

# Technology Metals Report (02.02.2024): Rumors between MP and Lynas, Tesla EV Recall – the Rightsizing of Critical Minerals Begins?

written by Tracy Weslosky | February 2, 2024

Welcome to the latest Technology Metals Report (TMR), where we highlight the Top 10 news stories that members of the [Critical Minerals Institute](#) (CMI) have forwarded to us over the last 2 weeks.

In early 2024, the rare earths sector is witnessing significant strategic movements amidst a backdrop of declining prices and geopolitical tensions. Lynas Rare Earths Ltd. and MP Materials Corp., key players outside China, are rumored to be considering a mega-merger in response to falling rare earth prices and to mitigate the impact of Chinese trade restrictions. This potential consolidation aims to strengthen their production capabilities and align with the Australian and US governments' efforts to reduce reliance on Chinese supplies, particularly for defense applications.

CMI's Jack Lifton comments, "In the swirling rumors of a mega-merger between MP Materials and Lynas Rare Earths, it's clear that the OEM industry's disdain for single sourcing of critical materials is being overlooked. Litinski is eager to deploy his capital before it devalues, while Lacaze eyes a boost in share price ahead of her retirement. This scenario is akin to two veterans of the trade, unadorned and stark, facing the harsh daylight. Both MP and Lynas are in a precarious position, each

with a singular customer and seemingly devoid of new strategies to navigate the market's tumultuous waters."

Concurrently, the industry is adjusting to market corrections, as highlighted by the Critical Minerals Institute's [observations](#) on the electric vehicle (EV) materials market, indicating a shift towards efficiency and cost management. Meanwhile, initiatives like Controlled Thermal Resources Holdings Inc.'s funding quest for its lithium brine project and [Appia Rare Earths & Uranium Corp.](#)'s (CSE: API | OTCQX: APAAF) exploration successes underscore the ongoing diversification and expansion within the critical minerals domain. These developments reflect a broader industry trend towards securing resilient supply chains for critical minerals amidst fluctuating market dynamics and geopolitical pressures.

Also breaking news today, Tesla Inc.: The EV maker [is recalling](#) 2.2 million vehicles, or nearly all of its electric vehicles in the United States, due to incorrect font size on warning lights, which increases the risk of a crash, the National Highway Traffic Safety Administration (NHTSA) said. This is more than the 2.03 million vehicles it recalled in the United States two months back, its biggest-ever such move at the time, to install new safeguards in its Autopilot advanced driver-assistance system. The latest recall includes vehicles across Tesla's various models, including the Model S, Model X, 2017-2023 Model 3, Model Y, and 2024 Cybertruck vehicles, the NHTSA said. Separately, U.S. safety regulators said they have upgraded their probe into Tesla vehicles over power steering loss to an engineering analysis – a required step before they could potentially demand a recall.

**Lynas linked to rare earths mega-merger as price falls bite (February 2, 2024, [Source](#))** – Amid a sharp decline in rare earths prices and concerns over Chinese trade restrictions,

there are speculations that [Lynas Rare Earths Ltd.](#) (ASX: LYC) may be considering a merger with its New York-listed rival, [MP Materials Corp.](#) (NYSE: MP). Industry insiders suggest that the two companies, both leading non-China producers of essential rare earth materials used in defense and various industries, could be in talks to create a mega-merger. The exact details of the deal are unclear, given the current slump in rare earth prices and Western concerns about China's dominant position in the supply chain. However, a potential merger between Lynas, based in Western Australia and Malaysia, and MP, operating in California's Mountain Pass, aligns with efforts by the Australian and US governments to strengthen collaboration between their resource companies for critical minerals extraction and processing, reducing dependency on China. Both Lynas and MP have suffered significant stock price declines, and a merger could help them bolster production capabilities and meet growing demands, particularly from the US Department of Defense, which aims to reduce reliance on Chinese supplies. *Referral, CMI Co-Chairman [Jack Lifton](#)*

**Critical Minerals “rightsizing” in reaction to governments’ efforts to regulate market (February 1, 2024, [Source](#))** – The critical minerals industry is undergoing significant changes in the electric vehicle (EV) materials market. Jack Lifton, Co-Chairman of the [Critical Minerals Institute](#) (CMI), views recent price declines in key EV component materials as a natural market correction rather than a disaster, emphasizing minimal regulatory intervention. Declining profits for industry leaders, including China Northern Rare Earth, result from overestimated EV demand, economic factors, and falling sales, especially in California. Lifton advises investors to focus on efficient, low-cost producers, particularly in neodymium. The January [2024 CMI Report](#) notes the U.S. government’s plan to ban Pentagon battery purchases from major Chinese companies and hints at potential

recovery in lithium prices. Lynas Rare Earths' revenue drop reflects market trends but also strategic capacity expansion. In summary, the industry faces short-term challenges but underscores the importance of efficiency, cost management, and adaptability for long-term success. *Source, [Investor.News](#)*

**GM, Stellantis-Backed Lithium Startup Seeks More Than \$1 Billion for Brine Project (February 1, 2024, [Source](#))** – Controlled Thermal Resources Holdings Inc., (CTR) a US lithium startup backed by Stellantis N.V. (NYSE: STLA) and General Motors (NYSE: GM), seeks over \$1 billion in funding for its California lithium brine project. This initiative defies the industry's 80% drop in lithium prices since late 2022. CTR's unconventional approach focuses on geothermal brine deposits, seen as a potential future lithium supply source once technology challenges are overcome. This aligns with US government efforts to establish a domestic EV commodity supply chain. The funding plan includes equity and debt financing, with Goldman Sachs as the lead bank. Stellantis and GM have previously invested significantly in CTR to secure lithium for EV production. *Referral, CMI Co-Chairman [Jack Lifton](#)*

**Attention set on rare earths in Canada and Brazil, Appia hits 2024 running (January 31, 2024, [Source](#))** – [Appia Rare Earths & Uranium Corp.](#) (CSE: API | OTCQX: APAAF) is focusing on its rare earths projects in Canada and Brazil: the Alces Lake Project and the PCH Ionic Clay Project. The Alces Lake Project in Canada is recognized for its high-grade rare earths and gallium in monazite ore. Recent drill results have shown up to 1.57 wt.% Total Rare Earth Oxides (TREO) with mineralization extending to a depth of < 85 meters. In Brazil, the PCH Project offers a simplified extraction process for rare earths essential for electric motor magnets in most EVs. Hole RC-063 reported a total weighted average of 3.87% TREO. Appia's expansion of mining claims and plans for a Maiden Resource in Q1, 2024, signal their commitment to these projects, with a market cap of C\$27 million

suggesting a potentially significant year ahead in 2024. *Source, [Investor.News](#)*

**China EVs: lithium producers Ganfeng, Tianqi issue profit warnings, blame price plunge for battery material as stocks sink (January 31, 2024, [Source](#))** – Chinese lithium producers Ganfeng Lithium and Tianqi Lithium have issued profit warnings, attributing their declining profits to a significant drop in lithium prices. Ganfeng expects its 2023 net profit to plummet by 70-80% to between 4.2 billion yuan and 6.2 billion yuan. After accounting for non-recurring items, net profit will range from 2.3 billion yuan to 3.4 billion yuan, down 83-88.5% from 2022 levels. Tianqi anticipates a net profit decline of 62.9-72.6% to 6.62 billion yuan – 8.95 billion yuan. Both companies attribute their struggles to the cyclical nature of the lithium industry and declining lithium prices. The average price of China-produced lithium hydroxide exported to South Korea fell by 45% last month. While electric vehicle sales are still growing, the rate has slowed, impacting lithium demand. However, global lithium demand is expected to rise by 27% this year, with a surplus expected before a deficit in 2026. *Referral, CMI Co-Chairman [Jack Lifton](#)*

**Mining analyst-turned-Vital Metals CEO eyes much larger Nechalacho reboot (January 29, 2024, [Source](#))** – Geordie Mark, CEO of Vital Metals Limited (ASX: VML), aims to revamp the Nechalacho rare earths project in the Northwest Territories, leveraging 15 years of experience as a mining analyst. Recognizing the growing demand for rare earth elements in the technology and electric vehicle (EV) markets, Mark plans to shift Vital's strategy towards a bulk tonnage operation targeting lighter rare earths like praseodymium and neodymium. This comes after the failure of the company's processing division and a Chinese investment lifeline in 2023. A comprehensive scoping study is crucial for long-term viability,

and Mark expects demand for praseodymium and neodymium to rise significantly in the next decade, particularly in China and Europe. Shenghe Resources' investment provides vital capital for Nechalacho's development, positioning it to compete with North America's only rare earths mine, [MP Materials Corp.](#)'s (NYSE: MP) Mountain Pass operation. *Referral, CMI Co-Chairman [Jack Lifton](#)*

**The Critical Minerals Institute Report (01.25.2024): U.S. government bans Pentagon battery purchases from major Chinese companies starting October 2027 (January 25, 2024, [Source](#)) –**

The January 2024 Critical Minerals Institute (CMI) report highlighted key economic and geopolitical developments. U.S. inflation in December 2023 impacted interest rate reduction plans, while the S&P 500 rose by 2.04% year-to-date. China's economy slowed, with falling home prices, and global tensions persisted. In the global electric vehicle (EV) market, December 2023 set a record for plugin electric car sales, led by China. However, the EV sector's growth rate slowed compared to previous years. The U.S. reported a surge in EV sales and enacted Zero Emission Vehicle mandates to boost adoption. In the EV battery sector, the U.S. government announced a ban on Pentagon battery purchases from major Chinese companies, starting October 2027. Challenges in the critical minerals sector included depressed prices due to oversupply and slowing EV market growth. Recovery in lithium prices was anticipated in late Q1 or early Q2 2024. The report emphasized a negative supply response from producers and expected a potential recovery in the second half of 2024, assuming reasonable EV sales growth. *Source, [Investor.News](#)*

**Tesla Projects Slower Growth in 2024 as EV Demand Softens (January 24, 2024, [Source](#)) –** Tesla Inc. (NASDAQ: TSLA) anticipates slower growth in 2024 amid a challenging landscape for the electric vehicle (EV) industry. CEO Elon Musk desires greater control, aiming for a 25% ownership stake to deter activist shareholders. This follows Musk's ultimatum to shift

focus to AI and robotics if control isn't achieved. Tesla faces declining demand, shrinking profit margins, heightened competition, and recent price cuts. Despite doubling fourth-quarter net income to \$7.9 billion, costs for projects like the Cybertruck and AI research impact profitability. Tesla's valuation, historically tied to sales and Musk's vision, faces uncertainty. Challenges include Hertz selling EVs and Chinese automakers [overtaking Tesla](#). EV enthusiasm wanes due to pricing, charging concerns, and range limitations. Tesla plans cost reduction for future vehicles but encounters short-term cost pressures. Despite this, strong Cybertruck demand is expected, with production scaling up gradually. *Referral, CMI Director, [Alastair Neill](#)*

