

Technology Metals Report (02.11.2024): Constantine Karayannopoulos Resurfaces, Landmark \$18.8 Billion Cathode Supply Deal in Tennessee, and Canada Invests in Ucore

written by Tracy Weslosky | February 11, 2024

Welcome to the latest Technology Metals Report (TMR) where we highlight the top news stories that members of the [Critical Minerals Institute](#) (CMI) have forwarded to us in the last week. Key highlights in this Technology Metals Report include significant developments such as Appia Rare Earths & Uranium Corp. enriching its advisory committee with the appointment of industry veteran Constantine Karayannopoulos, a move poised to strengthen its strategic capabilities in the critical minerals sector. Additionally, stories highlighted last week include Ford Motor Company's substantial \$4.7 billion loss in its electric vehicle (EV) segment for 2023, a figure that underscores the economic challenges facing companies transitioning to electric mobility.

Moreover, this edition of the TMR delves into Bora Mining Services' strategic acquisition in the Steenkampskraal Monazite Mine and the landmark \$18.8 billion cathode supply deal between General Motors and LG Chem, both of which underscore the strategic efforts to secure critical materials for the burgeoning EV market. The report also examines Hitachi Construction Machinery's innovations with its all-electric dump truck prototype, signaling a push towards sustainability in

mining operations. Commentary on the EV market by industry expert Jack Lifton highlights the sector's challenges and misalignments with consumer preferences. Furthermore, Canada's advancement over China in the BloombergNEF Global Lithium-Ion Battery Supply Chain Ranking and the discontinuation of merger talks between Lynas Rare Earths and MP Materials are highlighted, reflecting the dynamic nature and strategic maneuvers within the global critical minerals and electric vehicle sectors.

Appia Appoints Constantine Karayannopoulos as New Member to Its Critical Minerals Advisory Committee (February 9, 2024, [Source](#)) – [Appia Rare Earths & Uranium Corp.](#) (CSE: API | OTCQX: APAAF) announced the appointment of Constantine Karayannopoulos to its Advisory Committee, alongside rare earths experts Jack Lifton and Don Hains. Karayannopoulos, with a 30-year career in the rare earth and critical minerals sectors, including as President and CEO of [Neo Performance Materials Inc.](#) (TSX: NEO), brings significant expertise to Appia. His background includes pivotal roles in the industry, such as leading the first foreign company in China's Rare Earth industry and co-founding Neo Lithium Corp. His appointment, starting February 1, 2024, is set to enhance Appia's strategic capabilities in the critical minerals sector, supported by his consulting company, Kloni Inc. Appia has granted 300,000 options to Kloni Inc. as part of this agreement.

Rare Earths Discovery Near Wheatland So Big It Could Be World Leader (February 7, 2024, [Source](#)) – American Rare Earths Limited (ASX: ARR | OTCQB: ARRNF) has made a groundbreaking discovery near Wheatland, Wyoming, revealing 2.34 billion metric tons of rare earth minerals, significantly surpassing initial estimates and other local discoveries. This positions Wyoming as a key player in reducing reliance on China's rare earth market, vital for green energy technologies. With only 25% of their land explored, the potential for further discoveries is immense. The

company, part of an Australian enterprise, plans scalable mining operations to meet the high global demand. This development, along with other explorations in Wyoming, could transform the U.S. into a major source of rare earth minerals, essential for a range of advanced technologies. Further economic and development projections are anticipated, underlining Wyoming's emerging significance in the global rare earth industry.

Ford Lost \$4.7B On EVs Last Year, Or About \$64,731 For Every EV It Sold (February 7, 2024, [Source](#)) – Ford Motor Company's venture into electric vehicles (EVs) in 2023 resulted in a significant financial loss, overshadowing its overall profits for the year. The company experienced an operating loss of \$4.7 billion from its EV business, termed as "Model e," despite achieving a net income of \$4.3 billion on \$176 billion revenue. This loss equates to approximately \$64,731 for each of the 72,608 EVs sold last year, demonstrating the financial challenge of transitioning to electric mobility. The loss was attributed to competitive pricing, strategic investments in new EV development, and exceeded Ford's initial projections. The automotive giant's commitment to EVs, which includes a \$50 billion investment plan, has been questioned in light of these results. Additionally, Ford's EV production adjustments and the broader automotive industry's challenges with EV demand and profitability highlight the difficulties in achieving widespread EV adoption. This situation reflects broader market trends and concerns over the viability and appeal of EVs, particularly in markets dominated by conventional vehicles and specific demographic niches.

Bora Mining Acquires Share in Steenkampskraal Monazite Mine (February 7, 2024, [Source](#)) – Bora Mining Services (BMS) has acquired a share in Steenkampskraal Monazite Mine (SMM), a high-grade rare earths and thorium mine, to commence operations in early 2024. With a significant investment, including a R1

billion infrastructure, BMS aims to refurbish and develop the mine, leveraging its expertise in mining operations. The mine boasts an impressive 14.5% average grade of total rare earth oxides, with potential for resource expansion. The partnership focuses on producing monazite concentrate initially, with plans to extend production to mixed rare earth carbonate and thorium. The project has received positive feedback from regulatory bodies and has a dynamic growth strategy across three phases, eventually aiming to produce individual rare earth oxides. The initiative is expected to cater to global rare earth demands, with thorium also highlighted for its safety and potential in cancer therapy.

South Korea's LG Chem signs \$19 bln cathode supply deal with General Motors (February 7, 2024, [Source](#)) – General Motors (GM) and South Korea's LG Chem have signed a \$18.8 billion deal for cathode material supply, enhancing GM's electric vehicle (EV) production chain from 2026 to 2035. This partnership aims to support the production of 5 million high-performance EVs, with LG Chem's Tennessee plant serving as a cornerstone for a localized supply chain. The agreement, building on a prior commitment for over 950,000 tons of Cathode Active Material, signifies a major step towards sustainable EV production. The Tennessee facility, set to be America's largest cathode plant, will primarily supply Ultium Cells LLC, a GM and LG Energy Solutions joint venture, potentially extending to other GM EV projects. This move aligns with U.S. Inflation Reduction Act criteria, emphasizing local supply chain benefits.

Hitachi launches final tests of its electric dump truck (February 6, 2024, [Source](#)) – Hitachi Construction Machinery has introduced a prototype of its all-electric dump truck, which is now undergoing final testing at a copper-gold mine in Zambia. Based on the EH4000AC-3 model with a 221-tonne payload, this electric version includes ABB's battery technology and

converters. Unlike its diesel counterpart, it operates on internal batteries on level ground and external trolley power uphill, while regenerative braking recharges the battery downhill. Performance details are pending, but the combustion engine model's specs offer insight. This initiative, started in 2021 by Hitachi and ABB, aims to meet electric dump truck demand in mining and reduce emissions, highlighting a shift towards electrification in heavy machinery and contributing to environmental sustainability.

Riding the EV Revolution Rollercoaster Amid the West's Electric Car Climbdowndown (February 5, 2024, [Source](#)) – Jack Lifton's critique on the electric vehicle (EV) industry highlights the clash between government strategies and market dynamics, alongside the competitive pressure from Chinese manufacturers. He points out major manufacturers like Renault and Volvo retreating from ambitious EV projects due to mismatches in market demand and production costs. Jack also observes a consumer shift back to petrol models, suggesting a misalignment between EV production and consumer preferences. Advocating for hybrids, he emphasizes the need for adaptability, innovation, and market responsiveness. His insights stress the importance of aligning visionary goals with practical market demands and competitive challenges, underlining the complexity of navigating the evolving EV landscape with agility and foresight.

South African platinum industry could shed up to 7,000 jobs to cut costs (February 5, 2024, [Source](#)) – The South African platinum industry, responsible for about 70% of the world's mined platinum, may cut 4,000 to 7,000 jobs due to restructuring amid high costs and declining prices. The Minerals Council highlighted this at the Investing in African Mining Indaba conference in Cape Town, noting the impact of the shift towards electric vehicles and the falling demand for platinum group metals (PGMs) used in traditional combustion engines. High

electricity and labor costs, along with a 40% and 15% drop in palladium and platinum prices respectively, have pressured miners. Major companies like Anglo American Platinum and Sibanye Stillwater are considering operation restructuring and job cuts to reduce expenses, facing challenges from lower ore grades and rising input costs.

China Drops to Second in BloombergNEF's Global Lithium-Ion Battery Supply Chain Ranking as Canada Comes Out on Top (February 5, 2024, [Source](#)) – Canada has taken the top spot in BloombergNEF's Global Lithium-Ion Battery Supply Chain Ranking, outpacing China due to its ample raw materials, policy support, and strong ties with the US auto industry. This represents a significant shift, emphasizing the increasing importance of sustainability and ESG practices in the sector. North America shines in the rankings, with policy initiatives like the US Inflation Reduction Act bolstering the region's standing. Mexico notably rose nine spots, benefiting from its industrial base and potential US policy impacts. Global investment in clean energy supply chains hit \$135 billion, highlighting the sector's growth and the evolving dynamics of trade relations. The ranking assesses countries on raw materials, manufacturing, demand, ESG, and innovation, reflecting the global push towards sustainable energy solutions.

