

Submission from Straterra to Ministry of Business, Innovation and Employment Draft Critical Minerals List October 2024

Key points

- New Zealand needs to unlock our mineral endowment for the low carbon economy, and for traditional uses. We support government policy aiming to achieve this including the adoption of a critical minerals list and strategy.
- To this end, the purpose of the critical minerals list needs to be clarified.
- The draft critical minerals list, as released, is too narrow. All commercially extracted minerals are critical, otherwise they would not be mined. They are mined to meet demand and for no other reason.
- We are concerned minerals not on the list will automatically be deemed not “critical” and therefore will be disadvantaged when it comes to resource management consenting and other government decision making processes. Minerals not on the list may struggle to meet the regionally / nationally significance tests which are part of many national policy statements.
- Gold, coal, ironsands, silver, garnet and other minerals currently produced in New Zealand should be added to the list.
- These minerals are significant export earners and coal is crucial for domestic energy security. They meet the criteria used to form the list because they are more economically important to New Zealand than others on the draft list and are subject to varying degrees of supply risks. The draft list assumes all minerals have the same degree of economic importance, which is not the case.
- Coal is without question the most critical mineral in New Zealand at the current time as it is critical to national energy security. The Climate Change Commission acknowledges that New Zealand is going to require coal at least beyond 2038. Coking coal is on the EU’s critical raw materials list which supports its inclusion on New Zealand’s list.
- New Zealand users of coal energy face a severe supply risk if domestic coal miners exit the market before affordable, alternative fuel sources are readily available. Given the significant challenges coal miners face from government and other sectors, this is a real possibility.
- Relying on imported coal for our energy needs is not practical or secure in many cases. We have seen this recently where there is an escalation of conflict, or a global pandemic, which reduces shipping and supply to New Zealand. Australian and New Zealand coals have different qualities and can’t always be substituted for each other in a New Zealand context.
- We think the document understates the supply risk score for coal. In assessing the import dependence for coal, it has undercounted the volume of imports. Taking a five-year average for coal imports would put it above the threshold and onto the list.

- We question the approach which identifies five ‘international partners’ in helping form the list. Any global demand our exporters can meet is what should matter.
- The paper uses a narrow, selective group of products to estimate indirect mineral demand in New Zealand (page five). It does not acknowledge that minerals are present in the supply chain of all manufactured products. This understatement may have skewed the analysis and the compilation of the draft list.
- We question the removal of garnet from the list as garnet is known to be safer for workers for its end use as an industrial abrasive than the common alternative, silica. We recommend that garnet should be reinstated on the list.

Submission to the Ministry of Business, Innovation and Employment

Draft Critical Minerals List

Introduction

1. Straterra is the industry association representing the New Zealand minerals and mining sector (including coal). Our membership is comprised of mining companies, explorers, researchers, service providers, and support companies.
2. We are grateful for the opportunity to make this submission on the [New Zealand Draft Critical Mineral List](#) prepared for the Ministry of Business, Innovation and Employment (MBIE) by Wood Mackenzie. We comment on both the draft list and the document supporting it (the document).
3. Given the diversity of Straterra's membership, some members and sectors will have specific issues they wish to comment on. Therefore, we have encouraged individual members to make their own submissions raising those issues specific to their areas of interest.

All minerals are critical

4. We agree with the Government Draft Minerals Strategy, "Minerals are critical to our economic functions, and we need to understand our needs and ensure reliable access to them".
5. We have supported the development of a critical minerals list since it was first proposed in 2018. We welcome the debate that production of a critical minerals list has sparked. Association with the word 'critical' has raised the profile of minerals in a constructive and positive way.
6. Minerals are vital to the way we live – in homes, businesses, food production, transport, infrastructure, modern medicine, technology, energy, at work and play. All commercially extracted minerals are economically critical, otherwise they would not be mined. They are mined because there is demand for them and for no other reason.
7. It is not yet clear what the critical minerals list is to be used for. While there have been assurances that minerals not on the list will not be "discriminated" against, a mineral not on the list is automatically deemed not "critical" to New Zealand and therefore, may be disadvantaged when it comes to mineral permit applications, land access arrangements, and resource management processes (plan development and implementation, and resource consent applications) etc. Minerals not on the list may struggle to meet the regionally / nationally significance tests which are part of many national policy statement gateway tests.
8. The intention to update the list regularly is not enough to offset the damage to some mineral investments if they are absent from the list. Once an industry is lost – or has a firm sunset date – it is very difficult to re-start, especially in mining, given the time and investment required. Therefore, it is imperative, the list is right from the start.
9. New Zealand needs to unlock potential from our wide and varied mineral endowment for the low carbon economy, and for traditional uses, as well as to contribute to the economy with jobs, royalties, taxes and export earnings. But we must not overlook the minerals that we already mine.
10. Of the 35 minerals on the draft list, only eight are currently produced in New Zealand. Eleven have been identified as potentially produced in New Zealand.
11. The remainder includes minerals that we don't currently mine, and potentially never will.

