KWASI KWARTENG OPENS CRITICAL MINERALS EXPERT COMMITTEE MEETING
AUSTRALIA-UK MINISTERIAL MEETING
UK NATIONAL SECURITY AND INVESTMENT ACT: IMPACT ON MINING & MINERALS
WELCOMING ARCH EMERGING MARKETS PARTNERS AND ABERDEEN MINERALS TO CMA
Q&A WITH LESS COMMON METALS
Welcome to our January Critical Minerals Association monthly newsletter & updates on the critical minerals space.

Read on for:

- Kwasi Kwarteng Opens Critical Minerals Expert Committee Meeting
- Australia-UK Ministerial Meeting
- UK National Security and Investment Act: Impact on Mining & Minerals
- Toward a Life Cycle Inventory for Graphite Production
- Li-Cycle in Joint Venture to Recycle Lithium-Ion Batteries in Norway
- Pensana & Equinor - Magnet Recycling Using Hydrogen
- Transformational Flake Graphite Processing Tech
- Welcoming ARCH Emerging Markets Partners to CMA
- Welcoming Aberdeen Minerals to CMA
- Q&A Session with Less Common Metals
- E-Tech Resources Listed on the Frankfurt Stock Exchange
- Critical Minerals Supply Chains: The Race is On
- Dalradian Publishes Second 2020 Responsible Business Report
- Circulor Nominated for Future Unicorn Awards 2022
- British Lithium Produces First Batch of Lithium Carbonate
- Veolia’s Plans for Electric Vehicle Battery Recycling in the UK
- Fasken’s Annual Seminar Series
- The Geological Society of London: Energy Transition

This month’s newsletter has been put together by Olimpia Pilch, CMA’s Business Development & Communications Associate!

Kirsty & Jeff

SUBSCRIBE TO OUR NEWSLETTER UNDER 'CONTACT'

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

Want to learn more? Check out our website: https://www.criticalmineral.org/ & follow us on Twitter @CMA_Minerals
Business Secretary Kwasi Kwarteng (28 January) opened the latest meeting of the Critical Minerals Expert Committee, chaired by BEIS Chief Scientific Advisor, Professor Paul Monks, along with representatives from across academia, finance, industry and government.

The Critical Minerals Expert Committee aims to leverage the UK’s extensive research expertise for the development of a Critical Minerals Strategy. It provides high quality, independent advice to the government on certain minerals and metals. We are delighted that CMA members - Dr Sarah Gordon, Dr Ian Higgins, Jeremy Wrathall & Guy Winter are in this committee.

It will also suggest suitable actions the government can take to secure sustainable sources of these critical materials to help maintain national security and meet net-zero ambitions.

Metals such as lithium, cobalt and rare earth elements are critically important for use across a wide range of applications, including electric car batteries, computer hard drives, and high-tech consumer products.
On 21 January 2022, Minister for Foreign Affairs and Minister for Women Senator the Hon Marise Payne and Minister for Defence the Hon Peter Dutton MP hosted the Secretary of State for Foreign, Commonwealth and Development Affairs the Rt Hon Elizabeth Truss MP and Secretary of State for Defence the Rt Hon Ben Wallace MP for the Australia-UK Ministerial Consultations (AUKMIN).

Ministers underscored the importance of building more secure, resilient and sustainable supply chains, including in critical minerals and particularly rare earths and battery minerals. They committed to driving greater links between the two countries’ private sectors, focused on connecting stakeholders at key points of the supply chain to bolster two-way trade and investment.
Guy Winter, Fasken comments on the new UK National Security and Investment act:

"it is worth noting the impact of the new UK National Security and Investment Act 2021 (NSIA) pursuant to which, with effect from 4 January 2022 (and with a lookback to acquisitions completed before 12 November 2020):

- UK Government can scrutinise and intervene in certain acquisitions that could harm the UK’s national security
- UK Government can impose certain conditions on an acquisition, and in rare cases may unwind or block an acquisition completely.

This means that if you are planning an acquisition of a "qualifying entity" (QE) in one of 17 defined "sensitive areas" of the UK economy, you may need to get approval from the UK Government before you can complete it."
We are excited to see the publication of this new graphite-focused paper by CarbonScape, featuring contributions from Minviro's Founder and CEO Robert Pell. The study supports Minviro's earlier work highlighting the industry's underestimation of environmental impacts related to battery material supply chains.

