Commissioner Chong
Commissioner Roberts
Productivity Commission
4 National Circuit
Barton ACT 2600

Sent via email: circular.economy@pc.gov.au

Opportunities in the Circular Economy - Interim Report

Dear Commissioners,

The Chamber of Minerals and Energy of Western Australia (CME) is the peak representative body for the resources sector in Western Australia (WA). CME is funded by member companies responsible for 24 per cent of Australia's company tax receipts in 2023-24.[1]

In 2023-24, the WA resources sector accounted for 56 per cent of resources exports,[2] 52 per cent of resources capital expenditure[3] and 51 per cent of resources employment in Australia.[4]

CME and its members appreciate the opportunity to provide feedback to the Productivity Commission's "*Australia's circular economy: Unlocking the opportunities*" (the Interim Report) related to mining waste and alternative post-mining land uses. CME provides a number of general comments in relation to developing Australia's circular economy below, with specific comments on the Interim Report's information requests provided in Attachment 1.

Redefining waste for full value mining

The WA resources sector supports improved circularity for all post-extraction materials where it is safe and economically viable. Creating commercial value from novel mining coproducts and byproducts is often hampered by outdated policy and legislation that classify non-primary commodity materials as waste. This regulatory burden does not provide added value in terms of product risk management. It disadvantages the utilisation of mining byproducts and coproducts compared to 'raw' products (e.g. unlocking secondary supplies of critical raw materials), despite potential beneficial reductions in life cycle emissions and land clearing through their use.

Further, navigating regulatory barriers to byproduct and coproduct utilisation requires significant financial investment and administrative effort to commercialise the products from a regulatory perspective, which can impact project and product viability.

Re-framing the approach to all potential mineral products rather than narrowly on the primary mineral product and providing clarity on what defines a material as waste and when waste becomes a product is critical to a circular economy approach to resource sector product development.

[1] Excludes fringe benefits tax, petroleum resource rent tax and fuel excise duty. CME, 2023-24 Economic Contribution: Australia, March 2025; Commonwealth of Australia, Final Budget Outcome 2023-24, The Treasury, 30 September 2024, Note 3: Taxation revenue by type, p 38.
[2] Government of Western Australia, 2023-24 Economic Indicators Resource Data File, Department of Energy, Mines, Industry Regulation and Safety, 29 October 2024.
[3] Investment refers to capital expenditure as measured by gross fixed capital formation, current prices. Australian Bureau of Statistics (ABS), 5220 Australian National Accounts: State Accounts, Table 25. Australian Bureau of Statistics, 5206 Australian National Accounts: National Income, Expenditure and Product, Table 34.
[4] ABS, 6291 Labour Force, Australia, Detailed, Table 5.

CME member companies note the entire mining value chain should be examined for regulatory barriers and opportunities to enable full value mining from extraction through to advanced mineral processing.

Supporting regional recycling

Regional recycling infrastructure is key to increasing resource recovery from WA remote mining operations and should be considered a regional development opportunity.

CME member companies have sophisticated procurement and logistics processes and are well positioned to manage recyclable waste streams; however, there is a critical need for government investment in regional consolidation infrastructure to significantly reduce the cost of transporting low-value materials for recycling or re-use.

At a state level, CME has previously identified the need to conduct a review of the infrastructure needs and accessibility of regional facilities in WA to adequately incorporate the resource sector in the context of waste avoidance and resource recovery. This is particularly relevant considering the geographic scale of WA and the remoteness of many resource sector operations, which would necessitate additional infrastructure, including various transport options such as ports, roads and rail, as well as processing facilities. See Attachment 2.

Mine closure pathways to alternative land use

Research by the Cooperative Research Centre for Transformations in Mining Economies (CRC TiME) indicates that while repurposing and reusing post-mining land is possible under WA mining regulation, there is limited guidance or a clear pathway to do so.[5,6] In addition, costing alternative post-mining land use requires clarity around regional development policy and regulation to unlock investment.

CME notes the importance of ensuring that mine closure requirements do not hinder infrastructure use by introducing unnecessary administrative or procedural burdens.

Further, alternative post-mining land use is emerging as a significant social licence consideration that could contribute to sustainable economic activity beyond mineral extraction. Developing guidance is critical for the appropriate transfer of assets and ongoing liabilities, particularly where First Nations communities are the landholders.

