To: **MINISTER HOUSSOS**

DRNSW MINING, EXPLORATION AND GEOSCIENCE

Re: **RENEWED NSW CRITICAL MINERALS STRATEGY**

17 November 2023

Introduction

The Association of Mining and Exploration Companies (AMEC) welcomes the opportunity to provide a submission to Minister Houssos and the Department of Regional NSW, Mining Exploration and Geoscience (MEG) for consultation on the new *NSW Critical Minerals and High-Tech Metals Strategy* (Strategy).

About AMEC

AMEC is a leading national minerals industry association representing over 550 member companies across Australia. Our members are explorers, emerging miners, producers, and a wide range of businesses and services working in and for the minerals industry. AMEC has a growing number of companies working and investing in NSW, currently including over 40 full (explorer or producer) member companies and 35 associate (service provider) member companies.

NSW is at the forefront of the new frontier of the discovery and development of critical minerals

The world needs critical minerals. Critical minerals are 'critical' because there are no other viable substitutes and geological scarcity, geopolitical issues, or market dynamics could cause potential disruptions in supply. The production of critical minerals has the potential to create thousands of new job opportunities, support regional development, and increase exports.

Australia is well placed to support the demand for these minerals that support future focussed industries and the energy transition to Net Zero. Australia has rich critical minerals resources and significant exploration potential for new discoveries as well as a long history as a successful resources nation.

> *"Australia has a skilled workforce, world leading environmental, social and governance (ESG) practices and a transparent regulatory environment. These advantages put Australia in prime position to lead the exploration, extraction, production and processing of critical minerals."*[1]

NSW hosts a range of strategically important critical minerals that are vital for a range of future industries including advanced manufacturing, renewable energy, defence, aerospace, battery storage, automation, and electric vehicles. This includes the majority of the defined 'critical minerals' including known deposits of lithium, cobalt, rare earths, nickel, silver, zinc, silver and copper, along with the significant potential for discovery of new deposits.

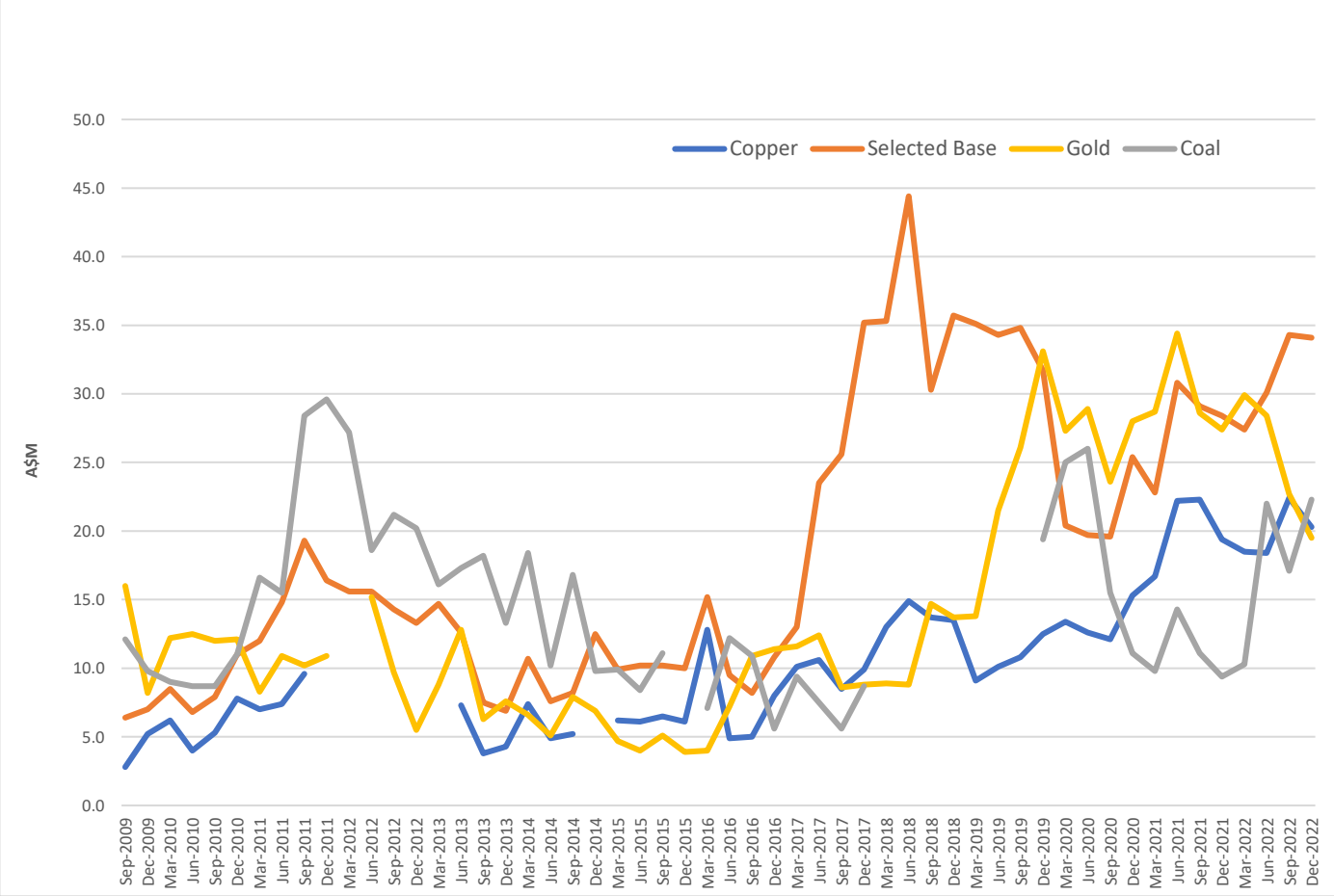
[1] https://www.globalaustralia.gov.au/industries/net-zero/critical-minerals/prospectus-2022

