), and Lynas have been efficiently separating rare earths for some time. America's MP and Energy Fuels are either re-starting and/or modifying existing solvent extraction processing systems to handle rare earth separations. Solvent extraction separation is a long-established practice everywhere. The issue is the production of rare earth metals and alloys and from them of rare earth permanent magnets. This is where China's massive lead in manufacturing technology may be insurmountable. Time will tell."

In this context, [Energy Fuels Inc.](#) (NYSE American: UUUU | TSX: EFR), a frontrunner in the industry, has embarked on an ambitious project. Jack Lifton explains: “Energy Fuels has begun construction of an up-to-date solvent extraction system with an initial capacity of 1000 tons per year of the total rare earths contained in monazite. The SX plant, designed in-house, will be among the world’s most streamlined and efficient. It will require only a fraction of the traditional number of mixer-settler stations today considered ‘necessary’ for a legacy SX system. The payable product of the EF system will be separated NdPr, also known as didymium. This first phase plant will produce enough NdPr per year for the production of 700 tons of neodymium-iron-boron type rare earth permanent magnets. Energy Fuels phase one SX plant will be operational on or before May 1, 2024.”

The ban on the export of rare earth processing technology by China and the proactive steps taken by companies like Energy Fuels underscore a larger issue: the strategic importance of rare earth elements and the technological independence of nations. The insights from CMI directors, combined with the initiatives of industry players like Energy Fuels, suggest a path forward for the U.S. to increase investment in both green and conventional technologies. This strategy is essential not only to address the immediate challenges posed by China’s policy change but also to pave the way for a more sustainable and secure future in the rare earths and broader critical minerals sector.

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# Setback for U.S. Rare Earth Industry: China Tightens Export Laws on Key Technologies, Impeding American Efforts to Gain Independence Despite Financial Incentives

written by Jack Lifton | March 15, 2024

Bad news for those who think that the shortage of rare earth processing in America can be resolved by the injection of “free” money (A/K/A subsidies [also known as taxpayer’s money]) into the “free” market as, drum roll, please, “tax credits,” grants, and loans. The Chinese have decided not to give up their decades-long, learned by trial and error as much as by science and engineering, dominance in rare earth processing. China has announced a (further) tightening of its strict laws against the export of rare earth themed industrial technology. In particular, this means that technologies for producing rare earth metals, alloys and MAGNETS may not be shared with ANY foreign (to China) entity as a matter of national security!

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# Common Nonsense about Rare Earth Permanent Magnets

written by Jack Lifton | March 15, 2024

The common wisdom among the elites in Western capitols and among the “captains” of the Western industry is that the critical minerals supply issue is one that can be always solved by an increased allocation of capital, better known as “raising the offering price to increase the supply.” This is nonsense, for critical technology minerals, but a person can realize this only if he has studied and gained a basic, general, understanding of geology, mining, and economics and has the ability to reach logical conclusions based on reproducible, independently verified data. The absolute quantity of natural resources available to humanity is limited, first and foremost, by geology and then by technology and, finally, economics. It’s not how much money it would cost, but rather how much of our productive economy we are willing to give over for the extraction, refining, processing, and fabrication of products based on lithium, or cobalt, or the rare earths, or all three and even more of these uncommon technology metals.

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**Ucore’s                      Louisiana                      Site  
Selection                      and    US\$15M                      State**



# Incentives Continues Industry's Push for North American Rare Earths Supply

written by InvestorNews | March 15, 2024

[Ucore Rare Metals Inc.](#) (TSXV: UCU | OTCQX: UURAF), which specializes in separation technologies for rare earths and critical minerals, [has chosen a brownfield facility](#), spanning 80,800 square feet, located within the England Airpark in Alexandria, Louisiana as the site for its first rare earths production facility.

The facility will house the company's Louisiana Strategic Metals Complex (LSMC), which will use its proprietary RapidSX™ technology to separate and produce rare earth oxides (REOs) from various feedstocks.

## Louisiana Strategic Metals Complex (LSMC)

The LSMC is expected to commence construction in 2023 and start production in 2025, with an initial capacity of 2,000 tonnes per year ("tpa") of total rare earth oxides (TREO), increasing to 5,000 tonnes per year by 2026. The company also plans to expand the capacity to 7,500 tonnes per year by 2027, subject to market demand and availability of feedstock. The LSMC will produce both heavy and light REOs for various applications, such as permanent magnets, electric vehicles, wind turbines, aerospace, defense, and medical devices.

