

# 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/3vkpBwf>
- 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>

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**John Passalacqua on First**

# Phosphate's groundbreaking achievements in the phosphate mining industry

written by InvestorNews | March 22, 2024

In an insightful interview with Tracy Weslosky of InvestorNews during PDAC 2024, John Passalacqua, CEO and Director of [First Phosphate Corp.](#) (CSE: PHOS), shared the company's strategic priorities and groundbreaking achievements in the phosphate mining industry, particularly its specialization in the lithium iron phosphate (LFP) battery sector. Passalacqua highlighted that First Phosphate's main objective at PDAC 2024 was to engage with government officials from various levels, emphasizing the event's significance as a meeting point for leaders from Canada, the United States, and internationally. He also underscored the unique position of First Phosphate as the only company fully dedicated to extracting and purifying phosphate specifically for the LFP battery industry, a factor that significantly sets them apart from other phosphate mining operations that typically focus on fertilizer production.

One of the most compelling aspects of First Phosphate's strategy is its focus on producing high-grade purified phosphoric acid from phosphate issued from volcanic rock, a process essential for manufacturing LFP batteries. Passalacqua proudly announced a recent milestone where the company successfully converted phosphate ore into phosphate concentrate and then into purified phosphoric acid in partnership with Prayon in Belgium. This achievement underlines First Phosphate's capability to contribute significantly to the LFP market in North America, a market that is just beginning to emerge according to industry experts. Additionally, Passalacqua addressed the company's

financial strategy, noting a successful capital raise of \$8.2 million against a target of \$2 million and securing a \$170 million line of credit with the Export–Import Bank of the United States (EXIM), reflecting strong investor confidence and strategic government backing for their initiatives.

First Phosphate's recent [announcement](#) of signing a memorandum of understanding with Groupe Goyette for logistics at the Hébertville-Station intermodal facility in Quebec further illustrates their strategic approach to infrastructure and supply chain development. This agreement aims to facilitate rapid transportation for the company's mining and industrial outputs, crucial for their clientele in the EV and energy storage sectors. The appointment of Armand MacKenzie as Vice-President, Government Relations, and the comprehensive plans for a purified phosphoric acid plant at Port Saguenay, Quebec, are testaments to the company's ambitious roadmap towards establishing a robust LFP battery ecosystem in North America. These steps, coupled with strategic partnerships and significant project developments, position First Phosphate as a pivotal player in the LFP battery supply chain, contributing not only to the battery industry but also promising economic, social, and job creation benefits in the Quebec region.

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

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## About First Phosphate Corp.

First Phosphate is a mineral development company fully dedicated to extracting and purifying phosphate for the production of cathode active material for the Lithium Iron Phosphate ("LFP") battery industry. First Phosphate is committed to producing at

high purity level, in responsible manner and with low anticipated carbon footprint. First Phosphate plans to vertically integrate from mine source directly into the supply chains of major North American LFP battery producers that require battery grade LFP cathode active material emanating from a consistent and secure supply source. First Phosphate holds over 1,500 sq. km of royalty-free district-scale land claims in the Saguenay-Lac-St-Jean Region of Quebec, Canada that it is actively developing. First Phosphate properties consist of rare anorthosite igneous phosphate rock that generally yields high purity phosphate materially devoid of high concentrations of harmful elements.

To learn more about First Phosphate Corp., [click here](#)

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# John Passalacqua on First Phosphate's Strategic Collaboration with Sun Chemical

written by InvestorNews | March 22, 2024

In an Investor.Coffee interview series hosted by Jack Lifton, Co-Chairman of the Critical Minerals Institute (CMI), and guest John Passalacqua, CEO and Director of First Phosphate Corp.'s (CSE: PHOS | FSE: KD0), Jack commends John for First Phosphate's exceptional operation and strategic alliance recently announced with Sun Chemical Corporation.

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## First Phosphate's John Passalacqua on the significance of securing a LOI for \$170M from EXIM

written by InvestorNews | March 22, 2024

In a recent InvestorNews interview hosted by Tracy Weslosky, [First Phosphate Corp.](#)'s (CSE: PHOS | FSE: KD0) CEO and Director, John Passalacqua, talks about their recent news release on securing a [letter of interest](#) for up to USD \$170 million from the Export-Import Bank of the United States (EXIM). Highlighting the significance of this development, John explains how it

aligns perfectly with the critical minerals strategy to produce phosphate and Lithium Iron Phosphate (LFP) batteries in North America.