The NSW Government has prioritised the support for responsibly sourced critical minerals:

> *"Global security of critical minerals supply is vital – and NSW is well placed to help meet this demand. NSW has a diverse range of untapped critical minerals, including some very rare deposits, and a thriving metalliferous mining industry. Combined with highly skilled workers and world-leading safety and environmental standards, NSW is well positioned to be a major exporter of responsibly sourced value-added critical and 'high technology' minerals[2]."*

In line with this prioritisation, NSW has attracted an increased exploration expenditure in these critical minerals and high-tech metals as shown in **Figure 1** below.

Figure 1 – New South Wales quarterly exploration expenditure by minerals (in A$M)



Source: ABS, Mineral and Petroleum Exploration, Australia[3] *Zinc is included as a Selected Base Metal in ABS reporting.

Supporting the minerals industry from exploration through to development and downstream processing of these deposits will be vital to position NSW as a global supplier of critical minerals. Supporting and nurturing the growing critical minerals sector is especially important in NSW in view of the strong reliance of the State currently on coal as an important export and foundation of many regional communities.

[2] https://www.nsw.gov.au/regional-nsw/critical-minerals-and-high-tech-metals-strategy
[3] https://www.abs.gov.au/statistics/industry/mining/mineral-and-petroleum-exploration-australia

The race is on to attract investment into critical minerals for all jurisdictions

> *"Australia has the chance to generate more than $170billion in gross domestic product and create more than 330,000 jobs by 2040 if we capitalise on our first-class endowment of critical minerals and other energy transition minerals. But we'll only get this benefit if we make some critical choices around critical minerals – and fast.[4]"*

With the international imperative towards energy transition and current geo-political tensions, the race is on nationally and internationally to find and deliver critical minerals. **Appendix 1 and 2** provide detail on critical minerals strategies and funding in each jurisdiction both nationally and internationally.

Governments are acting quickly to deliver critical minerals strategies, funding and incentives to secure these essential elements for their jurisdiction. In Australia, all key mining jurisdictions have now published critical minerals strategies, with Victoria, South Australia and Tasmania yet to finalise a strategy. It was no surprise that the Australian states and territories that have published strategies and provided local incentive programs have then attracted significant national (and international) funding including a share of the recent $50m Commonwealth Government grants[5].

In recent months, unprecedented new funding has been committed to critical minerals. This includes announcements of $2billion by the Australian Government[6], $US3billion[7] by the US Government as well as the *Climate, Critical Minerals and Clean Energy Transformation Compact*[8] between Australia and the United States to enhance bilateral cooperation.

The national and international funding for critical minerals is a once in a generational opportunity for NSW to position our state to find and deliver minerals for this new frontier of mining. NSW must act quickly and boldly to attract investment into our State.

Recommendations

AMEC provides the following recommendations for the new Strategy to promote investment and production of critical minerals in NSW.

1. Ensure the new NSW Critical Minerals Strategy includes an action plan and resourcing

The current *Critical Minerals and High-Tech Metals Strategy* sets out objectives for the Government to support NSW in becoming a world leader in critical minerals supply and downstream processing, however it lacks specific actions or fixed resourcing commitments to realise the strategies.

AMEC recommends that the new Strategy includes not just strategic objectives but a clear roadmap to support critical minerals exploration and development in NSW with aligned resources to achieve actions.

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[4] https://www.pwc.com.au/mining/aussie-mine-industry-report.html
[5] https://www.minister.industry.gov.au/ministers/king/media-releases/grants-invigorate-australian-critical-minerals-projects
[6] https://www.minister.industry.gov.au/ministers/king/media-releases/2-billion-critical-minerals-boost-crucial-energy-transition
[7] https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/22/fact-sheet-securing-a-made-in-america-supply-chain-for-critical-minerals/
[8] https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/20/australia-united-states-climate-critical-minerals-and-clean-energy-transformation-compact/

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Recommendation:

- **Deliver an action plan with aligned resourcing for the revised NSW Strategy including specific deliverables and clear timeframes.**

2. Ensure NSW projects have national and international government attention and alignment

The current minerals industry in Australia is focussed on the western jurisdictions of Australia – in the calendar year of 2022, 63% of mineral exploration investment was in WA, 17% in Queensland, 5% in NT, 5% in Victoria 4% in SA, 1% in Tasmania and 8.7% in NSW[9]. Recent regulatory changes in other states and the new focus on critical minerals means that this is a once in generational opportunity for all jurisdictions to pivot to support this new era of mining and secure national and international funding.

