

# Submitter information

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## A. About you

Name:

Privacy of natural persons

Email address:

[climatejusticetaranaki@riseup.net](mailto:climatejusticetaranaki@riseup.net)

## B. Are you happy for MBIE to contact you if we have questions about your submission?

Yes

No

## C. Are you making this submission on behalf of a business or organisation?

Yes

No

If yes, please tell us the title of your company/organisation:

[Climate Justice Taranaki Incorporated](#)

## D. The best way to describe your role is:

Academic/researcher/research institute

Independent expert (please specify below)

Community group (please specify below)

Business owner (please specify below)

Consultant (please specify below)

Environmental NGO (please specify below)

Tradesperson (please specify below)

Student (please specify below)

Industry group (please specify below)

Other (please specify below)

Industry participant (please specify below)

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#### F. Confidential information

- I would like my submission (or identifiable parts of my submission) to be kept confidential and have stated my reasons and ground under section 9 of the Official Information Act that I believe apply, for consideration by MBIE.

If you have checked this box, please tell us what parts of your submission are to be kept confidential.

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# A Draft Critical Minerals List for New Zealand

MBIE is developing a critical minerals list for New Zealand to identify the minerals that are:

- 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, contribute to the diversification of global mineral supply chains and improve the pipeline of the end-use products for which these minerals are essential; and
- susceptible to supply disruptions domestically and internationally. In some instances, we rely on domestic sources of minerals, but the supply of these minerals can be constrained, for example by regulatory factors and social licence. Internationally, supply chain disruptions could arise due to geopolitical risks and external market forces.

Minerals play an essential role in New Zealand’s economic growth through high-paying jobs, Crown royalties, direct positive impact in the regions where mining takes place, and through export revenues. Minerals are also critical inputs into products that are necessary for other sectors to thrive, including the use of aggregates in construction and infrastructure.

Minerals are also essential to modern economies as they are needed to manufacture advanced technologies such as semi-conductors, defence applications and medical equipment. Minerals are also critical for a clean energy transition as low emission technologies requires more mineral inputs than those fuelled by fossil fuels.

The extraction and processing of the minerals essential to New Zealand and our international partners are concentrated in a few countries. Any disruption that interrupts operations at a large facility or group of facilities can have a major impact on supply availability, and therefore on prices. The greater the concentration of production the larger the affect a disruption can have.

In addition, New Zealand does not manufacture a wide range of technologies, we are generally an end consumer of many products produced internationally and rely on the functioning of international supply chains and their access to resilient supplies of minerals.

The development of a critical minerals list is one of the key actions identified in the draft Minerals Strategy that was publicly consulted on from 23 May – 31 July 2024. Due to the technical nature of the list, MBIE engaged a consultancy with specialist expertise, Wood Mackenzie, to support the development of the list.

We are seeking feedback on the content of the draft list that has been developed by Wood Mackenzie for New Zealand. It identifies the minerals that are critical to New Zealand and summarises the reason for their inclusion in the list. Once the list is finalised, actions could be identified to help us reduce the ‘criticality’ of those minerals, i.e., secure better access to them.

Please see the draft Critical Minerals List attached below for more information.

## Questions for the consultation

1. Have we missed the inclusion of any mineral(s) on the draft Critical Minerals List?

Yes, (please provide more details below)  No, the list is okay.  Not sure/no preference  
Is there anything you would like to tell us about the reason(s) for your choice?

2. Have we included any mineral(s) that you think should not be on the list?

Yes, (please provide more details below)  No, the list is okay.  Not sure/no preference  
Is there anything you would like to tell us about the reason(s) for your choice?

3. Do you have any further feedback on the list, or the methodology under which it was developed?

Yes, (please provide more details below)  No, the list is okay.  Not sure/no preference  
Is there anything you would like to tell us about the reason(s) for your choice?

[Please see our full submission below.](#)

## Thank you

Thanks for your feedback, we really appreciate your insight on the development of New Zealand's Critical Minerals List.