John emphasized the non-dilutive nature of the EXIM financing and how the credit line is mostly guaranteed towards the purchase of US goods and services by First Phosphate to develop their project in Quebec, Canada.

The timing couldn't be better, as First Phosphate recently signed an [MOU](#) with American Battery Factory Inc. for the onshoring of up to 40,000 tonnes of LFP Cathode Active Material production in North America. John explains how the EXIM line of credit will play a pivotal role in realizing their ambitious vision of producing LFP Cathode Active Material for North American battery manufacturers.

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

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the Saguenay-Lac-St-Jean Region of Quebec, Canada that it is actively developing. First Phosphate properties consist of rare anorthosite igneous phosphate rock that generally yields high purity phosphate material devoid of high concentrations of harmful elements.

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**Focused on a more sustainable  
future for North America's LFP  
battery industry, First**

# Phosphate receives an LOI for up to \$170M from EXIM

written by InvestorNews | March 22, 2024

The realm of lithium iron phosphate (LFP) batteries is evolving rapidly, with the focus shifting towards sustainable solutions and strategic planning. And First Phosphate Corp. (CSE: PHOS | FSE: KD0) has been making headlines recently, with strategic decisions and significant investments that stand to reshape the North American lithium iron phosphate (LFP) battery landscape. Here's a quick roundup of what's been happening:

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## John Passalacqua of First Phosphate Discusses Advancing to PEA & Pilot Plant to Feed LFP Batteries

written by InvestorNews | March 22, 2024

In this InvestorIntel interview, Tracy Weslosky talks with [First Phosphate Corp.](#)'s (CSE: PHOS | FSE: KD0) CEO and Director John Passalacqua about the significance of phosphate. As an essential mineral for humanity, with about 90% of its use dedicated to food production, John discusses the rapid growth in demand for phosphate in LFP (Lithium Iron Phosphate) batteries used in electric vehicles.

John also provides an update on First Phosphate's deposit in the

Saguenay-Lac-St-Jean Region of Quebec, Canada, and the tax benefits of being located in Quebec. The deposit hosts high-purity phosphate material, devoid of concentrations of deleterious elements.

He goes on to discuss the significant milestones achieved at its project in just one year of being in operation, including securing extensive claims, conducting advanced drilling, releasing a mineral resource, and progressing towards a PEA (Preliminary Economic Assessment) and phosphate concentration pilot plant.

With an MoU (memorandum of understanding) in place with Port of Saguenay in Quebec, Canada to secure deep-sea access to the global markets, John provides an update on First Phosphate's [partnership](#) with [Prayon SA](#), a global leader in purified phosphoric acid production and technology.

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

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over 1,500 sq. km of royalty-free district-scale land claims in the Saguenay-Lac-St-Jean Region of Quebec, Canada that it is actively developing. First Phosphate properties consist of rare anorthosite igneous phosphate rock that generally yields high-purity phosphate material devoid of high concentrations of harmful elements.

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results of operations may negatively impact the value of its securities. Prospective investors are urged to review the Company's profile on [Sedar.com](https://www.sedar.com) and to carry out independent investigations in order to determine their interest in investing in the Company.

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

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# John Passalacqua on First Phosphate's Position as a Key Supplier to the LFP Battery Market for EVs

written by InvestorNews | March 22, 2024

In this InvestorIntel interview, Tracy Weslosky talks with [First Phosphate Corp.](#)'s (CSE: PHOS | FSE: KD0) CEO and Director John Passalacqua about the growing mass market adoption of LFP (Lithium Iron Phosphate) batteries globally in the Electric Vehicle (EV) industry.

With EV manufacturers such as Tesla in their Model 3 and Model Y now using LFP batteries in their vehicles to reduce cost, John goes on to provide an update on First Phosphate's deposit in the Saguenay-Lac-St-Jean Region of Quebec, Canada.

With a purity 33% higher than the current world's standard, John discusses how 90% of First Phosphate's resource can be converted

into purified, battery-grade, phosphoric acid allowing them to focus primarily on the LFP battery industry. Phosphoric acid is a critical component in LFP batteries.

