CRITICAL MINERALS ASSOCIATION

SEPTEMBER 2022

CMA DRINKS RECEPTION: MINERAL RIGHTS - 6 OCT

CMA & GSBF ANNUAL CRITICAL MINERALS CONFERENCE - 28 NOV

WELCOMING RIO TINTO TO THE ASSOCIATION
Welcome to our September Critical Minerals Association monthly newsletter & updates on the critical minerals space.

Read on for:

- GSBF & CMA Drinks Reception: UK Mineral Rights
- RSC & CMA Circular Economy of Critical Minerals
- CMA & GSBF Annual Critical Minerals Conference
- Geological Society Energy Transition Insights Event
- CMA at the Mining Investment London Conference
- CMA at the FT Mining Summit, London
- Welcoming Rio Tinto to the Association!
- CMA Welcomes the UK’s Critical Minerals Strategy
- Australia Approves $34 Million in Funding for Critical Minerals Project
- US Assigns $156m for Critical Minerals Refinery
- European Commission Announces New Critical Minerals Legislation
- Canada, South Korea Seek Deeper Cooperation on Critical Minerals
- Mkango: Pilot Recycling Plant for Rare Earth Magnets Launched
- E-Tech Resources INC. Appoints Professor Frances Wall as a Director
- Cornish Lithium: Funding Secured to Construct a Demonstration Plant
- Giyani Signs Contract for a Demonstration Plant for Battery Manganese Project
- CMA at Mines & Money: Resourcing Tomorrow

Kirsty, Jeff & Olimpia

This month’s newsletter has been put together by Lily Dickson, PhD student at University of Leeds.

Got a suggestion? Want to feature in next month’s newsletter? Contact olimpia@criticalmineral.org

Want to learn more? Check out our website & follow us on:

@CMA_Minerals  Critical Minerals Association
Join the Geological Society Business Forum and Critical Minerals Association for presentations, Q&A and networking around mineral rights on the 6th October in London.

The event aims to demonstrate the challenges faced by the current mineral rights system in England, Scotland, and Wales, and lost opportunities for mineral exploration, job creation and levelling up.

There will be the opportunity to hear case studies from critical mineral exploration within the UK and understand the process of mineral rights acquisition to appreciate the challenges involved.

REGISTER HERE
On 21st October 2022, join the Critical Minerals Association and Royal Society of Chemistry for a morning on the circular economy of critical minerals. This event aims to bring together a wider range of audiences in the field of circular economy, chemistry, geosciences, legislation and research and development.

The webinar will run from 9:30am-10:30am and will showcase 5 topics in bitesize presentations with an opportunity for questions and discussion to follow. It is a morning not to miss!

Confirmed speakers for the event are:
- Dr Andy Rees, Head of Waste Strategy, Welsh Government
- Amanda van Dyke, Managing Director, ARCH Emerging Market Partners
- Eva Marquis, Research Fellow, Met4Tech
- Professor Robert Lee, Professor of Law, Birmingham Law School

REGISTER HERE

Circular Economy - Critical Minerals Event

The event will discuss:

1. Commercialising R&D
2. Harmonising Legislation
3. Financing the Circular Economy
4. Geological Circular Economy/ Tailings
5. Collection, waste management, recovery

21st October 2022 @ 9:30-10:30am BST

The conference at The Geological Society of London will consider topics around the delivery of the UK’s critical minerals strategy, and conclude with a drinks reception.

Virtual attendees will be able to tune into a live stream from The Geological Society.

To indicate interest in attending in person, contact events@criticalmineral.org

REGISTER HERE
In July 2022, the UK Government published its Critical Minerals Strategy.

This policy paper is the result of a lengthy consultation process, during which time representatives from academia, industry, policy and beyond, discussed the nature of critical minerals supply chains and how the UK could increase its resilience with a new focus on domestic supply in the context of the energy transition.

The Geological Society invites you to a special 1 hour roundtable discussion webinar with four geoscientists who were intricately involved in the process, to discuss the motivation for the strategy, the process of crafting it, its contents and impact, and the implications for geoscience. This will be followed by a Q&A session.

