

CRITICAL MINERALS ASSOCIATION AUSTRALIA

JANUARY 2024

- Critical minerals and rare earths research projects receive \$22 million
- China, in comic strip, warns of 'overseas' threats to its rare earths
- Nickel, cobalt may help produce hydrogen from urea

Subscribe to our Newsletter

JANUARY 2023

MONTHLY NEWSLETTER

Welcome to our Critical Minerals Association Australia monthly newsletter & updates on the critical minerals space.

CMA AUSTRALIA NEWS

- New association members:
 - Avenira
 - ERM
- Opinion | China's dominance of critical mineral supply chains: a threat to Western security?

AUSTRALIAN NEWS

- WA Premier backs proposed Kwinana refinery
- AVL vanadium facility opens its doors
- EQR tungsten acquisition on track
- The rare earths outlook
- December quarter 'an exciting period' for Lynas
- Hastings drums up deal on Estonian rare earths
- Australia abounds with critical minerals investment prospects
- Critical minerals list expansion sees Tivan flag fluorite mine in Western Australia's Kimberley
- Critical mineral processing future revealed in Mackay
- Greenbushes biggest lithium mine to reduce production in response to market downturn
- What's behind the drastic downturn in nickel and lithium prices, and what does it mean?
- Albemarle puts Kemerton lithium project on backburner in latest blow to critical minerals sector

AUSTRALIAN GOVERNMENT NEWS

- Critical minerals and rare earths research projects receive \$22 million
- Boost for critical minerals and rare earths research
- Governments back nickel, lithium industries
- Minister King to visit Japan and Korea to secure critical minerals trade

INTERNATIONAL DEVELOPMENTS

- Canada gives mineral-rich Arctic region of Nunavut control over its resources
- Biden's hostility towards mining has global consequences
- US senators introduce legislation in US Congress to boost the country's acquisition of critical minerals
- What does Norway's approval of deep-sea mining mean for the rest of the world?
- EV Metals Group signs frame agreement with Metso as key technical partner for Lithium Chemicals Plant in Saudi Arabia
- Brazilian Critical Minerals wraps up ESG REE bioleaching report
- US takes unconventional critical minerals push nationwide
- Pentagon plans AI-based program to estimate prices for critical minerals
- Aluminium added to Quebec's list of critical and strategic minerals
- Central Asia could help the West break its dependence on China's critical minerals
- China, in comic strip, warns of 'overseas' threats to its rare earths
- Nickel price crash seen extending Indonesia's grip on supply
- Indonesian VP hopeful slams Jokowi's nickel investment policy
- Coal India plans to enter into mining of critical minerals, including lithium
- Major miners pledge no exploration-related activities at world heritage sites
- Korea battery makers eye Chile lithium investments to supply US

CALENDAR OF EVENTS 2024

Critical Minerals Association Australia

BIG PICTURE THINKING

- Will the crash in critical minerals derail the clean energy transition?
- Davos 2024: 'The perfect storm' for critical minerals
- Nickel, cobalt may help produce hydrogen from urea
- Global inventory of world's mines needed researchers



To open articles in a new tab:

- CTRL+Click on link
- Command+Click on link



02

CMA NEWS

As we kick off 2024, CMA Australia will be focussed on 3 key areas on work (amongst others) in the critical minerals sector:

1. Finance and risk challenges in the sector

- 2. Addressing midstream barriers, and
- 3. Supporting the education pipeline into the sector

We aim to deliver outcomes in these areas through member driven working group activities, targeted discussion groups, events and thought leadership efforts. We invite you to share any ideas with us and discuss how you could get involved.

We would like to welcome our newest members to the association:

Avenira

Avenira holds 100% of the exciting Wonarah LFP Project in the Northern Territory, approximately 300km east of Tennant Creek.



Wonarah is one of Australia's largest

undeveloped phosphate projects and has the

capability to supply premium quality phosphate products into the electric vehicle, agricultural and industrial chemical markets. In particular, increased use of Lithium Ferro (Iron) Phosphate (LFP) batteries in electric vehicles and energy storage solutions is lifting demand for battery grade phosphoric acid.