## Louisiana increases incentive offers

The company also announced that it has secured an increase in state support from Louisiana Economic Development (LED) to US\$15

million, which includes a 10-year tax exemption to the company, a payroll rebate for up to 10 years, performance-based grant for site preparation and infrastructure, and workforce development support.

Louisiana also offers a Research and Development Tax Credit program and a Small Business Loan and Guarantee Program and Ucore believes it could participate in both of these programs, however, the value of the benefits from these programs will be determined later. Ucore Chairman and CEO Pat Ryan commented,

*“Ucore is extremely grateful to The City of Alexandria, England Airpark, GAEDA, Louisiana Central, LED, Rapides Parish, and Louisiana’s federal delegation. Each has worked together and in concert with Ucore to provide us with the opportunity to establish the first modern technology rare earth processing plant in North America. It is critical that the United States leads in establishing the critical metals supply chain essential to a changing manufacturing landscape across North America. The establishment of the Louisiana SMC in Alexandria represents one of these first building blocks and a significant contributor to the shift toward energy production and consumption diversification.”*

## **Ucore hitting milestones**

Ucore stated that the site selection and state support are significant milestones for its vision to become a leading advanced technology company providing best-in-class metal separation products and services to the mining and mineral extraction industry. The company also highlighted its competitive advantages over conventional solvent extraction methods, such as lower capital and operating costs, faster processing time, smaller footprint, modular design, scalability,

and environmental sustainability.

The company has successfully demonstrated the technology at its Demonstration Plant in Kingston, Ontario, Canada. Its RapidSX™ technology is based on research and development by Innovation Metals Corp. with some funding assistance from the DoE. Innovation Metals was acquired by Ucore in 2020.

## **The Critical Minerals Shift to North America**

There has been a massive shift by North American governments and agencies to fund the industry to get rare earth production moved to North America in order to secure a domestic supply chain for rare earths and critical minerals that are essential for clean energy technologies.

Recently, the US Department of Energy (DoE) and the US Department of Defense (DoD) have awarded millions of dollars to various projects and initiatives that aim to produce, process, and refine rare earth elements and critical minerals. These investments are expected to create jobs, spur economic growth, and reduce dependence on foreign sources, especially China, which currently dominates the global market for these materials.

Recently funded projects in Canada included:

- In March 2023, [Search Minerals Inc.](#) (TSXV: SMY | OTCQB: SHCMF) announced that the Government of Canada has contributed C\$5.0 million to fund the construction and operation of a rare earth extraction and recovery demonstration plant in Ontario.
- In March 2023, [Geomega Resources Inc.](#) (TSXV: GMA | OTCQB: GOMRF) announced that it is receiving C\$3.0 million in funding from the Government of Canada towards the

construction of the rare earths magnet recycling demonstration plant in Quebec.

- In February 2023, [Nano One Materials Corp.](#) (TSX: NANO) reported that it received C\$10 million from Sustainable Development Technology Canada to fund the conversion of its recently acquired facility in Quebec to produce lithium iron phosphate (LFP).

Last year, some major investments in the critical minerals industry were announced in the US:

- In October 2022, the DOE announced US\$39 million in funding for 16 projects across 12 states to develop technologies to increase the domestic supplies of critical elements.
- In June 2022, [Lynas Rare Earths Limited](#) (ASX: LYC) was awarded a US\$120 million contract by the DoD to build a commercial Heavy Rare Earths facility in Texas.
- In February 2022, the DoD awarded US\$35 Million to [MP Materials Corp.](#) (NYSE: MP) to design and build a facility in California to process and separate Heavy Rare Earths (HREE).

## Upcoming Catalysts for Ucore

Ucore is finalizing pre-payment and supply offtake agreements with various strategic partners as well as other grant and incentive programs with both the Canadian and US governments. The company plans to get the LSMC in pre-production by Q4/2024 with a planned production throughput of 2,000 tpa by the start of 2025.

In the longer term, the company plans to add subsequent SMCs in Alaska and Canada using its technology platform and develop the

Bokan Mountain Rare Earth Element Project in southeast Alaska, which is in the Preliminary Economic Assessment (“PEA”) stage, as a potential source of feedstock material.

Ucore closed yesterday at C\$1.30 with a market cap of C\$73.0 million.

