

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/4aaKMz0>

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/4920z0M>
- 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/3w0X2aT>
- March 11, 2024 – Critical Metals PLC Appointment of Non-

The Australian Government Steps into the Critical Minerals Supply Chain Ring

written by Jack Lifton | March 15, 2024

A recent monumental development within the mining and rare earths sectors is the Australian government's [financial endorsement](#) of [Arafura Rare Earths Limited](#)'s (ASX: ARU) rare earth mine and refinery project. This marks a significant step forward in the global pursuit of sustainable and secure Non-Chinese owned or operated sources for critical minerals. This move, underscored by an impressive A\$840 million in loans and grants, signals a strong Australian governmental belief in the necessity and potential profitability of domestically sourced rare earth elements, vital for electric vehicle (EV) motors and renewable energy technologies.

Gina Rinehart's Hancock Prospecting, alongside other private equity interests, has seen a notable appreciation in value following this announcement, illustrating the private sector's growing confidence in rare earth ventures as a viable and lucrative investment avenue. This confidence is buoyed by government backing, which often acts as a catalyst for further private investment by demonstrating a commitment to the sector's success and stability.

Australia's strategic decision to support Arafura's project,

situated near Alice Springs, showcases its ambition to become a frontrunner in the production of rare earth elements, crucial for EVs and wind turbines. This initiative not only addresses the immediate financial hurdles faced by the mining industry but also aligns with broader goals of establishing Australia as a key player in the global supply chain for renewable energy technologies.

The involvement of figures like Gina Rinehart and Andrew Forrest, both of whom have substantial stakes in mining ventures, underscores a deeper shift towards mining as an investment that offers both substantial returns and strategic value in the context of the global green transition. Their investments in rare earths and the potential for vertical integration, as seen in the partnership between Forrest's [Hastings Technology Metals Limited](#) (ASX: HAS) and [Neo Performance Materials Inc.](#) (TSX: NEO), highlight a keen understanding of the sector's critical role in future technologies and energy solutions.

Australia's proactive stance, contrasted with the more cautious approaches of other Western nations, illustrates a deep understanding of the strategic importance of rare earths and the necessity for domestic processing capabilities. This is not just about securing supply chains but also about capturing more value within the country, creating jobs, and fostering technological advancements in green energy and EV production.

Moreover, the broad financial and strategic implications of this government support extend beyond the immediate economic benefits. They underscore a pivotal moment for the global rare earths market, emphasizing the critical need for diversified, reliable sources of these essential materials. As tensions and competitions intensify on the international stage, Australia's move represents a significant step towards greater independence

and resilience in the face of geopolitical and market pressures.

In conclusion, this development is a clarion call to nations and investors alike to recognize the indispensable role of rare earths in the modern world. It is a testament to the vision and audacity of those like Rinehart and Forrest, who see beyond the immediate to the immense potential that rare earths hold for the future of technology, energy, and national security. As Australia forges ahead, it sets a compelling example for others to follow, highlighting the comprehensive strategy needed to fulfill the burgeoning demand for domestic sourcing of rare earth magnets, especially among European and American EV automotive OEMs.



Technology Metals Report (02.16.2024): Australia makes Nickel a 'Critical', Hastings

Rare Earth Deal with Baotou, and Uranium Market Continues to Rise

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 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.

This week's report also highlights various strategic 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, [Source](#)) – 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, guarantees 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 [Critical Minerals Institute](#)'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 asset-based 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% U3O8 over 0.5m within 42.4% over 2.0m at JR <https://bit.ly/3HUa60a>
-

Hastings Technology Metals Poised to Emerge as a Major Player in the Rare Earths Market

written by InvestorNews | March 15, 2024

With all the talk of on-shoring, near-shoring, friend-shoring, or whatever is the popular term this week, it's easy to lose sight of the fact that most commodities are global in nature. I know I've become fixated on North American solutions when it comes to critical materials and rare earths but that's a somewhat myopic view. There are plenty of countries out there, near and far, that we consider our friends and who may or may not have cost advantages that overcome any incremental transportation fees to compete in our domestic market. Thus, we shouldn't fall into the trap of thinking that just because the U.S. Inflation Reduction Act, and other similar legislation, look to limit parts of the world from contributing to "made at home" solutions, as perhaps, North American miners and explorers aren't necessarily the best option.

