Technology Metals Report (06.28.2024): The Revival of Europe's Rare Earth Processing Capabilities & Paladin Energy's Acquisition of Fission Uranium

written by Tracy Hughes | June 28, 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 Directors 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 revival of Europe's rare earth processing capabilities by Solvay, the competitive threat posed by low-priced Chinese electric vehicles entering the U.S. market via Mexico, and Lynas Rare Earths Ltd.'s plan to produce separated heavy rare earth elements in Malaysia. These highlights are listed in chronological order, providing a comprehensive view of the latest developments affecting the sector.

This week's TMR Report also highlights the ongoing global struggle for critical minerals, with a focus on Western efforts to compete with China's dominance in key resources such as nickel, cobalt, and lithium. Additionally, we cover a study revealing that nearly half of American electric vehicle owners are considering a switch back to gas-powered cars due to dissatisfaction with current EV infrastructure and costs. Other notable stories include Paladin Energy's acquisition of Fission

Uranium, Albemarle's efforts to enhance market transparency through lithium auctions, and ExxonMobil's agreement to supply lithium to South Korea's SK On Co. These updates underscore the strategic moves and challenges faced by the critical minerals industry as it navigates a complex and competitive global landscape. To become a CMI member, click here.

In race to regain rare earth glory, Europe falls short on mineral goals: (June 27, 2024, Source) – Four decades ago, La Rochelle, France, hosted one of the largest rare earth processing plants globally. Today, Solvay aims to revive this plant to support Europe's green energy transition. Europe's rare earth processing industry declined over the past 25 years as production migrated to China due to lower costs and strong government support. Although China has improved sustainability, it still dominates the market, producing 298,000 tons annually, while La Rochelle produces only 4,000 tons. Solvay plans to begin producing rare earths for electric vehicles (EVs) and wind energy by next year. The European Union (EU) has set ambitious targets to produce 40% of its rare earth needs domestically by 2030. However, challenges such as limited funding, public opposition to new mines, and competition from cheaper Chinese imports pose significant obstacles. Meeting these targets is crucial for the EU's zero-carbon goals and reducing dependency on China amidst geopolitical tensions.

Prospect of low-priced Chinese EVs reaching US from Mexico poses threat to automakers: (June 27, 2024, Source) – The U.S. auto industry faces a severe threat from low-priced Chinese electric vehicles (EVs) potentially entering the market via Mexico, leveraging the North American Free Trade Agreement rules. These Chinese EVs, significantly cheaper than American-made ones, could disrupt local industries, echoing past devastations in steel and solar sectors due to subsidized Chinese competition. To counter this, measures such as adjusting customs

qualifications for Chinese EVs and urging Mexico to restrict these imports have been suggested. Some, like Donald Trump, advocate for high tariffs to protect U.S. interests. Meanwhile, the influx of Chinese EVs could lead to increased U.S. adoption and infrastructure development, though it poses serious competitive threats. American automakers worry as China dominates the global EV market, heavily backed by governmental subsidies. U.S. responses include potential national security blocks and revising trade agreements, reflecting a strategic stance on economic and geopolitical fronts.

Lynas Malaysia to Produce Separated Heavy Rare Earths: (June 26, 2024, Source) – Lynas Rare Earths Ltd. (ASX: LYC) announced its plan to start producing separated heavy rare earth elements, Dysprosium (Dy) and Terbium (Tb), at its Malaysian facility in 2025. This initiative marks the first time Lynas Malaysia will produce these elements, enhancing its product range beyond light rare earths. Dy and Tb are crucial for manufacturing high-performance magnets found in electric vehicles and high-tech devices such as micro-capacitors. The project involves reconfiguring a solvent extraction circuit to facilitate this production, with a capacity to separate up to 1,500 tonnes annually. The $25 million capital expenditure required for this development is part of Lynas Malaysia's broader industrial plan. Additionally, Lynas is advancing its U.S. Rare Earths Processing Facility, which, like the Malaysian site, will accommodate third-party feedstocks. This strategic expansion aims to meet growing demands for specialized rare earth products.

