

Technology Metals Report (03.22.2024): US pledges \$1.28B for ASX rare earths stocks and Biden takes a major step in tackling climate change

written by Tracy Weslosky | March 22, 2024

Welcome to the latest issue of the Technology Metals Report (TMR), brought to you by the [Critical Minerals Institute](#) (CMI). In this edition, we compile the most impactful stories shared by our CMI Director's over the past week, reflecting the dynamic and evolving nature of the critical minerals and technology metals industry. Among the key stories featured in this report are the US's pledge of \$1.28 billion to ASX-listed rare earths firms to lessen China's dominance in the sector, the looming uncertainty over the future of Flow-Through Financings in Canada as the METC deadline approaches, and Albemarle Corporation's groundbreaking lithium auction aimed at enhancing pricing transparency. Additionally, the Biden administration's ambitious rule to expand electric vehicles (EVs) and the examination of factors behind cooling EV sales growth emphasize the ongoing transformations and challenges within the critical minerals sector.

This week's TMR Report also highlights several significant developments that further shape our understanding and approach to the critical minerals industry. The urging by the US Energy Secretary for Congress to ban uranium imports from Russia supports domestic nuclear fuel development, while China's

rebound in graphite exports for batteries signals geopolitical tensions and strategic resource control. The US's efforts to incorporate Central Asia into its critical minerals supply chains, Indonesia's investment in a new HPAL plant by Vale to boost nickel production for EV batteries, and CATL's enduring ambitions despite a slight dip in quarterly earnings showcase the global landscape's complexity and interconnectedness. Furthermore, Graphjet Technology's innovative approach to producing greener graphite and the push to recognize phosphate and potash as critical minerals in the US underscore the ongoing efforts to secure and diversify supply chains. Lastly, Kazakhstan's emerging potential to rival China in the production of rare-earth metals points to the shifting dynamics of global supply and the continuous search for strategic alternatives to current market dominators.

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US pledges \$1.28b for ASX rare earths stocks (March 21, 2024, [Source](#)) – The US aims to allocate \$1.28 billion to ASX-listed rare earths firms, Meteoric Resources NL (ASX: MEI) and [Australian Strategic Materials Limited](#) (ASX: ASM) (ASM), to diminish China's dominance in critical minerals necessary for decarbonization and defense. The US Export Import Bank's (US EXIM) potential loans aim to support projects in Brazil and New South Wales, contingent upon US companies obtaining project contracts. This funding is part of wider US and Australian efforts to establish non-Chinese critical mineral supply chains, with additional support from the US Department of Defence and other agencies for various projects. This initiative underscores the strategic importance of diversifying global supply chains and bolsters the credibility and development prospects of companies like Meteoric and ASM in the critical minerals sector.

Anxiety Rises on the Future of Flow-Through Financings as METC Deadline Looms, Canadian Government Keeps Quiet (March 20, 2024, [Source](#)) – Facing the potential expiration of the Mineral Exploration Tax Credit (METC) at the end of March, the Canadian mining industry is gripped by uncertainty. This credit, crucial for supporting exploration companies through Flow-Through Share pricing, might not be renewed, threatening to raise capital costs by 15-20%. The federal government's silence on the issue heightens anxiety, affecting planning and investments, especially for junior miners. Provincial credits in Ontario and Saskatchewan face similar fates, though Manitoba and British Columbia have permanent solutions. The industry is anxiously awaiting the federal budget announcement on April 16, hoping for a resolution. The potential loss of METC, combined with recent tax changes, could significantly impact exploration investment in Canada, underscoring the importance of government policy in the sector's financial health.

Albemarle Lithium Auction offers a bold move forward in pricing transparency in the critical minerals market (March 20, 2024, [Source](#)) – [Albemarle Corporation](#) (NYSE: ALB), the largest lithium producer, is initiating a landmark auction on March 26 to enhance transparency and address price discovery issues in the lithium market. This move, highlighted by Jack Lifton of the [Critical Minerals Institute](#) (CMI), aims to mitigate the opacity and volatility that have long plagued the sector, exacerbated by the electric vehicle (EV) boom. Traditionally, lithium prices have been privately negotiated, lacking a clear global benchmark. Albemarle's auction represents an innovative step towards establishing more transparent pricing, inviting competitive bidding for a significant lithium quantity. Although this initiative marks progress towards addressing market challenges, Lifton cautions it may not fully resolve the industry's volatility and unpredictability, signaling a critical

evolution in lithium pricing strategies amidst growing global demand.

Biden Administration Announces Rule Aimed at Expanding Electric Vehicles (March 20, 2024, [Source](#)) – The Biden administration unveiled a pivotal climate regulation, aiming to revolutionize the U.S. auto industry by ensuring a majority of new passenger vehicles sold by 2032 are electric or hybrid. This marks a major step in tackling climate change, given transportation's status as the top carbon emitter in the country. Despite electric vehicles (EVs) constituting only 7.6% of car sales last year, this rule mandates a significant increase to meet a 56% EV sales target, with hybrids contributing an additional 16%. President Biden highlighted the initiative's potential for economic growth, job creation, and significant environmental benefits, including a projected reduction of over seven billion tons of carbon dioxide emissions over three decades. However, the transition faces challenges, including manufacturing and infrastructure overhaul, political opposition, and consumer acceptance. The regulation, which introduces stringent emissions caps, has garnered both support for its environmental impact and criticism for its feasibility and potential economic implications. Critics argue it may impose undue pressure on the auto industry and consumers, while supporters see it as a crucial step toward a more sustainable future.

The cars, the chargers or the customers? A look at what's behind cooling EV sales growth (March 20, 2024, [Source](#)) – Facing cooling growth in electric vehicle (EV) sales, automakers are adjusting their production strategies amidst increasing model availability. The sector balances optimism with skepticism regarding the shift away from fossil fuels, underlined by challenges like inadequate charging infrastructure impacting consumer choices. Events like CERAWeek by S&P Global highlight EVs' potential to reduce oil demand, emphasizing the

transition's significance. Despite slower sales growth, companies like Ford report significant increases, pointing to the essential role of EVs in future automotive competitiveness. Addressing consumer concerns, particularly around charging reliability and infrastructure, alongside educating an evolving customer base, is pivotal for sustaining the industry's growth momentum.

US energy secretary encourages Congress to ban uranium supplies from Russia (March 20, 2024, [Source](#)) – U.S. Energy Secretary Jennifer Granholm has urged Congress to ban uranium imports from Russia to support domestic nuclear fuel development. This call comes in light of legislation passed by the U.S. House last December, aimed at halting these imports as part of the response to Russia's invasion of Ukraine. However, the Senate has faced delays due to a hold by Senator Ted Cruz on unrelated issues. Granholm emphasized that passing this ban would release funds for expanding domestic uranium enrichment and producing high assay low enriched uranium (HALEU) for advanced nuclear reactors. She expressed optimism during a House hearing on her department's budget, highlighting the urgency of this action to advance domestic nuclear energy capabilities.

China's exports of graphite for batteries rise from December low (March 20, 2024, [Source](#)) – China's natural graphite exports, essential for electric vehicle batteries, rebounded after Beijing's December controls aimed at tightening its grip on vital minerals for advanced manufacturing. From a December low of 3,973 tonnes, exports rose to 6,275 tonnes in January and 10,722 tonnes in February, despite previously averaging about 17,000 tonnes monthly. The restrictions, viewed as a response to Western trade barriers, notably impact trade flows. Rising tensions are evident as the U.S. considers blacklisting Chinese semiconductor firms linked to Huawei Technologies, signaling an escalation in the technological rivalry. These developments

underscore the strategic importance of graphite in the global tech industry and the geopolitical tensions surrounding access to critical manufacturing resources.

US Looks to Draw Central Asia Into Critical Minerals Supply Chains (March 18, 2024, [Source](#)) – The United States is actively seeking to integrate Central Asia into its critical minerals supply chains, a move underscored by the February 2024 inauguration of the Critical Minerals Dialogue (CMD) in the C5+1 format. This initiative, bolstered by the collective will of the U.S. and Central Asian nations—Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan—aims to bolster Central Asia’s role in global supply chains, thereby enhancing economic cooperation, facilitating clean energy transitions, and protecting regional ecosystems. Central Asia, rich in critical minerals like nickel, cobalt, palladium, rare earth elements (REEs), and others vital for high-tech, defense, and green technologies, represents a strategic alternative to China’s dominance in these supply chains. The U.S. is particularly keen to mitigate risks associated with China’s control over a significant portion of the world’s critical minerals processing and production. Through the CMD and other partnerships, the U.S. seeks to foster investment in Central Asia’s vast mineral resources, promising a potential shift in global economic and technological power dynamics while confronting strategic vulnerabilities and enhancing national security.

Indonesia says nickel miner Vale to build another \$2 bln HPAL plant (March 18, 2024, [Source](#)) – Nickel miner PT Vale Indonesia is considering a \$1.91 billion investment in a new high-pressure acid leaching (HPAL) plant on Sulawesi island, announced Indonesia’s Investment Ministry. This plant, named “SOA HPAL,” aims to produce mixed hydroxide precipitate (MHP), essential for electric vehicle batteries, with an expected annual output of 60,000 metric tons of nickel in MHP. Vale Indonesia, which is in

the final stage of exploration, plans to collaborate with automakers for this venture. The company already has two HPAL projects underway in Sulawesi, partnering with Zhejiang Huayou Cobalt, and has Ford's involvement in the \$4.5 billion Pomalaa project. Additionally, Indonesia's state mining company MIND ID recently acquired a 14% stake in Vale Indonesia, bolstering its position as a top shareholder.

