

Technology Metals Report (05.31.2024): Brazil Critical Minerals Masterclass and the Historic US Military Funding for CDN Companies

written by Tracy Hughes | May 31, 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 China's [anticipated](#) slower growth in rare earth quotas, Vietnam's [struggle](#) to capitalize on its rare earth reserves, and the upcoming [CMI Summit III](#) in Toronto on August 21 & 22nd. We also highlight a significant lithium [discovery](#) in Pennsylvania and the potential impact of looming [EV tariffs](#) between China and Europe. Additionally, don't miss the [CMI Masterclass](#) on June 4th (next week, [click here to register](#)), focusing on Brazil's ionic clays and their implications for the global rare earth supply chain.

This week's TMR Report also highlights the ongoing challenges and advancements in the critical minerals sector. Noteworthy developments include Australia's [financing](#) of Arafura Rare Earths and the historic U.S. military funding for Canadian mining projects. Furthermore, Nigeria's [crackdown](#) on illegal mining operations and the EU-Australia pact to diversify critical mineral supply chains underscore the global efforts to

secure and stabilize these essential resources. As the sector continues to navigate supply chain complexities and geopolitical dynamics, these stories provide crucial insights into the strategic movements shaping the future of technology metals. To become a CMI member and gain access to exclusive resources and events, [click here](#).

China 2024 rare earths quota growth set to slow amid supply glut: (May 30, 2024, [Source](#)) – China's rare earth quotas in 2024 are set to grow at a slower rate due to a supply glut, industry experts reported on May 29. Rare earths, crucial for products like lasers, military gear, and electric vehicle magnets, are regulated through annual mining, smelting, and separation quotas. In 2024, the mining output quota is expected to rise nearly 6% to 270,000 tonnes, a decrease from the 21.4% growth in 2023. Analyst Yang Jiawen forecasts a total mining quota increase to 280,000 tonnes, up 9.8%. The smelting and separation quota is anticipated to rise 4.2% to 254,000 tonnes. The first 2024 mining quota saw a 12.5% increase, smaller than the previous year's 19%. Market insiders highlight that the upcoming second quota will be crucial amid ongoing supply issues.

Mining company Wyloo proposes a nickel processing facility in Sudbury, Ont.: (May 30, 2024, [Source](#)) – Wyloo, a mining company, plans to build a nickel processing facility in Sudbury, Ontario, signing a memorandum of understanding with the City of Greater Sudbury. The facility will process nickel from Wyloo's Eagle's Nest mine, set to begin production in 2027, to produce low-carbon nickel sulphate and materials for EV batteries. Wyloo's CEO, Kristan Straub, mentioned that they also plan to process third-party feeds, including recycled materials. The project has support from local Indigenous communities, Atikameksheng Anishnawbek and Wahnapiatae First Nation. Sudbury Mayor Paul Lefebvre emphasized the city's rich mining history, resources, and commitment to sustainable practices, positioning Sudbury as

a global mining hub ready to support innovation in mining and EV technology.

Vietnam's great untapped rare earth bounty: (May 29, 2024, [Source](#)) – Vietnam, with the world's second-largest rare earth reserves at 22 million tons, struggles to capitalize on this resource. In 2023, it produced only 600 tons, dwarfed by China's 240,000 tons. Corruption and lack of technology hinder progress; key industry executives' arrests in 2023 halted government plans and deterred foreign investors. Despite ambitions to process 2 million tons annually by 2030, Vietnam lacks the necessary processing technology, limiting its potential. The US and allies aim to help Vietnam reduce dependence on China's near-monopoly, but challenges persist. Vietnam's rare earth industry is marred by instability, corruption, and limited domestic capabilities. Effective foreign investment is crucial to bridge technological gaps, yet many investors remain cautious. The country needs to overcome these hurdles to unlock its rare earth potential and reduce reliance on China.

CMI Summit III Unites Global Leaders in Toronto for Landmark Two-Day Event to Advance Critical Minerals Mastery: (May 29, 2024, [Source](#)) – The Critical Minerals Institute (CMI) is hosting its third summit, [CMI Summit III](#), on August 21-22, 2024, at the National Club in Toronto. This significant two-day event, themed "Connecting Leaders, Advancing Critical Minerals," will gather industry leaders, investors, government officials, and experts to discuss the critical role of minerals in the global economy. The summit will focus on advancing global supply chains for key minerals like cobalt, lithium, and rare earth elements, highlighting their importance for technological and economic growth. Attendees will benefit from insights provided by distinguished speakers and panelists representing various global regions. The CMI aims to foster collaboration and innovation in the critical minerals market through strategic alliances and

expert consultations.