Abstract
Global electrification of mobility and energy storage is driving an unprecedented demand for lithium-ion batteries (LIBs) for which graphite is one of the major components. Multiple prior studies have attempted to assess the environmental footprint of LIBs by way of life cycle analysis (LCA), and the poor quality of inventory data on the production of graphite (at various purities) has been highlighted consistently.

READ ON HERE
Li-Cycle in Joint Venture to Recycle Lithium-Ion Batteries in Norway

Li-Cycle Holdings Corp. said it has formed a joint venture with Eco Stor AS and Morrow Batteries AS to construct a new commercial lithium-ion battery recycling facility in southern Norway.

Li-Cycle will be the majority owner of the joint venture, with Eco Stor and Morrow being minority owners and Nordic-headquartered strategic partners.

Norway plans on phasing out sales of new internal combustion engine vehicles by April 2022. Li-Cycle said it expects to be well-positioned to ultimately recycle and bring end-of-life batteries back into the lithium-ion battery supply chain.

Once constructed, the Norwegian Spoke will be Li-Cycle's first recycling facility outside of North America and is expected to have the capacity to process up to 10,000 tons of lithium-ion batteries a year, including battery manufacturing scrap, full EV packs, and energy storage systems. The facility is expected to be operational in early 2023.

READ ON HERE
Pensana announces that it has signed a cooperation agreement with a leading energy provider, Equinor New Energy Limited, to form a working group to share technical and commercial information to develop a low energy method for recycling end-of-life magnets at Pensana’s rare earth hub in Saltend Chemical Park.

Pensana’s Chairman, Paul Atherley, commented: “We are establishing a world-class, independent and sustainable, rare earth processing facility at Saltend Chemicals Park. We are also looking to process end-of-life magnets from wind turbine nacelles using hydrogen’s properties as a powerful reductant. We very much look forward to working with Equinor using hydrogen from the H2H Saltend project in establishing this innovative process route as a key component in the circular economy for rare earth magnets in the UK.”

READ ON HERE
In July 2021, the Tirupati Graphite & Mintech Research Centre established a pilot-scale version of its unique Column Flotation System (CFS) which is developed for use across the Company's primary and downstream speciality graphite production plants.

After concluding successful trials, Tirupati will be shipping the first commercial-scale CFS with a 1.5 MT per hour capacity, for installation and operation at its 9,000 tpa Vatomina graphite production plant in Madagascar.

The CFS developed by the Company has demonstrated a number of advantages over conventional flotation cell technologies commonly used in graphite processing including the ability to:

- reduce power consumption during the flotation stage of the process by c.40%;
- eliminate corrosion and wear in flotation thereby reducing maintenance, costs and production downtimes; and
- reduce the number of processing/floatation stages required to achieve desired graphite purity levels thereby lowering overall costs of production.

READ ON HERE
We are delighted to announce that ARCH Emerging Markets Partners Limited has joined as a member of the Critical Minerals Association.

ARCH is a specialist emerging markets investment advisor with a team that has deep experience in emerging markets, private equity, asset management and legal and governance matters over many decades. ARCH focuses on delivering added value to investments, based on a risk-adjusted approach.

Welcome to the association!
We are delighted to announce that Aberdeen Minerals Limited has become a member of the Critical Minerals Association.

Aberdeen Minerals Limited is a privately owned mineral exploration company focusing on Ni-Cu-Co-PGE exploration within a highly prospective magmatic intrusive geological setting in North East Scotland.

Welcome to the association!
In our latest Q&A session, we caught up with Ian Higgins, Managing Director, Less Common Metals (LCM).

LCM is a world leader in the manufacture and supply of complex alloy systems and metals, and are specialists in those based on rare earth elements.

Ian Higgins comments:
In my opinion, the midstream industry is crucial to the UK’s economy and an essential link in the overall supply chain. A well-established midstream operation facility helps to develop both upstream (rare earth separation) and downstream (magnet production) and having a prominent midstream industry in the UK gives scope for accessing larger EU27 markets in addition to growing UK markets for magnets.
E-Tech Resources Inc is pleased to announce its co-listing on the Frankfurt Stock Exchange (XFRA) under the ticker symbol "K2i". E-Tech Resources Inc. is a rare earth exploration and development company focused on developing its Eureka Rare Earths Project in Namibia.
Olimpia Pilch, Business Development Associate at CMA reflects on the future of critical minerals supply chains.