Australia's Lynas Rare Earths quits tie-up talks with MP Materials (February 5, 2024, [Source](#)) – Australia's Lynas Rare Earths and U.S.-based MP Materials terminated merger discussions amid valuation disagreements and strategic considerations. The potential union aimed to bolster supply chain diversification for critical minerals outside China, which commands the rare earth market. The talks' cessation reflects the complexities of consolidating operations within the global rare earths industry, crucial for technology and defense sectors. Despite the strategic intent to reduce reliance on Chinese rare earths, both

companies faced hurdles, including technological challenges and anti-trust regulations. Lynas, with significant projects across Australia, Malaysia, and the U.S., and MP Materials, which relies on Chinese refining, concluded that the merger lacked sufficient synergies to proceed, underscoring the intricate dynamics of international rare earths commerce.

Canada Announces Over \$4 million to Support Critical Minerals Value Chains and Create Good Jobs in Ontario (February 5, 2024, [Source](#)) – Canada is investing \$4.2 million in Ucore Rare Metals Inc. through the Critical Minerals Research, Development, and Demonstration (CMRDD) program to enhance the country's capabilities in producing critical minerals essential for the green and digital economy. This investment, announced by Mark Gerretsen, aims to scale up Ucore's rare earth element separation technology, pivotal for electric vehicle motors and renewable energy technologies. It promotes domestic processing, reducing reliance on foreign separation and bolstering Canada's electric vehicle value chain. This initiative will create employment, including for Indigenous communities, and support Canadian technological advancements in sustainable practices. It aligns with Canada's commitment to a cleaner, low-carbon economy by fostering competitive value chains and economic growth.

Germany's dream of 15 million electric vehicles is fading away (February 3, 2024, [Source](#)) – At a Berlin auto industry event, BMW CEO Oliver Zipse and Transport Minister Volker Wissing highlighted the slowdown in electric vehicle (EV) adoption in Germany. Despite previous optimism, challenges such as a saturated high-end market, lack of affordable options, dwindling government incentives, and inadequate charging infrastructure have emerged. With EV sales projected to drop and the ambitious goal of 15 million EVs by 2030 now looking unrealistic, the industry faces a pivotal moment. The need for diversified vehicle power solutions, including combustion, hybrid, and

hydrogen vehicles, becomes apparent. Analysts are skeptical about meeting emissions targets without further subsidies, pointing to a broader slowdown that could impact investment and long-term environmental goals.

Special thanks to the [Critical Minerals Institute – Leading the Critical Minerals Sector](#), for more information or to send us a highlighted industry story you think we need to include in our weekly Technology Metals Report, please send to Raj Shah – my co-editor, at raj@investornews.com. Thank you.

Investor.News Critical Minerals Media Coverage:

- February 6, 2024 – Global Winds: Opening the Door for a New Middle Eastern Hegemon <https://bit.ly/492BPbH>
- February 5, 2024 – Riding the EV Revolution Rollercoaster Amid the West's Electric Car Climbdowndown <https://bit.ly/42oLYNn>
- February 4, 2024 – Empowering Canadian Resource Exploration: The Strategic Role of Flow-Through Shares, and the Power of PDAC <https://bit.ly/3uv4pm0>

Investor.News Critical Minerals Videos:

- February 8, 2024 – Jack Lifton and Panther Metals Darren Hazelwood on the “greenstone belt for VMS deposits” in Canada <https://bit.ly/42zDzqv>
- February 8, 2024 – Fathom's Ian Fraser on Rising Market Interest in Albert Lake and Nickel as a Critical Mineral <https://bit.ly/49uxFcu>
- February 5, 2024 – Tawana Bain and ACRG's Drive for a Sustainable American Supply Chain through Net-Zero Mineral Production <https://bit.ly/4bnBcLg>
- February 5, 2024 – Terry Lynch on Power Nickel's Ambitious

2024 Drilling Program at the Nisk Project in Nemaska
<https://bit.ly/49i70Ei>

- February 5, 2024 – Voyageur Pharmaceutical's Brent Willis on Revolutionizing the Medical Imaging Industry, plus SmoothX <https://bit.ly/3SsrLLt>

Critical Minerals IN8.Pro Member News Releases:

- February 9, 2024 – Ucore Announces Closing of Final Tranche of Upsized Debenture Offering <https://bit.ly/49o07Na>
- February 9, 2024 – Appia Appoints Constantine Karayannopoulos as New Member to Its Critical Minerals Advisory Committee <https://bit.ly/30CnNVL>
- February 9, 2024 – American Rare Earths Limited: Appointment of Chairman – Richard Hudson <https://bit.ly/3HU47Ji>
- February 8, 2024 – Auxico Announces Sampling Results From a Geological Report on the Minastyc Property <https://bit.ly/3UAtsj3>
- February 8, 2024 – Fathom Announces Start of Drilling at Albert Lake Project <https://bit.ly/499VW7K>
- February 8, 2024 – Appia Announces Outstanding Re-Assayed Diamond Drill Results Including 100 Metres Averaging 3,577 PPM TREO at Its PCH Ionic Clay Project, Brazil <https://bit.ly/48dXQTs>
- February 7, 2024 – American Rare Earths Resource Estimate Increased by 64% <https://bit.ly/3SuhAfU>
- February 7, 2024 – Imperial Mining Announces Shareholder Approval of Name Change to Scandium Canada Ltd. and Results of its 2024 Annual and Special Meeting <https://bit.ly/49nEltY>
- February 5, 2024 – Ucore Welcomes Canadian Government Officials to its Kingston Ontario CDF for an NRCan Funding

Announcement <https://bit.ly/495cTA3>

- February 5, 2024 – Nano One Provides Shareholder Update with Key Objectives for 2024 <https://bit.ly/49mNgut>
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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 11, 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/3ueaxjg>
- 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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Critical Minerals “rightsizing” in reaction to governments’ efforts to regulate market

written by Tracy Weslosky | February 11, 2024

The past week has been pivotal for the critical minerals industry, marked by a notable adjustment in the market for electric vehicle (EV) materials. Jack Lifton, Co-Chairman of the [Critical Minerals Institute](#) (CMI), offers a perspective that contrasts sharply with the more alarmist tones often found in media coverage of this sector. According to Lifton, the recent downturn in prices for key EV component materials, such as those for batteries and magnets, should not be misconstrued as a disaster. Instead, it’s a natural market correction, or “rightsizing,” where supply and demand are finding their equilibrium without the heavy hand of regulatory intervention attempting to influence market outcomes. This view is particularly poignant as it reflects on Western governments’ efforts to regulate the market, which Lifton suggests are largely ineffective in a true market economy driven by supply and demand dynamics.

Recent financial reports from industry leaders like China Northern Rare Earth have underscored this point, revealing a 60% drop in profits due to declining rare earth element prices. This trend is not indicative of strategic market manipulation but rather a response to an overestimated demand for EVs, as evidenced by falling EV sales in significant markets such as California. This recalibration is further exacerbated by the economic climate in America and Europe, where high interest

rates have cooled consumer enthusiasm for major purchases, including EVs.

Despite these challenges, opportunities abound for discerning investors. Lifton advises that only the most efficient, low-cost producers of EV materials are likely to thrive under these conditions. Companies that can maintain profitability despite falling prices, particularly those in the neodymium sector, represent promising investment targets. This approach emphasizes the importance of due diligence, encouraging investors to closely examine the fundamentals of these companies, especially their production costs relative to current market prices.

The January [2024 CMI Report](#) further contextualizes these market dynamics, highlighting the U.S. government's move to ban Pentagon battery purchases from major Chinese companies starting October 2027. This development, alongside global macroeconomic trends and specific updates in the EV sector, paints a picture of a market at a critical juncture. Despite the gloom surrounding EV and battery metals, with depressed prices and surplus inventory, the report suggests a stabilization in lithium prices and potential for recovery in demand and pricing in the coming months.

Recent news from Lynas Rare Earths adds another layer to this complex scenario. The company reported a significant drop in revenue, attributed to falling prices and reduced demand from China. This situation reflects broader market trends but also highlights Lynas' strategic moves to expand capacity and improve efficiency, suggesting a long-term view towards meeting future demand.

In conclusion, the narrative emerging from Jack Lifton's insights, the CMI report, and the latest developments from companies like Lynas offers a multifaceted view of the critical

minerals and EV materials market. While the short-term outlook may appear daunting, with price declines and demand uncertainties, the underlying message is one of resilience and strategic adaptation. For investors and industry stakeholders, the current market dynamics underscore the importance of efficiency, cost management, and the ability to anticipate and respond to evolving demand patterns. As the market continues to adjust, those who remain informed and agile are likely to navigate these shifts successfully, positioning themselves for growth as the sector evolves.

Attention set on rare earths in Canada and Brazil, Appia hits 2024 running

written by InvestorNews | February 11, 2024

[Appia Rare Earths & Uranium Corp.](#) (CSE: API | OTCQX: APAAF) (“Appia”) has several projects located across Canada and Brazil with rare earths and uranium potential, as well as some other valuable metals. The current focus for Appia is on advancing their two key rare earths projects Alces Lake Project in Canada and the PCH Ionic Clay Project in Brazil.