REGISTER HERE

Geological Society Energy Transition Insights Event

Thu, 20th October, 2022
1:00 PM – 2:00 PM BST
Mining Investment London Conference and Exhibition brings together the most influential & innovative minds. Keynotes and speakers provide latest mining industry knowledge and tips for the changing mineral resources industry across the globe.

Join Jeff Townsend for a talk on 'Geopolitical Threats and the Necessity of Government Financing.'

MORE INFO HERE

20 - 21 OCT 2022
London
The CMA is delighted to be a supporting partner of the FT Commodities’ Mining Summit Conference, taking place on 20th and 21st October 2021 at the Mandarin Oriental, London. Jeff Townsend, Founder, CMA will be speaking at the event about critical minerals.

The shift to a low carbon economy will not happen without mining but at current levels of investment, the world will not be able to produce the huge amount of metals and minerals needed to hit the goals of the Paris agreement on climate change. For that to change, investors and policymakers will have to engage with the industry, which will need to show that it can mine sustainably by driving down carbon emissions, water usage and making a positive contribution to society. At the same time, new geopolitical realities are threatening to force a realignment of the production, distribution and consumption of commodities globally that will have far reaching consequences for the mining industry.

MORE INFO HERE

FT LIVE

20 - 21 OCT 2022
Mandarin Oriental
London
Welcoming Rio Tinto to the Association!

We are delighted to welcome our latest member, Rio Tinto, to the association!

Rio Tinto focuses on a variety of commodities essential for the things in everyday life, and those crucial to the energy transition. Aluminium for lightweight cars. Copper to help things work more efficiently – from renewables to the power in your home. Iron ore for the steel in our electricity infrastructure. Lithium for electric vehicles and battery storage.

Welcome on board!
The Critical Minerals Association welcomes the UK’s first ever Critical Minerals Strategy, published on the 22nd July 2022 and congratulates the teams in UK Government working for tirelessly behind the scenes to ensure that considerations from stakeholders across the supply chain have been taken into account.

In the introduction, the former Secretary of State for Business, Energy and Industrial Strategy, The Rt Hon Kwasi Kwarteng states: ‘This government is taking action to ensure we remain in the game.’

The risk of the UK falling behind in the global race to secure responsible sources of critical minerals is ever present. It is promising to see that the UK Government is starting to recognise the risks of critical mineral supply chain shocks, but the release of a strategy does not mean that the country can be complacent – effective delivery of the critical minerals strategy remains an urgent priority.

READ ON HERE
Australia has approved A$50 million ($34 million) of grants to six critical minerals projects to accelerate the development of the sector as part of its efforts to reach net zero emission targets by 2050.

Australia, the world’s biggest producer of rare earths outside of China, has been pouring money into diversifying procurement of critical minerals amid souring relations between Western governments and Beijing.

“The grants will accelerate early and mid-stage projects, driving new investment in our processing and manufacturing capabilities as we develop our critical minerals sector,” Resources Minister Madeleine King said in a statement.
The US Department of Energy (DOE) has allocated up to $156m to fund the development of a proposed critical minerals refinery.

This refinery, which will receive DOE funding from President Biden’s Bipartisan Infrastructure Law, is expected to demonstrate the commercial viability of turning mine waste into clean energy technology.

As a result, the facility would help secure a domestic supply chain for rare earth elements and critical minerals.

Said to be the first of its kind in America, the new facility will be equipped to extract, separate, produce, and refine rare earth elements (REE) and critical minerals (CM) from the large quantities of waste streams from mining and energy production in the country.
The European Commission has come up with a new legislative proposal, the European Critical Raw Material Act, to help boost supplies of minerals such as lithium and rare earths.

The proposal was announced by European Commission President Ursula von der Leyen as part of the annual State of the Union address.

Leyen said the European Union (EU) intends to reduce dependency for critical minerals on countries including China, where 90% of rare earths and 60% of lithium are processed.

She stated: “The not-so-good news is - one country dominates the market.
Canadian Prime Minister Justin Trudeau and South Korean President Yoon Suk-yeol on Friday agreed to deepen cooperation on critical minerals used in electric vehicles (EVs) batteries as both countries seek to cut emissions to fight climate change.