The NSW Government has and continues to make improvements to systems and processes as well as deliver great pre-competitive geoscience and demands strong ESG credentials, but investment in NSW can be deterred by old perceptions of inefficiency. The NSW Government must strongly promote our State and investment in critical and high-tech minerals to ensure that investment dollars are not being lost to other national and international jurisdictions.

To leverage greater Commonwealth Government support and funding, the State Government will need to demonstrate that it has a strong commitment to developing critical minerals in NSW. AMEC recommends that NSW needs to ensure that our State has federal and international attention, focus and funding to realise the potential of the sector.

Recommendation:

- **Ensure NSW projects have national and international attention, focus and funding through advocacy to realise the potential of the new frontier of critical minerals.**

3. Extend the defined list of 'critical minerals' to include uranium

Most jurisdictions have identified lists of 'critical minerals', with some variation in each jurisdiction. The list should be robust and recognise that alignment with the Commonwealth Government and our strategic international trade partners, including the United States, Canada, and European Union, to enable faster and more straightforward access to bipartisan arrangements including the US Inflation Reduction Act[10] funding.

NSW already has one of the broadest defined critical minerals lists, with the list from the Commonwealth Government currently under review to '*ensure it responds to global strategic, technological, economic and policy changes'*.[11] The NSW list already includes copper, nickel, zinc, tin and phosphate that AMEC is advocating for inclusion on the Commonwealth list.

Uranium and nuclear energy sources have been recognised as an important ingredient in the imperative to reach net zero emissions by 2050. Uranium appears on Canada's list of 31 critical minerals, outlined in their *2022 Critical Minerals Strategy*[12]. Uranium was removed from the US' list of critical minerals in the 2022 update,

[9] https://www.abs.gov.au/statistics/industry/mining/mineral-and-petroleum-exploration-australia/latest-release
[10] https://www.whitehouse.gov/cleanenergy/inflation-reduction-act-guidebook/
[11] https://www.industry.gov.au/publications/australias-critical-minerals-list
[12] https://www.canada.ca/en/campaign/critical-minerals-in-canada.html

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with reclassification as a fuel mineral[13]. However, members of the Senate Committee on Energy and Natural Resources opposed this move, noting a decline in domestic production, with the US now almost entirely dependent on foreign sources of uranium[14]. Uranium is used to power a significant number of nuclear reactors in the USA, which generate one fifth of the nation's energy[15].

Analysis from the International Energy Agency (IEA) found that the amount of energy supplied by nuclear power will increase by 40% by 2030 and double by 2050[16]. It is an essential component of the global net-zero emissions energy transition, and nuclear reactors are found to be one of the most cost-effective sources of low-carbon electricity.

AMEC recommends that uranium is recognised for the role it can play, with the right policy settings, in providing cost-effective, emissions-reduced power for Australian communities.

Recommendation:

- **Maintain the current NSW 'critical minerals list' and add uranium.**

4. Provide financial support or relief for the emerging critical minerals sector

Competition is fierce for attraction and development of critical minerals projects nationally and internationally. Government-industry collaboration to fast-track and develop projects is needed to support energy transition and the world's thirst for critical minerals. AMEC recommends that the new Strategy must include financial support to realise these objectives.

Options for financial support for critical minerals in NSW include:

i. Co-funding with government-industry collaboration

Many critical minerals projects have long project development timelines and very high startup costs. As critical minerals are generally a new frontier for mining, intensive research is often required to find, extract, and process these important 'new' elements. This takes time and capital that is often beyond the capability of a single entity.

Collaborative development programs, where government provides co-funding grants to stimulate critical mineral development are offered in many jurisdictions and can mean the difference for a company between developing resources on a project in one jurisdiction and not another.

To realise the current NSW Strategy, the *Critical Minerals and High-Tech Metals Activation Fund* was established with $130M to drive investment across the supply chain of critical minerals. The funding was over two programs - Stream 1 with grants of $300,000 to $500,000 to activate or scale up projects and Stream 2 with grants of $2M to $10M for enabling project infrastructure to develop investment ready projects and support downstream processing. Both Streams required dollar for dollar government-industry funding matching as a minimum. The first round of both Streams of this program was delivered in late 2022 with $8.6M investment for Stream 1 projects and $26.6M investment for Stream 2 projects. This program led to significant advances and additional investment in NSW as noted in the following case studies.