One such example is [Hastings Technology Metals Limited](#) (ASX: HAS | OTC PK: HSRMF), a Company engaged in the exploration, development, and mining of rare earths and specialty metals in Western Australia. This Perth-based company is primed to become the world's next producer of neodymium and praseodymium concentrate (NdPr). Hastings' flagship Yangibana Project (which comprises a mine and beneficiation plant at the Yangibana site, and a hydrometallurgical plant at Onslow), in the Gascoyne and Pilbara regions of Western Australia, contains one of the most highly valued NdPr deposits in the world with NdPr:TREO ratio of

up to 52%. The Project is permitted for long-life production, with offtake contracts signed and debt financing in an advanced stage. The first product to ship is targeted for H1/2025. Hastings also owns and operates the Brockman project, Australia's largest heavy rare earths deposit, near Halls Creek in the Kimberley.

Earlier this month, the Company increased the mineral reserves at the [Yangibana Project](#) and it now has JORC-compliant Proved and Probable Ore Reserves of 20.93 million tonnes at 0.90% TREO which includes a 37% component NdPr, making it one of the largest and highest-grade rare earths projects in the world. The company has made significant progress in advancing the project over the past few years, with a Pre-Feasibility Study completed in 2018 and a Definitive Feasibility Study (DFS) completed in 2020. The DFS confirmed that Yangibana is a highly viable project, with low operating costs and strong economic returns.

But where I find this story gets interesting is all the various financial dealings that Hastings is involved in. More than half of ~A\$400 million of total debt financing required for the Yangibana Project has been secured from the Northern Australia Infrastructure Facility (NAIF), which recently increased its financial support to A\$220 million with a 12½-year tenor. Hastings also completed a Two-Tranche Placement to raise A\$110 million in new equity to progress the Yangibana Project in October 2022. Nothing unusual about these two deals but here's the one that intrigues me. On October 14, 2022, the Company announced the completion of the acquisition of an approximate 19.9% shareholding in [Neo Performance Materials Inc.](#) (TSX: NEO) for an aggregate price of C\$134.6 million. [The acquisition](#) was funded by a A\$150 million cornerstone investment in Hastings by Wyloo Metals.

It would appear that the management team at Hastings does not

doubt that this mine is moving forward. The NEO acquisition provides Hastings with a strategic stake in NEO and exposure to the global downstream processing of rare earth materials into magnets, critical components of environmentally friendly products such as electric vehicles and wind turbines. Additionally in October (seemingly a very busy month for the Company), Hastings signed a non-binding offtake Memorandum of Understanding (MOU) with [Solvay](#), a French-based global leader in Materials, Chemicals, and Solutions. The deal outlines the intent of both parties to enter into a binding commercial offtake agreement for the supply of Mixed Rare Earth Carbonate (MREC). Under the agreement, the supply of an initial 2,500 tonnes per annum of MREC will be sent from Hastings' Yangibana Project to Solvay's plant in La Rochelle, France. Deals like this might explain why NAIF was comfortable increasing its financial support for the project.

Lastly, it's worth mentioning that Hastings has implemented rigorous environmental and social sustainability standards to ensure that its operations are in line with international best practices. This commitment and transparency were recognized with an exceptional ESG risk rating by Morningstar Sustainalytics with Hastings ranked 4th out of 159 companies rated in the Diversified Metals Mining subindustry category and placed 9th out of 193 companies in the Diversified Metals industry category. Hastings also undertook an EcoVadis assessment and achieved 68/100 which placed the company in the top 5% of companies assessed. This has not only helped the company attract investment from socially responsible investors but also win recognition for its efforts.

Hastings Technology Metals looks ready to take on the rare earths supply market and become a force to be reckoned with. The Company had A\$172.2 million in cash and equivalents as of December 31, 2022 and seemingly no issues raising additional

capital as needed. Agreements are in place for ~70% of production for the first 10 years and there is still plenty of blue-sky exploration upside to further expand the resource at Yangibana. It appears I need to start looking past my own backyard for resource opportunities that are world-class.

