Tom Drivas Explores the Initial Rare Earth Mineral Resource Estimate from Appia's PCH Ionic Adsorption Clay Project in Brazil

written by InvestorNews | March 11, 2024
In this interview with Tracy Weslosky during PDAC 2024, Tom Drivas, CEO and Director of Appia Rare Earths & Uranium Corp. (CSE: API | OTCQX: APAAF) discussed the results from the maiden Mineral Resource Estimate for Appia's PCH Ionic Adsorption Clay Project in Brazil. Announcing a significant 52.8 million tonnes of resource, Tom highlighted the presence of extremely high-grades of rare earths within this resource, showcasing some of the highest TREO (total rare earth oxide) grades globally.

Tom emphasized the project's potential, stating, "We have only explored 1% of the total area... We have 40,000 hectares." Tom also highlighted the project's richness in magnet rare earths like neodymium and praseodymium, essential for producing permanent magnets in high demand. The addition of industry experts like Constantine Karayannopoulos, Jack Lifton and Don Hains, P. Geo to Appia's Advisory Board underscores the project's significance and potential.

Besides the project in Brazil, Appia is also advancing uranium exploration properties around the Athabasca Basin in Saskatchewan and has a significant uranium resource in Ontario at Elliot Lake. Notably, the company is also advancing its Alces Lake project in Saskatchewan, renowned for its high-grade

critical rare earths in monazite.

To access the full interview, click here

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About Appia Rare Earths & Uranium Corp.

Appia is a publicly traded Canadian company in the rare earth element and uranium sectors. The Company is currently focusing on delineating high-grade critical rare earth elements and gallium on the Alces Lake property, as well as exploring for high-grade uranium in the prolific Athabasca Basin on its Otherside, Loranger, North Wollaston, and Eastside properties. The Company holds the surface rights to exploration for 94,982.39 hectares (234,706.59 acres) in Saskatchewan. The Company also has a 100% interest in 13,008 hectares (32,143 acres), with rare earth elements and uranium deposits over five mineralized zones in the Elliot Lake Camp, Ontario. Lastly, the Company holds the right to acquire up to a 70% interest in the PCH Project (See June 9th, 2023 Press Release — Click HERE) which is 40,963.18 ha. in size and located within the Goiás State of Brazil. (See January 11th, 2024 Press Release — Click HERE)

To learn more about Appia Rare Earths & Uranium Corp., click here

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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 11, 2024
Welcome to the latest Technology Metals Report (TMR) where we highlight the top news stories that members of the <u>Critical Minerals Institute</u> (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 multipathway 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, <u>Source</u>) - 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

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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: Coglia 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

Mark Chalmers on Energy Fuels as a Profitable Uranium Producer in the U.S.

written by InvestorNews | March 11, 2024
In this interview with Tracy Weslosky during PDAC 2024, Mark
Chalmers, President, CEO, and Director of Energy Fuels Inc.
(NYSE American: UUUU | TSX: EFR), shared insights into the
company's record annual net income and its strategic
advancements in both uranium production and rare earths
processing. He emphasized the dual investment opportunity that
Energy Fuels offers in uranium and rare earths, a combination
rarely found in the sector.

With the uranium market "on fire right now", Mark highlighted Energy Fuels' unique position in the market as a debt-free and profitable uranium producer. Having recently commenced uranium production at three of its uranium mines, Mark proudly noted Energy Fuels' readiness for immediate production without the need for substantial capital investments.

Mark also shed light on Energy Fuels' ventures into rare earths, particularly the processing of monazite that concurrently allows for uranium recovery. Mark pointed out recent strategic moves, including the acquisition of the Bahia Project in Brazil and a memorandum of understanding with <u>Astron Corporation Limited</u> (ASX: ATR) to jointly develop the Donald Rare Earth and Mineral Sands Project, located in Victoria, Australia. Mark also highlighted the commissioning of phase one of a separation plant at the White Mesa Mill in Utah to process up to 1000 tons of

neodymium-praseodymium (NdPr).

To access the complete interview, click here

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About Energy Fuels Inc.

Energy Fuels is a leading US-based critical minerals company. The Company, as the leading producer of uranium in the United States, mines uranium and produces natural uranium concentrates that are sold to major nuclear utilities for the production of carbon-free nuclear energy. Energy Fuels recently began production of advanced rare earth element ("REE") materials, including mixed REE carbonate, and plans to produce commercial quantities of separated REE oxides in the future. Energy Fuels also produces vanadium from certain of its projects, as market conditions warrant, and is evaluating the recovery of radionuclides needed for emerging cancer treatments. Its corporate offices are in Lakewood, Colorado, near Denver, and substantially all its assets and employees are in the United States. Energy Fuels holds two of America's key uranium production centers: the White Mesa Mill in Utah and the Nichols Ranch in-situ recovery ("ISR") Project in Wyoming. The White Mesa Mill is the only conventional uranium mill operating in the US today, has a licensed capacity of over 8 million pounds of U₃O₈ per year, and has the ability to produce vanadium when market conditions warrant, as well as REE products, from various uranium-bearing ores. The Nichols Ranch ISR Project is on standby and has a licensed capacity of 2 million pounds of U₃O₈ per year. The Company recently acquired the Bahia Project in Brazil, which is believed to have significant quantities of titanium (ilmenite and rutile), zirconium (zircon) and REE (monazite) minerals. In addition to the above production facilities, Energy Fuels also has one of the largest NI 43-101 compliant uranium resource portfolios in the US and several uranium and uranium/vanadium mining projects on standby and in various stages of permitting and development.

To learn more about Energy Fuels Inc., click here

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Under Secretary Jose Fernandez Discusses U.S. Critical Minerals Strategy for Clean

Energy Transition

written by InvestorNews | March 11, 2024 In a compelling conversation with InvestorNews host Tracy

Weslosky, Jose W. Fernandez, the Under Secretary of State for Economic Growth, Energy, and the Environment for the US, shared insights into the country's strategic initiatives to secure and diversify the critical minerals supply chain, vital for the clean energy transition. Fernandez emphasized the significance of critical minerals like nickel, manganese, cobalt, and lithium, outlining the efforts to expand their supply to meet future demands.

Technology Metals Report (03.01.2024): Biden Calls Chinese EVs a Security Threat and the Greenest Car in America May Surprise You?

written by InvestorNews | March 11, 2024 Welcome to the latest issue of the Technology Metals Report (TMR), brought to you by the <u>Critical Minerals Institute</u> (CMI). In this edition, we compile the most impactful stories shared by our members 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

President Joe Biden's initiatives to restrict Chinese electric vehicles (EVs) citing national security concerns, the American Council for an Energy Efficient Economy's report naming the Toyota Prius Prime SE as the greenest car in America, and insights into the lithium market with investors remaining keen despite a price plunge. We also delve into the broader context of these developments, including the potential solution to the rare earth crisis through tetrataenite, BYD's exploration for a factory location in Mexico, and the ongoing challenges and opportunities facing the global electric vehicle and critical minerals markets.

This week's report also highlights various strategic collaborations and developments, including the significant challenge posed by China's EV industry to Detroit's Big Three automakers and Australia's navigation of a critical minerals market meltdown amidst declining prices for key exports such as iron ore, nickel, and lithium. Furthermore, we cover Lynas Rare Earths Ltd.'s (ASX: LYC) call for government vigilance in the volatile nickel market, China's lithium-ion battery industry facing excess inventory and production capacity issues, Energy Fuels Inc.'s (NYSE American: UUUU | TSX: EFR) record net income and uranium production ramp-up, and Mercedes-Benz's adjustment of its electrification goal. These stories underscore the rapidly changing landscape of the technology metals and critical minerals industry, spotlighting strategic collaborations, market dynamics, and the critical role of innovation and policy in shaping the future of sustainable technology and energy.