The playing field needs to be leveled in critical minerals to compete with China: (June 26, 2024, Source) – The global struggle for critical minerals essential to the green economy is intensifying, with China taking a strategic lead. Since the 1990s, China has secured dominance over key resources like nickel, cobalt, and lithium, crucial for technologies such as

electric vehicles and AI. This control was achieved through strategic investments in foreign mining, particularly in Indonesia and the Democratic Republic of the Congo, enabling China to dominate the supply chains. In contrast, Western nations have been less competitive, partly due to conservative investment approaches driven by higher expected returns. The vulnerabilities of Western supply chains became evident during the 2020 supply disruptions. To level the playing field, Western governments may need to consider policies like carbon footprint-based tariffs on imports, countering China's long-term strategy in securing these vital resources.

Nearly half of American electric vehicle owners want to go back to gas-powered cars: study: (June 26, 2024, Source) – A recent study by McKinsey & Co. has uncovered that 46% of American electric vehicle (EV) owners are likely to switch back to gas-powered vehicles due to dissatisfaction. The study surveyed about 37,000 consumers worldwide, revealing that Australia had an even higher dissatisfaction rate at 49%. The primary frustrations for EV owners were the lack of adequate charging infrastructure (35%) and the high overall cost of ownership (34%). Additionally, 32% of the respondents felt that EVs were unsuitable for long-distance travel. The survey included various countries like Brazil, China, France, Germany, Italy, Japan, and Norway, with an average of 29% of global EV owners considering a switch back to conventional cars. Despite federal efforts and investments in expanding EV infrastructure in the U.S., progress remains slow, fueling further dissatisfaction among EV users.

Paladin Energy Set to Acquire Fission Uranium for C$1.14 Billion: (June 25, 2024, Source) – Paladin Energy Limited (ASX: PDN | OTCQX: PALAF) is set to acquire Fission Uranium Corp. (TSX: FCU | OTCQX: FCUUF) in a significant C$1.14 billion transaction, offering C$1.30 per Fission share, marking a 25.8% and 30% premium over recent closing and average prices,

respectively. The deal led to a 15.53% rise in Fission's stock following the announcement. Fission shareholders will receive 0.1076 Paladin shares for each Fission share, resulting in a 24% stake in Paladin post-transaction, which will have a pro forma market cap of US$3.5 billion. The merger, expected to close in Q3 2024, is subject to regulatory and shareholder approvals. Both companies' boards endorse the merger, promising to create a clean energy leader with diversified assets across key uranium regions and significant strategic and financial benefits.

Albemarle plans more lithium auctions to boost market transparency: (June 25, 2024, Source) – Albemarle Corporation (NYSE: ALB), the world's largest lithium producer, is planning more auctions for lithium to enhance market transparency and clarify pricing in the traditionally opaque sector. This initiative aims to establish a more reliable pricing reference globally, amidst the confusing signals from China's market fluctuations. According to Eric Norris, head of Albemarle's energy storage business, the goal is to build trust within the industry by sharing auction data with pricing agencies, which is crucial for long-term supply contracts with automakers. This approach is also intended to promote the use of financial hedging tools, benefiting the industry at large. Albemarle's strategy includes expanding its use of innovative extraction technologies in Chile and focusing on internal growth over acquisitions, despite the current favorable conditions for industry consolidation.

Electric Vehicles May No Longer Be 'Green' Under New EU Greenwashing Law: (June 25, 2024, Source) – The European Union is crafting the Green Claims Directive to combat greenwashing and ensure clearer consumer choices. This legislation, currently under negotiation, intends to regulate environmental claims by businesses. Notably, under the proposed directive, electric vehicles (EVs) may not qualify as "environmentally friendly."

The backdrop is a surge in consumer and investor demand for genuinely green products amidst rising climate change awareness. Traditional "greenwashing" by companies has evolved into "climate washing," where exaggerated claims about reducing greenhouse emissions mislead consumers. With prior regulatory gaps in addressing greenwashing, the EU's new focus aligns with global climate commitments like the Paris Agreement, aiming for net-zero emissions by 2050. Despite EVs being seen as a cornerstone of the green transition, concerns about their environmental trade-offs, such as the intensive mining for batteries and the source of electricity for charging, challenge their green status under the new directive.