12. Most importantly, the list excludes minerals we are currently producing including coal, gold, ironsands, silver, garnet, limestone and dolomite.

The case for including other minerals on the list

13. The criteria that has been used in the document is as follows:

- **essential to New Zealand's economy**, national security, and technology needs, including renewable energy technologies and components to support our transition to a low emissions future; and/or
- in demand by New Zealand's **international partners** to enable us to benefit from international economic opportunities etc; and
- susceptible to **supply disruptions** domestically and internationally.

14. We believe there is too much emphasis on the third point – supply disruptions, or supply risk. We acknowledge this is the criteria in other countries' lists, but in the New Zealand context this makes less sense as there are fewer domestic industrial supply chains that use the minerals we produce. Using a tight supply risk filter has precluded many of the economically important minerals we currently mine, from being on the draft list.

Essential to New Zealand's economy

15. The minerals we are currently mining have more economic importance than the minerals we are not mining and so should have more weight than others on the list.

16. Coal, gold, silver, ironsands, limestone and dolomite for example are among our largest mined minerals by value and are economically important for their widespread commercial uses in New Zealand and internationally, as well as for the economic activity and benefits their extraction creates in local communities and the country as a whole through:

- jobs created,
- export receipts, direct and indirect,
- government revenue,
- regional economic development etc.

The list does not consider degree of economic importance

17. A shortcoming in the methodology used to arrive at the draft list is that it assumes all minerals are equally economically important. A long list of 79 minerals "produced by and/or essential to New Zealand" was identified. The supply risk for each of these was then assessed and given a score. If the methodology had allowed for the minerals on the long list to be given a score for economic importance, as well as supply risk, the result would have been much different with many of the minerals currently mined likely scoring above the cut off and making the list.

18. We note that after the methodology was applied and the results arrived at, some minerals were then arbitrarily brought into the list "due to their high level of economic importance to New Zealand". This assessment could and should have been applied to a wider group of minerals including coal, gold and ironsands.

19. Because of their economic importance all minerals currently produced in New Zealand should be included on the list.
20. A number of minerals on the draft list will only ever be mined as a byproduct of gold (e.g. antimony, and arsenic). This further enhances the case for gold to be on the list. Pounamu, which is not on the draft list, falls into this category.

Coal is particularly critical

Of all the minerals New Zealand produces, coal is particularly critical, at the current time.

Coal's criticality was evidenced during the response to the recent COVID-19 pandemic where the New Zealand Government deemed the domestic supply of coal to be [essential](#) and allowed coal production to continue during the Level 3 and 4 lockdowns.

Within New Zealand, coal is used for process heat in dairy processing and food production, heating in hospitals, schools, aged care facilities and a range of public facilities and for electricity generation at the Huntly Power Station and as an essential ingredient in steelmaking at the Glenbrook Mill. In addition coal is exported for use in steelmaking.

While there are ongoing developments within the renewable / alternative energy markets, there is currently no economic or practical alternative to coal to supply the required energy to many of these industries at the current time – particularly within the South Island where reticulated gas is not available. That is not to say there won't be an alternative energy source in the future, however in order to continue to support the economy coal will remain critical for some time yet. This presents supply risks for the users of coal which we elaborate on below from para 28.