**Rare-earths miner Lynas' Q2 revenue halves on falling prices, lower China demand (January 24, 2024, [Source](#))** – Australia's Lynas Rare Earths reported a significant drop in its second-quarter revenue, falling by 51.7% to A\$112.5 million due to plummeting rare earth prices and reduced demand in China, particularly in the appliance sector amid a construction slowdown. This decline in revenue, which missed analysts' forecasts, led to a 30-month low in its share prices. Despite this downturn, Lynas has continued to expand its operations, including the near-completion of its Kalgoorlie processing plant in Australia, upgrades to its Malaysian facilities, and ongoing work at the Mt Weld mine. The company, a major supplier outside China, has also been working on a new facility in Texas to serve the U.S. Department of Defense. Despite these efforts, Lynas' challenges are compounded by the lower average selling price of its products, which has more than halved compared to last year. *Referral, CMI Director, [Russell Fryer](#)*

**Investors turn to copper, gold and uranium amid battery metals rout (January 24, 2024, [Source](#))** – In 2024, investors are shifting their focus away from battery metals, such as nickel



and lithium, due to significant price declines. Instead, they are turning to commodities like copper, gold, and uranium. Copper prices have rebounded following supply shortages and disruptions in production by key global producers. Gold is experiencing renewed interest, driven by geopolitical crises and a weakening US dollar, with forecasts predicting it to trade above \$2,000 per ounce in the coming year. Uranium has gained substantial momentum, reaching decade-high prices, driven by limited supply and increased demand for nuclear energy in Western countries. Investors are diversifying their portfolios, seeking better prospects in these alternative commodities. *Referral, CMI Director, [Russell Fryer](#)*

**China, in comic strip, warns of ‘overseas’ threats to its rare earths (January 22, 2024, [Source](#))** – China’s State Security Ministry released a comic strip on social media, depicting foreign threats to its rare earth resources. The narrative shows security officers uncovering covert operations by foreign-looking characters, suggesting overseas interest in China’s strategic minerals. China, the leading producer of rare earths essential for high-tech industries, has imposed [export restrictions](#) on these elements and related technologies, citing national security. The move has heightened tensions, particularly with the United States, amidst accusations of economic coercion. The comic underscores the importance of safeguarding these resources against international competition and espionage. The state-controlled Global Times highlighted the story, reflecting on the global race for rare earths, vital in military, consumer electronics, and renewable energy sectors, as a national security issue. *Referral, CMI Director, [Alastair Neill](#)*

**Tanzanian, Canadian firms to search for rare metal (January 22, 2024, [Source](#))** – Tanzanian firm Memnon Project Management Services Company Limited and Canadian company Anibesa Energy



Metals Corp. are set to collaborate in prospecting for niobium in Mbozi District, Songwe Region, with an anticipated investment of up to \$50 million. They have obtained regulatory approvals and are finalizing the acquisition of three licenses for niobium minerals, while three more geologists are expected to join the exploration team. Memnon Project Management Services is involved in various projects, including the Kongwa Lithium Project and solar energy initiatives. Niobium, a rare metal, enhances the strength of alloys and is used in various industries, including aerospace and construction. As of 2022, Brazil held the largest niobium reserves globally. The partnership aligns with Tanzania's goal of attracting international companies to boost the mining industry by focusing on valuable critical metals projects. *Referral, CMI Director, [Alastair Neill](#)*

#### **Investor.News Critical Minerals Media Coverage:**

- February 01, 2024 – Critical Minerals “rightsizing” in reaction to governments’ efforts to regulate market <https://bit.ly/49f78zC>
- January 31, 2024 – Attention set on rare earths in Canada and Brazil, Appia hits 2024 running <https://bit.ly/3ueaxjq>
- January 25, 2024 – The Critical Minerals Institute Report (01.25.2024): U.S. government bans Pentagon battery purchases from major Chinese companies starting October 2027 <https://bit.ly/4961zU0>
- January 22, 2024 – Unveiling Insights from Ecclestone on the Future of Mining and Investment from Riyadh's Future Minerals Forum Event <https://bit.ly/491pV0S>

#### **Critical Minerals IN8.Pro Member News Releases:**

- February 2, 2024 – Appia Announces Plans for Drilling at the Loranger Uranium-Bearing Property, Saskatchewan,

Canada <https://bit.ly/3Uphb0s>

- February 1, 2024 – Obonga: Wishbone Exploration Permit Application <https://bit.ly/3UlnF0j>
- February 1, 2024 – First Phosphate to Provide Project Update to the Federation of Chambers of Commerce of the Saguenay-Lac-Saint-Jean Region of Quebec, Canada <https://bit.ly/42ugvt1>
- January 31, 2024 – Defense Metals Announces Closing of its \$738,836 Non-Brokered Private Placement <https://bit.ly/3umNv9S>
- January 31, 2024 – First Phosphate Announces Launch of 25,000 m Drill Campaign at its Bégin-Lamarche Project <https://bit.ly/3SmPtPD>
- January 30, 2024 – Ucore Announces Closing of Debenture Offering <https://bit.ly/3SHT1xa>
- January 30, 2024 – Western Uranium & Vanadium Bolsters Mining Team to Scale-Up Uranium Production <https://bit.ly/47UTIHZ>
- January 30, 2024 – F3 Hits 2.05m Off Scale >65,535 CPS in First Hole of Winter Program at JR Zone <https://bit.ly/3SCxru9>
- January 29, 2024 – First Phosphate Confirms Two Additional New High-Grade Discoveries at Bégin-Lamarche Property and up to 39.45% P2O5 at Larouche <https://bit.ly/30lGWew>
- January 29, 2024 – American Rare Earths Quarterly Activities Report for the Period Ending 31 December 2023 <https://bit.ly/3SBQ0eM>
- January 29, 2024 – Australian Strategic Materials Quarterly Activities Report to 31 December 2023 <https://bit.ly/3UdGXVK>
- January 26, 2024 – Appia Rare Earths & Uranium Corp. Announces New Cooperation Agreement with the Ya'thi Néné Lands and Resources Office <https://bit.ly/30ke4TU>
- January 25, 2024 – First Phosphate, American Battery

Factory and Integrals Power Sign MOU to Produce LFP Cathode Active Material and Battery Cells in North America  
<https://bit.ly/48MnCiU>

- January 23, 2024 – F3 Announces Commencement of Drilling at PLN <https://bit.ly/3Uc6C0o>
- January 23, 2024 – Power Nickel Announces Filing of Amended Technical Report <https://bit.ly/3HvYPUD>
- January 23, 2024 – First Phosphate Corp. Welcomes the Addition of Apatite (Phosphate) to the Critical and Strategic Minerals List of Quebec, Canada  
<https://bit.ly/48Pv7Wf>
- January 22, 2024 – First Phosphate Announces Closing of the Third and Final Tranche of Oversubscribed Private Placement Financing for Total Gross Proceeds of \$8.2 Million <https://bit.ly/3U5Vl2l>
- January 22, 2024 – Elcora Develops Innovative Process To Extract Vanadium From Its Moroccan Vanadinite Deposit  
<https://bit.ly/3Hu8Zon>
- January 22, 2024 – American Rare Earths Announces Breakthrough Metallurgical Results <https://bit.ly/3096trp>
- January 22, 2024 – F3 Expands PLN Project with Acquisition of PW Property from CanAlaska <https://bit.ly/3vKBMTb>

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**Energy Fuels' Strategic MOU  
with Astron: Shaping the**

# Future of the U.S. Rare Earths Supply Chain

written by InvestorNews | February 2, 2024

In a recent interview with Tracy Weslosky of InvestorNews, Mark Chalmers, President, CEO, and Director of [Energy Fuels Inc.](#) (NYSE American: UUUU | TSX: EFR), discusses their [recently announced](#) Memorandum of Understanding (MOU) with [Astron Corporation Ltd.](#) (ASX: ATR) for the joint venture development of the Donald Rare Earth and Mineral Sands Project in Victoria, Australia. This MOU, announced on December 27, 2023, is a key milestone in establishing a U.S.-centric rare earths supply chain, which is crucial for the country's future needs.

The Donald Project promises to supply Energy Fuels with 7,000 to 14,000 metric tons of rare earth concentrate, using monazite sand from the deposit. Energy Fuels plans to process this at their White Mesa Mill in Utah, where they can handle the radioactive elements in monazite and extract valuable components like uranium. This positions them as a leader in the critical minerals.

Energy Fuels' approach is cost-effective, leveraging existing infrastructure and skilled workforce in Utah. The initial phase of the project aims to produce 800 – 1,000 metric tons of the magnetic materials, Neodymium-Praseodymium (NdPr) oxide by Q1 2024, with plans for future expansion.

The U.S. government's policy, set to restrict critical minerals sourced from Foreign Entities of Concern from 2025, highlights the significance of Energy Fuels' project. As a leading U.S. producer of uranium, vanadium, and rare earth elements, the company plays a vital role in reducing U.S. dependence on foreign sources, particularly China.

This venture is expected to have a major impact on the electric vehicle and clean energy sectors in the U.S., offering a sustainable, competitive, and independent supply chain for critical minerals, essential for national security and technological progress. To access the complete interview, [click here](#)

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## About Energy Fuels Inc.

Energy Fuels is a leading US-based critical minerals company. The Company, as the leading producer of uranium in the United States, mines uranium and produces natural uranium concentrates that are sold to major nuclear utilities for the production of carbon-free nuclear energy. Energy Fuels recently began production of advanced rare earth element (“**REE**”) materials, including mixed REE carbonate, and plans to produce commercial quantities of separated REE oxides in the future. Energy Fuels also produces vanadium from certain of its projects, as market conditions warrant, and is evaluating the recovery of radionuclides needed for emerging cancer treatments. Its corporate offices are in Lakewood, Colorado, near Denver, and substantially all its assets and employees are in the United States. Energy Fuels holds two of America's key uranium production centers: the White Mesa Mill in Utah and the Nichols Ranch in-situ recovery (“**ISR**”) Project in Wyoming. The White Mesa Mill is the only conventional uranium mill operating in the US today, has a licensed capacity of over 8 million pounds of  $U_3O_8$  per year, and has the ability to produce vanadium when market conditions warrant, as well as REE products, from various uranium-bearing ores. The Nichols Ranch ISR Project is on standby and has a licensed capacity of 2 million pounds of

U<sub>3</sub>O<sub>8</sub> per year. The Company recently acquired the Bahia Project in Brazil, which is believed to have significant quantities of titanium (ilmenite and rutile), zirconium (zircon) and REE (monazite) minerals. In addition to the above production facilities, Energy Fuels also has one of the largest NI 43-101 compliant uranium resource portfolios in the US and several uranium and uranium/vanadium mining projects on standby and in various stages of permitting and development.

To learn more about Energy Fuels Inc., [click here](#)

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## **An update on the graphite**



# sector and what to expect in 2024 and beyond

written by Matt Bohlson | February 2, 2024

2023 has been a rough year for all the EV metals and graphite was no exception. EV battery anodes contain a combination of spherical graphite (sourced from natural flake graphite) and synthetic graphite. Today we take a look at the key trends of 2023 and what we can expect in 2024 and beyond.