A recently completed LFP Scoping Study demonstrated the strong economics and technical viability for Wonarah, while at the same time, highlighting the potential to establish an Australian LFP cathode supply chain based out of the Port of Darwin. The approach is to source phosphate ore from Wonarah as the start of an LFP cathode supply chain. LFP battery powder manufacture is traditionally dominated by China and Taiwan.

The key to this supply chain is the development of a LFP battery cathode manufacturing facility on land set aside at the Middle Arm Sustainable Development Precinct in Darwin. To achieve this goal, Avenira has signed co-operative agreements with both the Northern Territory Government and Taiwanese-based Aleees Group.

The Aleees Group is one of the few companies outside China with the technological knowhow to design and run a LFP cathode material manufacturing facility and they have recognised the advantages of a partnership with Avenira to secure high quality phosphate ore from Wonarah.

Both the Wonarah mining operation and the downstream LFP cathode manufacturing facility will provide significant economic opportunities for the Northern Territory and Avenira is rapidly pushing ahead to advance on all fronts.

Click here to learn more about Avenira

ERM

As the largest global pure play sustainability consultancy, ERM partners with the world's leading organizations, creating innovative solutions to sustainability challenges and unlocking commercial opportunities that meet the needs of today while preserving







opportunity for future generations. In Australia, we have nearly 400 people, and offices in every capital city. We have been servicing the mining sector in Australia for over 30 years, providing boots to boardroom ESG technical and advisory services across the project life cycle - from first boots on ground exploration support, mineral resource estimation, JORC reporting, permitting, standards compliance and reporting, health and safety, net zero strategies, mine closure and rehabilitation, value chain assessment and merger and acquisition due diligence support. Our global mining team has developed a sustainable mining and metals framework that is utilised to guide mining companies, communities, customers, and investors through responsible development of resources. This framework is called 'The Mine We All Want To See'; the fundamental building blocks of which are integrating

decarbonization, water and nature stewardship and building financial resilience through diversity, inclusion and partnerships as early as possible and all through the mine life cycle. This approach helps companies leave a positive, lasting legacy.

Click here to learn more about **ERM**



China's dominance of critical mineral supply chains: a threat to Western security?

South China 12 Palawan Bands detre

In the ongoing discussion on the geopolitics of critical mineral supply chains, there is a prevailing understanding that China's dominance in this space is now a significant threat to Western security. These security threats are diverse - ranging from threats to national and economic security, to energy, human, and environmental security - and naturally demand the attention of an increasingly broad spectrum of Western government departments. Like never before, the security implications of critical mineral supply chains are now under intense scrutiny. Newly-inked Western critical minerals strategies have aimed to address many of these concerns, primarily with 'friend-shoring' efforts to build out secure, diverse, sustainable, and resilient supply chains at breakneck speed, and all with one key fundamental in mind: without China. If it needed to be said, global critical mineral supply chains are now a busy hive of geopolitical tensions between the West and China, and governments, investors and industry are acting accordingly. As the West avidly pursues its 'de-risking' agenda, the question might be asked: how did it come to this?

The first explanation is that in recent years under President Xi's premiership, China - or rather the policies and practises of the Chinese Communist Party (CCP) - has drawn criticism on itself on the world stage. For example, it's difficult to imagine Western leaders plausibly endorsing the violent suppression of the prodemocracy demonstrations in Hong Kong in 2019; the implementation of the contentious national security law in 2020; or the ongoing human rights abuses of the Muslim Uyghur population and forced labour camps in Xinjiang; and the reports of widespread CCP subversion and espionage activities, as disclosed in 2023 by the most senior Western intelligence officials. It's equally challenging for Western leaders to overlook China's revanchist claims on Taiwanese sovereignty, recently reiterated by President Xi in his New Year address only moments before the Taiwanese presidential and parliamentary elections; and the ongoing military tensions in the South China Sea. It's also equally hard for Western leaders to ignore multiple reports of Chinese breaches of World Trade Organization (WTO) regulations, as outlined in the recent U.S. House Select Committee report on Strategic Competition between the United States and the Chinese Communist Party; and the recent leveraging of its market dominance through the imposition of export controls of gallium and germanium, and not least the most recent ban on the export of rare earth processing technology. Neither one of these issues is insignificant, new, or, for that matter, resolved. But it is highly reasonable to argue that China's own actions have breached international laws and norms and forced the West's hand to 'de-risk'...