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[13] Final List of Critical Minerals 2022 – Policies - IEA
[14] Energy Committee Leaders to Secretary Haaland: Helium & Uranium are Critical Min... (senate.gov)
[15] How 'Critical' is Uranium to Decarbonization? (theassay.com)
[16] Net Zero by 2050 – Analysis - IEA

Case Study – Critical Minerals Fund extends sovereign capability for Australia

Australian Strategic Materials (ASM) is a construction ready project with all major permits near Dubbo in NSW. This project has a nationally important polymetallic resource with light and heavy rare earths, zirconium, niobium and hafnium with reserves to support an initial project life of at least 20 years. The project received $500,000 from Stream 1 of the Critical Minerals and High-Tech Metals Activation Fund. ASM was awarded the grant to undertake studies in collaboration with ANSTO to finalise the process flowsheet for the heavy rare earths solvent extraction circuit. This study work has now been concluded, demonstrating that the Dubbo project's flowsheet is capable of producing terbium (Tb) and dysprosium (Dy) oxide product streams that meet or exceed target specifications. Tb and Dy are incredibly scarce commodities that are critical in magnet production and are scientifically difficult to separate at high purity. These remarkable results demonstrate the diverse portfolio of high purity products that can be produced from this NSW site.

Case Study – Critical Minerals Fund fast-tracks important project in NSW

Kingston Resources Limited is a gold-copper mining company that has been headquartered in Sydney, NSW since 2016. Prior to the recent acquisition of the Mineral Hill Mine and processing plant at Condobolin, the company was focussed on WA and PNG only. The company received $500,000 from Stream 1 of the Critical Minerals and High-Tech Metals Activation Funds to help develop high tech metals at the site. Following the receipt of the grant, Kingston will be matching the investment to complete feasibility work of geotechnical drilling, metallurgical data compilation and associated test work and analysis. Life of mine plans are now being finalised for recommencing open pit and underground mining that will employ over 100 people at the site to produce gold and silver, plus separate concentrates of copper, lead and zinc through at least to the end of 2028.

Case Study – Critical minerals funding ensures private investment for much needed community roads

Australian Strategic Materials (ASM)'s Dubbo Project was awarded $10 million grant funding from Stream 2 of the NSW Government's Critical Minerals and High-Tech Metals Activation Fund. The funding is to support early establishment activities for the Dubbo Project involving the upgrade of local roads and bridges to ensure high-standard road access for the project's development and operation. The total cost of the road and bridge upgrades is estimated to be $20.4 million, of which ASM will co-contribute $10.4 million to the cost of the works. Effectively this means that the company will be paying more than half the cost of important local infrastructure that will support this NSW regional community and businesses. The grant funding has enabled ASM to commence this work and demonstrates an ongoing co-commitment between Government and ASM to contribute and improve the local community.

AMEC believes that collaborative funding must be a key component of the new Strategy to compete with other jurisdictions both nationally and internationally.

ii. Reduction and/or deferment of fees and royalties

At a time when the NSW Budget is tight following COVID, the recent floods, fires and drought and cost-of-living crisis, there are alternative opportunities for the Government to provide financial support for critical minerals projects.

A reduction or deferment of fees including the annual rent and administrative levy would promote exploration and development of these minerals. This would also align with the recent incentives offered in Queensland[17] following the increase in royalties for coal.

Further, a reduction or deferment for royalty payments for critical mineral projects would ease the significant burden for these projects that generally have high capital expenditures and long lead times to production.

iii. Support exploration phase projects

Collaborative exploration programs, where Government provides funding grants to stimulate mineral exploration in under-explored greenfield areas and promote investment in focus areas, are offered in most mining jurisdictions (see interjurisdictional comparison at **Appendix 3**) and are a key incentive for investment, particularly for historically underdeveloped minerals.

The *New Frontiers Exploration Program* (previously known as the Co-operative Drilling Program) aims to encourage mineral exploration and discovery particularly in greenfield areas of NSW, test new geological ideas and models as well as creating a stronger relationship between government and industry. Round five of funding included $1.5 million allocated towards drilling or exploration geophysics costs. The previous four rounds of the Co-operative Drilling program in NSW, each with at least $2 million funding, have been highly successful and oversubscribed. Supporting the *New Frontiers Exploration Program* is imperative to incentivise greenfield exploration through dedicated funding support for early-stage explorers of critical minerals that attracts other investment.

An economic review of the similar Western Australia program led to a finding that for every $1 million of government funds invested, there was a direct additional stimulation of $10.3 million and 12.5 FTE positions in mineral exploration, extending to $38.3 million if the project is brought to mine.[18]. In NSW, the programs have also attracted significant additional funding as demonstrated in the following case study.

Case Study – New Frontiers Exploration Program attracts international leading company to NSW

Legacy Minerals is a recently listed ASX company that is wholly focussed on NSW. In Round 5 of the New Frontiers Exploration Program, the company received a $50,000 grant for geophysical surveys of the Breccia Sinter Prospect and $100,000 towards the Bauloora Epithermal Project. Following the receipt of the grants, Legacy secured the global mining company, Newmont Corporation, as a joint venture party on the project. Newmont will invest up to $15M at the project and participate in the co-funding with the Government. The drilling and geophysics are planned to be conducted by the end of the 2023 calendar year.