## **The Future Louisiana SMC – Alexandria, Louisiana, USA**



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## **Jack Lifton on Appia Rare Earths' Brazilian Acquisition**

# and the Critical Minerals Institute Summit

written by InvestorNews | March 15, 2024

In this InvestorIntel interview, Tracy Weslosky talks with [Critical Minerals Institute](#)'s (CMI) Co-Chairman Jack Lifton about why [Appia Rare Earths & Uranium Corp.](#)'s (CSE: API | OTCQX: APAAF) acquisition of a Brazilian rare earths ionic clay project, if finalized, will be an "intelligent vertical integration by Appia."

Speaking about Appia's Alces Lake Project as a "premier deposit of neodymium-rich monazite in North America," Jack explains how the new Brazilian project will be synergistic with the Alces Lake Project. Jack discusses how the new Brazilian project can be a low radiation source of critical heavy rare earths such as dysprosium and terbium.

Speaking about the upcoming [Critical Minerals Institute Summit II](#) (CMI Summit II) to be held in Toronto on June 14-15, 2023, Jack discusses that he intends to address if the North American industry can become self-sufficient in critical minerals. He goes on to discuss how the shortage of experienced competent mining engineers, in some ways, is a bigger problem for the Western world than the supply of critical minerals.

To access the full episode, [click here](#).

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## About The Critical Minerals Institute

The **Critical Minerals Institute** or **CMI** is an international organization for critical mineral companies and professionals

focused on battery and technology materials, defense metals, and ESG technologies in the EV market. Offering a wide range of B2B service solutions, the **Critical Minerals Institute** hosts both online and in-person events designed for education, collaboration, and service solutions that address critical mineral challenges for a decarbonized economy.

To learn more about The Critical Minerals Institute, [click here](#).

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## Leo Power of Search Minerals on its Rare Earths Project in Canada and Recent \$5M Government Grant

written by InvestorNews | March 15, 2024

In this InvestorIntel interview during PDAC 2023, Chris Thompson talks with Leo Power, Interim President, CEO, and Chairman of [Search Minerals Inc.](#) (TSXV: SMY | OTCQB: SHCMF) about its rare earths project in Newfoundland and Labrador.

Leo discusses the recent announcement that the Canadian government has granted \$5 million towards building the Company's \$9.3 million demonstration plant to test its direct extraction technology to separate rare earths from ore.

He provides an overview of Search's two significant deposits, Deep Fox and Foxtrot, and its 2022 Preliminary Economic Assessment ("PEA") that outlined a 26-year mine life to produce the valuable magnet rare earths – neodymium (Nd),



praseodymium (Pr), terbium (Tb), and dysprosium (Dy).

Finally, Leo outlines catalysts for this year that includes starting to work on the Feasibility report and further regional exploration.

To access the full InvestorIntel interview, [click here](#).

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## About Search Minerals Inc.

Search Minerals is focused on finding and developing Critical Rare Earths Elements (CREE), zirconium (Zr), and hafnium (Hf) resources within the emerging Port Hope Simpson – St. Lewis CREE District of South East Labrador. Search controls two deposits (Foxtrot and Deep Fox), two drill-ready prospects (Fox Meadow and Silver Fox), and numerous other regional rare earths (“REE”) prospects, including Fox Valley, Foxy Lady, and Awesome Fox, along a 64 km long belt forming an REE District in Labrador. Search has completed a preliminary economic assessment (“PEA”) report for Deep Fox and Foxtrot.

Search Minerals has continued to optimize its patented Hydrometallurgy Direct Extraction Process technology with support from the Department of Industry, Energy and Technology, the Government of Newfoundland and Labrador, and from the Atlantic Canada Opportunity Agency. It has completed two pilot plant operations and produced highly purified mixed rare earth carbonate concentrate and mixed REO concentrate for separation and refining.

Search Minerals was selected to participate in the Government of Canada Accelerated Growth Service (“AGS”) initiative, which supports high-growth companies. AGS, as a ‘one-stop shop’ model,



provides Search with coordinated access to Government of Canada resources as Search continues to move quickly to production and contribute to the establishment of a stable and secure rare earth element North American and European supply chain.

To learn more about Search Minerals Inc., [click here](#).

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Company's profile on [Sedar.com](https://www.Sedar.com) and to carry out independent investigations in order to determine their interest in investing in the Company.

If you have any questions surrounding the content of this interview, please contact us at +1 416 792 8228 and/or email us direct at [info@investorintel.com](mailto:info@investorintel.com).