The top billionaires are now chasing the critical magnet rare earths – Part 2 of 2

written by Matt Bohlsen | March 15, 2024

[In part 1](#) we looked at a growing trend where billionaires have started investing or taken a strong interest in rare earths companies, mines, and/or projects around the world. In particular, the story focused on **James Litinski's** rise to fame at MP Materials Corp. (NYSE: MP), as well as the recent billionaire moves of KoBold Metals (**Jeff Bezos, Michael Bloomberg, Bill Gates**) chasing rare earths in Greenland and **Gina Rinehart** buying into Arafura Rare Earths Limited (ASX: ARU).

Here in Part 2 of this series will take a look at more billionaires chasing rare earths such as **Andrew 'Twiggy' Forrest, Chris Ellison, and Elon Musk.**

Andrew Forrest's Wyloo Metals and Hastings Technology Metals Ltd.

As [announced](#) on August 26, 2022, Australian billionaire Andrew Forrest's private company Wyloo Metals has agreed to an A\$150 million [cornerstone investment](#) in Hastings Technology Metals

Ltd. (ASX: HAS), through the issuance of secured, redeemable, exchangeable notes. Even more interesting was that Hastings intends to use the A\$150 million proceeds to acquire a 22.1% strategic shareholding in Canada's [Neo Performance Materials Inc.](#) (TSX: NEO). Neo uses rare earths to make magnetic powders and magnets, which can later be used in the permanent magnet electric motors used in most quality EVs and wind turbines.

Hastings controls two rare earth projects in Western Australia, the [Yangibana Project](#) (more advanced) and the [Brockman Project](#). At the Yangibana Project, Hastings plans to build a mine and beneficiation plant and a hydrometallurgical plant nearby in Onslow, to produce 8,500 tpa TREO production and [3,400tpa NdPr.](#)

It was also [revealed](#) in November 2022 that Andrew Forrest's Fortescue Metals Group Ltd. (ASX: FMG) has signaled the company hopes to open up a business mining and refining rare earths.

Chris Ellison and rare earths junior VHM Limited

Mineral Resources Limited (ASX: MIN) CEO Chris Ellison has been an early leader in the lithium boom, yet now he has also turned his attention to rare earths. Ellison has backed rare earths junior VHM Limited which is set to IPO on the ASX in January 2023. VHM Limited [state](#) they have "one of the world's largest, highest-grade rare earth deposits" at their Goschen Rare Earths and Mineral Sands Project in Victoria, aiming to begin production by H1, 2025. The rare earths in the Goschen Project include neodymium, praseodymium, dysprosium and terbium.

Elon Musk's insatiable demand for rare earths to feed Tesla's vehicles

In 2018 it was [reported](#) by Reuters that "Tesla's shift to a magnetic motor using neodymium in its Model 3 Long Range car adds to pressure on already strained supplies of a rare earth

metal.....” Musk and Tesla (NASDAQ: TSLA) had come to learn that by using the most powerful and lightweight permanent magnet electric motors they were able to save weight and improve efficiency, which improves both performance and range as well as cost (a smaller battery is needed to achieve the same range). Permanent magnet motors are currently the smallest and lightest electric motors you can buy. The only catch is they require the magnet rare earths. So this is now Tesla’s current problem. How to source the magnet rare earths in the volumes they need now and in future years as they scale to 20 million electric cars per year by 2030. Tesla’s chair Robyn Denholm gave investors a huge clue during a speech in Canberra to mining industry leaders in 2021, when she predicted that Tesla could soon consume [more than \\$1 billion a year](#) in Australian produced lithium, nickel, **rare earths**, and other battery metals. Then again [in October 2022](#), Denholm strongly advocated that Australia can do so much more to support the EV supply chain. Tesla chairman suggested Australia is capable to do mining, refining, battery cells production, and even make electric vehicles. She said Australia has the raw materials, including lithium, cobalt, copper, and **rare earths**.

I would add that Canada also has this very [same potential](#) and is now focused to build up an EV supply chain, notably in Ontario and Quebec. The Canadian government has allocated C\$3.8 billion of financial support for critical minerals in its 2022 budget.

Tesla’s electric cars have shifted towards using more permanent magnet motors that use the magnet rare earths



Hong Kong – August 13, 2021 : People walk past the Tesla official showroom in Queens Road East, Wan Chai, Hong Kong.