Today we give an update on Appia’s latest activity at these two projects.

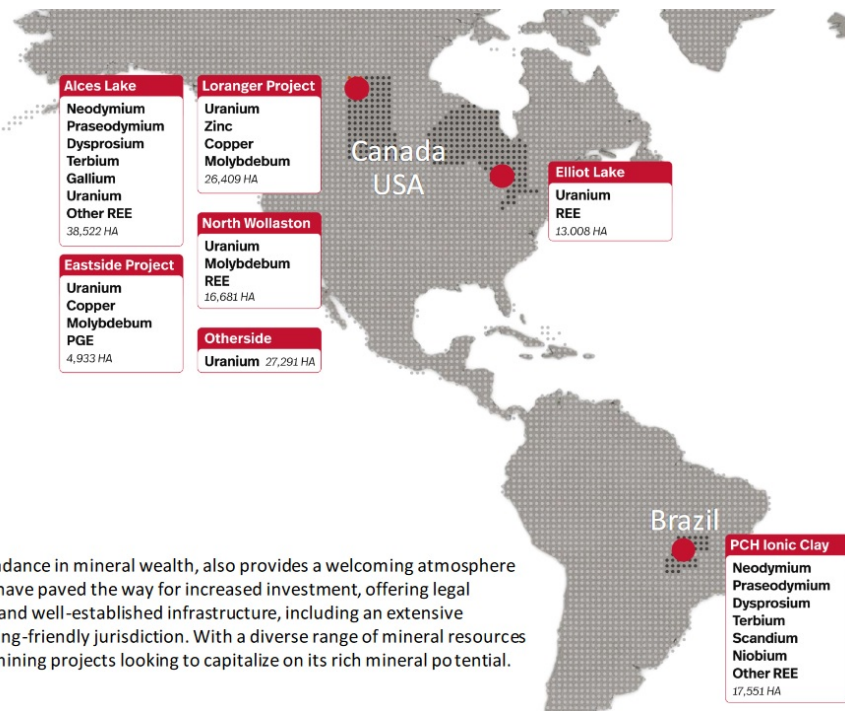
Appia’s projects are located in Canada and Brazil with a focus on rare earths and uranium

Our Projects

Appia is strategically positioned with mining projects in two of the world's most mining-friendly jurisdictions, Canada and Brazil. These locations offer an array of compelling reasons for our choice.

Canada, renowned for its political stability and robust legal framework, stands as a beacon of security for mining investments. With a rich endowment of mineral resources and a well-established mining industry, Canada provides a secure environment where investor interests are safeguarded. The nation's geological diversity opens up vast opportunities for resource exploration, and its experienced mining workforce ensures efficient project execution. Additionally, Canada's developed infrastructure and skilled labour force create an environment where mining operations can thrive with ease. **The Company holds a large uranium ground position in Elliot Lake and four highly prospective uranium exploration projects in the prolific Athabasca Basin area: Loranger, North Wollaston, Eastside and Otherside.**

In the southern hemisphere, Brazil, while boasting similar abundance in mineral wealth, also provides a welcoming atmosphere for mining endeavors. The country's regulatory improvements have paved the way for increased investment, offering legal certainty for mining operations. Brazil's geological accessibility and well-established infrastructure, including an extensive transportation network, further underscore its appeal as a mining-friendly jurisdiction. With a diverse range of mineral resources and a skilled workforce, Brazil represents an ideal location for mining projects looking to capitalize on its rich mineral potential.



Source: [Appia company presentation](#)

Alces Lake Project in Canada (100% owned)

The Alces Lake Project is located in Northern Saskatchewan and is known for having exceptionally high rare earths grades and gallium in favorable monazite ore. Appia [state](#): "Alces Lake Project in Saskatchewan's Athabasca Basin is the highest-grade critical rare earths prospect in North America and one of the highest-grade rare earths prospects in the world."

Appia is now starting to release their latest results from the 2023 drill campaign from the Magnet Ridge Zone at Alces Lake.

Appia [announced](#) on January 15, 2024: "Assays of **up to 1.57 wt.% (15,700 ppm) Total Rare Earth Oxides (TREO)** were returned, with thickness and grades increasing to the south-southeast...**Mineralization intervals occur from near surface to < 85 metres depth.**"

Appia also [announced](#) in January 2024 that they have signed a new Cooperation Agreement with the Ya'thi Néné Lands and Resources Office.

Near term catalysts from Alces Lake include further assay results from the 40 diamond drill hole summer 2023 exploration program.

The PCH Project in Brazil (option to acquire [up to 70% interest](#))

The PCH Project is potentially a very significant ionic clay rare earths project located in Goiás, Brazil. Ionic clay projects are favored as the extraction process for rare earths is a relatively simple and less expensive process, already widely practiced in China. Furthermore, Appia's PCH Project has all the key rare earths needed for the powerful magnets used in electric motors in most EVs. Most other projects don't have this complete spectrum as discussed by leading rare earths expert Jack Lifton [here](#).

Drill results [announced](#) in October 2023 from the PCH Project have been very encouraging, including Hole RC-063 that reported 24 metres of mineralization from surface **with a total weighted average of 27,188 ppm or 2.72% of Total Rare Earth Oxides (TREO)**. The hole remains open at depth and has extended the known area of Target IV.

Appia Geology Manager, Carlos Bastos, [stated](#): *"The assay results from PCH-RC-063 are highly promising, revealing sustained mineralization of essential elements including **Terbium (Tb), Dysprosium (Dy), Neodymium (Nd), and Praseodymium (Pr)**. Notably, several elements surpassed the upper detection limit of the assay method being used, and updated results will be reported*

once received."

Note: Bold emphasis by the author.

On January 16, 2024, Appia announced [reanalysis](#) of Hole RC-063 resulting in even higher grades of a **Total Weighted Average of 38,655 ppm or 3.87% TREO**.

From the first 10 holes drilled at the PCH Project the total weighted average grade is 7,578 ppm or [0.76% Total Rare Earth Oxide](#).

The January 11, 2024 Appia [announcement](#) highlights the excitement that the Appia team has towards the PCH Project. They announced an extension of their existing mining claims at the Project from 17,551.07 hectares to an expansive 40,963.18 hectares across a total of 22 claim blocks. The substantial 133% increase in the current land package includes 12 new claims independently staked by the Company and incurred minimal costs.

The PCH Project is situated in a jurisdiction supportive of mining activities with many major mining corporations actively exploring and mining located just ~30 km from the city of Iporá. Access is good using well-developed regional roads with [optimal infrastructure](#) including water and power to the Project. Appia [says](#) that "the Project has the support of both local and state governments".

Appia is targeting a Maiden Resource for the PCH Project Target IV in [Q1, 2024](#).

Typical differences between ionic clay and hard rock rare earth projects

	IONIC CLAY	HARD ROCK
Location	Mainly China, Brazil, Africa	China, USA, Australia Canada
Type of REE	Contain both Heavy and Light REE	Mainly Light REE
CAPEX and OPEX	Low CAPEX & OPEX	Same as other hard rock mining deposits – higher costs for drilling and blasting
Exploration and Mining	Quick, inexpensive, simple, shallow drilling in weathered granites; mainly found in top 10-30 metres. Easy mining without drilling or blasting. Environmentally friendly and therefore easier to permit.	More expensive exploration: Deeper, diamond core drilling, blasting, open-pit or underground mining; tailings
Processing	Simple leaching and very little radioactivity	High temperature cracking; tailings; often containing higher radioactivity

Source: [Appia company presentation](#)

Closing remarks

Appia is making steady progress on multiple projects with the key focus currently on the Alces Lake Project in Canada and the PCH Project in Brazil. Both Projects have strong potential with good grades and amenable ore, but will take time to develop. Appia also has their various uranium projects, but that's for next time.

Appia trades on a market cap of [C\\$27 million](#). 2024 could potentially be a very big year for Appia. Stay tuned.

The Critical Minerals Institute Report (01.25.2024):

U.S. government bans Pentagon battery purchases from major Chinese companies starting October 2027

written by Matt Bohlsen | February 11, 2024

Welcome to the January 2024 [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](#) or visit the [CMI Library](#).

Global macro view

January 2024 saw a slight rise in U.S. inflation [reported](#) from 3.1%pa in November to 3.4%pa in December 2023. This has led market commentators to suggest the proposed 2024 interest rate [reductions](#) may be pushed out to H2, 2024, or be smaller in nature.

The next U.S. Fed rates announcement is due on January 31, 2024, and no changes in rates are expected. Year to date, as of January 21, 2024, the [S&P 500](#) is up 2.04%. U.S. GDP looks set to slow in Q4, 2023 ([announcement](#) due 25 January 2024) with [forecasts](#) for 2% annualized growth, which would result in a [2023 GDP](#) of ~2.7%. 2024 U.S. GDP is [forecast](#) to be ~2.2%. The U.S. consumer remains resilient with U.S. employment [very strong](#).