Biden Calls Chinese Electric Vehicles a Security Threat (February 29, 2024, Source) — President Joe Biden has initiated measures to potentially restrict the entry of internet-connected Chinese electric vehicles (EVs) into the U.S. market, citing national security concerns over their ability to transmit sensitive data to Beijing. The Commerce Department has launched

investigation into these security threats, marking the beginning of a broader strategy to prevent low-cost Chinese EVs from undermining U.S. automakers. This move comes amid growing tensions between the U.S. and China over trade and technology, with Biden emphasizing the need to protect the domestic auto industry from unfair Chinese practices. The investigation, a result of discussions with major automakers and unions, could lead to new regulations on vehicles using Chinese software, which is feared to collect extensive data on American users. This action is part of Biden's wider efforts to bolster U.S. technology restrictions against China and maintain competitiveness in the global auto market.

The 'greenest' car in America might surprise you (February 29, 2024, Source) - A new report from the American Council for an Energy Efficient Economy challenges the common perception that electric vehicles (EVs) are the greenest cars in America by naming the Toyota Prius Prime SE, a plug-in hybrid, as the top environmentally friendly vehicle. The Prius Prime SE can travel 44 miles on electricity before switching to hybrid mode, combining electric and gasoline power. The report assesses over 1,200 vehicles on their road and manufacturing emissions, including pollutants beyond carbon dioxide. Despite the growing market for EVs, the report emphasizes that a car's green credentials depend on factors like weight, battery size, and overall efficiency, not just its electric capabilities. Plug-in hybrids like the Prius Prime offer a balance for drivers by allowing short electric commutes and longer gas-powered trips, presenting a practical alternative amidst America's evolving charging infrastructure. Critics argue that fully electric vehicles remain the best option for environmental benefits, especially as renewable energy sources increase. However, the report suggests the importance of offering consumers a range of environmentally friendly choices to suit different needs.

Lithium Investors Are Looking Beyond Price Plunge, Chile Minister Says (February 28, 2024, Source) - Despite a recent downturn in lithium prices, investors remain keen on new lithium projects in Chile, as confirmed by the country's Mining Minister, Aurora Williams. This interest is fueled by the longterm prospects associated with the global shift towards renewable energy and electric vehicles, rather than short-term price fluctuations. Chile, home to the world's largest lithium reserves, has seen prices drop significantly since the introduction of a new public-private partnership model aimed at attracting investment while ensuring major deposits remain under state control. Despite this, major international companies like Rio Tinto Group and Tsingshan Holding Group have continued discussions with Chilean authorities, demonstrating a sustained interest in the sector. Chile plans to offer exploration rights in certain salt flats, with the possibility of private investors gaining either minority or majority stakes depending on the strategic importance of the area. This initiative is part of a broader effort to maintain Chile's status as a key player in the global lithium market, amidst growing competition and as the country also seeks to bolster its position in the copper industry.

Navigating the Climate Change Storm of ESG Withdrawal and Climate Change Commitment (February 28, 2024, Source) — Recent decisions by JPMorgan, State Street, and Pimco to exit Climate Action 100+ (CA+), amid political pressures, have sparked debate over the fate of global ESG initiatives. Nevertheless, CA+'s extensive network, including over 700 members and its collaborations with high-emission companies for a low-carbon transition, exemplifies the resilience of ESG efforts. Despite these withdrawals, the broader commitment to ESG principles, especially in the extractive industries with initiatives like Copper Mark and Responsible Steel, remains robust. This

commitment is further reinforced by regulatory measures against greenwashing and heightened public activism for environmental protection and equitable benefits. These trends underscore that, far from diminishing, ESG remains a crucial driver of corporate strategy and societal expectations, suggesting a sustained impact on global business practices.

Tetrataenite as a solution to the rare earth crisis (February 28, 2024, Source) — The rare earth crisis, pivotal for modern technologies such as electric motors and wind turbines, stems from the scarcity and environmental impact of mining rare earth elements like yttrium and neodymium. As demand for these materials grows due to their importance in reducing fossil fuel reliance and combating climate change, shortages are anticipated. A potential breakthrough in 2023 by an international research team suggests tetrataenite, a meteorite mineral with similar magnetic properties to rare earths, as a solution. Unlike its natural slow formation in space, the team discovered a method to synthesize tetrataenite on Earth rapidly using common materials like iron, nickel, and phosphorous, potentially offering an alternative to address the rare earth crisis.

Chinese automaker BYD looking for Mexico plant location, executive says (February 28, 2024, Source) — Chinese electric vehicle manufacturer BYD is scouting locations in Mexico for a new factory, targeting the local market to enhance its share, as stated by BYD Americas CEO Stella Li. With an annual production capacity of 150,000 cars, the company plans to finalize the plant location by year-end. Recently surpassing Tesla in global EV sales, BYD's expansion into Mexico signals a potential competitive challenge to U.S. auto companies, amidst concerns from the Alliance for American Manufacturing about low-cost Chinese cars impacting the U.S. auto sector's viability. BYD's strategy focuses on serving the Mexican market, particularly

eyeing central and southern regions for factory sites. The company's cost competitiveness is attributed to early investments in EV technology and extensive vertical integration. BYD also announced the launch of its Dolphin Mini EV in Mexico, priced significantly lower than the cheapest Tesla, aiming to make electric cars accessible to more Mexican consumers. However, challenges remain, such as the limited network of charging stations in Mexico.

China's Electric Vehicles Are Going to Hit Detroit Like a Wrecking Ball (February 27, 2024, Source) - China's electric vehicle (EV) industry, led by automakers like BYD, poses a significant challenge to Detroit's Big Three (Ford, General Motors, and Stellantis). Despite recent profits and optimistic forecasts for 2024, these American giants are struggling with their EV sales goals amidst the rapid emergence of affordable and efficient Chinese EVs. BYD, in particular, has sold millions of electrified vehicles, expanding its global manufacturing footprint to meet increasing demand. The competitive pricing and technological efficiency of Chinese EVs underscore China's evolving industrial capabilities, transitioning from basic manufacturing to complex, high-tech production including cars and batteries. This shift represents a broader challenge to American automakers, who must navigate a changing market landscape while addressing structural vulnerabilities in their business models, heavily reliant on sales of trucks and SUVs to a niche market. The U.S. government faces a delicate balance of supporting domestic industries through subsidies and trade restrictions while fostering a competitive environment that encourages innovation and adaptation to the global shift towards electrification.

Australia's Precarious Position: Navigating a Critical Minerals Market Meltdown (February 26, 2024, Source) — Australia is at a critical juncture, facing a significant downturn in the prices

of key exports such as iron ore, nickel, and lithium, which underscores the country's vulnerability due to its heavy reliance on these commodities and its dependence on China, its main buyer. The global implications of this market meltdown are profound, with the economic viability of mining and refining operations being challenged, as demonstrated by Lynas Rare Earths Ltd.'s (ASX: LYC) struggles at its Kalgoorlie ore processing plant. The decline in the nickel industry has uncovered manipulations of market prices, reflecting China's strategic dominance over the global supply chain for rare earth elements and other critical minerals. In response, Australia is attempting to reduce dependence on Chinese processing by offering subsidies to local mining and processing operations, while also dealing with the economic repercussions of collapsing metal prices. This situation necessitates a strategic reevaluation of Australia's role in the global minerals market, exploring options like underwriting national processing facilities to enhance the value of its mineral exports and diversify its economic base amidst changing global trade dynamics.