To meet the projected increases in demand for critical minerals, such as copper, lithium or rare earth elements, nations will have to collaborate effectively and fast. No nation can go it alone, it is simply too late for that. The governments that fail to realise the urgency to build resilient partnerships will ultimately be left behind. The race is no longer about who can be the next powerhouse outside of China, but who can create alternative supply chains through multinational collaboration. It is a race for friends.

But is urgency the price of responsibility? As commodity prices continue to climb, forging partnerships is only one part of the story. What happens to responsible sourcing when everyone is rushing to secure what they can? What about the environment, climate change and communities most impacted by those critical supply chains?

READ ON HERE
Dalradian’s 2020 Responsible Business Report explains the company’s business, strategy, activities and performance in several areas, including environmental, social and governance for the period January to December 2020. The report includes key metrics and case studies that illustrate Dalradian’s long-term, responsible approach to modern mining.

### Key Metrics and Case Studies

- **£750m** planned expenditure on supply chain
- **Zero** environmental non-compliance in 2020
- **1,000** jobs to be created with a £15m training budget to maximize local employment
- **£130m+** project investment to date
- **2nd** year in a row certified Carbon Neutral Plus
- **530+** suppliers in Northern Ireland have contributed to the project to date
- **200+** Employed a total of more than 200 people to date
- **£4m** minimum committed to future community projects
- **900k+** in funding provided to more than 500 community groups (2015-2020)
Circulor Nominated for Future Unicorn Awards 2022

We are thrilled that our member Circulor has been selected as one of the nominees for the Future Unicorn Award 2022.

2022 marks a new and exciting year for Circulor as well as all the companies that are putting traceability and sustainability on top of their agenda.

Good luck!

MORE ON FUTURE UNICORN AWARDS HERE

Want to find out more about Circulor?

Catch up with Circulor's co-founder, Veera Johnson, to find out more about Circulor, their plans and how they are helping companies work towards United Nations sustainable development goals.

Q&A WITH CIRCULOR HERE
Critical Minerals News

The following January 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
- Tin
- Tungsten
- Rare Earth Elements

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

- **Global [3.1.22]**
  - The global cobalt industry is set to receive a significant boost and upward price trajectory in the next two to three years owing to a worldwide shift to a green economy reports financial risk management, solutions and insights company Fitch Solutions Country Risk and Industry Research.

- **Africa**
  - **DRC: Trafigura [19.1.22]**
    - DRC-based copper and cobalt producers Shalina Resources and Chemaf have concluded a financing and marketing transaction with commodity trader Trafigura to facilitate a new high-grade cobalt hydroxide and copper cathode supply.
  - **Morocco: Glencore [27.1.22]**
    - Anglo-Swiss company Glencore has teamed up with Moroccan mining firm Managem to produce cobalt from recycled battery materials, including nickel, cobalt and lithium.

- **North America**
  - **Canada [24.1.22]**
    - Fortune Minerals intends to buy a defunct steel processing plant in Alberta and turn it into a cobalt refinery.
Copper

- Asia
  - **Mongolia: Rio Tinto [25.1.22]**
    - Rio Tinto Plc and the Mongolian government said on Tuesday they have reached an agreement to end a long-running dispute over the $6.93 billion expansion project for the Oyu Tolgoi copper-gold mining project.

- North America
  - **USA: Antofagasta [26.1.22]**
    - The U.S. Department of the Interior cancelled two mineral leases for Antofagasta Plc's proposed Twin Metals copper and nickel mine in Minnesota on Wednesday, effectively killing the project and handing a major win to environmentalists.

- Latin America
  - **Chile: Three Valley Copper [26.1.22]**
    - Canadian miner Three Valley Copper has suspended operations at its Minera Tres Valles mine near Salamanca, Chile.
Graphite

• Africa
  ○ Madagascar: NextSource [12.1.22]
    - NextSource Materials has announced that factory acceptance testing and final verification of equipment design specifications and end-to-end functions of the processing plant for Phase 1 of the Molo Graphite Mine is complete.

• Europe
  ○ UK: Minviro [24.1.22]
    - Indian graphite anode producer Epsilon Advanced Materials (EAM) has chosen British Life Cycle Assessment (LCA) consultancy Minviro to assess the environmental footprint of EAM's graphite-based active anode materials production.

