Technology Metals Report (03.15.2024): U.S. Makes a $2.6B Lithium Loan while Australia Invests $840M into Rare Earths

written by Tracy Weslosky | March 15, 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 Biden administration's massive $2.26 billion loan to Lithium Americas Corp. for the Thacker Pass mine in Nevada, aiming to boost domestic lithium production for electric vehicles; the Australian government's significant A$840 million investment in Arafura Rare Earths Limited to secure a sovereign supply of rare earth elements; and the Canadian federal government's investment in Saskatoon's Saskatchewan Research Council to enhance its Rare Earth Processing Facility. These developments underscore a global effort to secure critical mineral supplies, reduce dependence on foreign sources, and advance the transition towards cleaner energy and technology.

This week's TMR Report also highlights several other important developments in the critical minerals sector. Notable stories include the criticism from the Canadian Automobile Dealers Association regarding Quebec's decision to phase out electric vehicle purchase incentives, adjustments in electric vehicle

strategies by major automakers amid shifting market dynamics, and the UK's trade pact with Texas aimed at boosting the green industry. Additionally, the report covers POSCO International's significant deals to supply rare earth permanent magnets to North American and European automakers, signs of recovery in the global lithium market after a massive downturn, geopolitical competition for the Democratic Republic of the Congo's mineral wealth, Greece's emergence as a significant source of critical minerals, the U.S. Department of Defense's initiative to establish a "mine-to-magnet" supply chain, challenges and opportunities in Canada's mining industry, and the call by global miners for the London Metal Exchange to introduce a green premium for nickel. These stories provide a comprehensive overview of the current state and future prospects of the critical minerals and technology metals industry, reflecting its importance to technological advancement, national security, and the global transition to green energy. To become a CMI member, click here (https://criticalmineralsinstitute.com/join)

Biden Jump-Starts Electric-Vehicle Push With Massive Lithium Loan (March 14, 2024, Source) – The Biden administration is energizing the U.S. electric vehicle (EV) sector with a $2.26 billion loan to Lithium Americas Corp. (TSX: LAC | NYSE: LAC) for its Thacker Pass mine in Nevada, aiming to fortify domestic lithium production for EV batteries. This investment, part of a broader initiative to secure half of new vehicle sales as EVs by 2030, will fund a refining plant critical for producing battery-grade lithium. Despite a recent slowdown in EV sales and a plunge in lithium prices, the project seeks to reduce U.S. dependence on foreign battery minerals, notably from China. Expected to start in 2027, the Thacker Pass mine will significantly contribute to the domestic EV industry, promising to supply lithium for up to 800,000 EVs annually. This move aligns with efforts to transition towards cleaner energy and

reduce reliance on international sources.

The Australian Government Steps into the Critical Minerals Supply Chain Ring (March 14, 2024, Source) – The Australian government's backing of Arafura Rare Earths Limited (ASX: ARU) with A$840 million underscores a strategic push to lessen reliance on Chinese critical mineral sources, aiming to secure a sovereign supply of rare earth elements vital for electric vehicles and renewable technologies. This investment signals Australia's intent to lead in the global rare earth market, enhancing private sector confidence as evidenced by rising values in related investments, including those by Gina Rinehart's Hancock Prospecting. The move highlights Australia's ambition to not only overcome immediate financial challenges in the mining sector but also to establish itself as a crucial player in renewable energy technology, fostering global supply chain resilience and advancing the green energy transition.

Ottawa invests $6M in Saskatoon rare earth processing facility (March 14, 2024, Source) – The Canadian federal government is investing $6 million in Saskatoon's Saskatchewan Research Council to boost its Rare Earth Processing Facility, marking a significant step in processing critical minerals for high-tech uses like electric vehicle batteries and wind turbines. This funding will commercialize a process for extracting rare earth oxides from waste and develop an automated smelting process for commercial-quality metals, aiming to enhance sustainable and efficient production. The investment reflects a collaboration between federal and provincial governments, highlighting the national importance of establishing a domestic rare earth supply chain. It promises economic growth and job creation, positioning Saskatoon as a key player in meeting global demand for critical minerals and supporting the transition towards a greener economy.