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# What are the Implications if Tesla's Next Generation Motors are Rare Earths-Free?

written by Jack Lifton | March 15, 2024

At Tesla's Investor Day on March 1, 2023, Franz Von Holzhausen, Lead Design Executive at [Tesla Motors](https://www.tesla.com) (Nasdaq:TSLA), announced that its next generation of electric motors would not use rare earth materials. With Tesla's current dominance in the electric vehicle ("EV") market, this shift could have a significant impact on the rare earth market and some rare earth stocks were down on the news. Here is what he said:

*"But at Tesla efficiency means more than just reducing how much energy the cars use it's about how we develop how we manufacture how we refine and how we scale the powertrain. Now the model 3 and Y powertrain is a great example of this broader meaning of efficiency. So since we launched it back in 2017, we've continuously improved that powertrain and the factory that builds it so the Drive Unit the engine of the car is lighter for the same power. We use 25 percent less heavy Rare*

*Earth than when we started and the powertrain Factory which is behind me today is 75 percent smaller and 65 percent cheaper than the one that we originally built. And what I really want to emphasize is that we did all of this without compromising our cars are just as powerful. They go just as far, and they cost the same or less and the factories have the same output.”*

*“There’s one more thing that I want to highlight. So, I talked about how we had reduced the amount of rare earth in our powertrains and, as the world transitions to clean energy, the demand for Rare Earth is really increasing dramatically and not only is it going to be a little hard to meet that demand but mining that rare earth it has environmental and health risks, so we want to do even better than this. **We have designed our next Drive Unit which uses a permanent magnet motor to not use any Rare Earth materials at all.** So how does all this fit into the master plan we can make lower-cost products that are still efficient and compelling, and we can make them at scale. We’re going to use less constrained Commodities.”*

## **Perspective lost! Tesla is not the driver of the global demand for rare earths**

Tesla is not the driver of the global demand for rare earths; the global OEM Internal Combustion Engine (“ICE”) automotive industry is the principal driver of demand for rare earth permanent magnets followed by or paralleled by the direct drive wind turbine electricity generation industry (at the moment), the Global OEM EV industry, and the global military industry.

Tesla is an example, even perhaps a symbol of something. It is not the thing itself. The thing is the expanded use, albeit in very small quantities, of scarcely produced, due to costs,

technology metals that enable miniaturization and thus widespread consumer use of information and entertainment technologies.

Rare earth permanent magnets, which have allowed the miniaturization of electric motors, are used today primarily for convenience and style accessories in cars, power windows, power seats, windshield wiper motors (ok, this is a safety necessity), audio loudspeakers, and power steering. Their use in drive motors for vehicle power trains is not necessary and never has been.

Using rare earth permanent magnet motors in drive trains increases the efficiency of the power train (over the use of AC motors) and lowers the weight of the vehicle. Both factors increase range, the real target of using rare earth permanent magnet drive motors.

## **Wind turbines drive rare earths demand**

Direct drive wind turbine generators, today about a third of the production of these gargantuan devices, are the [largest demand drivers for rare earth permanent magnet motors](#) (in this case, generators) after the OEM ICE automotive industry.

The, as yet, small OEM EV industry is catching up due to scale. An average EV using rare earth permanent magnet drive motors such as today's Teslas requires between 5 and 10 times as much rare earth permanent magnet material as an ICE-powered vehicle. So, if and when the EV market segment reaches 10% of the ICE segment and if all EVs use rare earth permanent magnet drive motors then EVs would double the current demand for rare earth permanent magnets by the global OEM automotive industry.

# China set to double rare earths capacity in 2 years

I think we can all see why the Chinese rare earth permanent magnet manufacturing industry is on a course to double its capacity by 2025!

Teslas or any car or truck made outside of China will be hard-pressed to get non-Chinese (or perhaps even Chinese) sources of rare earth permanent magnets after 2025. So will wind turbine generator manufacturers and even small accessory motor and loudspeaker makers.

China today controls the production of rare earths, rare earth permanent magnets, and rare earth permanent magnet motors. Deglobalization of trade without a focused and funded non-Chinese rare earth permanent magnet production industrial policy just cements China's dominance of this industry.

Elon Musk is just reading the tea leaves better than his cohorts in Detroit and Stuttgart.