AMEC believes that this program should be offered annually, just as in other key mining jurisdictions to ensure there is this regular commitment to this proven program to bring significant investment into the State and help

[17] https://www.resources.qld.gov.au/mining-exploration/initiatives/critical-minerals-queensland
[18] http://www.dmp.wa.gov.au/Petroleum/Exploration-Incentive-Scheme-2251.aspx

discover the next critical minerals deposit. Further, AMEC believes that program should be extended to cover 50% of all drilling costs (not just direct drilling costs) and consider inclusion of additional forms of exploration such as geochemical surveys. These measures would broaden the appeal and potential results of the program and to ensure that NSW is competitive with other jurisdictions.

Recommendations:

- **Stimulate critical minerals projects in NSW with collaborative government-industry co-funding programs.**
- **Reduce rent and/or the administrative levy for critical minerals projects.**
- **Reduce and/or defer royalties for critical minerals to ease the initial costs for these startups.**
- **Provide annual funding for the New Frontiers Exploration Program with a minimum $2 million per annum investment to attract explorers to NSW and continue to extend the program to cover 50% of drilling, geophysics and geochemical costs to broaden the appeal of the program and potential outcomes.**

5. Fast-track critical minerals projects with a streamlined regulatory framework

The timeframe and complexity of the process of mining project approvals in NSW is a significant deterrent to investment in the State. Understandably in our highly populated state of NSW, minerals industry projects are sensitive matters, but our members regularly report frustration with intra-government processes, complexity, length of timeframes and lack of consistency, clarity or support. NSW deserves a well-funded, well-resourced, and efficient regulatory system that is easy to navigate and is not a deterrent to investment.

If NSW Government wants to deliver on the objective of supporting critical minerals industry investment, appropriate projects should be designated 'critical state infrastructure status' or similar to streamline and fast-track develop approval.

Access to land for exploration and mining in NSW can make or break a project. The current regulatory process can be costly in both time and resources and beyond the capability of many exploration companies, meaning that many projects or prospects are abandoned. As projects progress, biodiversity offsets, water licencing and intra governmental conflicting requirements regularly add further costs and delays. AMEC believes that this issue must be addressed for critical minerals projects that are so important for our State.

Further, issues with delay on tenure and activity processing have led to frustration and concern for industry. The NSW Government has made significant improvements in decreasing tenure processing backlogs (aged dealings) and instilling processes to prevent the creation of future backlogs as well as improving customer service focus, consistency and communications with industry. This should continue to be a priority for NSW Government. For critical minerals projects, AMEC recommends that NSW could develop a streamlined tenure and activity process for critical minerals development projects, to align with the 'regulatory sandbox' that has been announced in Queensland[19].

[19] https://statements.qld.gov.au/statements/98059

Recommendations:

- **Prioritise appropriate critical minerals projects with 'critical state infrastructure' status or similar.**
- **Streamline and fast-track critical minerals tenure and project assessments processes to support investment in NSW.**
- **Review the requirements for land access for exploration in NSW to maximise the State's resources.**

6. Extend the world class geoscience programs in NSW to support investment

Geoscience has never been more important in NSW. Geoscience projects have already been used to not only support the minerals industry to find the next mine but also to find water in what was, up until very recently, a drought-stricken State.

The geoscience undertaken and published by the NSW Geological Survey is world-class and rates very highly in international surveys of available data[20]. Further geoscience programs focussed on critical minerals should be prioritised to promote our States' wealth of critical minerals. NSW could host a competition similar to the *Thinking Critical*[21] program held in South Australia to attract attention and new ideas to the State.

Recommendations:

- **Extend pre-competitive geoscience to support the minerals industry and further scientific understanding of the State.**

7. Review security structure for critical minerals projects to maximise the use of industry funds

Access to capital is one of the most important issues for the mining sector. Any capital raised that is not directly related to exploration or operation is seen as a disincentive to investors. This includes capital tied to environmental and performance bonds.

The minerals industry is committed to high environmental standards and the importance of the bond to social licence; however, a system must be established that encourages investment and does not disadvantage the smaller, entrepreneurial companies (essentially the explorers) by tying up significant funds. This is especially important for critical minerals projects. Capital that is tied to a bond, or bank guarantees that must be serviced by explorers and miners, reviewed and adjusted for every exploration activity has significant administrative costs for both industry and government. This system has inefficiencies and must be reviewed.

AMEC strongly supports a full review of the current system and potential introduction of a pooled fund model, similar to Western Australia's Mining Rehabilitation Fund, that removes the need for expensive bonds without reducing any environmental standards or obligations. Queensland has also initiated a similar pooled fund model for some tenure. The Mining Rehabilitation Fund in Western Australia has freed up over $1.2 billion of much needed working capital and removed the need for administratively and financially expensive rehabilitation bonds without reducing any environmental standards or the State's or industries' obligations.

