

Key Critical Minerals List, 2024

Submitter;

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- I do not oppose inclusion of this submission to public record or to MBIE website.
- I am happy for MBIE to contact me for any comments or questions to this submission.
- No part of this submission is confidential.

I am opposed to the inclusion of aggregate and sand as one of the list of the 35 key critical minerals.

My reasons for this opposition are the following.

1. In headline terms, aggregate and sand being included in a list of key critical minerals is a contradiction in terms. As being included in the list of 35 minerals in the Wood MacKenzie Report (“WMR” hereinafter).
2. Sand and aggregate are neither rare, nor do they have problems re supply (refer to WMR, page 3, Appendix A, re supply), nor are they critical components to certain, rare products. It is not designated for export either (nor are imports required).
3. None of the triggers for inclusion as a critical mineral are fulfilled (refer page 2, WMR).
4. Aggregate and sand are generic, there are abundant substitutes (in geographic supply, in terms of input elements eg sand or crushed rock, and in terms of other products that can perform the same output function). For example the supply risk rating of 3.43 is the lowest of the proposed list, by a significant margin.
5. This is confirmed by the non-inclusion of aggregate and sand in the critical supply list in the case of other reference markets ie UK, US, EU, Canada and Australia (refer page 3, WMR). It is unclear why NZ deviates from rest of world.
6. Cited potential supply problems represents the messaging of incumbent operators in (unsuccessful) resource consent applications. The oft proclaimed supply shortage (particularly of sand) to the ready-mix market and Auckland construction market for example, has never happened. Despite +four years of unerring and alarmist forecasts by industry operators.¹

¹ Refer to McCallum Bros. evidence from 2020 as submitted to Auckland Council Hearing, and at appeal to the Environment Court. Where it was maintained, if consent wasn’t granted (for offshore sand extraction at Pakiri) that the Auckland ready-mix concrete market and construction sector would collapse. This has not happened as sand extraction from Pakiri has reduced to 33% of its former volume

7. All six minerals which have been excluded from the List, but which are in other countries lists, have supply risk factors which are *higher* than the supply risk factor for aggregate and sand. Compare the lowest risk (Barite of 3.63, to up to 4.93 for Lithium, to the supply rating of 3.43 for aggregate and sand). Refer to WMR, appendix B, table 15, page 14. Therefore, including sand and aggregate in the List because of a perceived potential supply problem, does not make sense.
8. The inclusion of aggregate and sand is the result of successful lobbying and messaging by incumbent industry operators and their stakeholders.
9. For example the comment on WMR, table 14, page 13 “*Regulatory constraints limiting new supply in NZ, alternate sourcing at significantly higher cost*” represents familiar refrains by operators / stakeholders. However these are not accurate or timely. Refer to footnote 1 (above) for example re alternative suppliers and substitutes for sand (being input elements, and sand alternatives) .
10. It would be insightful to know what % of meetings by the author of the report (14 meetings, refer WMR page 5) were with entities who were connected to the one mineral of aggregate and sand, in proportion to author meetings with stakeholders of the other long list minerals (94, reduced to 79). If there was more than one such meeting (with sand and aggregate stakeholders), given a total of 14 meetings, then that would be a disproportionately high figure.
11. A reason for the advocacy of inclusion of aggregate and sand by operators (and their experts and advisors) being wider than the critical minerals list. Being that said list may constitute a means for certain projects to qualify for Fast Track referral.
12. Projects that do not qualify for automatic Fast Track Referral, may use the classification of their underlying mineral as “critical”, as a means for side door referral to Fast Track.
13. Therefore, by including aggregate and sand as a Critical Mineral, it may unwittingly enable generic projects (via Fast Track) that have failed, or would otherwise fail via the judicial / environmental route eg Environment Court, Council Consent Hearing process, with environmental risks or unknowns.
14. In other words, projects with proven or unknown environmental effects, may be facilitated. Meaning the absorption of environmental effects for the production of a simple, generic commodity. This does not make sense. There may be an arguable case in the scenario of the extraction of a rare earth mineral or a mineral that cannot be substituted or with limited supply or with export potential. That is not the case with re sand and aggregate however.

ie 76K m3 pa (+2023), from +200K m3 pa (2010 to 2023). Instead, new production substitute supplies have opened at Brookby quarry and / or alternative sources have been developed eg Kayasands.

15. If the inclusion of aggregate and sand as a critical mineral is to prevail, then it is strongly submitted that sand via offshore dredging excavation should be specifically excluded.
16. Being so that marine sand extracted via processes where the environmental effects are at the very best, unknown (refer *McCallum Bros v Auckland Council*, EnvCrt [2024] 075) is not matched with sand / aggregate supply which is from non-contentious, predictable substitute supply sources, with no environmental effects eg crushed rock, or new synthetic sources.
17. If marine extracted sand was specifically excluded, this would constitute a less contentious and more refined and nuanced table of critical minerals. As using grounds that similarly excluded the inclusion of garnet (because of the availability of substitutes) and cadmium (because of effects, albeit re marine sand the effects are environmental, not health).
18. It is difficult to ascertain in detail the underpinning details of the WMR report, however re sand, two input points are worth highlighting which may be errors² which would further reduced the supply risk rating for sand and aggregate.

Conclusion;

To include aggregate and sand in the list of 35 key critical minerals, works against the definition of what is required for classification. Being, WMR page 4 “*New Zealand’s Critical Minerals List includes the minerals that are economically important to New Zealand **and** whose supply is at risk*“. Yet aggregate and sand do not have a supply problem.

Furthermore, WMR p5 “*Essential is defined as critical to maintaining the New Zealand’s economy today and into the future and **not readily substitutable***“ . Yet sand is readily and easily substituted. By geographic supply and by type of input raw product and synthetic output products.

The above is confirmed by the low supply risk rating for sand and aggregate in the actual Report. It is confirmed by recent market developments for sand and aggregate. The inclusion of aggregate and sand as a critical mineral is opposed as it is further submitted that it is the result of effective stakeholder lobbying, potentially for Fast Track purposes. It does not represent up to date market analysis or reality, or the classification of other Partner Countries. At the very least, marine sand extraction should be specifically excluded.

² (i) For global supply, WMR p8, global analysis of sand aggregate was specifically excluded. Therefore the score should arguably be 0 (as worldwide supply as well as domestic supply, is relevant), not 5 as stated.
(ii) Supply Country Risk for sand and aggregate of 5, is higher than NZ’s rating (of 0), refer p9 & table 10.