Source: [iStock](#)

Closing remarks

This “billionaires chasing the critical magnet rare earths” series has exposed a relatively new trend where several of the richest and most powerful billionaires in the world have turned their attention to the magnet rare earths, namely neodymium (Nd), praseodymium (Pr), and dysprosium (Dy). Billionaires now involved in rare earths include James Litinsky, Jeff Bezos, Michael Bloomberg, Bill Gates, Gina Rinehart, Andrew Forrest, Chris Ellison and indirectly Elon Musk via Tesla.

The reason for this unprecedented interest in the magnet rare earths sector is simple. The most powerful and efficient

electric motors need the most powerful magnets, and these are made from the magnet rare earths Nd, Pr, and Dy. Also, they typically use Boron (B). Electric motors are replacing the internal combustion engine and are now central to most modern day technology especially green technology such as electrification of our transport network and renewable energy generation.

Reaching net zero carbon emissions means the next 2-3 decades will rely heavily on switching to electric motors and that will require a secure source of the critical rare earths.

Investors can also learn from these leading billionaires and invest in the magnet metal rare earths while we are still in the early stages of what looks likely to be a decade long boom.

For more information you can visit InvestorIntel's page ["Critical Minerals & Rare Earths"](#).

Solvay starts making noise in the rare earths sector with a Hastings MOU

written by | March 15, 2024

[Solvay S.A.](#) (BRU: SOLB | OTCQX: SLVYY) ('Solvay') has started making news in the rare earths space. Solvay, a Belgian chemical company, acquired Rhodia in 2011 and with it the rare earth division with plants in France and China. Since Ilham Kadri was appointed the new CEO of Solvay in March, 2019, their only press releases on its rare earth division have been about three patent

infringement cases surrounding materials for catalytic converters and their treatment of exhaust gases from internal combustion engines. Then suddenly over September-October of this year, there were [3 news releases](#) that were focused on developments in Solvay's rare earths division.

On October 11, 2022, Solvay announced the signing of a non-binding offtake [memorandum of understanding](#) (MOU) with [Hastings Technology Metals Ltd.](#) (ASX: HAS) ('Hastings') where Hastings will initially supply Solvay with 2,500 tonnes per year of mixed rare earth concentrate (MREC) from its Western Australian Yangibana Project. The Solvay plant in La Rochelle, France was founded in 1948 and originally was built for the separation of rare earths from monazite. The reported capacity for La Rochelle is 10,000-15,000 tonnes per annum of rare earths concentrate, which if accurate, made it a significant producer in the 1980s and 1990s. This would mean however that the agreement with Hastings alone would not bring the plant back to full capacity, unless Hastings expands production over time or Solvay sources concentrate from other producers.

This new MOU follows Hastings' recent move to take a [significant position](#) in [Neo Performance Materials Inc.](#) (TSX: NEO). NEO and Solvay compete vigorously in all aspects of rare earths but as noted above the main area is in the materials for catalytic converters. This move by Solvay with Hastings comes on the heels of Solvay announcing its plans to expand and upgrade its plant in La Rochelle to process rare earths and recycle rare earth magnets. NEO has also announced its plan to put magnet production capabilities in Estonia where it has a rare earth separation facility in Sillamae.

NEO's plant in Estonia has traditionally received its rare earth concentrate from Russia but given current political circumstances, it begs the question how long can this last? NEO

does have an arrangement with [Energy Fuels Inc.](#) (NYSE American: UUUU | TSX: EFR) to supply concentrate from Energy's uranium operation in White Mesa, Utah. This is the only uranium production facility in the USA. Energy Fuels is going to process monazite to produce RE concentrate. To that end, Energy Fuels [announced a deal](#) in May of this year to take a position in a heavy minerals deposit in Bahia, Brazil, which contains monazite.

Another [announcement](#) from Solvay this October was that it took 100% control of Solvay Special Chem Japan (SSCJ) through its purchase of the remaining 33% from Santoku Corporation. This facility, like La Rochelle, is focused on catalyst and semiconductor industries. Decades ago this plant was processing RE concentrate from China. When China stopped exporting concentrate in the late 1990s Anan Kasei, a Japanese joint venture between Santoku Chemical and Rhodia, stopped the separation of rare earths and bought intermediate products from China again to produce more value-added products. Ilham Kadri, Solvay's CEO, commented on the transaction saying: "This transaction marks a logical step forward in our global plan to expand our leadership in Rare Earths specialties."