China continues its property led slowdown with 2023 GDP recently [reported at 5.2%](#) annualized. China's December new [home prices fell](#) at the fastest pace in almost 9 years. Despite this the Chinese Central Bank left rates unchanged, defying expectations for a 0.1% cut.

The Russia-Ukraine war continues as does the Hamas-Israel war which last month spread to include the U.S. and UK forces [bombing](#) Iran-backed Houthis over their attacks in the Red Sea. The Middle East is a hotbed ready to explode.

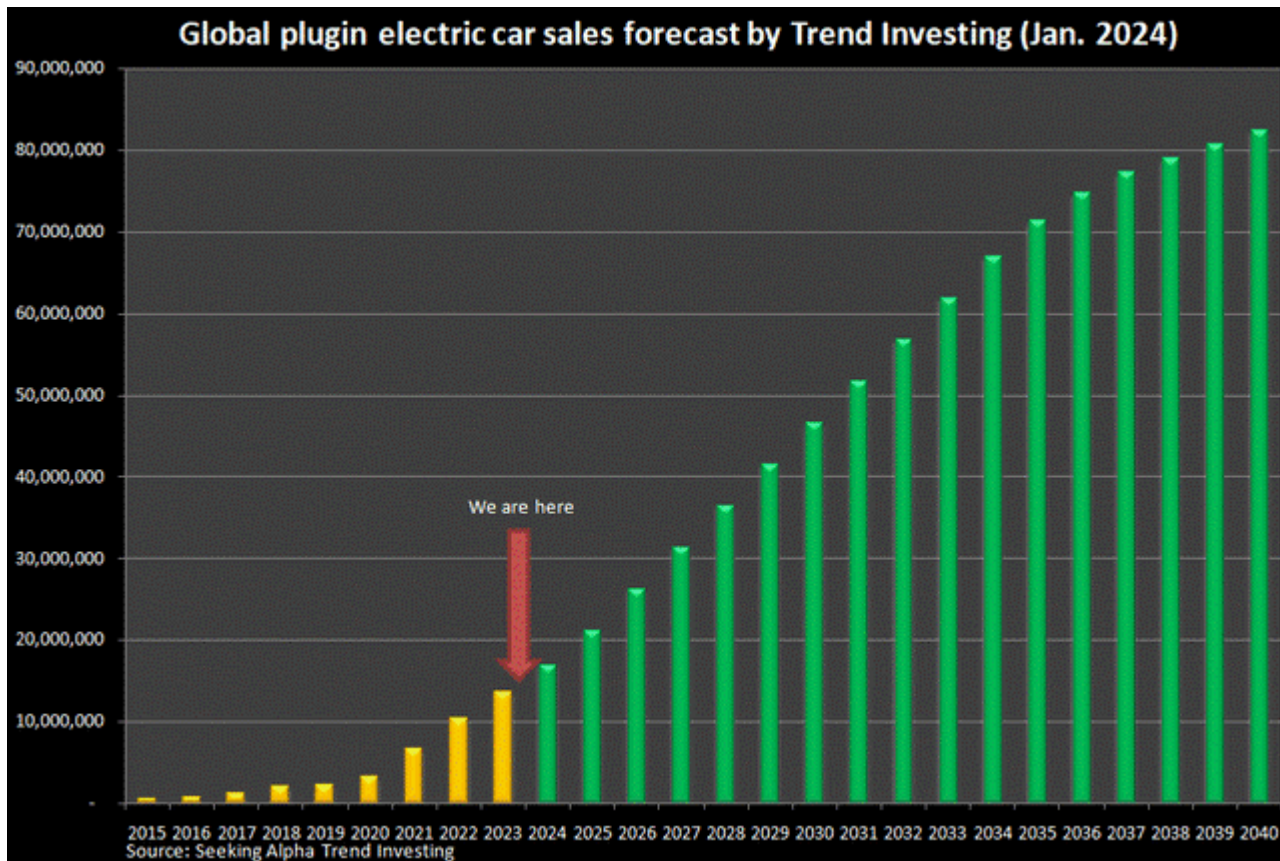
Global plugin electric vehicle (“EV”) update

December 2023 saw the usual seasonal upswing in global plugin electric car sales reaching a record [~1.5 million](#). China led the way with a stellar result of [1.191 million units](#), up [46% YoY](#).

Global plugin electric car sales ended 2023 at [13.6 million units](#) (~16% market share), for a growth rate of [31% YoY](#) (a significant slowdown from the ~60% growth rate in 2022).

- Trend Investing [forecast](#) for 2024 is 17 million units (20% market share), for a growth rate of 25% YoY.
- BloombergNEF [forecast](#) for 2024 is 16.7 million units (~20% market share), for a growth rate of 21% YoY.

We are still at the very early stage of the EV boom.



Trend Investing's global plugin electric car sales forecast to 2024 (green bars)

In early January, news was released that [a record](#) 1.2 million EVs were sold in the U.S. in 2023, according to estimates from Kelley Blue Book. The report noted that U.S. market share [reached 7.6%](#) in 2023 and that 55% of EV sales were attributable to Tesla (NASDAQ: TSLA).

The UK announced that their Zero Emission Vehicle (ZEV) [mandate](#) to increase electric car sales has become law. Key rules include:

- **"ZEV Mandate demands makers up share of electric car sales to 22% in 2024.**
- Electric vehicles currently make up around just 18% of all registrations in the UK.
- **Mandate thresholds rise annually to an 80% share in 2030 – and 100% by 2035.**

- Failure to meet the ZEV mandate sales targets can result in huge fines for auto makers of £15,000 per model below the required threshold.”

EV battery news

The U.S. government continues to tighten the screws towards developing their own EV supply chain independent of Foreign Entities Of Concern (“FEOC”). On January 20 Bloomberg [reported](#): “US to ban Pentagon battery purchases from China’s CATL, BYD”. The ban will commence from October 2027 and include 4 other Chinese battery makers (Envision Energy Ltd., EVE Energy Co., Gotion High Tech Co., and Hithium Energy Storage Technology Co).

Global critical minerals update

There is an enormous amount of doom and gloom surrounding the EV and battery metals sector as we commence 2024. A key theme in recent months has been very depressed prices for many of the critical minerals, especially those related to the EV segment. A combination of the slowing EV growth rate in 2023 from ~60% in 2022 to ~31% in 2023, combined with an excess of battery inventory from 2022 and new EV metals supply has left most EV metal markets in surplus with prices collapsing.

MarketsCommodities

Battery Metal Price Plunge Is Closing Mines and Stalling Deals

- Prices for lithium, nickel and cobalt have tumbled from peaks

Source: [Bloomberg article, January 10, 2024](#)

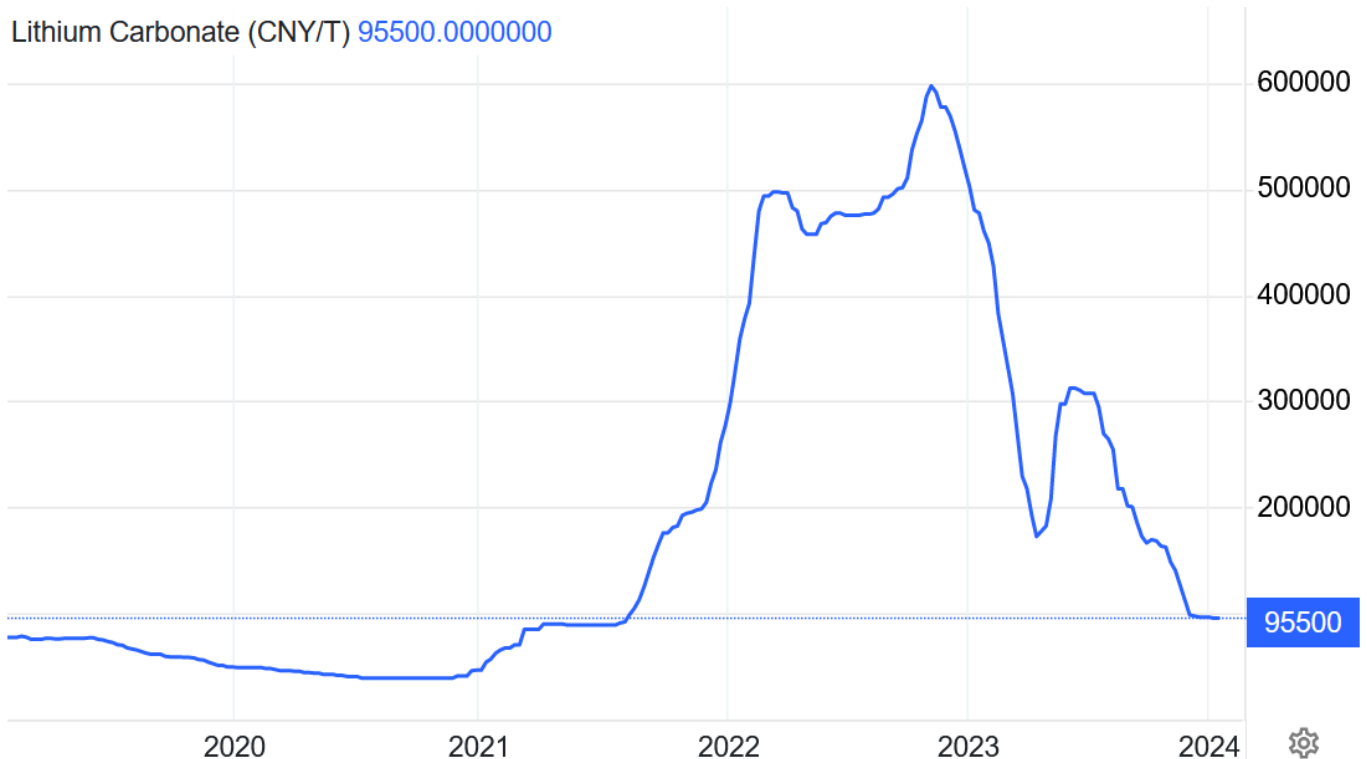
Lithium

China lithium carbonate [spot prices were flat](#) the past month, with the price now at [CNY 95,500/t](#) (USD 13,275/t). After an [~80%](#) fall from the high, lithium prices appear to have finally stabilized. This is logical given that prices are now at or below the marginal cost of production, especially for the higher cost China lepidolite producers.