• North America
  ○ Canada: Northern Graphite [17.1.22]
    - Northern Graphite is spending $55 million to acquire two graphite producers and help fund the development of its Bissett Creek graphite project. The company is purchasing the Lac des Iles mine and mill in Quebec and all the outstanding shares of Imerys Group, which owns the idled Okanjande project in Namibia.
Lithium

• Africa
  ○ DRC: Zijin Mining [24.1.22]
    ▪ China’s Zijin Mining Group is hoping to tap into the Democratic Republic of Congo’s lithium deposits by launching an exploration project in a partnership with state-owned firm La Congolaise d’Exploitation Minière (Cominiere).

• Europe
  ○ Serbia: Rio Tinto [21.1.22]
    ▪ Serbia has withdrawn the exploration licences of Anglo-Australian mining company Rio Tinto following weeks of protests over plans for a lithium mine.
    ▪ [https://www.bbc.co.uk/news/world-europe-60081853](https://www.bbc.co.uk/news/world-europe-60081853)

• North America
  ○ USA: Bradda Head [24.1.22]
    ▪ Bradda Head, a UK-based lithium development group, has said it could use geothermal methods at its Eureka asset in Nevada, to lower the carbon footprint of lithium production.

  ○ USA: Standard Lithium [26.1.22]
    ▪ Standard Lithium, a Germany-listed technology and lithium development company, has signed a Letter of Intent with Koch Minerals and Trading to purchase lithium chemical off-take and procure critical raw materials.
Manganese

• Asia
  ○ China [24.1.22]
    ▪ High purity manganese prices surge as China consolidates the industry.

• Europe
  ○ Czech Republic: Euro Manganese [5.1.22]
    ▪ Vancouver-based Euro Manganese Inc has signed a strategic investment deal worth CAD$8.5m with the European Bank of Reconstruction and Development that will support the continued development of the Chvaletice Manganese Project in the Czech Republic.

  ○ UK: Minviro [27.1.22]
    ▪ American Manganese Inc has selected Minviro Ltd, a UK-based and globally recognized sustainability and life cycle assessment consultancy, to conduct a life cycle assessment of the company's battery recycling-upcycling process, RecycLiCo.
Nickel

• Nickel
  ○ Latin America
  ○ Brazil: Sibanye-Stillwater [24.1.22]
    ▪ Sibanye-Stillwater has walked away from a $1 billion deal to acquire the Santa Rita nickel and Serrote copper mines in Brazil, which would have boosted its growing battery metals portfolio.

• Oceania
  ○ Australia: BHP [25.1.22]
    ▪ BHP, the world’s largest mining company, has signed an agreement with researchers at the University of Leicester, the University of Western Australia and Macquarie University to identify new areas for the discovery of metals critical to the electric vehicle revolution.
  ○ Australia: [27.1.22]
    ▪ Poseidon Nickel Ltd has received promising results from a scoping study assessing the estimated capital and operation expenditure necessary for refurbishment and operation of the Lake Johnston processing plant and associated infrastructure.
Tin

• Europe
  ○ **Spain: Strategic Minerals Europe [26.1.22]**
    • Strategic Minerals Europe, a UK-based producer of metals, has begun production of tin and tantalum at the Penouta mine in northwest Spain as it enters the final stage of commissioning of the on-site crushing plant.

• Latin America
  ○ **Brazil: [14.1.22]**
    • Orosur Mining Inc announced it signed a joint venture agreement with Meridian Mining UK Societas in relation to the Ariquemes tin project in Brazil.
    • [https://www.morningstar.co.uk/uk/news/AN_1642159405542686300/orosur-mining-signs-joint-venture-to-earn-up-to-75-in-tin-project.aspx](https://www.morningstar.co.uk/uk/news/AN_1642159405542686300/orosur-mining-signs-joint-venture-to-earn-up-to-75-in-tin-project.aspx)
Tungsten

• Europe
  ○ Spain: Rafaella Resources [4.1.22]
    ▪ ASX-listed junior Rafaella Resources has struck a deal with Spain’s aloriza Minería S.L.U to acquire the San Finx tin and tungsten mine.