Rare earths leader Lynas warns govt on nickel fallout (February 26, 2024, Source) — Lynas Rare Earths Ltd. (ASX: LYC), a leading rare earths producer, has highlighted the importance of government vigilance in response to the nickel market's volatility and its broader impact on the mining sector. The company reported a 74% decrease in net profit to \$39.5 million for the half-year ending December 31, attributing this decline to subdued prices for critical minerals, largely due to China's dominance in supply. Despite the market challenges, Lynas, the largest producer of rare earths outside China, emphasizes its strategy of being a low-cost producer to sustain profitability even in a weak market. Lynas is expanding its operations, including projects in the United States, and making contingency

plans for potential disruptions in supply chains, such as sourcing sulphuric acid due to the possible closure of BHP's nickel refinery. The company's experience underscores the interconnected nature of the minerals industry and the need for strategic planning and government engagement to ensure resilience and competitiveness, especially in securing sovereign supplies of critical minerals.

China's lithium-ion battery industry faces excess inventory, production capacity as EV market downshifts: industry analysts (February 25, 2024, Source) - China's lithium-ion battery industry, pivotal in the global EV market, is navigating through a phase of excess inventory and production capacity due to decreased demand for electric vehicles. Analysts predict a challenging year ahead, with companies facing losses amidst a price war triggered by overcapacity. The situation has led to significant price drops in lithium carbonate and battery cells, exacerbated by reduced subsidies for EVs. With production far exceeding installation into products, further price declines are expected. The market is undergoing a clearing phase, with expectations of breaking even next year. Investment in new capacity is likely to decelerate. Despite a forecasted slowdown in domestic EV sales growth, the global lithium market faces a ballooning excess supply, raising concerns over the long-term growth prospects for lithium. Top battery and lithium mining firms may only see profitability by 2025, as the industry grapples with these challenges.

Energy Fuels Announces 2023 Results: Record Net Income and Earnings per Share, Uranium Production Ramp-Up, and Near-Term Production of Separated Rare Earth Elements (February 23, 2024, Source) — In 2023, Energy Fuels Inc. (NYSE American: UUUU | TSX: EFR) announced significant achievements including a record annual net income of nearly \$100 million and the commencement of uranium production across three mines, aiming for a production

rate of 1.1 to 1.4 million pounds per year by mid-to-late 2024. The company highlighted a strong balance sheet with over \$220 million in liquidity and no debt. Revenue was primarily driven by uranium sales, with significant contributions from rare earth elements (REE) and vanadium. The sale of the Alta Mesa project funded investments in uranium and REE production. Energy Fuels is preparing for the near-term production of separated REEs, anticipating to become a leading producer outside of China. With a focus on growth, the company is also exploring expansions into additional uranium and REE sources, aiming to significantly increase production capabilities while capitalizing on market opportunities in both sectors.

Mercedes-Benz delays electrification goal, beefs up combustion engine line-up (February 22, 2024, Source) - Mercedes-Benz announced a postponement of its electrification target by five years, aiming for electrified vehicles to comprise up to 50% of its sales by 2030, a shift from the initial 2025 goal focused mainly on all-electric cars. This adjustment reflects a broader trend among automakers recognizing the slower-than-anticipated adoption of electric vehicles (EVs), as investments in EV technology and capacity have surpassed current demand. CEO Ola Kaellenius highlighted that even in Europe, a complete switch to electric vehicles by 2030 is unlikely, noting that EVs currently represent a small fraction of total sales. Mercedes-Benz reassured investors and customers of its commitment to refining its combustion engine vehicles alongside its EV ambitions, with plans for a significant lineup refresh bv 2027. The announcement, coupled with a €3 billion share buyback program, positively impacted the company's stock, which saw a 5.9% increase. However, challenges such as economic slowdowns, supply chain issues, and geopolitical tensions have led the automaker to anticipate lower sales and reduced profitability for 2024.

Investor.News Critical Minerals Media Coverage:

- February 28, 2024 Navigating the Climate Change Storm of ESG Withdrawal and Climate Change Commitment https://bit.ly/3SXymnP
- February 26, 2024 Australia's Precarious Position: Navigating a Critical Minerals Market Meltdown https://bit.ly/3uWQoOZ

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■ February 29, 2024 — PDAC President Raymond Goldie Bolsters Toronto's Status as Global Mining Investment Capital in Lead-Up to PDAC 2024 https://bit.ly/42VBDss

Critical Minerals IN8.Pro Member News Releases:

- March 1, 2024 Voyageur Pharmaceuticals Ltd. Announces Closing of Private Placement https://bit.ly/432eRzi
- February 29, 2024 Ucore Rare Metals to Present at the 2024 PDAC Conference https://bit.ly/3TglcUa
- February 28, 2024 First Phosphate and Craler Sign MOU for the Development of Global Logistical Competencies to and from the Saguenay-Lac-St-Jean region of Quebec, Canada https://bit.ly/49xD5DI
- February 27, 2024 American Rare Earths to present at two

- leading industry conferences in March PDAC and International Battery Seminar https://bit.ly/49uaFuu
- February 27, 2024 Nano One Commences Feasibility Study for First Commercial LFP Plant and "Design-Once-Build-Many" Growth Strategy https://bit.ly/3TaFtum
- February 27, 2024 Media Advisory Neo Performance Materials Inc. Fourth Quarter 2023 Earnings Release & Conference Call https://bit.ly/3uSkeUQ
- February 26, 2024 Appia Reports High-Grade Total Rare Earth Oxide Results up to 22,339 ppm or 2.23% on Diamond Drill Hole #1 Within Target IV at PCH IAC Project, Brazil https://bit.ly/48DKQHe
- February 26, 2024 Kraken Energy Commences Drilling at Harts Point & Provides Corporate Update https://bit.ly/49r02bS

PDAC President Raymond Goldie Bolsters Toronto's Status as Global Mining Investment Capital in Lead-Up to PDAC 2024

written by InvestorNews | March 11, 2024 In an enlightening conversation with InvestorNews host Tracy Weslosky, Raymond Goldie, President of the Prospectors & Developers Association of Canada (PDAC), unveiled details about the highly anticipated PDAC 2024 Convention. Scheduled for March 3-6, 2024, in Toronto, this event marks a continuation of PDAC's legacy, now entering its 92nd year, as the premier global gathering for leaders, executives, government representatives, students, scientists, and enthusiasts in the mineral exploration and development sector. Goldie emphasized the convention's significance, highlighting its role as the industry's event-of-choice, reflecting PDAC's longstanding influence and reach.

Technology Metals Report (02.23.2024): Yellen to Visit Chile for Critical Minerals and Biden's EV Dreams Are a Nightmare for Tesla

written by Tracy Weslosky | March 11, 2024
Welcome to the latest issue of the Technology Metals Report (TMR), brought to you by the <u>Critical Minerals Institute</u> (CMI). In this edition, we compile the most impactful stories shared by our members over the past week, reflecting the dynamic and evolving nature of the critical minerals and technology metals industry. From the Inflation Reduction Act's challenges for the American EV industry to China's lithium market developments and Treasury Secretary Janet Yellen's strategic visit to Chile, our report covers a wide array of developments crucial for stakeholders. The unveiling of Tesla Inc.'s (NASDAQ: TSLA) lithium refinery in Texas, alongside CATL's confirmation of its

lithium mine's normal operations, paints a picture of the industry's efforts to navigate through pricing volatilities, supply chain complexities, and geopolitical tensions. Moreover, the significant moves by major financial institutions in the uranium market and Gecamines' strategic overhaul in the DRC underline the shifting paradigms in the mining and investment landscapes of technology metals.

This TMR report also highlights the broader implications of these developments on the global stage, including efforts to diminish reliance on China for essential metals, the impact of Tesla's pricing strategies on the used EV market, and the strategic dialogues around rare earths markets. The visit by US Treasury Secretary Janet Yellen to Chile is spotlighted as a key initiative to bolster ties around critical minerals, emphasizing the urgency of diversifying supply chains amid growing demands for green transition materials. Additionally, the narrative around the challenges posed by the Inflation Reduction Act for Tesla and the US car industry, coupled with BHP's cautionary stance on the Australian nickel sector, illustrates the complex interplay between policy, market dynamics, and strategic resource management. As we delve into these stories, our aim is to provide a comprehensive overview that informs and stimulates discussion among policymakers, industry leaders, and stakeholders, navigating the intricate pathways towards a sustainable and competitive future for critical minerals and technology metals.