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## Technology Metals Week-in-Review: US Tax Rules Impacts EV Market, \$3Bn Raise for ARA Partners & Appian's \$230M into USSM

written by Tracy Weslosky | February 2, 2024

This week's **Technology Metals Week in Review** captures the multifaceted nature of the critical minerals sector, highlighting key financial deals, policy developments, international trade dynamics, and strategic initiatives that are shaping the global economic and environmental landscape over the last week. Special thanks to the [Critical Minerals Institute](#) (CMI) Directors that source these stories for review for both the CMI and InvestorNews audience.

**Stricter Federal Tax Credit Rules in 2024 May Limit Electric Vehicle Choice:** December 16, 2023 ([Source](#)) – In 2024, the eligibility for federal tax credits on electric vehicles will tighten, potentially excluding popular models like Tesla Model 3 and Ford Mustang Mach-E due to more stringent sourcing requirements. The Biden administration's new rules, part of the Inflation Reduction Act, aim to promote North American manufacturing and reduce dependence on China for batteries and essential materials. This change marks a significant shift in the electric vehicle market, which has seen increased sales partly due to these credits. While electric vehicles are a rapidly growing segment, the new restrictions could impact the affordability and availability of certain models, creating a challenge for both consumers and manufacturers. *Referral, CMI Co-Chairman [Jack Lifton](#)*

**Appian's Major Financing for US Strategic Metals:** December 18, 2023 ([Source](#)) – Appian Capital Advisory LLP has made a significant move in the battery metals sector by providing a \$230-million financing package to US Strategic Metals (USSM). This financial support aims to boost the development of USSM's cobalt/nickel mine and establish a hydrometallurgical battery metals recycling facility in Fredericktown, Missouri. The package includes a \$120-million secured term loan, a \$70-million royalty financing arrangement, and warrants. USSM's project focuses on mining and processing critical minerals like cobalt, nickel, lithium, and copper. This initiative will not only aid in recycling but also in the production of battery metals for the electric vehicle (EV) supply chain in the United States, marking a significant stride in the domestic production and recycling of essential battery materials. *Referral, CMI Director [Russell Fryer](#)*

**Canada's 2035 Zero Emissions Vehicle Mandate:** December 17, 2023 ([Source](#)) – In a landmark move for environmental policy, the

Canadian government will announce regulations mandating all new cars to be zero emissions by 2035. This initiative, termed the Electric Vehicle Availability Standard, aims to address the long wait times for EVs, which have been a major barrier to their uptake. The regulation will gradually increase the required proportion of zero emissions vehicles (ZEVs), including battery electric, hydrogen, and plug-in hybrid vehicles, in new car sales – reaching 20% by 2026, 60% by 2030, and 100% by 2035. This move is complemented by incentives for companies to sell EVs and build public fast chargers, alongside the government's commitment to build 84,500 chargers by 2029. The mandate has faced pushback from auto manufacturers but is seen as crucial in addressing rising carbon emissions and the inefficiency of the current vehicle fleet in Canada. *Referral, CMI Co-Chairman [Jack Lifton](#)*

**Vital Metals' Rare Earths Deal with China:** December 17, 2023 ([Source](#)) – Vital Metals Limited (ASX: VML), operating in Canada's Northwest Territories, has struck a significant deal with Chinese company Shenghe Resources. All the material mined so far at the Nechalacho mine will be sold to Shenghe, which now holds a 9.9% stake in Vital Metals, potentially rising to over 18%. This decision represents a shift in strategy for Vital Metals, which previously aimed to contribute to breaking China's dominance in rare earths supply. The deal will provide Vital with crucial funding for its operations and future developments, including the exploration of the larger Tardiff deposit and lithium-related projects. However, the deal has raised questions regarding national security and the influence of foreign investments in critical mineral sectors. *Referral, CMI Co-Chairman [Jack Lifton](#)*

**CMI Summit III: Achieving Critical Minerals Mastery in Today's Markets:** December 14, 2023 ([Source](#)) – The [Critical Minerals Institute](#) (CMI) has announced the CMI Summit III, scheduled for

August 21st and 22nd, 2024, at The National Club in Toronto, Canada. This event, themed “Achieving Critical Minerals Mastery in Today’s Markets,” will gather industry leaders, investors, and experts to discuss critical mineral topics such as investment opportunities, the impact of specialist companies, global market trends, and African market dynamics. The summit will address challenges and opportunities in the critical minerals sector, focusing on geopolitical influences and strategies for thriving in a dynamic market. Industry leaders like Mark Chalmers from [Energy Fuels Inc.](#) (NYSE American: UUUU | TSX: EFR), Tuan Tran from [Ara Partners](#), Dan Blondal from [Nano One Materials Corp.](#) (TSX: NANO), and Pat Ryan from [Ucore Rare Metals Inc.](#) (TSXV: UCU | OTCQX: UURAF) will contribute to the high-level discussions and expert-led panels. *Referral, CMI Managing Director [Tracy Weslosky](#)*

**Advanced Magnet Lab’s Commercial Manufacturing Plan in the U.S.:** December 15, 2023 ([Source](#)) – Advanced Magnet Lab, Inc. (AML) announced its plan for high-rate commercial manufacturing of non-sintered permanent magnets in the U.S. Utilizing its PM-Wire™ technology, AML focuses on producing magnets for various applications, including electric motors. The company’s collaboration with Oak Ridge National Laboratory (ORNL) in developing an electric vehicle motor is a notable example of its innovative approach. AML plans to co-locate manufacturing with customers or supply chain partners, with potential site locations being discussed in several U.S. jurisdictions. This initiative represents a significant advancement in the domestic production of critical magnet technologies, essential for various industries, including aerospace, defense, and automotive. *Referral, CMI Director, [Alastair Neill](#)*

**China’s Increased Rare Earth Quotas for 2023:** December 16, 2023 ([Source](#)) – China, the world’s largest producer and consumer of rare earths, has issued its third batch of rare earth mining

quotas for 2023, totaling 15,000 tonnes, and smelting and separation quotas of 13,850 tonnes. These quotas are closely monitored as they are critical indicators of global rare earth supply. The increase in quotas indicates a response to higher demand needs, highlighting China's significant role in the rare earth industry. This year, the total rare earth mining and smelting quotas have increased by 21.4% and 20.7%, respectively, compared to last year. The rise in rare earth imports in China also underscores the growing global demand for these essential materials. *Referral, CMI Director, [Alastair Neill](#)*

**Ara Partners Closes Over \$3 Billion of New Capital Commitments:** December 13, 2023 ([Source](#)) – Ara Partners, a leading private equity and infrastructure investment firm specializing in industrial decarbonization, has closed over \$3 billion of new capital commitments. Fund III, focused on buyout and growth investments in the decarbonization sector, exceeded its initial target, closing on \$2.8 billion. Ara's strategy aims to reduce carbon emissions in industries, including industrial and manufacturing, chemicals, energy efficiency, and agriculture. The fund has already made significant investments, demonstrating Ara's commitment to environmentally impactful and high-growth companies globally. *Referral, CMI Managing Director [Tracy Weslosky](#)*

**China's Interest in US-Vietnam Rare Earths Plan:** December 16, 2023 ([Source](#)) – Following President Xi Jinping's visit to Hanoi, China has expressed interest in Vietnam's rare earths, suggesting Vietnam should send its rare earth deposits to China for processing. This comes amid US efforts to encourage Vietnam to directly export its rare earths to counter China's dominance. Vietnam, with substantial rare earth reserves, is seen as a key player in diversifying the global supply away from China. Beijing's offer to assist in building a railway through Vietnam's rare-earth heartland further underscores the strategic

importance of these minerals and the geopolitical complexities involved. *Referral, CMI Director [Russell Fryer](#)*

This week's Technology Metals Week in Review serves as a testament to the dynamic and critical role of technology metals in our contemporary global economy and environmental strategies. For more information, visit [www.CriticalMineralsInstitute.com](http://www.CriticalMineralsInstitute.com)

### **InvestorNews Critical Minerals Media Coverage:**

- December 14, 2023 – The Critical Minerals Institute Announces the CMI Summit III: A 2-Day Event Led by Prominent Industry Leaders Themed “Achieving Critical Minerals Mastery in Today’s Markets” <https://bit.ly/41oV1x7>
- December 13, 2023 – Top 3 best valued lithium juniors, as lithium prices near a bottom <https://bit.ly/48fMK0d>

### **InvestorNews Critical Minerals Videos:**

- December 15, 2023 – CMI Masterclass: Securing North America’s Future, A Conversation on the Critical Minerals Supply Chains with Jack Lifton <https://youtu.be/Ug0u0xKlHuw>
- December 12, 2023 – CMI Masterclass: Flow Through and Critical Minerals <https://youtu.be/SLvpYVCnbTA>

### **Critical Minerals News Releases**

- December 15, 2023 – F3 Announces Stock Option and RSU Grant <https://bit.ly/48oIkF4>
- December 14, 2023 – First Phosphate Announces Intention to Complete \$2,000,000 Non-Brokered Private Placement <https://bit.ly/3NsoikK>

- December 14, 2023 – Continued Exceptional Drilling Results at Halleck Creek <https://bit.ly/3tgDbjg>
  - December 13, 2023 – Elcora Announces Approval of Stock Option Plan and Restricted Share Unit Plan by Shareholders <https://bit.ly/48j80I2>
  - December 12, 2023 – Western Uranium & Vanadium Corp. Closes Fully Subscribed Brokered LIFE Financing of \$7.25 Million <https://bit.ly/3Ro3Wu2>
  - December 12, 2023 – Louisiana Governor Executes Ucore's SMC Industrial Tax Exemption Contract <https://bit.ly/4ak1GN6>
  - December 12, 2023 – Appia Announces Scandium and Cobalt Discovery at Its New Buriti Target at the PCH Project, Brazil; Reverse Circulation Drill Hole Returns 24 Metres of Mineralization Averaging 128 ppm Scandium Oxide, 272 ppm Total Cobalt Oxides and 2,106 ppm Total Rare Earth Oxides from Surface <https://bit.ly/3GCCW5h>
  - December 11, 2023 – Power Nickel Files Complaint on Widespread Potential Illegal Short Selling of its Shares <https://bit.ly/41mQziC>
  - December 11, 2023 – First Phosphate and Ultion Technologies Enter MOU for Purchase of LFP / LFMP Commercial Production Technology and Offtake of 6,000 annual Tonnes of LFP Cathode Active Material for Specialty Products <https://bit.ly/3tbBNyj>
  - December 11, 2023 – Panther Metals PLC: Substantial Holding Released From Escrow <https://bit.ly/3t4DPR1>
  - December 11, 2023 – Appia Announces Closing of PCH Project Acquisition <https://bit.ly/3GDc30v>
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# Curtis Moore on Energy Fuels' competitive advantage in the North American rare earths market

written by InvestorNews | February 2, 2024

In an InvestorNews interview, Tracy Weslosky spoke with Curtis Moore, Senior VP of Marketing & Corporate Development at [Energy Fuels Inc.](#) (NYSE American: UUUU | TSX: EFR). Curtis discussed Energy Fuels' focus on monazite sand, highlighting its high neodymium-praseodymium (NdPr) content, which provides a cost processing advantage over other rare earths bearing ores like bastnaesite. He explained that monazite's value is enhanced by its higher concentration of NdPr, essential for permanent rare earth magnets used in EVs and wind turbines, and its higher concentration of heavy rare earths. Curtis noted that while monazite has higher uranium and thorium levels than bastnaesite, Energy Fuels can efficiently process these elements at their uranium mill. He emphasized Energy Fuels' unique advantage in handling the naturally occurring uranium and thorium in rare earth bearing ores, a significant challenge for other companies. This capability allows them to potentially monetize these elements, especially as thorium markets mature.