• Oceania
  ○ Australia: Tungsten Mining NL [11.1.21]
    ▪ Australian tungsten developer, Tungsten Mining NL has entered a memorandum of understanding with MCCI to establish a collaboration program for feasibility studies at its Mt Mulgine tungsten project.
Rare Earth Elements

• Africa [13.1.22]
  - China and Russia make critical mineral grabs in Africa while the U.S. snoozes.

• Middle East
  ○ Jordan [13.1.22]
  - Jordanian authorities unveiled plans on Wednesday to look for lithium and several other types of rare minerals in the south of the country, local media reported.

• North America
  ○ Canada: Ucore Rare Metals [2.1.22]
  - Canada’s Ucore Rare Metals and its subsidiary Innovation Metals announced that Q1 2022 will see the commissioning of the RapidSX demonstration-scale plant, where the processes of separation and purification of rare-earth elements will take place.

  ○ USA: The Heritage Group [14.1.22]
  - HG Ventures, an investment arm of The Heritage Group, and American Rare Earth LLC, a subsidiary of the American Resources Corporation, announced they are teaming up to scale up the recycling of batteries, magnets and e-waste with the goal of recovering and supplying critical minerals and rare earth metals to US and global markets.
British Lithium has produced lithium at pilot scale from the mica in granite at their new pilot plant near Roche.

Funded by Innovate UK, the pilot plant has taken just seven months to design and build and uses patented technology in a sustainable production process.

The pilot plant design is based on four years’ intensive research and development and is the latest milestone in British Lithium’s progress towards full operational status.

“New processes are normally piloted during the definitive feasibility stage but, as lithium has never been produced commercially from mica before, de-risking our proprietary technology is an important step in developing our project,” said Chief Executive Andrew Smith.

READ ON HERE
Veolia, the UK’s leading resource management company, has announced its first electric vehicle battery recycling facility in the UK, which will have the capacity to process 20% of the UK’s end of life electric vehicle batteries by 2024.

Many of the materials required for battery manufacturing rely on traditional water and energy-intensive processes. It is estimated that 500,000 gallons of water are required to extract one tonne of lithium using this type of mining. Urban mining or the use of recycled materials could reduce water consumption as well as cut greenhouse gas emissions from battery production by up to 50%.

Veolia’s new facility in Minworth, West Midlands marks the first step in developing its recycling technology and treatment capacity within the UK, with an anticipated 350,000 tonnes of end of life electric vehicle batteries predicted to be in the country by 2040.
The Shift to Electric Vehicles and What it Means for Canadian Mining and our Automotive Sector
Wednesday, March 2, 2022 | 08:00 - 09:30 ET

Moving the Dial on Equity, Diversity and Inclusion in the Mining Industry
Wednesday, March 2, 2022 | 11:30 - 13:00 ET

Effective and Enforceable Dispute Resolution
Wednesday, March 2, 2022 | 15:30 - 17:00 ET

The Future of Nuclear Power-Environmental, Economic, Health and Safety and Political Considerations
Thursday, March 3, 2022 | 08:00 - 09:30 ET

Technological Risks and Cybersecurity in the Mining Industry: On the Path to Strategic Risk Planning
Thursday, March 3, 2022 | 11:30 - 13:00 ET

Getting your Permits and Authorizations in Quebec - An Inside Look
Thursday, March 3, 2022 | 15:30 - 17:00 ET

MORE INFO HERE
Energy Transition Discussion Meeting: What does Geoscience need to do now for a sustainable transition to net-zero?

The shift to a net-zero carbon future is a pressing international effort. Geosciences play a pivotal role in enabling this increasingly urgent energy transition, driving innovation, supporting business and facilitating a sustainable and socially just transition.

MORE INFO HERE

Energy Transition

Join us for a hybrid discussion meeting - online and at Burlington House, London.

What does geoscience need to do now for a sustainable transition to Net Zero?

26 - 27 APRIL 2022
Thanks to Our Supporters!

- Wood Mackenzie
- MINVIRO
- Circulor
- TIRUPATI
- MKANGO
- FASKEN
- Cornish Lithium
- Technical Critical Minerals
- ARCH
- SATARLA
- Cornish Metals
- TECHMET
- PENSANA RARE EARTHS
- TUNGSTEN WEST
- srk consulting
- DALRADIAN GOLD
- ETECH RESOURCES
- GIYANI METALS CORP.
- ABERDEEN MINERALS