Key recommendations

CME recommends:

- Alignment of mining, construction and waste regulations to remove unnecessary over-regulation of mining byproducts and coproducts and to facilitate market adoption.
- Review of relevant state and territory policies and consult stakeholders to identify practical and efficient reform directions.
- The proposed Government investment in regional recycling infrastructure be reviewed to enable participation of the resources sector in resource recovery.
- Alignment between mining, land use planning and regional development policies to provide clear guidance on alternative post-mining land uses, asset and liability transfer.

[5] CRC TiME, *Mapping the Regulatory Framework of Mine Closure*, 2022.
[6] CRC TiME, *Guideline for preparing Mining Development and Closure Proposals*, 2024.

CME looks forward to the Productivity Commission's final report on these important matters impacting the WA resources industry and further engagement in relation to advancing recommendations outlined in the final report.

Should you have any questions regarding this submission, please contact David Copland, Manager Resource Development and Sustainability,

Yours sincerely,

Adrienne LaBombard
Director, Policy and Advocacy

Attachments:
1. CME Member Comments on Productivity Commission Information Requests
2. CME Waste Avoidance and Resource Recovery Strategy 2030 submission, 2024

Attachment 1

Information request 7.1	CME member comments
• specific examples of regulations that have impeded circular economy opportunities for mining waste or alternative uses for closed mine sites, and the expected benefits, costs and risks of reducing regulatory barriers	• Outdated legislative definitions related to waste classification can restrict the repurposing of mining materials for other uses (e.g. substitute construction aggregates). WA waste regulations lack clarity on when waste ceases to be waste. The Department of Water and Environmental Regulation's 'Assessing whether material is Waste' factsheet provides guidance but does not clarify the definition enshrined in the legislation. • Some existing WA policy and departmental positions consider the non-primary mineral product as a tailings which is then automatically treated differently under regulatory approaches, in effect treating those materials like waste even though the materials are not waste. • Design standards and regulations with differing objectives and "siloed" approaches between mining and other industries can prevent collaboration across companies using mining coproducts and byproducts as raw materials. Examples include additional liability requirements and the development of new design standards for the construction and infrastructure industries. For example, delithiated beta spodumene (DBS) is recognised as a pozzolanic material in Australian Standard 3582.4:2022, Supplementary Cementitious Materials Part 4: Pozzolans. However the review of AS3972 to align with this (allowing the use of manufactured pozzalans) has not been completed. This limits the adoption of DBS in certain applications that require adherence to AS3972. • A lack of policy and regulation to promote or incentivise the development of new raw products from mining byproducts further impacts market adoption. • An expected benefit of reducing regulatory barriers is unlocking investment in innovation. Initiatives exist, although they are needed at scale to ensure a cost-competitive entry point. • Reducing regulatory barriers could increase project viability and accelerate product development timelines.
• potential solutions to regulatory barriers, such as new regulatory frameworks or legislative changes	• Aligning mining, construction, and waste management regulations to facilitate the use of mining byproducts in construction would reduce unnecessary regulatory complexity and burdensome regulatory administration. • Amending definitions of waste in legislation to recognise tailings, mining byproducts and processing coproducts as materials, provided they meet relevant environmental safety standards, will avoid the stigma of material being defined as 'waste' and therefore being perceived to be harmful (when that is not the case) and facilitate market adoption. All products, regardless of whether they are primary mineral products, must meet relevant environmental and safety standards in use. • Development of a streamlined regulatory approvals pathway for transitioning mining byproducts (waste) to market.

• specific areas of investigation or questions for an assessment of regulatory barriers related to mining waste materials recovery and repurposing closed mine sites	CME members have suggested several considerations, including: • Evaluate the feasibility of introducing fast-track permitting or an equivalent for innovative mining waste repurposing projects. • Assess how current construction standards and quality regulations impact the use of mining byproducts (e.g., tailings or waste rock) in the building industry, considering the local and international market. • Investigate how regulatory frameworks can be improved to foster cross-industry collaboration, especially between mining, construction/infrastructure, and waste management sectors. • Explore regulatory barriers for repurposing closed mining sites for alternative uses, such as renewable energy installations or urban development.
• the extent to which addressing regulatory barriers would increase the uptake of circular economy opportunities for mining waste and alternative post-mining land uses or if other barriers would still prevent meaningful uptake.	• CME member companies have noted that inconsistent market demand for alternative or novel materials may continue to limit uptake. Therefore, a comprehensive approach that includes market development and infrastructure support with financial backing e.g. matched spending or shared risk, would support more significant progress. • Further, diversification in materials of focus should be maintained throughout to include non-critical minerals and avoid “blind spots”. Steel, for example, will be in significant demand alongside critical raw materials for the renewable energy transition. However, Australia should only pursue opportunities where an international comparative advantage can be sustained, or an externality should be addressed in the public interest. Different countries will pursue pre- and post-consumer wastes such as steel and aluminium scrap according to their market advantage, extent of industrial development and government policies.