Read More

AUSTRALIAN NEWS

WA Premier backs proposed Kwinana refinery

Cobalt Blue's proposed cobalt-nickel refinery in Kwinana has received support from WA Premier Roger Cook.

The strategy behind the refinery is to process critical battery metals from third party feedstock and mixed hydroxide precipitate from the Broken Hill cobalt project...

Read More

Australian Mining | 22 Jan 2024

AVL vanadium facility opens its doors

Federal Resources Minister Madeleine King officially cut the ribbon on Australian Vanadium Limited's (AVL) vanadium electrolyte manufacturing facility at Wangara in Perth yesterday.

The facility has the potential to produce up to 33-megawatt hours (MWh) of high-purity electrolyte per year, with the aim of catering to the growing demands of the vanadium flow battery (VFB) market...

Read More

Australian Mining | 18 Jan 2024

EQR tungsten acquisition on track

EQ Resources (EQR) and Oaktree Capital Management have satisfied the necessary conditions involved in EQR's acquisition of European tungsten producer Salora S.L.U.

The parties were awaiting change of control approval from a Spanish bank that provides Salora with banking facilities. A formal confirmation of such approval should arrive shortly...

Read More

Australian Mining | 16 Jan 2024



The rare earths outlook

Australia's critical minerals industry is under pressure from all angles, with nickel and lithium just two commodities feeling the pinch of a turbulent international marketplace. How is the rare earths sector faring?..

Read More

Australian Resources & Investment (Subscription Required) | 23 Jan 2024

December quarter 'an exciting period' for Lynas

Lynas Rare Earths described the December 2023 quarter as an "exciting period", with many areas of the business progressing well.

Construction of the Kalgoorlie rare earths processing facility in WA was largely completed during the quarter, alongside full plant commissioning...

Read More

Australian Mining | 22 Jan 2024

Hastings drums up deal on Estonian rare earths

Hastings Technology Metals is gearing up for the development of downstream rare earth processing in Estonia. The company has signed a nonbinding memorandum of understanding with the Estonian Government's investment agency Ettevõtluse ja Innovatsiooni Sihtasutus (EIS) to collaborate on a joint scoping study into Estonia's rare earths...

Read More

Australian Mining | 31 Jan 2024

Australia abounds with critical minerals investment prospects

Today we are releasing the Australian Critical Minerals Prospectus which showcases 52 high-quality, investment ready critical minerals projects...

Read More

Mirage News | 29 Jan 2024

Critical minerals list expansion sees Tivan flag fluorite mine in Western Australia's Kimberley

An Australian company has announced plans to open the only commercial fluorite mine in the country, following the recent addition of the little-known resource to the national critical minerals list...

Read More

ABC News | 30 Jan 2024

Critical mineral processing future revealed in Mackay

Today marks another leap into Queensland's resources future with the unveiling of concept designs for a state-of-the-art pilot processing plant in Mackay. Unveiling the concept at the Resources Centre of Excellence, Resources and Critical Minerals Minister Scott Stewart said FlexiLab would provide a dedicated facility for industry to test processing and recovery of minerals not normally produced...

Read More

Mirage News | 31 Jan 2024



Greenbushes biggest lithium mine to reduce production in response to market downturn

Production at the Greenbushes lithium mine in Western Australia's South West is set to drop in a further sign of instability in Australia's critical minerals market...

Read More

ABC News | 29 Jan 2024

What's behind the drastic downturn in nickel and lithium prices, and what does it mean?

It has been dubbed the "white gold" of the energy transition, but in the past year the price of lithium has dropped by more than 80 per cent. Meanwhile, nickel is down more than 40 per cent...

Read More

ABC News | 26 Jan 2024

Albemarle puts Kemerton lithium project on backburner in latest blow to critical minerals sector

The world's largest lithium producer will cut jobs and pause expansion at its refinery in Western Australia's south, in a bid to reduce costs and optimise cashflow. American lithium giant Albemarle has deferred plans to build a fourth lithium hydroxide processing train...

Read More

ABC News | 18 Jan 2024



Critical minerals and rare earths research projects receive \$22 million

The Australian Government is funding 3 innovative research projects through the Australian Critical Minerals Research and Development Hub...