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## Rare Earths, “The War Metals?”

written by Jack Lifton | March 15, 2024

Sometime after 2007, I was invited to participate in a meeting called by the Office of Net Threat (Assessment) in the inner ring of the Pentagon in Washington, DC. The topic was the impact of the lack of critical materials on the security of the United States. I was asked to discuss the necessity of rare earths for the military. Around that same time, the US Dept of Energy put

out its now well-known chart of [critical materials](#). The current version of that chart is now given as a set of bullet points

- Rare earth elements, used in offshore wind turbine generators and electric vehicle motors;
- Lithium, cobalt, and high-purity nickel, used in energy storage technologies;
- Platinum group metals used in catalysts for automotive, chemical, fuel cell, and green hydrogen products; and
- Gallium and germanium used in semiconductors.

Note well that there is no mention of specific military demands for any of the critical materials in the DoE bullet points. This doesn't mean that these critical materials are not important to the Department of Defense; it means that the US cabinet departments have separate agendas.

Even though the Pentagon released a report in 2013 that stated that the demand for rare earth permanent magnets by the US military was "about" 1000 tons per year, the current demand figure is "classified,"

Returning to 2007 or thereabouts I well remember that the leading market cap player at the time, sometime around 2010, started using a picture of a US jet fighter plane in its advertising and claiming that "rare earths" were critical to its (the plane's) flying and combat operations and implying that without rare earths the US would be defenseless. This quickly became "received wisdom."

This was, as with so many pronouncements made by many companies in the bull market not true, but it became embedded in all rare earth related advertising from then on.

The purpose and value of rare earth permanent magnets in

vehicles of any type is to reduce weight and the need for space. Their value is that they can be miniaturized. In planes, trains and automobiles this allows more payload (for the military) or more range due to less power necessary to carry the weight of the magnets and less volume allowing tiny, but powerful, magnets to be used in power accessories, such as power windows and seats or, as one example of a military use, weapons bay (formerly called bomb bay) doors.

Similar stories were that then began to say that an F35 fighter/bomber needed 935 pounds of rare earth permanent magnets in its construction and operation. This misinformation has also become, today, received wisdom.

In 2017 while working on a plan to recycle rare earth permanent magnets for the Defense Logistics Agency, I, of course, asked from where the scrap magnets were to come. The answer was that the DLA didn't have a firm grasp on that, since compartmentalization and "need to know" and classification of end uses made it impossible for any one agency of the Pentagon to know that.

I guessed that the DoD needed 3000 tons per annum of rare earth permanent magnets. I based my estimate on data about the uses in F35s from an unclassified report published by the Pentagon in 2013, and my own guesses as to the need for rare earth permanent magnets in main battle tanks, man-carried missiles, drones, and the Navy's adoption of electric propulsion.

Rare earth permanent magnets are important to the military for exactly the same reason they are important to the OEM automotive industry; they save weight and volume, and thus increase range and payload.

Vehicles and weapons can be made without rare earth permanent magnets; they will just be less efficient.

The Hellfire missile, made famous by being carried and launched from drones, uses Alnico (aluminum-nickel-cobalt) magnets made in the USA by a magnet maker in business now for 120 years. It could use rare earth permanent magnets, if they were available and made from domestic raw materials processed in the United States.

The F35 could use Alnico magnets in place of its current rare earth permanent magnets, but it would require special cooling to avoid curie-point failure and the additional weight and volume would reduce range and payload. The same for automobiles and trucks except that it wouldn't be so much the payload that is sacrificed it would be convenience accessories such as power windows, seats, and doors in all cars and range in EVs.

Rare earth permanent magnet motors are the most efficient electric motors known. They are thus the best and most robust solution to engineering issues of weight and volume for both military and consumer products.

But, they are not indispensable. And, if the US requires that any such magnets be made domestically from domestic materials then we are going to need to make between 10,000 and 15,000 tons of them per year at current usage.

Even if only the military gets to use them, we would need at least 3,000 tons per year.

Today NO rare earth permanent magnets are manufactured in the USA from domestic materials.

The time to change that is NOW.

Note from the Publisher: Jack Lifton is the co-founder and the Chairman of the [Critical Minerals Institute](#), which maintains lists of the critical minerals as identified by the US, Canada,



the UK, Australia and Europe.

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# **Rising demand benefits the only integrated producer of bonded rare earth permanent magnets outside of China**

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[Neo Performance Materials Inc.](#) (TSX: NEO) (Neo) is an almost totally integrated Western (Canadian) company that processes mixed rare earth concentrates to produce separated individual and specifically blended rare earths to produce rare earth metals, alloys, and “bonded” rare earth permanent magnets. What makes Neo special is that they are the only company in the world that operates dual supply chains inside and outside of China for REE separation and REE advanced materials and end-use products. Neo owns the only operating commercial rare earth separation facility outside of Asia. It’s in Europe (Estonia facility) and it has sales and production centers spread across [10 countries](#) globally.