John also provides [an update](#) on First Phosphate's LFP production technology licensing agreement with [Integrals Power Limited](#). Highlighting the benefits of Integrals Power's technology, including its suitability for colder temperatures and different production types, John discusses how purified phosphoric acid and iron sulfate from First Phosphate's deposits will be used for LFP battery production, targeting the emerging North American EV industry.

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## About First Phosphate Corp.

First Phosphate is a mineral development company fully dedicated to extracting and purifying phosphate for the production of cathode active material for the Lithium Iron Phosphate ("LFP") battery industry. First Phosphate is committed to producing at a high purity level, at full ESG standard, and with a low anticipated carbon footprint. First Phosphate plans to vertically integrate from the mine source directly into the supply chains of major North American LFP battery producers that require battery-grade LFP cathode active material emanating from a consistent and secure supply source. First Phosphate holds over 1,500 sq. km of royalty-free district-scale land claims in the Saguenay-Lac-St-Jean Region of Quebec, Canada that it is actively developing. First Phosphate properties consist of rare anorthosite igneous phosphate rock that generally yields high-purity phosphate material devoid of high concentrations of

harmful elements.

To learn more about First Phosphate Corp., [click here](#)

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# **First Phosphate Unlocking High-Purity Phosphate for the Rapidly Expanding EV LFP Battery Industry**

written by InvestorNews | March 22, 2024

## **Lithium iron phosphate (“LFP”) batteries are rapidly gaining market share**

A major trend in the world of batteries and electric vehicles is the move towards lithium-iron phosphate (“LFP”) batteries. Not only do they cost less than rival nickel manganese cobalt (“NMC”) batteries, but they last approximately 2-times longer and are much safer (almost zero risk of fire).

The one drawback is their energy density, meaning an electric car’s range with LFP is less than the comparable NMC batteries. However, advancements in LFP technology now mean a base model (rear-wheel drive) Tesla Model 3 with LFP batteries has an EPA range estimate of [272 miles or 438 kilometers](#). That range is more than enough range for most people.

This explains why LFP battery sales are surging globally and now

account for close to [30% market share](#). Most auto OEMs in China offer LFP battery EVs and globally [Tesla Inc.](#) (NASDAQ: TSLA), [Ford Motor Company](#) (NYSE: F), [Volkswagen AG](#) (Xetra: VOW3 | OTC: VWAGY), [Rivian Automotive, Inc.](#) (NASDAQ: RIVN), [Mercedes-Benz Group AG](#) (Xetra: MBG | OTC: MBGAF), [Hyundai Motor Co. Ltd.](#) (KRX: A0053850 | OTC: HYMTF), and others are also recently embracing the technology.

## FIGURE 1: Tesla Model 3 RWD comes with an LFP battery

T E S L A

🌐 US

### Model 3

Est. Delivery: May 2023

[Enter Delivery ZIP Code](#)



Purchase Price	Potential Savings*	
272 mi Range (EPA est.)	140 mph Top Speed	5.8 sec 0-60 mph
Rear-Wheel Drive		

Source: [Tesla website](#)

The [IEA](#) Global EV Outlook 2023 states:

*“Lithium iron phosphate (LFP) cathode chemistries have reached their highest share in the past decade. This trend is driven mainly by the preferences of Chinese OEMs. Around 95% of the LFP batteries for electric LDVs went into vehicles produced in China, and BYD alone represents 50% of demand. Tesla accounted for 15%, and the share of LFP batteries used by Tesla increased from 20% in 2021 to 30% in 2022.....LFP batteries contrast with other chemistries in their use of iron and phosphorus rather than the nickel, manganese and cobalt found in NCA and NMC batteries. The downside of LFP is that the energy density tends to be lower than that of NMC. LFP batteries also contain phosphorus, which is used in food production. If all batteries*

*today were LFP, they would account for nearly 1% of current agricultural phosphorus use by mass, suggesting that conflicting demands for phosphorus may arise in the future as battery demand increases.”*

In the next part of the article, we shift our focus to a company poised to supply the phosphate (“P”) in LFP batteries.