CATL earnings slip masks charged-up ambitions (March 18, 2024, [Source](#)) – Contemporary Amperex Technology (CATL), the world's largest electric car battery manufacturer, experienced a slight 1.2% decline in quarterly earnings, marking its first downturn since early 2022. Despite reduced factory utilization and the broader industry's cooling sales growth, CATL is ambitiously expanding, planning new facilities to increase its production potential significantly. The company dominates the global market, boasting a 36.8% share and leading innovation with a large R&D team focused on advanced battery chemistries. Although facing challenges in the United States, CATL is making strategic moves abroad, including constructing a factory in the European Union. Investors remain optimistic, reflected in a stock price increase, as CATL's scale, innovation, and strategic expansion position it to potentially outpace competition and maintain market leadership, despite potential overcapacity risks.

Startup Offers EV Firms Greener Graphite in Alternative to China (March 18, 2024, [Source](#)) – Graphjet Technology, an alternative energy startup in Malaysia, is offering electric-vehicle (EV) manufacturers a sustainable source of graphite by converting agricultural waste into this critical battery component. Utilizing palm kernels, the company can produce graphite with an 83% lower carbon footprint and at 80% less cost than traditional methods. Starting in the second quarter, Graphjet aims for an annual production capacity of 3,000 tons from its facility in Malaysia, a leading palm oil producer. This move provides a

significant alternative to China's dominance in the synthetic graphite market, responsible for 90% of the global supply. The U.S. is keen on diversifying its EV battery supply chain away from Chinese control, especially in light of China's recent export restrictions on graphite. Graphjet's initiative is timely, as it plans expansions in Nevada, Korea, Japan, and Europe, aiming to address the growing global demand and the U.S.'s need for a reliable graphite source outside China.

TFI: Phosphate and Potash are Critical Minerals, Senate Bill to Solidify (March 14, 2024, [Source](#)) – The Fertilizer Institute (TFI) has commended the U.S. Senate's bipartisan effort to classify phosphate and potash as critical minerals, highlighting the move as crucial for securing the nation's agricultural future and food supply. The legislation, backed by Senators from both parties, aims to ensure a resilient and sustainable domestic fertilizer supply for American agriculture by addressing the vulnerabilities in the global supply chain and geopolitical instability. With the majority of the world's phosphate and potash concentrated in a few countries, and the U.S. heavily reliant on imports for its potash needs, this initiative seeks to mitigate supply chain risks. Recognizing these minerals as critical could streamline the permitting process for expanding and opening new mines in the U.S., a necessary step given the extensive time and financial investment required.

Kazakhstan's Potential to Overtake China in Production of Rare-Earth Metals (March 14, 2024, [Source](#)) – Kazakhstan is on the verge of becoming a significant contender in the global rare-earth elements (REEs) market, challenging China's dominance. With China controlling 70% of the market and facing strained relations with the West, North American and European investors are turning to Kazakhstan's rich reserves as a strategic alternative. This shift is driven by the need to diversify

supply chains away from China, given REEs' critical role in technology and manufacturing. The US and EU are prepared to invest in Kazakhstan, aiming to secure a stable, sustainable supply of these vital materials. However, Kazakhstan must modernize its mining practices and carefully select investors to fully leverage its potential as a global REE supplier.

Investor.News Critical Minerals Media Coverage:

- March 20, 2024 – Anxiety Rises on the Future of Flow-Through Financings as METC Deadline Looms, Canadian Government Keeps Quiet <https://bit.ly/3IKHmI7>
- March 20, 2024 – Albemarle Lithium Auction offers a bold move forward in pricing transparency in the critical minerals market <https://bit.ly/3vkbWwf>
- March 20, 2024 – The Top 5 Reasons Why YouTube Will Transform Marketing for Public Companies <https://bit.ly/3PvPnEC>

Investor.News Critical Minerals Videos:

- March 20, 2024 – CBLT'S Peter Clausi on de-risking exploration projects with M&A <https://bit.ly/3vfU6Uf>
- March 20, 2024 – Chris Buncic on the “shocking” Chrysalis Copper timeline for production <https://bit.ly/49ZGRGm>
- March 19, 2024 – World Renowned Critical Minerals Expert Constantine Karayannopoulos is Bullish on Lithium <https://bit.ly/43m0vbK>
- March 19, 2024 – Peartree's Ron Bernbaum on how Charitable

Flow-Through Financings Connects Donors, Investors, and Mining Companies for Canada's Exploration Capital
<https://bit.ly/4cj303V>

- March 19, 2024 – Xcite Resources' Jean-Francois Meilleur on the Athabasca Basin's untapped potential for significant uranium discoveries <https://bit.ly/49YQ9SK>
- March 19, 2024 – Scandium Canada's Guy Bourassa on One of the Largest Primary Scandium Projects in the World <https://bit.ly/3TlHeUp>
- March 18, 2024 – Rowena Smith Highlights ASM's Operational Success at Korean Metals Plant in Rare Earth Metals Production <https://bit.ly/3TH1jWS>
- March 18, 2024 – Jack Lifton Sits Down with 'Bobby' Stewart, the Driving Force Behind Geophysx Jamaica's Charge into the Global Arena with Critical Minerals <https://bit.ly/3vhDtaG>
- March 18, 2024 – WEALTH's Peter Nicholson on the Added Benefits of Critical Mineral Flow Through Investment Deals in Quebec, Saskatchewan and Manitoba <https://bit.ly/4a37xGk>
- March 17, 2024 – John Passalacqua on First Phosphate's groundbreaking achievements in the phosphate mining industry <https://bit.ly/3VgRlwt>
- March 17, 2024 – America Rare Earths' Donald Swartz on the recent increase in in-situ resources at Halleck Creek by 64% to 2.34 billion tonnes <https://bit.ly/3IGgvNv>
- March 17, 2024 – Rowena Smith sits down with Jack Lifton on ASM's 'Mines to Metal' Advantage in Supplying Rare Earths <https://bit.ly/4cmILMc>

Critical Minerals IN8.Pro Member News

Releases :

- March 21, 2024 – Hearty Bay Drilling Suggests Till Sampling May Lead to Source of Radioactive Boulders <https://bit.ly/3ILHjvL>
- March 21, 2024 – ASM receives US\$600M (A\$923 million) Letter of Interest from US EXIM for Dubbo Project, as US partnerships begin to play a significant role <https://bit.ly/4ahxWQR>
- March 20, 2024 – NEO Battery Materials Announces Change of Auditor to MNP LLP <https://bit.ly/3VrGyQf>
- March 20, 2024 – Power Nickel Continues to Expand its Near Surface High-Grade Cu-Pt-Pd-Au-Ag Zone 5km Northeast of its Main Nisk Deposit <https://bit.ly/3IM5Cd5>
- March 19, 2024 – First Phosphate Drills 9.44% P2O5 Over 89.10 m at Its Bégin-Lamarche Project in Saguenay-Lac-St-Jean, Quebec, Canada <https://bit.ly/43wi4qT>
- March 19, 2024 – Defense Metals Appoints HCF International Advisers for Strategic Funding Review of Wicheeda REE Project <https://bit.ly/3IGNMio>
- March 18, 2024 – American Rare Earths' Scoping Study confirms low-cost, scalable world-class REE project <https://bit.ly/3IJD2l>

Albemarle Lithium Auction

offers a bold move forward in pricing transparency in the critical minerals market

written by InvestorNews | March 22, 2024

In a notable development within the lithium industry, [Albemarle Corporation](#) (NYSE: ALB), the world's largest producer of lithium, has announced its plan to host an auction for a significant quantity of lithium on March 26. This move marks a strategic attempt to address the persistent issue of price discovery in a market characterized by its lack of transparency and high volatility. Jack Lifton, Co-founder of the [Critical Minerals Institute](#) (CMI), offers insightful commentary on the implications of this event, tying it to the broader challenges facing the lithium market today.

The auction by Albemarle, according to a [news story](#) published on Reuters yesterday is a response to the dramatic shifts witnessed in the lithium sector, propelled by the electric vehicle (EV) revolution. Since 2007, lithium production has surged from less than 4,000 tons to 186,000 tons, underscoring the metal's critical role in the transition towards electrification. Despite this growth, the industry has struggled with establishing a clear and stable pricing mechanism, a challenge that Lifton identifies as a major impediment to investment and development within the sector.

Historically, the pricing of lithium has been opaque, often negotiated privately between producers and buyers. This lack of clarity has been further complicated by the introduction of lithium contracts on Chinese exchanges, which, despite their potential, have failed to provide a global benchmark due to issues of transparency and accessibility for international

market participants. Western attempts to establish futures trading for lithium, such as those by the London Metal Exchange (LME) and the Chicago Mercantile Exchange (CME), have also seen limited success, highlighting the disconnect between traditional commodity trading mechanisms and the unique dynamics of the lithium market.

Albemarle's upcoming auction represents an innovative approach to tackling these pricing challenges. By opening up the sale of a substantial quantity of lithium to competitive bidding, the company aims to foster greater transparency and provide a more accurate reflection of current market valuations. This initiative not only seeks to bridge the gap in price discovery but also serves as a potential model for future transactions in the industry.

Lifton emphasizes the importance of this auction in the context of the lithium market's evolution. The shift towards digital auctions and the potential for establishing more transparent pricing indices reflect the industry's adaptability and its search for solutions that align with the realities of global lithium supply and demand. However, he also cautions that while this auction may offer valuable insights, it is not a definitive solution to the market's overarching issues of volatility and unpredictability.