# New Zealand Draft Critical Minerals List

## Climate Justice Taranaki submission to the Ministry for Business, Innovation and Employment (MBIE), 10 Oct 2024

1. Climate Justice Taranaki (CJT)<sup>1</sup> is a community group dedicated to environmental sustainability and social justice, notably inter-generational equity in relation to climate change. Based in Taranaki 'Gasland', our members, especially tāngata whenua and long-term residents living next to oil and gas wells and petrochemical facilities, have generations of experience dealing with the impacts of mining. Using this lived experience and careful research, we have submitted on many consultation papers and Bills in relation to mining, energy and resource management over the past decade.
2. CJT's earlier submissions on the Draft Minerals Strategy for New Zealand to 2040<sup>2</sup>, the Fast Track Approvals Bill<sup>3</sup>, the two Crown Minerals Amendment Bills<sup>4, 5</sup>, seabed mining<sup>6, 7</sup> and energy transition<sup>8, 9</sup> are of relevance to the present submission on the Draft Critical Minerals List<sup>10</sup> (hereafter referred to as the List).

### Definition and purpose

3. According to the List, "**A Critical Mineral** includes minerals that are:

- essential to New Zealand's economy, national security, and technology needs, and/or equally important to New Zealand's international partners, and is
- susceptible to supply disruptions domestically and internationally.

**Essential** is defined as critical to maintaining the New Zealand's economy today and into the future and not readily substitutable."

4. The List has been put together by Wood Mackenzie<sup>11</sup>, following consultation with over 50 stakeholders who "*based on a list developed with MBIE and relevant industry bodies... were asked to provide their informed views and data on which minerals they believed to be essential to New Zealand's economy, national security, and technology needs... the stakeholders were also given the opportunity to suggest any further minerals or products to be considered.*" The List reported that 23 survey responses were received, and 14 meetings were conducted. The List does not disclose the industry bodies that were consulted. We could only assume that Straterra, advocacy group for NZ's minerals and mining sector, and member groups were likely involved. Straterra's Briefing to Ministers (November 2023)<sup>12</sup> highlighted that "*Straterra would like to see this Government act with urgency to release a critical minerals list and work with industry on a critical minerals strategy, capitalising on New Zealand's potential... invest in research and development of critical minerals...*" and "*believe the Government needs to reduce the regulatory burden to attract investment in mining and processing...*" In July, Resources Minister Shane Jones was reported to have had multiple meetings with mining company representatives, including an undeclared dinner, while emails disclosed by Jones' office revealed his ongoing relationship with the industry<sup>13</sup>.
5. Wood Mackenzie itself was once a stockbroker with expertise in upstream oil and gas, and increasingly broadened out to the energy, chemicals, metals and mining and renewables sectors globally. The company came up with a list of 35 such minerals, a kind of wish-list for miners perhaps. There is no complementary environmental or social and cultural impact or risk assessment<sup>14, 15</sup>. New Zealand Petroleum and Minerals (NZPAM)<sup>16</sup> suggests that the List can lead to economic opportunities for NZ. Again, the costs to our shared environment and society are neglected<sup>17</sup>. Such an industry-led exercise

and focus on so-called 'national security', supply risks and economic benefits, while failing to consider the ongoing costs to current and future generations, is irresponsible.