Curtis also addressed a key question he wishes people would ask more often: why Energy Fuels is likely to succeed in the rare earth sector where many others have failed? He attributed their potential success to their inherent advantages in processing rare earth bearing ores and producing advanced materials. These advantages include their experience with solvent extraction, a technology crucial for producing separated rare earth oxides,

and their existing infrastructure at the White Mesa Mill in Utah. Curtis highlighted their \$25 million investment in a rare earth separation circuit at the mill, which is expected to be operational in the first quarter of 2024, with a capacity to produce about 1000 metric tons of NdPr oxide per year, enough for 500,000 to 1,000,000 EVs annually. He expressed high confidence in their ability to succeed in the rare earth industry due to these factors.

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

Don't miss other InvestorNews interviews. Subscribe to the InvestorNews YouTube channel by [clicking here](#)

## About Energy Fuels Inc.

Energy Fuels is a leading US-based critical minerals company. The Company, as the leading producer of uranium in the United States, mines uranium and produces natural uranium concentrates that are sold to major nuclear utilities for the production of carbon-free nuclear energy. Energy Fuels recently began production of advanced rare earth element (“**REE**”) materials, including mixed REE carbonate, and plans to produce commercial quantities of separated REE oxides in the future. Energy Fuels also produces vanadium from certain of its projects, as market conditions warrant, and is evaluating the recovery of radionuclides needed for emerging cancer treatments. Its corporate offices are in Lakewood, Colorado, near Denver, and substantially all its assets and employees are in the United States. Energy Fuels holds two of America's key uranium production centers: the White Mesa Mill in Utah and the Nichols Ranch in-situ recovery (“**ISR**”) Project in Wyoming. The White Mesa Mill is the only conventional uranium mill operating in the US today, has a licensed capacity of over 8 million pounds of  $U_3O_8$  per year, and has the ability to produce vanadium when

market conditions warrant, as well as REE products, from various uranium-bearing ores. The Nichols Ranch ISR Project is on standby and has a licensed capacity of 2 million pounds of  $U_3O_8$  per year. The Company recently acquired the Bahia Project in Brazil, which is believed to have significant quantities of titanium (ilmenite and rutile), zirconium (zircon) and REE (monazite) minerals. In addition to the above production facilities, Energy Fuels also has one of the largest NI 43-101 compliant uranium resource portfolios in the US and several uranium and uranium/vanadium mining projects on standby and in various stages of permitting and development.

To learn more about Energy Fuels Inc., [click here](#)

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# The Critical Minerals Institute Report (CMI 11.2023): Neodymium price is down 33% over the Past Year, Record Plug-In EV Car Sales for September

written by Matt Bohlsen | February 2, 2024

Welcome to the November 2023 [Critical Minerals Institute](#) (“CMI”) report, designed to keep you up to date on all the latest major news across the critical minerals markets. Here is the CMI list of critical minerals ([CMI List of Critical Minerals](#)) or visit the [CMI Library](#) where critical minerals expert Alastair Neill tracks the latest critical mineral lists worldwide.

## Global macro view

High interest rates (and cost of living increases) in most Western countries continue to be a drag on the global economy. Europe, in particular, continues to struggle. Last month saw a welcome fall in US inflation to [3.2%pa](#) suggesting the US Fed may not need to raise rates at their [December 12-13 meeting](#).

China has been [ramping up support](#) for their beaten down property sector and economy. The key hope for 2024 is that China’s property market stabilizes and their economy improves. Some early positive signs are appearing.

The Russia-Ukraine war continues as does the Hamas-Israel war. The outcomes of these conflicts can impact oil prices and hence

inflation, meaning they are key events to monitor as we head into 2024.

## Global electric vehicle (“EV”) update

November 2023 saw strong EV sales reported for September 2023. Global plugin electric car sales for September were a record [1,291,000](#) up 23% YoY to 17% market share.

In September, China sales were up 22% YoY to 37% share. Europe sales were up 15% YoY to 25% share. USA sales were up 59% YoY to 9.9% share.

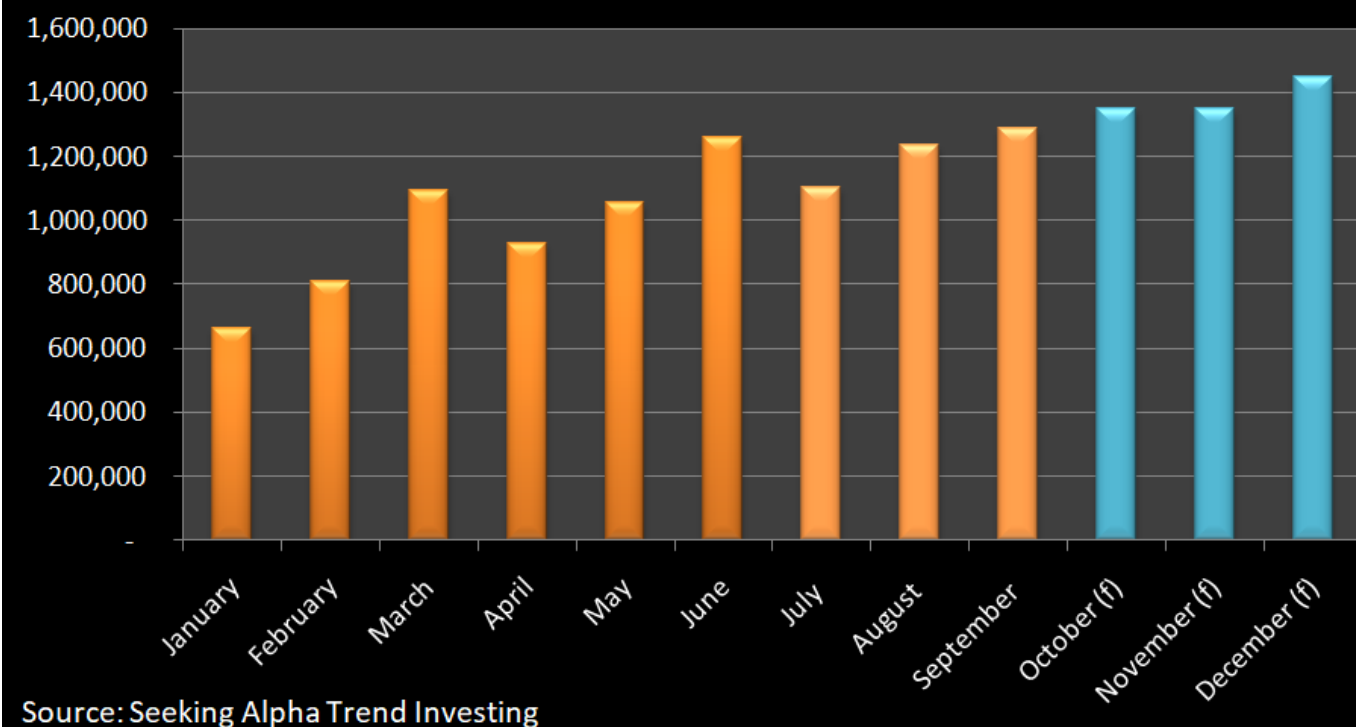
Results look very promising for October 2023 with global plugin electric car sales on track to reach or exceed ~1.35 million. China’s October sales have been announced and they hit a new record of [956,000 sales](#).

2023 sales look set to finish at ~13.6 million and 17% market share, which would be a 29% increase on 2022 (10.522 million and 13% market share). A 29% growth rate in 2023 would be a significant slowdown on the 56% growth rate achieved in 2022.

Regarding US Battery Electric Vehicle (“BEV”) car sales, the EIA recently [reported](#) that “BEV prices are now within \$3,000 of the overall industry average transaction price for light-duty vehicles.”

**Global plugin electric car ‘monthly’ sales in 2023 ([source](#))**

## 2023 Global plugin electric car sales (actual & forecast)

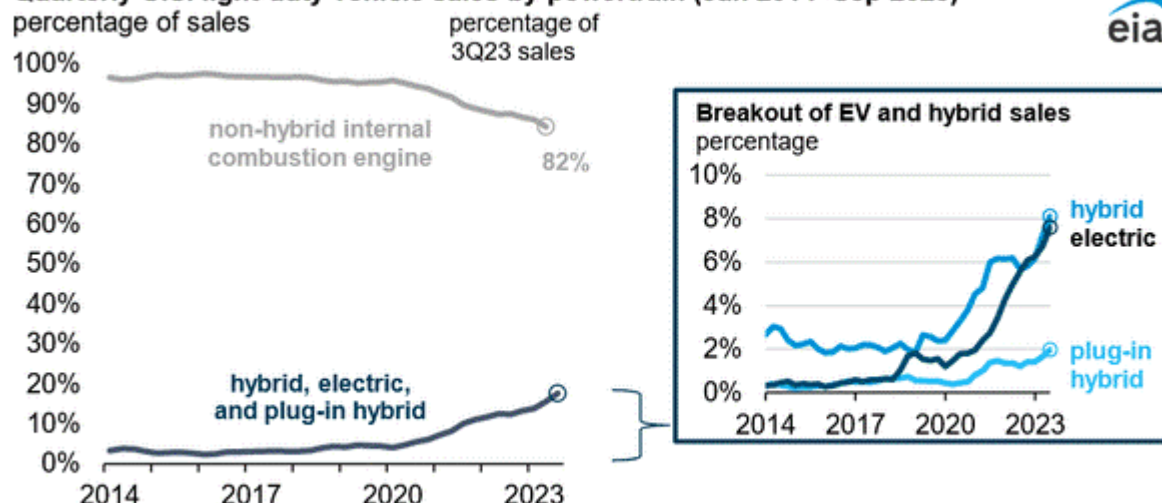


Finally, [reports](#) of a slowdown in US EV demand are 'fake news'. US electric car sales are achieving record sales in 2023 as we saw in the [US Energy Information \("EIA"\) announcement](#) on November 27, 2023. The chart below gives a good summary. The fact that [Ford Motor Company \(NYSE: F\)](#) and [General Motors \(NYSE: GM\)](#) are slowing down their EV production plans due to weak EV sales says more about their failure to produce well priced and desirable EVs rather than the US market as a whole. There is a similar situation with Volkswagen AG in Europe. Both BYD Company Limited (OTC: BYDDF) and Tesla Inc. (NASDAQ: TSLA) continue to rapidly expand their production and EV sales. Legacy automakers need to up their game or be left behind by the EV leaders Tesla and BYD who continue to go from strength to strength.