In conclusion, Albemarle's decision to host an auction for its lithium products is a significant step towards addressing the critical challenge of price discovery in the lithium market. As Lifton notes, this approach represents a move away from traditional pricing mechanisms and towards a more transparent and dynamic model. While the long-term impact of this and similar initiatives remains to be seen, they underscore the lithium industry's ongoing efforts to adapt to the complexities of a rapidly evolving global market.

Technology Metals Report (03.08.2024): Chinese Investment in Asia rose 37% in 2023, and the BYD Push in Australia is Underway

written by Tracy Weslosky | March 22, 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 the announcement of Australia and Vietnam upgrading their relations to begin talks on critical minerals, focusing on diversifying supply chains away from China. This significant move aims to enhance cooperation in several sectors, particularly in the energy and resources sector, emphasizing the critical minerals supply chain. Both countries, known for their substantial roles in the production and reserves of critical minerals, are looking to strengthen their global supply chain positions amid rising geopolitical tensions and efforts to reduce dependency on China. Additionally, this edition features updates on Chinese investments in Asia, notably in Indonesia, which have surged by 37% in 2023 despite global economic challenges. This growth, largely concentrated in Belt and Road Initiative (BRI) countries, underscores China's strategic shift towards green energy and mining investments, especially in Southeast Asia.

Moreover, this edition of the TMR delves into several crucial

developments in the critical minerals and technology metals landscape. The United States outlined its critical minerals strategy for the clean energy transition, emphasizing the need to secure and diversify supply chains for essential minerals such as nickel, manganese, cobalt, and lithium. The EU's move to register Chinese electric vehicle (EV) imports for potential retroactive tariffs reflects growing concerns over fair trade practices. Kazakhstan's emergence as a potential major supplier of lithium, along with investments aimed at expanding lithium operations by companies like Albemarle, highlights the global race to secure essential components for green and digital technologies. Furthermore, the report covers strategic shifts in the supply chain, such as Posco's agreement with Syrah Resources for graphite supply from Mozambique and Toyota's multi-pathway approach to CO2 emissions reduction. These stories collectively point to a dynamic and rapidly evolving global landscape for critical minerals and technology metals, underlining the strategic importance of diversification, cooperation, and sustainable development in securing the materials essential for the future of technology and clean energy.

Australia and Vietnam upgrade relations, to begin talks on critical minerals (March 7, 2024, [Source](#)) – Australia and Vietnam have elevated their relations to a comprehensive strategic partnership, announced by Australian Prime Minister Anthony Albanese. This upgrade includes an annual dialogue on minerals, focusing on diversifying supply chains away from China. The partnership aims to enhance cooperation on climate, environment and energy, defense and security, and economic engagement and education. Additionally, it will foster collaboration in the energy and resources sectors, especially in critical minerals supply chains. Both countries, significant in the production and reserves of critical minerals, seek to strengthen their positions in global supply chains amid rising

tensions and efforts to reduce dependency on China. This move also signifies Vietnam's success in "bamboo diplomacy," enhancing its relations with major global powers. The partnership reflects a deep mutual political trust and commits to expanded cooperation across various sectors, marking a milestone in the bilateral relationship between Australia and Vietnam.

Chinese investment in Asia rose 37% in 2023, led by Indonesia (March 7, 2024, [Source](#)) – In 2023, Chinese investment in the Asia-Pacific region surged by 37% to nearly \$20 billion, outperforming global trends amid economic challenges. Construction contracts also grew by 14% to about \$17 billion, supported by Chinese loans. This contrasts with a 12% decrease in foreign direct investment into Asia's emerging economies. The investment was predominantly in Belt and Road Initiative (BRI) countries, focusing on infrastructure that connects Asia to Europe. Non-BRI country investment plummeted by 90% to a mere \$120 million. Notably, investment strategies shifted towards green energy and mining, with 50% of China's regional investment directed towards Southeast Asia, and Indonesia receiving the largest share at \$7.3 billion. However, certain countries like the Philippines and Pakistan saw significant drops in Chinese engagement due to political and economic risks. The report anticipates a further increase in Chinese investment and construction, especially in green transition initiatives and strategic infrastructure projects, despite China's own economic challenges.

Under Secretary Jose Fernandez Discusses U.S. Critical Minerals Strategy for Clean Energy Transition (March 6, 2024, [Source](#)) – Under Secretary Jose W. Fernandez discussed the U.S.'s strategy for securing and diversifying the supply chain of critical minerals crucial for the clean energy transition in a conversation with InvestorNews' Tracy Weslosky. Highlighting

minerals like nickel, manganese, cobalt, and lithium, Fernandez underscored efforts to expand their supply and engage with countries possessing these resources through concrete projects, investment, and financing. He emphasized the challenge of reducing dependency on China, which currently controls a significant share of these minerals, pointing out the strategic vulnerability this poses. Fernandez stressed the importance of adhering to values such as environmental respect, community collaboration, and transparency in these endeavors. Despite slow progress, the U.S. aims to not only secure but also ethically source these minerals to support the global shift towards clean energy.

EU set to allow possible retroactive tariffs for Chinese EVs (March 6, 2024, [Source](#)) – The European Commission will start registering Chinese electric vehicle (EV) imports for potential retroactive tariffs, in response to an anti-subsidy investigation. This investigation aims to determine if Chinese EVs benefit from unfair subsidies, potentially harming EU producers. If found guilty, tariffs could be imposed, with provisional duties possible by July and a final decision expected by November. The Commission has found preliminary evidence of subsidy and a significant 14% year-on-year increase in imports since the investigation began in October, suggesting potential harm to EU producers. The China Chamber of Commerce expressed disappointment, attributing the import surge to growing European demand for EVs.

Kazakhstan positions itself for lithium windfall (March 6, 2024, [Source](#)) – Kazakhstan is emerging as a significant potential supplier of lithium, crucial for power-storage technology, with reserves estimated at around 75,600 tons. Research by the Korea Institute of Geoscience and Mineral Resources highlighted substantial reserves in eastern Kazakhstan, potentially worth up to \$15.7 billion. This discovery, along with European interest

in Kazakhstan's critical raw materials, underscores the country's growing importance in the global lithium market. The European Commission and European Bank for Reconstruction and Development have allocated funds for lithium exploration, highlighting the strategic value of Kazakhstan's resources amidst increasing global demand. With investments from various countries, including China and potentially European entities, Kazakhstan is set to play a crucial role in the lithium supply chain, essential for green and digital technologies.

BYD spearheads Chinese electric car push in Australia, a friendlier market (March 5, 2024, [Source](#)) – BYD and other Chinese automakers are making significant inroads into the Australian electric vehicle (EV) market, leveraging the friendly trade environment and benefiting from the government's aggressive EV adoption policies under Prime Minister Anthony Albanese since 2022. With no trade barriers, EV subsidies, and tax benefits, EV sales in Australia have soared, with EVs making up 7.2% of new car sales in 2023. BYD, supported by Warren Buffett, has quickly captured 14% of Australia's EV market since its entry in 2022, trailing only behind Tesla. The company plans to expand its product lineup and dealership network in Australia, aiming for mainstream market penetration. Similarly, SAIC Motor under its MG brand is set to launch new models. Incumbent automakers like Ford and Toyota are also adapting, introducing electrified vehicles to compete. Despite being a relatively small market, Australia's lack of local car manufacturing and openness to international trade make it an attractive destination for Chinese EV manufacturers, especially given the geopolitical tensions in other key markets.

Canada and Australia boost collaboration on critical minerals (March 4, 2024, [Source](#)) – Canada and Australia have committed to enhancing their cooperation on critical minerals, vital for battery production and clean energy transition, according to a

joint statement released on the margins of the PDAC conference in Toronto. Both countries, rich in these essential minerals, aim to bolster their partnership through R&D collaboration, trade, and investment in the mining sector based on a non-legally binding agreement. This collaboration seeks to ensure supply chain transparency and promote high Environmental, Social, and Governance (ESG) standards globally. The initiative will be spearheaded by Canada's Natural Resources Ministry and Australia's Critical Minerals Office, focusing on policy and investment coordination to support the burgeoning demand for these minerals in the upcoming decades.

Albemarle (ALB) Accelerates Lithium Growth With \$1.75B Offering (March 4, 2024, [Source](#)) – Albemarle Corporation (NYSE: ALB) announced a \$1.75 billion offering in depositary shares, each representing a 1/20th interest in Series A Mandatory Convertible Preferred Stock, with a potential additional offering of \$262.5 million under certain conditions. The proceeds are intended for general corporate uses, notably to fund growth capital expenditures for expanding lithium operations in Australia and China, as well as repaying outstanding commercial paper. The depositary shares will carry rights and preferences similar to the Preferred Stock, including conversion into common stock on or around March 1, 2027. Despite a 52.1% decrease in Albemarle's share price over the past year, the company forecasts a 10-20% increase in Energy Storage volumes for 2024, with expected net sales in its Specialties and Ketjen segments ranging from \$1.3 to \$1.5 billion and \$1 to \$1.2 billion, respectively.

Posco to source 60,000 tons of graphite from Africa in pull away from China (March 3, 2024, [Source](#)) – Posco Future M, a subsidiary of Posco Group, is shifting its supply chain for natural graphite, a crucial battery material, away from China towards Africa. This move is highlighted by a new deal with Australian mining firm Syrah Resources Limited (ASX: SYR), which

will provide Posco Future M with up to 60,000 tons of natural graphite annually for six years from its Mozambique Balama operation, starting no later than 2025. This supply is expected to cover 40% of Posco Future M's anode production, translating to about 30,000 tons of anodes. The agreement comes amid concerns over China's control over graphite exports, potentially as leverage against international policies such as the U.S.'s Inflation Reduction Act. Posco's decision reflects a broader strategy to diversify supply sources and reduce dependency on China, amid rising geopolitical tensions and supply chain vulnerabilities.

