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19 July 2024

Submission to Critical Minerals Production Tax Incentive Consultation

About Boundless Earth

Boundless Earth's mission is to ensure Australia is on track to become a renewable energy superpower by 2030. Our purpose is to accelerate climate solutions at the scale and speed required for Australia to have a globally significant impact on averting the climate crisis.

Boundless Earth welcomes the opportunity to provide a submission to the Critical Minerals Production Tax Incentive consultation (the CMPTI).

Key points

We support the vision and ambition of the government's Future Made in Australia Act (FMIA) and the creation of a production tax incentive for critical minerals. Many minerals and metals will be critical to decarbonising the world, and by providing targeted support for parts of the industry, the government can improve Australia's economic resilience *and* achieve our decarbonisation goals, while delivering on the Government's renewable superpower vision.

The sections below provide our recommendations for improvements to the CMPTI which will allow the Government to achieve these outcomes.

Eligible minerals and entities

The CMPTI consultation paper currently proposes making the 31 minerals/elements in the Government's Critical Minerals List eligible to receive the CMPTI. We encourage the Government to limit the minerals/elements eligible under the CMPTI (and/or a potential green metals funding support mechanism) to those that are genuine 'energy transition metals'[1], which are metals that are most significant for the global energy transition. Adopting the definition of energy transition metals from Sinclair & Coe (2024), we suggest limiting FMIA funding support to the following metals: lithium, graphite, 15 rare earth elements, cobalt, manganese, nickel, high-purity silicon (HPS), high-purity alumina (HPA) and copper[2]. See Appendix A, Table 1 for more detail.

By only making energy transition metals eligible under the CMPTI, this will ensure Government funding is targeted towards those minerals that have the biggest potential to support both streams under the FMIA's National Interest Framework (i.e. economic resilience and security; and net zero transformation). Requiring that projects can only receive support if powered by renewable energy will reduce the number of eligible projects, and therefore could allow the Government to increase the incentive to up to 20 per cent.

[1] Sinclair, L & Coe, N. (2024). Critical mineral strategies in Australia: Industrial upgrading without environmental or social upgrading, *Resources Policy*, 91.

[2] We note that copper, while a strategic metal, but not a critical metal, should be supported under the proposed FMIA green metals funding support mechanism, to decarbonise copper processing. The HPA industry could also be supported to decarbonise under the green metals funding support mechanism.

Recommendation 1
We recommend the Government limit the eligible CMPTI minerals to those that are genuine energy transition minerals: lithium, high purity alumina, graphite, 15 rare earth elements, cobalt, manganese, nickel, and copper.

Recommendation 2
We recommend the Government consider increasing the incentive to up 20 per cent, to provide more targeted support to deliver better projects that use renewables for both power and process heat.

Strategic purpose of FMIA funding to accelerate net zero transformation

While we agree that supporting Australia's critical minerals industry increases Australia's economic resilience and security, we do not think the Government should consider economic resilience and security as mutually exclusive to net zero transformation. On the contrary: these two goals are inextricably linked and can – and should - be achieved concurrently through the provision of the FMIA funding.

There are many technologies and processes available for processing/refining transition minerals using renewable power and heat, including via green hydrogen and electrification. For example, most pyrometallurgical minerals processing (roasting, calcination and rotary kilns) could be electrified or fired with green hydrogen. Priority should be given to critical minerals refining that uses decarbonised processes. Where technologies do not yet exist, the FMIA Innovation Fund should be directed to accelerate the commercialisation of electrical technologies/processes. Ultimately CMPTI should not be used on any projects that deliver a net expansion of fossil fuel use in Australia.

We believe Australia has an opportunity to position itself as a world leader in decarbonising critical minerals processing/refining. Providing targeted support to move up and along global supply chains while decarbonising will ensure the industry will be globally competitive in the European and US markets. In parallel, Australia should work with trade partners and investors to create premium markets for decarbonised commodities, such as refined transition minerals.

Recommendation 3
We recommend that FMIA/CMPTI investment support be provided to allow industry to move up and along global supply chains, while decarbonising, and ensuring no net increase of fossil fuel use in Australia.