Researchers in Pittsburgh discover large source of lithium in Pennsylvania: (May 29, 2024, [Source](#)) – Researchers at the University of Pittsburgh have discovered a significant source of lithium in Pennsylvania's Marcellus Shale gas wells' wastewater. This finding suggests that up to 40% of the U.S. lithium demand could be met from this source. Justin Mackey, a research scientist, and his mentor Daniel Bain published their findings in Scientific Reports. Extracting lithium from this wastewater could reduce remediation costs and potentially provide an economic boost to the region. Lithium, essential for everyday technology like smartphones and laptops, is currently sourced globally. With the U.S. government aiming for domestic lithium production by 2030, this discovery could significantly impact Pennsylvania's role in supplying lithium. The team is now investigating lithium concentrations in other regions and the environmental impacts of direct lithium extraction.

China gears up to make a deal with Europe as EV tariffs loom: (May 29, 2024, [Source](#)) – China and Europe are gearing up for talks as the European Commission plans to increase tariffs on Chinese electric vehicles (EVs) by June 5. The new tariffs, potentially ranging from 9% to 26%, could cost Chinese EV exporters about \$1 billion. Both regions have strong incentives to strike a deal: China needs to counter declining domestic margins by exporting to Europe, while German automakers seek access to China's lucrative market. In response, China might retaliate with higher tariffs on European imports or lower its tariffs on EU auto imports. Major automakers like Volkswagen, BMW, BYD, and SAIC are deeply invested in each other's markets, with substantial joint ventures and production expansions. German Chancellor Olaf Scholz and top automaker CEOs advocate for negotiation over conflict. Analysts predict both sides will negotiate to avoid a trade war, emphasizing the importance of

mutual cooperation in the evolving global EV market.

The Slowdown in US Electric Vehicle Sales Looks More Like a Blip: (May 28, 2024, [Source](#)) – Despite a slow start in US electric vehicle (EV) sales in early 2024, the industry is far from stagnating. While Ford reduced its expansion and Tesla cut its workforce, major automakers saw significant sales growth. Hyundai-Kia and Ford reported increases of 56% and 86%, respectively. Industry expert Stephanie Valdez-Streaty highlighted that consumers are favoring brands with better battery range and affordability. General Motors (GM) is set to lead EV growth with new models and improved battery technology, aiming for a significant production increase. Tesla's limited new model pipeline adds uncertainty, but its Supercharger network expansion continues. Other manufacturers like Hyundai and GM are poised to fill the gap, aiming for mass production. Despite fluctuations, the long-term outlook for US EV sales remains robust, with significant growth expected by 2025.

EU, Australia Sign Critical Minerals Pact to Diversify Supply Chains: (May 28, 2024, [Source](#)) – Australia and the European Union have signed an agreement to enhance cooperation and investment in critical minerals, aiming to reduce dependence on China for materials vital to high-tech and green industries. This memorandum of understanding, signed by ministers in Canberra and Brussels, will lead to the development of “concrete actions” over the next six months. EU Trade Commissioner Valdis Dombrovskis highlighted Australia's role as a global leader in critical raw materials. The agreement seeks to secure a sustainable supply of critical minerals like lithium, cobalt, and nickel, used in computer chips, solar panels, and military hardware. With vast untapped deposits, Australia is bolstering its domestic industry through financing and tax incentives. This partnership will also focus on joint ventures and research collaboration.

BYD Shows Off New Hybrid Powertrain Capable of Ultra-Long Drive: (May 28, 2024, [Source](#)) – BYD Co. has introduced an innovative hybrid powertrain that can travel over 2,000 kilometers (1,250 miles) without needing to recharge or refuel. This development heightens competition with automotive giants like Toyota and Volkswagen. The new technology will be available in two sedans, each priced under 100,000 yuan (\$13,800). These advanced hybrids can travel from Singapore to Bangkok or New York to Miami on a single charge and tank of fuel. Since its first hybrids in 2008, BYD has consistently reduced fuel consumption, marking a significant milestone with this launch. The company's aggressive pricing strategy has led to substantial sales, with 3 million cars sold last year and nearly 1 million in the first four months of 2024. BYD's Hong Kong shares rose 4% following the announcement. The company ceased production of fossil fuel-only cars in early 2022, now focusing on exporting hybrids to markets with limited charging infrastructure, thus enhancing global market reach.

Australia's Arafura Rare Earths secures \$300 mn in finance from Canada: (May 27, 2024, [Source](#)) – [Arafura Rare Earths Limited](#) (ASX: ARU) has secured up to \$300 million in debt financing from Export Development Canada for its Nolans Project in Australia's Northern Territory. This funding follows Australia's earlier commitment of up to A\$840 million, aiming to diversify the global supply chain for rare earths and reduce reliance on China, which produces over 80% of the world's supply. Arafura's shares rose 7.7% following the announcement. The Nolans project will be Australia's third rare earths processing plant. Arafura has conditional approval for 68% of its targeted \$775 million senior debt funding. The company, backed by Australia's richest person, Gina Rinehart, has supply agreements with Hyundai, Kia, Siemens, and a provisional deal with General Electric. The funding deal was facilitated by a General Electric unit.