6. It is unclear to us what the List is for. Is it to locate where to mine, and for what, to satisfy domestic or overseas demands? Would it facilitate giving priority to mining proposals for the listed minerals? Or is it to identify what minerals we must source from overseas territories for NZ's needs?
7. To be clear, we do not support the government promoting minerals mining in Aotearoa for international demands. The government or the Crown's claim to mineral resources is not supported under Te Tiriti o Waitangi. We oppose the sourcing of minerals from any unethical and irresponsible mining operations overseas where indigenous and workers' rights and environmental regulations could have been violated (e.g. nickel from Indonesia<sup>18</sup>). We urge the government to invest in programs that reduce mineral demands<sup>19</sup>, enable circularity<sup>20</sup> (e.g. E-waste mining) and foster innovations that avoid mining and other harmful processes.
8. Given that the List is one of the key actions of the Draft Minerals Strategy<sup>21</sup>, we assume that its purpose is to support the aim of the Strategy — *"to develop an enduring minerals sector that enhances prosperity for New Zealanders, demonstrates its value, and delivers minerals for a clean energy transition."* This would presumably also include the aim to double mineral exports to \$2 billion by 2035. This may sound appealing to the easily misled, but it reflects a foolhardy approach to managing finite resources which ignores the real costs. Our concerns and objection to such a Strategy have been well versed in our earlier submission. Having that Strategy and this List could put future governments at risk of litigation under various trade agreements' 'investor-state dispute settlement' mechanisms, should they decline an application to mine, as has been warned by Emeritus Professor Jane Kelsey<sup>22</sup> and recently happened to Mexico<sup>23</sup>.

## Polycrisis and material demand

9. The List, along with the Draft Minerals Strategy, ignores the Polycrisis<sup>24</sup> we are in — a result of the severe overshoots of planetary boundaries and shortfall in social foundations. Climate change is only one of the overshoots. Worldwide, extreme inequality, war and growing geopolitical unrest are largely associated with resource grabs. Highlighting 'national security', 'global supply shortages' and promoting minerals mining in NZ 'to enable us to benefit from international economic opportunities', adds fuel to the fire<sup>25</sup>.
10. The UNEP Global Resource Outlook 2024<sup>26</sup> reported that, *"The global demand for material use has seen prolonged growth over the past five decades. The annual global extraction of materials has grown from 30.9 billion tonnes in 1970 to 95.1 billion tonnes in 2020... The global average of material demand per capita was 8.4 tons in 1970 and grew to 12.2 tons in 2020..."* The message is clear, *"Given that resource use is driving the triple planetary crisis, sustainable resource management is urgently needed..."* The triple planetary crisis being *"climate change, nature and biodiversity loss, and the crisis of pollution and waste."* The UN stressed that *"shrinking our material footprint is a global imperative"*, i.e. reducing the total amount of raw materials extracted to meet our final consumption demands<sup>27</sup>. In 2017, the footprint in high-income countries like NZ was 13 times the level of low-income countries and likely higher now.
11. Clearly, it is possible and morally responsible to reduce our current material footprint including mineral demand. NZ has the responsibility to reduce energy and material consumption so that developing countries can have access to affordable, sustainable energy.

## Guiding principles

12. Last month, the UN Secretary-General's Panel on Critical Energy Transition Minerals<sup>28</sup> stated, *"Innovation in product and service design, improvements to material and energy efficiency, circularity, and balancing consumption with sustainable supply, especially in high income countries, reduces pressures on environments and can contribute to fairer distribution of economic and social benefits and affordable access to energy."*
13. The UN Panel put forward seven guiding principles on critical energy transition minerals, encompassing human rights, justice and equity, environmental safeguards, transparency, international cooperation and peace. These are important guidelines that Aotearoa NZ, as a responsible nation, should follow:
  - Human rights must be at the core of all mineral value chains.
  - The integrity of the planet, its environment and biodiversity must be safeguarded.
  - Justice and equity must underpin mineral value chains.
  - Development must be fostered through benefit sharing, value addition and economic diversification.
  - Investments, finance and trade must be responsible and fair.
  - Transparency, accountability and anti-corruption measures are necessary to ensure good governance.
  - Multilateral and international cooperation must underpin global action and promote peace and security.
14. Against these Principles, NZ's minerals sector demonstrably fails. The current government flouts many international, regional and domestic obligations, with its blatant disrespect of Te Tiriti o Waitangi and numerous undemocratic, anti-nature law changes and policies.
15. However, community opposition is growing rapidly to hold this government to account and to instigate real, positive change.