A Step Backwards for Quebec's Automotive Electric Transition (March 13, 2024, Source) – The Canadian Automobile Dealers Association (CADA) criticizes the Quebec government's 2024 Budget decision to phase out electric vehicle (EV) purchase incentives amid an affordability crisis. This move is seen as detrimental to Quebec's leading position in EV adoption, fueled by an effective incentive program. CADA refutes the government's claim of a narrowing price gap between EVs and traditional vehicles, highlighting that price parity is not expected until 2033. The association warns that removing incentives could slow EV adoption, contrasting with the successful examples of Quebec and British Columbia, which offer substantial financial incentives. CADA urges the government to reconsider, emphasizing the importance of incentives in achieving environmental goals and maintaining affordability for Quebecers.

EV euphoria is dead. Automakers are scaling back or delaying their electric vehicle plans (March 13, 2024, Source) – Automakers are adjusting their electric vehicle (EV) strategies amid fading EV euphoria, scaling back or delaying plans despite initial optimism. Industry giants like Ford, General Motors, Mercedes-Benz, Volkswagen, Jaguar Land Rover, and Aston Martin are shifting towards a more balanced vehicle offering, incorporating gas-powered, hybrid, and electric vehicles. This approach reflects a slower transition to an all-electric future, diverging from previous ambitious EV growth targets. Despite a reduction in growth expectations, the demand for EVs continues to rise, albeit at a slower pace, with sales still predicted to increase significantly. The industry acknowledges the necessity of hybrid models to bridge the transition to electrification and meet emission standards. This recalibration underscores the automotive sector's response to less-than-expected consumer uptake of EVs and the reality of current market conditions, suggesting a more gradual shift towards electrification.

UK Signs Trade Pact With Texas in Effort to Boost Green Industry (March 12, 2024, Source) – The UK has signed a trade pact with Texas to enhance cooperation in green energy, aerospace, and advanced technologies, marking the eighth non-binding memorandum of understanding (MoU) with a US state since Brexit. This agreement aims to boost the collective GDP of these states to $6.8 trillion, a quarter of the US economy. It includes mutual recognition of engineering qualifications to facilitate talent exchange for infrastructure projects. The pact also focuses on making business easier in sectors like hydrogen and carbon capture. Despite not being the comprehensive Free Trade Agreement that Brexit supporters hoped for, this deal reflects the UK's strategy of forming state-level agreements in the US. Texas, the UK's ninth largest trade partner, exchanged £14.7 billion in goods with the UK in 2023. However, some critics argue these MoUs do little to reduce tariffs and aren't sufficiently promoted.

POSCO International signs deal for permanent magnet supply with US, European automakers (March 12, 2024, Source) – POSCO International has inked deals worth 1.16 trillion won ($885 million) to supply rare earth permanent magnets, essential for electric vehicle (EV) motors, to North American and European automakers. These contracts aim to diversify the supply chain away from China, utilizing materials from the US, Australia, and Vietnam. The company's U.S. subsidiary will supply a North American carmaker with magnets worth 900 billion won from 2026 to 2031, while its German subsidiary will provide a European brand with magnets valued at 260 billion won from 2025 to 2034. Star Group, Korea's exclusive rare earth magnet producer, will handle production. This marks a strategic entry into markets dominated by China, reflecting POSCO's efforts to expand its global footprint and secure additional orders with car and motor manufacturers.