All of the above makes Neo unique as a Western producer of rare earth materials as well as end-use products, which are critical in the green energy and EV revolution.

## **Award winning facilities**

As announced on [February 22](#) and [March 28, 2022](#), Neo won awards for two of its key factories, the first in Thailand and the

second in Estonia. The awards were Gold Medals awarded by EcoVadis for 2021 sustainability performance.

The second announcement [stated](#): “This places Neo’s Silmet facility in Sillamäe, Estonia in the top five percent of all facilities around the world reporting to EcoVadis for its sustainability programs in 2022... The Silmet facility processes mixed rare earth feedstock into a variety of high-purity rare earth specialty materials, including neodymium-praseodymium (NdPr) oxide, which is used by Neo’s Magnequench business unit to produce neodymium-iron-boron (NdFeB) magnetic materials and magnets for automotive, factory automation, home appliance, circulation pump, and other applications.”

This impressive recognition is also very well timed given the surging demand for NdFeB magnets used in many EV motors. Global electric car sales finished March 2022 with [851,000](#) sales for the month (the second best month ever), 60% higher YoY, with market share of 15%.

The global OEM automotive industry today uses mainly sintered NdFeB rare earth permanent magnets, but the use of bonded type NdFeB in this application is growing rapidly. Neo has pioneered the use of bonded NdFeB magnets in automotive applications with Japanese customer/partner, Honda, and this use is expanding. Neo has agreed with European magnet customers to expand its capacity there and to add sintered NdFeB magnets to its product lines. The EU has encouraged and is financially supportive of this move by Neo.

Prices for rare earths materials and end-user products used in the green economy have been surging the past year, due to demand exceeding supply, and this is reflected in Neo’s latest financial results. This supply deficit looks to be baked in for at least the next decade due to the growth of the green economy.

## Q4 2021 and Full-Year financial results highlights (in USD)

As [reported](#) on March 10, 2022, Neo achieved the following outstanding financial results:

- “Q4 2021 revenue of \$153.4 million higher by 39.0% YoY; full-year 2021 revenue of \$539.3 million was higher by 55.5% YoY.
- Volumes in the fourth quarter of 3,311 tonnes; full-year volumes expanded by 20.2%.
- Operating income of \$12.7 million in the quarter; \$59.9 million for the year.
- Adjusted Net Income for the quarter of \$16.1 million, or \$0.39 per share, with full-year Adjusted Net Income of \$55.0 million, or \$1.42 per share.
- Adjusted EBITDA for the quarter of \$19.7 million; 2021 Adjusted EBITDA of \$81.9 million was 183.7% higher YoY.
- Cash balance of \$89.0 million after raising \$38.0 million from equity offering and distributing \$12.8 million in dividends to shareholders.”

As shown above, full-year 2021 revenue was 55.5% higher YoY, based on volume growth of 20.2%. Clearly higher-end product prices helped support the stellar results. Neo sums it up well and the general direction the business is heading by stating:

“Neo reported strong year-over-year (YoY) gains in revenue, volumes, operating income, Adjusted EBITDA, and profitability in the year ended December 31, 2021, driven largely by increased demand for products across all three of its operating divisions, higher selling prices for rare earth materials, and continuing progress in several of the Company’s strategic initiatives.”

I did warn investors that this was what we were expecting from Neo with our December 22, 2021 article: [“Neo Performance Materials looks to expand capacity as it rides the tailwind of](#)

[growing rare earth permanent magnet demand."](#)

**Neo Performance Materials is one of a few Western companies able to process rare earths and make magnets**



Source: [Neo Performance Materials website](#)

### **Closing remarks**

Neo Performance Materials occupies a rare and critical position in the Western supply chain to produce rare earths specialty products. Demand for powerful rare earth type magnets used in many consumer goods as well as in wind turbines and EVs is expected to surge this decade.

Neo Performance Materials trades on a market cap of [C\\$546 million](#) and a current PE of [17.6](#). 2022 PE is forecast at [7.82](#).

The next catalyst for Neo will be the Q1, 2022 earning results due out before the market opens on [May 13, 2022](#). Stay tuned.