Eligible processing expenditure

We understand that having the CMPTI target the direct costs of processing and refining eligible minerals is in line with the earlier asks from industry. It is appropriate that the incentive not support mining or extraction activity and will be limited to processing and refining expenditure to support activity that moves Australia further downstream of the mining stage.

By moving the start date of the Production Tax Incentive from 1 July 2027 to 1 July 2025, the industry will be able to access these incentives sooner, meaning we can leverage the benefits outlined in the consultation paper earlier. Given that the incentives are only paid based on actual production each year, this adjustment will not lead to cost overruns. An earlier start date will encourage quicker action from processors considering expansion or new operations, which, although likely to be few in number initially, will still lead to increased processing activities.

We also suggest that the tax credit base scope be expanded beyond the initial refining stage to include:

1. Mid-stream processing – for example, producing precursor active cathode material (pCAM) for lithium-ion batteries. This creates additional national value gain, and aligns the incentive with the US Inflation Reduction Act,
2. Reprocessing of used/waste minerals – for example through battery recycling and processes that use or 'mine' tailings dams as the mineral input. Mining tailings dams would build on the Atlas of Australian Mine Waste produced by Geoscience Australia for this purpose. There are a growing number of global companies such as Boston Metals looking to apply zero emissions mineral processing technologies to mine waste. These options will improve resilience and reduce environmental impacts, while moving Australia towards a more circular economy.

The current proposed eligible processing costs do not specify whether energy costs are included or excluded. If projects are to use renewable energy (most likely solar, wind, batteries and/or hydrogen) to refine the minerals, as we propose above, then we suggest that energy input costs are included as an eligible processing cost.

Recommendation 4
We recommend the start date for the CMPTI be moved forward to 1 July 2025.

Recommendation 5
We recommend that the tax credit base scope be expanded beyond the initial refining stage to include mid-stream processing, reprocessing and recycling of critical minerals and processes that 'mine' tailings dams.

Recommendation 6
We recommend that renewable energy input costs (but not fossil fuel input costs) are included as an eligible processing cost.

Community benefit principles

The Government must ensure that any new projects delivered with FMIA funding will provide benefit to First Nations peoples, communities and workers. The FMIA Community Benefit Principles should be strong, bold and current 'best practice', and be reviewed and improved over time. To encourage CMPTI recipients to do better than the Principles, we suggest recipients receive a bonus tax incentive for doing more/better.

First Nations peoples

Critical minerals mining and processing occur on First Nations land. The principles must ensure that First Nations communities and Traditional Owners can participate in and benefit from FMIA initiatives. Supporting their engagement in the conception, design, planning and implementation is crucial for achieving good results and building an inclusive economic future.

The First Nations Clean Energy Network has developed principles[3] for the development of renewable energy, to ensure that the country is protected and that First Nations communities share the benefits of Australia's clean energy boom. The principles and guidelines should be similarly applied to critical minerals mining and processing. The ten principles cover such things as ensuring projects provide economic and social benefits, mutual respect, clear communication, cultural and environmental considerations, landcare and employment opportunities.

Communities

Public support and social license of critical mineral industries depends on transparent information and effective community participation in decision making, supported by:

- The rights of all communities to effective participation in decision-making, as articulated in the Rio Declaration on Environment and Development (the right to know, the right to participate, the right to challenge),
- Transparent and accountable licensing, assessment, and agreement-making processes
- Less duplicative and more meaningful community participation. Clear, plain language information about the impacts and benefits of projects for affected communities.

[3] First Nations Clean Energy Network, Aboriginal and Torres Strait Islander Best Practice Principles for Clean Energy Projects, February 2024.

Workers

The Australian Council of Trade Unions has also developed comprehensive policies to ensure public benefit results from government spending.[4] These include:

- Stable, secure and ongoing employment for workers
- Workplace participation for Aboriginal and Torres Strait Islander peoples
- Participation of women and the achievement of gender equity goals
- Local content and employment plans and targets;

The first major industrial package introduced in Australia to support the iron and steel industry, the *Manufacturers' Encouragement Act 1909*, also reflected this ethos with recipients of 'bounties' required to pay fair and reasonable wages to their employees. Establishing support for a 21st century critical minerals sector should continue this historical tradition of ensuring industrial programs deliver better outcomes for workers and local communities.