Exxon Signs Deal to Supply Lithium to South Korean Battery Giant: (June 25, 2024, Source) – Exxon Mobil Corp. (NYSE: XOM) has entered a preliminary agreement to supply up to 100,000 tons of lithium to South Korean battery manufacturer SK On Co. from its developing deposit in Arkansas. This deal is part of Exxon's strategy to diversify its portfolio beyond oil and gas, targeting the supply of raw materials for approximately 1 million electric vehicle (EV) batteries annually by 2030. Despite a recent dip in battery metal prices and increasing skepticism towards EVs in the U.S., Exxon remains committed to its new venture. The company plans to launch its first lithium project in 2027, utilizing an innovative but unproven direct lithium extraction technique. Dan Ammann, president of ExxonMobil Low Carbon Solutions, emphasized the role of lithium in achieving global emissions targets and advancing U.S. industry solutions.

Top China Lithium Firm Files International Claim Against Mexico: (June 24, 2024, Source) – Ganfeng Lithium, a leading Chinese lithium company, has launched an international arbitration case against Mexico following the cancellation of a lithium mining project valued at over $1 billion. This action was prompted by

Mexico’s 2022 legislation aimed at nationalizing lithium mining to protect the strategic resource from foreign control, a move championed by President Andres Manuel Lopez Obrador. Ganfeng had previously acquired Bacanora Lithium Ltd. in 2022, which was developing a mine in Sonora expected to produce 35,000 metric tons of lithium annually, crucial for Mexico’s electric vehicle industry. However, following a 2023 law that placed lithium mining under state control, Ganfeng’s project was stalled. Unable to resolve the issue through local courts, Ganfeng filed for arbitration on June 21 at the World Bank’s International Centre for Settlement of Investment Disputes, with Mexico’s Economy Ministry as the respondent.

Energy Fuels pioneers American rare earth supply chain rebirth: (June 24, 2024, Source) – Energy Fuels Inc. (NYSE American: UUUU | TSX: EFR) is at the forefront of establishing the first U.S.-based rare earth permanent magnet supply chain. Unlike the U.S. and EU governments, whose plans faltered due to reliance on theoretical experts, Energy Fuels has successfully launched America’s inaugural commercial-scale rare earth solvent extraction plant. This venture leverages the company’s 40-plus years of expertise in uranium and vanadium solvent-extraction. The plant, which processes monazite into essential leach solutions, is a key step towards vertically integrated production of rare earth metals and alloys tailored for magnet manufacturing, with completion targeted by 2026. Energy Fuels’ pragmatic approach contrasts with industry norms that often prioritize scale over feasibility, marking a shift towards actionable, profitable production in the rare earth sector.

Investor.News Critical Minerals Media

Coverage:

- June 26, 2024 – The playing field needs to be leveled in critical minerals to compete with China https://bit.ly/3xAcQPm
- June 25, 2024 – Paladin Energy Set to Acquire Fission Uranium for C$1.14 Billion https://bit.ly/3zi0Br9
- June 25, 2024 – Hallgarten + Company Initiates Research Coverage on Cobre Limited (ASX: CBE) https://bit.ly/3VYsj5k
- June 24, 2024 – Energy Fuels pioneers American rare earth supply chain rebirth https://bit.ly/4eBoDNR

Critical Minerals IN8.Pro Member News Releases:

- June 27, 2024 – Scandium Canada Announces Closing of the First Tranche of a Private Placement of $500,000 https://bit.ly/3WaJG2Z
- June 27, 2024 – American Rare Earths to Receive A$10.7 Million (US$7.1 Million) of Grant Funding from State of Wyoming https://bit.ly/4cz6AGg
- June 27, 2024 – Obonga: Award of Wishbone Exploration Permit https://bit.ly/3XBSXSE
- June 26, 2024 – Fathom Announces Staking of New Ground Southwest of the Albert Lake Property https://bit.ly/3xzqBh8
- June 25, 2024 – Scandium Canada Ltd. Commences Summer 2024 Field Work Program https://bit.ly/4eCI8FW
- June 25, 2024 – Appia Begins Drilling at the Uranium-Bearing Loranger Property, Wollaston Lake, Saskatchewan, Canada https://bit.ly/3XElTJI

- June 25, 2024 – Meteoric Signs MoU with Latin America's First Permanent Magnet Maker https://bit.ly/4c6hOCt
- June 24, 2024 – Over-subscribed $20 Million Flow-Through Offering closed with the backing of leading mining investors Robert Friedland, Rob McEwen, CVMR, and Terra Capital https://bit.ly/4cdEgcW
- June 24, 2024 – Issue of 2M Options https://bit.ly/3zfp8ND