MP Materials swings to quarterly loss on falling rare earths prices (February 22, 2024, Source) — MP Materials Corp. (NYSE: MP) reported a fourth-quarter loss, attributed to declining rare earths prices and increased production costs, despite expectations of a larger deficit. Amidst unsuccessful merger discussions with Lynas Rare Earths Ltd. (ASX: LYC) and competition from Chinese firms, CEO Jim Litinsky emphasized the

potential for mutual learning and cost reduction among companies. Despite a 2.7% drop in shares on Thursday, a slight recovery was observed in after-hours trading. The company experienced a significant shift from previous year's profit to a \$16.3 million loss. Sales of rare earths concentrate to China decreased by 34% due to lower production at its Mountain Pass mine, exacerbated by facility issues. However, MP is advancing in refining rare earths domestically, with ongoing projects in California and Texas, and has initiated production in a new facility in Vietnam.

Stalling the American EV Industry: The Unintended Consequences of the Inflation Reduction Act's Attempt to Bypass China for Critical Minerals (February 22, 2024, Source) - The Inflation Reduction Act (IRA), integral to President Joe Biden's environmental strategy, seeks to transition the American automotive industry towards a US-centric electric vehicle (EV) supply chain, reducing reliance on Chinese materials. This shift, exemplified by initiatives like Tesla Inc.'s (NASDAQ: TSLA) lithium refinery in Texas, aims to enhance the competitiveness of American-made EVs. However, the IRA's stringent requirements for sourcing materials domestically or from approved countries by 2024 pose significant challenges, complicating efforts by major manufacturers to maintain affordability and quality. Jack Lifton, an expert in the field, highlights the complexity of creating a new EV supply infrastructure and the strategic challenges of overtaking China's advanced position in the EV sector. The article emphasizes that realizing the IRA's vision demands innovation, strategic foresight, and time, presenting both obstacles and opportunities for the U.S. automotive industry in its quest for sustainability and energy independence.

Battery factories: Europe's mechanical engineering companies are lagging behind (February 22, 2024, Source) — The report "Battery

Manufacturing 2030: Collaborating at Warp Speed" by Porsche Consulting and the German Engineering Federation (VDMA) highlights the expansion of battery factories, with around 200 set to be constructed worldwide in the next decade, predominantly in Europe. Despite this growth, European mechanical engineering firms are trailing behind their Asian counterparts, particularly in supplying high-tech equipment for these factories, with only 8% of such technology currently coming from Europe. This low market share limits Europe's influence on technical development in the battery sector. The study suggests that to avoid technological dependency and enhance their market position, European companies must aim for at least a 20% market share, requiring significant growth and collaboration to offer integrated factory solutions competitive with turnkey plants from China. The study emphasizes the potential for growth and the critical need for European firms to innovate and collaborate to secure a substantial stake in the rapidly expanding battery production technology market, estimated at 300 billion euros by 2030.

"This is a very important article, because it illustrates that the EV battery manufacturing industry has become technologically dependent upon Chinese manufacturing technology for efficient and economical production. Is this the beginning of the end for any attempt by the non-Chinese world to catch up? No, we've already reached that point, and what other manufacturing industries in the West are circling the drain?" — Jack Lifton, CMI Co-Chair & Co-Founder

China's CATL says its lithium mine operating normally (February 22, 2024, Source) — Chinese battery giant Contemporary Amperex Technology Co. (CATL) has confirmed that its lithium mine in Jiangxi province is operating normally, amidst market speculation of a halt due to falling lithium prices. The Jianxiawo mine, rich in hard rock lepidolite and a subsidiary of

CATL, faced rumors of reduced or stopped production due to economic challenges. However, CATL asserts production is ongoing as planned, despite market rumors suggesting otherwise. After the Lunar New Year holiday, it was noted that only one of two production lines resumed operation. The mine, which began phase-one production recently, aims for a 200,000 tons capacity of lithium carbonate equivalent (LCE) upon completion of all phases. Despite high production costs compared to current market prices, analysts predict significantly lower output this year than initially expected, with potential delays in future expansion due to these costs. The speculation had earlier boosted Australian lithium stocks.

China's lithium carbonate futures jump on talk of environmental crackdown (February 21, 2024, Source) - On Wednesday, China's lithium carbonate futures prices experienced a significant rally, driven by market speculation regarding potential environmental inspections in a key production area. This speculation raised concerns about possible output restrictions, leading to a 6.35% increase in the most-active July contract on the Guangzhou Futures Exchange, reaching 99,600 yuan per metric ton. Speculation centered around Yichun, a major lithium production city in Jiangxi province, facing environmental checks that could limit operations for producers failing to properly manage lithium slag. Despite these rumors, major producers in Jiangxi continued their operations as planned, with some undergoing scheduled maintenance. The price surge, reflecting concerns over supply constraints, followed a rally in Australian lithium stocks prompted by rumors that Chinese battery maker CATL had closed its Jianxiawo mine.

Yellen to Visit Chile in Push to Boost Ties on Critical Minerals (February 21, 2024, Source) — US Treasury Secretary Janet Yellen is scheduled to visit Chile next week as part of an effort to strengthen the United States' ties with Chile,

focusing on the South American nation's significant role in the green transition through its contribution to renewable energy policies and as a supplier of critical minerals. This visit is a strategic move by the US to diversify its critical minerals supply chain and reduce its dependence on China, which currently leads the market for essential metals necessary for energy transition technologies. Chile, possessing one of the world's largest lithium reserves, is seeking foreign investment to expand its capacity within the global battery supply chain. The visit, which follows Yellen's attendance at a G20 finance ministers' meeting in Sao Paulo, aims to deepen bilateral economic relations, particularly in the context of Chile's potential to benefit from President Biden's green stimulus program due to a free-trade agreement with the US, thereby supporting North American electric vehicle production.

Tesla's price cuts are driving down car values so much that EV makers are sending checks to leasing firms to compensate them (February 21, 2024, Source) - Tesla's price reductions have significantly lowered the resale value of used electric vehicles (EVs), prompting automakers to issue compensation to leasing companies like Ayvens to cover these losses. This adjustment comes as the industry is pushed to sell more EVs to avoid fines, with leasing firms seeking protections against further depreciation in the \$1.2 trillion second-hand car market. The demand for used EVs fell due to Tesla's price cuts, affecting companies that play a vital role in the corporate car market. To mitigate risks of depreciation, negotiations for buyback agreements and re-leasing options are underway. Regulatory pressures for lower fleet emissions compound the issue, as unstable used-EV pricing challenges the transition to electric mobility by 2035. Corporate shifts, like SAP SE discontinuing Teslas for employees, underscore the broader impacts of volatile EV pricing on the industry.

Biden's EV Dreams Are a Nightmare for Tesla and the US Car Industry (February 20, 2024, Source) - The Inflation Reduction Act (IRA), initiated by President Joe Biden to foster a UScentric electric vehicle (EV) supply chain and reduce reliance on Chinese components, poses significant challenges for Tesla and other American car manufacturers. Despite Tesla's initial steps towards compliance, including sourcing batteries from within the US and building a lithium refinery in Texas, the company's substantial procurement of Chinese lithium-ion batteries underscores the complexity of shifting away from China's supply network. The IRA mandates stringent sourcing requirements for battery components and raw materials, aiming to cut China's dominance in the EV sector. However, these measures have compelled carmakers to navigate a difficult transition, risking the affordability and competitiveness of EVs. As Tesla, GM, Ford, and others strive to adapt to these evolving standards and develop alternative supply chains, they face the daunting task of balancing economic, environmental, and strategic objectives in a rapidly changing global market dominated by geopolitical tensions and the strategic distribution of critical minerals.