Total EV Adoption Is Not The Way Forward, Says Toyota Chairman (March 3, 2024, [Source](#)) – Akio Toyoda, Toyota's Chairman, expresses skepticism towards full adoption of battery electric vehicles (BEVs), arguing they will not dominate the market beyond a 30% share despite other markets already exceeding this percentage. In a presentation in Tokyo, he emphasized a multi-pathway approach to combating CO2 emissions, suggesting that consumer choice should drive the future of automotive powertrains rather than regulations. Toyota plans to focus on a diverse range of technologies including internal combustion engines, hybrids, and hydrogen vehicles, alongside BEVs. Despite the global push towards electric vehicles, with countries like Norway showing an 80% market share for EVs, Toyoda's stance reflects a broader strategy to embrace multiple solutions for emission reduction. This perspective aligns with Toyota's goal to comply with future regulations and its commitment to sell 1.5 million EVs by 2026, while also investing in alternative technologies like e-fuels.

Kazakhstan plans to export aluminum, gallium and scandium to the US (March 1, 2024, [Source](#)) – Kazakhstan is aiming to strengthen its trade ties with the United States by proposing to export aluminum, gallium, and scandium. This initiative was unveiled

during Minister of Industry and Construction Kanat Sharlapayev's official visit to the U.S., focusing on promoting Kazakhstani interests globally and expanding cooperation in critical materials. In addition to these exports, Kazakhstan is offering tolling services and exploring the production of other precious minerals like wolfram, cobalt, lithium, and titan, aiming to discuss long-term contracts and investment support. The country, which processes 17 of the 50 minerals critical to the U.S. economy, already exports several strategic minerals to American companies. Sharlapayev's visit also involved meetings with leading American companies to discuss opportunities in industrial production and geological exploration. The talks highlighted the potential for joint projects in various sectors, including infrastructure development and technology, with the U.S. International Development Finance Corporation expressing interest in deepening cooperation with Kazakhstan.

Chinese money still chasing Canadian critical mining deals despite Ottawa's scrutiny (February 27, 2024, [Source](#)) – A year after Canada tightened its foreign investment rules for the critical minerals sector to enhance national security, Chinese investments continue to flow into Toronto-listed mining companies, as per research by the University of Alberta. Despite Canada forcing three Chinese investors to divest their stakes in 2022 and increasing scrutiny on foreign deals, especially in critical minerals, investments from China and Hong Kong surged to C\$2.2 billion in 2023, a significant leap from C\$62 million in 2022. This influx is buoyed by the perception that Canada remains open to Chinese investments, with junior miners finding it easier to secure funding. The critical minerals sector, vital for Canada's national security, has seen Chinese entities actively investing, notably in copper assets. For instance, MMG Africa Ventures acquired a copper mine for C\$1.7 billion, and Jiangxi Copper Co increased its stake in First Quantum Minerals

Ltd. (TSX: FM). Some Canadian miners are lobbying for more Chinese investments due to difficulties in raising capital elsewhere, despite the government's stringent stance on safeguarding critical resources.

Investor.News Critical Minerals Videos:

- March 08, 2024 – Mark Chalmers on Energy Fuels as a Profitable Uranium Producer in the U.S. <https://bit.ly/3P9nl1J>
- March 07, 2024 – Critical Metals Russell Fryer on Copper and Cobalt Plans for Production in 2024 <https://bit.ly/43bGYvJ>
- March 06, 2024 – Under Secretary Jose Fernandez Discusses U.S. Critical Minerals Strategy for Clean Energy Transition <https://bit.ly/433yBSZ>

Critical Minerals IN8.Pro Member News Releases:

- March 8, 2024 – F3 and Traction Begin Drilling to Locate Source of Radioactive Boulders <https://bit.ly/436k09t>
- March 7, 2024 – American Clean Resources Group Commits to Transfer Federal Tax Credits to Investors to Accelerate the Development of Its Renewable Energy Assets <https://bit.ly/3wCIjzu>
- March 6, 2024 – Halleck Creek Project Update <https://bit.ly/3InYYJV>
- March 6, 2024 – Karbon-X Announces Appointment of Brett Hull and Justin Bourque to its Board of Directors

<https://bit.ly/3TpdYxt>

- March 5, 2024 – Panther Metals PLC – Australia: Coggia Nickel-Cobalt Mineral Resource Exceeds 100Mt <https://bit.ly/3IptcMI>
- March 5, 2024 – Panther Metals PLC – Obonga: Extension of Purchase Agreement <https://bit.ly/3TmYLge>
- March 4, 2024 – Ucore Progresses Through Heavy Rare Earth Processing as It Completes Second Milestone of Strategic US DoD Contract <https://bit.ly/3uSunkx>
- March 4, 2024 – First Phosphate Corp. Receives Mining Research and Innovation Grant from Quebec Ministry of Natural Resources <https://bit.ly/3Iny84z>
- March 4, 2024 – Voyageur Pharmaceuticals and API Forge Alliance for Carbon-Based Imaging Drug Advancement <https://bit.ly/3wBuem6>
- March 4, 2024 – Defense Metals Ships Mixed Rare Earth Carbonate Samples to two major REE companies <https://bit.ly/43iwmlT>
- March 4, 2024 – Power Nickel Defines Initial Volume on its High-Grade Cu-Pt-Pd-Au-Ag Zone 5km Northeast of its Main Nisk Deposit <https://bit.ly/3TiZNde>

Lithium Prices Recover as China EV Sales Rebound Reigniting Investor Interest

in Albemarle & Tesla

written by Matt Bohlsen | March 22, 2024

The first quarter in 2023 was a rough period for lithium stocks as the China lithium carbonate spot price crashed lower. However, the second quarter is looking a lot better.

FIGURE 1: China lithium carbonate spot prices appear to be rebounding after hitting a low in late April 2023



Source: [Trading Economics](#)

Global and China EV sales recovered strongly in March and April 2023

March 2023 global plugin electric car sales were [over the 1 million mark](#) and were the 'second best month ever'. This was due to very strong sales in China and Europe, with the USA also contributing. It is already looking like the panic sell-off in lithium stocks has been overdone with stocks rebounding higher in the past 3 weeks.

Reports have it that Chinese lithium consumers are buying again after running down inventories in Q1/2023. Certainly, China plugin electric car sales have rebounded very strongly with over 500,000 sales in March and approximately 600,000 in April 2023. Those sales numbers are a huge increase over China's January sales which fell 8% Year-over-Year to [343,000](#) as new energy vehicle ("NEV") subsidies expired.

Lithium stocks rallying again

Strong EV sales in China are leading to early signs of a China lithium price recovery. Lithium contract prices remain much higher than spot prices reflecting the past lithium price rise and the strong outlook for lithium demand in 2023 and beyond.

As shown on the chart below, February, March, and April saw the leading lithium stocks (Albemarle Corporation (NYSE: ALB), Sociedad Química y Minera de Chile S.A. (NYSE: SQM), Livent Corporation (NYSE: LTHM), and Pilbara Minerals Limited (ASX: PLS)) follow spot prices lower; however, in May we can see a potential price recovery starting (green arrow in chart below).

FIGURE 2: Leading lithium stocks have been moving higher in May buoyed by improving EV sales and lithium prices (NYSE: ALB, NYSE: SQM, NYSE: LTHM, ASX: PLS)



Source: [Yahoo Finance](https://finance.yahoo.com)

Albemarle remains very positive on the lithium market with takeover offers and expansion plans

During the lithium price collapse of early 2023, [Albemarle](https://finance.yahoo.com) was moving in the opposite direction as it made several key announcements that indicated its strong belief that the lithium market would rebound. Below is a brief summary:

- March 27, 2023 – Albemarle [announced a takeover offer for Lontown Resources at a 69% premium](#) to the 30-day VWAP.
- May 3, 2023 – Albemarle [announced plans to double lithium hydroxide output in Australia](#), effectively adding 50,000 tonnes per year of lithium refining capacity at their Kemerton plant.

Furthermore, Albemarle announced on May 3, a [net sales increase of 129% for Q1/2023](#). Albemarle CEO Kent Masters [commented](#):

“Compared to last year, first quarter net sales more than doubled, adjusted diluted earnings per share more than quadrupled providing a robust start to the year. ... We see strong sales volume growth for the rest of the year but have

modified our guidance to reflect softening lithium market pricing. We remain confident in the underlying market strength of our world-class asset base and our long-term growth strategy.”

Albemarle knows the lithium market better than most, especially given it has been the industry leader for over a decade. Currently, they have numerous expansion plans globally including:

- The Salar Yield Improvement Project in Chile;
- The above-mentioned Kemerton trains III & IV lithium hydroxide production expansion in Australia;
- An under-construction lithium conversion facility in Meishan China; and,
- The Kings Mountain mine development in the USA that will eventually feed their planned new South Carolina lithium processing facility.

Added to these items is the attempted takeover of [Liontown Resources Limited](#) (ASX: LTR) for A\$2.50 or US\$1.66 per share in cash, which values Liontown at A\$5.2 billion or US\$3.4 billion on an enterprise basis, at the time of the offer.

Both Bank of America and Scotiabank have recently upgraded Albemarle. The latter assigned a [US\\$250 price target](#), which is well above the current price of US\$195 at the time of writing.

Closing remarks

Several negative events in early 2023 caused a dramatic fall in China spot lithium carbonate prices. The lithium price had increased over 10x and was due for a fall, with Q1 typically being a weak quarter due to seasonal impacts causing lower EV

sales.