Yoon visited London for the funeral of Queen Elizabeth, and then New York in his first US trip to attend the UN General Assembly, before arriving in Canada on Thursday. On Friday, Yoon met Trudeau in Ottawa, and then they both spoke to reporters.

“Yoon and I discussed ways to collaborate in a variety of areas, including essential minerals, batteries for electric vehicles, and emerging technologies, including AI (artificial intelligence),” Trudeau told reporters.
Mkango: Pilot Recycling Plant for Rare Earth Magnets Launched

Rare Earth materials used in high performance magnets for electronic devices will be recycled in a new facility at the University of Birmingham.

The plant is a major milestone in the commercialisation of rare earth magnet recycling technology in the UK, offering a complete re-manufacturing process, taking magnets from end-of-life electric motors, electronic waste and components, reclaiming the valuable neodymium, iron and boron they contain, and reforming it back into commercial-grade magnetic materials.

Rare earth magnets play a critical role in electronics devices ranging from hard disk drives to loudspeakers, as well as EVs and wind turbines. As clean energy technologies become increasingly prevalent these building block materials have risen even further on UK critical materials lists (British Geological Survey, UK Critical Minerals Strategy).

READ ON HERE
E-Tech Resources Inc. is pleased to announce that it has appointed Professor Frances Wall as a director effective immediately. Professor Wall replaces Mr. Ed Loye on the board of directors. Mr. Loye will remain as a technical consultant to the Company.

Frances Wall is Professor of Applied Mineralogy at Camborne School of Mines, University of Exeter, has a BSc in geochemistry from Queen Mary University of London and a PhD in rare earth-rich carbonatites from the University of London. Frances has over 30 years experience researching the geology and process mineralogy of global rare earth deposits and practically linking exploration stage studies to responsible sourcing outcomes. Frances has also led large consortium research projects such as HiTech AlkCarb and SoS RARE and is currently Principal Investigator for the UK Research and Innovation Interdisciplinary Circular Economy Centre for Technology Metals (Met4Tech). Frances is Chair of the British Geological Survey Science Advisory Committee, a member of the UK Critical Minerals Expert Committee, was named in the WIM UK ‘100 Global Inspirational Women in Mining’ 2016 edition and awarded the William Smith Medal of the Geological Society of London for applied geoscience in 2019.
Cornish Lithium Ltd (the “Company” or “Cornish Lithium”), the pioneering mineral exploration and development company based in Cornwall, UK, is pleased to announce that it has secured additional funding from Innovate UK through the Automotive Transformation Fund’s (“ATF”) Scale up Readiness Validation competition (“SuRV”). The funds received via this competitive process will be used to fund the construction of the hydrometallurgical section of a demonstration scale processing plant at the Company’s Trelith Processing Site associated with the Trelavour Hard Rock Lithium Project (“Demonstration Plant”) near St Austell.

The Demonstration Plant will comprise concentration and hydrometallurgical processing steps. The first pre-concentration step will be via comminution and flotation to produce a lithium mica concentrate. This concentrate will then be fed into the second processing step, a hydrometallurgical process, using the patented Lepidico L-Max® and LOH-Max® processing technologies which Cornish Lithium has an exclusive licence for to produce lithium hydroxide.
Giyani Signs Contract for a Demonstration Plant for Battery Manganese Project

Giyani Metals Corp., developer of the K.Hill battery-grade manganese project in Botswana (" K.Hill Battery Manganese Project " or " K.Hill "), is pleased to announce that it has signed a design-build contract (" Contract ") with specialist South African-based hydrometallurgical engineering firm Met63 (Pty) Ltd. (" Met63 ") for the construction of a demonstration plant (" Demo Plant ").

Highlights

- Specialist hydrometallurgical engineering and consulting company Met63 engaged to construct and commission the Demo Plant in Johannesburg, South Africa;
- The Demo Plant will be built according to the process flowsheet developed by Coffey Geotechnics Ltd., a Tetra Tech company (" Tetra Tech "), and completed and accepted by Met63;
The following September news articles from Argus Media, Mining Weekly, Mining Magazine, and others, provide an overview of critical mineral mining for:

- Cobalt
- Copper
- Graphite
- Lithium
- Manganese
- Nickel
- Rare Earth Elements
- Tin
- Titanium
- Vanadium

The Critical Minerals Association takes no credit for any articles and makes no endorsement of any of the content.
Cobalt

• Africa
  ○ DRC [16.9.22]
    ▪ Congo violence rages despite US conflict-mineral law.
  ○ DRC: Metalkol [21.9.22]
    ▪ ERG's Metalkol cobalt and copper production shows compliance with RMI responsible sourcing principles.