## Specific minerals

16. Without the time or resources to review every mineral mentioned in the List, we provide comments on a selected few below.
17. **Vanadium:** On Sunday 6<sup>th</sup> October, the government released a list of 149 projects for inclusion in its anti-nature and undemocratic Fast-Track Approvals Bill<sup>29, 30</sup>. The list includes Trans-Tasman Resources (TTR)'s seabed mining for VTM (Vanadiferous titanomagnetite) in the South Taranaki Bight<sup>31</sup>. Notably, the TTR marine consents application needed for mining activities has been turned down by multiple courts including the Supreme Court due to unacceptable environmental impacts<sup>32</sup> and uncertainty of information<sup>33</sup>. The recently quadrupled mining permit area issued by MBIE<sup>34</sup>, touted by TTR's Australian-based parent company Manuka Resources for its 'vast low cost' VTM<sup>35</sup> poses even greater risks environmentally, culturally and economically. We hereby reiterate our opposition to seabed mining for VTM, to avoid further harm to our already overly stressed marine ecosystems and threatened species from industrial activities and from marine heatwaves, increasing ocean acidification and deoxygenation, all resulting from greenhouse gas emissions.
18. Australia has been reported to hold the third largest vanadium reserve in the world, behind China and Russia. As of 2022, it has seven vanadium mines in pre-operation phases around the country, all on land<sup>36</sup> where environmental and compliance monitoring would be more easily achieved than at sea.

There is no point in competing in the race to mine vanadium with Australia. Perhaps the vanadium-rich slag produced as a by-product at the Glenbrook steel mill could be used locally rather than exported, when the need arises.

19. **Phosphate:** Based on modelled data between 2016 and 2020<sup>37</sup>, 64 percent of NZ's river length had elevated phosphorus concentrations, making them more prone to harmful eutrophication, while 22 percent was substantially elevated, threatening ecological communities and the survival of sensitive species. Although phosphorus use has declined since a peak in 2005, superphosphate use in 2019 still amounted to 788,000 tonnes (46 percent of the total fertiliser applied), mostly on sheep and beef farms<sup>38</sup>. The widespread, excessive and continual application of superphosphate has led to concerns over cadmium accumulation in soil and food crops as well as human and livestock health<sup>39</sup>. The amounts of cadmium tested in some foods have occasionally approached or marginally exceeded regulatory limits<sup>40</sup>. Phosphate application on farms needs to be carefully managed and reduced over time, rather than being boosted by domestic mining.
20. Chatham Rise Phosphate Ltd. failed in 2015 to obtain marine consents from the Environment Protection Authority (EPA) for its application to mine phosphorite nodules from the crest of the Chatham Rise. The Decision-Making Committee<sup>41</sup> found that *"the destructive effects of the extractive activity, coupled with the potentially significant impact of the deposition of sediment on the areas adjacent to the mining blocks and on the wider marine environment, could not be mitigated by any set of conditions or adaptive management regime that might reasonably be imposed"*. Although Chatham Rise phosphate rock is relatively low in cadmium, it has a higher uranium concentration than other types of NZ rock and soils, raising questions about potential environmental or health hazards from production or use of the fertiliser<sup>42</sup>. Chatham Rise phosphorites have also been reported to contain levels of arsenic above global range (GNS, 2024 Part 2).
21. As articulated by Kiwis Against Seabed Mining (KASM), opening NZ to seabed mining in search of so-called 'critical minerals', fast-tracked or otherwise, is environmentally unacceptable and economically foolish<sup>43</sup>.
22. Regarding phosphate import, a responsible government would ban further entry of 'blood' phosphate from Western Sahara<sup>44</sup>, for ethical and humanitarian reasons.
23. **Potassium (Potash):** The need for potash and other external fertilisers can be reduced by downsizing and transitioning our export-driven, industrial, animal agriculture to more diverse and regenerative systems that focus more on domestic needs<sup>45, 46, 47, 48, 49</sup>. The latter nurture soil micro-organisms and work with nature to foster plant and animal relationships, growth and resilience. Helpful practice includes the integration of tree crops and fodder trees on farms, returning crop residues and other organic waste to soil, biochar application and minimising food wastes to reduce the demand in the first place. Such a transition is critical as the shocks to agricultural production from climate disruption rapidly intensify, and industrial agriculture, a major segment of the NZ economy, is totally unprepared for the future, having been in denial of the reality of climate change for decades.
24. **Zinc:** Over the past three decades, the application of zinc to treat facial eczema in livestock has grown hugely. The average concentration of zinc in Waikato soils has doubled, from 30 to 60 parts per million. On about 10 percent of central North Island properties, soil zinc levels now exceed 100 parts per million. Most freshwater lakes in Waikato show elevated zinc levels in their sediments, as do coastal marine sediments, due to accumulation. Ongoing accumulation of high levels of zinc has the potential to 'sterilise' lake bed sediments and compromise some lake ecosystems (Kim and Taylor, 2017)<sup>50</sup>. The