Industry participants have been calling for a price bottom in recent months, with China Futures Co. analyst, Zhang Weixin, forecasting lithium prices to bottom out between [CNY 80-90,000/t](#) and average CNY 100,000/t in 2024.

The other key recent trend in the lithium sector has been several announcements from lithium producers either stopping production or reducing their expansion plans. Core Lithium (ASX: CX0) announced on January 5, 2024 it will [temporarily suspend](#) mining operations. Then on January 17, 2024, Albemarle Corporation (NYSE: ALB) [anno](#)unced “actions to preserve growth, reduce costs, and optimize cash flow”. This includes deferring plans to build a fourth lithium hydroxide processing train at their Kemerton LiOH facility.

The China lithium carbonate spot price has stabilized near the marginal cost of production



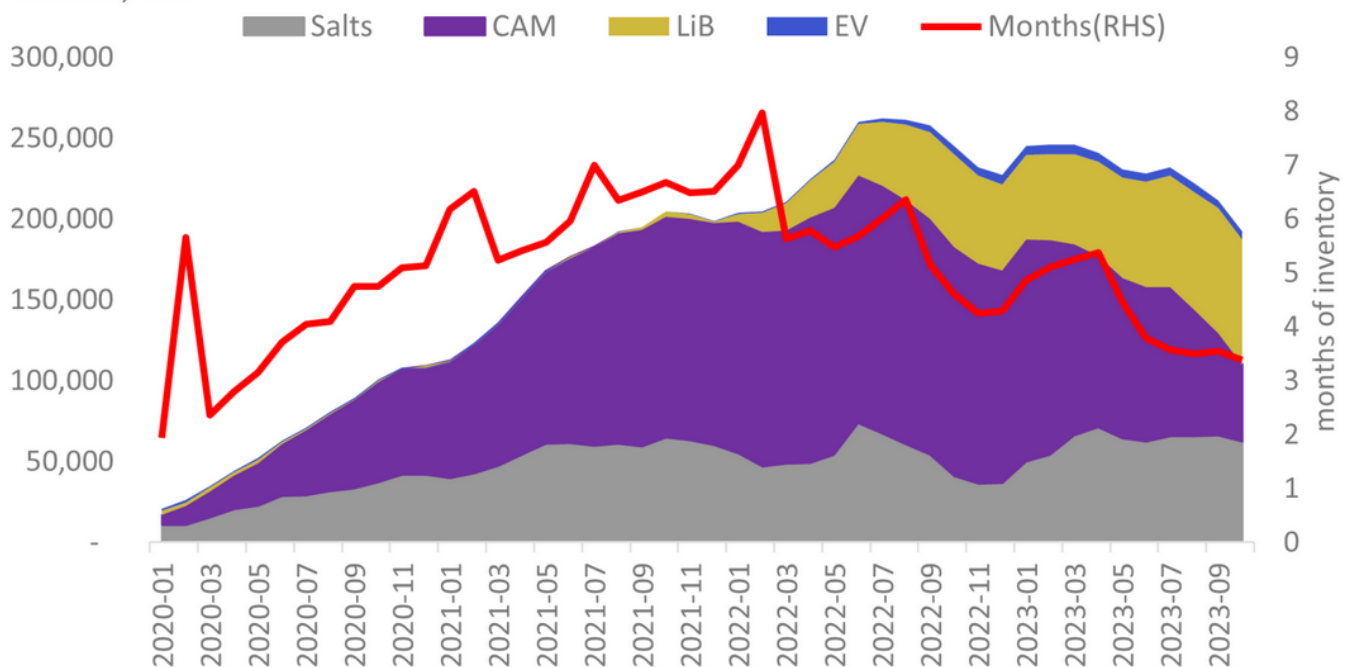
Source: [Trading Economics](#)

On the topic of when we might see some recovery in lithium prices. On January 19 Fastmarkets put out a report [stating](#): “...We expect orders to start flowing upstream again either towards the end of the first quarter or early in the second quarter.” If this proves correct and EV demand remains solid, then we could expect some lithium price recovery late Q1, early Q2, 2024.

Fastmarkets reports China lithium inventory levels are now back to the pre-boom levels with ~3 months of supply (red line)

Implied inventory on the way back to normalized level

Implied lithium inventory within China's supply chain
tonnes, LCE



Source: [Fastmarkets](#)

Magnet Rare Earths

Neodymium spot prices fell again the past month to [CNY 505,500/t](#). Prices peaked in February 2022 at CNY 1,506,530 and have been trending lower ever since then.

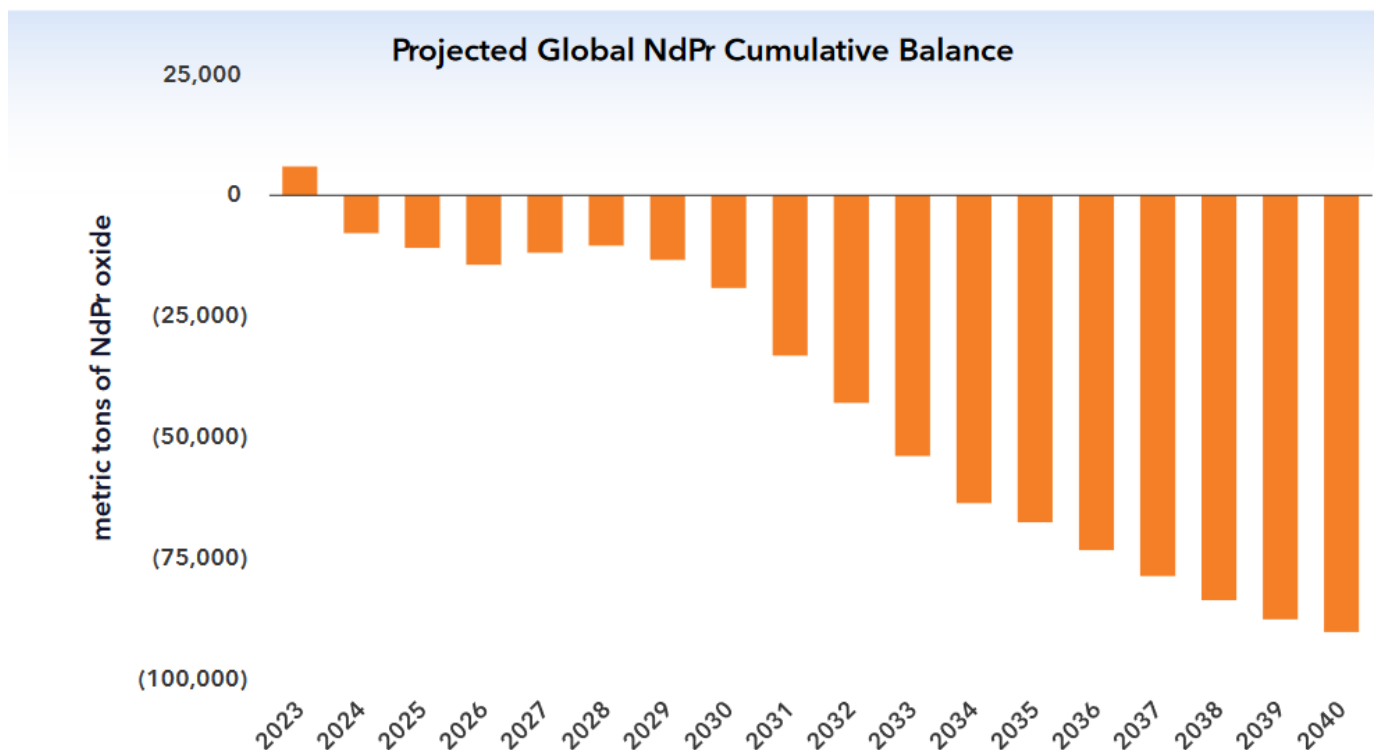
As discussed in a recent [InvestorNews article](#), the consensus of industry experts is for 2024 to be a consolidation year. The article states: “2024 should see a year of consolidation for the rare earths sector as some experts are telling me. Some [forecasts](#) are for NdPr supply deficit to begin as early as 2024; however, this will largely depend on China demand, the global economy, EV sales, and new NdPr supply hitting the market.”