There are alternate uses of coal outside of combustion, with the Te Rūnanga o Ngāti Waewae owned New Zealand Institute for Minerals to Materials Research (NZIMMR) on the West Coast currently investigating a number of advanced carbon products, including the use of coal to produce batteries. These emerging uses may support the transition to a low emissions future.

Also, there are other factors to consider – the Midland rail link between Greymouth and Christchurch (passenger and freight) is dependent on the coal trade as is other regional infrastructure. Coal companies make a major contribution to the regional communities they operate in including, for example, support for the rescue helicopter, local St John's, and community groups and sports clubs.

International partners

21. One of the criteria in the document is to meet “demand by New Zealand’s international partners to enable us to benefit from international economic opportunities”.
22. We question the choice of five ‘international partners’ (Australia, US, Canada, UK and the EU). We take a country agnostic approach i.e. any global demand our exporters can meet is what should matter and a lot of our trade is in the Asia Pacific region.

23. A number of New Zealand minerals are exported around the world in significant quantities. Gold is the number one goods export to Australia. Metallurgical coal is the number one goods export to India and is also an important export to Japan, China, and Korea.
24. These latter countries are not one of the five groups of international partners listed in the document and so exports to them were apparently disregarded.
25. Yet they are all considered important trade partners, and they are all countries which have their own critical minerals lists, so there is no reason why they shouldn't be taken account of in the formation of the list.
26. It should also be noted that the international partners' lists are often referred to in the document to support inclusion of any mineral on New Zealand's list. In some cases minerals which made the cut following application of the methodology were recommended for exclusion due to their absence from partner critical mineral lists.
27. Coking coal appears on the EU's critical raw materials list given the energy crisis that has occurred in Europe following the the disruptions that have occurred associated with the Russian-Ukraine hostilities. This supports it being on New Zealand's list particularly as the EU may be a potential market for New Zealand.

Supply risk

28. There are a number of supply risks which the document does not take account of, particularly for coal.
29. As stated in the box above, coal is a critical source of energy for a number of industries. While there are ongoing developments within the renewable / alternate energy markets, there is currently nothing that can replace coal economically and at scale. This is particularly so in the South Island where alternative energy sources such as gas and geothermal are not available. Electrification is slow and expensive with insufficient capacity and there are major challenges in the supply of biomass with new plantings taking decades to mature. This presents a real supply risk for the wide range of industries currently using coal.
30. This supply risk is compounded by the fact that coal producers, under pressure from successive governments and other sectors, may exit New Zealand before users have found alternative (affordable and accessible) fuel supplies. Some coal users are publicly signalling they will shift out of coal in the next few years but there is no evidence they are on track for that. The Climate Change Commission, in its [2023 demonstration path](#), assumes the need for coal beyond 2038.

Regulatory impacts

31. Regulatory changes and impacts introduce a further supply risk. The consenting environment is providing significant challenges to the continued operation of many mines. This mostly relates to the freshwater and indigenous biodiversity national policy statements requirements which present difficult gateway tests miners must meet to be granted a resource consent.
32. There are decisions that New Zealand miners need to make in terms of re-consenting current mines. This will be difficult and expensive under the current regime. As stated above, if domestic coal miners decide to exit the market at the end of the current mine consent life, there will be a shortage of energy especially in the South Island.
33. We note aggregate and sand was brought into the critical minerals list partly because of "regulatory constraints limiting new supply in New Zealand". We argue that regulatory constraints are equally limiting the supply of other minerals too.

34. In addition to government regulation, perceptions of mining in New Zealand are resulting in prejudicial treatment from sectors such as banking, insurance, investment, and tertiary education. Banks, in particular, are withholding business, including lending and transactional accounts, from companies engaged in coal mining, providing further pressure on New Zealand coal mining companies.
35. Given these constraints on miners, there is real potential for supply to be restricted sooner than all current forecasts have predicted and before users are in a position to access affordable, readily available alternatives.