**Electric vehicles and hybrids grow to a record-high 18% of U.S. light-duty vehicle sales ([source](#))**



Quarterly U.S. light-duty vehicle sales by powertrain (Jan 2014–Sep 2023)



Data source: Wards Intelligence  
Note: 3Q23 = third quarter of 2023

## Global critical minerals update

Western governments, led by the USA, have continued to ramp up support for a Western EV and battery supply chain. In November we had two key announcements:

- On October 31 The Government of Canada [announced](#): “Government of Canada to enhance critical minerals sector with launch of \$1.5 billion Infrastructure Fund...“Our investments will help the mining industry develop important enabling and supporting infrastructure such as roads and energy facilities required prior to construction of mines.”
- On November 15 [Energy.gov announced](#): “Biden-Harris Administration announces \$3.5 Billion to strengthen domestic battery manufacturing...As part of President Biden’s Investing in America agenda, the funding will create new, retrofitted, and expanded domestic facilities for battery-grade processed critical minerals, battery precursor materials, battery components, and cell and pack manufacturing...”

These are positive developments, however not enough is being done upstream to support the critical minerals 'miners' to get into production. The Canadian Government's announcement above is reasonably well directed, but it is to be spread over 7 years and is nowhere near enough money for what is needed. The US Government's effort is further supported on the back of previous announcements as part of the 2022 Inflation Reduction Act ("IRA") which intends to spend US\$369 billion in energy security and climate change programs over ten years. However, most of the funds so far are to support battery manufacturing and EV plants and subsidies. More funds need to be put to use to help support the critical mineral mining companies, particularly as key critical minerals such as lithium is the bottle neck to ramp up western production of EV's and energy stationary storage.

The IRA has been extremely successful so far at bringing EV and battery investments to the USA. For example, in November we heard [a report](#) of yet another US factory being planned with Toyota planning to invest US\$8 billion in a North Carolina battery plant to increase EV capacity.

Over in Europe, the EU Critical Raw Materials Act ("CRMA") has progressed to the next stage with 'provisional' agreement achieved, noting the increased focus on recycling. On November 13, the European Union Council [announced](#):

*"The Council and the European Parliament today reached a deal on the proposed regulation establishing a framework to ensure a secure and sustainable supply of critical raw materials, better known as the Critical Raw Materials Act. The agreement is provisional, pending formal adoption in both institutions...The political agreement reached today keeps the overall objectives of the original proposal but strengthens several elements. It includes aluminium in the list of strategic and critical materials, reinforces the benchmark of recycling, clarifies the*

permitting procedure for strategic projects, and requires relevant companies to perform a supply-chain risk assessment on their sourcing of strategic raw materials...On the global stage, the regulation identified measures to diversify imports of critical raw materials ensuring that **not more than 65% of the Union's consumption of each strategic raw material comes from a single third country**...The provisional agreement keeps the benchmarks of 10% for extraction of raw materials and 40% for processing but increases the benchmark for recycling to at least 25% of EU's annual consumption of raw materials...The provisional compromise also unifies the timings of the permit procedure. **The total duration of the permit granting process should not exceed 27 months for extraction projects and 15 months for processing and recycling projects**...Next steps. The provisional agreement reached with the European Parliament now needs to be endorsed and formally adopted by both institutions."

*Note: Bold emphasis by the author. Synthetic graphite was also added.*

In November we did hear some more reports on sodium-ion batteries and how they can help meet the incredible battery demand needed for the green energy transition. Sodium-ion can help around the margin, but it will not replace lithium-ion. Sodium-ion batteries will be used for energy stationary storage and cheap (<US\$10,000) low-end, low-range, small EVs. Beyond that, the sodium-ion battery as exists today will have limited demand. CATL is leading the way with sodium-ion battery manufacturing and is one to watch.

On November 25 The Fraser Institute [reported](#):

*"A total of 388 new mines must be built to produce the metals required to meet international government mandates for electric vehicle...The International Energy Agency (IEA) suggests that to*

*meet international EV adoption pledges, **the world will need 50 new lithium mines by 2030, along with 60 new nickel mines, and 17 new cobalt mines**...Historically, however, mining and refining facilities are both slow to develop and are highly uncertain endeavors plagued by regulatory uncertainty and by environmental and regulatory barriers. Lithium production timelines, for example, are approximately 6 to 9 years, while production timelines (from application to production) for nickel are approximately 13 to 18 years, according to the IEA...The risk that mineral and mining production will fall short of projected demand is significant, and could greatly affect the success of various governments' plans for EV transition."*

*Note: Bold emphasis by the author.*

## Lithium

China lithium carbonate [spot prices fell significantly](#) in November 2023, with the price now at [CNY 126,500/t](#) (US\$ 17,870/t) and down 78% over the past year. At these prices, marginal cost lithium producers in China are shutting down and Albemarle Corporation (NYSE: ALB) and JV partners at the Greenbushes Mine [are considering production cuts](#) in H1, 2024. A bottom is likely to form soon at or above CNY 100,000/t assuming global EV sales hold up at current rates of about 30% growth in 2023 and 2024.

### Lithium takeovers continue despite weak sentiment

Chile's SQM recently increased their takeover offer for Azure Minerals Limited (ASX: AZS) to US\$900 million. Meanwhile, Mineral Resources Limited (ASX: MIN) has been [building an equity stake](#) in Azure Minerals as well as buying a [19.85% equity interest](#) in Wildcat Resources Limited (ASX: WC8), another WA lithium junior miner. Not to be outdone, Australian billionaire

Gina Reinhart has recently bought a [19% interest](#) in Azure Minerals. Reinhart was active in buying Liontown Resources Limited (ASX: LTR), ultimately leading Albemarle [to withdraw their takeover offer](#).

At least it looks like the Allkem-Livent merger is still going ahead. Allkem Limited (ASX: AKE) and Livent Corporation (NYSE: LTHM) [have received all required regulatory approvals globally](#) for their 'merger of equals', expected to close by January 4, 2024.

All of this takeover activity from the major lithium companies suggests that we are near a bottom in the lithium price cycle and that the mid to long-term outlook for lithium remains very strong.

## Rare Earths

Neodymium ("Nd") prices fell in November and are currently sitting at [CNY 610,000/t](#). The neodymium price is down 33% over the past year, but still well above the 2019 price.

**Neodymium 5 year price chart ([source](#))**



On November 16 Rare Element Resources Ltd. (OTCQB: REEMF) announced receipt of the final [NEPA approval](#) for their rare earth processing and separation demonstration plant to be built in Upton, Wyoming, USA. The news [stated](#): “The Company is awaiting next stage budget approval from the DOE, which is providing approximately 50% of the project costs, to commence construction.”

## Cobalt, Graphite, Nickel, Manganese and other critical minerals

**Cobalt** prices (currently at [US\\$14.85/lb](#)) remained flat the past month and continue to be very depressed. China’s demand for NMC cathode material for EVs has been weak as LFP cathodes (no nickel or cobalt) have gained in popularity.

**Flake graphite prices** also remain very weak with prices near the marginal cost of production. The big news in the graphite world is China’s intention to temporarily enforce export license permits on three synthetic graphite-related items and six

natural graphite-related items, starting from December 1, 2023. As a result, we have seen some buying activity and [flake graphite prices rising in Europe](#).

**Nickel** prices fell further to [US\\$16,593/t](#) in November due to oversupply concerns from Indonesia and the depressed Chinese property sector.

**Manganese** [prices](#) also fell slightly in November.

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## **BMW Probes Moroccan Supplier for Critical Mineral Compliance**

written by Tracy Weslosky | February 2, 2024

BMW (Bayerische Motoren Werke AG (OTC: BMWYY)), the prominent German automaker, is currently investigating a Moroccan cobalt supplier, Managem, following a report that raised serious concerns over labor and environmental violations at a cobalt mine in Morocco. The report, which surfaced in the German daily newspaper Sueddeutsche Zeitung, in collaboration with broadcasters NDR and WDR, alleged that the mining operations at Bou Azzer, southern Morocco, were releasing excessive arsenic levels into the environment. This revelation has significant implications given the critical role of cobalt in manufacturing electric car batteries, a market in which BMW is a key player.



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# Investor.Coffee (11.13.2023): Moody's downgrade on U.S. Credit Rating Outlook "Negative", Japanese wholesale inflation slows

written by Tracy Weslosky | February 2, 2024  
**Pre-Open Market Overview, Canada**

Canadian markets are showing a downtrend, aligning with Wall Street futures which are slightly down after Moody's downgraded the U.S. credit rating outlook to "negative." European shares experienced a boost, primarily in the healthcare sector, while Japan's Nikkei index remained unchanged. Oil prices have seen a minor increase due to concerns over reduced demand in the U.S. and China, coupled with mixed signals from the Federal Reserve. Meanwhile, gold prices have risen marginally, and the U.S. dollar remains relatively stable against other major currencies.

## **Tax Selling Deadlines**

For Canadian tax filers, December 27, 2023, marks the deadline for tax-loss selling. I mention this as we have a [CMI Masterclass on Critical Minerals and Flow Through](#) that I am hosting next Monday, November 20<sup>th</sup> at 7PM EST that I urge you to attend. Use the promo code CMI3 and you can secure a complimentary pass. I am writing the news release today. Transactions post this date will be counted for the 2024 tax

year. The U.S. deadline, as per the IRS, is December 29.

## European Stock Futures

Euro STOXX 50 futures rose by 7 points to 4,215, FTSE futures gained 6 points reaching 7,378, and German DAX futures increased by 5 points to 15,297 as of 0530 GMT.

## Asian Market Trends

Asian stocks saw an upward trend, taking cues from Wall Street's Friday rally, despite Moody's downgrade of the U.S. credit outlook. Oil prices, however, receded after the initial rally, influenced by concerns over diminishing demand in the U.S. and China.

# U.S. Market and Economic News

U.S. markets have witnessed two consecutive weeks of gains. Key factors that could impact this trend include Moody's recent downgrade of the U.S. credit outlook and the upcoming consumer price index release. Retail earnings reports from major U.S. companies are also anticipated.

## Company-Specific News

- **Alphabet Inc. (NASDAQ: GOOGL):** Google is in discussions to invest in Character.AI, with negotiations ongoing regarding the terms.
- **Exxon Mobil Corporation (NYSE: XOM):** Exxon plans to start [lithium production](#) in Arkansas by 2026. Also, Exxon has reached a settlement with Iraq over the West Qurna 1 oilfield.
- **Ford Motor Company (NYSE: F):** UAW workers at Ford's Kentucky plants have [mixed opinions](#) on the new labor

agreement, with production workers voting against it.

