CRITICAL MINERALS ASSOCIATION

FEBRUARY 2021

HIGHLIGHTS - CMA'S CRITICAL MINERALS & THE UK'S 10 POINT PLAN FOR A GREEN INDUSTRIAL REVOLUTION EVENT
THE GREAT BRITISH MINING REVIVAL
EDIE'S CIRCULAR ECONOMY PODCAST WITH TECHMET
INTERVIEWS WITH WILL DRURY & THE BLAIR PROJECT
FASKEN @ PDAC- CRITICAL MINERALS IN THE COVID-19 ERA
THIS IS US - PEOPLE IN MINING LAUNCH
STRATEGIC, SECURE & SUCCESSFUL: THE AUSTRALIAN APPROACH TO CRITICAL MINERALS
Welcome to our February Critical Minerals Association monthly newsletter & updates on the critical minerals space.

Read on for:

- Highlights & Recording: Critical Minerals & the UK's 10 Point Plan for a Green Industrial Revolution
- The Great British Mining Revival
- Edie's Circular Economy Podcast with Simon Gardner Bond
- CMA Interviews with Professor Will Drury, Challenge Director of 'Driving the Electric Revolution', UK Research & Innovation (UKRI) & The Blair Project - 'STEM & EVs'
- Bentley: Recycling Supply Chain for Luxury Cars
- Fasken - Critical Minerals in the COVID-19 Era: Supply Chain and Survival
- Roskill's study on future demand and supply security of nickel for electric vehicle batteries
- Argus: European Parliament Wants Expanded Carbon Border
- £4 million Deep Digital Cornwall project launched
- This is Us - People in Mining: Kirsty Benham & Jeff Townsend
- Critical Mineral News
- ESG Blog Spotlight: SLR
- Driving the Electric Revolution: Supply Chains for Net Zero - Competition Briefing

This month’s newsletter has been put together by Olimpia Pilch, CSM MSc Exploration Geology.

Kirsty & Jeff

SUBSCRIBE TO OUR NEWSLETTER UNDER 'CONTACT'

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

Want to learn more? Check out our website: https://www.criticalmineral.org/ & follow us on twitter @CMA_Minerals
Highlights: Critical Minerals & the UK's 10 Point Plan for a Green Industrial Revolution

The Critical Minerals Association hosted a Breakfast Chat on Tuesday 9th February to discuss the UK Government’s recently announced Ten Point Plan for a Green Industrial Revolution and the role of critical minerals in its delivery.

- Professor Will Drury, Challenge Director, Driving the Electric Revolution at UK Research & Innovation (UKRI)
- Dr. Sarah Gordon, Founder & CEO, Satarla
- Dr. Jack Bedder, Director & Head of Research, Roskill
- Caroline Messecar, Senior Reporter for Rare Earths and Electronic Metals, Argus Media
- Dr Robert Pell, Founder and CEO, Minviro

WATCH THE RECORDING HERE

CRITICAL MINERALS & THE UK’S 10 POINT PLAN FOR A GREEN INDUSTRIAL REVOLUTION

- Will Drury, UKRI Driving the Electric Revolution
- Caroline Messecar, Argus Media
- Robert Pell, Minviro
- Sarah Gordon, Satarla
- Jack Bedder, Roskill

TUES, 9 FEB @ 9AM GMT
Rising metal prices in 2020 and early-2021 have led to the resumption of exploration and development activities all over the globe, including many projects located closer to home than you might expect. Within the UK right now there are an incredible, sixteen companies, actively seeking to explore for metals and/or develop mines.

Speciality and base metals projects (shown in blue) are focused in the Southwest of England and North Wales; whilst battery metals projects are also focused in Cornwall (shown in green). Source: Mining and Metals Research Corporation.
Simon Gardner-Bond, Co-Chair of CMA's Circular Economy Working Group and, Chief Technical Officer at Techmet, will be featured on Edie's podcast 'Making a Net-Zero World Through a Circular Economy'. The podcast will be released on the 26th March 2021, and Simon’s interview for this episode will focus on critical minerals following on from edie's 'Zero Waste: The Circular Economy Inspiration Sessions' Online event.

LISTEN HERE

Don't miss Edie's 'Zero Waste: Circular Economy Inspiration Sessions' on Thursday 25th March 2021.