Discussions about sodium-ion batteries did not help either. As it turns out, market participants are now realizing that lithium demand is still very strong, despite some short-term volatility. Sodium-ion batteries, at best, will have limited use cases in energy storage, and cheap, small EVs, mostly sold in China, due to inferior volumetric energy density.

For investors, the recent market dip in lithium stocks may prove to be a good time to go shopping. The long-term demand wave for lithium is a supercycle with 2037 demand forecast to be [35x higher](#) (according to [Trend Investing](#)) than 2020 levels.

Certainly, Albemarle, the lithium leader, remains extremely bullish on the lithium sector with a multi-billion dollar takeover offer and expansion plans.

The EV and stationary energy storage booms are here and will only grow stronger this decade. The [Tesla Inc.](#) (NASDAQ: TSLA) [Master Plan 3](#) reports that we need 240 TWh (240,000 GWh) of energy storage for the world to run on 100% renewable energy, most from lithium-ion batteries. Given global lithium-ion battery production in 2022 was only about 700 GWh you can draw your own conclusions. Albemarle and Tesla already have shown us what they think. The latter is [breaking ground on a new billion-dollar lithium refinery](#) in Texas this week.

Mixed Signals for the Lithium

Market as China Spot Prices Decline but M&A Paints a Bullish Picture

written by Matt Bohlsen | March 22, 2024

So far in 2023, the lithium sector is a mix of good news and bad news.

The bad news relates to the China lithium carbonate spot price collapsing, [now down ~65%](#) (see chart below) from its crazy high of CNY 600,000/t (US\$87,272/t) in late 2022. Contract prices remain strong and lithium hydroxide ([~US40,000/t](#)) and spodumene ([US\\$3,810/t](#)) spot prices have been less impacted, but have still fallen about 1/3 to 1/2 from their recent highs.

The good news relates to the fact that the leading lithium companies and [most analysts](#) remain very bullish on lithium in the mid to long term. We saw this very recently with [Albemarle Corporation's](#) (NYSE: ALB) A\$5.2 billion (US\$3.4 billion) [takeover offer](#), at a 69% premium, for [Liontown Resources Limited](#) (ASX: LTR). Little wonder investors seem confused. Is the lithium boom over, or is it just getting started?

China lithium carbonate spot price collapsing

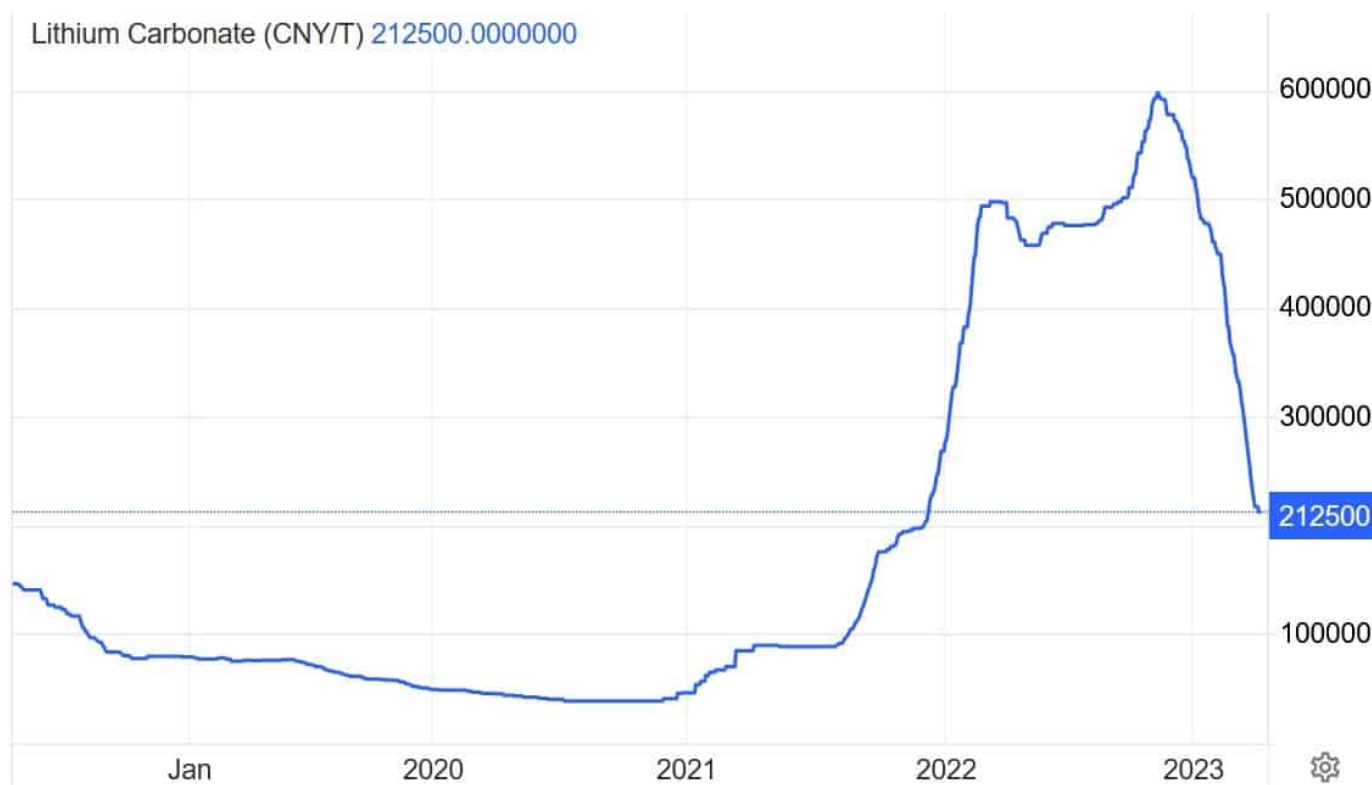
As shown in the chart below, the China lithium carbonate spot price had a meteoric rise in 2022 and is now collapsing in 2023. The main reasons for the downturn in price are a slowdown in China's new energy vehicle ("NEV") sales growth in 2023 and the Chinese cathode and battery suppliers running down inventory thereby delaying lithium purchases in order to get a lower price. Also, liquidity in the China spot market has been rather

low in Q1/2023.

China NEV sales in January 2023 saw [an 8% year-over-year \(“YoY”\) fall](#), due to the China federal NEV subsidies ending, Covid-19 impacts, and the Chinese New Year falling in January. February saw China NEV sales recover and [rise by 56% YoY](#), and March saw sales [rise by 34.8% YoY](#). As a result, in Q1/2023, China saw NEV sales [rise 26.1% YoY](#) and reach a total of nearly [1.59 million](#) units. The first quarter is always the slowest month for NEV sales in China, so the seasonal slowdown from Q4/2022 to Q1/2023 was also a significant factor.

The Q1/2023 26.1% growth is not bad considering the poor January; however to keep the lithium market in balance between supply and demand, Trend Investing forecasts we need global plugin electric car growth to be at [36% YoY](#). In other words, China’s NEV sales growth rate in Q1/2023 of 26.1% is lagging below the 36% global growth rate needed in 2023.

China lithium carbonate spot price – 5-year chart



Albemarle's A\$5.2 billion (US\$3.4 billion) takeover offer for Liontown Resources

If we are in a lithium bear market, why is the lithium leader, Albemarle, offering to buy Liontown Resources at a [69% premium](#) to its 30-day volume weighted average price ("VWAP")? And willing to outlay A\$5.2 billion (US\$3.4 billion)?

The short answer is that Albemarle sees the longer-term picture, that is lithium demand is set to [grow ~35x from 2020 to 2037](#) according to Trend Investing, or [13-42x](#) from 2020 to 2040 according to the IEA.

Also, the fact that tier 1 lithium assets are rare. Liontown Resources 100% owned Kathleen Valley Project is a tier 1 global resource, one of the top 5 largest lithium spodumene resources globally. The resource estimate is a massive [156MT @ 1.4% Li2O](#). The project is at the advanced stage with production set to begin in [mid-2024](#) and initially ramp up to about 600,000 tonnes per annum ("tpa") of spodumene.

Albemarle is playing the long game and understands the lithium market better than most. They want to secure another tier 1 long-life mine in Australia just as they did when they bought Rockwood Holdings Inc. (former owner of the [Greenbushes Mine](#)) for [US\\$6.2 billion](#) in 2014. The reason then was "[to capture the upside potential from the electrification of automobiles](#) that's likely to occur over the next several years". The reason to buy Liontown Resources is the same today.

Lithium demand should surge in 2024 and

2025 as new EV segments hit the market

The second half of 2023 should see the Cybertruck from Tesla (Nasdaq: TSLA) finally begin production and a [rapid ramp-up in 2024](#). We will also see in 2024 a strong ramp-up in sales of other pickup trucks in the USA from Ford, GM, Ram (Stellantis), and others. With reportedly [over 1.6 million reservations](#) for Tesla Cybertruck and a battery size twice that of a Model 3 RWD, the Cybertruck alone will cause a bump in lithium demand.

Then in late 2024 or 2025, we should see Tesla potentially start production of their compact car, with plans 'reportedly' to produce [4 million per year](#). BYD is already producing great value compact cars (Dolphin, Seagull, etc) in China at very affordable prices [well under US\\$20,000](#). BYD plans to sell "[at least 3 million](#)" plugin electric cars in 2023. It looks like by 2025, Tesla and BYD alone could be selling 10 million electric cars per year combined, which would be almost the same as the entire market in 2022 of [10.522 million](#). That's how fast things are changing! Global electric car sales are forecast to almost double in just 2 years from 10.5 million in 2022 to [~20 million](#) in 2024, according to Trend Investing.