- **Livent Corporation (NYSE: LTHM):** Livent is set to meet Allkem investors [regarding a merger](#) that would create a significant lithium producer.
- **Streaming Giants (Netflix, Disney, Warner Bros Discovery):** They have agreed to pay significant bonuses as part of a labor deal with the SAG-AFTRA actors union.
- **NVIDIA Corporation (NASDAQ: NVDA):** The U.S. restrictions on China are prompting Nvidia to innovate to meet market needs.
- **Tesla Inc. (NASDAQ: TSLA):** EG Group [plans to buy](#) Tesla ultra-fast charging units to expand its EV charging network in Europe.

## Economic Data Release

- The Federal budget for October is expected to show a deficit of -\$30.00 billion, compared to the previous -\$171.00 billion.

## Europe/Asia Political and Health Updates

- UK Interior Minister Suella Braverman was dismissed amid allegations of political bias against London police.
- Former UK PM David Cameron surprisingly returned as foreign minister.
- U.S. Senator Tim Scott withdrew from the 2024 Republican presidential nomination race.
- Japanese wholesale inflation slowed, indicating easing price pressures.
- **Bayerische Motoren Werke AG (BMW) (OTC: BMWYY)** is

[investigating](#) operations at a Moroccan cobalt mine following reports of legal breaches.

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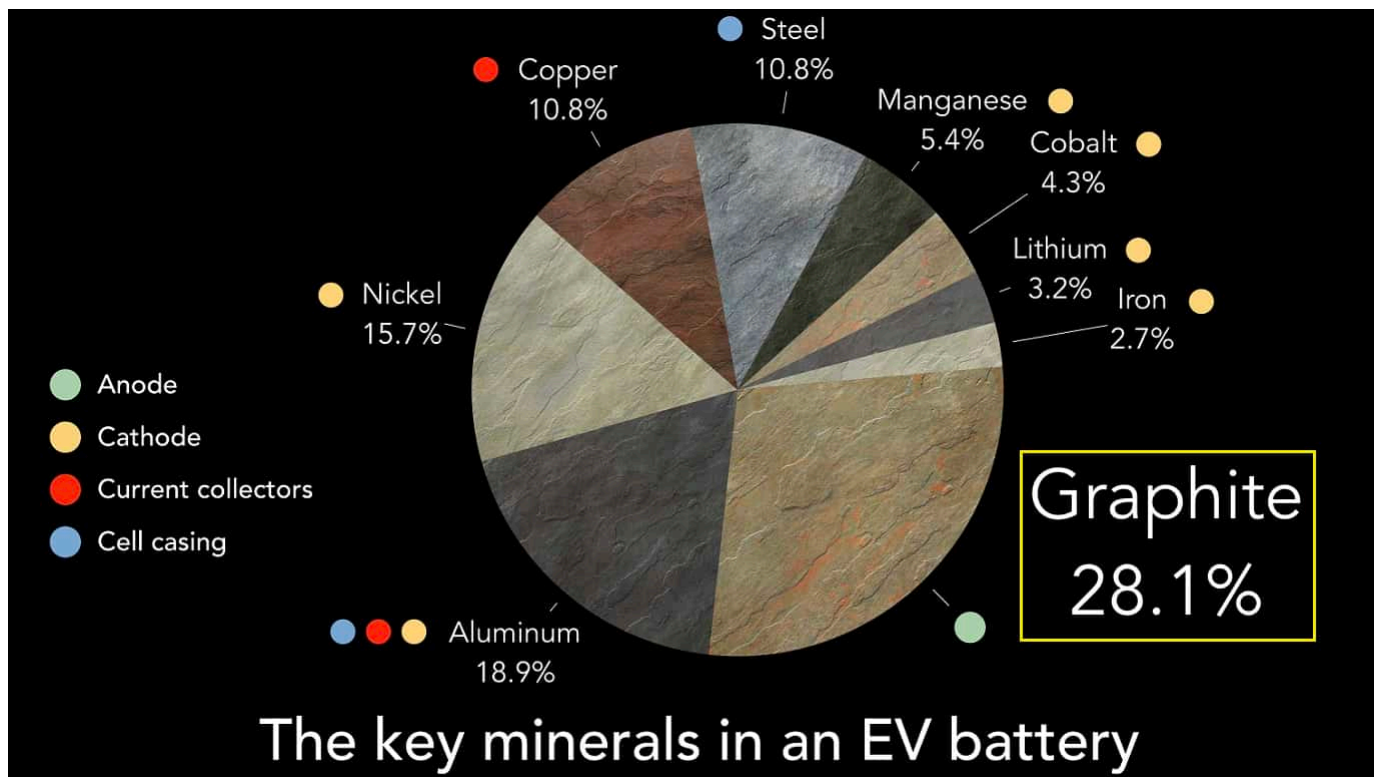
# Can the Western graphite and anode industry rise to meet China's challenge?

written by Matt Bohlsen | February 2, 2024

## China to impose some graphite and processed graphite materials 'export permits' from December 1, 2023

Last week it was [reported](#) that China, the world's top graphite producer plans to curb exports of key battery material by implementing export permits for some graphite products from December 1 to protect national security. Another report [stated](#): "China graphite export restrictions could hinder ex-China anode development...if it lasts into the longer term, it is likely to accelerate the build-out of a localized graphite and battery anode supply chain outside China."

**Graphite is the number one metal required for lithium-ion batteries making up about a 28% share. It is used in the anode.**



The key metals and minerals in a battery of an electric vehicle

## The world is very dependent upon China to supply processed graphite material and anodes for Li-ion batteries

The reason why this is huge news in the graphite world is that China produces [67% of global natural flake graphite](#) supply and refines more than [90%](#) of the world's graphite into active anode material (typically spherical graphite). If China were to deny or delay permits for spherical graphite it will cause major problems for anode manufacturers outside China, such as those in South Korea, Japan, or North America.

China currently produces [~77% of global lithium-ion batteries](#) and 75-80% of global electric cars, thereby completely dominating the industry. If the West is shut out from sourcing

processed EV battery materials from China then they will have a major problem producing their own EVs. China plans to prioritize EV battery materials for their own needs. This is why President Biden introduced the Inflation Reduction Act (IRA) and the EU introduced the EU Critical Raw Materials Act. Both are designed to address the shortages in the EV supply chain and the forecast shortages of future supply of critical raw materials. The problem is the IRA has done little to address the supply of raw materials and the EU Critical Raw Materials Act is [woefully inadequate](#) and targets fall way short of what will be needed.

## Which western graphite companies can rise to meet the challenge to establish an ex-China graphite supply chain

The leading western graphite companies that are working to establish an ex-China supply chain for flake graphite, synthetic graphite, and spherical graphite include:

- [Syrah Resources Limited](#) (ASX: SYR) – Largest western flake graphite producer with their 350,000tpa flake graphite capacity Balama Mine in Mozambique. Currently constructing the Vidalia spherical graphite facility in Louisiana, USA with Stage 1 production plans to produce 11,250tpa of spherical graphite. Longer term they plan to expand to 45,000tpa in 2026 and then to >100,000tpa by 2030 with an Europe/Middle East facility. Syrah already has an off-take agreement with Tesla (NASDAQ: TSLA). Syrah's stock price has surged ~80% higher the past week following the release of the China export permits news.
- [Nouveau Monde Graphite Inc.](#) (NYSE: NMG | TSXV: NOU) – Is

rapidly progressing their plans for their Matawinie Graphite Mine and Bécancour Battery Anode Material Plant in Quebec, Canada. The company is [working with Panasonic](#) to qualify their graphite anode material. Panasonic supplies Tesla with batteries.


- [Northern Graphite Corporation](#) (TSXV: NGC | OTCQB: NGPHF) – Owns graphite producing and past producing mines in Quebec, Canada and Namibia. They also own the Bissett Creek graphite Project in Ontario, Canada. The Company [state](#) that they are “North America’s Only Significant Natural Graphite Producer”. The Company plans to develop one of the world’s largest battery anode materials facilities in Baie-Comeau Québec with [200,000tpa](#) of capacity.
- [NextSource Materials Inc.](#) (TSX: NEXT | OTCQB: NSRCF) – A new graphite producer from their Molo Graphite Mine in Madagascar with Phase 1 capacity of [17,000tpa](#) of flake graphite production and plans to expand to [150,000tpa](#). The Company’s short term plan is for [a Battery Anode Facility in Mauritius](#) and longer term for similar facilities in USA/Canada, UK, EU.
- [Magnis Energy Technologies Ltd.](#) (ASX: MNS | OTCQX: MNSEF) – Magnis aims to produce high performance anode materials utilising ultra-high purity natural flake graphite from their Nachu Graphite Project in Tanzania. Magnis’ partially owned U.S.-based subsidiary Imperium3 New York, Inc (“iM3NY”) operates a gigawatt scale lithium-ion battery manufacturing project in Endicott, New York.
- [Talga Group Ltd.](#) (ASX: TLG) – Own the integrated mine to anode Vittangi Graphite Project in Sweden. In September 2023 Talga broke ground on their [19,500tpa](#) anode facility, [stating](#) “the refinery is projected to be the first commercial anode production in Europe for electric vehicle Li-ion batteries”.




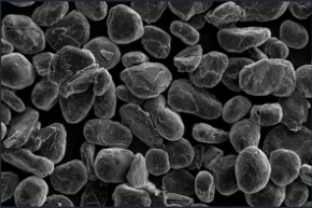

- [Novonix Limited](#) (NASDAQ: NVX | ASX: NVX) – Has a production capacity target of [up to 20,000 tpa](#) of synthetic graphite anode material from their Tennessee facility in the USA.
- [Anovion Technologies](#) (private) – The USA anode producer plans to invest US\$800 million to produce a [40,000tpa synthetic graphite anode material facility](#) in Georgia, USA with plans to expand to [150,000tpa](#) by 2030.