• North America
  ○ Canada: Giga Metals [2.9.22]
    ▪ Giga Metals and Mitsubishi complete nickel-cobalt JV transaction.
  ○ Canada: Electra [8.9.22]
    ▪ Electra's study on in integrated EV battery materials facility in Ontario demonstrates compelling economics.
  ○ Canada: Electra [23.9.22]
    ▪ Electra to refine cobalt in Ontario for LG as EV demand surges.
Copper

• Africa
  ○ Zambia: Glencore [23.9.22]
    ▪ Glencore proposes loans to ensure production at Zambia's Mopani copper mine.

• Europe
  ○ France: Schneider Electric [16.9.22]
    ▪ Schneider Electric announces partnership with the Copper Mark.

• North America
  ○ USA: McEwen Copper [12.9.22]
    ▪ McEwen Copper options Elder Creek Project to Rio Tinto.
Copper

• Oceania
  ○ Australia: Greatland Gold [13.9.22]
    ▪ Greatland Gold secures funding for gold-copper deposit in Australia.

• South America
  ○ Chile: Newmont [22.9.22]
    ▪ Newmont has appointed Aaron Puna as Executive Vice President and Chief Technology Officer effective in January 2023.

  ○ Argentina: Glencore [23.9.22]
    ▪ Glencore lifts stake in MARA project.
Graphite

• Africa
  ○ Namibia: Gratomic [20.9.22]
    ▪ Gratomic sets new record after extracting 150 tonnes of graphite in a single shift.

• Europe
  ○ Ukraine: Volt Resources[6.9.22]
    ▪ Volt reports strong start to Zavalievsky Operation.

• South America
  ○ Brazil: South Star Battery Metals [19.9.22]
    ▪ South Star Battery Metals announces approval of phase 1 construction permit for Santa Cruz Mine in Brazil.
Lithium

• Global [7.9.22]
  ▪ Carbon dioxide reduction meets water-use tension in hunt for lithium.

• Africa
  ▪ Zimbabwe [16.9.22]
    ▪ Chinese investors plan $2.83bn metals park in Zimbabwe.

• Europe
  ▪ Portugal [21.9.22]
    ▪ Portugal awaits assessment of two lithium mines before launching auction.

• North America
  ▪ USA: Compass Minerals [15.9.22]
    ▪ Compass Minerals picks lithium extraction technology to supply Ford.
North America

- **USA: Lithium Americas [20.9.22]**

- **Canada: General Motors [22.9.22]**
  - General Motors invests in Canadian lithium-ion battery recycler.
  - [https://www.mining.com/general-motors-invests-in-canadian-lithium-ion-battery-recycler/](https://www.mining.com/general-motors-invests-in-canadian-lithium-ion-battery-recycler/)

- **Mexico: Sonora Lithium [22.9.22]**
  - Mexico values its Sonora lithium deposit at $600bn
  - [https://www.mining.com/web/mexico-values-its-sonora-lithium-deposits-at-600bn/](https://www.mining.com/web/mexico-values-its-sonora-lithium-deposits-at-600bn/)

**South America**

- **Chile: Cleantech Lithium [14.9.22]**
  - Cleantech Lithium PLC announce resource upgrade at Laguna Verde.

- **Argentina: CGG [22.9.22]**
  - CGG awarded critical mineral screening study in Argentina.
Manganese

• Africa
  ○ Botswana: Giyani [6.9.22]
    ▪ Giyani Metals signs construction contract for a demonstration plant for the K.Hill Battery Manganese Project.
    ▪ [Link to article]
  ○ Morocco: Gold Lion Resources [21.9.22]
    ▪ Gold Lion Resources acquires interest in a past-producing manganese mine in Morocco.
    ▪ [Link to article]

• South America
  ○ Brazil [15.9.22]
    ▪ Study shows potential of southern cattail for phytoremediation of areas contaminated by mine tailings.
    ▪ [Link to article]
Nickel

• Asia
  ○ Indonesia: PT Vale [15.9.22]
    ▪ PT Vale and Huayou build new HPAL plant in Luwu Timur.