The limiting factor for auto OEMs will be securing batteries and their limiting factor is lithium.

Electric pickup trucks will soon be as popular as Tesla Model 3 in the USA, after that will be millions of compact electric cars potentially in 2025



Source: [iStock](#)

Closing remarks

So far in 2023, it has been a year of contradictions in the lithium market. Collapsing China spot lithium carbonate price paints a bearish picture, yet a multi-billion dollar takeover offer at a 69% premium price paints a bullish picture.

The conclusion is rather simple. Short-term lithium price action is a result of a China Q1/2023 NEV slowdown in growth, just as a wave of new lithium supply is hitting the markets. Chinese cathode and battery makers winding down inventory has helped them achieve lower pricing, but cannot go on too much longer. New emissions rules in China come into effect from July 1, 2023 which should boost NEV sales. Combined with strong demand from the USA boosted by the IRA incentives, and Europe embracing EVs, means that H2, 2023 should start to see some strong recovery in global EV sales and hence lithium prices. This assumes we are

not in a severe global recession by then.

Looking out to the rest of the decade and it continues to look like lithium supply is the limiting factor for the EV boom, which means quality lithium miners should be the long term winners. But remember as is usual in the mining sector, expect to see large price swings up and down, even in a lithium supercycle.

Two ‘monster-sized’ lithium projects for high-risk appetites to chew on

written by Matt Bohlson | March 22, 2024

Many people nowadays are just becoming aware of the lithium boom and the massive lithium demand wave ahead this decade. My models and articles have been forecasting the lithium boom since 2017 and the good news is we are only potentially just at the beginning of a [lithium supercycle](#) as EV's gain market share each year. China lithium carbonate spot prices have already risen almost 12x from US\$7,000/t to ~US\$83,000/t ([CNY 592,500](#)) over the last 3 years. Just last week global lithium expert Joe Lowry was [quoted](#) that he sees lithium prices rising further to US\$97,000/t by 2027 and a base value of just below US\$80,000/t.

Investors are on the search for lithium juniors that have the potential for monster-sized lithium projects, ideally in safe locations. Everyone wants to find the next Pilbara Minerals Limited (ASX: PLS), which has seen its stock price rise from

A\$0.15 to A\$4.75 in less than 3 years, a very nice ~32x gain.

Today's two lithium companies have potential to be the next Pilbara Minerals. They both own great lithium projects in Canada with the potential to grow to become monster-sized North American lithium projects. They also come with risks, so some research and due diligence is always required.

The two companies are [Frontier Lithium Inc.](#) and [Patriot Battery Metals Inc.](#)

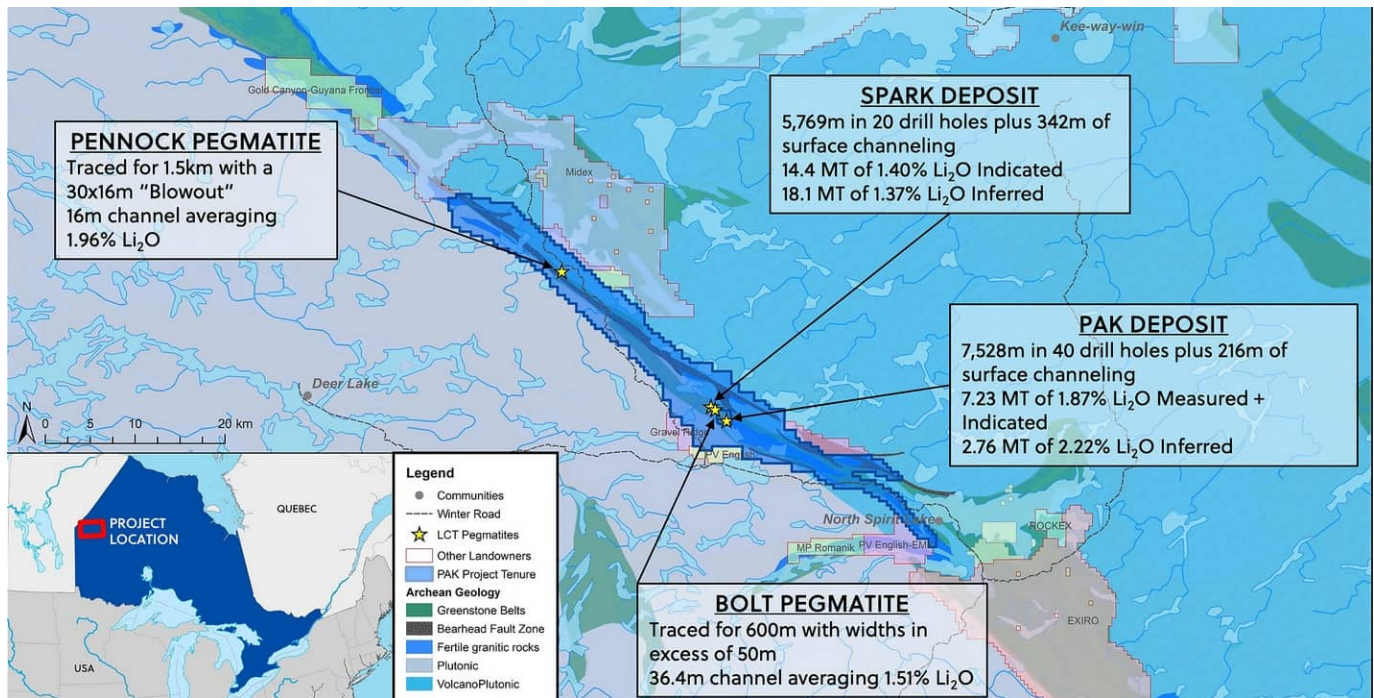
Frontier Lithium Inc. (TSXV: FL | OTCQX: LITOF) ("Frontier")

Frontier is developing their 100% owned PAK Lithium project in northern Ontario, Canada. The Project already has an M&I&I Resource estimate of [41.9Mt @ 1.54% Li₂O](#) (as of March 2022), with potential to grow to a 100+ million tonne resource. [No other lithium junior](#) has had drill results anywhere near as good as Frontier. Just one example of many great results, was announced in October 2022 and was a stunning [326.6.m of pegmatite averaging 1.92% Li₂O](#).

Frontier is currently still drilling and has plans to announce an updated resource estimate and a PFS by the end of Q1, 2023. The [February 2021 PEA](#) for the PAK Lithium Project resulted in a post-tax NPV8% of US\$974.6 million, using lithium prices of only US\$13,500/t. One can hardly imagine what the PFS result might be. Certainly US\$2 billion+ looks entirely possible, especially if Frontier uses lithium price assumptions closer to US\$20,000/t. Sigma Lithium's updated post tax NPV8% was [US\\$5.1 billion](#), so we would have to assume in time Frontier could potentially head in a similar direction. Frontier does still have some road access issues and permitting and project funding challenges ahead of them, so investors should be aware of the risks and also take a 5 year plus investing time frame.

Frontier Lithium currently trades on a market cap of only [C\\$430 million](#) ([US\\$323 million](#)).

Frontier Lithium's PAK Project in northern Ontario, Canada (PAK & Spark deposits included in the current 41.9Mt resource)



Source: [Frontier Lithium website](#)

Patriot Battery Metals Inc. (TSXV: PMET | OTCQB: PMETF) ("Patriot")

Patriot is focused on their 100% owned Corvette Lithium Project in James Bay, Quebec, Canada. The Project is still at a relatively early stage with no resource announced yet; but has some excellent drill results pointing towards this being potentially a huge lithium resource, in the order of 50-100+ million tonnes. Discovered in September 2021, CV5 is currently the largest outcropping deposit with its first drill result of a 146.8m at 0.93% Li₂O and 114 ppm Ta₂O₅. Since then there have been several other great drill results and there are multiple outcropping pegmatite targets yet to be drilled. The main 2.2km pegmatite strike from CV1-CV6 remains [open along strike at both ends and at depth](#). Spodumene has been encountered down to a