continuous, excessive application of zinc could also lead to copper deficiency in soil, direct zinc toxicity to soil microbial function and plants, and partial die-off of soil microbial populations. There is also the risk of zinc toxicity in cattle<sup>51</sup>.

25. Here's a challenge: Can the zinc that has been accumulated in soil be extracted for other uses, such as 'anodising and corrosion protection' as suggested in the List, or for building and construction as indicated in the GNS 2024 report (Part 2)?
26. **Arsenic:** Arsenic is highly toxic to humans and animals<sup>52, 53</sup>. Its use in treating wood needs to be phased out. Arsenic, along with other heavy metals like antimony and lead, are commonly associated with gold mining which crushes and exposes them to the air, causing environmental problems because of their toxicity. Tailings contain a mix of these unwanted, toxic metals, and often also cyanide which is used in the mining process. Any breaches of tailing dams due to poor management or extreme weather events, would lead to soil and water contamination, with potential impacts on human health and ecosystems<sup>54, 55</sup>. Three gold mining projects in Otago and Waikato have been included in the Fast-Track list released on 6 October, against huge oppositions from environmental organisations and local communities. There is plenty of gold already mined, sitting in vaults, which can be used for the energy transition instead. If these projects go ahead, then companies must be made to meet international standards in managing mine tailings<sup>56</sup>, prevent environmental contamination and ensure safety of workers and local communities.
27. **Antimony:** Siren Gold is currently exploring for antimony at Auld Creek and other Reefton gold deposits. But due to the highly toxic nature of antimony, there are serious concerns over the potential impacts of antimony mining on water quality, management of the tailings and health and safety protection for workers<sup>57</sup>. For these reasons, and because of the widespread use of antimony in the military and arms munitions<sup>58</sup>, we do not support mining for antimony.
28. **Cadmium:** We support the exclusion of cadmium, garnet and lead, due to their toxicity, discouraged use and availability of substitute minerals.
29. **Lithium:** We also support the exclusion of lithium, not only because of the 'surplus globally through the medium term', but fast evolving battery technologies and emerging alternatives.

## Conclusion

30. The Draft Critical Minerals List is predicated on 17<sup>th</sup> Century extractive thinking, the long-term result of which has created the polycrisis that is increasingly devastating humanity and our life-supporting biosphere. Aotearoa New Zealand can, indeed, must do better, with 21<sup>st</sup> Century thinking aspiring to a liveable future for all, including the archetypal 'Freddie the Frog'.
31. As a wealthy nation with an oversized material footprint and excessive emissions per capita, we should reduce our material and energy demands. We need to urgently shift from an extractive, corporate-driven, linear economy to one that is regenerative, circular and wellbeing focused.