REGISTER HERE
'We Need to Start Taking the Supply Chain Seriously' - Will Drury, Driving the Electric Revolution

The Critical Minerals Association's 'Perception of Mining Group' Chairs, Lucy Crane, Cornish Lithium & Ben Lepley, SRK Consulting did a brilliant interview with Professor Will Drury, covering the importance of sourcing of critical minerals in supply chains in light of Brexit and the new rules of origin for batteries and electric vehicles.

Driving the Electric Revolution received £80 million as part of the Industrial Strategy Challenge Fund and is expected to attract £154 million in Industry co-investment. The challenge is funded by the UK Government through the Department for Business, Energy and Industrial Strategy.

See Page 25 about a briefing session on 9th March at 10am GMT to see how you can apply for a share of £20 million in funding. Register here.
The Critical Minerals Association's Perception of Mining group Chairs Lucy Crane, Cornish Lithium and Ben Lepley, SRK Consulting invited Nile Henry, founder & CEO of The Blair Project (and self-confessed tech nerd) to chat about his role in raising awareness of electric vehicle technology and encouraging more young people from diverse backgrounds to get involved in STEM subjects.

'A lot of young people are passionate about climate change, but they need to know what career opportunities exist' - Nile Henry, The Blair Project

Find out more about The Blair Project here: www.theblairproject.org
The £2.6m RaRE (Rare-earth Recycling for E-machines) project is funded by the Office for Low Emission Vehicles (OLEV) and delivered in partnership with Innovate UK, and involves six partners who will work together to establish the first end-to-end supply chain of recycled rare earth magnets in the UK.

The technology, called Hydrogen Processing of Magnet Scrap (HPMS), extracts rare earth metals from waste electronics by breaking them into a powder that is easily separated from remaining components.

The technology was patented by University of Birmingham Enterprise, and subsequently licensed to HyProMag Ltd., the company that was set up by the Birmingham researchers. HyProMag has since received substantial investment from Mkango Resources, which will be fully funding HyProMag’s contribution to RaRE.

READ ON HERE
As part of their 'PDAC 2021: Toronto Mining Conference Series,' Fasken will be hosting "Critical Minerals in the COVID-19 Era: Supply Chain and Survival" on Monday 1st March at 16:00 GMT featuring CMA Co-Founder Jeff Townsend.

Speakers:
- Richard Fadden, Former Director, Canadian Security Intelligence Service
- Jeff Townsend, COO, Technical Critical Minerals
- Guy Winter, Partner, Fasken

Moderator:
- Andrew House, Partner | Co-Leader, National Security, Fasken

REGISTER HERE

On Monday, 15th March at 10am GMT the APPG for Critical Minerals is hosting an exclusive event with Australia on critical minerals - join us to hear from our special guests:

- Introduction by Steve Double MP, Chair APPG Critical Minerals
- The Hon George Brandis QC, the Australian High Commissioner to the United Kingdom
- David Grabau, Senior Investment Specialist, Australian Trade and Investment Commission

ADDITIONAL SPEAKERS TO BE CONFIRMED

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STRATEGIC, SECURE & SUCCESSFUL: THE AUSTRALIAN APPROACH TO CRITICAL MINERALS

- Introduction by Steve Double MP, Chair APPG Critical Minerals
- The Hon George Brandis QC, the Australian High Commissioner to the United Kingdom
- David Grabau, Senior Investment Specialist, Australian Trade and Investment Commission

MON, 15 MAR @ 10AM GMT
Roskill's Study on Future Demand and Supply Security of Nickel for Electric Vehicle Batteries

Roskill recently published an external study report for the European Commission’s science and knowledge service - Joint Research Centre (JRC).

Highlights & conclusions:

- Automotive electrification is expected to represent the single-largest growth sector for nickel demand over the next twenty years.
- Global demand to increase by 2.6Mt Ni to 2040, up from only 92kt Ni in 2020.
- Global nickel sulphate production to reach approximately 2,000kt Ni by 2040 growing at 13.5%py, from 159kt in 2020.
All imports of products and commodities now under the EU's emissions trading system (ETS), including when embedded in intermediate or final products, should be covered from 2023 by a carbon border adjustment mechanism, the European Parliament's environment committee said today.