One interesting [news item](#) that emerged in January was of Rainbow Rare Earths Limited (LSE: RBW) (“Rainbow”) and their Phalaborwa Project in South Africa. The key aspect being that the Project

[consists of gypsum](#) waste piles that contain large quantities of the magnet rare earths. Rainbow CEO Bennett [stated](#): “We’ve got no mining cost, no crushing, no milling, no flotation. I saw the advantages to lead to a low capital intensity and low operating cost environment project.” Rainbow targets first production for 2026.

Some analysts are forecasting deficits ahead for NdPr rare earths driven by strong EV and wind energy demand

A precarious supply-demand imbalance looms



Source: [MP Materials courtesy Adamas Intelligence](#)

Cobalt, Graphite, Nickel, Manganese and other critical minerals

Cobalt prices (currently at [US\\$12.90/lb](#)) were flat the past month and remain at very depressed levels. The cobalt market is

suffering from excess cobalt supply from the DRC which combined with a global slowdown in demand has led to cobalt prices dropping by almost 2/3 since their April 2022 peak. With LFP batteries gaining in popularity (no cobalt required) and a weak global consumer electronics market, there appears to be no short term turnaround for cobalt. Leading cobalt producer Glencore PLC (LSE: GLEN | OTC: GLCNF) has been stockpiling their excess material. At current prices, there is limited incentive for western producers to expand or enter the market.

Cobalt has lost two-thirds of its value since a recent peak in 2022



Source: [Trading Economics](#)

Flake graphite prices remain very weak with prices near the marginal cost of production and [down ~2%](#) over the past month.

A January 2024 Bloomberg [report](#) noted that natural flake graphite shipments slumped 91% in December from November 2023. Of course, sales surged prior to the Chinese export license permits being implemented in December 2023. December exports

were 3,973 tons compared to the past monthly average of ~17,000t, so still a very significant fall.

Despite the spate of recent bad news, graphite is one of the EV metals with the largest demand profiles ahead this decade. Several groups are forecasting deficits ahead this decade starting from 2024/25 for the various types of graphite including flake, spherical, and synthetic. You can read more on the graphite outlook [here](#).

Nickel prices fell again last month to [USD 15,799/t](#). The [1 year outlook for nickel](#) remains poor due to oversupply concerns from Indonesia. As a result of low nickel prices we saw [the collapse](#) of Panoramic Resources (ASX: PAN) in December and then on January 22, 2024, it was [reported](#) that BHP Group (ASX: BHP | NYSE: BHP) plans “to put parts of Kambalda nickel concentrator in Australia on care and maintenance” from mid-2024. This was caused by Wyloo Metals, which supplies ore to the plant, announcing a pause in mining operations due to low nickel prices.

Manganese prices were flat the past month and are now at [CNY 29.25/MTU](#).

Uranium prices have been the exception to the rule the past year as they continue to rise, now at [US\\$106/lb](#).

Uranium 5 year price chart



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

Conclusion

The biggest trend that looks to be emerging in Q1, 2024 for the EV metals sector is a negative supply response from producers. Producers are cutting CapEx, scaling back expansion, and in some cases reducing or stopping production. Expect to see a lot more of this in H1, 2024.

They say “the cure for low prices is low prices”. Well that’s exactly where we are now in the cycle. The next 3-6 months is likely to see the washout phase, where many miners collapse, reduce production or put their mine into care and maintenance. There is no point running a mine and selling a limited resource and making no profit. I will end with three well known sayings:

- “Bear markets are the author of bull markets”
- “*Bull markets are born on pessimism, grown on skepticism, mature on optimism, and die on euphoria.*”

- “You have suffered through the pain, now hang around for the gain.”

Given the EV metals markets have been in a bear market for the past 15-18 months the end is near, and we should expect some recovery during H2, 2024, assuming EV sales can grow at a reasonable rate.

Technology Metals Report (01.19.2024): Rainbow Rare Earths Discovery, Middle East Critical Minerals Chess Play, and ANSTO Invests in Critical Minerals Research

written by Tracy Weslosky | February 11, 2024

Key highlights in this Technology Metals Report include significant developments such as Rainbow Rare Earths Limited's discovery in South Africa, China's unveiling of the new heavy rare earth mineral Bayanoboite-Y, and the Australian Nuclear Science and Technology Organisation (ANSTO)'s \$13.9 million funding for critical minerals research.

Darren Hazelwood Discusses Panther's Substantial Land Package and VMS, Graphite Prospects in the Greenstone Belt

written by InvestorNews | February 11, 2024

In an Investor.Coffee interview with Peter Clausi, Darren Hazelwood, CEO of Panther Metals PLC (LSE: PALM), discussed the company's strategic focus and current projects. Panther Metals is dedicated to developing the next Volcanogenic Massive Sulphide (VMS) camp in Canada, a significant endeavor considering VMS deposits include valuable minerals like copper, zinc, lead, gold, and silver. The company's exploration in the Obonga greenstone belt, located approximately 2.5 hours north of Thunder Bay by tarmac road, has already yielded promising results.

Jeff Killeen on PDAC 2024: Shaping the Future of Critical Minerals and Mining

written by InvestorNews | February 11, 2024

In a recent Investor.Coffee interview, Jeff Killeen, Director of Policy and Programs at the [Prospectors & Developers Association](#)

[of Canada \(PDAC\)](#), highlighted the association's role beyond organizing its annual convention. Scheduled for March 3 – 6 in Toronto, the [PDAC 2024](#) Convention is a significant event, but PDAC's involvement in the industry extends further. They engage in continuous advocacy, working closely with provincial and federal governments to shape policies and strategies that address the challenges and opportunities within the mineral exploration and mining sector such as the critical minerals flow through programs.

Jeff outlined PDAC's strategic plans, focusing on enhancing public understanding and demonstrating the industry's importance in modern living. This strategy aims to shape public perception, acknowledging its significant impact on the industry's future. Jeff's ambition for PDAC is to be recognized as a thought leader, with the organization's extensive programming covering various topics from commodity performance to community relations and indigenous-industry interactions. This positions PDAC as a pivotal source of knowledge and innovation in the field. Additionally, Jeff when asked about market trends noted a recent increase in uranium exploration and investment, especially in Saskatchewan, highlighting nuclear power's role in a low-emission future.

Established in 1932, PDAC represents the Canadian mineral exploration and development industry's interests. Based in Toronto, Ontario, the association boasts approximately 7,200 members and is staffed by 25 full-time employees. Its annual convention in Toronto is a globally recognized event, attracting up to 25,000 attendees from over 130 countries. The convention is renowned for networking, deal-making, and discussions on current industry issues, trends, and technologies. PDAC's advocacy work is crucial, focusing on government policy issues relevant to the mineral exploration industry, including land access, Indigenous affairs, international affairs, responsible

exploration, finance, taxation, geosciences, and health and safety, thereby enhancing Canada's position as a prime destination for mineral investment.

To access the rest of this interview, [click here](#)

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About Prospectors & Developers Association of Canada (PDAC)

The Prospectors & Developers Association of Canada (PDAC) is the leading voice of the mineral exploration and development community, an industry that supports 719,000 people in direct and indirect employment, and contributes \$106 billion to Canada's GDP every year. Representing over 6,000 members around the world, PDAC's work centers on supporting a competitive, responsible, and sustainable mineral sector.

To learn more about PDAC, [click here](#)

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in the Company.

Technology Metals Report (01.05.24): The Intensifying Competition of BYD Surprises Tesla

written by Tracy Weslosky | February 11, 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.

Key highlights in this **Technology Metals Report** includes Tesla's impressive Q4 delivery record, overshadowed by BYD's surge as the top EV maker, underscoring the intensifying competition in the electric vehicle market. Energy Fuels Inc. has made significant strides, first by entering into an MOU with Astron Corporation to bolster the U.S. rare earths supply, and then by expanding its uranium production in response to favorable market conditions. Nio Inc. has made a technological leap with its innovative EV battery, boasting a 1,000km range, while global trends in the critical minerals and EV market show shifts influenced by economic and political developments. Notably, Codelco and SQM's new lithium venture in Chile represents a strategic move in the lithium market. The impact of China's rare earths export ban stands as a significant moment, compelling the U.S. to foster technological self-reliance. The landmark merger

between Allkem and Livent to form Arcadium Lithium marks a major consolidation in the lithium industry. Atomionics' innovative use of AI and gravity in mining exploration showcases a technological breakthrough. The EU's ambitious goals for critical minerals, despite challenges, indicate a strong commitment to securing essential resources for its green transition. Lastly, KoBold Metals' ambitious global lithium exploration, backed by industry giants, highlights the growing importance of lithium in the clean energy sector.

The 10-stories selected for this edition of the TMR with source links to source stories for this fast-paced sector are listed chronologically for your ease and review.