Read More

Australian Government - Department of Industry, Science and Resources | 08 Jan 2024

Boost for critical minerals and rare earths research

Minister for Resources and Northern Australia Madeleine King said funding has been awarded to innovative research projects to members of the Critical Minerals Research and Development Hub – the Australian Nuclear Science and Technology Organisation (ANSTO), CSIRO and Geoscience Australia...

Read More

Ministers for the Department of Industry, Science and Resources | 08 Jan 2024

Governments back nickel, lithium industries

Federal Minister for Resources Madeleine King and Western Australian Minister for Mines David Michael met with nickel and lithium producers last week to discuss challenges facing the industry.

"Today I've held alongside with my colleague, the WA Minister for Mines David Michael, a roundtable with the nickel miners and producers here in Western Australia," King said...

Read More

Australian Mining | 29 Jan 2024

Minister King to visit Japan and Korea to secure critical minerals trade

Minister for resources and northern Australia Madeleine King will visit Japan and the Republic of Korea (ROK) this week to promote investment in Australian resources projects and reinforce Australia's role as an export partner.

Minister King will use the trip to meet Japan's newlyappointed minister of economy, trade and industry, Ken Saito, and to meet ROK's newly-appointed minister of trade, industry and energy, Duk-geun Ahn.

Minister King will also meet executives from major industries and utilities in Japan and ROK, including major buyers of Australian resources and large investors in Australia's resources and energy sector...

Read More

INTERNATIONAL DEVELOPMENTS

Canada gives mineral-rich Arctic region of Nunavut control over its resources

Canada on Thursday formally gave the giant Arctic territory of Nunavut control over its reserves of gold, diamonds, iron, cobalt and rare earth metals, a move that could boost exploration and development...

Read More

Mining.com | 18 Jan 2024

Biden's hostility towards mining has global consequences

In October, reports surfaced that the Biden administration had entered into negotiations with Indonesia on a critical minerals free trade agreement. The news prompted immediate backlash from members of Congress. Such a deal would have allowed Indonesian nickel and cobalt producers to qualify for significant electric vehicle subsidies under the 2022 Inflation Reduction Act (IRA), sending millions of U.S. taxpayer dollars to foreign producers...

Read More

The National Interest | 21 Jan 2024

US senators introduce legislation in US Congress to boost the country's acquisition of critical minerals

A bipartisan group of US senators introduced legislation in Congress on Thursday, January 20, aimed at enhancing the country's acquisition of critical minerals and monitoring other countries deemed "of concern." The legislation, known as the Critical Minerals Security Act of 2024, is designed to address "information gaps" and establish a divestment process for American companies, as reported by the South China Morning Post (SCMP)...

Read More

East Coast Daily | 20 Jan 2024

What does Norway's approval of deep-sea mining mean for the rest of the world?

Norway's recent decision to allow deep-sea mining for critical minerals is seen as a key step toward meeting the demands of a global green transition. Critics raise concerns about the environmental impacts of deep-sea mining, with potential unknown effects on marine ecosystems...

Read More

Oil Price.com | 18 Jan 2024

EV Metals Group signs frame agreement with Metso as key technical partner for Lithium Chemicals Plant in Saudi Arabia

EV Metals Group plc. (EVM), a global battery chemicals and technology company, has signed a technical partnership frame agreement with Metso for a Lithium Chemicals Plant (LCP) to be built in Yanbu Industrial City in Saudi Arabia...

Read More

Brazilian Critical Minerals wraps up ESG REE bioleaching report

Brazilian Critical Minerals (ASX:BCM), spearheading a technical report into ESG-friendly 'bioleaching' to yield rare earths, confirmed the potential of the technology this morning.

Conducted at a Texas-based facility called EcoBiome, the report has been "reviewed and signed off by independent consultants GE21 Consultaria Mineral"...

Read More

The Market Herald | 30 Jan 2024

US takes unconventional critical minerals push nationwide

The US Department of Energy (DOE) plans to expand funding for projects that explore secondary and unconventional feedstocks of critical minerals, such as coal, coal by-products and effluent waters from...