[20] https://www.fraserinstitute.org/categories/mining
[21] https://thinkingcriticalsa.com/

Recommendation:

- **Review the security deposit structure for critical minerals projects to maximise the use of industry funds.**

8. Support industry to rehabilitate and reinvigorate legacy mines

NSW has a long history of mining, and some historical or abandoned mine sites still exist across the State. The NSW Government has recently reinvigorated the Legacy Mines Program with an announcement in the recent State Budget[22] of a $48.5M investment over four years which aims to deliver and manage works to reduce the risks from legacy mine sites through progressive rehabilitation.

In some cases, the legacy mines still have mineral deposits in the ground and/or tailings that may not have been accessible or even discovered at the time the mine was operating. With the thriving exploration sector and commodity prices, there is new interest from industry in legacy mines, as well as mine sites in long term care and maintenance (suspended mining operations). Many operators aim to re-process tailings dams to retrieve minerals and/or develop these sites into newly operational mines as well as complete outstanding rehabilitation on the site.

AMEC recommends that the rehabilitation and reinvigoration of legacy mines by industry should be encouraged and rewarded through government initiatives such as co-funding rehabilitation works, and loan facilities for projects that meet these criteria. Incentivising industry to take ownership over legacy mine sites will help increase investment in NSW, increase community confidence in the mining industry, and help tackle legacy mine sites while minimising the burden on government.

Recommendations:

- **Consider options for NSW Government to co-fund rehabilitation being carried out by industry on legacy mine sites or those in long-term care and maintenance.**
- **Incentivise industry to take ownership over legacy mine sites to increase investment in NSW.**

9. Support NSW infrastructure and workforce to secure the future industry

The development of critical minerals projects needs people and infrastructure to make it happen. Many critical minerals projects are away from established industry focus areas and will need upgraded infrastructure to support development, as well as a new base of skilled workers.

Although NSW has first-class infrastructure in many regions, new critical minerals projects often need enhanced infrastructure that can be prohibitively expensive for a single project. NSW Government has an important role to support communities and projects with local road, rail, water and electricity infrastructure that meets the needs of future developments.

The rise of critical minerals will require workers with new skills in new regions. Currently, exploration and mining are often not seen as preferred industries by many school leavers, especially in NSW. This is reflected in the very low university enrolment numbers in the various mining-related disciplines and traineeship programs. This is then leading to severe skill shortages and a lack of locally trained minerals professionals which in turn stifles

[22] https://www.budget.nsw.gov.au/

development. The rise of critical minerals and the community understanding of the need for transition is a once in a generational opportunity to turn this around.

A government-industry collaborative approach is needed to address this issue by promoting the minerals industry, particularly to primary and secondary level students. Government, some companies, and sectors are doing work towards this objective, but a unified approach is needed to spearhead a campaign to ensure that NSW does not lose a generation of skilled experts to realise the future minerals industry. AMEC recommends promoting STEM programs for students and high school-leavers to enhance their understandings of the industry's future opportunities and career pathways.

Gender diversity, equity and inclusion are also key issues for the minerals industry. Women NSW note that mining is one of the most male dominated professions in NSW, just behind construction, with a female workforce of only 15%[23]. AMEC supports the NSW Women in Mining Network (WIMnet) Mentoring Program and believes that the NSW Government should provide support for this or other initiatives that further inclusion, equity and diversity in mining.

Recommendations:

- **Support communities and projects with local road, rail, water and electricity infrastructure that meets the needs of future developments**
- **Support a collaborative approach to secure skilled workers for the future minerals industry.**
- **Support initiatives to further gender diversity and inclusion in the minerals industry.**
- **Support and promote STEM education and traineeship programs targeted at enhancing students' understanding and passion for the minerals and resources sector.**

AMEC looks forward to the next steps in the important process to renew the *NSW Critical Minerals and High-Tech Metals Strategy*. If you have any queries regarding this submission, please do not hesitate to contact:

Lucy McClean
Director – New South Wales, Victoria & Tasmania

[23] https://www.nsw.gov.au/women-nsw/toolkits-and-resources/nsw-gender-equality-dashboard#participation

APPENDIX 1 – Comparison of critical minerals programs – Australian States/Territories