Tesla delivers record Q4 cars, but China's BYD steals top EV spot (January 3, 2024, [Source](#)) – In the fiercely competitive electric vehicle (EV) market, Tesla Inc. (NASDAQ: TSLA) achieved a significant milestone by delivering a record 484,507 vehicles in the fourth quarter of 2023, surpassing market expectations and fulfilling its annual target. Despite this success, Tesla was eclipsed by China's BYD in terms of sales volume, losing its position as the leading EV manufacturer. BYD, backed by Warren Buffett, delivered 526,409 vehicles, primarily in China, indicating a consumer preference for more affordable models in an economy burdened by high interest rates. Although Tesla's aggressive sales strategies led to a notable 11% growth over the previous quarter and a total production of 1.85 million units in 2023, it fell short of CEO Elon Musk's ambitious target of 2 million. The company's stock remained stable amidst a generally declining market. Meanwhile, BYD's strategy of price cuts appears to be paying off, gaining market share despite potential impacts on profit margins. Tesla, in a bid to boost sales, offered discounts and incentives, such as six months of free fast charging for deliveries made by the end of December. This strategy was partly in response to some models of its Model 3

sedan losing U.S. federal tax credits in 2024. Tesla's delivery performance stands out in comparison to domestic U.S. car companies, but it is also facing challenges like regulatory scrutiny over its self-driving technology and the need to adapt to changing tax credit policies.

Energy Fuels' Strategic MOU with Astron: Shaping the Future of the U.S. Rare Earths Supply Chain (December 30, 2023, [Source](#)) – [Energy Fuels Inc.](#) (NYSE American: UUUU | TSX: EFR) has recently entered into a significant Memorandum of Understanding (MOU) with Astron Corporation Ltd. to jointly develop the Donald Rare Earth and Mineral Sands Project in Victoria, Australia. This collaboration, [announced](#) on December 27, 2023, marks a crucial step in establishing a U.S.-focused rare earths supply chain, vital for meeting future national needs. The project will provide Energy Fuels with 7,000 to 14,000 metric tons of rare earth concentrate annually from the Donald deposit, processed at their White Mesa Mill in Utah. This arrangement not only utilizes the mill's capacity to manage radioactive elements but also supports the production of critical minerals like uranium. The project is set to initially produce 800 – 1,000 metric tons of Neodymium-Praseodymium (NdPr) oxide by Q1 2024, with prospects for expansion. This development is strategically important in light of the U.S. government's impending policy to restrict critical minerals sourced from Foreign Entities of Concern, effective from 2025. By fostering a sustainable, competitive, and independent supply chain, Energy Fuels' initiative is poised to significantly impact the electric vehicle and clean energy sectors in the U.S., reducing dependency on foreign sources, especially China, and bolstering national security and technological advancement.

A Chinese EV company developed a battery with a 1,000km range – and its CEO tested it out on a 14-hour livestream (December 29, 2023, [Source](#)) – Chinese electric vehicle (EV) company Nio Inc.,

often compared to Tesla, recently showcased a groundbreaking development in EV technology by introducing a battery with an impressive 1,000km range. The company's CEO, William Li, widely regarded as China's answer to Elon Musk, embarked on a 14-hour live-streamed journey covering 1,044km from Shanghai to Xiamen to demonstrate the battery's capabilities. Despite challenging weather conditions, Li's Nio ET7, powered by the company's new 150 kWh battery with the highest energy density for a mass-produced EV battery, completed the trip with 3% charge remaining. Scheduled for mass production in April 2024, these batteries, though costly at around \$42,100, represent a significant advancement in EV technology. Nio's unique business model allows customers to buy cars without a battery, offering a subscription for battery swaps at over 2,000 stations across China. Despite financial challenges and each car resulting in a \$12,000 loss for Nio, this strategy has elevated Li's stature, drawing parallels with Tesla's Elon Musk. Li further showcased Nio's technological prowess at the annual "Nio Day," revealing the new ET9 flagship to thousands of Nio enthusiasts.

The Critical Minerals Institute Report (12.27.2023): Politics Driving Marketable Commodities into 2024 (December 27, 2023, [Source](#)) – The December 2023 [Critical Minerals Institute](#) report highlights key global economic and political developments influencing the critical minerals and electric vehicle (EV) markets. U.S. inflation decreases and potential interest rate cuts in 2024 have positively impacted equity markets, while China's anticipated economic recovery bodes well for commodity sectors. The EV market is experiencing significant growth, particularly in China, despite challenges from U.S. and EU policies aiming to reduce dependency on foreign entities. The U.S. Department of Energy's proposed FEOC guidelines and the EU's Critical Raw Materials Act reflect a strategic shift towards stabilizing and localizing critical minerals supply

chains. The report also notes significant fluctuations in the lithium market, with expectations of a bottom forming soon, and discusses the broader market dynamics of other critical minerals like cobalt, graphite, nickel, and manganese, in the context of a global economic slowdown. The performance of uranium in 2023 and the potential impact of lower interest rates in 2024 on the global economy and critical minerals demand are key areas of focus.

Chile's Codelco to control new lithium venture with miner SQM (December 27, 2023, [Source](#)) – Chile's state-owned copper miner, Codelco, has entered into a significant partnership with mining company Sociedad Química y Minera de Chile S.A. ("SQM") (NYSE: SQM), gaining majority control in a new lithium venture. This move aligns with President Gabriel Boric's directive for greater government involvement in lithium production. Chile, holding the title of the world's second-largest lithium producer, aims to revitalize its market share, which is at risk of declining due to aging mining projects and increasing global competition. The deal, marking a pivotal step in Boric's national lithium strategy, mandates public-private partnerships for all lithium projects. Set to start in January 2025, Codelco will take over SQM's existing contracts and collaborate on increasing lithium production in the Atacama Desert. This partnership is not only a strategic move to stabilize SQM's market position but also sets a precedent for future lithium contracts in Chile, potentially reshaping the country's role in the global lithium market.

Global Rare Earths Market Heats Up as China Implements Export Ban (December 21, 2023, [Source](#)) – The recent [ban by China](#) on the export of rare earth processing technology represents a pivotal moment in the global rare earths market, particularly impacting the strategic metals sector. This ban, covering technology for extracting, separating, and producing rare earth metals and alloys, along with some magnet production technologies, has

significant implications for industries like electronics, clean energy, and defense. Experts from the [Critical Minerals Institute](#), including Melissa Sanderson and Peyton Jackson, highlight the necessity for the United States to proactively respond by investing in both green technologies, such as bio-extraction, and traditional processing methods. They emphasize the risks of over-dependence on other nations and the importance of developing technological self-reliance. The U.S. government's funding of Lynas Rare Earths Ltd. (ASX: LYC) and Energy Fuels Inc.'s (NYSE American: UUUU | TSX: EFR) advanced solvent extraction system exemplifies a shift towards addressing these challenges through domestic initiatives. This strategic move is not only a reaction to China's export ban but also a step towards ensuring a more sustainable and secure future in the critical minerals sector.

Allkem shareholders approve \$10.6 billion Livent lithium merger (December 19, 2023, [Source](#)) – Australian lithium producer Allkem Limited (ASX: AKE | TSX: AKE) and U.S. company Livent Corporation (NYSE: LTHM) have agreed on a significant [\\$10.6 billion merger](#), marking a major move in the lithium industry. This decision, approved by 72% of Allkem's voting shareholders, will result in the formation of Arcadium Lithium PLC (NYSE: ALTM | ASX: LTM), a formidable entity in the global lithium market. The merger, which has received all necessary regulatory approvals, positions Arcadium Lithium as one of the world's largest lithium companies, with operations spanning Australia, Argentina, and Canada. The new company will be integral in supplying lithium, a critical component for electric vehicle batteries, to various battery manufacturers. Under the terms of the deal, Allkem shareholders will exchange their shares on a one-for-one basis for shares in Arcadium Lithium, owning 56% of the new company, while Livent shareholders will receive 2.406 shares in Arcadium for each of their shares. Livent CEO Paul

Graves is set to lead the new company, which will be the world's third-largest lithium producer. The merger comes amidst a surge in dealmaking activity in the lithium sector and is recommended by independent financial advisors and proxy firms. Additionally, Livent plans to expand its operations in Western Australia's prominent lithium districts.

Singapore's Atomionics taps gravity, AI in hunt for critical minerals (December 19, 2023, [Source](#)) – Singapore-based startup Atomionics is transforming the mineral exploration industry with its innovative technology, Gravio, which combines gravity detection and artificial intelligence. This “virtual drill” technique offers a more precise and efficient method for locating ore bodies of critical minerals like copper, nickel, and zinc. Atomionics has already engaged with three major mining companies and is implementing its technology in Australia and the U.S. The technology's real-time data processing significantly accelerates the task of defining ore bodies, offering a cost-effective alternative to traditional exploration methods. The ability to build an accurate virtual picture of mineral deposits before physical drilling can greatly reduce costs, as exploratory drilling is expensive and often misses the target. Atomionics aims to decrease these unsuccessful attempts by at least half. This innovative approach holds the potential to be a game-changer in the mineral exploration sector, presenting a low-cost alternative to traditional methods and contributing to the energy transition.