• Europe
  ○ Russia: Norilsk Nickel [26.9.22]
    ▪ Could Russian mining mergers counter Western sanctions?

• North America
  ○ Canada: Flying Nickel [13.9.22]
    ▪ Flying Nickel's Minago project to have industry-leading carbon footprint.
      ▪ [https://www.northernminer.com/fast-news/flying-nickels-minago-project-to-have-industry-leading-carbon-footprint/1003846280/](https://www.northernminer.com/fast-news/flying-nickels-minago-project-to-have-industry-leading-carbon-footprint/1003846280/)

• Oceania
  ○ Australia: Oz Minerals [23.9.22]
    ▪ OZ greenlights West Musgrave nickel-copper production amid third-party interest.
Rare Earth Elements

- **Europe**
  - **Belgium: Solvay [19.8.22]**
    - Solvay plans rare earth push as EU seeks to break reliance on China.
  - **Ireland [25.9.22]**
    - Synthetic rocks shed light on how rare earth elements are formed.
      - [https://www.mining.com/synthetic-rocks-shed-light-on-how-rees-are-formed/](https://www.mining.com/synthetic-rocks-shed-light-on-how-rees-are-formed/)

- **North America**
  - **Canada: NioCorp [6.9.22]**
    - NioCorp's demonstration plant begins testing process improvements and rare earth recovery operations.
  - **Canada: Auxico Resources [21.9.22]**
    - Auxico Resources exports 432 tonnes of rare earth concentrates from the DRC.

- **Oceania**
  - **Australia: West Cobar Metals [8.9.22]**
    - West Cobar secures rare earth coup.
Tin

• Asia
  ○ Indonesia: PT Timah Tbk [8.9.22]
    ▪ PT Timah Tbk empower local communities through knowledge and training.
    ▪ https://www.internationaltin.org/timah-communities/

• Europe
  ○ Slovakia: Molten Metals [21.9.22]
    ▪ Molten Metals awarded the Bear Creek tin mine in Slovakia.
  
  ○ Spain: Strategic Minerals [23.9.22]
    ▪ Strategic Minerals maintains solid tin and tantalum concentrate levels.
Titanium

• Europe
  ○ Norway: Norge Mining [26.9.22]
    ▪ Norge Mining Ltd has published their responsible business report.

• Oceania
  ○ Australia: Monash University [6.9.22]
    ▪ Titanium alloy found to gain super strength with long baking process.
    ▪ https://www.nature.com/articles/d41586-022-02988-y

Tungsten

• North America
  ○ USA: ExGen Resources [15.9.22]
    ▪ ExGen Resources Empire Mine Project moves closer to production.
  ○ Canada: Fireweed Metals [22.9.22]
    ▪ Fireweed Metals announce new director adding 'governance and corporate strength'.
Vanadium

• Asia
  ○ India: Ultra [2.9.22]
    ▪ Vanadium battery manufacturer Ultra to launch into Indian market with Hild Energy.

• North America
  ○ Canada: Largo [15.9.22]
    ▪ Largo announces completion of qualifying transaction for Largo Physical Vanadium Corporation.

  ○ USA: Thor Mining [26.9.22]
    ▪ Thor Mining kicks off drilling at Wedding Bell and Radium Mountain.
Resourcing Tomorrow, by Mines and Money is an event focused on the energy transition, ESG, sustainability and the circular economy. It is to be held at the Business Design Centre, London. The agenda has been selected by Mines and Money to incorporate themes and topics that are highly relevant to investors and industry.

With mining driving 38% of the world’s GDP, it will play a critical role in the energy transition and hence the window of opportunity to transform and recreate the mining industry for this is here, and understanding and addressing to investors, industry and policymakers in essential.

The event will showcase more than 120 talks, including Jeff Townsend, Founder, Critical Mineral Association providing expertise in the critical minerals field and addressing this to government and policymakers.
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