State	Government Strategy and funding
NSW	**NSW Critical Minerals and High-Tech Metals Strategy[24] - 2021**, with consultation on a refresh announced Sep 2023 ▪ Establish Australia's first Critical Minerals Hub in the Central West ▪ Promote exploration for critical minerals resources ▪ Activate the industry through proactive development of supply chains ▪ Attract investment for critical minerals resources, downstream processing and recycling Funding – Currently none, Previously - $130M in *Critical Minerals Activation Fund* (one round with $35.3M delivered only) Critical minerals included in New Frontiers Exploration Program in 2022 (no additional rounds announced).
QLD	**Queensland Critical Minerals Strategy[25] - June 2023** Objective to oversee a $245 million investment[26] into growing Queensland's critical mineral sector: ▪ Reduce rent for new and existing exploration permits for minerals to $0 for the next five years, worth $55 million. ▪ Establishing critical mineral zones, initially at Julia Creek/Richmond and around Mount Isa, with $75 million to support investment and renewed focus in advancing critical minerals projects. ▪ Establish Critical Minerals Queensland, a one-stop office to oversee the development of the sector and help drive and attract international investment. ▪ Invest $5 million to target mining waste and tailings for critical minerals, and $8 million towards scientific research including circular economy initiatives ▪ Provide $1 million to foster research and ESG excellence ▪ Deliver the $100 million Critical Minerals and Battery Technology Fund to support new investments in projects
WA	**Future Battery Minerals Strategy (2020-22)**, with consultation on a refresh announced Nov 2023 ▪ Growing our participation in global supply chains ▪ Promoting our investment opportunities ▪ Certifying our battery minerals ▪ Supporting energy storage applications ▪ Developing our local capability. The Sustainable Geoscience Investments package of $40 million investment in Apr 2023[27] aims to build on its successes to date and to accelerate resource discoveries in WA, with initiatives including: ▪ $16.1 million boost to the Exploration Incentive Scheme to increase greenfield exploration including new Geophysical Co-funding Program (GCP). ▪ $6.7 million for an Industry Ready Program (IRP) to create data analytics packages for key regions and commodities. ▪ $6.2 million for magnetotelluric data acquisition to enable more targeted exploration. ▪ $4 million boost to the Minerals Research Institute of Western Australia to expand research and innovation ▪ $3.3 million to update and optimise core libraries in Carlisle and Kalgoorlie, including new bionic lifting equipment; and ▪ $3.7 million to redevelop and improve many of the Department of Mines, Industry Regulation and Safety's (DMIRS) online data services.
NT	**Critical Minerals in the Northern Territory[28] - updated June 2023** ▪ $9.5M per year to support exploration ▪ Critical minerals factsheets and deposit maps/details
SA	**Critical minerals Project[29] (no strategy) – Aug 2022** Project objective to look at the potential for critical mineral elements across the state 'Thinking Critical'[30] competition
VIC	Development of a Strategy announced in May 2022[31] but not yet delivered $7.5M funding announced for strategy and grants in May 2022 but not delivered
TAS	Development of a Strategy announced in Mar 2023[32] but not yet delivered Critical minerals included in Exploration Development Incentive Program in 2023

[24] https://meg.resourcesregulator.nsw.gov.au/invest-nsw/nsw-mineral-resources/critical-minerals-and-high-tech-metals
[25] https://www.resources.qld.gov.au/mining-exploration/initiatives/critical-minerals-strategy
[26] https://statements.qld.gov.au/statements/98059
[27] https://www.dmp.wa.gov.au/News/40-million-critical-minerals-31210.aspx
[28] https://resourcingtheterritory.nt.gov.au/minerals/mineral-commodities/critical-minerals
[29] https://www.energymining.sa.gov.au/industry/geological-survey/mesa-journal/news-items/critical-minerals-south-australia
[30] https://thinkingcriticalsa.com/
[31] https://earthresources.vic.gov.au/about-us/news/victorian-budget-update-2022
[32] https://www.mrt.tas.gov.au/home

APPENDIX 2 – Comparison of critical minerals across - Key international jurisdictions

	Government Strategy and funding
AUSTRALIA	**The Critical Minerals Strategy 2023–2030**[33] **- updated Jun 23** **Austrade Critical Minerals Prospectus 2022** **Climate, Critical Minerals and Clean Energy Transformation Compact**[34] (Australia and the US commit to enhance bilateral cooperation) – May 2023 $50M grants awarded under the Critical Minerals Development Program in May 2023 $2B expansion in critical minerals financing announced in Oct 2023 Tax credits for US made EV batteries with minimum 40% (to 80%) critical minerals from US/free trade
UNITIED STATES	**Inflation Reduction Act, Aug 2022** **Defense Production Act, Mar 2023** **Investing in America**[35] ▪ $407M on research, development and demonstration for critical minerals are allocated ▪ Advanced Processing of Critical Minerals and Materials for Industrial and Manufacturing received $30M worth of funding. ▪ $150M, including $16M towards engineering studies of a first-of-a-kind Rare Earth Elements and critical mineral extraction and separation facility $3B[36] funding to strengthen supply chains for critical minerals
CANADA	**The Canadian Critical Minerals Strategy, 2022** ▪ $79.2M for public geoscience and exploration to better identify and assess mineral deposits; ▪ 30% Critical Mineral Exploration Tax Credit for targeted critical minerals. ▪ $47.7M for targeted upstream critical mineral R&D through Canada's research labs; ▪ $144.4M for critical mineral research and development, and the deployment of technologies and materials to support critical mineral development for upstream and midstream segments of the value chain. **Critical Minerals Research, Development and Demonstration Program** (CMRDD) Provides funding for federal R&D projects focused on early-stage technology development, depending on the project's technology readiness. $14M were spent in wave 1 and $40M (up to $5 million per project) were spent in wave 2 funding.[37]
EUROPEAN UNION	**The Critical Raw Materials Act**[38] was passed by the EU in Sep 23 and commits to: ▪ Establish a critical raw materials club with partners to strengthen supply chains and diversify sourcing. It will reach out to all potential partners to set up this alliance ▪ Sustain and strengthen the World Trade Organization (WTO), including in negotiating the plurilateral agreement on 'Investment Facilitation for Development' Bilaterally the EU will use its expanding network of Sustainable Investment Facilitation ▪ Agreements and Free Trade Agreements to support the ambition of the EU's trading partners to develop processing capacities and create win-win partnerships, such as with Chile and Australia. ▪ Follow closely the impact of tariffs on the ability to import critical raw materials and examine requests for duty suspensions. ▪ Seek to expand the network of strategic raw materials partnerships with resource-rich countries, to the mutual benefits of Europe and our partners. ▪ Work in the (OECD) to improve arrangements and work with EU Member States to set up an EU Export Credit Facility for inter alia supporting CRM supply chains abroad. The EU Commission pledges to contribute €95.5B towards Horizon Europe[39] in the 2021 – 2027. The program aims to support innovation and research that aim to resolve climate challenges, help achieve UN's Sustainable development Goals and strengthen EU's competitiveness. EU Battery Passport[40] to enable the sustainable scaling of battery value chains.