EU sets critical mineral goals, but faces struggle to hit them (December 18, 2023, [Source](#)) – The European Union (EU) has ambitious targets for securing critical minerals essential for its green transition, as outlined in the Critical Raw Materials Act (CRMA), which aims to mine, recycle, and process significant portions of its annual needs for key materials like lithium and cobalt by 2030. These efforts are crucial for manufacturing

clean technology products and reducing dependence on China, the dominant player in global mineral processing. However, the EU faces considerable challenges, including funding shortages, high energy costs, local opposition, and the need to expedite project permits. Additionally, the EU's efforts are comparatively underfunded compared to massive investments in green subsidies by countries like the U.S. The situation is further complicated by higher EU energy costs leading to reduced metal production and delays in mining projects in Portugal and Serbia. Despite these hurdles, there are positive signs, such as potential projects meeting EU supply needs and innovations to minimize material use. The EU also seeks to diversify imports and forge global partnerships, aiming to position itself as a clean tech leader by focusing on high-value manufacturing and relying on reliable allies for mineral sourcing.

Billionaire-backed KoBold Metals widens lithium hunt across four continents (December 14, 2023, [Source](#)) – KoBold Metals, a California-based startup financially backed by prominent billionaires including Bill Gates and Jeff Bezos, is broadening its search for lithium, a crucial component in the clean energy and electric vehicle sectors, across four continents. Utilizing advanced artificial intelligence technology, CEO Kurt House announced plans to explore for lithium in regions such as South Korea, Quebec, the United States, Australia, and Africa, with specific emphasis on Namibia and the Democratic Republic of Congo. Previously focused on nickel and copper, with successful ventures in Quebec and Zambia, KoBold is now transitioning to include lithium in its mining portfolio. This strategic move aligns with their long-term goal to become the leading supplier of critical metals within 10 to 15 years. The startup, supported by Breakthrough Energy Ventures, collaborates with major players like BHP Group and Rio Tinto on projects in Australia and Canada. This expansion reflects KoBold's ambition to fill the

exploration void left by larger mining firms, which have recently prioritized operational efficiency and shareholder returns over new mineral discoveries.

InvestorNews Critical Minerals Media Coverage:

- January 3, 2024 – Rare earths company stock price has had a ‘meteoric’ rise of over 21x the past 15 months <https://bit.ly/3vo6Xn3>
- December 29, 2023 – Energy Fuels announces an MOU for a \$122M investment in Astron that will supply a “new U.S.-based supply chain for decades” <https://bit.ly/3tzBfm9>
- December 29, 2023 – Hallgarten Initiates Coverage of Edison Lithium: Pivoting to Sodium-Ion Battery Technology <https://bit.ly/3tG08wq>
- December 27, 2023 – The Critical Minerals Institute Report (12.27.2023): Politics Driving Marketable Commodities into 2024 <https://bit.ly/48sqnVU>
- December 21, 2023 – Global Rare Earths Market Heats Up as China Implements Export Ban <https://bit.ly/3TAClsv>
- December 21, 2023 – Setback for U.S. Rare Earth Industry: China Tightens Export Laws on Key Technologies, Impeding American Efforts to Gain Independence Despite Financial Incentives <https://bit.ly/4aGvQdQ>
- December 20, 2023 – An update on the graphite sector and what to expect in 2024 and beyond <https://bit.ly/3v8xLHG>
- December 19, 2023 – Australia updates their Critical Minerals List and Adds a second, introducing the Australian Strategic Materials List <https://bit.ly/3RQx7aG>

InvestorNews Critical Minerals Videos:

- December 30, 2023 – Jack Lifton with Mark Chalmers on Energy Fuels Rare Earth Deal and Increasing US Uranium

Production <https://bit.ly/3TM5wsK>

- December 30, 2023 – Mark Chalmers of Energy Fuels Discusses Increasing Uranium Production in the United States <https://bit.ly/3TDPH7k>
- December 30, 2023 – Energy Fuels' Strategic MOU with Astron: Shaping the Future of the U.S. Rare Earths Supply Chain <https://bit.ly/41PPujp>
- December 18, 2023 – Ucore's Strategic Leap: Pat Ryan Discusses the First Mover Advantage in Rare Earths Processing at Louisiana's Strategic Metals Complex <https://bit.ly/3GKa2jL>

Critical Minerals IN8.Pro Member News Releases:

- January 4, 2024 – Ucore Acquires Alexandria, Louisiana, Facility for Rare Earth Element Processing Plant <https://bit.ly/3RJC00s>
- January 2, 2024 – Panther Metals PLC Corporate Summary: Positioned to Succeed <https://bit.ly/3tDKSQI>
- January 2, 2024 – First Phosphate Closes Second Tranche of Oversubscribed Private Placement for Total Current Financing of \$7.5 Million <https://bit.ly/48jDCbP>
- December 29, 2023 – Panther Metals PLC: Obonga Project Awkward East Claim Purchase Agreement <https://bit.ly/3NKBeTr>
- December 28, 2023 – Appia Rare Earths & Uranium – A Year in Review <https://bit.ly/48xo3gh>
- December 28, 2023 – Kraken Energy Receives Permit to Resume Phase I Drill Program at Harts Point and Provides Corporate Update <https://bit.ly/48pALxM>
- December 27, 2023 – Energy Fuels Enters into MOU to Secure Near-Term, Large-Scale Australian Source of Rare Earth Minerals to Supply New U.S.-Based Supply Chain for Decades <https://bit.ly/47lDF5v>

- December 27, 2023 – Ucore Comments on China's Ban on the Export of Rare Earth Technology <https://bit.ly/3RYiimD>
- December 27, 2023 – Appia Announces Closing of Non-Brokered Flow-Through Private Placement <https://bit.ly/41EDIbJ>
- December 27, 2023 – Defense Metals Completes Geotechnical Field Data Collection for Wicheeda Rare Earth Element Project Preliminary Feasibility Study <https://bit.ly/3RGLehB>
- December 27, 2023 – F3 to Spend \$16 Million on Drilling at PLN <https://bit.ly/4aCQwDc>
- December 22, 2023 – First Phosphate Announces Closing of Initial Tranche of Private Placement Financing Along with Date of Second Tranche Closing <https://bit.ly/48LgHWR>
- December 22, 2023 – Ucore Announces Extension of Debt <https://bit.ly/3S7KAev>
- December 22, 2023 – Fathom Nickel Announces the Closing of the First Tranche of Private Placement <https://bit.ly/3S6aCyF>
- December 21, 2023 – Imperial Mining Closes \$1M Critical Minerals Flow-Through Private Placement <https://bit.ly/4aEEsSh>
- December 21, 2023 – Western Uranium & Vanadium Provides Market and Company Updates <https://bit.ly/3tyzFAP>
- December 21, 2023 – Ucore Completes RapidSX(TM) Demo Plant Commissioning – Begins US Department of Defense Demonstration Program <https://bit.ly/3tjI4Iz>
- December 21, 2023 – In Response to Surging Prices, Supportive Government Policies, and a Domestic Focus on Security of Supply, Energy Fuels Has Commenced Production at Three of its U.S. Uranium Mines <https://bit.ly/3Ru3Lxv>
- December 20, 2023 – Panther Metals PLC: Financing Update <https://bit.ly/410C3jB>
- December 20, 2023 – Critical Metals PLC advances the

Molulu Copper-Cobalt Project in DRC <https://bit.ly/3ts5TxH>

- December 19, 2023 – Auxico Announces Board Decisions on Key Assets and Filing of Technical Reports <https://bit.ly/3TyNx FY>
 - December 19, 2023 – Automotive OEM Validates Nano One LFP and Kicks Off Tonne-Scale Evaluations <https://bit.ly/48g4KZ6>
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Jack Lifton with Mark Chalmers on Energy Fuels Rare Earth Deal and Increasing US Uranium Production

written by InvestorNews | February 11, 2024

In a comprehensive interview, Jack Lifton, Co-Chair of the [Critical Minerals Institute](#) (CMI) and Host at InvestorNews, engages with Mark Chalmers, CEO of [Energy Fuels Inc.](#) (NYSE American: UUUU | TSX: EFR). They discuss key issues in the critical minerals sector, focusing on Energy Fuels' transformative [MOU](#) with Astron Corporation. This agreement signifies a major shift toward establishing a U.S.-centric rare earths supply chain. Central to this collaboration is the processing of rare earth concentrates from Australia's Donald Project at Energy Fuels' Utah facility, a critical step for the nation's future needs.

Chalmers also highlights Energy Fuels' strategic decision to

ramp up [uranium production](#) at various U.S. mines. He outlines the company's initiatives to leverage favorable market conditions and supportive government policies, aiming for a significant increase in uranium production in the near future. This expansion is integral to Energy Fuels' broader commitment to playing a key role in the energy transition, showcasing their expertise in handling natural radioactive minerals.

The dialogue with Lifton further explores the wider implications of Energy Fuels' projects, particularly in aligning with U.S. strategies to reduce dependence on foreign critical minerals. Chalmers emphasizes the substantial impact these initiatives are poised to have on the U.S. electric vehicle and clean energy sectors. He underscores Energy Fuels' crucial contribution to creating a sustainable, competitive, and independent supply chain for these vital resources. 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_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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