Goldman, hedge funds step up activity in physical uranium as prices spike (February 20, 2024, Source) — Investment banks Goldman Sachs and Macquarie, along with some hedge funds, are increasingly engaging in the uranium market, driven by a spike in uranium prices to 16-year highs. While many banks remain cautious, these institutions are actively trading physical uranium and, in Goldman's case, its options. This shift is fueled by utilities' need for new supplies amid shortages. The interest in uranium is also growing among hedge funds and financial institutions, a notable change after the sector's stagnation post-Fukushima disaster. Uranium prices have doubled over the past year, reaching \$102 a pound, prompted by

production cuts from top producers and a renewed interest in nuclear energy as a means to reduce carbon emissions. Goldman Sachs has also introduced options on physical uranium for hedge funds, marking a significant development in the market. This increased activity reflects a broader appeal of uranium to financial investors, with notable investments in physical uranium as well as equities related to the sector.

Gecamines plans overhaul of mining JVs in world's top cobalt supplier (February 20, 2024, Source) — Gecamines, the state miner of the Democratic Republic of Congo, is seeking to renegotiate terms of its copper and cobalt joint ventures to increase its stakes and gain more control. Aiming to leverage global demand for minerals essential for the green energy transition, Gecamines plans to secure better off-take contracts and ensure local representation on venture boards for improved asset management. The strategy addresses past oversights, focusing on rectifying prolonged indebtedness and insufficient investment by some partners. Recent deals, like the one with China's CMOC Group, exemplify Gecamines' efforts towards securing equitable terms, demonstrating a push for enhanced returns, community benefits, and transparency in the world's top cobalt supplier and a leading copper producer.

Industry Leaders Lifton and Karayannopoulos China's Influence on Rare Earth Prices and Markets Today (February 19, 2024, Source) — In an insightful interview, Jack Lifton and Constantine Karayannopoulos delve into the complexities of the rare earths market. Karayannopoulos, wary of current market trends, notes a decline in prices for key elements like neodymium and praseodymium and maintains a cautious outlook due to the industry's cyclical nature. Lifton points out the impact of China's economic struggles on low rare earth prices, advocating for strategic investments in mining and processing at this juncture. Both experts discuss the discrepancy between market

expectations and reality, particularly in the context of China's economic growth and the slower-than-anticipated expansion of its magnet industry, vital for electric vehicle production. They emphasize the significance of investing in raw materials and processing to navigate and leverage China's market dominance effectively, offering a comprehensive view on economic trends, geopolitical strategies, and investment opportunities in the rare earths sector.

BHP says Australian support for nickel miners 'may not be enough' to save industry (February 19, 2024, Source) - BHP Group (ASX: BHP | NYSE: BHP) warned that Australian government efforts to support the nickel industry might not suffice amid challenges, as a write-off in its nickel operations led to a nearly 90% drop in first-half net profit. The crisis in Australia's nickel industry is due to a price collapse from a supply glut in Indonesia. Despite government measures like production tax credits and royalty relief, BHP's CEO, Mike Henry, suggested these might be inadequate due to structural market changes. BHP, facing a \$3.5 billion pre-tax impairment charge on its Nickel West operation, is contemplating suspending its activities there, despite healthy nickel demand from the electric vehicle sector. However, Henry highlighted copper, potash, and iron ore as stronger growth areas for BHP. The company announced a higher-than-expected interim dividend, robust copper and iron ore performance, and reflecting anticipates stability in commodity demand from China and India.

US Bid to Loosen China's Grip on Key Metals for EVs Is Stalling (February 19, 2024, Source) — The U.S. is striving to diminish its reliance on China for crucial metals like gallium and germanium, vital for electric vehicles and military technology. Efforts have been hampered by the diminished efficacy of the U.S. National Defense Stockpile and budget cuts, revealing vulnerabilities to supply shocks. Despite the Biden

administration's initiatives to diversify metal sources through international deals and domestic projects, China's control over the global metal supply remains strong. Recent legislative reforms aim to enhance strategic stockpiling and procurement flexibility, but challenges in establishing a coherent strategy and securing stable mineral supplies continue. The situation underscores the complex dynamics of global supply chains and the critical nature of these metals for technological and defense applications.

JPMorgan, State Street quit climate group, BlackRock steps back (February 15, 2024, Source) - JPMorgan Chase and State Street's investment arms exited the Climate Action 100+ coalition, a global investor group advocating for reduced emissions, withdrawing nearly \$14 trillion in assets from climate change initiatives. BlackRock scaled back its participation by shifting its membership to its international arm. These moves follow the coalition's request for members to intensify actions against companies lagging in emission reductions. Despite political pressure from Republican politicians accusing financial firms of antitrust and fiduciary duty breaches, none cited politics as a reason for their departure. State Street cited conflicts with the coalition's new priorities, which include engaging policymakers and public emission reduction commitments, misaligned with its independent approach. BlackRock aims to maintain independence while prioritizing climate goals for its clients.

Investor.News Critical Minerals Media Coverage:

■ February 22, 2024 — Stalling the American EV Industry: The Unintended Consequences of the Inflation Reduction Act's

- Attempt to Bypass China for Critical Minerals https://bit.ly/3T8IpYE
- February 22, 2024 Revolutionizing Energy Storage with NEO Battery Materials' Strategic Advances in Silicon Anode Technology https://bit.ly/3T5r080

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- February 22, 2024 American Rare Earths Announces A\$13.5m Placement to advance Halleck Creek Project https://bit.ly/3wuU1fB
- February 22, 2024 First Phosphate Project Receives Letter of Support from Mario Simard, Canadian Parliamentary Deputy for the Riding of Jonquière, Québec https://bit.ly/3SQAP3i
- February 21, 2024 Nano One Adds 4 More Lithium Battery Manufacturing Patents in Asia — Boosts Total to 40 https://bit.ly/3I6EmFL
- February 21, 2024 Power Nickel Expands on High Grade Cu-Pd-Pt-Au-Ag Zone 5km northeast of its Main Nisk Deposit https://bit.ly/433eJj3
- February 20, 2024 American Clean Resources Group

- Acquires SWIS Community, LLC, an Environmental Water Technology Company https://bit.ly/3T6iSis
- February 20, 2024 First Phosphate Provides Update on Plans for a Purified Phosphoric Acid Plant at Port Saguenay, Quebec https://bit.ly/4bINVs4
- February 20, 2024 Western Uranium & Vanadium Receives over \$4.6M from Warrant Exercises https://bit.ly/3UI3DxH
- February 20, 2024 Appia Unveils Significant REE, Cobalt and Scandium Assay Results From 47 RC Drill Holes at the Buriti Target Within Its PCH IAC REE Project, Brazil https://bit.ly/3ST4GIG
- February 20, 2024 Fathom Nickel Announces the Closing of Its Second and Final Tranche of Private Placement https://bit.ly/3wjSSr7
- February 20, 2024 Canadian GoldCamps to Earn 50% of Murphy Lake for \$10M Exploration Spend https://bit.ly/4bBbtz0

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Technology Metals Report (02.16.2024): Australia makes Nickel a 'Critical', Hastings Rare Earth Deal with Baotou,

and Uranium Continues to Rise

Market

written by Tracy Weslosky | March 11, 2024
Welcome to the latest issue of the Technology Metals Report
(TMR), brought to you by the <u>Critical Minerals Institute</u> (CMI).
In this edition, we compile the most impactful stories shared by
our members 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
Australian government's decision to classify nickel as a
'critical' mineral, entitling it to support from a significant
stimulus fund, and the emerging competitive landscape in Africa
as Western countries endeavor to reduce China's dominance in the
critical minerals sector, particularly in cobalt production.

report also highlights various strategic This week's collaborations and developments, including Hastings Technology Metals Ltd.'s (ASX: HAS) offtake agreement with Baotou Sky Rock for the Yangibana Project, and the U.S. Department of Energy's funding allocation for projects aimed at extracting rare earth elements and critical minerals from coal-based resources. Furthermore, we cover the notable surge in uranium prices to a 17-year high and the strategic expansion plans by Energy Fuels Inc., alongside LG Energy Solution's efforts to secure lithium supply through a second agreement with WesCEF. Lastly, we touch on the advancements in battery technology, such as the pilot production of battery-grade purified phosphoric acid by First Phosphate Corp. and the formation of the China All-Solid-State Battery Collaborative Innovation Platform (CASIP) by leading Chinese battery and automobile manufacturers, including CATL and BYD, aiming to propel the development of all-solid-state batteries.