Read More

Mining Magazine (Subscription Required) | 29 Jan 2024

Pentagon plans AI-based program to estimate prices for critical minerals

The U.S. Department of Defense plans to develop a program to estimate prices and predict supplies of nickel, cobalt and other critical minerals, a move aimed at boosting market transparency but one that throws a new, uncertain variable into global metals markets. The program, which received little attention after it was announced on a Pentagon website in October, is part of Washington's broader efforts to jumpstart U.S. production of critical minerals used in weapons manufacturing and the energy transition...

Read More

Reuters | 29 Jan 2024

Photo source: REUTERS | David Becker



Aluminium added to Quebec's list of critical and strategic minerals

The Aluminium Association of Canada (AAC) welcomes the addition of aluminium to Quebec's list of critical and strategic minerals.

The government's decision comes at a strategic moment in our industrial development, when Quebec, which produces 75% of North America's primary aluminium, will play a major role in the decarbonisation of the North American economy through its contribution to electrification...

Read More

Aluminium International Today 29 Jan 2024

Central Asia could help the West break its dependence on China's critical minerals

After the COP28 climate summit, the world cautiously celebrated the "beginning of the end" of the fossil fuel era. But many are starting to worry about the emerging contest over the critical minerals essential for this green future. Surging demand for chromium, copper, germanium, lithium and uranium — core components for batteries, wind farms, nuclear plants and electric vehicles — will force the U.S. and its allies to reckon with China, a near monopolist on their production, refinement and distribution...

Read More

The Hill | 29 Jan 2024

China, in comic strip, warns of 'overseas' threats to its rare earths

China's chief intelligence agency posted on social media a comic strip featuring foreign-looking characters secretly extracting rare earths, in a story portraying the country's strategic metals under threat from covetous "overseas organisations"...

Read More

Mining.com | 22 Jan 2024



Photo source: Asia Financial

Nickel price crash seen extending Indonesia's grip on supply

A prolonged slump in nickel prices is stress-testing producers worldwide, raising the prospect of sweeping mine closures that will deepen Indonesia's dominance of global supply...

Read More

Mining.com | 22 Jan 2024

Indonesian VP hopeful slams Jokowi's nickel investment policy

One of three front-runners to become Indonesia's vice president attacked Joko Widodo's policy of forcing foreign companies to invest in mineral processing through export bans, stepping up criticism of the outgoing head of state's economic record....

Read More

Mining.com | 21 Jan 2024

Coal India plans to enter into mining of critical minerals, including lithium

New Delhi: Maharatna coal PSU Coal India Ltd (CIL) is mulling entering into the mining of critical minerals, including lithium, an official said. CIL plans to get a block from the government for exploration and once lithium reserves are proved, the PSU would go for mining, the official said..

Read More

PSU Watch | 19 Jan 2024

Major miners pledge no exploration-related activities at world heritage sites

The International Council on Mining and Metals (ICMM) said on Wednesday that its members would stay away from explorationrelated activities at world heritage sites and focus on ensuring no net loss of biodiversity at any mining sites...

Read More

Mining.com | 18 Jan 2024

Korea battery makers eye Chile lithium investments to supply US

Lithium heavyweight Chile is drawing interest from South Korean battery makers keen to develop processing plants there, the head of a government agency said...

Read More

Mining.com | 18 Jan 2024



Will the crash in critical minerals derail the clean energy transition?

Whatever happened to the revolution?

Just as stock markets are surging to new records and property is shrugging aside the impact of more than a dozen rate hikes on the hop, those betting on a bold, new carbon free future are nursing huge losses.

Two years ago, the race began in earnest to nail down global supplies of critical minerals as the world embraced emissions reduction targets that eventually would see the phase out of fossil fuels and a shift towards the electrification of the global economy...

Read More

ABC News | 23 Jan 2024

Global inventory of world's mines needed – researchers

A lack of a comprehensive inventory of the world's mines and the absence of robust data on various aspects of mining operations is hampering sustainability efforts, a recent commentary in the journal Nature states...

Read More

Mining.com | 22 Jan 2024

Davos 2024: 'The perfect storm' for critical minerals

Over the last two years, mining has crept up the agenda at the World Economic Forum, as its role in the energy transition becomes apparent. Participants at this year's event warned of 'a perfect storm'...