[33] https://www.industry.gov.au/
[34] https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/20/australia-united-states-climate-critical-minerals-and-clean-energy-transformation-compact/
35https://www.energy.gov/articles/biden-harris-administration-announces-150-million-strengthen-domestic-critical-material
[36] https://www.energy.gov/articles/biden-administration-doe-invest-3-billion-strengthen-us-supply-chain-advanced-batteries
[37] https://www.canada.ca/en/campaign/critical-minerals-in-canada/federal-support-for-critical-mineral-projects-and-value-chains.html
[38] https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1661
[39] https://cinea.ec.europa.eu/programmes/horizon-europe_en
[40] https://thebatterypass.eu/

APPENDIX 3 – Comparison of collaborative exploration programs across Australia

State	Government Program	Criteria	Government Commitment	Duration	State% of National Exploration Budget (ABS)[41]
NEW SOUTH WALES	**New Frontiers Exploration Program (NFEP)**[42]	Support search for critical minerals and high-tech metals in NSW. Includes drilling & geophysics.	**$2M (approx.) per round** Grants provide co-funding of 50% of total drilling program costs and/or exploration geophysics costs	**5 rounds 2014 to 2022**	**8.7%**
QUEENSLAND	**Collaborative Exploration Initiative (CEI)**[43]	Providing funds direct to industry to support innovative exploration concepts and making geoscientific data from successful programs available to the public	**$55.1M** $22.6M plus $10M for geophysics & $5M for new mineral potential Additional $17.5M pledged until 2027	**Current until 2027** (Started 2017)	**13.6%**
WESTERN AUSTRALIA	**Exploration Incentive Scheme (EIS)**[44]	50% toward co-funding of drilling programs & 50% to generate pre-competitive information	**$12.5M per annum**	**Current** (Started 2009)	**62.8%**
NORTHERN TERRITORY	**Geophysics and Drilling Collaborations program (GDC)**[45]	Co-fund industry exploration programs to advance geological understanding and resource development	**$9.5M per annum** competitive grants program administered by the Northern Territory Geological Survey (NTGS)	**Current** (Started 2008)	**4.9%**
SOUTH AUSTRALIA	**Accelerated Discovery Initiative (ADI)**[46]	Co-funding exploration activities including exploration drilling, geophysics, research collaboration	**$41.5M** $10M over 3 Years + additional $11.5M to 2025	**Current until 2025** (Started 2019)	**4.1%**
TASMANIA	**Exploration Drilling Grant Initiative (EDGI)**[47]	Co-funding exploration drilling projects	**$3.5M** over 6 years	**Current until 2025** (Started 2018)	**1.0%**
VICTORIA	**TARGET Minerals Exploration Initiative (TMEI)**[48]	Grants for exploration companies to conduct co-funded minerals exploration including geophysical surveys, drilling and sampling	**$15M budget $5.9M spent**	**2014 - 2018**	**5.0%**

[41] https://www.abs.gov.au/statistics/industry/mining/mineral-and-petroleum-exploration-australia/dec-2022
[42] https://meg.resourcesregulator.nsw.gov.au/geoscience/new-frontiers-exploration-program
[43] https://www.business.qld.gov.au/industries/mining-energy-water/resources/geoscience-information/exploration-incentives/exploration-grants
[44] https://www.dmp.wa.gov.au/Geological-Survey/EIS-Government-co-funded-1433.aspx
[45] https://resourcingtheterritory.nt.gov.au/exploration-grants
[46] https://www.energymining.sa.gov.au/home/events-and-initiatives/initiatives/accelerated_discovery_initiative
[47] https://www.mrt.tas.gov.au/exploration/exploration_drilling_grant_initiative_-_round_8
[48] https://earthresources.vic.gov.au/projects/target-minerals-exploration-initiative