Australia classifies nickel as a 'critical' mineral to protect ailing industry (February 16, 2024, Source) - The Australian government has recognized nickel as a critical mineral, making it eligible for support from a A\$6 billion stimulus fund due to concerns over the nickel industry's decline, exacerbated by a supply glut from Indonesia and falling EV demand. This move aims to protect thousands of jobs and key producers like IGO Limited (ASX: IGO) and BHP Group (ASX: BHP | NYSE: BHP) from the impacts of falling nickel prices, which have dropped 43% in the past year. BHP has announced a significant impairment charge on its Nickel West division, highlighting the industry's dire situation. The government's intervention, including potential low-interest loans and grants, is a response to the challenges posed by cheaper Indonesian nickel, driven by Chinese investment and a ban on nickel ore exports from Indonesia. This situation has led to reduced investment and operational suspensions in Australia's nickel sector, threatening its survival and the country's ambition to develop alternative supply chains to China.

West challenges China's critical minerals hold on Africa (February 16, 2024, Source) — In a significant development in the global minerals market, China's CMOC Group has surpassed Glencore PLC (LSE: GLEN) to become the leading producer of cobalt, primarily through its operations at the Kisanfu mine in the Democratic Republic of Congo. This surge in production has created one of the largest cobalt surpluses in recent years, despite a drastic fall in cobalt prices. Western countries, recognizing the strategic importance of cobalt and other critical minerals for clean energy and military applications, are challenging China's dominance in Africa. They are particularly focused on the rich copper and cobalt reserves in the Copperbelt region, which spans Zambia and the Congo. Western entities, including companies backed by prominent investors like

Bill Gates and Jeff Bezos, are venturing into this region, despite political and infrastructural challenges. The U.S. and other Western nations are supporting infrastructure and energy projects to facilitate mining and reduce logistical costs. Efforts to de-risk mining in the Copperbelt include upgrading rail lines and developing solar power projects. Meanwhile, the Congolese government is asserting more control over its mineral resources, revising deals with Chinese companies and aiming to formalize artisanal mining to secure a fairer share of the revenue from its mineral wealth. This marks a pivotal shift in the geopolitics of critical minerals, highlighting the strategic competition between the West and China over Africa's mineral resources.

Hastings And Baotou Sky Rock Sign Binding Term Sheet For Integrated Tolling And Offtake Arrangement (February 16, 2024, <u>Source</u>) - Hastings Technology Metals Ltd. (ASX: HAS) has entered into a binding term sheet with Baotou Sky Rock Rare Earth New Material Co., Ltd for an integrated tolling and offtake arrangement concerning the Yangibana Project's rare earth concentrate. This arrangement allows Hastings to toll treat its concentrate in China, transforming it into separated rare earth oxides, and sell them, improving Hastings' revenue and cash flows beyond previous models. The agreement, lasting seven years with a possible five-year extension, quarantees a minimum of 10,000tpa of concentrate processing. This deal complements Hastings' existing contract with thyssenkrupp and is part of negotiations with other potential customers for further offtake agreements. The updated financial model reflecting this integrated approach will support the project's funding, showcasing significantly enhanced project economics, including a notable increase in post-tax NPV, IRR, and life of mine free cashflow, while reducing the capital payback period.

The Up and Coming Uranium Boom (February 15, 2024, Source) - In

an interview with Hallgarten + Company's Christopher Ecclestone and the <u>Critical Minerals Institute</u>'s (CMI) Tracy Weslosky, the discussion centered around the uranium market's burgeoning prospects. Ecclestone expressed skepticism regarding the effectiveness of a US ban on Russian uranium, suggesting that Russian uranium could be rerouted through Kazakhstan. He highlighted the challenges Western countries might face in replacing Russian uranium sources. Ecclestone described the uranium market as vibrant, contrasting it with the stagnation in battery metals, and emphasized uranium's unique investment appeal. He advised investors to focus on proven assets from previous booms, cautioning against investing in new, unproven fields. Ecclestone also critiqued the hype around thorium and small modular nuclear reactors, advocating for their potential but also indicating a need for realism. Lastly, he mentioned Argentina and the Athabasca region as key areas for uranium investment, highlighting the importance of geographic and assetbased considerations in the uranium industry.

DOE Awards \$17M To Conduct FEED Studies for Production of Rare Earth Elements, Critical Minerals (February 15, 2024, Source) — The U.S. Department of Energy (DOE) is allocating over \$17 million to three projects for extracting rare earth elements and critical minerals from coal-based resources. Funded by the Bipartisan Infrastructure Law, this initiative aligns with President Biden's Investing in America agenda to diminish reliance on foreign critical minerals vital for clean energy technologies, including solar panels and electric vehicles. Leveraging America's substantial coal reserves and waste, the projects aim to foster a self-reliant supply chain, enhance national security, support environmental sustainability, and create quality jobs. This strategic move towards utilizing domestic resources for critical mineral production underscores a significant push towards energy independence, aligning economic

revitalization with clean energy advancements.

India to Capitalise on Coveted 'Critical Minerals Club' to Acquire Overseas Assets (February 15, 2024, Source) - India is strategically enhancing its position in the global critical minerals market by focusing on acquiring overseas assets through collaborations with Western countries and leveraging partnerships within the US-led Minerals Security Partnership (MSP). This international coalition aims to ensure reliable critical mineral supply chains amidst global disruptions. India, which joined the MSP in 2023, is encouraging public sector undertakings (PSUs) like Coal India Limited, NLC India Ltd., and NTPC Ltd. to secure strategic assets in lithium, cobalt, and graphite to bolster its green energy transition and manufacturing capabilities in electronics, including electric vehicles and semiconductors. Deals have been made, notably with Australia and countries in South America and Africa, to secure these essential materials. The initiative reflects India's ambition to become self-reliant in critical minerals crucial for the technology-driven world economy, particularly as it aims to accelerate its green energy transition and indigenous manufacturing.

Uranium Prices at a 17-Year High, Energy Fuels Rapidly Increases Uranium Production in 2024 (February 14, 2024, Source) — Uranium prices have surged to a 17-year high at \$106/lb, driven by reduced supply and increased demand, with Energy Fuels Inc. (NYSE American: UUUU | TSX: EFR) poised to benefit significantly. The uranium market's optimism is further bolstered by a commitment from over 20 countries at COP28 to triple nuclear energy capacity by 2050, highlighting a significant shift towards nuclear energy to meet clean energy goals. Additionally, 118 governments have pledged to triple renewable energy capacity by 2030. Energy Fuels, the leading uranium producer in the USA, has initiated production at three

mines, targeting a significant increase in uranium output to over 2 million lbs by 2025, alongside exploring additional production avenues. With uranium's strategic importance in the clean energy transition underscored, Energy Fuels is leveraging favorable market conditions and long-term growth prospects, underlined by its ambitious expansion and production plans.