It will be interesting to watch Solvay and NEO position themselves in the European market which currently only has one metal/alloy producer, [Less Common Metals](#), and one magnet manufacturer, [Vacuumschmelze](#), a German producer. Let the games begin.

Hastings Technology Metals buys 20 per cent of Neo Performance in strategic rare earths move

written by Raj Shah | March 15, 2024

[Hastings Technology Metals Ltd.](#) (ASX: HAS), an Australian junior mining company, has recently made some interesting moves in the rare earths space. Its major announcement on [August 26th](#) was that through an investment from Wyloo Metals in Hastings in the amount of A\$150 million, it was acquiring the majority of Oaktree Capital Management's shares in [Neo Performance Materials Inc.](#) (TSX: NEO). Oaktree acquired a controlling position in NEO in 2015 as it emerged from the bankruptcy of Molycorp. This will result in Hastings owning somewhere in the range of 20% of NEO on the same day that NEO announced a [bought deal](#) of C\$65 million, which would dilute the original 22.1% position Oaktree was selling. From their [press release](#): "Hastings views the Acquisition as the first step in its Hastings 2.0 strategy, to create a fully-integrated mine-to- magnet supply chain business. Wyloo is supportive of this vision and Hastings is pleased to have the support of Wyloo as a strategic partner."

Wyloo Metals is a company owned by [Andrew "Twiggy" Forrest](#), an Australian billionaire, who made his money selling iron ore from Australia. Earlier this year Wyloo outbid BHP for Noront, whose deposit in the Ring of Fire, Northern Ontario is a high-grade nickel-copper-platinum-palladium deposit with a bid worth C\$616.9 million. This recent choice by Wyloo to invest in Hastings is another move in their aim "to develop and invest in the next generation of mines". Given the funds available from

Wyloo is it possible Hastings will increase its position in NEO, given the [recent record profits](#) from NEO? They have said there is no plan to increase their holding.

On September 7th Hastings [announced](#) a A\$110 million two tranche placement with the goal to accelerate its rare earths deposit in Western Australia. In addition, they announced a non-underwriting share purchase plan (SPP) to raise up to A\$10 million. The aim is to accelerate the rare earth deposit they are developing, which is known as the Yangibana deposit in Western Australia. The deposit had a JORC resource reported in 2019. There are seven areas [reported as shown in the chart below](#):

Deposit	Tonnes	TREO	Nd ₂ O ₃ +Pr ₆ O ₁₁
		%	%
Bald Hill	4,405,000	1.02	0.41
Fraser's	638,000	1.61	0.68
Auer	728,000	1.12	0.41
Auer North	148,000	1.24	0.47
Yangibana	986,000	0.93	0.44
Yangibana West	1,478,000	1.23	0.34
Yangibana North	1,964,000	1.72	0.44
Total	10,345,000	1.22	0.43

The reported percentages of Neodymium(III) oxide (Nd₂O₃) and Praseodymium oxide (Pr₆O₁₁) are high compared to most other global deposits, which is intriguing, as these are the main revenue drivers in all deposits globally except for ionic clay deposits, like the ones in Southern China. What is challenging is the TREO (Total Rare Earth Oxides) grade averaging 1.22%, which will increase operating costs. By comparison, MP Materials' Mountain Pass mine in California is reported around 8%. However, Yangibana average Nd/Pr of 43% is about 3 times higher than Mountain Pass.

On February 21st of this year, Hastings [announced](#) an increase in the NPV of the Yangibana project of 84% to \$1,012 million and an IRR of 26%. When looking at Shanghai Metal Markets pricing in mid-February Neodymium oxide (Nd2O3) was \$190/kg USD and Praseodymium oxide (Pr6O11) was \$172/kg. Today those prices are \$91.11/kg or a 50% reduction.

Looking at Hastings' August and September presentations, their focus is not on separating the rare earths into single elements but view that as NEO's focus. Their stated plan is to produce 15,000 tonnes per year of a mixed rare earth carbonate, which typically is around 45-50% total rare earth oxides (TREO). This would generate 6,750-7,500 tonnes of TREO. This is over double the current capacity of NEO's plant in Estonia. Hastings has already committed 70% of their first 10 years' output to ThyssenKrupp and Skyrock, so this would leave 2,000-2,250 TPY for NEO. ThyssenKrupp will likely sell the material to China as it does for Rainbow Rare Earths. Skyrock is a part of the Baotou rare earth group, so the majority of the Yangibana deposit will end up in China, unless there is an out clause and NEO expands its non-Chinese capacity.