**Syrah Resources leads the West's attempt to build an ex-China flake graphite and anode material supply chain**

## Our Position



Syrah is a major ex-China natural graphite and active anode material (AAM) supplier for global customers, with upstream and downstream expansion potential underpinned by its world-class Balama resource

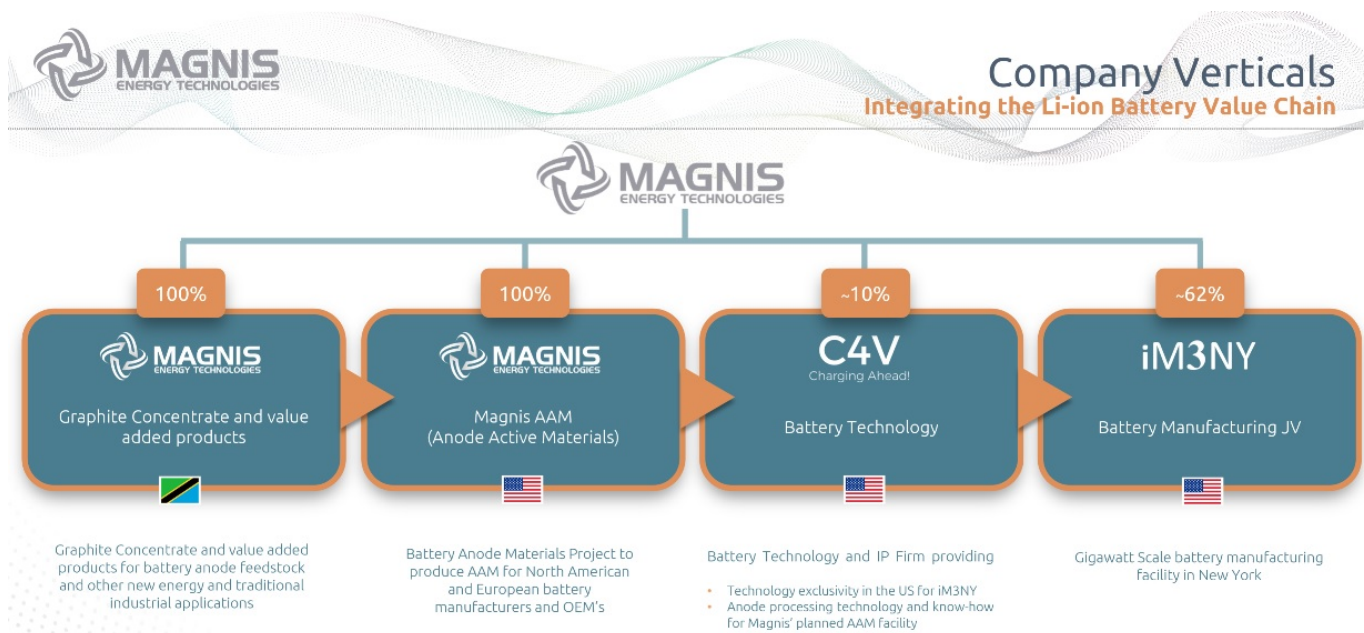
 <p style="margin-top: 10px;">Natural graphite and AAM demand will increase four and six times, respectively, over the next 10 years<sup>1</sup></p>	 <p style="margin-top: 10px;">Syrah is the only operating vertically integrated natural graphite AAM supplier outside of China</p>	 <p style="margin-top: 10px;">Balama is a 350ktpa graphite producer in Mozambique supplying global battery anode and industrial customers since 2017</p>	 <p style="margin-top: 10px;">Syrah is nearing completion of an 11.25ktpa AAM facility at Vidalia in the US with commercial sales arrangements in place with tier 1 customers</p>
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1. Source: Benchmark Minerals Intelligence Flake Graphite Forecast, Q3 2023. Note: AAM demand is for natural graphite AAM.

Source: [Syrah Resources September 2023 Quarterly Activities presentation](#)

**Magnis Energy Technologies is working towards becoming a graphite producer, anode materials producer and is already a small scale JV battery producer in the USA**





Source: [Magnis Energy Technologies company presentation](#)

## Closing remarks

The Western world received a loud wake-up call the past week. The China graphite products 'export permits' may only serve to restrict or slow down some anode material supply from China, but it puts the West on notice of how dependent they are upon China.

Given the world is rapidly moving to electric vehicles, the West must urgently build up its EV materials supply chains or risk being left behind in the global EV race.

The USA is making some bold moves and the companies discussed in this article are moving in the right direction. Let's just hope that the western EV supply chain build out accelerates rather than stalls like [GM's latest electric pickup truck plans](#). I think Americans will want U.S.-branded electric cars and I know Europeans will want European branded electric cars. If we are not careful our only choice one day might be Tesla and Chinese electric cars. Stay tuned.

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# The Critical Minerals Institute October Report: A slowing global economy continues to temper demand

written by Matt Bohlsen | February 2, 2024

Welcome to the October 2023 [Critical Minerals Institute](#) (“CMI”) report, designed to keep you up to date on all the latest major news across the critical minerals markets. Here is the IEA [list of Critical Minerals](#).

## A slowing global economy continues to temper demand for critical minerals in 2023

High interest rates in most Western countries continue to be a drag on the global economy. Last month saw the U.S. Fed pause their interest rate hikes, with the [reserve rate still at 5.5%](#). However, U.S. inflation has been rising again and the Fed has indicated rates will need to stay higher for longer. The September [CPI was 3.7%](#), same as August’s 3.7%, but up on the July 3.2% figure. Long-term bond rates have adjusted higher leading to higher borrowing rates. All of this is slowing the U.S. and much of the global economy therefore not helping EV sales. China’s housing collapse is another negative drag on sentiment and has resulted in slower China EV sales growth in 2023.

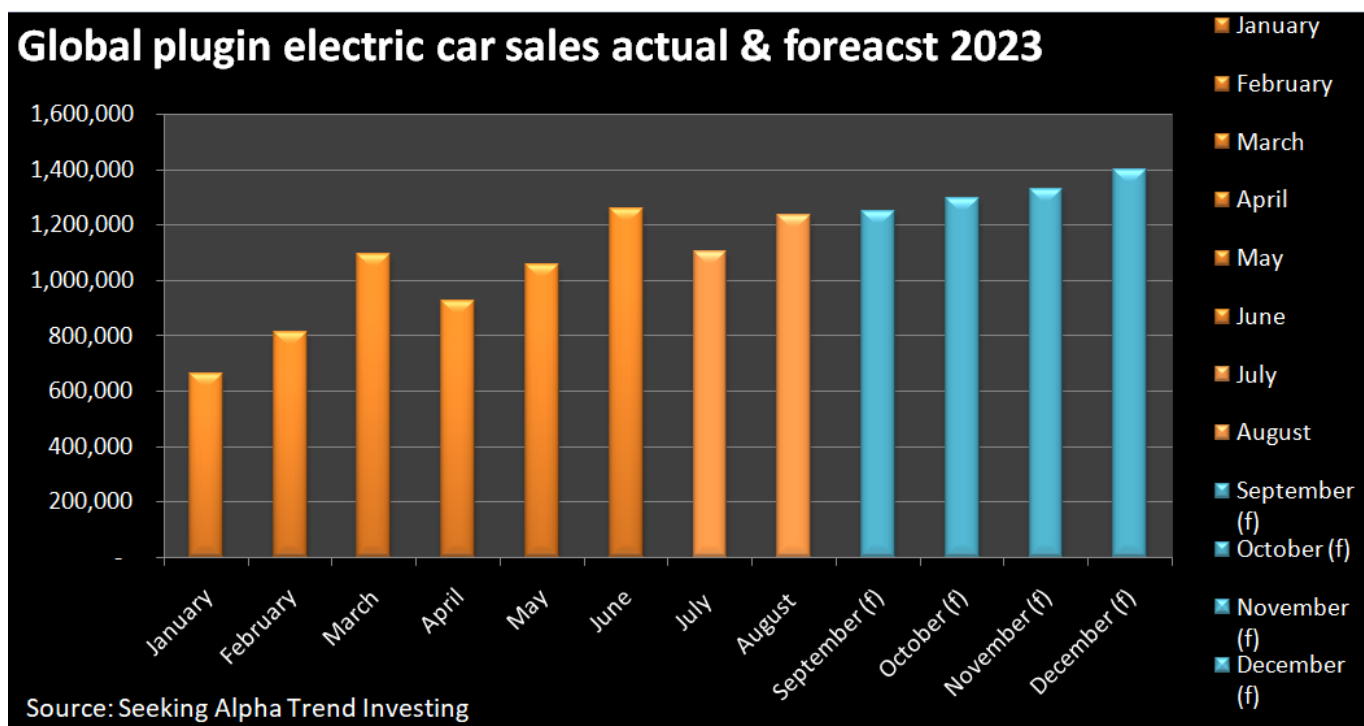
# Global critical minerals and electric vehicle (“EV”) update

October 2023 saw some better results coming in for global plugin electric car sales which gives some hope that depressed EV metals prices may soon start to recover. Q4 is traditionally the strongest quarter for EV sales with December usually the best sales month of the year.

Global plugin electric car sales were [1,238,000](#) in August 2023, up 45% on August 2022 sales. Global plugin electric car market share in [August was 18%](#), led by China with [39% share](#), Europe with [30% share](#), and USA with [9.51% share](#). Reports to date suggest that September sales look like being another strong month of about 1.25 million.

2023 sales look set to finish at ~13.5 million and 17% market share, which would be a 28% increase on 2022 (10.522 million and 13% market share). A 28% growth rate in 2023 would be a significant slowdown on the 56% growth rate achieved in 2022.

**Global plugin electric car ‘monthly’ sales in 2023**



## The West is working hard to build up EV and battery capacity rather than being too dependent on China

One of the biggest news of the last month was that Quebec, Canada is in talks with battery makers and automobile companies looking to invest about C\$15 billion (US\$11 billion) in Quebec over the next three years to support EV supply chains. The report [stated](#):

*"Quebec has secured C\$15 billion over the past three years and another C\$15 billion is coming in the next three years...Over the past three years, Quebec has attracted investments from auto and battery makers such as General Motors, POSCO and Ford Motors. The biggest investment was announced on Thursday when Swedish battery maker Northvolt announced plans to build a \$5.2 billion plant in the province."*

While this is good news for the EV and battery manufacturers it

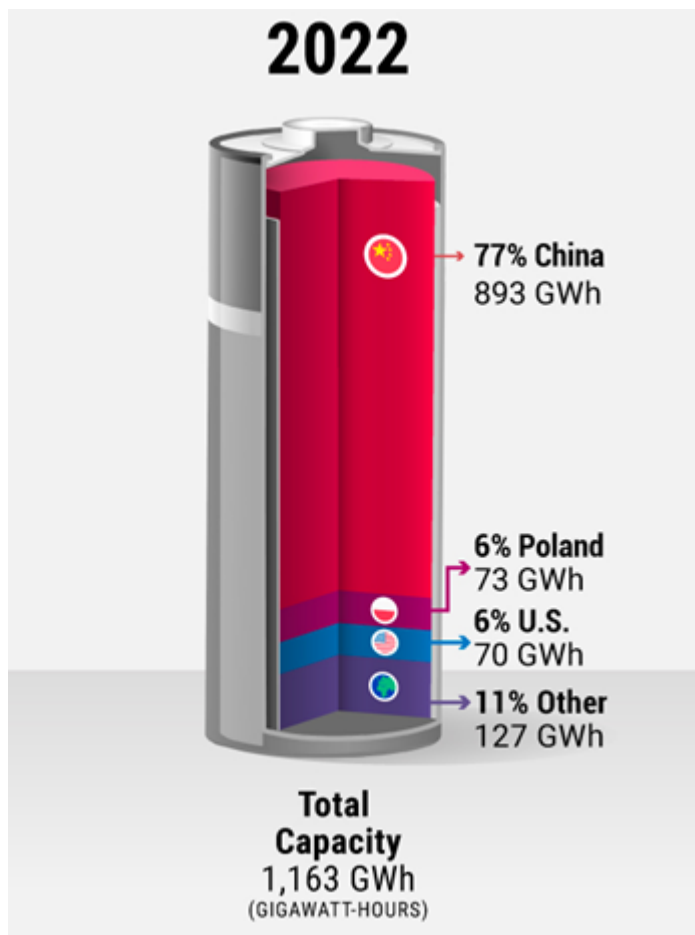
does nothing to support the mining industry. It is similar to the U.S. Inflation Reduction Act, where most funds are going to auto and battery companies and very little to the upstream miners. This will only boost demand for critical minerals needed to feed the EV and energy storage booms. Very little is being done to address the looming supply deficits of these critical materials in the second half of the decade.