Read More

Mining Magazine | 18 Jan 2024

Nickel, cobalt may help produce hydrogen from urea

Researchers at the Worcester Polytechnic Institute in the US have developed a material to remove urea from water and potentially convert it into hydrogen gas.

By building this material of nickel and cobalt atoms with carefully tailored electronic structures, the group has unlocked the potential to enable these transition metal oxides and hydroxides to selectively oxidize urea in an electrochemical reaction...

Read More

Mining.com | 22 Jan 2024



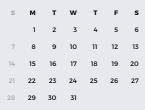
Calendar of events 2024

Do you know of an upcoming event that's not listed? Email: admin@cmaaustralia.org

JANUARY 2024

MAY 2024

13 14 15



S M T W T F S

26 27 28 29 30 31

21 22 23 24 25

9 10 11

17 18

FEBRUARY 2024							
S	м	т	w	т	F	s	
				1	2	3	
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	19	20	21	22	23	24	
25	26	27	28	29			

т F s

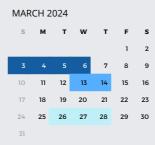
JUNE 2024 S M T W

3 4

10 11 12

17 18

24 25 26



APPRIL 2024 S M T W T F S 7 8 9 10 15 16 17 18 19 20 21 22 23 24 25 26 27 **29 30**

JULY 2024

28 29

,	JO 21 202 1						
S	м	т	w	т	F	s	
	1	2	3	4	5	6	
7	8	9	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24	25	26	27	
28	29	30	31				

AUG	AUGUST 2024							
S	м	т	w	т	F	s		
				1	2	3		
4	5	6	7	8	9	10		
11	12	13	14	15	16	17		
18	19	20	21	22	23	24		
25	26	27	28	29	30	31		

SEI

SEPTEMBER 2024								
s	м	т	w	т	F	s		
1	2	3	4	5	6	7		
8	9	10	11	12	13	14		
15	16	17	18	19	20	21		
22	23	24	25	26	27	28		
29	30							

OCTOBER 2024							
S	м	т	w	т	F	s	
		1	2	3	4	5	
6	7	8	9	10	11	12	
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	

28 29 30 31

NOVEMBER 2024								
S	м	т	w	т	F	s		
					1	2		
3	4	5	6	7	8	9		
10	11	12	13	14	15	16		
17	18	19	20	21	22	23		
24	25	26	27	28	29	30		

DECEMBER 2024							
S	м	т	w	т	F	s	
1	2			5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31					

	DATE(S)	EVENT	HOSTS/PARTNERS	LOCATION
FEB	5 FEB - 8 FEB	Mining Indaba	Investing in African Mining Indaba	Cape Town, SA
	6 FEB - 7 FEB	Mine Waste Symposium	UQ. SMI	Brisbane, AU
	3 MAR - 6 MAR	<u>PDAC</u>	Prospectors & Developers Association of Canada	Toronto, CA
MAR	13 MAR - 14 MAR	Battery & Supply Chains 2024	IQ Hub	Perth, AU
	26 MAR - 28 MAR	Future Facing Commodities Conference 2024	Resource Connect	SG
APR	16 APR - 17 APR	2024 Paydirt Battery Minerals Conference	Paydirt	Perth, AU
MAY	28 MAY - 30 MAY	Critical Minerals Conference	Quest	Brisbane, AU
JUN	17 JUN - 18 JUN	Future of Mining, Perth	Future of Mining	Perth, AU
	5 AUG - 7 AUG	Diggers and Dealers	Diggers and Dealers Mining Forum	Kalgoorlie, AU
AUG	26 AUG - 28 AUG	Aust CM Conference 2024	AusiMM	Brisbane, AU
ОСТ	29 OCT - 31 OCT	IMARC	International Mining and Resources Conference	Sydney, AU
DEC	3 DEC - 5 DEC	Resourcing Tomorrow 2024	Mines and Money	London, UK

This Newsletter has been compiled by QUT researchers:



Sara Couperthwaite | Professor Elaiza Luker | Research Associate Nicholas Spadotto | Research Associate







Contact: admin@criticalmineral.org

Critical Minerals Association Australia Limited ACN 660 785 124