LG Energy signs 2nd agreement with WesCEF to expand lithium supply (February 13, 2024, Source) - LG Energy Solution from South Korea and Wesfarmers Chemicals, Energy, and Fertilisers (WesCEF) from Australia have signed their second agreement to expand LG's lithium supply chain. WesCEF will supply LG with 85,000 tons of lithium concentrate, expected to yield about 11,000 tons of lithium hydroxide, sourced from the Mt. Holland project in Western Australia, set to start in early 2025. This agreement builds on a previous deal for 50,000 tons of lithium hydroxide in 2022. Additionally, LG Energy is focusing on expanding its presence in India's electric vehicle market, already leading in supplying battery cells to e-scooter makers. In 2023, LG secured a deal with Chile's SQM for 100,000 tons of lithium for seven years, highlighting its efforts to bolster its supply chain amidst increasing lithium demand for rechargeable batteries.

First Phosphate Corp. Completes Pilot Production of LFP Battery-Grade Purified Phosphoric Acid (February 13, 2024, Source) — First Phosphate Corp. (CSE: PHOS) announced the successful completion of a pilot project that converts high purity phosphate concentrate into battery-grade purified phosphoric acid (PPA) for the lithium iron phosphate (LFP) battery industry. In collaboration with Prayon Technologies SA, the company has transformed phosphate concentrate into merchant grade phosphoric acid and then into PPA, conforming to food and battery-grade specifications. This achievement enables the production of LFP cathode active material and battery cells from

a North American source of battery-grade PPA. First Phosphate aims to integrate its mining operations in Quebec, Canada, into the supply chains of LFP battery producers, emphasizing high purity, responsible production, and a low carbon footprint.

CATL, BYD, others unite in China for solid-state battery breakthrough (February 12, 2024, Source) — In a bold move to spearhead the electric vehicle (EV) revolution, China's leading battery and automobile manufacturers, including CATL and BYD, have joined forces under the government-led China All-Solid-State Battery Collaborative Innovation Platform (CASIP). Established in January, CASIP aims to commercialize all-solid-state batteries by 2030, enhancing EV performance with greater energy density and safety. This initiative, uniting industry rivals and leveraging AI technology, seeks to position China at the forefront of the next-generation battery technology, challenging current leaders like Japan and Western countries. With the participation of major companies and state support, China is poised to transform the EV market and maintain its global leadership in automotive battery innovation.

Investor.News Critical Minerals Media Coverage:

- February 15, 2024 The Up and Coming Uranium Boom https://bit.ly/3uAUdcv
- February 14, 2024 Uranium Prices at a 17-Year High, Energy Fuels Rapidly Increases Uranium Production in 2024 https://bit.ly/48wVY8N

Investor.News Critical Minerals Videos:

■ February 13, 2024 — Tom Drivas on the 3 world-renowned rare earths experts on Appia's Critical Minerals Advisory Committee https://bit.ly/49bVMNj

Critical Minerals IN8.Pro Member News Releases:

- February 15, 2024 First Phosphate and Integrals Power sign Joint Development Agreement to Produce Environmentally Compliant Battery Grade Iron III Phosphate Precursor for the LFP Battery Industry https://bit.ly/3uDdslR
- February 14, 2024 Imperial Mining Announces Effective Date of New Trading Symbols after TSXV Approves of Name Change to Scandium Canada Ltd. https://bit.ly/48hRyl0
- February 13, 2024 Western Uranium & Vanadium Mining Operations Update https://bit.ly/4bvDKHr
- February 13, 2024 Donald Swartz, CEO American Rare Earths, to speak at "The Future Panel" https://bit.ly/3UF2M05
- February 13, 2024 First Phosphate Corp. Completes Pilot Production of LFP Battery-Grade Purified Phosphoric Acid https://bit.ly/3P51pF5
- February 13, 2024 Defense Metals Updates Metallurgical Test Work and Preliminary Feasibility Study Progress for its Wicheeda Rare Earth Elements Project https://bit.ly/3HYiV9R
- February 13, 2024 Power Nickel extends resource mineralization at Nisk Main https://bit.ly/49aJCE9
- February 12, 2024 F3 Hits 66.8% U308 over 0.5m within 42.4% over 2.0m at JR https://bit.ly/3HUa60a

The Up and Coming Uranium Boom

written by Tracy Weslosky | March 11, 2024

<u> Hallgarten + Company</u>

Critical Minerals Institute

Uranium

Tracy Weslosky:

Christopher let's start with the headlines please... will the US ban on Russian uranium boost western industry?

Christopher Ecclestone:

You know the uranium industry in Russia, you can't put a cigarette paper between it and the industry in Kazakhstan. So really, I would see Russian product going out through Kazakhstan disguised as Kazakh output, not surprised whatsoever. And I don't know who the West is trying to punish here — because we are getting back to that same issue again, which is the source of our uranium supply. It would be rather hard for some of the western users in the EU to replace the Russian uranium source. The source is the challenge.

Tracy Weslosky:

You said to me earlier this week about how hot the uranium market and how it's really "the only game in town". Can you explain to our audience what you mean by that?

Christopher Ecclestone:

It is. Well, I'm purely from the primordial point of view. The wheels have fallen off the battery metal complex at the moment — and whether they can be put back on again is another matter…but at the moment — that car ain't going anywhere. It's just sort of

like on blocks, like the neighborhood thugs have stolen the wheels. So, battery metals are dead in the water for a while. And so, the only game in town is uranium. The other metals are all in holding patterns. You know, gold's just hanging in there. Uranium's the only sexy thing around. And as per usual, you know, uranium has its day in the sun every 20-years and that day is now.

Tracy Weslosky:

Would you give investors some advice on how to select uranium companies because they're popping up everywhere? We can barely keep track of them.

Christopher Ecclestone:

Yeah, I think you've got to go back to the assets that they have. There are a lot of good assets were found during the last uranium boom. They're not necessarily in the same companies that they were in there because many of those companies went bust. So got to look at the assets, you got to look at their durability. So, they're in really, really isolated locations, you know. Like off Broadway, being off Athabasca is not as good as being on Broadway on Athabasca — just being in the general vicinity, but only 500 kilometres away is not good enough. You know, they have to be accessible. They have to be doable. You know, the boom is now. We're not talking in 10 years. I think that we're in a good position for a long run boom, but we really want to see assets that have been proven up before. Or not. Now anyone who's doing Greenfield never been drilled before uranium. Why bother? There were so many assets that were discovered pre-Fukushima. They're just sort of sat in the cupboard, you know, sitting there waiting for something to happen that we don't need to find new things. We do not need to reinvent the wheel if it's got an old resource — let's go with that, not try and find something new.

Tracy Weslosky:

Is there a question about uranium you wish people would ask you that no one does? And what would that question be?

Christopher Ecclestone:

Oh, that's a tough one. I think it's got to do with the people involved in it. You know, just being uranium is not good enough. I think that there are a lot of old uranium hands out there, and have been in hiding. People who've done it for decades and who've really been sitting — sitting on their behinds for the last 15 years that are now coming out of the woodwork, they're the people to follow. I mean, there was nothing that they could do about the situation. Now they can any just purely move forward, not the promotorial types where you look at them and say 'oh, where was he before he was doing graphite? And then before that, he was doing lithium and before that he was doing Rare Earths' — carpetbaggers — not good enough. We know who they are. Avoid them. We do not need promotorial types in the uranium space. We need serious people.

Tracy Weslosky:

What is your position on modular nuclear reactors we are all hearing about, are they the future of uranium as we are being told?

Christopher Ecclestone:

Oh, absolutely. I am absolutely convinced that big uranium, big nuclear formats, they're like brontosauruses. We can see this particularly in the UK where they've got a number of projects underway that were, you know, supposed to be two billion pounds And, then you know, 5 billion. And even now the Chinese who are building them, saying we can't finish this without loads more

billions just goes to show that the bigger the plant the harder they fall and small modular reactors are the way to go. It's just makes sense and the CapEx is lower. they're easier to build, they're faster to build. I mean bigger is not better.