Too much reliance on imported coal

36. The implication of the document is that if New Zealand's domestic supply of coal is curtailed, users can readily turn to imported coal. It has been said that there is an abundant supply in Australia that can be accessed.
37. Relying on imported coal is not considered practical or secure in many cases for the following reasons:
- Australian and New Zealand coals have different qualities and can't always be readily substituted for each other in a New Zealand context. Also, Australian coal is likely mostly presold so there is no guarantee it can be accessed in spite New Zealand's close proximity to Australia. Further if there are world-wide shortages, Australian miners will sell to the highest bidder.
 - Potential impacts of geopolitical instability and flow on effects to coal production: If a significant conflict broke out and shipping became restricted our energy security would be threatened.
 - Supply chain / shipping disruptions: The effects of the COVID-19 pandemic on shipping availability and costs are still seen in today's market. Significant short notice price increases will adversely affect coal users reliant on imported coal.
 - Transport emissions: There are additional CO₂ emissions associated with the mining and transport of foreign coal to New Zealand.
 - 86% of our coal comes from Indonesia: This high concentration presents a risk if this source should become unavailable, for example, if there were to be a foot and mouth outbreak in that country¹.
38. In summary, New Zealand coal users face a supply risk which imports cannot be relied on to mitigate. Local product can fill the gap but only if excessive regulatory barriers are not imposed. Having coal on the critical minerals list is recognition of its importance and is needed to ensure the alleviation of that supply risk and the absence of new excessive regulatory barriers.

The supply risk methodology does not recognise import risks

39. New Zealand is already highly dependent on coal imports. Over the past five years more than half of the thermal coal consumed in New Zealand was imported. The document's methodology assesses import dependence to determine supply risk scores for each mineral. As shown in the table on page 12/13, thermal coal is given a score of 1 out of 10 implying very low import dependency.
40. Taking a five yearly average (as opposed to just the latest year, 2023, in which imports were artificially low because of high stockpiles) boosts thermal coal's import dependence score to 5 and the overall supply risk score above the threshold of 5 – enough to bring thermal coal onto the list (see appendix).

¹ See this [MPI notice](#) highlighting the possibility, dated 5 September 2024.

41. Some minerals that make the draft list, with a high supply risk score are then arbitrarily removed. Garnet, for example, having made the list was removed due to the availability of substitute minerals for its end use. We question this removal as the use of garnet as an industrial abrasive is known to be safer for workers than the common alternative, silica. We recommend that garnet be reinstated on the list.

Indirect demand for minerals

42. New Zealand does not have many domestic industrial supply chains that directly use the minerals we produce. Coal, sand and aggregate, ironsands, limestone, and phosphate are exceptions. Others such as gold and metallurgical coal are significant export earners.
43. New Zealand's demand for most minerals is indirect i.e. we are more likely to import products that contain minerals than manufacture products using raw minerals.
44. We note that in assessing the indirect mineral demand in New Zealand, on page five, such a narrow group of products was listed². Why is the list limited to these to estimate mineral demand in New Zealand? What about computers, cellphones, medical equipment and everything else. Virtually all imported products contain minerals and indirect mineral imports must include (just about) every mineral. We are concerned that this understatement of indirect mineral imports may have skewed the analysis and the compilation of the draft list.

² The list is confined to Battery Storage, Vehicles, Wind Turbines, Solar Panels, Appliances/white goods, Fertiliser and Semiconductors

Appendix

Calculating thermal coal's supply risk score over a five year period

1. Sub-bituminous coal – New Zealand imports and consumption (annual tonnes)

	2019	2020	2021	2022	2023	Average
Imports	962,223	1,039,380	1,806,074	687,102	202,468	939,450
Consumption	2,407,571	2,398,865	3,077,617	1,771,770	1,197,138	2,170,592
Imports/Consumption	40%	43%	59%	39%	17%	43%

Source: [MBIE](#)

2. Import dependence score

Import dependency (%)	Score
0%	0
10%	1
20%	2
30%	3
40%	4
50%	5
60%	6
70%	7
80%	8
90%	9
100%	10

Source: [Wood Mackenzie](#)

3. Calculation

	Import dependence	Net import dependence	2029 Market balance	Global supply availability	Market supply concentration	Supply country risk rating	Overall supply risk score
Weighting	7.5	7.5	42.5	5	25	12.5	
Score	5	0	3	6	10	5	
	0.375	0	1.275	0.3	2.5	0.625	5.075