It will be interesting to see how this new relationship in the rare earths space develops. This is certainly not the end of the story.

Market eyes Neo Performance

Materials Constantine Karayannopoulos with, what's next?

written by InvestorNews | March 15, 2024

August is usually a slow time for business and news as it is the end of the summer holiday season in the Northern hemisphere, but this August has been a particularly busy time for [Neo Performance Materials Inc.](#)'s (TSX: NEO) management team, especially CEO Constantine Karayannopoulos.

Announcements have been coming fast and furious. Let's start with the most surprising news first:

- [Hastings Technology Metals acquires a 22.1% shareholding in Neo Performance Materials](#) – August 26, 2022

On August 26th [Hastings Technology Metals Ltd](#) (ASX: HAS) announced it was [acquiring a 22.1% shareholding](#) in Neo Performance Materials by buying out most of the position of Oaktree Capital Management, L.P. (Oaktree) fund OPPS NPM SARL. Oaktree will sell 8,974,127 shares at C\$15/share. Prior to this OPPS held 9,878,155 shares. The funding comes from Wyloo Metals, a private Australian metals company formed by Andrew "Twiggy" Forrest, whose worth is reported at US\$17.5 billion. Wyloo will invest the money into Hastings who in turn will acquire the shares from the Oaktree subsidiary.

- [Neo Performance Materials Announces \\$67.5 Million Bought Deal Treasury Offering of Common Shares](#) – August 26, 2022

On the same day as the announcement of the share acquisition by Hastings, a bought deal was announced with Paradigm Capital being the lead underwriter. The deal was done at \$15/share. At the time of writing, Neo Performance Materials was trading at \$14.25. There are over 40 million shares outstanding so after this deal, there will be 45 million shares. According to the press release the funds will be used for “general corporate purposes including the expansion, maintenance of global assets and the pursuit of strategic growth opportunities around the globe.” Expansion of the operations in Estonia is likely one area for the usage of the funds. Having visited the plant over a decade ago it is a Soviet era plant which runs nitric acid to separate the rare earths. Neo Performance Materials’ two plants in China use hydrochloric acid. The nitric route is high initial capex as every component is made from stainless steel but has lower opex than the Chinese approach. At a capacity of 3,000 TPY of rare earths oxides the Greenland deposit would produce 750 TPY of Nd/Pr or about 2,500 tonnes of magnets. A nominal size.

- [Second quarter results with records for revenue, Operating income and adjusted EBITDA](#) – August 12, 2022

This is due to the high prices for the four key magnetic elements, Neodymium, Praseodymium, Terbium and Dysprosium, which hit prices not seen in the past decade. Since then, Nd and Pr have dropped about 50%, Tb 20% and Dy 35%, which means it will be a challenge for Q3 results to match Q2 numbers.

- [Neo Secures \\$75 Million Loan to Finance Expansion and Relocation Of Its Environmental Emissions Catalyst Business](#) – August 17, 2022

This financing came from Export Development Canada (EDC). The

credit facility matures in 5 years and is available in 3 tranches of \$25 million. The funds will be used to relocate its rare earth plant in Zibo, Shandong province, China, to a nearby industrial park which will provide access to water treatment and waste/water recycling. This plant produces high value materials for automotive catalytic converters. The relocation is to expand capacity from 4,000 TPY REO to 5,000 TPY REO. Based on reported analysis for Baiyan Obo this expanded capacity will produce 370 tonnes of Nd/Pr oxide which would generate an additional 1,300 TPY of NdFeB magnets.