By a large cross-party majority, the committee voted for an amendment to include the power sector and energy-intensive sectors, such as refineries, paper, glass and aluminium, together with cement, steel, chemicals and fertilizers, in a carbon border adjustment mechanism.

Given the large majority for key amendments, the whole parliament could well adopt the report when it votes on the text in the coming weeks. This will then send a clear message to the European Commission, which is expected to propose a legal measure on the matter by the end of June. The commission has said it has narrowed options to three core elements.
Li-Cycle Corp said on Tuesday it will go public through a merger with blank-check acquisition company Peridot Acquisition Corp in a deal valuing the recycler of lithium-ion batteries at $1.67 billion.

The initial public offering is a bet on the growing need to recycle used batteries as well increasing demand for lithium-ion power sources for emerging products like electric vehicles.

The merger is expected to provide Li-Cycle around $615 million in additional funding, which it plans to use to build more facilities to recycle and repurpose batteries. Peridot will provide $300 million, with the rest coming from a private investment in public equity, or PIPE, transaction. Investors in the PIPE include Neuberger Berman Group LLC, Franklin Templeton and commodity trading firm Traxys, which is also a strategic partner for Li-Cycle.
£4 million Deep Digital Cornwall Project Launched to Unlock Underground Environment

The underground environment is the subject of a major new £4 million project launched to create a world-leading cluster of research-intensive digital businesses in Cornwall and the Isles of Scilly.

'Deep Digital Cornwall' project led by the University of Exeter's Camborne School of Mines, in which Cornwall Resources and Cornish Lithium are delivery partners, has been awarded funding by the European Regional Development Fund.

READ ON HERE
There are many fantastic people, working hard behind the scenes, involved in all aspects of CMA. Each month, we will be bringing new faces into the spotlight!

This month's spotlight goes to Kirsty & Jeff, Founders of the CMA. They both studied International Relations and were drawn to the industry by this simple phrase - 'If it can't be grown it has to be mined!' The transition to a renewable energy future will need a diverse range of minerals!

Jeff Townsend
Founder, Critical Minerals Association
BA International Relations & Politics, MA International Relations at University of Birmingham

Kirsty Benham
Founder, Critical Minerals Association
BA International Relations at King's College London
The following February news articles from Argus Media, Mining Weekly, Mining.com, Mining Magazine, Roskill, The Northern Miner and others, provides an overview of critical mineral mining for:

- Copper
- Cobalt
- Graphite
- Lithium
- Nickel
- Tin
- Tungsten
- Manganese
- Rare Earth Elements

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

- **Global (9.2.21)**
  - Mick Davis’ newly founded battery metals investment firm Vision Blue Resources has raised $60 million and invested almost half of it in Canada’s NextSource Materials.
    - [https://www.mining.com/mick-davis-raises-60m-for-battery-metals-firm-vision-blue/](https://www.mining.com/mick-davis-raises-60m-for-battery-metals-firm-vision-blue/)

- **Global (5.2.21)**
  - The CEO of one of British Columbia’s biggest copper mines believes the “ultimate death” of the carbon economy will fuel new investments in infrastructure and responsible mining projects.
    - [https://www.mining.com/mining-key-to-transition-to-green-economy/](https://www.mining.com/mining-key-to-transition-to-green-economy/)

- **Global (5.2.21)**
  - KoBold Metals, a start-up with a team of mostly PhDs backed by a coalition of billionaires is on a global search for key battery metals, using advanced mapping technology.

- **Global (14.2.21)**
  - Gulf Cooperation Countries (GCC) should embrace the mining value chain to catch up with the clean energy race

- **Asia**
  - **Indonesia (8.2.21)**
    - Tesla investment to position Indonesia as EV battery production hub – report.
Cobalt

• Europe
  ○ Norway: Glencore (1.2.21)
    ■ Switzerland-based Glencore has signed a long-term agreement to supply Norwegian battery producer Freyr with cobalt metal from its Norwegian subsidiary Nikkelverk.

• North America
  ○ Canada: Cruz Cobalt (4.2.21)
    ■ Cruz Cobalt announced that it will kick off operations on its five silver-cobalt projects in the historic region of Cobalt, Ontario.

  ○ Canada: First Cobalt (17.2.21)
    ■ First Cobalt sees potential to recycle batteries at its Temiskaming refinery.