## **First Phosphate Corp.**

[First Phosphate Corp.](#) (CSE: PHOS | FSE: KD0) is the only publicly-listed mineral development company that is fully dedicated to extracting and purifying phosphate for the production of cathode active material for the LFP battery industry.

The Company plans to vertically integrate from the mine source directly into the supply chains of major North American LFP battery producers that require battery-grade LFP cathode active material.

First Phosphate has more than 1,500 square kilometers (370,000 acres) of royalty-free land claims in the Saguenay-Lac-St-Jean Region of Quebec, Canada. The claims contain rare ‘anorthosite igneous phosphate’ rock that generally yields high-purity phosphate material devoid of high concentrations of harmful elements.

First Phosphate states:

*“95% of the World’s Phosphate is found in heavy metal laden Sedimentary Rock.*

*Only 4% of the World’s Phosphate is found in Clean Igneous Carbonatite Rock.*

*Only 1% of the World's Phosphate is found in Even Cleaner Igneous Anorthosite, found mostly in Quebec, Canada."*

This means that First Phosphate has a rare type of phosphate and hence a first mover advantage to become a western supplier of pure phosphate for the LFP cathode manufacturers.

## **Lac à l'Original, Mirepoix, Vanel Trilogy flagship project**

First Phosphate's flagship project (Lac à l'Original, Mirepoix, Vanel Trilogy) has an Indicated pit-constrained Mineral Resource of [15.8 million tonnes \(Mt\) at grades of 5.18% P<sub>2</sub>O<sub>5</sub> \(phosphorus pentoxide\), 4.23% TiO<sub>2</sub> \(titanium dioxide\), and 23.90% Fe<sub>2</sub>O<sub>3</sub> \(iron oxide\)](#) and an Inferred pit-constrained Mineral Resource of 33.2 Mt at grades of 5.06% P<sub>2</sub>O<sub>5</sub>, 4.16% TiO<sub>2</sub> and 22.55% Fe<sub>2</sub>O<sub>3</sub>.

There is also resource upside potential at the Project and with more than 1500 km<sup>2</sup> of additional phosphate-bearing land claims.

Metallurgical test work indicates an anticipated apatite grade of at least 38% P<sub>2</sub>O<sub>5</sub> at [over 90% recovery](#). The Lac à l'Original Deposit contains very low levels of potentially hazardous components, such as arsenic, heavy metals, and radioactive elements.

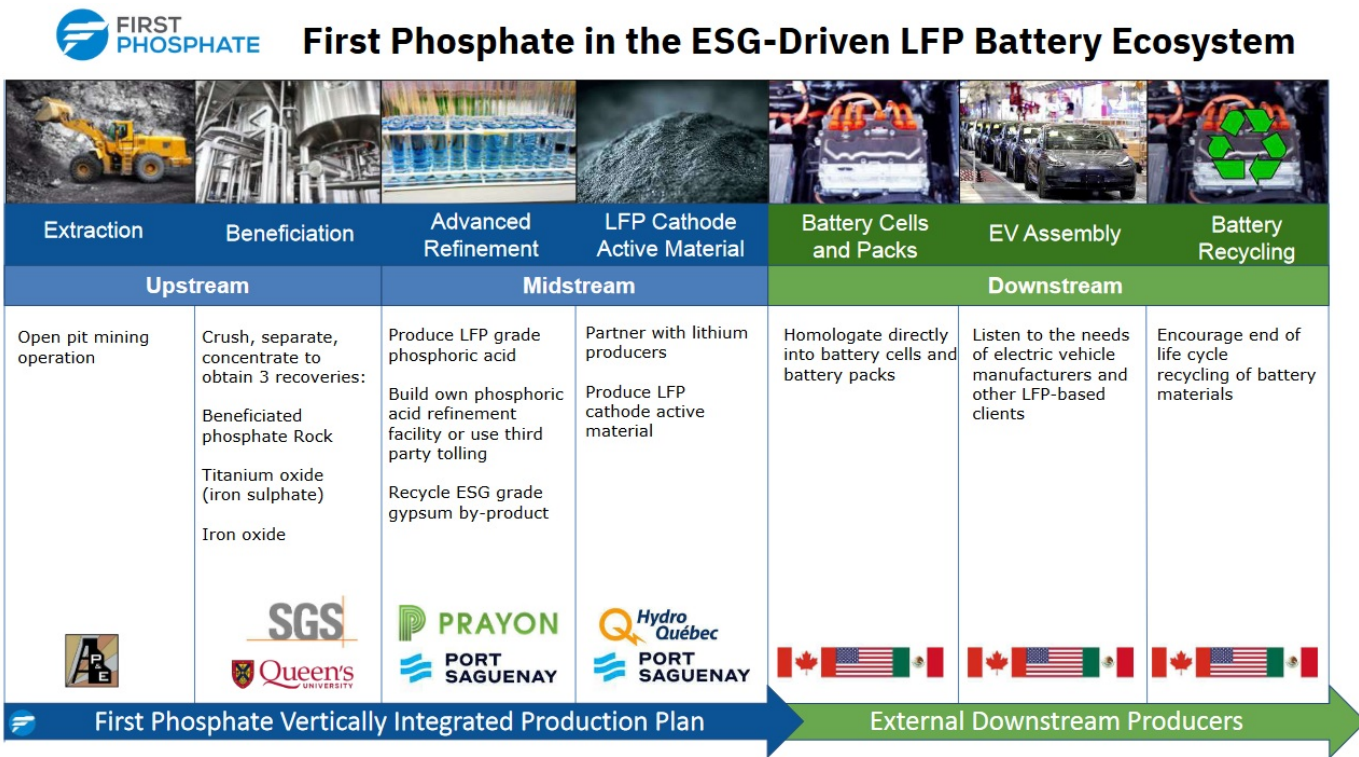
The Project site is accessible and usable in all four seasons, with heavy-haul road access, and is 140 km driving distance from the deep water, Port of Saguenay. There is access to clean Quebec hydroelectricity.