- [Hudson Resources and Neo Performance Materials Sign Agreement on The Sarfartog Rare Earth Element Project in Greenland](#) – August 22, 2022

This is an interesting move by Neo as they only tried to go upstream into mining once before when they got involved in a tin mine in Brazil over a decade ago. The development of this project would provide a source for their plant in Estonia which gets most of its raw material from Russia presently with the [balance from Energy Fuels Inc.](#) (NYSE American: UUUU | TSX: EFR) in the USA. The deal is a non-refundable deposit of \$250k. Once the Greenland government gives approval for transfer of the license to Neo or its special purpose entity, Neo will pay Hudson Resources an additional \$3.25 million. There are two projects in the deal. One is an REE project in SW Greenland and a nearby Nb/Ta. Deposit. The Neo plant in Estonia also produces high purity Nb and Ta metal as well as rare earths so there is synergy in this deal. The 2011 43-101 report on the REE project showed an indicated resource of 5.9 million tonnes at 1.8% rare earth oxide which translate to about 100,000 of rare earth oxides. It is an underground mine opportunity which will bring added cost to the mining process. Should Neo proceed with this acquisition it will need to develop a camp onsite and decide

where to upgrade the ore prior to shipping a concentrate to Estonia – all challenges Canadian companies have dealt with for decades.

If Neo Performance Materials is an indicator for the rare earths sector, one can only wonder what's next.

Neo Performance and Hastings – Will Wonders Never Cease?

written by InvestorNews | March 15, 2024

The term “Holy Moley” is seldom, if ever, used by us but our powers of speech are severely hampered by trying to digest the implications of the [latest deal](#) in the rare earths space. [Neo Performance Materials Inc.](#) (TSX: NEO) has now succeeded in flooring us twice in two weeks.

First, there was its [announcement](#) that it was acquiring a rare earths elements (REE) mining project in Greenland and making all the right noises as if it was going to move that forward (and if anyone can, it would be them). And then we have the shock announcement that [Hastings Technology Metals Ltd](#) (ASX: HAS), the sometime REE developer in Australia, is to acquire a 22.1% strategic shareholding in Neo Performance Materials. We need not remind investors that Neo is not only a leading global rare earths processing and advanced permanent magnets producer, but it is **THE** leading global rare earths processing and advanced permanent magnets producer outside China, with a string of plants around the world and most particularly its Silmet plant in Estonia, which is a cornerstone of the monazite sands

processing strategy of [Energy Fuels Inc.](#) (NYSE: UUUU | TSX: EFR).

The market cap of Neo, on the eve of this announcement, was CAD\$605 million. The acquisition has been agreed at a price of CAD\$15.00 per Neo share, representing a total consideration of CAD\$135 million. Bargain basement, indeed, in our view.

According to the release, the acquisition is intended to be funded by an AUD\$150 million strategic investment in Hastings by Wyloo Metals through the issuance of secured, redeemable, exchangeable notes.

Interestingly, the stake is not a *de novo* investment by Hastings but rather the purchase of a stake from an affiliate of Oaktree Capital Management. Those with long memories will recall that this stake dates back to the ancient history of when Molycorp went spectacularly bust just under ten years ago and Neo was reconstituted bigger and better out of the ruins. The stake being vended by Oaktree consists of 8,974,127 common shares in Neo, representing a 22.1% shareholding.

The proposed acquisition provides Hastings (and Wyloo) with a strategic stake in Neo and exposure to the global downstream processing of rare earth materials into magnets.

We have written about Hastings' Yangibana deposit so long ago that we must fight through a veil of cobwebs to find what we wrote. The company claims that the project remains the key priority for Hastings, "with good progress being made on funding initiatives and other key milestones." But they would say that, wouldn't they?!

The acquisition of the Neo stake, and in particular the Wyloo investment, are subject to shareholder approval (50% voting threshold). All this begs the question as to whether Canada (or

indirectly the US) will allow the crown-jewel (indeed the Queen on the REE chessboard) to pass into the hands of Wyloo Metals.

Hastings Technology Metals secures Australian Government Funding for Yangibana, World's Richest NdPr Deposit

written by InvestorNews | March 15, 2024

Many are now asking will [Hastings Technology Metals Ltd.](#) (ASX: HAS) ("Hastings") be Australia's next rare earths producer?

The answer is 'maybe yes' after the Company [announced](#) on February 2, 2022: "NAIF approves \$140 million loan for Yangibana Rare Earths Project.....NAIF loan forms part of A\$300-400 million of total debt financing required for Yangibana."

Yangibana is the first Australian rare earths project to receive NAIF funding. The above mentioned Northern Australia Infrastructure Facility (NAIF) loan has a 12½-year tenure and is subject to pre-completion conditions.