Information request 7.2	CME comments
• ways that governments could better facilitate circular economy opportunities for mining waste and alternative post-mining land uses, such as improvements to regional planning and development, applying stricter standards on the production and storage of mining waste, or introducing disincentives for producing mining waste, such as mining waste levies	CME member companies have noted ways that governments could better facilitate circular economy opportunities, including: • Government (Commonwealth and State) are amongst the largest procurers of materials for infrastructure projects in Australia and unlike most private sector entities, Government procures these materials in all the remote and regional parts of Australia from time to time. In many instances, as mining coproducts and byproducts are mineral based and derived from freshly extracted rock (eg: waste rock and tailings), a highly likely use will be in major infrastructure projects funded by Government as a near monopsony in many regions. Government therefore will play a pivotal role in whether or not these circular economy opportunities can be unlocked. Leveraging existing State and Federal government policies for local procurement, recovered content quotas and carbon intensity is essential. CME cautions against imposing new restrictions on the mining production side (as indicated by the question) without whole-of-economy consultation and consideration of the Governments role as an enabler or barrier given its monopsonic power for infrastructure projects, as this could lead to inefficient resource allocation and increased supply chain costs for both the public and private sectors, risking achieving a sustainable circular economy in Australia. • For the reasons described in the paper, often due to the tyranny of distance, or significant market competition, or the sheer volume of waste, it is uneconomic to develop large markets for mining process waste (e.g. tailings). Therefore, application of an industry wide levy on all waste would increase the cost of production and disadvantage certain mining operations who cannot develop markets. For this reason, incentives to develop new downstream industries (e.g. valuable metals), or carefully thought-out quotas for the downstream use of mining waste (e.g. in construction), would be more effective in driving greater waste reuse. • Solutions to address the remoteness of mining operations by supporting the establishment of local recycling centres or technology hubs to reduce transport costs and environmental impact. However, we note that the collection and treatment of waste is highly competitive with tight margins internationally. To overcome this, effective industry partnerships and government support are needed. With high transport, labour and energy costs for Australia, these cost margins will be tighter. Alongside increased visibility of scope 3 emissions accounting, decarbonisation of the transport sector will also need to occur to make a circular economy a sustainable comparative advantage for Australia. • Greater collaboration between policymakers and industry to identify market opportunities and synergies. • Incentivising upscaling of technological innovation, for example, by enabling public-private partnerships and blended finance models to fund innovative technologies for mining waste recycling and repurposing. • Facilitating platforms for cross-industry collaboration, particularly between the mining and construction sectors, to promote the use of mining byproducts in building materials.

	• Promoting market-based approaches such as fiscal incentives or depreciation schemes for companies that opt to reuse mining equipment or repurpose mining materials rather than use new resources. • Avoiding stricter standards on the production or storage of mining materials that would increase efforts in the management of these materials. • Ensuring diversification throughout the process (as mentioned above) by spreading incentives to non-critical minerals e.g. steel, will be in significant demand alongside critical raw materials for the renewable energy transition.
• the benefits, costs and risks associated with above.	CME member companies note there are numerous potential benefits, including: • Stimulating economic growth and opportunity through improving local infrastructure (e.g. establishing local recycling facilities), including job creation. • Reducing waste volumes and improving recycling has environmental benefits by reducing risks associated with tailings storage and post-mining site rehabilitation. • Reducing regulatory barriers will allow mining companies to operate more efficiently, decreasing business risks related to approvals and permitting. • Successful circular economy practices would help restore ecosystems and ideally strengthen engagement with traditional landowners. • Successful circular economy practices will reduce negative impacts associated with new natural resource and material extraction, ensuring more materials are actively in use and generate value for longer. CME notes that there are several factors that are central to supporting the development of effective approaches that enable circular economy opportunities for mining waste and supporting alternative post-mining land uses, including: • Ongoing stakeholder engagement. • A holistic strategy to circular economy policy development to link related policy areas. • Collaboration across state and Federal policy settings and across different industries. • A willingness to engage and adjust settings to support workable and sustainable implementation outcomes.