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<sup>1</sup> <https://climatejusticetaranaki.info/>

<sup>2</sup> <https://climatejusticetaranaki.info/wp-content/uploads/2024/07/cjt-sub-draft-minerals-strategy-31jul24-final.pdf>

<sup>3</sup> <https://climatejusticetaranaki.info/wp-content/uploads/2024/04/cjt-submission-fast-track-approvals-bill-19apr24.pdf>

<sup>4</sup> <https://climatejusticetaranaki.info/wp-content/uploads/2023/01/cjt-submission-crown-minerals-amendment-bill-23jan23-final.pdf>

<sup>5</sup> <https://climatejusticetaranaki.info/wp-content/uploads/2024/10/cjt-sub-on-crown-minerals-amendment-bill-1oct24-final.pdf>

<sup>6</sup> <https://climatejusticetaranaki.info/wp-content/uploads/2023/10/cjt-submission-ttrl-eez-cs-act-application-6oct23-1.pdf>

<sup>7</sup> <https://climatejusticetaranaki.info/wp-content/uploads/2023/06/cjt-submission-inquiry-into-seabed-mining-final-23june23.pdf>

<sup>8</sup> <https://climatejusticetaranaki.info/wp-content/uploads/2023/11/cjt-sub-mbie-energy-transition-nov23-final.pdf>

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- <sup>11</sup> <https://www.woodmac.com/about/our-story/>
- <sup>12</sup> <https://straterra.co.nz/wp-content/uploads/2023/11/Straterra-Briefing-to-Ministers-2023.pdf>
- <sup>13</sup> <https://www.rnz.co.nz/news/political/522271/jones-staffer-arranged-undeclared-dinner-with-mining-companies>
- <sup>14</sup> <https://www.science.org/doi/10.1126/science.adg6704>
- <sup>15</sup> <https://www.bbc.com/news/science-environment-66880697>
- <sup>16</sup> <https://www.nzpam.govt.nz/about/news/public-consultation-on-a-draft-critical-minerals-list-for-new-zealand>
- <sup>17</sup> <https://www.sciencedirect.com/science/article/pii/S0959378021000820>
- <sup>18</sup> <https://www.bbc.com/news/world-asia-66131451>
- <sup>19</sup> <https://theconversation.com/enough-already-why-humanity-must-get-on-board-with-the-concept-of-sufficiency-235013>
- <sup>20</sup> <https://begacircularvalley.com.au/circularity/>
- <sup>21</sup> <https://www.mbie.govt.nz/dmsdocument/28387-a-draft-minerals-strategy-for-new-zealand-to-2040>
- <sup>22</sup> <https://www.auckland.ac.nz/en/news/2024/05/09/-jane-kelsey--fast-track-law-risks-costly-trade-disputes.html>
- <sup>23</sup> <https://news.mongabay.com/2024/09/mexico-loses-phosphate-mining-lawsuit-in-controversial-arbitration-process/>
- <sup>24</sup> <https://www.climateforesight.eu/articles/global-risks-report-2023-polycrisis-era/>
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- <sup>28</sup> [https://www.un.org/sites/un2.un.org/files/report\\_sg\\_panel\\_on\\_critical\\_energy\\_transition\\_minerals\\_11\\_sept\\_2024.pdf](https://www.un.org/sites/un2.un.org/files/report_sg_panel_on_critical_energy_transition_minerals_11_sept_2024.pdf)
- <sup>29</sup> <https://www.beehive.govt.nz/release/fast-track-projects-released>
- <sup>30</sup> <https://www.rnz.co.nz/news/political/529962/government-unveils-149-projects-selected-by-fast-track-approvals-bill>
- <sup>31</sup> <https://www.beehive.govt.nz/sites/default/files/2024-10/Fast-track%20Schedule%20%20Projects.pdf>
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- <sup>40</sup> <https://www.mpi.govt.nz/dmsdocument/41247-Guide-Managing-cadmium-in-grazing-farm-systems-in-New-Zealand>
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- <sup>58</sup> <https://stockhead.com.au/resources/antimony-one-of-the-most-important-critical-minerals-youve-never-heard-of/>