What's behind a historic, unusual U.S. military cash transfer to Canadian mines: (May 26, 2024, [Source](#)) – In a historic move, the U.S. military is funding Canadian mining projects, allocating nearly \$15 million to mine and process copper, gold, graphite, and cobalt in Quebec and the Northwest Territories. This initiative, reminiscent of World War II efforts to secure aluminum from Canada, reflects current global tensions and U.S. concerns over dependence on China for critical minerals. The funding aims to support feasibility studies and permitting for these projects, essential for civilian and military products. With China's control over global mineral supply and potential conflicts over Taiwan, the U.S. is proactively securing resources. This initiative marks the first time the U.S. military has funded Canadian mining under the Defense Production Act, highlighting the strategic importance of these minerals for national security.

Nigeria is emerging as a critical mineral hub. The government is cracking down on illegal operations: (May 26, 2024, [Source](#)) – Nigeria is positioning itself as a crucial hub for critical minerals, notably lithium, essential for batteries in electric vehicles and other technologies. The Nigerian government has intensified efforts to curb illegal mining, resulting in numerous arrests since April, including foreign nationals. These actions aim to regulate mining activities, counteract corruption, and enhance national benefits from mineral resources. The burgeoning global demand for lithium has driven illegal mining, particularly in remote areas. Profits from illicit mining have fueled conflicts, particularly in northern Nigeria. A recent raid in Oyo State's Kishi market led to 32 arrests and the seizure of significant lithium quantities. Nigeria's government has deployed a "corps of mining marshals" to combat resource theft, reflecting its commitment to transforming the mining sector while addressing security and

environmental challenges.

The amount of copper needed to build EVs is 'impossible for mining companies to produce': (May 16, 2024, [Source](#)) – A University of Michigan study reveals that copper production cannot meet the demands of the electric vehicle (EV) transition. Copper is crucial for electricity generation, distribution, and storage. Despite over 709 copper mines globally, including the Escondida mine in Chile producing 882,100 tonnes in 2023, it's insufficient for global electrification needs. EVs require three to five times more copper than traditional vehicles, with an electric Honda Accord needing 200 pounds compared to 40 pounds for a petrol version. The study predicts that meeting the copper demands for renewable energy will exceed production capabilities. Instead of fully electrifying vehicles, the study suggests focusing on hybrid vehicles. Copper is also essential for developing infrastructure in less developed countries, creating a resource allocation dilemma for policymakers.

Investor.News Critical Minerals Media Coverage:

- May 29, 2024 – CMI Summit III Unites Global Leaders in Toronto for Landmark Two-Day Critical Minerals Event on August 21-22 <https://bit.ly/4byux0q>
- May 28, 2024 – Navigating Regulatory Issues in Spain and Greenland Offers 2 Critical Mineral Companies Time Out in the Courtroom <https://bit.ly/4dWra1E>
- May 27, 2024 – Fortune Minerals Secures Funding from the U.S. Department of Defense to Advance Critical Minerals Project <https://bit.ly/3VhUefS>

Critical Minerals IN8.Pro Member News Releases:

- May 31, 2024 – Defense Metals Appoints Suzanne Rich Folsom to the Board of Directors <https://bit.ly/4e4xNCw>
- May 31, 2024 – Panther Metals PLC: Partial Disposal of Holding in Panther Metals Ltd (Australia) <https://bit.ly/3KnGt9d>
- May 31, 2024 – Critical Metals PLC Admission to OTCQB in the U.S. <https://bit.ly/3yFLvLL>
- May 30, 2024 – Panther Metals PLC – Obonga: Graphite Exploration Update <https://bit.ly/3Vo2uv9>
- May 30, 2024 – F3 Announces Closing of Private Placement for Aggregate Gross Proceeds of C\$10 Million <https://bit.ly/4aJZxtb>
- May 29, 2024 – American Rare Earths Announces Zircon Co-Product Potential <https://bit.ly/3wUCzl8>
- May 28, 2024 – Appia Rare Earths and Uranium Corp. to Present at the Emerging Growth Conference on May 29th, 2024 <https://bit.ly/3KndL8K>
- May 28, 2024 – FuelPositive Closes First \$1.5m Tranche of Non-Brokered Private Placement <https://bit.ly/3R7sE07>
- May 28, 2024 – Fathom Continues to Intersect High-Grade Mineralization and Expand the Historic Gochager Lake Deposit in All Directions <https://bit.ly/3VfINWf>
- May 28, 2024 – Voyageur Pharmaceuticals Ltd Secures USD \$1.9 Million Sales Contract for SmoothX 2% Barium Contrast <https://bit.ly/3yyKsgF>
- May 27, 2024 – Sage Potash Closes Private Placement of \$1,822,500 <https://bit.ly/3WVh4LB>
- May 27, 2024 – Xcite and Eagle Plains Provide Update on Lorado Uranium Project <https://bit.ly/3V0p2k0>
- May 27, 2024 – Zentek Granted Second Patent from the

Canadian Intellectual Patent Office <https://bit.ly/3wPpvh2>