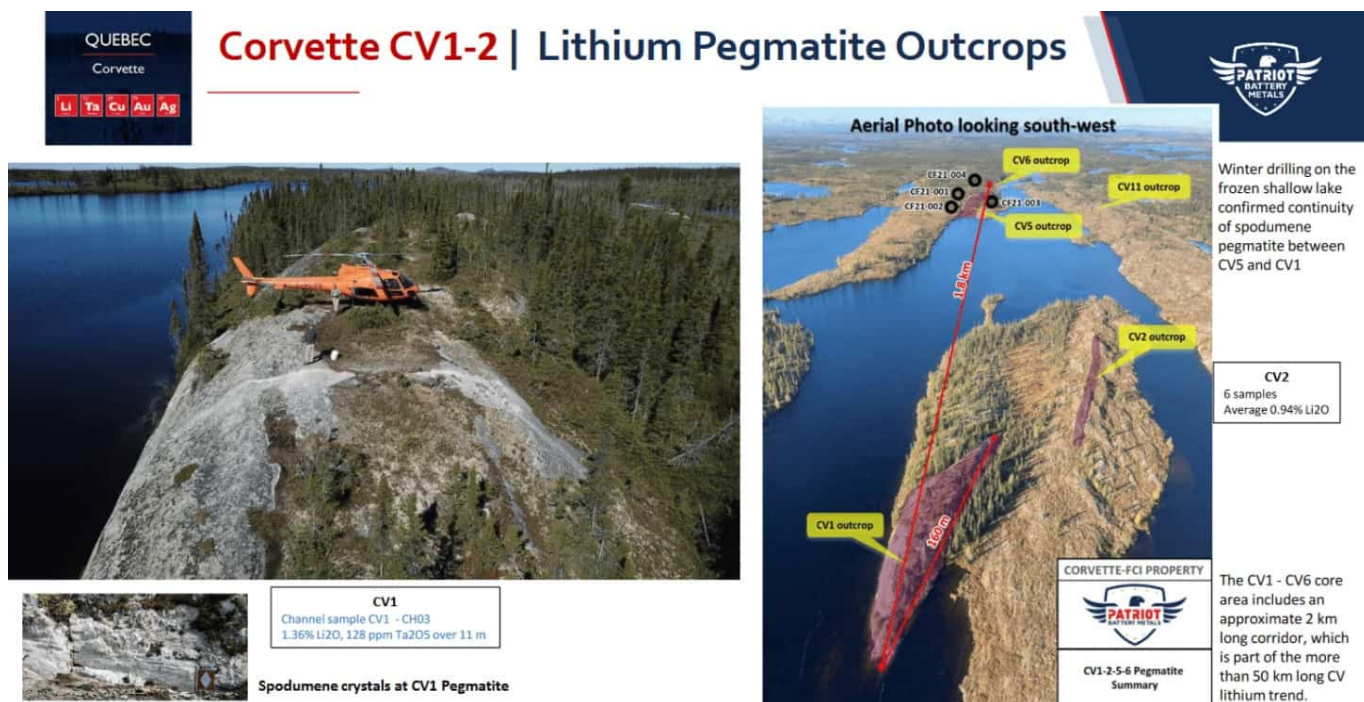
vertical depth of approximately 315m. President & CEO Blair Way comments (from 30:45 min mark in the [CEO video](#)):

“With a 2.1km corridor even around 100m thick and 300m deep.....it appears to be well and truly into the three digits.....I think we will easily be over the 1.0, 1.2%....”

This looks to be a massive resource, but it will take the next two years to drill and grow it towards its potential. In late 2023 or early 2024, I would expect a maiden resource to be announced, followed soon after with a PEA or PFS. All weather road access and power are 15kms from the Corvette Project, so a minor challenge. Risks due to the early stage and again lithium juniors require a 5 year plus investing time frame.

Patriot currently trades on a market cap of [C\\$486 million](#) ([US\\$365 million](#)).

Patriot's Corvette Lithium Project showing the CV1 pegmatite outcropping and the CV1 to CV6 pegmatite corridor



Source: [Patriot Battery Metals company presentation](#)

Closing remarks

Early-stage lithium miners come with numerous risks but also potentially huge rewards. In the case of Frontier Lithium and Patriot Battery Metals, they are, in my view, the two most promising earlier-stage lithium juniors in North America.

There are also three other very advanced North American juniors (Piedmont Lithium Inc., Sayona Mining Limited, Critical Elements Lithium Corporation) that offer lower risk, less patience, but perhaps less reward. These 5 lithium stocks look likely to be the 'fabulous 5' that could become the backbone of the North American lithium industry along with Albemarle Corporation, Livent Corporation, and perhaps Lithium Americas Corp.

***Disclosure from the Author:** The author is long all the lithium companies mentioned in this article.*

Biden Leads the build-out of an EV market critical minerals supply chain outside of China parade

written by Matt Bohlson | March 22, 2024

For the past decade it has been China that has massively supported its battery and EV industry resulting in China now being by far the leader in EV production globally; and quite frankly a threat of totally dominating the future global auto industry as it goes electric.

Now, finally, the tide is turning with the Western governments

starting to make very significant moves to support the EV and energy storage sectors (including batteries & the electric grid) and its supply chain. Today's article gives a summary of major western governments' new policies to support the EV and energy storage supply chain so far in 2022.

USA

As [announced](#) last week the DoE awarded **US\$2.8 billion** of grants to accelerate U.S. manufacturing of batteries for electric vehicles and the electric grid. As [stated](#) by Energy.Gov.:

"The 20 companies will receive a combined US\$2.8 billion to build and expand commercial-scale facilities in 12 states to extract and process lithium, graphite and other battery materials, manufacture components, and demonstrate new approaches, including manufacturing components from recycled materials."

A key component of the US\$2.8 billion in grants is that they will be matched with [US\\$9 billion](#) in recipient funds. Furthermore, the 20 company's projects are spread across the key areas of the battery supply chain with the key purpose to build a new U.S lithium-ion battery industry.

As shown below some of the winners were lithium companies Albemarle Corporation (NYSE: ALB) and Piedmont Lithium Inc. (Nasdaq: PLL | ASX: PLL), spherical graphite (soon to be a producer) company Syrah Resources Limited (ASX: SYR), nickel junior Talon Metals Corp. (TSX: TLO) and several others.

Location map showing the planned project locations of the DoE project grant recipients



Source: [Energy.Gov DoE](#)

Earlier in 2022, the U.S government announced funding in the [Inflation Reduction Act](#) of [US\\$369 billion](#) towards clean energy and climate change initiatives.

The Biden Administration is certainly leading the West in supporting the environment and building up a new clean energy industry with factories and jobs in the USA.

Canada

Canada has recognized that it is extremely well positioned to be a [supplier of EV metals](#) and components due to its inherent wealth of critical raw material resources. In the 2022 Canadian Budget the government allocated an additional [“C\\$3.8 billion](#) for critical minerals, including those that feed into clean technologies”. Clean Energy Canada [stated](#):

“This new funding will help Canada realize its vision of building an “end-to-end” battery supply chain through which Canada can do it all, from sourcing the materials to building the parts, batteries, and clean cars.”

Specifically, the Canadian government will spend up to [C\\$1.5 billion](#) over seven years, starting in 2023-24, for infrastructure investments that would support the development of the critical minerals supply chain, with a focus on priority deposits. Many very promising Canadian projects, such as Frontier Lithium Inc.’s (TSXV: FL | OTCQX: LITOF) PAK Lithium Project, need roads to be built to help bring their projects to production. Canada has a plan to make this happen, albeit rather slowly.

Australia

The Australian government under Prime Minister Albanese has brought a new focus towards EVs and climate change. As announced

last week the “[support for critical minerals breakthroughs](#)” policy is designed to accelerate the growth of the critical minerals sector. The announcement [stated](#):

“The Strategy will complement other Government initiatives including the National Battery Strategy and the Electric Vehicle Strategy. The National Reconstruction Fund will include the \$1 billion Value Adding in Resources Fund which will work alongside the \$2 billion Critical Minerals Facility.....The Government will also allocate \$50 million over three years to the Critical Minerals Development Program for competitive grants to support early and mid-stage critical minerals projects, building on the \$50 million recently committed to six key projects across Australia.”

The winning “six key projects” [are owned by](#) Alpha HPA Limited (ASX: A4N), Cobalt Blue Holdings Limited (ASX: COB), EQ Resources Limited (ASX: EQR), Global Advanced Metals Pty Ltd, Lava Blue Ltd., and Mineral Commodities Ltd. (ASX: MRC).

Europe

Last month the European Commission [announced](#) a new policy proposal called the ‘European Critical Raw Materials Act’. The announcement emphasized Europe’s need to secure a safe and secure supply of critical minerals, notably lithium and rare earths. The announcement [stated](#):

“Lithium and rare earths will soon be more important than oil and gas. Our demand for rare earths alone will increase fivefold by 2030. [...] We must avoid becoming dependent again, as we did with oil and gas. [...] We will identify strategic projects all along the supply chain, from extraction to refining, from processing to recycling. And we will build up strategic reserves where supply is at risk. This is why today I am announcing a European Critical Raw Materials Act.”

The European Critical Raw Materials Act is still being developed but it looks like it will follow along similar footsteps as the U.S Inflation Reduction Act, supporting and building local supply chains, but also relying on ally countries. The European Commission [stated](#) one objective as:

“To facilitate the roll-out of targeted raw materials projects in the EU, the Commission should be empowered to list Strategic Projects – which would be labelled as of European interest – based on proposals from Member States. These projects could benefit from streamlined procedures and better access to finance.”

An excerpt from the recent 2022 State of the European Union address discussing the need for Europe to source critical raw materials



Source: [European Commission](#)

Some possible winners might be rare earths processing company [Neo Performance Materials Inc.](#) (TSX: NEO) and European Metals Holdings Limited (ASX: EMH | AIM: EMH | OTCQX: EMHXY). The former owns [the only commercial rare earth separations and rare metal processing plant in Europe](#) and the later has a JV 49% ownership of the [largest hard rock lithium project in Europe.](#)

Closing remarks

The Western governments have woken up from a decade long slumber and are now finally moving to build key critical raw material, battery, and EV supply chains both locally and with ally countries. Project funding and permitting are key obstacles being addressed as they are the reason why much of USA and Europe have virtually no EV supply chain today.

As we approach COP 27 starting on November 6, the 2022 awakening of the Western governments should lead to one of the biggest investment themes this decade. That is, investing in quality companies that are likely to succeed in supplying the EV and energy storage supply chains as the Western world looks to gain independence from China.

InvestorIntel has been bringing attention to these companies for more than a decade and provides the ideal starting point to research and learn about promising critical raw materials companies. Stay tuned.

Disclosure: The author is long Albemarle Corporation, Piedmont Lithium Inc., Syrah Resources Limited, Frontier Lithium Inc., Cobalt Blue Holdings Limited, European Metals Holdings.