First Phosphate plans to develop midstream phosphate refining (purification) and LFP cathode active material production at the Port of Saguenay in Quebec.



The Company is currently working on its Preliminary Economic Assessment (“PEA”).

**FIGURE 2: First Phosphate Corp.’s vertically integrated production plan to produce LFP cathode active material**



Source: [First Phosphate Corp. company presentation](#)

**FIGURE 3: Reasons to buy First Phosphate Corp.**

## Reasons to Buy First Phosphate

### 1. Geographic Advantage

Flagship property with exploration upside  
( >1500 km<sup>2</sup> of royalty-free claims)



- Quebec, Canada is a friendly mining jurisdiction and electric vehicle hub for North America
- Strong government support for industry
- Meets Inflation Reduction Act Requirements

### 2. The Right Type of Phosphate

World's cleanest source of phosphate rock from igneous anorthosite



- Devoid of harmful elements, low sulphur
- Produces large amounts of LFP battery grade purified phosphoric acid
- Environmentally clean, circular advanced mining and refinement methods. Solventless phosphate extraction

### 3. Driven by EV Battery Market

Phosphate with characteristics to go from mine to LFP cathode active material



- Process using clean Quebec Hydro
- Traceable, ethical, ESG, secure supply source
- Ability to supply across North America from Saguenay-Lac-St-Jean

Source: [First Phosphate Corp. company presentation](#)

## Closing remarks

The trend towards a greater market share of LFP batteries used in EVs and energy storage is extremely strong.

In the past, the LFP demand and supply chain was entirely in China. This changed significantly in 2022 and continues to gain momentum in 2023 with almost all major Western auto OEMs embracing LFP battery technology for their standard-range electric cars.

Due to issues surrounding LFP patents, the West was largely unable to manufacture its own LFP batteries, but this has now changed. New LFP cathode plants are now being [planned](#) and soon will be built in the West. This includes Ford's recently announced [US\\$3.5 billion](#) plan to build an LFP battery facility in the USA licensing CATL's technology.

The high-purity phosphate supply chain will need to try to keep pace with these changes. Leading the charge is First Phosphate,

trading on a market cap of [C\\$21 million](#). Be sure to take a look at this company, preferably sooner rather than later.