Tracy Weslosky:

What about thorium? There's a lot of confusion out there.

Christopher Ecclestone:

Yeah, well, there's a lot of confusion. This is there's some craziness in the US running around thorium, not good. I'm in. I'm a believer in thorium. Thorium is really good with Pebble bed reactors and small format reactors. It's, you know, it's got potentially its day in the sun. There are lots of thorium stockpiles lying around too, so you don't even need to mine this. And it's just sitting there, being waiting for its for its moment. And you know, there's something to the nuclear establishment that they don't want to see thorium having any, any progress...plays into the hands of the conspiracy theorists and the nuts, but Thorium should be getting more attention, particularly with these really small format reactors.

Tracy Weslosky:

So, what your saying is that the nuclear and the uranium industry should not feel compromised by the competitor of thorium, correct?

Christopher Ecclestone:

Yeah, not exactly. Exactly. We've seen many uranium positive story as well. I mean you could pick and choose what you what you. What you extract and you don't get more value, frankly.

Tracy Weslosky:

Is there a uranium producer that you love or that you follow? And can you comment on who this is?

Christopher Ecclestone:

Probably and no. The mere fact that they're a producer is good, whoever they might be. If they're producing, yes, please.

Tracy Weslosky:

Is there a small cap or a new uranium company that's your watching? Or is there a company that you know about that you find unique or interesting?

Christopher Ecclestone:

Well, I'm down in Argentina at the moment and Argentina is going to be one of the big playing fields in the up-and-coming uranium boom. I won't drop the names now, but it's place to watch.

Tracy Weslosky:

And that was going to be my next question, is there an area of the world that investors should be more excited about hearing about when looking for uranium companies to invest in? Where should an investor find more comfort when they hear the word uranium?

Christopher Ecclestone:

Well, Athabasca (Alberta, Canada), obviously SW Africa...whether it's Namibia or countries around there. Argentina, I've mentioned. Australia, it's easy. This said, they've got uranium, but with the states there flipping from being pro uranium to anti uranium they have done itself a lot of damage over recent years. I mean and it's been really like two bald men fighting over a comb. Because there's been no need for uranium from

Australia — state governments there banning it and then unbanning it. I think Canada is, for once, the most virtuous regime for uranium in the world.

Uranium Prices at a 17-Year High, Energy Fuels Rapidly Increases Uranium Production in 2024

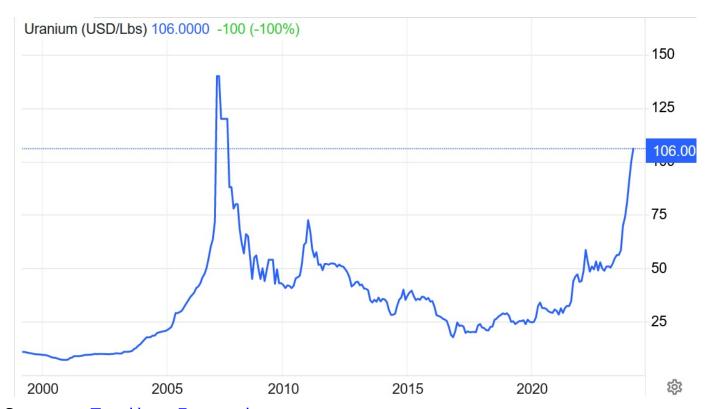
written by InvestorNews | March 11, 2024

As shown in the chart below, the uranium spot price remains at its highest level since 2007, currently at US\$106/lb. A combination of supply cutbacks from major uranium producers (Kazatomprom etc) and increased demand has led to a uranium deficit, and higher uranium prices.

The longer term outlook for uranium got a boost in December 2023, when more than 20 countries signed a declaration at COP28 that they would triple their nuclear energy capacity by 2050. Reuters quotes: "Global nuclear capacity now stands at 370 gigawatts, with 31 countries running reactors. Tripling that capacity by 2050 would require a significant scaling up in new approvals — and finance."

Also of interest is that $\frac{118}{118}$ governments pledged to triple the world's renewable energy capacity by 2030.

Uranium spot price — 25 year chart



Source: <u>Trading Economics</u>

Energy Fuels is a potential winner as they can rapidly grow their uranium production in the USA

<u>Energy Fuels Inc.</u> (NYSE American: UUUU | TSX: EFR) is the leading uranium producer in the USA and <u>according to the Company</u> have "produced 2/3 of all U.S. uranium since 2017".

Energy Fuels <u>state</u> their goal as: "To create a profitable, high-margin U.S. critical mineral company —centered on uranium — that produces advanced materials needed for the clean energy transition." Energy Fuels already produces uranium, vanadium, and rare earths (via processing).

Short-term uranium production plans

As <u>announced</u> on December 21, 2023, in response to strong uranium market conditions, Energy Fuels has commenced uranium production at 3 of its permitted and developed uranium mines located in Arizona and Utah (Pinyon Plain Mine, La Sal Mine at La Sal Complex, and Pandora Mine at La Sal Complex). Energy Fuels targets a <u>run rate of 1.1 - 1.4 million lbs. of U308 pa</u> from these mines by the end of 2024.

Next Energy Fuels <u>is preparing 2 additional uranium mines for production</u>, including the Whirlwind Mine (Colorado) and the Nichols Ranch ISR Facility (Wyoming) <u>within 1 year</u>; which combined have short-term potential to produce an additional 300-600,000 lbs. of U308 pa.

Energy Fuels is targeting to reach total uranium production of **over ~2 million lbs.** of low-cost production in the short-term (in 2025).

Energy Fuels is also evaluating total finished uranium production in 2024 from alternate feed materials of an additional 100-400,000 lbs. of U308 pa.

Energy Fuels targets to reach over 2 million lbs of low cost uranium production in 2025

Proven U.S. Uranium Production

Leading U.S. Portfolio - Up to 2 Million Lbs. of Short-Term, Low-Cost Production



White Mesa Mill (Utah) – In Production
• The only conventional uranium & vanadium mill in US – plus REE's & recycling



Pinyon Plain Mine (Arizona) – In Production
• Licensed & developed high-grade uranium mine in production



Nichols Ranch ISR (Wyoming) – Pre-Production
• Fully-licensed & developed; 1.2 million lbs. of U₃O₈ produced (2014 -2019)



La Sal Complex (Utah) – In Production
• Series of licensed/developed uranium & vanadium mines; 2 in production

3 large-scale projects in permitting (Sheep Mountain; Roca Honda & Bullfrog) have potential to produce additional 4+ million lbs. U₃O₈ per year

Source: Energy Fuels company presentation

Energy Fuels is guiding that they expect <u>200,000 lbs.</u> of U308 sales in 2024 under long-term contracts, plus potential to sell additional uranium on spot market.

Looking out a bit further, Energy Fuels has 3 large scale projects in permitting (Sheep Mountain, Roca Honda, Bullfrog) that have the potential to produce an additional 4+ million lbs. U308 pa in the mid-term.

Closing remarks

Energy Fuels is clearly set to have a huge year in 2024 as they focus to significantly ramp up uranium production (and commission Phase 1 of their NdPr production). In regards to uranium pricing, Energy Fuels uses a pricing formula which maintains exposure to the upside, while limiting downside and adjusting for inflation. They are also seeking additional spot sales and long term contracts as prices rise. Longer term Energy Fuels say they have licensed capacity to reach "over 10 million"

pounds of U_3O_8 per year" which is more capacity than any other U.S. company.

Energy Fuels trades on a market cap of $\underline{\text{US}\$1.075}$ billion and a PE ratio (TTM) of $\underline{10.31}$.