Hastings [stated](#): "Yangibana early works construction and design for long-lead items underway in anticipation of plant construction commencing in September 2022 Quarter." The NAIF loan first drawdown is expected to occur in early 2023, aligned to the Yangibana funding schedule.

Hastings [states](#) about its planned project: "The Yangibana

project, which comprises a mine and beneficiation plant at the Yangibana site and a hydrometallurgical plant at the Ashburton North Strategic Industrial Area (ANSIA) near Onslow, will become Australia's second rare earths producer and expands the country's strategic capability in downstream processing of rare earths minerals."

More about Hastings Technology Metals Ltd.

Hastings controls two rare earth projects in Western Australia. They are the [Yangibana](#) and [Brockman](#) Projects. The more advanced Yangibana Project contains a predominance of neodymium, praseodymium, dysprosium and europium.

The Yangibana Project (mine, beneficiation plant, and hydrometallurgical plant) – Western Australia

Hastings [state](#): "Yangibana has the world's highest composition of neodymium and praseodymium and is located in the Tier 1 mining jurisdiction in Western Australia." The significance here is that neodymium and praseodymium (NdPr) are the highly valued magnet metals.

The Yangibana Project [Proven & Probable Reserve](#) is 16.7Mt at 0.95% TREO (0.35% NdPr oxide) for a total contained 158,419 t TREO. The Total Mineral Resource has a contained TREO of 266,417 t (at 0.97% TREO).

Yangibana Project has great metrics – Has a 37% NdPr content – double the world average



Source: [Company presentation](#)

The Yangibana Project's CapEx is estimated at [A\\$516 million](#) (A\$67 million contingency) but is currently being revised. The

Project's November 2019 NPV was [A\\$549 million](#) (IRR 21.1%). NdPr prices have increased significantly since then, so updated Project economics are expected soon.

The Yangibana Project is planned to have a [1.2Mtpa ore throughput](#), a 15 year mine life, ~15,000 tpa of MREC production, ~8,500 tpa TREO production and [3,400tpa NdPr](#) production. Commissioning is targeted for 2024, subject to final project funding.

Hastings' Yangibana Rare Earths Project and their planned Onslow hydromet plant in Western Australia



Source: [Company presentation](#)

Hastings has commenced early site works at Yangibana (Mining Proposal [has been approved](#)) and recently received Commonwealth environmental approvals to develop the hydrometallurgical plant site at ANSIA near Onslow. Subject to funding, Hastings intends to then commence construction of the beneficiation plant and the hydrometallurgical plant.

On February 2, 2022, Hastings Executive Chairman Charles Lew, [stated](#)

“The commitment by NAIF will enable Hastings to finalise the funding requirements for Yangibana's development and move into full-scale construction throughout 2022, with the objective of delivering first production by 2024. Yangibana is an amazing, rare earths, opportunity that will supply the world's highest composition neodymium and praseodymium concentrate to Tier 1 customers in Europe and Asia. This is an exciting time not just for Hastings but for Australia's emerging rare earths sector. We look forward to finalizing the funding arrangements that will

enable the Hastings' Board to make a final investment decision in the coming months."

Hastings Technology Metals investment highlights (as of November 25, 2021)



Source: [Company presentation](#)

Note: The 52% NdPr to TREO ratio refers to the highest-grade deposit within Yangibana called Simon's Find, which contains [52%](#) of rare earths as NdPr. It potentially provides strong early cash flows to the Project.

Closing remarks

Hastings Technology Metals certainly looks well on the way to becoming Australia's next rare earths producer, and only the second one following on from the very successful [Lynas Rare Earths Limited](#) (ASX: LYC) (market cap [~A\\$8 billion](#)).

Hastings ticks all the right boxes in terms of a great resource, high NdPr content, location, integrated project, off-take contracts signed, and now is getting closer to achieving project funding ([awaiting final credit-approved commitments](#) from lenders' consortium) with only [minor regulatory approvals remaining](#). Executive Chairman Charles Lew owns 7.1% of the Company so that is also a great endorsement.

All going well Hastings could begin Yangibana Project construction in 2022 ([September Quarter 2022](#)) and commercial production in 2024. Hastings Technology Metals trades on a market cap of [A\\$516 million](#) and looks set to have a very big 2022.