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# Putin attacks Ukraine, what are the consequences for investors?

written by InvestorNews | March 22, 2024

Like a lot of people around the world, I'm royally pissed off about what is happening in Ukraine. My email inbox exploded yesterday with questions on what this means from a trading perspective, and no one seemed to like my answer, which is – it meant very little to me (but please don't mistake that for my personal outrage with respect to this issue). Frankly, when all was said and done not a whole lot happened in the market, and depending on how the continued sanction saga goes, we'll see if it has much impact at all. I targeted a few buying opportunities of anything that got yard-saled, but my guess is that this is a simple speed bump, and the market will have forgotten about it in a week or two.

In my opinion, the bigger market impact will be how it affects the U.S. Federal Reserve actions. The potential for increased commodity inflation (due to sanctions) could slow the economy. A slowing economy is not a great background for gung-ho interest rate increases. So, this conflict/war/assault on humanity may actually temper interest rate increases which could be bullish tech and gold. A perceived less aggressive interest rate path may partially explain the slap upside the head that most North

American financials took, although there may also be some ramifications from all the banking sanctions announced. But, by day's end, all I had done was to buy some Facebook/Meta (NASDAQ: FB) and sell some out of the money covered calls on Cameco Corp. (TSX: CCO | NYSE: CCJ), and that's it. There was a lot of uranium interest for sure, but we saw bigger intraday moves when everyone was all cranked up by the activity of the Sprott Physical Uranium Trust (TSX: U. UN). Nevertheless, I will often find some way to trade around a 10% single day move in an equity.

Now don't get me wrong. I'm definitely paying attention to the obvious [sectors that may be impacted](#) as one could argue that Russia is a global commodities superstore – you know, oil, natural gas, wheat, corn, palladium, platinum, aluminum, potash and phosphate, to name a few. But let's be frank, a lot of these commodities will see limited impacts for various reasons.

The current global supply/demand picture for both oil and natural gas, the largest contributor to Russian GDP, is such that no country has enough spare capacity or political will to completely shut off Russian imports. It seems like every speech made by President Biden on this topic always has some reference to keeping U.S. gasoline prices below \$4/gallon. And in Germany, they made the symbolic gesture of halting certification for the Nord Stream 2 pipeline but that wasn't shipping any product yet anyway. There's still the original Nord Stream pipeline and its total annual capacity of 1.9 trillion cubic feet (55 billion m<sup>3</sup>) of gas that hasn't been discussed in any press releases I've seen so far. Likely because it's still winter and Germany isn't about to let its citizens freeze, and realistically it doesn't have any other quickly available, viable options. If those united against Mr. Putin actually grow a spine and put a hard stop to all Russian oil and gas purchases, Russia could simply

sell most, if not all, of it to China and current Chinese supply will redistribute to other parts of the world. This could certainly create some interim price volatility but it's highly improbable (in my opinion) that actual Russian oil and/or natural gas production will be cut and thus there will be no dramatic swings in supply.

In fact, I believe China probably has the most sway over how this whole situation unfolds. Mr. Putin obviously doesn't care about sanctions from the rest of the world given those sanctions were signaled well in advance and it doesn't appear to have dissuaded him in any way, shape or form. China can likely absorb a lot of the commodities that Russia is currently selling to the rest of the world, should sanctions actually start to have an impact, but I'm pretty sure Mr. Putin isn't that trusting of his giant neighbor who happens to have an even larger economy and army. But if China decided that enough is enough and threw its weight behind the opposition of the rest of the world then this incursion ends immediately. If China is on board with sanctioning Russia along with everyone else, Russia no longer has an economy to speak of. But I suspect China plays along for a while, at least until they have Chinese troops on the ground in Taiwan, but we can hope that's not a story for another time.

Ultimately, I have no idea what Mr. Putin's end game is. Why has he manufactured some alternate reality regarding Ukraine that supposedly required Russia to invade? We may never know. To quote Winston Churchill from 1939 when he defined Russia as "a riddle, wrapped in a mystery, inside an enigma," it would appear Mr. Putin has taken this description to heart. In the meantime, it might be time to start nibbling away at North American commodity producers and explorers of just about everything because this event has taken security of supply to another level. It should also reshape the perspective of any ESG funds and investors as I'm pretty sure an unwarranted invasion of a

neighboring country violates both Social and Governance mandates, and if it doesn't then it should. With that said, let's be clear, these are the actions of Mr. Putin and his political and financial supporters and not necessarily the Russian people. Regardless, I'm glad I don't own any Russian equities or companies with Russian backing right now.