Recommendation 5

We recommend the FMIA Community Benefit Principles be strong, bold and current 'best practice' and be reviewed and improved over time. To encourage CMPTI recipients to do better than the requirements of the Principles, we suggest recipients receive a bonus tax incentive for doing more/better.

Conclusion

In summary, we believe that providing more targeted support under the CMPTI will help improve Australia's economic resilience, achieve our decarbonisation goals, while delivering on the Government's renewable superpower vision.

Finally, we strongly encourage you to engage with the Mineral Policy Institute which has deep technical knowledge of Australia's energy transition minerals.

Thank you for the opportunity to provide this submission. For further information please contact Dione Scheltus, Government Relations Lead, at dione@boundless.earth.

Eytan Lenko
Chief Executive Officer

[4] ACTU, Procurement: Make Good Jobs the Norm, June 2024.

Attachment A – Table 1

Minerals		Uses	Rationale for support
High Purity Alumina (HPA)	99.99% pure Al_2O_3	Coats the separator between lithium-ion battery cathodes and anodes	Huge opportunity to transform and decarbonise an existing domestic industry. Suggest support be provided via the proposed FMIA green metals funding support mechanism.
Cobalt (Co)		Li-ion battery cathodes Steel and light weight alloys Sm–Co magnets	Cobalt is usually a by-product of nickel processing. New standalone cobalt production could use increased support, given the recent suspension of nickel production will also affect cobalt production.
Copper (Cu)		Electricity transmission Electromagnets in turbines and motors Solar PV	While a strategic metal, but not a critical metal, should be supported under the proposed FMIA green metals funding support mechanism to decarbonise copper processing/recycling.
Graphite		Li-ion battery anodes	Currently no Australian production, but moderate potential and an important energy transition material.
Lithium (Li)		Li-ion batteries Ceramics	The most important critical mineral in terms of volume, value, and need for downstream processing onshore, where the production tax credit will be most beneficial in assisting the cost competitiveness of Australian Lithium Hydroxide and further downstream processes.
Manganese (Mn)		Steel Li-ion cathodes	Growing use in NMCA Lithium-ion batteries. High potential for production in Australia.
Rare Earth Elements (REE) – 15 elements, including:	Neodymium (Nd)	Nd magnets are the most powerful magnets by weight and used extensively in wind turbines and EV motors NiMH batteries (hybrid vehicles)	While current production levels are very low, there are several advanced projects planning to produce combined and separated rare earth oxides onshore which could take advantage of the CMPTI. International markets are dominated by geopolitics, and government assistance is needed, not only with financial incentives but also international cooperation and advocacy.
	Samarium (Sm)	Sm–Co magnets are almost as powerful as Nd magnets but can withstand higher temperatures	
	Dysprosium (Dy)	Can be substituted for up to 6% of Nd in magnets to increase temperature tolerance	
	Praseodymium (Pr)	Combined with Nd to increase the power of magnets. NiMH batteries for hybrid electric vehicles	
Nickel (Ni)		Used in cathodes of lithium ion batteries Aerospace superalloys	The nickel industry in Australia is currently contracting because of low international prices. It is uncertain how much the CMPTI would help in the face of extremely low cost, carbon intensive Indonesian refined nickel products. The Government's focus should also be on supporting the creation of premium markets for 'high-ESG' and 'low-carbon' nickel to support the sale of decarbonised Australian nickel.

Minerals		Uses	Rationale for support
High-purity Silicon	>99.99% pure Silicon Dioxide (SiO_2)	Semiconductors and computer processors, photovoltaics (solar panels) Optical fibres	Geoscience Australia rates Australia's potential as 'high'. May support domestic manufacturing of solar PV.

Table 1: *Selected critical/strategic minerals and their uses. Source: Sinclair & Coe (2024); and personal communications with Sinclair (15-18 July 2024).*