After Massive Bust, Global Lithium Market Shows Signs of Life (March 12, 2024, Source) – The global lithium market, vital for electric vehicle batteries, is witnessing a cautious revival after a drastic downturn. Prices for lithium carbonate in China have surged to a post-December high following an over 80% fall in 2023, with futures contracts also seeing significant gains. This rebound is amidst a global supply glut that previously tanked prices. Leading producers remain hopeful, with giants like Albemarle Corporation (NYSE: ALB) and Sociedad Química y Minera de Chile S.A. ("SQM") (NYSE: SQM) continuing expansions despite the market's volatility. Efforts to rebalance include production cutbacks by some firms. However, analysts warn that the recovery could be fragile, with environmental regulations in China and a persistent supply surplus posing challenges to a sustained rally. Skepticism remains regarding the end of the bear market amidst these tentative gains.

The (Bidding?) War For the DRC (March 12, 2024, Source) – The Democratic Republic of the Congo (DRC) is a focal point for global powers due to its rich deposits of critical minerals essential for modern technologies and green economies. China, Saudi Arabia, the United Arab Emirates, and Russia are the main players, each with distinct strategies and impacts. China has a controversial history in DRC's mining sector, while Saudi Arabia's investment approach fosters a positive development model. The UAE's agreement aims to enhance artisanal mining, and Russia's involvement hints at a Cold War-style influence game. In contrast, US and European engagement in securing these vital resources has been relatively minimal. These dynamics underscore the geopolitical competition over the DRC's mineral wealth, pivotal for technological advancement and climate change mitigation.

Critically important metals are found (March 11, 2024, Source) – Greece is emerging as a significant potential source of critical

minerals essential for the clean energy transition, attracting investor interest. The Ministry of Environment and Energy, bolstered by Rockfire Resources PLC's positive findings in Molaoi, southern Greece, indicates substantial deposits of germanium, gallium, lead, silver, and zinc. Germanium's uses span fiber-optics to solar panels, while gallium, extractable from Greece's abundant bauxite, is vital for electronics. The EU has noted Mytilineos' pilot project for gallium extraction from bauxite, potentially satisfying European demand. Additionally, Mytilineos explores scandium production, beneficial in aerospace and electric vehicles, forecasting a significant demand increase. Rockfire Resources plans further exploration and a viability study post-summer. Greece's untapped resources, including antimonite in Chios and bismuth near Xanthi, underscore its strategic position in supporting Europe's energy transition and reducing reliance on imports, especially from China.

DOD Looks to Establish 'Mine-to-Magnet' Supply Chain for Rare Earth Materials (March 11, 2024, Source) – The Defense Department is actively pursuing the establishment of a domestic "mine-to-magnet" supply chain for rare earth materials, crucial for manufacturing permanent magnets used in significant U.S. military systems and commercial applications. Recognizing the vulnerability of relying on foreign sources, notably China, for these materials, the DOD aims to enhance national security through self-reliance. It has allocated over $439 million since 2020 to develop this supply chain, covering mining, separation, refining, and manufacturing processes within the U.S. This initiative is guided by the National Defense Industrial Strategy and seeks to achieve a resilient, domestic supply chain capable of meeting all U.S. defense requirements by 2027. Critical defense systems, such as the F-35 Lightning II aircraft, Virginia and Columbia class submarines, and various missile and

radar systems, depend heavily on these rare earth materials. The DOD's strategy includes significant investments in U.S.-based companies and technologies to ensure the country's self-sufficiency in rare earth element production and magnet manufacturing, aiming to eliminate dependency on foreign sources and secure the future needs of both defense and commercial sectors.

Critical minerals mining industry requires more of everything if Canada to be a global player (March 11, 2024, Source) – The KPMG in Canada survey reveals optimism among Canadian mining leaders regarding the potential for Canada to be a global leader in critical minerals. However, they acknowledge significant obstacles, including the need for more investment, government support, and favorable tax policies. Challenges like decarbonization, lack of domestic refining capacity, raising capital, environmental, social, and governance risks, cost reduction, and regulatory hurdles are highlighted. The survey indicates that only a minority of companies have committed to comprehensive carbon emission reductions by 2050, with many still planning or not having a strategy for emission reduction. Furthermore, the Critical Mineral Exploration Tax Credit (CMETC) has boosted exploration activities but is seen as complex and limited in scope. Respondents call for broader and more innovative tax policies to encourage investment and development in the sector.