• Latin America
  ○ Brazil: Brazilian Nickel (18.2.21)
    ■ A bankable feasibility study (BFS) at the Piauí nickel project (PNP), in Brazil, is under way, privately held Brazilian Nickel has announced.
    ■ https://www.miningweekly.com/article/brazil-nickel-cobalt-project-advances-to-bfs-stage-2021-02-18
Copper

• **Global (17.2.21)**
  - Global copper smelting activity showed “significant falls” across all regions in January according to the latest data from Earth-i and Marex Spectron’s SAVANT platform.

• **Africa**
  - **DRC: Ivanhoe Mines (11.2.21)**
    - Ivanhoe Mines announced that it plans to carry out a $16-million exploration program on its Western Foreland exploration licences, which are in close proximity to the Kamoa-Kakula copper project in the Democratic Republic of Congo.

• **North America**
  - **Canada: Barrick Gold (18.2.21)**
    - Barrick Gold Corp. says the window has closed on a potential deal with Freeport-McMoRan Inc., given the run-up in copper prices and recent comments from the world’s largest publicly traded producer of the industrial metal.
  
  - **Canada: Rio Tinto (18.2.21)**
    - Mining company Rio Tinto Exploration Canada (RTEC) has started drilling on Forum Energy Metals’ Janice Lake copper/silver project, in Saskatchewan.
Lithium

• Asia
  ○ China (2.2.21)
    ▪ Lithium prices are soaring in China on the back of heavy demand for lithium iron phosphate (LFP) batteries, a new report by battery supply chain research and price reporting agency Benchmark Mineral Intelligence shows.

• Europe
  ○ Germany: Vulcan Energy Resources (4.2.21)
    ▪ Billionaire Gina Rinehart’s mining empire will help to finance a lithium project in Germany being developed to supply the key ingredient for electric-car batteries needed by Europe’s auto industry.

  ○ UK: Cornish Lithium (12.2.21)
    ▪ Cornish Lithium has begun the second drilling campaign at its Trelavour hard rock lithium project near the town of St Austell, in Cornwall, England.
    ▪ [https://www.mining.com/cornish-lithium-speeds-up-hard-rock-project-development/](https://www.mining.com/cornish-lithium-speeds-up-hard-rock-project-development/)

• Oceania
  ○ Australia (29.1.21)
    ▪ Lithium sustainability: Limited improvement expected from shipping emissions over coming decade.
• Europe
  ○ Tirupati Graphite (10.2.21)
    ▪ Tirupati Speciality Graphite (TSG) has been accorded the Registration, Evaluation, Authorisation and Restriction of Chemicals certification for its range of expandable graphite products for marketing and sales into the European Union (EU) and European Economic Area (EEA).

• Oceania
  ○ Australia: Renascor Resources (5.2.21)
    ▪ Renascor Resources has signed a non-binding memorandum of understanding (MoU) with Chinese anode manufacturer Jiangxi Zhengtuo New Energy Technology (Zeto), to provide up to 10ktpy of purified spherical graphite over a period of 10 years from its Siviour project in South Australia.

  ○ Australia: EcoGraf (12.2.21)
    ▪ EcoGraf will raise A$54.6-million through a share placement to investors to fund the Phase 1 construction of its commercial-scale battery anode material purification facility in Western Australia.
    ▪ [https://www.miningweekly.com/article/ecograf-raises-a546m-for-wa-plant-2021-02-12](https://www.miningweekly.com/article/ecograf-raises-a546m-for-wa-plant-2021-02-12)
Manganese

• Global (18.2.21)
  - Manganese ore miners and traders have been surprised by an accelerating rise in freight rates that is eroding their margins, amid increased demand for vessels and competition for freight space from other commodities.

• North America
  ○ Canada: (17.2.21)
    - Manganese X confirms wide zones of mineralization at Battery Hill, located near Woodstock, New Brunswick

  ○ USA: American Manganese (16.2.21)
    - American Manganese appoints former Tesla director for central Europe, Jochen Rudat to its advisory board.