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A look at the lithium market

Leaders as EV manufacturers face generational challenge to keep factories running

written by Matt Bohlsen | March 22, 2024

Investors are starting to realize the lithium boom is likely to last the next 1-2 decades. EV manufacturers are now facing a generational challenge to secure enough lithium supply to keep their factories running.

In 2021, the [IEA forecast](#) that the world will need **13-42x more lithium by 2040 (from 2020 levels)**. The 13x increase was based on the stated policies track (as of 2021) and the 42x increase was based on the sustainable development scenario (we move rapidly towards a world of zero emissions). Just this past week [Benchmark Mineral Intelligence forecast](#): “Lithium has to scale **twenty times by 2050** as automakers face generational challenge”. This was **based on 2021 levels**. Our exclusive research at [Trend Investing forecast](#) a **35x increase** in lithium demand **from 2020 to 2037**.

As of October 2022, the best positioned EV manufacturers are Tesla & BYD Co, and perhaps Ford & GM. These companies have made good preparations including multiple lithium off-take agreements and investments in the lithium companies or projects. Examples are Ford’s July 2022 [off-take and A\\$300 million debt facility agreement](#) with Australian lithium junior Lontown Resources Limited (ASX: LTR), and the August 2022 [GM off-take and US\\$198 million pre-payment](#) deal with Livent. Both these recent deals show the new reality of what it takes to secure future lithium supplies.



Tesla Model 3 – A global leader in electric car sales the past 5 years

Who are the lithium leaders?

The lithium leaders are those lithium companies that are currently the leading producers and who have potential to significantly ramp their lithium production this decade.

Sociedad Quimica y Minera S.A. (NYSE: SQM) – A Chile company with a 51% share of the world's best lithium brine mine at the Atacama Salar in Chile. They also own 50% share of the Mt Holland spodumene project (with Wesfarmers) set to begin production in [Q4, 2023](#). SQM is targeting lithium carbonate equivalent ("LCE") sales in 2022 of [150,000t](#), 210,000t in 2023, and 240,000t in 2024.

Albemarle Corporation (NYSE: ALB) – An American company often seen as the lithium leader. They own 49% of the Atacama Mine (with SQM JV) and 49% of the world's best spodumene mine Greenbushes in Australia. They also have a 50% JV ownership (with Mineral Resources) of the massive Wodgina Mine in Western Australia, which recently began producing again with plans for a large ramp ahead. The JV also has a recently completed hydroxide conversion plant (60% ALB; 40% MIN) in Kemerton, WA. Albemarle's production is targeted to increase from [~130,000t](#) LCE in 2022 to ~220,000t LCE in 2025.

Ganfeng Lithium Group Co., Ltd. (SHE: 002460 | HK: 1772 | OTC: GNENF) – A Chinese lithium company focused on lithium refining, however now has multiple projects around the world including 49% of Mt Marion in WA and a 50% JV with Lithium Americas at the massive Cauchari-Olaroz project in Argentina due to start production soon. Ganfeng aims to boost production from ~90,000t in 2022 to [200,000tpa](#) by 2025.

The other leaders with large projects include Pilbara Minerals Limited (ASX: PLS) with their massive Pilgangoora Mine in Western Australia (~90,000tpa in 2022/23), Mineral Resources Limited (ASX: MIN), Tianqi Lithium Corporation, Livent Corporation (NYSE: LTHM) and Allkem Limited (ASX: AKE | TSX: AKE).

Together the names above represent the biggest eight lithium producers and they produce most of the world's lithium today.

Some others such as AMG Advanced Metallurgical Group NV and a few smaller Chinese producers make up the balance of global lithium production.

The next or near term producers set to come online include (in rough order) Argosy Minerals Limited (ASX: AGY), Lithium Americas Corp. (NYSE: LAC | TSX: LAC), Core Lithium Ltd (ASX: CX0), – SIGMA Lithium Corporation (NASDAQ: SGML | TSXV: SGML), Sayona Mining Limited (ASX: SYA | OTCQB: SYAXF)/Piedmont Lithium (Nasdaq: PLL | ASX: PLL) (NAL Project in Canada), and Liontown Resources Limited (ASX: LTR).

There are also a bunch of other very promising lithium junior miners with potential to become new lithium producers after 2025. Three of the biggest projects could be in Canada with Critical Elements Lithium Corporation (TSXV: CRE | OTCQX: CRECF), Patriot Battery Metals Inc. (TSXV: PMET | OTCQB: PMETF) and Frontier Lithium Inc. (TSXV: FL | OTCQX: LITOF).

Closing remarks

It may seem like there is a lot of lithium supply coming online in the next few years, but of course demand is rising faster than supply, assuming EV sales growth continues at a 50%+ growth rate as expected.

Could there be some periods of short term oversupply? Yes, but only likely if EV sales falter. Either way the decade or two ahead looks set to be a very exciting time for lithium investors and the lithium leaders discussed in this article.

Disclosure: The author is long Tesla, BYD Co and most of the lithium stocks mentioned in the article.

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Why have lithium miner stock prices fallen when lithium prices have surged higher?

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Investing in the stockmarket is part science and part art. The science part refers to the fundamental analysis and the art refers more to the instinct/understanding and timing of investments. What truly sets great investors apart from the average are two things – Spotting a winning trend early and

investing when there is a market disconnect caused by negative sentiment.

Today's article is about just that. The winning trend is the EV and lithium boom, and the disconnect is the recent lithium price gains while the lithium miners stock prices fell. Did you know that in the past 3 months lithium carbonate spot prices in China have more than doubled ([up ~125%](#)), yet lithium miners stocks have fallen in many cases by 25% or more in the same time period?

China lithium spot prices are up ~125% in the past 3 months and 10x the past 14 months



[Source](#): Trading Economics

The chart below shows the stock price falls of several lithium producers and one highly promising junior. In the past 3 months (as lithium prices more than doubled) Albemarle Corporation (NYSE: ALB) has fallen 32.40%, Livent Corporation (NYSE: LTHM) has fallen 28.43%, SQM (NYSE: SQM) is down 6.20%, Ganfeng Lithium (HK: 1772) is down 9.53%, and Lithium South Development Corp. (TSXV: LIS) is down 35.35%.

Leading lithium miners' stock prices the past 3 months have fallen significantly



Source: [Yahoo Finance](#)

Why have lithium miner stock prices fallen when lithium prices have surged higher?

The answer as to why is as follows:

- Several lithium miners sell their lithium on contract prices which are yet to properly reflect the market spot price for lithium. As these contracts expire they will be replaced with much higher contract prices or spot prices.
- Macro events and market sentiment – The general market has been selling off with the S&P500 down about 10% from its peak due to U.S. interest rates soon to rise and more recently the Russia-Ukraine crisis. Of course, this will pass and has almost zero impact on EV sales and/or lithium prices. In fact, current very high oil prices are helping EV sales. In my situation my new electric car costs me \$17 to drive 420kms compared to \$75 for my old gasoline car, that's about 4.5x less. Servicing costs are almost zero, with the main cost being tire replacements.

The recent disconnect between the more than doubling of lithium prices and lithium miners stock prices falling would only make sense if the sector was in trouble, yet EV sales are setting new records, up [108%](#) in 2021, and look set to grow well above 50% each year this decade. Lithium demand is forecast to grow [11x](#) this decade with most analysts forecasting growing lithium deficits. So we have a winning trend and a huge disconnect caused by macro factors (Russia-Ukraine conflict, rising US interest rates). Great investors can see this huge disconnect and will move now to profit from it.

Two popular ETFs that track the stocks of EVs, batteries, lithium and EV metal companies also tell a similar story, having both fallen the past 3 months. The Global X Lithium & Battery Tech ETF (LIT) is now trading on a PE of just [26](#) and the Amplify Lithium & Battery Technology ETF (BATT) trades on a PE of only [21](#). Considering the sector's growth rate of well above 50%pa, this is plain crazy.

A final example could be Tesla (NASDAQ: TSLA). The stock is [down](#)

[26%](#) over the past 3 months despite reporting its best ever results in Q4, 2021 and smashing the competition. Tesla had an outstanding 2021 [growing revenues 71% YoY](#) and GAAP earnings by 665% YoY. Total vehicle production grew 83% YoY. 2022 looks to be even better for Tesla with 2 new gigafactories set to open and production likely to grow from ~936,000 electric cars in 2021 to somewhere near 1.7 million in 2022. One more key factor highlighting global EV demand, Tesla has an estimated [1.3 million pre-orders](#) for their Cybertruck. In total Tesla's pre-orders are so high that they don't even accept orders for Model Y in many countries as they cannot meet demand for some years.

Tesla's electric cars have huge waiting lists and well over 1.5 million pre-orders



Closing remarks

All forms of lithium prices (spodumene, Li hydroxide, Li carbonate) have been surging higher the past 14 months. In particular, the China lithium carbonate price has surged **125% higher** the past 3 months, while leading lithium miners and others fell between 6% and 35%. Albemarle, the leading lithium miner, has **fallen 32%** in the past 3 months. This is a huge disconnect, and frankly what great investors dream of. I will be topping up my positions in the EV companies and lithium miners as the EV and lithium boom has only just begun and current macro events have opened up a huge buying opportunity for investors. The last time I saw this happen was in the March 2020 Covid-19 low, with many lithium stocks surging higher once market sentiment improved.

My view is that the lithium miners are currently like a tightly

sprung coil. As soon as the market sentiment and macro issues improve that coil should spring open propelling lithium miners stock prices higher and closing the current huge disconnect.

Don't miss this opportunity to buy into 'white gold' as lithium becomes the most critical element of the modern era.

Disclosure: The author is long all the stocks and ETFs mentioned in this article.