Global miners call on LME to introduce green premium for nickel (March 5, 2024, Source) – Global mining giants, including BHP Group (ASX: BHP | NYSE: BHP) and Wyloo Metals, have urged the London Metal Exchange (LME) to create a green premium for sustainably produced nickel amidst concerns over environmental damage caused by "dirty" nickel, particularly from Indonesia. Indonesia, a major player in the nickel industry, has been criticized for deforestation, pollution, and high carbon

emissions due to its reliance on coal-fired power. The LME, however, responded that the market for green nickel isn't yet large enough to support a dedicated futures contract. BHP and others argue for differentiating between green and dirty nickel, highlighting the environmental impact differences. The LME supports trading low carbon nickel but cites the need for more development in identifying a credible green premium. Meanwhile, Indonesia's low-cost nickel production is poised to dominate the global market, raising concerns over environmental standards and the need for responsible sourcing guidelines that include emissions metrics.

Investor.News Critical Minerals Media Coverage:

- March 14, 2024 – The Australian Government Steps into the Critical Minerals Supply Chain Ring https://bit.ly/3Vm9NDR
- March 12, 2024 – The (Bidding?) War For the DRC https://bit.ly/4aaKMzO

Investor.News Critical Minerals Videos:

- March 14, 2024 – Neo Performance's Rahim Suleman on being 'the most vertically integrated rare earth magnetics company in the world.' https://bit.ly/3PkS8IY
- March 14, 2024 – Darren Hazelwood on Panther Metals' VMS Project Scale and the Graphite Potential Near Thunder Bay https://bit.ly/492OzOM
- March 14, 2024 – Codemge's CEO on Leveraging Minas Gerais' Position as Brazil's Niobium Mining Powerhouse https://bit.ly/48Pfo8U
- March 13, 2024 – Chris Berlet on the benefit of MineralPrices' real-time pricing information https://bit.ly/3TA1i6Q
- March 11, 2024 – Power Nickel's Terry Lynch on "the least

expensive high-grade nickel sulfide exploration play in the world" https://bit.ly/3VgWdBF

- March 11, 2024 – Tom Drivas Explores the Initial Rare Earth Mineral Resource Estimate from Appia's PCH Ionic Adsorption Clay Project in Brazil https://bit.ly/3VdU9KL
- March 11, 2024 – Chad Clovis on Real Environmental Benefits through the Karbon-X Carbon Credit App https://bit.ly/3Tt6jy6
- March 11, 2024 – Stephen Burega on Romios Gold's Recent Strides Forward in High-Grade Copper Exploration in Nevada https://bit.ly/4a9HA7E
- March 11, 2024 – Sean Cleary on Strategic's plans to revitalize former producer of 10% of the world's vanadium https://bit.ly/3IwVZP9

Critical Minerals IN8.Pro Member News Releases:

- March 14, 2024 – Technology Advancement: NEO Battery Expands Production Yield and Capacity with Manufacturing Innovation https://bit.ly/43f7Efj
- March 13, 2024 – Voyageur Achieves Milestone with Rain Cage Royalty Agreement for Sustainable Carbon Drug Development https://bit.ly/3TzarN0
- March 13, 2024 – First Phosphate and Groupe Goyette Sign MOU for Logistics Footprint at the Hebertville-Station Intermodal Facility in the Saguenay-Lac-St-Jean Region of Quebec, Canada https://bit.ly/3PlqXxL
- March 13, 2024 – Fathom Announces Completion of Drilling at Albert Lake Project and Commencement of Drilling at the Gochager Lake Project https://bit.ly/3wPQFnA
- March 12, 2024 – American Clean Resources Group Enters Well Water Purchase Agreement with Road and Highway Builders LLC https://bit.ly/3wOX2aT
- March 11, 2024 – Critical Metals PLC Appointment of Non-

Executive Director https://bit.ly/43cATiI