For example, there are [18 gigafactories](#) planned to be built in the USA this decade, requiring 715,000tpa of lithium, but only 180,000tpa is currently planned. Similar mismatches of supply and demand exist in the pipeline for several other critical metals. Europe's critical minerals supply chain looks even more dire.

## **China continues to dominate the EV and battery manufacturing industry**

Many people might be unaware that China manufactures ~75-80% of all new global plugin electric cars and [~77% of global lithium-ion batteries](#). China's BYD is the world's largest seller followed by Tesla, who makes over 50% of their cars in China.

**In 2022 China had 77% of the lithium-ion battery global capacity**



Source: [Visual Capitalist](#)

## Lithium

China lithium carbonate [spot prices fell](#) so far in October 2023, with the price now at [CNY 166,500/t](#) (USD 22,781/t) and [down 68%](#) over the past year. At these prices, some of the marginal producers in China have begun shutting down. We did get a glimmer of hope for a bottom this week (mid October) as lithium carbonate futures contracts in Guangzhou [jumped by 7% to limit up](#) for the day.

## Lithium takeovers and equity

# interests are a leading trend in mid 2023

The biggest news the past month in the lithium sector has been the fight for control of Australia's Lontown Resources Limited (ASX: LTR), who 100% own the near production Kathleen Valley Lithium Project in Western Australia. U.S. lithium giant Albemarle Corporation (NYSE: ALB) is currently doing due diligence after upping their offer to [A\\$3.00 per share, or about A\\$6.6 billion \(US\\$4.23 billion\)](#) to purchase all of Lontown Resources. However, in recent weeks Australia's richest woman, Gina Rinehart, via her controlled company Hancock Prospecting, increased its stake in Lontown to [19.9%](#). Rinehart's motives are not yet known but it appears the iron ore magnate has become very interested in lithium.

Only 2-3 months back Albemarle bought a [6.4% stake](#) in Canadian lithium junior Patriot Battery Metals Inc. (TSXV: PMET | ASX: PMT | OTCQX: PMETF). The purchase price paid was **C\$109 million** and it was made just one day after Patriot Battery Metals announced their Maiden Resource of 109.2 Mt @ 1.42% Li<sub>2</sub>O Inferred, the largest lithium spodumene resource in the Americas. The interesting part is that Patriot Battery Metals market cap is only US\$866 million, 4.7x lower than Lontown Resources market cap of US\$4.068 billion. Lontown Resources resource is about 50% bigger (156Mt at 1.4% Li<sub>2</sub>O) and about 4 years more advanced than Patriot Battery Metals Corvette Project. Nonetheless, if Albemarle decides to back away from the Lontown Resources takeover bid then there is a very good chance Albemarle will turn their takeover attention towards Patriot Battery Metals.

Mineral Resources Limited (ASX: MIN) has also been very active in 2023 in the lithium space. In September it was confirmed that

Mineral Resources is bidding for the liquidated Bald Hill Lithium Mine. Mineral Resources has also backed Develop Global's [takeover offer](#) for Essential Metals Limited (ASX: ESS) for A\$152.6 million (US\$101 million), plus *Mineral Resources has also bought equity stakes in Delta Lithium Ltd. (ASX: DLI) and Global Lithium Resources (ASX: GL1).*

*Chile's SQM (NYSE: SQM) also recently made a [takeover offer](#) for Azure Minerals Limited (ASX: AZS) for US\$585 million.*

All of this takeover activity from the major lithium companies suggests that we are near a bottom in the lithium price cycle and that the mid to long term outlook for lithium remains very strong.

## Rare Earths

Rare earths supply disruptions have led to some price improvements recently. Neodymium ("Nd") prices continued their recent recovery so far in mid October 2023 after a rough 2023, currently sitting at [CNY 650,000/t](#).

Rare earths prices have been falling for most of 2023; however [recent supply disruptions in Myanmar](#) have caused most rare earth prices to strengthen. There have also been some reports that Malaysia is developing a policy to ban exports of rare earths raw materials so as to boost their domestic industry. There is no date given yet as to when a ban may start. In any event, Myanmar is a much more important supplier than Malaysia.

This month [Australian Strategic Materials Limited](#) (ASX: ASM) announced some world-class [test work results](#) with their terbium (Tb) and dysprosium (Dy) heavy rare earth separation test work. Pilot plant test work produced [">99.99% for Tb and > 99.95% for Dy1, at steady state"](#). Results like this from their Dubbo



Project ore should give some more impetus to getting the Dubbo Project financed with probable output of around 140tpa Dy and 20tpa Tb. ASM Managing Director, Miss Rowena Smith [stated](#):

*“These excellent results demonstrate the strength of ASM’s advanced technical capability...Terbium and dysprosium oxides are not only scarce commodities they are very difficult to separate at high purity. With the continued expertise of the team at ANSTO and the welcome support of the NSW Government, we are positioning the Dubbo Project to be at the forefront of Australia’s rare earth and critical minerals evolution.”*

Dysprosium is a key rare earth used in nuclear reactor control rods and neodymium-iron-boron permanent magnets used in many EVs and wind turbines. Terbium is used in fluorescent lamps and television and monitor cathode-ray tubes.

## **Cobalt, Graphite, Nickel, Manganese and other critical minerals**

**Cobalt** prices (currently at [US\\$14.84/lb](#)) remained flat the past month and continue to be very depressed. China’s demand for NMC cathode material for EVs has been weak, not helped by the popularity of LFP cathodes that don’t use nickel or cobalt.

**Flake graphite** [prices](#) remain very weak with prices near the marginal cost of production. A combination of slower EV sales growth in 2023 and increased China graphite supply has led to a depressed graphite market. [Macquarie](#) and [others](#) forecast graphite to start heading into deficit from about 2024.

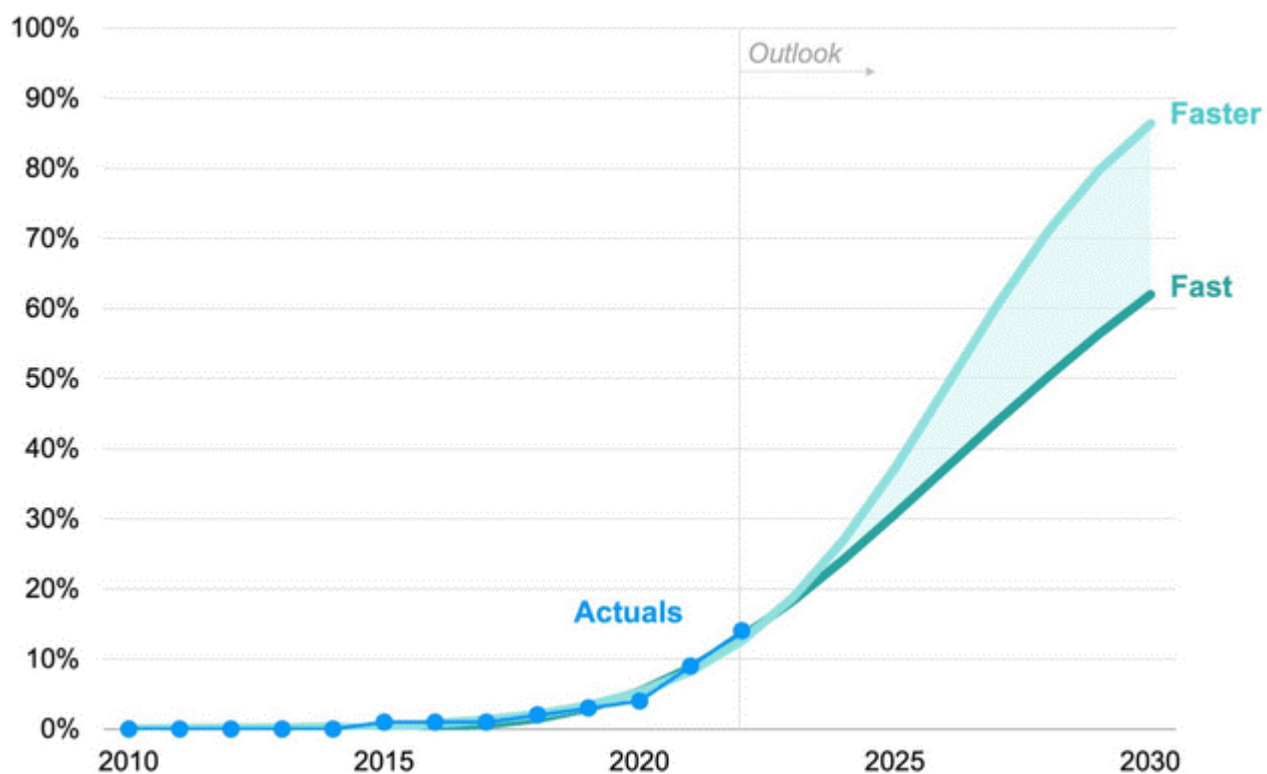
**Nickel** [prices](#) have recently weakened further due to oversupply concerns from Indonesia and a slowing Chinese property sector.

**Manganese** [prices](#) remain weak mostly due to weak Chinese demand

as the Chinese housing industry continues to rebalance after years of over construction and oversupply.

Longer term the outlook for the EV and energy stationary storage (“ESS”) sectors looks extremely strong. This is expected to lead to a huge surge in demand for the critical metals that supply these sectors.

**EV sales are forecast to increase to somewhere between 62% and 86% market share of global car sales by 2030**



Source: [CleanTechnica](#) courtesy Rocky Mountain Institute

**Trend Investing v IEA demand forecast for EV metals**

**Increase in metal demand 2020 to 2037 (100% EV and sustainable energy world)**

	Trend Investing (f) to 2037	IEA (f) to 2040		
Lithium demand	35	13 --42		
Cobalt demand	5.7	6--21		
Nickel demand	2.8	7--19		
Manganese demand	1.7	3--8		
Flake Graphite demand	17	8--25		
NdPr demand	5.9	3--7		
Copper demand	2.3	2--3		

Source: [Trend Investing](#) and the [IEA](#)

**Latest CMI events**

- Friday October 20, 2023 – **CMI Masterclass: Critical Minerals in the Congo**. Details and event tickets [here](#).