

10 October 2024

Ministry of Business, Innovation and Employment  
PO Box 1473  
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Attention: Draft Critical Minerals List 2024



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**RE: INSTITUTE OF GEOLOGICAL AND NUCLEAR SCIENCES TE PŪ AO  
SUBMISSION ON DRAFT CRITICAL MINERALS LIST**

## 1.0 SUBMITTER DETAILS

**Name of Organisation:** Institute of Geological and Nuclear Sciences Te Pū Ao  
**Email:** Privacy of natural persons  
**Capacity of response:** Public sector  
**Confidentiality and Disclosure:** Not commercially sensitive  
**Publication of response:** Consent provided to publish the content of this submission

## 2.0 INTRODUCTION

The Institute of Geological and Nuclear Sciences Te Pū Ao ("GNS Science") welcomes the opportunity to comment on the Government's proposed draft Critical Minerals list for New Zealand.

As a Crown Research Institute, GNS Science is mission led and we strive to contribute to Aotearoa New Zealand's well-being by conducting world-class scientific research that generates economic, environmental, and social benefits.

GNS Science provides expert scientific input to inform policy, regulation, standards, and guidance. This submission has been formulated within the framework of GNS Science's four strategic science themes, namely: Land and Marine Geoscience, Energy Futures, Environment and Climate, and Natural Hazards and Risk.

## 3.0 SPECIFIC GNS SCIENCE COMMENTS

GNS Science supports the development of a Critical Minerals list for New Zealand to enable targeted research and development in the minerals sector. GNS Science supports the exclusion of coal from the list, this is in line with Australia's critical minerals list and is aligned with reducing carbon emissions to reach the Government goal of being Net-Zero by 2050.

GNS Science is particularly pleased to see the inclusion of aggregate as Critical Mineral given our recent work with New Zealand Infrastructure Commission to model aggregate

opportunities. Efficient use of New Zealand's aggregate resources is critical to supporting infrastructure development as well as reducing operational and transport costs related to extraction of the raw materials.

The definition of a 'Critical Mineral' needs to be refined to ensure consistency and clarity. As currently written, it is not used consistently across the MBIE website and the Wood Mackenzie report and therefore not clear what is required for a mineral to be defined as a 'Critical Mineral' for the purpose of the draft list.

The Wood Mackenzie report does not include sufficient detail on the analyses and does not outline the exact procedure used to select the minerals for the list. It would be beneficial to include more information on how and why certain elements were selected. A section outlining how future reviews of the list should be conducted, and what procedures should be followed, would be helpful to ensure a robust and transparent process for future iterations of the list.

GNS Science would support further refinement of the draft list. We note it is of comparable length to international lists, however, there is a risk that if the list is too long it will not be very useful in terms of providing focus to either industry or Government. Several of the elements defined as critical on the draft list are not produced in New Zealand, we are unlikely to have large enough quantities to mine and we don't use the elements directly to produce anything. A shorter list would enable targeted interventions for minerals defined as critical.

To support the actions within the draft Minerals Strategy, given the focus on international supply risk metrics in Wood Mackenzie's methodology, we recommend:

1. further work into opportunities for New Zealand to add value into the minerals supply chains, for example through developing enhanced mineral processing capability or product manufacturing in New Zealand rather than exporting raw materials.
2. additional investigation into the importance of New Zealand's export minerals (gold, silver and iron) and the risks faced by these in terms of social licence and environmental perceptions.

#### **4.0 CONCLUDING REMARKS**

We look forward to working with MBIE as the list is refined and work programmes are developed to support the actions within the Minerals Strategy when it is finalised later this year.

Thank you again for this opportunity to provide feedback regarding the draft Critical Minerals list. If you have any questions or would like to discuss any aspect of this submission further, please contact me at Privacy of natural persons

Yours sincerely,



Professor Richard Levy

Interim Chief Science Advisor