• Oceania
  ○ Australia: Element 25 (1.2.21)
    - Element 25 announced the conclusion of a binding offtake agreement with OM Holdings subsidiary, OM Materials for the supply of manganese ore from its Butcherbird Project, in Western Australia.
Nickel

• Global (7.2.21)
  - Nickel demand from the EV sector is expected to grow globally by 2.6Mt Ni to 2040, up from only 92kt Ni in 2020, and by 543kt Ni from 17kt Ni in 2020 within the European Union, according to a new report.
  - https://www.mining.com/nickel-demand-for-evs-expected-to-shoot-up-in-the-next-20-years/

• Asia
  - China: Beijing Easpring (5.2.21)
    - Chinese state-owned battery cathode producer Beijing Easpring secured a long-term raw material purchase agreement with Indonesian prospective nickel miner PT Halmahera Persada Lygend on 4 February.
  - Indonesia (5.1.21)
    - Indonesia will no longer permit mining waste to be disposed in the ocean to allay concerns about the environmental impact of processing nickel used in electric vehicle (EV) batteries

• North America
  - Canada: Comstock Mining/Aqua Metals (17.2.21)
    - Nevada-based gold and silver producer Comstock Mining and lead recycling company Aqua Metals have announced investments in battery metals recycling company LiNiCo totalling over US$12.75 million.
    - click for link here

• Oceania
  - Australia: BHP (2.2.21)
    - Nickel West has signed a renewable power purchasing agreement to reduce its Kwinana refinery's CO2 emissions by up to 50pc by 2024.
Tin

• Global (12.2.21)
  • Fitch Solutions Country Risk and Industry Research expects global tin mine production to rebound this year, as mines in Indonesia and Peru are unencumbered by government restrictions and can profitably operate amid a higher tin price environment.

• Africa
  • DRC: AVZ Minerals (4.2.21)
    • AVZ Minerals drills further high-grade lithium and tin mineralisation directly beneath the historical floor pit at Roche Dure.

• Europe
  • UK: Strategic Minerals (15.2.21)
    • Strategic Minerals secures funding award for Cornish project.
    • [https://www.proactiveinvestors.co.uk/companies/news/941290/strategic-minerals-secures-funding-award-for-cornish-project-941290.html](https://www.proactiveinvestors.co.uk/companies/news/941290/strategic-minerals-secures-funding-award-for-cornish-project-941290.html)

Tungsten

• Oceania
  • Australia: King Island Scheelite (5.2.21)
    • King Island Scheelite has secured US$7.4M in funding from the Tasmanian Government to support the redevelopment of its wholly owned Dolphin tungsten project, located on King Island, Tasmania.
Rare Earth Elements

• Asia
  ○ Myanmar (2.2.21)
    - Myanmar coup d’état creates more uncertainty for heavy rare earth supply.

• Europe
  ○ UK: Pensana Rare Earths (25.2.21)
    - Pensana Rare Earths has submitted the planning application for its rare earth oxide separation facility in the Humber, Yorkshire, UK.
  ○ UK: Bentley/ Hypromag (18.2.21)
    - UK carmaker Bentley Motors is launching a three-year study aimed at developing a sustainable source of recycled rare earth magnets for electric and hybrid vehicles with Innovate UK, the University of Birmingham, Hypromag

• North America
  ○ USA (18.2.21)
    - US President Biden to order review of US reliance on overseas supply chains for semiconductors & rare earths
ESG insights: Understanding ESG in mineral exploration.

"ESG (Environmental, Social and Governance) has been increasingly on the radar for all types of businesses over the last few years. It is most relevant for publicly listed companies and given that most exploration and mining companies are listed, ESG has become relevant at all stages in the mining cycle. It’s still all very new, so we are going to go through some essential questions to help you get a better grasp of what it means."

READ ON HERE

ESG Insights: The fast-changing world of the “E” in ESG.

"All three ESG criteria reward legal compliance and ethical actions as they pertain to each criterion. However, the environmental criterion by far has the most restrictive legal underpinning. However, environmental actions in many countries are first driven by the need to comply with a complex network of federal, state, and local laws and regulations spanning a wide range of media."

READ ON HERE
Driving the Electric Revolution: Supply Chains for Net Zero - Competition Briefing - 9th March 10am GMT

Join this briefing event to find out more about the upcoming Driving the Electric Revolution: Supply Chains for Net Zero competition and how you can apply for a share of £20 million in funding from the Driving the Electric Revolution Challenge.

This new competition aims to facilitate UK supply chains and manufacturing capability growth. Focusing on power electronics, machines and drives (PEMD) it will enable future improvements in productivity, capacity, quality or efficiency for sectors including energy, industrial and transport.

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